

## REFERENCES

- ASFAW, S., SHIFERAW, B., SIMTOWE, F., MURICHO, G., ABATE, T., & FEREDE, S. (2010). *Socio-economic Assessment of Legume Production, Farmer Technology Choice, Market Linkages, Institutions and Poverty in Rural Ethiopia: Institutions, Markets, Policy and Impacts Research Report No. 3*. International Crops Research Institute for the Semi-Arid Tropics, Nairobi, Kenya. <http://oar.icrisat.org/3266/>
- BHATTI, M. A. (2005). Geographical patterns of access and utilization of basic health unit in District Attock. *Journal of Liaquat University of Medical and Health Sciences*, 4(2), 48-53. DOI: [10.22442/jlumhs.05420058](https://doi.org/10.22442/jlumhs.05420058)
- EYZAGUIRRE, P., GRUM, M., MAUNDU, P., VODOUHE, S. R., JOHNS, T., ONIANGO, R., KAKURAMATSI-KIKAFUNDA, J., NDOSSI, G. D., & GUIRO, A. T. (2006). *Dietary Diversity: Linking Traditional Food and Plant Genetic Resources to Rural and Urban Health in Sub-Saharan Africa; Technical Report; Via dei Tre Denari 472/a 00057*; Bioversity International: Maccarese, Italy: pp. 1-36.
- GOK. GOVERNMENT OF KENYA (2011). National Food and Nutrition Security Policy.
- HINTON, G. E. (1999). *Supervised learning in multilayer neural networks in The MIT Encyclopaedia of the Cognitive Sciences* Editors: Robert A. Wilson and Frank C. Keil. The Michigan Institute of Technology Press.
- ISS. INTEGRATED SMART SURVEY (2016). SMART Tharaka Nithi County Emergency Nutrition Assessment Report, Kenya for September 2016
- JAYNE, T. S., CHAMBERLIN, J., TRAUB, L., SITKO, N., MUYANGA, M., YEBOAH, F. K., ANSEEUW, W., CHAPOTO, A., WINEMAN, A., NKONDE, CH., & KACHULE, R. (2016). Africa's changing farm size distribution patterns: the rise of medium-scale farms. *Agricultural Economics*, 47(1), 197-214. DOI: [10.1111/agec.12308](https://doi.org/10.1111/agec.12308)
- KAYODE, J. S., & EFOSA, A. (2014). A composed index of critical accessibility (CICA) to healthcare services in a traditional African City. *GeoJournal*, 3(79), 267-278. DOI: [10.1007/s10708-013-9485-y](https://doi.org/10.1007/s10708-013-9485-y)
- KNBS. KENYA NATIONAL BUREAU OF STATISTICS (2009). Tharaka District Multiple Indicator Cluster Survey 2008
- MAKHURA, M. T. (2001). *Overcoming transaction costs barriers to market participation of smallholder farmers in the Northern Province of South Africa*. Unpublished PhD thesis. University of Pretoria, Pretoria, South Africa
- MARTINEZ, R., VIDAUURRE, M., NAJERA, P., LOYOLA, E., CASTILLO-SALGADO, C., & EISNER, C. (2001). SIGEpi: Geographic Information System in Epidemiology and Public Health. PAHO. *Epidemiological bulletin*, 22(3), 4-5.
- NELSON, A (2000). Accessibility, Transport and Travel Time Information. International Center for Tropical Agriculture (CIAT), Hillsides Project Report.
- NOOR, A. M., AMIN, A. A., GETHING, P. W., ATKINSON, P. M., HAY, S. I., & SNOW, R. W. (2006). Modelling distances travelled to government health services in Kenya. *Tropical Medicine & International Health*, 11(2), 188-196. DOI: [10.1111/j.1365-3156.2005.01555.x](https://doi.org/10.1111/j.1365-3156.2005.01555.x)
- OUKO, J. J. O., GACHARI, M. K., SICHANGI, A. W., & ALEGANA, V. (2019). Geographic Information System-based evaluation of spatial accessibility to maternal health facilities in Siaya County, Kenya. *Geographic Research*: 1-13. DOI: [10.1111/1745-5871.12339](https://doi.org/10.1111/1745-5871.12339)
- OMITI, J. M., OTIENO, D. J., NYANAMBA, T. O., & MCCULLOUGH, E. B. (2009). Factors influencing the intensity of market participation by smallholder farmers: A case study of rural and peri-urban areas of Kenya. *African Journal of Agricultural Resource Economics*, 3(1), 57-82. DOI: [10.22004/ag.econ.56958](https://doi.org/10.22004/ag.econ.56958)
- RAY, N., & EBENER, S. (2008). AccessMod 3.0: computing geographic coverage and accessibility to health care services using anisotropic movement of patients. *International Journal of Health Geographics*, 7:63. DOI: <https://doi.org/10.1186/1476-072X-7-63>
- RSA. RESEARCH SOLUTIONS AFRICA (2015). *Report of a study on fresh vegetables market in Kenya desk review*. Retrieved from <http://www.researchsolutionsafrica.com>
- SMOYER-TOMIC, K. E., HEJKO, J. N., & HODGSON, M. J. (2004). Spatial accessibility and equity of playgrounds in Edmonton Canada, *The Canadian Geographer*, 48(3), 287-302. DOI: [10.1111/j.0008-3658.2004.00061.x](https://doi.org/10.1111/j.0008-3658.2004.00061.x)
- SMUCKER, T. A., & WISNER, B. (2008). Changing household responses to drought in Tharaka, Kenya: vulnerability, persistence and challenge. Blackwell Publishing, USA. pp. 190-215. DOI: [10.1111/j.1467-7717.2007.01035.x](https://doi.org/10.1111/j.1467-7717.2007.01035.x)
- TOBLER, W. (1993). *Three Presentations on Geographical Analysis and Modeling: National Center for Geographic Information and Analysis Technical Report no 93-1*. University of California, Santa Barbara
- TORERO, M. (2011). *A framework for Linking Small Farmers to Markets*. Presented at the IFAD Conference on New Directions for Smallholder Agriculture, Rome, Italy. 41 pp.
- WAITHAKA, M. M., THORNTON, P. K., HERRERO, M., & SHEPHERD, K. D. (2006). Bio-economic evaluation of farmers' perceptions of viable farms in western Kenya. *Agricultural Systems*, 90(1-3), 243-27. DOI: [10.1016/j.agsy.2005.12.007](https://doi.org/10.1016/j.agsy.2005.12.007)
- WFP. United Nations World Food Programme. (2006). *Comprehensive Food Security and Vulnerability Analysis: An External Review of WFP Guidance and Practice*. Rome, Italy. 112 pp. Retrieved from <https://documents.wfp.org/stellent/groups/public/documents/ena/wfp103646.pdf>
- WRS. WORLD RESOURCES INSTITUTE (2019). *Global road datasets shape files*. Survey of Kenya (SOK), Japan International Cooperation Agency (JICA) and International Livestock Research Institute (ILRI). 1996. Digital Elevation Model created by ILRI and JICA, derived from SoK 1:250,000 Topographic Map. Retrieved from <http://www.wri.org/Kenya-roads-shapefile.html>