

# References

---

# References

- Ackerman, F., Wise T.A., Gallagher, K.P., Ney, L. & Flores, R.** 2003. *Free trade, corn and the environment: Environmental impacts of US-Mexico corn trade under NAFTA*. Global Development and Environment Institute, Working Paper No. 03-06.
- ADB.** 2001. *Fire, smoke, and haze – the ASEAN response strategy*. Edited by S. Tahir Qadri. Asian Development Bank. Manila, Philippines. p. 246
- Ahmed, M.** 2000. Water pricing and markets in the Near East: Policy issues and options. *Water Policy*, 2: 229–242.
- Ajayi, S.S.** 1997. Pour une gestion durable de la faune sauvage: Le cas africain. In *Etude FAO forêts*, eds. *Ouvrages sur l'Aménagement Durable des Forêts*. Rome, FAO.
- Alder, J. & Lugten, G.** 2002. Frozen fish block: how committed are North Atlantic States to accountability, conservation and management of fisheries? *Marine Policy*, 26: 345–357.
- Allan, J.A.** 2001. Virtual Water – economically invisible and politically silent – a way to solve strategic water problems, *International Water and Irrigation*, 21(4): 39–41.
- Altieri, M. & Pengue, W.** 2006. GM soybean: *Latin America's new coloniser*. Article in *Grain* (Available at <http://www.grain.org/front/>).
- Amon, B., Moitzi, G., Schimpl, M., Kryvoruchko, V. & Wagner-alt, C.** 2002. *Methane, nitrous oxide and ammonia emissions from management of liquid manures, Final Report 2002*. On behalf of Federal Ministry of Agriculture, Forestry, Environmental and Water Management and the Federal Ministry of Education, Science and Culture Research Project No. 1107, BMLF GZ 24.002/24-IIA1a/98 and Extension GZ 24.002/33-IIA1a/00.
- Anderson, D.M., Galloway, S.B. & Joseph, J.D.** 1993. *Marine biotoxins and harmful algae: a national plan*. Technical Report, Woods Hole, Massachusetts, USA, Woods Hole Oceanographic Institution (WHOI) 93-02. 59 pp.
- Anderson, K. & Martin, W.** 2005. *Agricultural trade reform and the Doha Development Agenda*. World Bank Policy Research Working Paper 3607. World Bank, 21 February 2005.
- Anderson, M. & Magleby, R.** 1997. *Agricultural resources and environmental indicators, 1996–97*. Agricultural Handbook No. 712. July 1997, 356 pp.
- Andreae, M.O. & Crutzen, P.J.** 1997. Atmospheric aerosols: biogeochemical sources and roles in atmospheric chemistry. *Science*, 276: 1052–1057.
- Andreoni, J & D. Capman.** 2001. The simple analysis of the environmental Kuznets curve. *Journal of Public Economics* 80(2): 269–277.
- Animal Info.** 2005. *Information on endangered mammals*, (Available at <http://www.animalinfo.org/index>. Accessed July, 2005).
- Archer, S., Schimel, D.S. & Holland, E. A.** 1995. Mechanisms of shrubland expansion: land use, climate or CO<sub>2</sub>? *Climatic Change*, 29: 91–99.
- ARKive.** 2005. *Globally endangered chapter*, (Available <http://www.arkive.org/species/GES/>. Accessed July, 2005).
- Artaxo, P., Martins, J.V., Yamasoe, M.A., Procópio, A.S., Pauliquevis, T.M., Andreae, M.O., Guyon, P., Gatti, L.V. & Leal, A.M.C.** 2002. Physical and chemical properties of aerosols in the wet and dry seasons in Rondonia, Amazonia. *Journal of Geophysical Research*, 107 [D20]: 8081–8095.
- Arthur, J.A. & Albers, G.A.A.** 2003. Industrial perspective on problems and issues associated with poultry breeding. In W.M. Muir, *Poultry genetics, breeding and biotechnology*.
- Asad, M., Azevedo, L.G., Kemper, K.E. & Simpson, L.D.** 1999 *Management of water resources: Bulk water pricing in Brazil*. World Bank Technical Paper No. 432.
- Asner, G.P., Borghi, C.E. & Ojeda, R.A.** 2003. Desertification in central Argentina: Changes in ecosystem carbon and nitrogen from imaging spectroscopy. *Ecological Application*, 13(3): 629–648.

- Asner, G.P., Elmore, A.J., Olander, L.P., Martin, R.E. & Harris, A.T.** 2004. Grazing systems, ecosystem responses, and global change. *Annual review of environment and resources*, 29: 261–299.
- Atwill, E.R.** 1995. *Microbial pathogens excreted by livestock and potentially transmitted to humans through water*. Davis, USA, Veterinary Medicine Teaching and Research Center School of Veterinary Medicine, University of California.
- Baillie, J.E.M., Hilton-Taylor, C. & Stuart, S.N.** eds., 2004. 2004 IUCN red list of threatened species. A global species assessment. Gland, Switzerland and Cambridge, UK, IUCN.
