
9 References

- ADF.** 2002. *National Livestock Productivity Improvement Project: Appraisal Report*. Abidjan, African Development Fund (ADF).
- ADF.** 2005. *Agriculture and Rural Sector Review, Republic of Uganda*. Abidjan, African Development Fund (ADF).
- Ashley, S. & Nanyeenya, W.** 2002. *More than income: Pro-poor livestock development policy in Uganda. LADDER working paper*. London, Department for International Development.
- Bartholomé, E. & Belward, A.S.** 2005. GLC 2000: A new approach to global land cover mapping from Earth observation data. In *International Journal of Remote Sensing* **26**, 1959–1977.
- Bicheron, P., Defourny, P., Brockmann, C., Schouten, L., Vancutsem, C., Huc, M., Bontemps, S., Leroy, M., Achard, F., Herold, M., Ranera, F. & Arino, O.** 2008. *GlobCover: Products Description and Validation Report*. Toulouse, Medias France.
- Bingsheng, K. & Yijun, H.** 2007. *Poultry sector in China: Structural changes in the past decade and future trend*. Beijing, Research Center for Rural Economy, Ministry of Agriculture, China. Report prepared for the Livestock Information, Sector Analysis and Policy Branch of the United Nations Food and Agriculture Organization.
- Bourn, D. & Wint, W.** 1994. Livestock, land use and agricultural intensification in sub-Saharan Africa. In *Pastoral Development Network* **37(a)**, 1–22. London, Overseas Development Institute.
- Budhendra, B., Bright, E., Coleman, P. & Dobson, J.** 2002. LandScan: Locating people is what matters. In *Geoinformatics* **5**, 34–37.
- Carney, D.** 2003. *Sustainable livelihoods approaches: Progress and possibilities for change*. London, Department for International Development.
- Cecchi, C., Wint, W., Shaw, A. Marletta, A., Mattioli, R. & Robinson, T.** 2010. Geographic distribution and environmental characterization of livestock production systems in Eastern Africa. In *Agriculture, Ecosystems and Environment* **135**, 98–110.
- Chen, S. & Ravallion, M.** 2008. *The Developing World is Poorer Than We Thought, But No Less Successful in the Fight Against Poverty*. Policy Research Working Paper 4703. Washington, DC, World Bank, Development Research Group.
- CIESIN.** 2005. *Global Rural–Urban Mapping Project (GRUMP), Beta Version*. New York, Center for International Earth Science Information Network (CIESIN), Columbia University.
- CIESIN, IFPRI & WRI.** 2000. *Gridded Population of the World (GPW), Version 2*. New York, Center for International Earth Science Information Network (CIESIN), Columbia University; International Food Policy Research Institute (IFPRI); and World Resources Institute (WRI).
- CIESIN, IFPRI, World Bank & CIAT.** 2004. *Global Rural–Urban Mapping Project (GRUMP), Alpha Version*. New York, Center for International Earth Science Information Network (CIESIN), Columbia University; International Food Policy Research Institute (IFPRI); The World Bank; and Centro Internacional de Agricultura Tropical (CIAT).
- Cohen, J.** 1960. A coefficient of agreement for nominal scale. In *Educational and Psychological Measurements* **20**, 37–46.
- de Sherbinin, A. & Chen, R.S.** (eds). 2005. *Global Spatial Data and Information User Workshop: Report of a Workshop, 21–23 September 2004*. New York, Socioeconomic Data and Applications Center, Center for International Earth Science Information Network, Columbia University.
- Deichmann, U.** 1996a. *Africa Population Database, third version*. Santa Barbara, National Center for Geographic Information and Analysis (NCGIA), University of California, as a cooperative activity between NCGIA; Consultative Group on International Agricultural Research; United Nations Environment Programme/Global Resource Information Database; and World Resources Institute.

- Deichmann, U.** 1996b. *Asia Population Database 1996*. Santa Barbara, National Center for Geographic Information and Analysis (NCGIA), University of California, as a cooperative activity between NCGIA; Consultative Group on International Agricultural Research; and United Nations Environment Programme/Global Resource Information Database.
- Delgado, C., Rosegrant, M., Steinfeld, H., Ehui, S. & Courbois, C.** 1999. *Livestock to 2020 the next food revolution. Food, Agriculture, and the Environment Discussion Paper 28*. Washington, DC, International Food Policy Research Institute; Food and Agriculture Organization of the United Nations; and International Livestock Research Institute.
- Dixon, J. & Gulliver, A.** with **Gibbon, D.** 2001. *Farming Systems and Poverty. Improving Farmers' Livelihoods in a Changing World*. Rome and Washington, DC, Food and Agriculture Organization of the United Nations and the World Bank.
