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Regis Chikowo, Ph.D.  
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Plant Soil and Microbial Sciences  
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P.O. Box 30258, Lilongwe 3, Malawi

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<b>EDUCATION</b>	<b>Degree</b>	<b>Year</b>	<b>Field of study</b>
Wageningen University, The Netherlands	Ph.D	2004	Agricultural systems and production ecology
University of Zimbabwe, Harare	M.Phil	1998	Soil fertility management
University of Zimbabwe, Harare	BSc	1993	Soil Sciences

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## **PROFESSIONAL EXPERIENCE**

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Dr. Regis Chikowo is a systems agronomist with interests in technology delivery and use by smallholder farmers. He has over the years carried out basic and applied research on nutrient management on smallholder farms, largely in southern African countries of Mozambique, Malawi, Zambia and Zimbabwe. Approaches that integrate legumes to tap into biological N<sub>2</sub>-fixation to sustain production on smallholder farms have been core his investigations. He also integrates crop production systems modeling to study complex farming systems. Previously, he was a key member of IDRC funded climate change adaptation projects, and FARA Challenge Program on food security. He joined MSU in 2012, first as a Postdoctoral Fellow, and then Assistant Professor since 2015. He mostly guides implementation of the Africa Research in Sustainable Intensification for the Next Generation (Africa RISING) project in Malawi, a collaborative effort between MSU and the International Institute of Tropical Agriculture (IITA).

2015-present: Assistant Professor, Plant Soil and Microbial Sciences Department, Michigan State University. Implements the Africa RISING project in Malawi, with multiple partners, including CGIAR centers, a local Malawi University, NGO and national extension partners.

2012-2014: Research Associate, Plant Soil and Microbial Sciences Department, Michigan State University

2012- present: Associate Professor, Crop Science Department, University of Zimbabwe.

2007- 2012: Research Fellow/Lecturer in the Soil Science & Agricultural Engineering Department, University of Zimbabwe.

2006-2007: Second postdoctoral research fellowship with INRA (*Institute nationale de recherche agronomie*) based in Dijon, France. I used geostatistical methods such as *kriging* to analyse geo-referenced spatial weed development in long-term integrated weed management studies in eastern France.

2004-2006: First postdoctoral fellowship with CIRAD, Montpellier, France. My work included modelling cropping systems in sub-Saharan African with emphasis on water and nutrient response surfaces, in the framework of the Africa NUANCES project (<http://www.africanuances.nl/>). During this project I worked with the APSRU group in Australia, received training and used APSIM (Agricultural Production Systems Simulator

model) extensively. Coefficients developed using the dynamic APSIM model were integrated into summary modeling frameworks (e.g. FIELD, FARMSIM), to analyze tradeoffs in production at farm scale on smallholder farms in diverse agro-ecological regions of sub Saharan Africa.

2004: Research Fellow with Tropical Soil Biology and Fertility Program (TSBF) in Harare, Zimbabwe

### ***RESEARCH INTERESTS***

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- Nutrient cycling on smallholder farms in Africa – designing cropping sequences to align with farm socio-economic circumstances (legume –cereal sequences, intercropping, integrated soil fertility management)
- Investigations on soil- water interactions through low cost practices that have potential for adoption by risk averse small farms in Africa
- Soil organic carbon dynamics and cereal productivity along soil fertility gradients/toposequences

### ***HONORS AND PROFESSIONAL ACCOMPLISHMENTS***

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- 2019 Invited speaker at the Scaling Mega -Symposium: during the ‘Embracing the Digital Environment’ annual meeting of the 2019 ASA, SSSA and CSSA, San Antonio, November, 9-13.
- 2017 Invited speaker at the Special Session Symposium: the U.S. Global Food Security Strategy during the ‘Managing Global Resources for a Secure Future’ annual meeting of the ASA, SSSA and CSSA, Tampa, Florida, 22-25 October, 2017
- 2016 Organizing scientific team member for the Joint Pan-African Grain Legume and World Cowpea International Conference, 28 February to 4 March 2016, Victoria Falls Resort, Livingstone, Zambia
- 2010-to date External examiner, Ph.D dissertations, Plant Production Systems Group, Wageningen University
- 2007 to date: External examiner, University of KwaZulu Natal (KZN), South Africa
- 2001 Rockefeller Foundation Ph.D Scholarship Award
- 2000 International Foundation for Sciences (IFS) scholar award