- Baker, B., Barnett, G. & Howden, M.** 2000. *Carbon sequestration in Australia's rangelands. Proceedings workshop Management options for carbon sequestration in forest, agricultural and rangeland ecosystems*, CRC for Greenhouse Accounting, Canberra.
- Ballan, E.** 2003. De participation en conflit: la décision partagée à l'épreuve des faits dans la moyenne vallée du Zambèze. In Rodary E., Castellanet C. & Rossi G., eds. *Conservation de la nature et développement, l'intégration possible?* Paris: Karthala & GRET, 225–237.
- Bari, F., Wood, M.K. & Murray, A.L.** 1993. Livestock grazing impacts on infiltration rates in a temperate range of Pakistan. *Journal of Range Management*, 46: 367–372.
- Barraud, V., Saleh, O.M. and Mamis, D.** 2001. *L'élevage transhumant au Tchad Oriental*. Tchad: Vétérinaires Sans Frontières.
- Barrios, A.** 2000. *Urbanization and water quality*. CAE Working Paper Series. WP00-1. American Farmland Trust's Center for Agriculture in the Environment, DeKalb, Ill.
- Barrow, C.J.** 1991. *Land degradation: Development and breakdown of terrestrial environments*. UK, Cambridge University Press. 313 pp.
- Barrow, N.J. & Lambourne, L.J.** 1962. Partition of excreted nitrogen, sulphur, and phosphorus between the faeces and urine of sheep being fed pasture. *Australian Journal of Agricultural Research*, 13(3): 461–471.
- Batjes, N.H.** 2004. Estimation of soil carbon gains upon improved management within croplands and grasslands of Africa. *Environment, Development and Sustainability*, 6:133–143.
- Behnke, R.** 1997. Range and Livestock Management in the Etanga Development Area, Kunene Region. Progress Report for the NOLIDEP Project. Windhoek, Namibia, Ministry of Agriculture, Water and Rural Development.
- Bellamy, P.H., Loveland, P.J., Bradley, R.I, Lark, R.M. & Kirk, G.J.D.** 2005. Carbon losses from all soils across England and Wales 1978–2003. *Nature*, 437: 245–248.
- Bellows, B.** 2001. *Nutrient cycling in pastures-livestock systems guide*. Fayetteville, Arizona, USA, ATTRA – National Sustainable Agriculture Information Service.
- Belsky, A.J., Matzke A. & Uselman S.** 1999. Survey of livestock influences on stream and riparian ecosystems in the western United States. *Journal of Soil and Water Conservation*, 54: 419–431.
- Benoît, M.** 1998. *Statut et usages du sol en périphérie du parc national du «W» du Niger*. Paris, Niamey, ORSTOM.
- Berg, C.** 2004. *World fuel ethanol analysis and outlook*, [Available at <http://www.distill.com/World-Fuel-Ethanol-A&O-2004.html>].
- Bernstein S.** 2002. Freshwater and human population: A global perspective. In Karen Krchnak, ed., *Human population and freshwater resources: US cases and international perspective*, New Haven, USA, Yale University. 177 pp.
- Bernués, J.L. Riedel, M.A. Asensio, M. Blanco, A. Sanz, R.R. & Casasús I.** 2005. An integrated approach to studying the role of grazing livestock systems in the conservation of rangelands in a protected natural park (Sierra de Guara, Spain). *Livestock production science*, 96(1): 75–85.
- Biggs, R., Bohensky, E., Desanker, P. V., Fabricius, C., Lynam, T., Misselhorn, A., Musvoto, C., Mutale, M., Reyers, B., Scholes, R.J., Shikongo, S. & van Jaarsveld, A.S.** 2004. *Nature supporting people: the Southern Africa Millenium Ecosystem Assessment*. Pretoria, Council for Scientific and Industrial Research.

- Binot, A., Castel, V. & Caron, A.** 2006. *The wildlife-livestock interface in sub-Saharan Africa*. Sécheresse, June 2006.
- BirdLife International.** 2005. *Species factsheets*. (Downloaded from <http://www.birdlife.org>. Accessed July 2005).
- Black, R.** 2006. Public says 'no' to badger cull. BBC News, [Available at <http://news.bbc.co.uk/2/hi/science/nature/5172360.stm>].
- Bolin, B., Degens, E.T., Kempe, S. & Ketner, P.** eds. 1979. SCOPE 13 *The global carbon cycle*. Scientific Committee On Problems of the Environment (SCOPE), [Available at <http://www.icsu-scope.org/downloadpubs/scope13/>].
- Bolin, B., Crutzen, P.J., Vitousek, P.M., Woodmansee, R.G., Goldberg, E.D. & Cook, R.B.** 1981. *An overview of contributions and discussions at the SCOPE workshop on the interaction of biogeochemical cycles*, Örsundsbro, Sweden, 25–30 May 1981, [Available at [www.icsu-scope.org/downloadpubs/scope21/chapter01.html](http://www.icsu-scope.org/downloadpubs/scope21/chapter01.html)].