- Döll, P. & Siebert, S.** 2000. A digital global map of irrigated areas. In *The Journal of the International Commission on Irrigation and Drainage* **49**, 55–66.
- Eliasson, Å., Faurès, J.-M., Frenken, K & Hoogeveen, J.** 2003. *AQUASTAT - Getting to grips with water information for agriculture*. Sixth Water Information Summit, Delft (WIS6), The Netherlands, 9-12 September 2003.
- Epprecht, M. & Robinson, T.P.** (eds). 2007. *Agricultural Atlas of Vietnam. A Depiction of the 2001 Rural Agriculture and Fisheries Census*. Rome and Hanoi, Pro-Poor Livestock Policy Initiative of the United Nations Food and Agriculture Organization and General Statistics Office, Government of Vietnam. 171 pp.
- Fan, S., Zhang, X. & Rao, N.** 2004. *Public expenditure, growth, and poverty reduction in rural Uganda*. Discussion Paper 4. Washington, DC, International Food Policy Research Institute, Development Strategy and Governance Division.
- FAO.** 1981. *Report of the agro-ecological zones project. World Soil Resources Report No 48, (1-4)*. Rome, Food and Agriculture Organization of the United Nations (FAO).
- FAO.** 1996. *World livestock production systems: current status, issues and trends*, by Seré, C. & Steinfeld, H. FAO Animal Production and Health Paper 127. Rome, Food and Agriculture Organization of the United Nations (FAO), Animal Production and Health Division.
- FAO.** 1997. *LDPS-2 user's guide*, by Lalonde, L.G. & Sukigara, T. Rome, Food and Agriculture Organization of the United Nations (FAO), Animal Production and Health Division.
- FAO.** 1998. *Land Cover Classification System (LCCS): Classification Concepts and User Manual For software version 1.0*, by Di Gregorio, A. & Jansen, L.J.M. Rome, Food and Agriculture Organization of the United Nations (FAO).
- FAO.** 2002a. *Cattle and small ruminant production systems in sub-Saharan Africa: A systematic review*, by Otte, J. & Chilonda, P. Rome, Food and Agriculture Organization of the United Nations (FAO), Animal Production and Health Division.
- FAO.** 2002b. *Bovine brucellosis in sub-Saharan Africa: estimation of sero-prevalence and impact on meat and milk off-take potential*, by Mangen, M.J., Otte, J., Pfeiffer, D. & Chilonda, P. FAO Livestock Policy Discussion Paper No. 8. Rome, Food and Agriculture Organization of the United Nations (FAO), Animal Production and Health Division.
- FAO.** 2005. *Land Cover Classification System - Classification concepts and user manual - Software version 2*, revised by Di Gregorio, A. Rome, Food and Agriculture Organization of the United Nations (FAO).
- FAO.** 2006a. *Global mapping of agricultural production systems*, by Robinson, T.P. & Thornton, P.K. (eds). Pro-Poor Livestock Policy Initiative Meeting Report, Bangkok, Thailand, 4-6 April 2006. Rome, Food and Agriculture Organization of the United Nations (FAO), Animal Production and Health Division.
- FAO.** 2006b. *World agriculture: towards 2030/2050. Interim report*. Rome, Food and Agriculture Organization of the United Nations (FAO), Global Perspective Studies Unit.
- FAO.** 2006c. *Livestock's long shadow: Environmental issues and options*, by Steinfeld, H., Gerber, P., Wassenaar, T., Castel, V., Rosales, M. & de Haan, C. Rome, Food and Agriculture Organization of the United Nations (FAO). 390 pp.

- FAO. 2007a. *Gridded Livestock of the World, 2007*, by Wint, G.R.W. & Robinson, T.P. Rome, Food and Agriculture Organization of the United Nations (FAO), Animal Production and Health Division.
- FAO. 2007b. *Industrial Livestock Production and Global Health Risks*, by Otte, J., Roland-Holst, D., Pfeiffer, D., Soares-Magalhaes, R., Rushton, J., Graham, J. & Silbergeld, E. Pro-Poor Livestock Policy Initiative Research Report. Rome, Food and Agriculture Organization of the United Nations (FAO).
- FAO. 2007c. *The state of the world's animal genetic resources for food and agriculture*, by Rischkowsky, B. & Pilling, D. (eds). Rome, Food and Agriculture Organization of the United Nations (FAO).
- FAO. 2009. *The state of food and agriculture: Livestock in the balance*. Rome, Food and Agriculture Organization of the United Nations (FAO).