### **PUBLICATIONS (Google Scholar H index =30; Research Gate Score=30.1)**

1. Regis Chikowo, John Olwande, Maria Wanzala, Mary Lubungu, Hambulo Ngoma, Pedro Sanchez. 2021. Opportunities for Building Resilience of African Farming Systems In; AGRA Africa Agriculture Status Report. A Decade of Action: Building Sustainable and Resilient Food Systems in Africa (Issue 9). Nairobi, Kenya: Alliance for a Green Revolution in Africa (AGRA). Pp 68-92.
2. Regis Chikowo, Rowland Chirwa. Job Kihara, Sieglinde Snapp 2022. Cereal-legume cropping systems for enhanced productivity, food security and resilience. In Bekunda, M., Hoeschle-

- Zeledon, I., & and Odhong J. (Eds). A handbook of approaches in sustainable agricultural intensification for farmers in East and Southern Africa. Pp 33-47. CABI.
3. Fred Kizito, Regis Chikowo, Anthony Kimaro, Elirehema Swai. 2022. Soil and water conservation for climate resilience. In Bekunda, M., Hoeschle-Zeledon, I., & and Odhong J. (Eds). A handbook of approaches in sustainable agricultural intensification for farmers in East and Southern Africa. Pp 62-79. CABI.
  4. Mateete Bekunda, Regis Chikowo, Lieven Claessens, Irmgard Hoeschle-Zeledon, Job Kihara, Fred Kizito, Patrick Okori, N'Danikou Sognigbe, Christian Thielfelder 2022. Combining multiple technologies: Integrated soil fertility management. In Bekunda, M., Hoeschle-Zeledon, I., & and Odhong J. (Eds). A handbook of approaches in sustainable agricultural intensification for farmers in East and Southern Africa. Pp 134-144. CABI.
  5. Haroon Sseguya, Regis Chikowo, Vimbayi Chimonyo, Felistus Chipungu, Jeroen Groot, Francis Muthoni, Festo Ngulu, Christian Thierfelder 2022. Taking technologies to greater scale. . In Bekunda, M., Hoeschle-Zeledon, I., & and Odhong J. (Eds). A handbook of approaches in sustainable agricultural intensification for farmers in East and Southern Africa. Pp 145-156. CABI.
  6. Peter G. Brad, Joseph, P Messina, Carrol W. Jon, Chikowo, Regis 2021. A case for green-based vegetation indices: plot-scale sUAS imagery related to crop chlorophyll content on smallholder maize farms in Malawi Remote Sensing Letters 12: 778-787.
  7. John, Innocensia, Snapp, Sieglinde, Nord, Alison, Chimonyo, Vimbayi, Gwenambira, Chiwimbo, Chikowo, Regis. 2021. Marginal more than mesic sites benefit from groundnut diversification of maize: Increased yield, protein, stability, and profits. Agriculture, Ecosystems & Environment. 320: 107585.
  8. Giller, Ken & Delaune, Thomas & Silva, João & Descheemaeker, Katrien & Ven, Gerrie W.J. & Schut, A.G.T. & Van Wijk, Mark & Hammond, James & Hochman, Zvi & Taulya, G. & Chikowo, Regis & Narayanan, Sudha & Kishore, Avinash & Bresciani, Fabrizio & Teixeira, Heitor & Andersson, Jens & Ittersum, Martin. 2021. The future of farming: Who will produce our food? Food Security. 13. 10.1007/s12571-021-01184-6.
  9. Giller, Ken & Delaune, Thomas & Silva, João & Van Wijk, Mark & Hammond, Jim & Descheemaeker, Katrien & Ven, Gerrie W.J. & Schut, A.G.T. & Taulya, G. & Chikowo, Regis & Andersson, Jens. 2021. Small farms and development in sub-Saharan Africa: Farming for food, for income or for lack of better options? Food Security. 10.1007/s12571-021-01209-0.
  10. Chiwimbo Gwenambira-Mwika, Sieglinde S Snapp, Regis Chikowo. 2021. Broadening farmer options through legume rotational and intercrop diversity in maize based cropping systems of central Malawi. Field Crops Research 270: <https://doi.org/10.1016/j.fcr.2>
  11. Shamie Zingore, Samuel Njoroge, Stephen Ichami, Kokou Adambounou Amouzou, James Mutegi, Regis Chikowo, Sudarshan Dutta, Kaushik Majumdar 2021. The effects of soil organic matter and organic resource management on maize productivity and fertilizer use efficiencies in Africa. In