- Bosworth, B., Cornish, G., Perry, C. & van Steenberg, F.** 2002. *Water charging in irrigated agriculture Lessons from the literature*.
- Bouman, B.A.M., Plant, R.A.J. & Nieuwenhuys, A.** 1999. Quantifying economic and biophysical sustainability trade-offs in tropical pastures. *Ecological Modelling*, 120(1): 31–46.
- Bourgeot, A. and Guillaume, H.** 1986. *Introduction au nomadisme: mobilité et flexibilité?* Bulletin de liaison No. 8. ORSTOM.
- Bouwman, A.F.** 1995. *Compilation of a global inventory of emissions of nitrous oxide*. Ph.D. Thesis, Agricultural University, Wageningen.
- Bouwman, A.F., Lee, D.S., Asman, W.A.H., Dentener, F.J., Van Der Hoek, K.W. & Olivier J.G.J.** 1997. A global high-resolution emission inventory for ammonia, *Global Biogeochemical Cycles*, 11(4): 561–587.
- Bouwman, A.F., & van Vuuren, D.P.** 1999. *Global assessment of acidification and eutrophication of natural ecosystems*. RIVM report 402001012. Bilthoven, the Netherlands National Institute of Public Health and the Environment (RIVM). p. 51.
- Bowman, R.L., Croucher, J.C., Picard, M.T., Habib, G., Basit Ali Shah, Wahidullah, S., Jabbar, G., Ghufuranullah, Leng, R.A., Saadullah, M., Safley, L.M., Cassada, M.E., Woodbury, J.W. & Perdok, H.B.** 2000. *Global impact domain: Methane emissions*. Working Document LEAD, Rome, [Available at [www.fao.org/WAIRDOCS/LEAD/X6116E/X6116E00.HTM](http://www.fao.org/WAIRDOCS/LEAD/X6116E/X6116E00.HTM)].
- Boyd, J.W., Caballero, K. & Simpson, R.D.** 1999. *The law and economics of habitat conservation: Lessons from an analysis of easement acquisitions*. Discussion Paper 99–32. Resources for the Future, Washington, DC.
- Breman, H. & de Wit, C.T.** 1983. Rangeland productivity and exploitation in the Sahel. *Science*, 221(4618): 1341–1347.
- British Columbia Ministry of Forests.** 1997. *Remedial measures primer*. Forest Practices Branch, Forest Service British Columbia, Canada, [Available at <http://www.for.gov.bc.ca/hfd/pubs/Docs/Fpb/RMP-01.htm>].
- Bromley, D.W.** 2000. Property regimes and pricing regimes in water resource management. In Ariel Dinar, ed., *The political economy of water pricing reforms*. New York, USA, Oxford University Press. pp. 37–47.
- Brown, A.E., Zhang, L., McMahon, T.A., Western, A.W. & Vertessy, R.A.** 2005. A review of paired catchment studies for determining changes in water yield resulting from alterations in vegetation *Journal of Hydrology*, 310(1–4): 28–61.
- Brown, I.H., Londt, B.Z., Shell, W., Manvell, R.J., Banks, J., Gardner, R., Outtrim, L., Essen, S.C., Sabirovic, M., Slomka, M. & Alexandre, D.J.** 2006. *Incursion of H5N1 'Asian lineage virus' into Europe: source of introduction?* FAO/OIE International Scientific Conference on Avian Influenza and Wild Birds.
- Brown, J.H.** 1989. **Patterns, modes and extents of invasions by vertebrates.** In: Drake, J.A., Mooney, H.A., di Castri, F., Groves, R.H., Kruger, F.J., Rejmánek, M., and Williamson M., eds., *Biological invasions, a global perspective*, SCOPE 37 – Scientific Committee on Problems of the Environment. Published by John Wiley & Sons Ltd. 506 pp.

- Brown, L.R.** 2002. *Water deficits growing in many countries water shortages may cause food shortages*. Earth Policy Institute, 6 August 2002–11, [Available at [www.earth-policy.org/Updates/Update15.htm](http://www.earth-policy.org/Updates/Update15.htm)].
- Bruijnzeel, L.A.** 2004. Hydrological functions of tropical forests: not seeing the soil for the trees? *Agriculture, Ecosystems & Environment*, 104(1): 185–228.
- Bryant, D., Burke, L., McManus, J. & Spalding, M.** 1998. *Reefs at risk: A map-based indicator of potential threats to the world's coral reefs*. pp. 56.
- Bull, W.B.** 1997. Discontinuous ephemeral streams. *Geomorphology*, 19(3–4): 227–276.
- Bureau of Land Management.** 2005. Resource Management Plan. Bakersfield Field Office [Available at <http://www.ca.blm.gov/bakersfield/bkformpr/rmpcontents.html>. Last updated:07/20/05].