- FAO. 2010. *Greenhouse gas emissions from the dairy sector: A life cycle assessment*, by Gerber, P., Vellinga, T., Opio, C., Henderson, B. & Steinfeld, H. Rome, Food and Agriculture Organization of the United Nations (FAO), Animal Production and Health Division.
- FAO & SIDA. 1974. *Report on regional seminar on shifting cultivation and soil conservation in Africa*. Rome, Food and Agriculture Organization of the United Nations (FAO) and the Swedish International Development Cooperation Agency (SIDA).
- Fernández-Rivera S., Okike, I., Manyong, V., Williams, T., Kruska, R. & Tarawali, S. 2004. Classification and description of the major farming systems incorporating ruminant livestock in West Africa. In Williams, T.O., Tarawali, S., Hiernaux, P. & Fernández-Rivera, S. (eds). *Sustainable crop-livestock production for improved livelihoods and natural resource management in West Africa*. Proceedings of an international conference held at the International Institute of Tropical Agriculture, Ibadan, Nigeria, 19–22 November, 2001. 528 pp. Nairobi, International Livestock Research Institute.
- Fischer, G., Shah, M. & van Velthuisen, H. 2002. *Climate Change and Agricultural Vulnerability. Special Report*. Laxenburg, International Institute for Applied Systems Analysis. 152 pp.
- Fischer, G., Shah, M., Velthuisen, H. & Nachtergaele, F. 2001. *Global Agro-ecological Assessment for Agriculture in the 21st Century*. Laxenburg, International Institute for Applied Systems Analysis.
- Foley, J.A., Levis, S., Prentice, I.C., Pollard, D. & Thompsons, S.L. 1998. Coupling dynamics models of climate and vegetation. In *Global Change Biology* **4**, 561–579.
- Franceschini, G., Robinson, T.P., Morteo, K., Dentale, D., Wint, W. & Otte, J. 2009. The Global Livestock Impact Mapping System (GLIMS) as a tool for animal health applications. In *Veterinaria Italiana* **45**, 491–499.
- Friedl, M.A., Sulla-Menashe, D., Tan, B., Schneider, A., Ramankutty, N., Sibley, A. & Huang, X. 2010. MODIS Collection 5 global land cover: Algorithm refinements and characterization of new datasets. In *Remote Sensing of Environment* **114**, 168–182.
- Fritz, S. & See, L. 2005. Comparison of land cover maps using fuzzy agreement. In *International Journal of Geographic Information Systems* **19**, 787–807.
- Fritz, S. & See, L. 2008. Identifying and quantifying uncertainty and spatial disagreement in the comparison of Global Land Cover for different applications. In *Global Change Biology* **14**, 1057–1075.
- Fritz, S., McCallum, I., Schill, C., Perger, C., Grillmayer, R., Achard, F., Kraxner, F. & Obersteiner, M. 2009. Geo-Wiki.Org: The use of crowdsourcing to improve global land cover. In *Remote Sensing* **1**, 345–354, doi:10.3390/rs1030345.
- Fritz, S., You, L., Bun, A., See, L., McCallum, I., Liu, J., Hansen, M. & Obersteiner, M. 2011. Cropland for sub-Saharan Africa: A synergistic approach using five land cover datasets. In *Geophysical Research Letters* **38**, L04404, doi:10.1029/2010GL046213.
- George, H., Verbeke, I. & Corsi, S. 2009. *Agro-MAPS: Mapping sub national agricultural land-use statistics on a global scale. Wye city group on statistics on rural development and agriculture household income*. Second Meeting, 11–12 June, 2009, Rome, Italy. Rome, Food and Agriculture Organization of the United Nations.
- Gerber, P., Chilonda, P., Franceschini, G. & Menzi, H. 2005. Geographical determinants and environmental implications of livestock production intensification in Asia. In *Bioresource Technology* **96**, 263–276.

- Gilbert, M., Wint, W. & Slingerbergh, J.** 2004. Ecological factors in disease emergence from animal reservoir. Unpublished report to the Food and Agriculture Organization of the United Nations.
- Giri, C., Zhu, Z. & Reed, B.** 2005. A comparative analysis of the Global Land Cover 2000 and MODIS land cover data sets. In *Remote Sensing of Environment* **94**, 123–132.
- Greenacre, M.J.** 1984. *Theory and applications of correspondence analysis*. New York, Academic Press.
- Grigg, D.** 1972. *The agricultural systems of the world*. Cambridge, Cambridge University Press.