- Lal R (Ed). Soil Organic Carbon and Feeding the Future: Crop Yield and Nutritional Quality. Pp 127-153. DOI: 10.1201/9781003102762-5. CRC press.
12. Talent Namatsheve, Regis Chikowo, Marc Corbeels, Claire Mouquet-Rivier, Christèle Icard-Vernière, Rémi Cardinael 2021. Maize-cowpea intercropping as an ecological intensification option for low input systems in sub-humid Zimbabwe: Productivity, biological N<sub>2</sub>-fixation and grain mineral content. *Field Crops Research* 263(1):108052. DOI: 10.1016/j.fcr.2020.108052
  13. Chipomho Justin, Parwada Cosmas, Rugare Joyful T, Mabasa Stanford, Chikowo, Regis, Mashingaidze, Arnold B 2021. Influence of soil organic carbon, fertilizer management, and weeding regime on weed dynamics and maize productivity on sandy soils in eastern Zimbabwe. *South African Journal of Plant and Soil*. Taylor & Francis
  14. Justin Chipomho, Joyful T. Rugare, Stanford Mabasa, Shamie Zingore, Arnold Bray Mashingaidze, Regis Chikowo 2020. Short-term impacts of soil nutrient management on maize (*Zea mays* L.) productivity and weed dynamics along a toposequence in Eastern Zimbabwe. *Heliyon* 6: e05223. //doi.org/10.1016/j.heliyon.2020.e05223.
  15. Talent Namatsheve, Rémi Cardinael, Marc Corbeels, Regis Chikowo 2020. Productivity and biological N<sub>2</sub>-fixation in cereal-cowpea intercropping systems in sub-Saharan Africa. A review. *Agronomy for Sustainable Development* 40(30):1-12. DOI: 10.1007/s13593-020-00629-0
  16. Regis Chikowo, Vimbayi Chimonyo, Chiwimbo Gwenambira, Sieg Snapp 2019. Ecosystem services in doubled-up legume systems. In: *The Role of Ecosystem Services in Sustainable Food Systems*, Ed. L. Rusinamhodzi. (Ed). pp 171-180. Elsevier.
  17. Chikowo, Regis; Chimonyo, Vimbayi; Gwenambira, Chiwimbo; Snapp, Sieg .2020. Ecosystem services in doubled-up legume systems: The Role of Ecosystem Services in Sustainable Food Systems 171-180 2020 Elsevier
  18. Marc Corbeels, Remi Cardinael, David Powlson, Regis Chikowo, Bruno Gerard. 2019. Carbon sequestration potential through conservation agriculture in Africa has been largely overestimated. Comment on: Meta-analysis on carbon sequestration through conservation agriculture in Africa. *Soil Tillage and Research* , <https://doi.org/10.1016/j.still.2019.104300>
  19. Chimonyo VGP, Snapp S, Chikowo R 2019. Grain Legumes Increase Yield Stability in Maize Based Cropping Systems. *Crop Science* 59: 1222–1235. doi:10.2135/cropsci2018.09.0532
  20. Vongai Chekanai, Regis Chikowo, Bernard Vanlauwe 2018. Response of common bean (*Phaseolus vulgaris* L.) to nitrogen, phosphorus and rhizobia inoculation across variable soils in Zimbabwe. *Agriculture Ecosystems & Environment* 266:167-173.
  21. Nyasha Kafesu, Regis Chikowo, Upenyu Mazarura, Willis Gwenzi, Sieg Snapp, Shamie Zingore 2018. Comparative fertilization effects on maize productivity under conservation and conventional tillage on sandy soils in a smallholder cropping system in Zimbabwe. *Field Crops Research* 218: 106–114.