- Buret, A., deHollander, N., Wallis, P.M., Befus, D. & Olson, M.E.** 1990. Zoonotic potential of giardiasis in domestic ruminants. *The Journal of Infectious Diseases*, 162: 231–237.
- Burton, C.H.** 1997. *Manure management – treatment strategies for sustainable agriculture*. Silsoe Research Institute, Wrest Park, Silsoe, Bedford. UK. p. 196.
- Burton, C.H. & Turner, C.** 2003. *Manure management – treatment strategies for sustainable agriculture*. 2<sup>nd</sup> Edition. Wrest Park, Silsoe, Bedford, UK. Silsoe Research Institute, p. 451.
- Butt, T.A., McCarl, B.A., Angerer, J., Dyke, P.R. & Stuth, J.W.** 2004. *Food security implication of climate change in developing countries: findings from a case study in Mali*. USA, Texas A&M University.
- Byerlee, D., Alex, G. & Echeverría, R.G.** 2002. The evolution of public research systems in developing countries: Facing new challenges. In: Byerlee, D. and Echeverria, R.G., eds. *Agricultural research policy in an era of privatization*. CAB International 2002.
- Byers, B.A.** 1997. *Environmental threats and opportunities in Namibia: A comprehensive assessment*, Directorate of Environmental Affairs-Ministry of Environment and Tourism.
- California Trout.** 2004. *Grazing reform overview*, [Available at <http://www.caltrout.org/index.html>].
- Canadian Animal Health Institute.** 2004. *Hormones: A safe, effective production tool for the Canadian beef industry*. CAHI factsheet, [Available at <http://www.cahi-icsa.ca/pdf/Beef-Hormones-Factsheet.pdf>].
- Cantagallo, J.E., Chimenti, C.A. & Hall, A.J.** 1997. Number of seeds per unit area in sunflower correlates well with a photothermal quotient. *Crop Science*, 37: 1780–1786.
- Cartlyle, G.C. & Hill, A.R.** 2001. Groundwater phosphate dynamics in a river riparian zone: effects of hydrologic flowpaths, lithology and redox chemistry. *Journal of Hydrology*, 247 (3–4): 151–168.
- Carney, J.F., Carty C.E. & Colwell R.R.** 1975. Seasonal occurrence and distribution of microbial indicators and pathogens in the Rhode river of Chesapeake Bay. *Applied and Environmental Microbiology*, 30(5): 771–780.
- Carpenter, S.R., Caraco, N.F., Correll, D.L., Howarth, R.W., Sharpley, A.N. & Smith, V.H.** 1998. Nonpoint pollution of surface waters with phosphorus and nitrogen. *Ecological Applications*, 8(3): 559–568.
- Carvalho, G., Moutinho, P., Nepstad, D., Mattos, L. & Santilli, M.** 2004. An Amazon perspective on the forest–climate connection: Opportunity for climate mitigation, conservation and development? *Environment, Development and Sustainability*, 6(1–2): 163–174.
- CAST.** 1999. *Animal Agriculture and Global Food Supply*. Council for Agricultural Science and Technology (CAST) ISBN 1-887383-17-4, July 1999, 92 pp.
- Castel V.** 2004. *Valeurs et Valorisation des ressources de la biodiversité: Quel Bilan? Quelles perspectives pour les éleveurs?* Introductive document of theme 1 and 2. Electronic conference of the LEAD/FAO francophone plateforme: Cohabitation ou compétition entre la faune sauvage et les éleveurs... Où en est-on aujourd'hui? Faut-il changer d'approche? Organized by LEAD and CIRAD.

- Castel, V.** 2005. Synthèse des débats du Thème No. 1 «Valeurs et Valorisation des ressources de la biodiversité: Quel Bilan? Quelles perspectives pour les éleveurs?» de la 2<sup>ème</sup> Conférence électronique de la Plateforme francophone LEAD (FAO): *Cohabitation ou compétition entre la faune sauvage et les éleveurs... Où en est-on aujourd'hui? Faut-il changer d'approche?* Organized by LEAD and CIRAD, 2005.
- Cattoli, G. and Capua, I.** 2006. *A diagnostic approach to wild bird surveillance and environmental sampling.* FAO/OIE International Scientific Conference on Avian Influenza and Wild Birds.
- Cederberg, C. & Flysjö, A.** 2004. *Life cycle inventory of 23 dairy farms in south-western Sweden.* SIK report No. 728. p. 59.
- Cerejeira, M.J., Viana, P., Batista, S., Pereira, T., Silva, E., Valerio, M.J., Silva, A., Ferreira M. & Silva-Fernandes A.M.** 2003. Pesticides in Portuguese surface and groundwaters. *Water Research*, 37(5):1055–1063.
- Chamberlain, D.J. & Doverspike, M.S.** 2001. Water tanks protect streambanks. *Rangelands*, 23(2): 3–5.