- Gura, S.** 2008. *Industrial livestock production and its impact on smallholders in developing countries*. Consultancy report. Ober-Ramstadt, League for Pastoral Peoples and Endogenous Livestock Development.
- Hansen, M., DeFries, R.S., Townshend, J.R.G., Carroll, M., Dimiceli, C. & Sohlberg, R.A.** 2003. Global percent tree cover at a spatial resolution of 500 meters: First results of the MODIS Vegetation Continuous Fields algorithm. In *Earth Interactions* **7**, 1–15.
- Hansen, M., DeFries, R.S., Townshend, J.R.G., Carroll, M., Dimiceli, C. & Sohlberg, R.A.** 2006. *Vegetation Continuous Fields MOD44B, 2001 Percent Tree Cover, Collection 4*. University of Maryland, USA.
- Hansen, M.C., Defries, R.S., Townshend, J.R.G. & Sohlberg, R.** 2000. Global land cover classification at 1km spatial resolution using a classification tree approach. In *International Journal of Remote Sensing* **21**, 1331–1364.
- Hansen, M.C., Townshend, J.R.G., Defries, R.S. & Carroll, M.** 2005. Estimation of tree cover using MODIS data at global, continental and regional/local scales. In *International Journal of Remote Sensing* **26**, 4359–4380.
- Herrero, M., Thornton, P.K., Kruska, R. & Reid, R.S.** 2008. Systems dynamics and the spatial distribution of methane emissions from African domestic ruminants to 2030. In *Agriculture, Ecosystems and Environment* **126**, 122–137.
- Herrero, M., Thornton, P.K., Notenbaert, A., Msangi, S., Wood, S., Kruska, R.L., Dixon, J., Bossio, D., van de Steeg, J.A., Freeman, H.A., Li, X. & Rao, P.P.** 2009. *Drivers of change in crop–livestock systems and their potential impacts on agro-ecosystems services and human well-being to 2030*. Study commissioned by the Consultative Group for International Agricultural Research Systemwide Livestock Programme. Nairobi, International Livestock Research Institute.
- Herrero, M., Thornton, P.K., Notenbaert, A., Wood, S., Msangi, S., Freeman, H.A., Bossio, D., Dixon, J., Peters, M., van de Steeg, J., Lynam, J., Parthasarathy Rao, P., Macmillan, S., Gerard, B., McDermott, J., Seré, C. & Rosegrant, M.** 2010. Smart investments in sustainable food production: revisiting mixed crop–livestock systems. In *Science* **327**, 822–825.
- Hijmans, R.J., Cameron, S.E., Parra, J.L., Jones, P.G. & Jarvis, A.** 2005. Very high resolution interpolated climate surfaces for global land areas. In *International Journal of Climatology* **25**, 1965–1978.
- Hyman, G., Nelson, A. & Lema, G.** 2000. *Latin America and Caribbean Population Database 2000*. Colombia, International Center for Tropical Agriculture; United Nations Environment Programme Global Resource Information Database; and World Resources Institute.
- ICSD.** 1994. *1994 Convention on biological diversity. Text and annexes*. Geneva, United Nations Environment Programme, Interim Secretariat for the Convention on Biological Diversity (ISCBD).
- IPCC.** 2006. *IPCC Guidelines for National Greenhouse Gas Inventories*. Prepared by the National Greenhouse Gas Inventories Programme, Intergovernmental Panel on Climate Change (IPCC). Eggleston, H.S., Buendia, L., Miwa, K., Ngara, T. & Tanabe, K. (eds). Hayama, Institute for Global Environmental Strategies.
- Jones, P.G. & Thornton, P.K.** 1999. Fitting a third-order Markov rainfall model to interpolated climate surfaces. *Agricultural and Forest Meteorology* **97**, 213–231.
- Jones, P.G. & Thornton, P.K.** 2003. The potential impacts of climate change in tropical agriculture: the case of maize in Africa and Latin America in 2055. In *Global Environmental Change* **13**, 51–59.
- Jones, P.G. & Thornton, P.K.** 2005. *Global length of growing period for current conditions at 5 km resolution*. ILRI data set. Nairobi, International Livestock Research Institute (ILRI).

- Jung, M., Henkel, K., Herold, M. & Churkina, G.** 2006. Exploiting synergies of global land cover products for carbon cycle modelling. In *Remote Sensing of Environment* **101**, 534–553.
- Kaufman, L. & Rouseeuw, P.J.** 1990. *Finding groups in data*. New York, Wiley.
- Köbrich, C., Rehman, T. & Khan, M.** 2003. Typification of farming systems for constructing representative farm models: two illustrations of the application of multi-variate analyses in Chile and Pakistan. In *Agricultural Systems* **76**, 141–157.