22. Zulu, L.C., Adams, E.A., Chikowo, R. and Snapp, S., 2018. The role of community-based livestock management institutions in the adoption and scaling up of pigeon peas in Malawi. *Food Policy*, 79, pp.141-155.
23. Snapp, S.S., P. Grabowski, R. Chikowo, A. Smith, E. Anders, D. Sirrine, V. Chimonyo and M. Bekunda. 2018. Maize yield and profitability tradeoffs with social, human and environmental performance: Is sustainable intensification feasible? *Agricultural Systems* 162: 77-88.
24. Snapp, S.S., Rogé, Okori, P., Chikowo, R., Peter, B., and Messina, J.P. 2018. Perennial grains for Africa: Possibility or pipedream? *Experimental Agriculture* 1-22.
25. Galand G, Bunemann EK, Oberson A, Frossard E, Snapp S, Chikowo R, Six, J 2018. Phosphorus cycling within soil aggregate fractions of a highly weathered tropical soil: A conceptual model. *Soil Biology and Biochemistry* 116:91-98.
26. Leah M. Mungai, Sieglinde Snapp, Joseph P. Messina, Regis Chikowo, Alex Smith, Erin Anders, Robert B. Richardson, Guiying Li. 2016. Smallholder Farms and the Potential for Sustainable Intensification. *Frontiers in Plant Science*. 7:1720 <https://doi.org/10.3389/fpls.2016.01720>
27. Martin K. van Ittersum, Lenny G. J. van Bussel, Joost Wolf, Patricio Grassini, Justin van Wart, Nicolas Guilpart, Lieven Claessens, Hugo de Groot, Keith Wiebe, Daniel Mason-D’Croz, Haishun Yang, Hendrik Boogaard, Pepijn A. J. van Oort, Marloes P. van Loon, Kazuki Saito, Ochieng Adimo, Samuel Adjei-Nsiah, Alhassane Agali, Abdullahi Bala, Regis Chikowo, Kayuki Kaizzi, Mamoutou Kouressy, Joachim H. J. R. Makoi, Korodjouma Ouattara, Kindie Tesfaye, Kenneth G. Cassman. 2016. Can sub-Saharan Africa feed itself? *Proceedings of the National Academy of Sciences*. 113:14964–14969. DOI: 10.1073/pnas.1610359113.
28. Alex Smith, Sieglinde Snapp, Regis Chikowo, Peter Thorne, Mateete Bekunda, Jerry Glover. 2016. Measuring sustainable intensification in smallholder agroecosystems: A review. *Global Food Security*. <http://dx.doi.org/10.1016/j.gfs.2016.11.002>
29. Smith, A., Snapp, S., Dimes, J., Gwenambira, C., and Chikowo R. 2016. Doubled-up legume rotations improve soil fertility and maintain productivity under variable conditions in maize-based cropping systems in Malawi. *Agric. Syst.* 145: 139–149.
30. Andrew Farrow, Ester Ronner, Greta J. Van Den Brand, Stephen K. Boahen, Wilson Leonardo, Endalkachew Wolde-Meskel, Samuel Adjei-Nsiah, Regis Chikowo, Fredrick Baijukya, Peter Ebanyat, Emmanuel A. Sangodele, Jean-Marie Sanginga, Speciose Kantengwa, Lloyd Phiphira, Paul Woome, Theresa Ampadu-Boakye, Edward Baars, Fred Kanampiu, Bernard Vanlauwe, Kenneth E. Giller 2016. From best fit technologies to best fit scaling: incorporating and evaluating factors affecting the adoption of grain legumes in sub-Saharan Africa. 2016. *Experimental Agriculture*: 1-26. DOI: 10.1017/S0014479716000764.
31. Chikowo R, Zingore S, Nyamangara J, Bekunda M, Messina J, Snapp S 2015. Approaches to reinforce crop productivity under water-limited conditions in sub-humid environments in Africa.