- Chameides, W.L. & Perdue, E.M.** 1997. *Biogeochemical cycles: a computer-interactive study of earth system science and global change.* New York, USA, Oxford University Press.
- Chapagain, A.K. & Hoekstra, A.Y.** 2003. *Virtual water flows between nations in relation to trade in livestock and livestock products.* Value of Water Research Report Series No. 13. UNESCO-IHE.
- Chapagain, A.K. & Hoekstra, A.Y.** 2004. *Water footprints of nations.* Volume 1: Main Report. Value of Water Research Report Series No. 16. UNESCO-IHE. p. 76. (Available at <http://www.waterfootprint.org>).
- Chapman, E.W. & Ribic, C.A.** 2002. The impact of buffer strips and stream-side grazing on small mammals in southwestern Wisconsin. *Agriculture, Ecosystems and Environment*, 88: 49–59.
- Chauveau, J.P.** 2000. Question foncière et construction nationale en Côte d'Ivoire. *Politique Africaine*, 78: 94–125.
- Child, B.** 1988. The economic potential and utilization of wildlife in Zimbabwe. *Rev. Sci. tech.*, 1988.
- Chohin-Kuper, A., Rieu, T. & Montginoul, M.** 2003. *Water policy reform: Pricing water, cost recovery, water demand and impact on agriculture. Lessons from the Mediterranean experience.*
- Christensen, V., Guenette, S., Heymans, J.J., Walters, C.J., Watson, R., Zeller, D. & Pauly, D.** 2003. Hundred-year decline of North Atlantic predatory fishes. *Fish and Fisheries*, 4(1): 1–24.
- Clark Conservation District.** 2004. *Healthy riparian areas,* (Available at <http://clark.scc.wa.gov/Page7.htm>, accessed in 2004).
- Cochrane, M.A. & Laurance, W.F.** 2002. Fire as a large-scale edge effect in Amazonian forests. *Journal of Tropical Ecology*, 18: 311–325.
- Collins R. & Rutherford K.** 2004. Modelling bacterial water quality in streams draining pastoral land. *Water Research*, 38(3): 700–712.
- Conceição, M.A.P., Durão, R.M.B., Costa, I.M.H., Castro, A., Louzã, A. C. & Costa, J.C.** 2004. Herd-level seroprevalence of fasciolosis in cattle in north central Portugal. *Veterinary Parasitology*, 123 1–2: 93–103.
- Convers, A.** 2002. *Etat des lieux spatialisé et quantitative de la transhumance dans la zone périphérique d'influence du parc national du W (Niger).* Rapport, CIRAD EMVT, 2002.
- Correll, D.L.** 1999. Phosphorus: a rate limiting nutrient in surface waters. *Poultry Science*, 78(5): 675–682.
- Costa, J.L., Massone, H., Martnez, D., Suero, E.E., Vidal, C.M. & Bedmar F.** 2002. Nitrate contamination of a rural aquifer and accumulation in the unsaturated zone. *Agricultural Water Management*, 57(1): 33–47.
- Costales, A., Gerber, P. & Steinfeld, H.** 2006. Underneath the livestock revolution. *Livestock Report*, 2006. Rome, FAO.
- Crutzen, P.J. & Andreae, M.O.** 1990. Biomass burning in the tropics: impact on atmospheric chemistry and biogeochemical cycles. *Science*, 250 (4988): 1669–1678.
- Crutzen, P.J. & Goldammer, J.G.** 1993. *Fire in the environment: The ecological, atmospheric, and climatic importance of vegetation fires.* Dahlem Konferenz 15–20 March 1992, Berlin), ES13, Chichester, UK, Wiley. 400 pp.

- Cumming, D. H. M.** 2005. Wildlife, livestock and food security in the South-East Lowveld of Zimbabwe. Pages 4146 in Proceedings of the Southern and East African Experts Panel on Designing Successful Conservation and Development Interventions at the Wildlife/Livestock Interface: Implications for Wildlife, Livestock and Human Health. Gland, Switzerland, IUCN Occasional Paper. International Union for the Conservation of Nature and Natural Resources.
- d'Antonio, C.M.** 2000. Fire, plant invasions and global changes, In: *Invasive Species in a Changing World*, edited by H.A. Mooney and R.J. Hobbs. Washington, DC, Island Press. pp 65–94
- Dalla Villa, R., de Carvalho Dores, E.F., Carbo. L. & Cunha, M.L.** 2006. Dissipation of DDT in a heavily contaminated soil in Mato Grosso, Brazil. *Chemosphere*, 64(4): 549–54.
- Daniel, T.C., Sharpley, A.N., Edwards, D.R., Wedepohl, R. & Lemunyon, J.L.** 1994. Minimizing surface water eutrophication from agriculture by phosphorous management. *Journal of Soil and Water Conservation*, 49(2): 30.
- Darlington, P. J., Jr.** 1943. Carabidae of mountains and islands: data on the evolution of isolated faunas, and on atrophy of wings. *Ecological Monographs* 13, 37–61.