- Kristjanson, P., Radeny, M., Baltenweck, I., Ogutu, J. & Notenbaert, A.** 2005. Livelihood mapping and poverty correlates at a meso-scale in Kenya. In *Food Policy* **30**, 568–583.
- Kristjanson, P.M., Thornton, P.K., Kruska, R.L., Reid, R.S., Henninger, N., Williams, T.O., Tarawali, S., Niezen, J. & Hiernaux, P.** 2004. Mapping livestock systems and changes to 2050: implications for West Africa. In Williams, T.O., Tarawali, S.A., Hiernaux, P. & Fernández-Rivera, S. (eds). *Sustainable crop-livestock production for improved livelihoods and natural resource management in West Africa*. pp. 28–44. Nairobi, International Livestock Research Institute.
- Kruska, R.L.** 2006. *Seré and Steinfeld version 3*. ILRI data set. Nairobi, International Livestock Research Institute (ILRI).
- Kruska, R.L., Reid, R.S., Thornton, P.K., Henninger, N. & Kristjanson, P.M.** 2003. Mapping livestock-orientated agricultural production systems for the developing world. In *Agricultural Systems* **77**, 39–63.
- LID.** 1999. *Livestock in Poverty-Focused Development*. Crewkerne, Livestock in Development (LID). 96 pp.
- Loveland, T.R. & Belward, A.S.** 1997. The IGBP-DIS Global 1 km Land Cover Data Set, DISCover First Results. In *International Journal of Remote Sensing* **18**, 3289–3295.
- Lutz, E.** (ed.). 1998. *Agriculture and the environment: Perspectives on sustainable rural development*. Washington, DC, The World Bank. 383 pp.
- MAAIF & UBOS.** 2009. *Livestock census report 2008 – draft of August 2009*. Kampala, Ministry of Agriculture, Animal Industry And Fisheries (MAAIF) and Uganda Bureau of Statistics (UBOS).
- Macauley, M. & Sedjo, R.** 2011. Forests in climate policy: technical, institutional and economic issues in measuring and monitoring. In *Mitigation and Adaptation Strategies for Global Change* **16**, 499–513, doi: 10.1007/s11027-010-9276-4.
- Matthews, A., Claquin, P. & Opolot, J.** 2007. *Distortions to Agricultural Incentives in Uganda*. Agricultural Distortions Working Paper 51. Washington, DC, World Bank.
- Mayaux, P., Bartholomé, E., Fritz, S. & Belward, A.** 2004. A new land-cover map of Africa for the year 2000. In *Journal of Biogeography* **31**, 861–877.
- MEA.** 2005. *Ecosystems and human well-being: Synthesis*. Washington, DC, Island Press.
- Menzi, H., Burton, C., Shipin, O., Gerber, P., Robinson, T., Franceschini, G., Chantsavang, S., Thi Dan, T. & Gegg, R.** 2009. Potential impacts of high-density livestock production on terrestrial and aquatic ecosystems and pollution mitigation options. In Steinfeld, H., Mooney, H.A., Schneider, F. & Neville, L.E. (eds). *Livestock in a changing landscape, Volume 1: drivers, consequences and responses*. pp 197–219. Washington, DC, Island Press.
- Minot, N., Baulch, B. & Epprecht, M.** 2006. *Poverty and Inequality in Vietnam: Spatial Patterns and Geographic Determinants*. Research Report No. 148. Washington, DC, International Food Policy Research Institute.
- Montana, D.** 1992. A Weighted Probabilistic Neural Network. In *Advances in Neural Information Processing Systems* **4**, 1110–1117.
- Morisette, J.T., Privette, J.L. & Justice, C.O.** 2002. A framework for the validation of MODIS land products. In *Remote Sensing of Environment* **83**, 77–96.
- Musiitwa, F. & Komutunga, E.T.** 2001. Agricultural systems. In Mukiibi, J.K. (ed.). *Agriculture in Uganda, Vol. 1*. General information, 220–230. Kampala, Fountain Publishers.
- Nelson, A.** 2008. *Travel time to major cities: A global map of Accessibility*. Ispra, Global Environment Monitoring Unit, Joint Research Centre of the European Commission.
- NEMA.** 1996. *State of the environment report for Uganda*. Kampala, National Environment Management Agency (NEMA).

- NEMA.** 2005. *State of environment report for Uganda 2004/05*. Kampala, National Environment Management Agency (NEMA).