In Sustainable Intensification to advance Food Security and Enhance Climate Resilience in Africa (Lal R, Mwase D, Hansen D, Eds). Springer. DOI: 10.1007/978-3-319-09360-4\_12.

32. Kurwakumire N, Chikowo R, Zingore S, Mtambanengwe F, Mapfumo, P, Snapp S, Johnston A. 2015. Nutrient Management Strategies on Heterogeneously Fertile Granitic-derived Soils in Sub-humid Zimbabwe. *Agronomy Journal*. 107:1068-1076.
33. Mapfumo P, Mtambanengwe F, Chikowo R, 2015. Building on indigenous knowledge to strengthen the capacity of smallholder farming communities to adapt to climate change and variability in southern Africa. *Climate and Development* 8: 72-82.
34. Chikowo, R., Zingore, S. Snapp S, Johnston A, 2014. Farm typologies, soil fertility variability and nutrient management in smallholder farming in Sub-Saharan Africa. *Nutrient Cycling in Agroecosystems* 100: 1-18.
35. Kurwakumire N, Chikowo, R., Mtambanengwe, F., Mapfumo, P., Snapp, S., Johnston, A., Zingore, S. 2014. Maize productivity and nutrient and water use efficiencies across soil fertility domains on smallholder farms in Zimbabwe. *Field Crops Research* 164: 136-147.
36. Zingore S, Njoroge S, Chikowo R, Kihara J, Nziguheba G, Nyamangara J 2014. 4R Plant Nutrient management in Africa Agriculture. An extension handbook for fertilizer management in smallholder farming systems. International Plant nutrition Institute, 94 pages.
37. Rurinda J, Mapfumo P, van Wilk MT., Mtambanengwe F, Rufino MC, Chikowo R, Giller KE. 2014. Sources of vulnerability to a variable and changing climate among smallholder households in Zimbabwe: A participatory analysis. *Climate Risk Management* 3:65-78.
38. Nezomba H, Mtambanengwe F, Chikowo R, Mapfumo P, 2014. Sequencing integrated soil fertility management options for sustainable crop intensification by different categories of smallholder farmers in Zimbabwe. *Experimental Agriculture*. 51: 17-41.
39. Rurinda J, Mapfumo P, van Wilk MT, Mtambanengwe F, Rufino MC, Chikowo R, Giller KE. 2014. Comparative assessment of maize, finger millet and sorghum for household food security in the face of increasing climatic risk. *European Journal of Agronomy*; 55:29-41.
40. Gwandu T, Mtambanengwe F., Mapfumo P, Mashavave TC, Chikowo R, Nezomba H 2014. Factors influencing access to integrated soil fertility management information and knowledge and its uptake among smallholder farmers in Zimbabwe. *Journal of Agricultural Education and Extension* 20: 79-93.
41. Nyamangara J, Chikowo R, Rusinamhodzi L, Mazvimavi K. 2013. Conservation agriculture in southern Africa. In: RA Jat, KL Sahrawat, AH Kassam (Eds.) *Conservation agriculture: Global prospects and challenges*. CABI, Wallingford, U.K. pp 339-351. Mapfumo P, Adjei-Nsiah S,
42. Mtambanengwe F, Chikowo R, Giller KE 2013. Participatory action research (PAR) as an entry point for supporting climate change adaptation by smallholder farmers in Africa. *Environmental Development* 5: 5-22