- David, H.M.** 2005. Wildlife, livestock and food security in the South East of Zimbabwe. In *conservation and development interventions at the wildlife/livestock interface implications for wildlife, livestock and human health*. Edited and compiled by Steven A. Osofsky. Proceedings of the Southern and East African Experts Panel on Designing Successful Conservation and Development Interventions at the Wildlife/Livestock Interface: Implications for Wildlife, Livestock and Human Health, AHEAD (Animal Health for the Environment And Development), 14<sup>th</sup> and 15<sup>th</sup> September, 2003. Occasional Paper of the IUCN Species Survival Commission No. 30. pp. 41–46.
- de Haan, C.H., Steinfeld, H. & Blackburn, H.** 1997. *Livestock and the environment: Finding a balance*. Suffolk, UK, WRENmedia.
- de Haan, C.H., Schillhorn van Veen, T. W., Brandenburg, B., Gauthier, J., Le Gall, F., Mearns, R. & Siméon, M.** 2001. *Livestock development, implications for rural poverty, the environment, and global food security*. Washington, DC, World Bank.
- De la Rosa, D., Moreno, J. A., Mayol, F. & Bonson, T.** 2000. Assessment of soil erosion vulnerability in western Europe and potential impact on crop productivity due to loss of soil depth using the ImpelERO model. *Agriculture, Ecosystems and Environment*, 1590: 1–12.
- de Wit, J., van Keulen, H., van der Meer, H.G. & Nell, A.J.** 1997. Animal manure: asset or liability? *World Animal Review* 88-1997/1, [Available at [www.fao.org/docrep/w5256t/W5256t05.htm](http://www.fao.org/docrep/w5256t/W5256t05.htm)].
- Delgado, C. and Narrod, C.** 2002. *Impact of changing market forces and policies on structural change in the livestock industries of selected fast-growing developing countries*. Final research report of phase I – project on livestock industrialization, trade and social-health-environment impacts in developing countries.
- Delgado, C., Narrod, C.A. and Tiongco, M.M.** 2003. *Policy, technical, and environmental determinants and implications of the growing scale of livestock farms in four fast-growing developing countries*. International Food Policy Research Institute Washington, DC.
- 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, IFPRI/FAO/ILRI (International Food Policy Research Institute/FAO/International Livestock Research Institute).
- Delgado, C., Wada, N., Rosegrant, M.W., Meijer, S. & Mahfuzuddin, A.** 2003. *Fish to 2020: supply and demand in changing global markets*. Washington, DC, the International Food Policy Research Institute and the WorldFish Center.
- Delgado, C., Narrod, C.A. & Tiongco, Marites M.** 2006. *Determinants and implications of the growing scale of livestock farms in four fast-growing developing countries*. Washington, DC, International Food Policy Research Institute.

- Department of the Environment, Sport & Territories.** 1993. *Biodiversity and its value*. Biodiversity Series, Paper No. 1. Biodiversity Unit, The Department of the Environment, Sport and Territories of the Commonwealth of Australia.
- Devendra, C. & Sevilla, C.C.** 2002. Availability and use of feed resources in crop–animal systems in Asia. *Agricultural Systems*, 71(1): 59–73.
- Devine, R.** 2003. La consommation des produits carnés. *INRA Prod. Anim.*, 16(5): 325–327
- Di Castri, F.** 1989. History of biological invasions with special emphasis on the Old World. In: Drake, J.A., H.A. Mooney, F. di Castri, R.H. Groves, F.J. Kruger, M. Rejmànek, and M. Williamson, eds., *Biological invasions, a global perspective*, SCOPE 37 – Scientific Committee on Problems of the Environment. John Wiley & Sons Ltd. p. 506.
- Di Tomaso, J.M.** 2000. Invasive weeds in rangelands: Species, impacts, and management. *Weed Science*, 48(2): 255–265.
- Di, H.J. & Cameron, K.C.** 2003. Mitigation of nitrous oxide emissions in spray-irrigated grazed grassland by treating the soil with dicyandiamide, a nitrification inhibitor. *Soil use and management*, 19(4), 284–290.
- Diamond, J. and Shanley, T.** 1998. *Infiltration rate assessment of some major soils*. Wexford, UK, Johnstown Castle Research Centre.
- Dinda, S.** 2005. A theoretical basis for the environmental Kuznets curve. *Ecological Economics* 53 (2005) 403–413.
- Dompka, M.V., Krchnak, K.M. & Thorne, N.** 2002. Summary of experts' meeting on human population and freshwater resources. In Karen Krchnak, ed., *Human Population and Freshwater Resources: U.S. Cases and International Perspective*, Yale University, New Haven, USA. 177 pp.
- Donner, S.D.** 2006. Surf or turf: A shift from feed to food cultivation could reduce nutrient flux to the Gulf of Mexico. *Global Environmental Change*, in press.