- Notenbaert, A., Herrero, M., Kruska, R., You, L., Wood, S., Thornton, P. & Omolo, A.** 2009. *Classifying livestock production systems for targeting agricultural research and development in a rapidly changing world*. Discussion Paper 19. Nairobi, International Livestock Research Institute. 41 pp.
- NPA.** 2010. *National Development Plan 2010/11 – 2014/15*. Kampala, National Planning Authority (NPA).
- Okidi, J.A., Ssewanyana, S., Bategeka, L. & Muhumuza, F.** 2004. *Operationalising pro-poor growth: A country case study on Uganda*. Kampala, Economic Policy Research Centre.
- Parker, D.C., Hessel, A. & Davis, S.C.** 2008. Complexity, land-use modelling, and the human dimension: Fundamental challenges for mapping unknown outcome spaces. In *Geoforum* **39**, 789–804.
- Parthasarathy Rao, P., BIRTHAL, P. & Ndjunga, J.** 2005. *Crop-livestock economies in the semi-arid tropics: Facts, trends and outlook*. Patancheru, International Crops Research Institute for Semi-Arid Tropics. 68 pp.
- Perry, B.D., McDermott, J.J., Randolph, T.F., Sones, K.R. & Thornton, P.K.** 2002. *Investing in Animal Health Research to Alleviate Poverty*. Nairobi, International Livestock Research Institute. 138 pp.
- Powell, J.M., Fernández-Rivera, S., Williams, T.O. & Renard, C.** (eds). 1995. *Livestock and Sustainable Nutrient Cycling in Mixed Farming Systems of Sub-Saharan Africa. Volume II: Technical Papers*. Proceedings of an International Conference held in Addis Ababa, 22–26 November, 1993. Addis Ababa, International Livestock Centre for Africa.
- Powell, M., Pearson, A. & Hiernaux, P.** 1994. Crop-livestock interactions in the West African Drylands. In *Agronomy Journal* **96**, 469–483.
- Prosser, D.J., Wu, J., Ellis, E.C., Gale, F., Van Boeckel, T.P., Wint, W., Robinson, T., Xiao, X. & Gilbert, M.** 2011. Modelling the distribution of chickens, ducks and geese in China. In *Agriculture, Ecosystems and Environment* **141**, 381–389.
- Ramankutty, N., Evan, A.T., Monfreda, C. & Foley, J.A.** 2008. Farming the planet: 1. Geographic distribution of global agricultural lands in the year 2000. In *Global Biogeochemical Cycles* **22**, GB1003.
- Ravallion, M.** 2009. *The Developing World's Bulging (but Vulnerable) "Middle Class"*. Policy Research Working Paper 4816. Washington, DC, World Bank, Development Research Group.
- Reid, R.S., Kruska, R.L., Deichmann, U., Thornton, P.K. & Leak, S.G.A.** 2000. Will human population growth and land-use change control tsetse during our lifetimes? In *Agriculture, Ecosystems and Environment* **77**, 227–236.
- Robinson, T.P., Franceschini, G. & Wint, G.R.W.** 2007. FAO's Gridded Livestock of the World. In *Veterinaria Italiana* **43**, 745–751.
- Rosegrant, M.W., Cai, X. & Cline, S.A.** 2002. *Global water outlook to 2025, averting an impending crisis. A 2020 vision for food, agriculture, and the environment initiative*. Washington, DC, International Food Policy Research Institute and International Water Management Institute.
- Rosegrant, M.W., Fernandez, M., Sinha, A., Alder, J., Ahammad, H., de Fraiture, C., Eickhout, B., Fonseca, J., Huang, J., Koyama, O., Omezzine, A.M., Pingali, P., Ramirez, R., Ringler, C., Robinson, S., Thornton, P., van Vuuren, D. & Yana-Shapiro, H.** 2009. Looking into the future for agriculture and AKST (Agricultural Knowledge Science and Technology). In McIntyre, B.D., Herren, H.R., Wakhungu, J. & Watson, R.T. (eds). *Agriculture at a Crossroads*. pp.307–376. Washington, DC, Island Press.
- Ruthenberg, H.** 1980. *Farming Systems in the Tropics*, Third Edition. Oxford, Clarendon Press.
- Sachs, J.D., Remans, R., Smukler, S., Winowiecki, L., Andelman, S.J., Cassman, K.G., Castle, D., Defries, R., Denning, G., Fanzo, J., Jackson, L.E., Leemans, R., Lehmann, J., Milder, J.C., Naeem, S., Nziguheba, G., Palm, C.A., Pingali, P.L., Reganold, J.P., Richter, D.D., Scherr, S.J., Sircely, J., Sullivan, C., Tomich, T.P. & Sanchez, P.A.** 2010. Monitoring the world's agriculture. In *Nature* **466**, 558–560.