43. Rurinda J, Mapfumo P, van Wilk MT., Mtambanengwe F, Rufino MC, Chikowo R, Giller KE. 2013. Managing soil fertility to adapt to rainfall variability in smallholder cropping systems in Zimbabwe. *Field Crops Research* 154: 211-225.
44. Mtambanengwe F, Mapfumo P, Chikowo R, Chamboko T 2012. Climate change and variability: smallholder farming communities in Zimbabwe portray varied understanding. *African Crop Science Journal* 20: 259-273.
45. Manzeke G, Mapfumo P, Mtambanengwe F, Chikowo R, Tendayi T, Cakmak I, 2012. Maize productivity and grain zinc nutritional value as affected by different soil fertility management practices in smallholder farming systems of Zimbabwe. *Plant and Soil* 361: 57-69.
46. Nyamadzawo G, Nyamugafata P, Wuta M, Nyamangara J, Chikowo R, 2012. Infiltration and runoff losses under fallowing and conservation agriculture practices on contrasting soils from Zimbabwe. *Water SA* 38(2): 233-240.
47. Chikowo R, 2011. Climatic risk analysis in conservation agriculture in varied biophysical and socio-economic settings of Southern Africa. Network Paper 3 Food and Agricultural Organization of the United Nations (FAO), Johannesburg. 40 p.
48. Giller K.E., Tittonell P., Rufino M.C., Wijk M.T., Zingore S., Mapfumo P., Adjei-Nsiah S., Herrero M., Chikowo R., Corbeels M., Rowe E.C., Baijukya F., Mwijage A., Smith J., Yeboah E., Burg W.J.v.d., Sanogo O.M., Misiko M., Ridder N.d., Karanja S., Kaizzi C., K'ungu J., Mwale M., Nwaga D., Pacini C., Vanlauwe B. 2011. Communicating complexity: Integrated assessment of trade-offs concerning soil fertility management within African farming systems to support innovation and development. *Agricultural Systems* 104: 191–203.
49. Tittonell P., Scopel E., Andrieu N., Posthumus H., Mapfumo P., Corbeels M., van Halsema G.E., Lahmar R., Lugandu S., Rakotoarisoa J., Mtambanengwe F., Pound B., Chikowo R., Naudin K., Triomphe B., and Mkomwa S. 2012. Agroecology-based aggradation-conservation agriculture (ABACO): Targeting innovations to combat soil degradation and food insecurity in semi-arid Africa. *Field Crops Research* 132: 168-174.
50. Chikowo R, Corbeels M, Mapfumo P, Tittonell P, Vanlauwe B, Giller KE 2010. Nitrogen and phosphorus capture and recovery efficiencies and crop responses to a range of soil fertility management strategies in sub-Saharan Africa. *Nutrient Cycling in Agroecosystems*. 88: 59-77.
51. Chikowo, R, Faloya V, Petit S. and Munier-Jolain, N.M. 2009. Integrated weed management systems allow reduced reliance on herbicides and long-term weed control. *Agriculture, Ecosystems and Environment*. 132:237-242.
52. Chikowo R, Corbeels M, Tittonell P, Vanlauwe B, Whitbread A, Giller KE 2008. Aggregating field-scale knowledge into farm-scale models of African smallholder systems: Summary functions to simulate crop production using APSIM. *Agricultural Systems* 97: 151-166.
53. Nyamadzawo G, Chikowo R, Nyamugafata P, Nyamangara J, Giller KE 2008. Soil organic carbon dynamics of improved fallow-maize rotation systems under conventional and no-tillage in Central Zimbabwe. *Nutrient Cycling in Agroecosystems* 81: 85 – 93.