- Douglas, J.T. & Crawford, C.E.** 1998. Soil compaction effects on utilization of nitrogen from livestock slurry applied to grassland Source. *Grass and Forage Science*, 53(1): 31–34.
- Dregne, H., Kassa, M. & Rzanov, B.** 1991. A new assessment of the world status of desertification. *Desertification Control Bulletin*, 20, 6–18.
- Dregne, H.E.** 2002. Land degradation in dry lands. *Arid land research and management*, 16: 99–132.
- Dregne, H.E. & Chou, N.T.** 1994. Global desertification dimensions and costs. In H.E. Dregne, ed. *Degradation and restoration of arid lands*. Lubbock; USA; Texas Technical University.
- East Bay Municipal Utility District.** 2001. *East Bay watershed range resource and management plan* (RRMP). East Bay Municipal Utility District, Watershed and Recreation Division, (Available at [http://www.ebmud.com/water\\_&\\_environment/environmental\\_protection/east\\_bay/range\\_resource\\_management\\_plan/](http://www.ebmud.com/water_&_environment/environmental_protection/east_bay/range_resource_management_plan/)).
- Eckard, R., Dalley, D. & Crawford, M.** 2000. *Impacts of potential management changes on greenhouse gas emissions and sequestration from dairy production systems in Australia*. Proceedings workshop "Management Options for Carbon Sequestration in Forest, Agricultural and Rangeland Ecosystems", CRC for Greenhouse Accounting, Canberra.
- Els, A.J.E. & Rowntree, K.M.** 2003. *Water resources in the savannah regions of Botswana*. EU INCO/UNEP/SCOPE Southern African Savannas Project.
- Engels, C.L.** 2001. *The effect of grazing intensity on rangeland hydrology*. NDSU Central Grasslands Research Extension Center. Available at [www.ag.ndsu.nodak.edu/streeter/2001report/Chad\\_engels.htm](http://www.ag.ndsu.nodak.edu/streeter/2001report/Chad_engels.htm).
- English, W.R., Wilson, T. & Pinkerton, B.** (No date). *Riparian management handbook for agricultural and forestry lands*. College of Agriculture, Forestry and Life Sciences, Clemson University, Clemson.
- EPICA community members.** 2004. Eight glacial cycles from an Antarctic ice core. *Nature*, 429. 10 June. pp. 623–628.
- Estergreen, V.L., Lin, M.T., Martin, E.L., Moss, G.E., Branen, A.L., Luedecke, L.O. & Shimoda, W.** 1977. Distribution of progesterone and its metabolites in cattle tissues following administration of progesterone-4-<sup>14</sup>C. *Journal of Animal Science*, 45(3): 642–651.



- Eswaran, H., Lal, R. & Reich, P.F.** 2001. Land degradation: an overview. In E.M. Bridges, I.D. Hannam, L.R. Oldeman, F.W.T. Pening de Vries, S.J. Scherr & S. Sompatpanit, eds., *Responses to land degradation*. Proceedings of the second International Conference on Land Degradation and Desertification, Khon Kaen, Thailand. New Delhi, Oxford Press.
- European Commission.** 2004. *European pasture monography and pasture knowledge base* PASK study, (Available at [http://agrifish.jrc.it/marsstat/Pasture\\_monitoring/PASK/](http://agrifish.jrc.it/marsstat/Pasture_monitoring/PASK/)).
- European Union.** 1992. Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora. *Annex I: Natural habitat types of Community interest whose conservation requires the designation of special areas of conservation*. (Available at <http://web.uct.ac.za/depts/pbl/jgibson/iczm/legis/ec/hab-an1.htm>).
- EU.** 2006. *European Union web site* (Available at [http://europa.eu/index\\_en.htm](http://europa.eu/index_en.htm), accessed April 2006).
- Falvey, L. & Chantalakhana, C.** eds., 1999. *Smallholder dairying in the tropics*. International Livestock Research Institute (ILRI), Nairobi, Kenya. 462 pp.
- FAO-AQUASTAT.** 2004. AQUASTAT databases. FAO.
- FAO.** 1996. *World livestock production systems: Current status, issues and trends*, by C. Seré & S. Steinfeld. FAO Animal Production and Health Paper 127, Rome.
- FAO.** 1997. *Review of the state of world aquaculture*. FAO Fisheries Circular, No. 886, Rev.1., Rome.
- FAO.** 1999a. *The state of world fisheries and aquaculture 1998*. Rome.
- FAO.** 1999b. *Trade, environment and sustainable development*. Third WTO ministerial conference, Seattle, 28 November- 3 December 1999, (Available at [http://www.fao.org/documents/show\\_cdr.asp?url\\_file=/DOCREP/003/X6730E/X6730E01.HTM](http://www.fao.org/documents/show_cdr.asp?url_file=/DOCREP/003/X6730E/X6730E01.HTM)).