- Scoones, I.** 1998. *Sustainable rural livelihoods: a framework for analysis*. Brighton, Institute of Development Studies, University of Sussex.

- Scoones, I.** 2009. *Global engagements with global assessments: the case of the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD)*. Working Paper 313. Brighton, Institute of Development Studies, University of Sussex.
- Seaman, J., Clarke, P., Boudreau, T.E. & Holt, J.** 2000. *The household food economy approach: A resource manual for practitioners*. Westport, Save the Children.
- Shannon, C.** 1948. A mathematical theory of communication. In *Bell System Technology Journal* **27**, 379–423.
- Shaw, A.P.M., Hendrickx, G., Gilbert, M., Mattioli, R., Codjia, V., Dao, B., Diall, O., Mahama, C., Sidibé, I. & Wint, G.R.W.** 2006. *Mapping the benefits: a decision tool for tsetse and trypanosomosis interventions*. Research Report. Department for International Development, Animal Health Programme, Centre for Tropical Veterinary Medicine, University of Edinburgh, and Programme Against African Trypanosomiasis. Rome, Food and Agriculture Organization of the United Nations.
- Shaw, A.P.M., Wint, G.R.W., Cecchi, G., Mattioli, R. & Robinson, T.P.** In press. *Mapping the potential benefits and the net returns from interventions against bovine trypanosomosis in Eastern Africa*. Programme Against African Trypanosomosis Technical and Scientific Series, Number 11. Rome, Food and Agriculture Organization of the United Nations.
- Siebert, S., Döll, P., Feick, S., Hoogeveen, J. & Frenken, K.** 2007. *Global map of irrigated areas Version 4.0.1*. Frankfurt am Main and Rome: Johann Wolfgang Goethe University, Frankfurt am Main and Food and Agriculture Organization of the United Nations.
- Siebert, S., Döll, P., Hoogeveen, J., Faures, J.M., Frenken, K. & Feick, S.** 2005. Development and validation of the global map of irrigation areas. In *Hydrology and Earth System Sciences* **9**, 535–547.
- Snel, M. & Henninger, N.** 2002. *Where are the Poor? Experiences with the Development and Use of Poverty Maps*. Washington, DC, World Resources Institute.
- Spedding, C.R.W.** 1975. *The biology of agricultural systems*. London, Academic Press.
- SSCCSE & SC-UK.** 2005. *Southern Sudan Livelihood Profiles*. Nairobi, Southern Sudan Centre for Census, Statistics and Evaluation (SSCCSE) and Save the Children-United Kingdom (SC-UK).
- Steinfeld, H., Mooney, H.A., Schneider, F. & Neville, L.E.** (eds). 2010. *Livestock in a changing landscape. Volume 1. Drivers, consequences and responses*. Washington, DC, Island Press. 396 pp.
- Steinfeld, H., Wassenaar, T. & Jutzi, S.** 2006. Livestock production systems in developing countries: Status, drivers, trends. In *World Organization for Animal Health (OIE) Scientific and Technical Review* **25**, 505–516.
- Thornton, P.K., Kruska, R.L., Henninger, N., Kristjanson, P.M., Reid, R.S., Atieno, F., Odero, A. & Ndegwa, T.** 2002. *Mapping poverty and livestock in the developing world*. Nairobi, International Livestock Research Institute. 124 pp.
- Thornton, P.K.** 2010. Livestock production: Recent trends, future prospects. In *Philosophical Transactions of the Royal Society Series B* **365**, 2853–2867.
- Thornton, P.K. & Jones, P.G.** 2010. *Global length of growing period for current conditions at 1 km resolution*. ILRI data set. Nairobi, International Livestock Research Institute (ILRI).
- Thornton, P.K., Herrero, M., Freeman, A., Okeyo, M., Rege, E., Jones, P.G. & McDermott, J.** 2007. Vulnerability, climate change and livestock – Research opportunities and challenges for poverty alleviation. In *Journal of Semi-Arid Tropical Agricultural Research* **4**, 1–23.
- Thornton, P.K., Jones, P.G., Owiyo, T., Kruska, R.L., Herrero, M., Kristjanson, P., Notenbaert, A., Bekele, N. & Omolo, A.**, with contributions from **Orindi, V., Adwerah, A., Otiende, B., Bhadwal, S., Anantram, K., Nair, S. & Kumar, V.** 2006. In *Mapping climate vulnerability and poverty in Africa*. Nairobi, International Livestock Research Institute. 159 pp.