54. Nyamadzawo G, Chikowo R, Nyamugafata P, Nyamangara J and Giller KE 2008. Residual effects of fallows on selected soil hydraulic properties in a kaolinitic soil subjected to conventional tillage (CT) and no tillage (NT). *Agroforestry Systems* 72: 161-168.
55. Zingore S, Chikowo R, Nyamadzawo G, Nyamugafata P, Mafongoya P.L. 2007. Developments in the Research of the Potential of Agroforestry for Sustaining Soil Fertility in Zimbabwe. In: *Ecological Basis of Agroforestry*. Daizy R. Batish, Ravinder K. Kohli, Panjab Shibu Jose, Harminder P. Singh (Eds.) CRC Press, 400 pp.
56. Nyamadzawo G, Chikowo R, Nyamugafata P, Giller KE. 2007. Improved legume tree fallows and tillage effects on structural stability and infiltration rates of a kaolinitic sandy soil from central Zimbabwe. *Soil & Tillage Research* 96: 182-194.
57. Chikowo R, Mapfumo P, Leffelaar P A and Giller KE 2006. Integrating legumes to improve N cycling on smallholder farms in sub-humid Zimbabwe: Resource quality, biophysical and environmental limitations. *Nutrient Cycling in Agroecosystems*. 76: 219-231.
58. Chikowo R, Mapfumo P, Nyamugafata P, Giller KE 2004. Woody legume fallow productivity, biological N<sub>2</sub>- fixation and residual benefits to two successive maize crops in Zimbabwe. *Plant Soil* 262: 303-315.
59. Chikowo R, Mapfumo P, Nyamugafata P and Giller KE 2004. Mineral N dynamics, leaching and nitrous oxide losses under maize following two-year improved fallows on a sandy loam soil in Zimbabwe. *Plant Soil* 259: 315-330.
60. Chikowo R, Mapfumo P, Nyamugafata P and Giller KE 2004. Maize productivity and mineral N dynamics following different soil fertility management technologies on a depleted sandy soil in Zimbabwe. *Agriculture Ecosystems & Environment* 102:119-131.
61. Chikowo R, Mapfumo P, Nyamugafata P, Nyamadzawo G and Giller KE 2003. Nitrate-N dynamics following improved fallows and spatial maize root development in a Zimbabwean sandy clay loam. *Agroforestry Systems* 59: 187-195.
62. Nyamadzawo G, Nyamugafata P, Chikowo R and Giller KE 2003. Partitioning of simulated rainfall in a kaolinitic soil under improved fallow-maize sequence in Zimbabwe. *Agroforestry Systems* 59: 207-214.
63. Nyamadzawo G, Nyamugafata P, Chikowo R, Chirwa T and Mafongoya P L 2005. Soil and carbon losses under rainfall simulation from two contrasting soils under maize-improved fallows rotation in eastern Zambia. In: *Soil Erosion and Carbon Dynamics*. Roose EJ, Lal R, Feller C, Barthes B and Stewarts B A (Eds.). CRC Press, Taylor and Francis Group. Boca Raton USA. Pp. 197-206.
64. Chikowo R, Tagwira F and Piha M 1999. Agronomic effectiveness of poor quality manure supplemented with P fertilizer in a maize-groundnut rotation. *African Crop Science Journal* 7: 383-395.



65. Murwira H.K., Tagwira F., Chikowo R., Waddington SR., 1998. An evaluation of the agronomic effectiveness of low rates of cattle manure and combinations of inorganic N in Zimbabwe. In: Soil Fertility Research for Maize-based Farming Systems in Malawi and Zimbabwe. Waddington SR, Murwira HK, Kumwenda JDT, Hikwa D and Tagwira F (EDs). Soil Fert Net, CIMMYT. Harare, Zimbabwe. P. 179-182.