- Thornton, P.K., Jones, P.G., Owiyo, T., Kruska, R.L., Herrero, M., Kristjanson, P., Notenbaert, A., Bekele, N. & Omolo, A.** 2008. Climate change and poverty in Africa: mapping hotspots of vulnerability. In *African Journal of Agricultural and Resource Economics* **2**, 24–44.

- Thornton, P.K., Kruska, R.L., Henninger, N., Kristjanson, P.M., Reid, R.S. & Robinson, T.P.** 2003. Locating poor livestock keepers at the global level for research and development targeting. In *Land Use Policy* **20**, 311–322.
- Turner, R.L.** 2005. *Livestock, Liberalization and Democracy: Constraints and Opportunities for Rural Livestock Producers in a Reforming Uganda*. Pro-Poor Livestock Policy Initiative Working Paper 29. Rome, Food and Agriculture Organization of the United Nations.
- UBOS.** 2003. *National Household Survey 2002/2003. Report on the Socio-economic survey*. Kampala, Uganda Bureau of Statistics (UBOS).
- UBOS.** 2004. *Report on the Agriculture Module, piggy-backed onto the Population and Housing Census*. Kampala, Uganda Bureau of Statistics (UBOS).
- UBOS.** 2009. *2009 Statistical Abstract*. Kampala, Uganda Bureau of Statistics (UBOS).
- UNDP.** 1997. *Human Development Report 1997*. United Nations Development Program (UNDP). Oxford, Oxford University Press.
- UNEP.** 2002. *Global Environmental Outlook 3: Past, Present and Future Perspectives*. United Nations Environment Program (UNEP). London, Earthscan Publications Ltd.
- US Department of the Interior.** 2010. *United States Launches New Global Initiative to Track Changes in Land Cover and Use*.
- USGS.** 2008. *Global Land Cover Characterization*. Washington, DC, United States Geological Survey (USGS).
- Van Boeckel, T.P., Prosser, D., Franceschini, G., Biradar, C., Wint, W., Robinson, T.P. & Gilbert, M.** 2011. Modelling the distribution of domestic duck in Monsoon Asia. In *Agriculture, Ecosystems and Environment* **141**, 373–380.
- Whittlesey, D.** 1936. Major agricultural regions of the Earth. In *Annals of the Association of American Geographers* **26**, 199–240.
- Wint, G.R.W., Rogers, D.J. & Robinson, T.P.** 1997. *Ecozones, farming systems and priority areas for tsetse control in East, West and Southern Africa*. Consultancy Report by the Environmental Research Group Oxford Ltd and the Trypanosomiasis and Land Use in Africa Research Group, Department of Zoology, University of Oxford. Rome, Food and Agricultural Organization of the United Nations.
- Wint, G.R.W.** 2007. *Global length of growing period for current conditions at 1 km resolution, remodelled from 5 km data*. ERGO data set. Oxford, Environmental Research Group Oxford (ERGO).
- Wood, A., Stedman-Edwards, P. & Mang, J.** 2000. *The Root Causes of Biodiversity Loss*. London, World Wildlife Fund and Earthscan Publications Ltd.
- World Bank.** 2001. *World Development Report 2000/2001: Attacking Poverty*. New York, Oxford University Press.
- World Bank.** 2009. *World Development Report 2009: Reshaping Economic Geography*. Washington, DC, The World Bank.
- World Bank.** 2010. *World Development Report 2010: Development and Climate Change*. Washington, DC, The World Bank.
- World Bank.** 2011. *The World Bank Data Repository*. Washington, DC, The World Bank.
- Wortmann, C.S. & Eledu, C.A.** 1999. *Uganda's agroecological zones: a guide for planners and policy makers*. Kampala, Centro Internacional de Agricultura Tropical.
- You, L. & Wood, S.** 2004. *Spatial allocation of agricultural production using a cross-entropy approach*. Environment and Production Technology Division Discussion Paper No. 126. Washington, DC, International Food Policy Research Institute.
- You, L. & Wood, S.** 2006. An entropy approach to spatial disaggregation of agricultural production. In *Agricultural Systems* **90**, 329–347.
- You, L., Wood, S. & Wood-Sichra, U.** 2006. *Generating global crop distribution maps: from census to grid*. Contributed paper prepared for presentation at the International Association of Agricultural Economists Conference, Gold Coast, Australia, August 11–18, 2006.
- You, L., Wood, S. & Wood-Sichra, U.** 2009. Generating plausible crop distribution maps for sub-Saharan Africa using a spatially disaggregated data fusion and optimization approach. In *Agricultural Systems* **99**, 126–140.