### ***EXTENSION BULLETINS***

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1. Chikowo, Regis, Snapp, Sieglinde, Vanlauwe, Bernard. 2020. Doubled-up legumes technology Africa RISING Technology Brief. International Institute of Tropical Agriculture
  2. Chikowo, R. and S. Snapp, Irmgard Hoeschle-Zeledon, 2016. Groundnut Production in Malawi: The cash 'cow' and butter that nourishes families. Brief No. 9. Africa RISING and Michigan State University. Africa-rising.net
  3. Chikowo, R. and S. Snapp, Irmgard Hoeschle-Zeledon, 2016 Soyabean: A versatile grain legume for smallholder farmers in Malawi. Brief No. 10. Africa RISING and Michigan State University. Africa-rising.net
  4. Chikowo, R. and S. Snapp, Irmgard Hoeschle-Zeledon, 2016. Doubled-up legume technology: Boosting land productivity by intercropping two grain legumes with different growth habits. Brief 11. Africa RISING and Michigan State University. Africa-rising.net
  5. Odhong, J., Chikowo, R., Hoeschle-Zeledon, I. and Snapp, S. 2016. How does a farm family in Malawi produce more from their farm. Infographic. Ibadan, Nigeria: IITA.
  6. Odhong, J., Chikowo, R., Hoeschle-Zeledon, I. and Snapp, S. 2016. Different strokes for different folks: 3-year doubled-up legume cropping cycles for contrasting farms in Malawi. Infographic. Ibadan, Nigeria: IITA.

### ***GRANTS/PROPOSALS SUBMITTED***

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2021: Catholic Relief Services (CRS): Calibration and validation of the Our Sci Reflectometer for the measurement of soil organic carbon in Lesotho, Madagascar, Nicaragua, and Guatemala \$114,000 for 2022 implementation

2021. Last Mile Services in Malawi: Inclusive delivery of localized soil, weather and market information. BMGF digital seed grant (250,000) (NOT FUNDED)

2020: ALL IN: Agronomy and extension innovations hinged on information communication technology for advancing intensification and resilience on smallholder farms in sub-humid Malawi (\$360,000) (NOT FUNDED)

2019 (August) Travel Grant, Alliance for African Partnerships, Plant Soil Microbial Sciences Dept, MSU (\$17,000)

2019-2022 Agropolis/Total Foundation DSCATT project, \$115,000, University of Zimbabwe

2012-2021 USAID (subcontract with IITA) 'Sustainable intensification of maize based systems in SE Africa' \$3,200,000 (Co-PI, Dr Snapp)

2008-2012 International Plant nutrition Institute (IPNI) – University of Zimbabwe (\$250,000)

2007-2009 RUFORUM, – University of Zimbabwe CO-PI, (\$60,000)

## **ACADEMIC ADVISING (SINCE 2014)**

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Students	University	When graduated or current student
<b><u>PhD</u></b>		
Jairos Rurinda	Wageningen University	2015
Hatirarami Nezomba	University of Zimbabwe	2015
Chiwimbo Gwenambira	Michigan State University	2020
Justin Chipomho	University of Zimbabwe	PhD Thesis submitted
Armwell Shumba	University of Zimbabwe	Current PhD
Rumbidzai Nyawasha	University of Zimbabwe	Current PhD
<b><u>MSc/MPhil</u></b>		
Natasha Kurwakumire	University of Zimbabwe	2014
Sibusiso Maposa	University of Zimbabwe	2014
Grace Manzeke	University of Zimbabwe	2015
Tongai Mtangadura	University of Zimbabwe	2016
Edward Mzumara	LUANAR	2015
Nyasha Kafesu	University of Zimbabwe	2018
Vongai Chekanai	University of Zimbabwe	2018
Talent Nematsveve	University of Zimbabwe	2019
Mlambo Cephas	University of Zimbabwe	Current student
Jester Kalumba	LUANAR	Current student
Chifuniro Kalawang'oma	LUANAR	Current student

### **Professional memberships**

American Society of Agronomy (ASA)

Zimbabwe Crop Science Society

Zimbabwe Soil Science Society

### **Journal article reviews, primarily for the following journals**

1. Field Crops Research
2. Agriculture, Ecosystems and Environment
3. Agricultural Systems
4. Plant and Soil
5. Experimental Agriculture
6. Agronomy Journal