- FAO.** 1999c. *Livestock and environment toolbox*, Livestock, Environment and Development (LEAD) Initiative. Rome. (Available at [www.virtualcentre.org/en/dec/toolbox/homepage.htm](http://www.virtualcentre.org/en/dec/toolbox/homepage.htm)).
- FAO.** 2000a. *Two essays on climate change and agriculture*. FAO Economic and Social Development Paper 145, (Available at <http://www.fao.org/docrep/003/x8044e/x8044e00.HTM>).
- FAO.** 2000b. *Agro-ecological Zoning System*, (Available at [www.fao.org/ag/agl/agll/prtaez.stm](http://www.fao.org/ag/agl/agll/prtaez.stm)).
- FAO.** 2002. *Fertilizer use by crop*. Joint report FAO, IFA, IFDC, IPI, PPI. 5<sup>th</sup> edition. p. 45, (Available at [www.fertilizer.org/ifa/statistics/crops/fubc5ed.pdf](http://www.fertilizer.org/ifa/statistics/crops/fubc5ed.pdf)).
- FAO.** 2003a. *World agriculture: Towards 2015/30*, An FAO perspective, edited by J. Bruisnsma, FAO. Rome and London, Earthscan.
- FAO.** 2003b. *Presentation from the Area Wide Integration Project (LEAD)*, Bangkok Workshop.
- FAO.** 2003c. *Novel forms of livestock and wildlife integration adjacent to protected areas in Africa* – (LEAD) project document.
- FAO.** 2004a. *The role of soybean in fighting world hunger*. Rome, (Available at [http://www.fao.org/es/esc/common/ecg/41167\\_en\\_The\\_role\\_of\\_soybeans.pdf](http://www.fao.org/es/esc/common/ecg/41167_en_The_role_of_soybeans.pdf)).
- FAO.** 2004b. *Carbon sequestration in dryland soils*. World Soils Resources Reports 102, (Available at [www.fao.org/docrep/007/y5738e/y5738e00.htm](http://www.fao.org/docrep/007/y5738e/y5738e00.htm)).
- FAO.** 2004c. *Biodiversity for Food Security*. World Food Day, October 2004. FAO, (Available at [http://www.fao.org/wfd/2004/index\\_en.asp](http://www.fao.org/wfd/2004/index_en.asp)).
- FAO.** 2004d. *Payment schemes for environmental services in watersheds*. Regional forum, 9–12 June 2003, Arequipa, Peru. Organized by the FAO Regional Office for Latin America and the Caribbean; Santiago, Chile. FAO, Rome 2004.
- FAO.** 2004e. *Livestock waste management in East Asia*. Project Preparation Report, FAO, Rome.
- FAO.** 2005a. *Special Event on Impact of Climate Change, Pests and Diseases on Food Security and Poverty Reduction*. Background Document, 31<sup>st</sup> Session of the Committee on World Food Security, 23–26 May 2005. Rome.
- FAO.** 2005b. *State of the world's forests*. FAO, Rome. 153 pp.
- FAO.** 2005c. *Review of the state of world marine fishery resources: Global overview – Global production and state of the marine fishery resources*. FAO Fisheries Technical Paper 457, (Available at <http://www.fao.org/docrep/009/y5852e/Y5852E02.htm>).

- FAO.** 2005d. *Livestock Sector Brief: China*. Livestock Information, Sector Analysis and Policy Branch. Animal Production and Health Division, FAO. (Available at [www.fao.org/ag/againfo/resources/en/publications/sector\\_briefs/lsb\\_CHN.pdf](http://www.fao.org/ag/againfo/resources/en/publications/sector_briefs/lsb_CHN.pdf)).
- FAO.** 2005e. *Pollution from industrialized livestock production*. Livestock Policy Brief No.2 FAO. 2005f. Global forest resources assessment. FAO Forestry Paper No. 147. Rome, (Available at [www.fao.org/forestry/site/fra/en](http://www.fao.org/forestry/site/fra/en)).
- FAO.** 2006a. *World agriculture: towards 2030/2050, Interim Report*. Rome.
- FAO.** 2006b. FAO statistical databases. Rome, (Available at <http://faostat.fao.org/default.aspx>).
- FAO.** 2006c. Second report on the State of the World's Animal Genetic Resources. FAO, Rome, in press.
- FAO.** 2006d. *Agro-ecological zones information portal*. (Available at <http://www.fao.org/AG/agl/agll/prtaez.stm>), Rome.
- FAO.** 2006e. *Cattle ranching and deforestation*. Livestock Policy Brief No.3 Animal Production and Health Division. Rome.
- FAO.** 2006f. Gridded livestock of the world, (Available at <http://www.fao.org/ag/AGainfo/resources/en/glw/default.html>). Rome, in press.
- FAO.** 2006g. Food Insecurity, Poverty and Environment Global GIS Database (FGGD) and Digital Atlas for the Year 2000, Environmental and Natural Resources Working Paper 26. Rome. In press.
- FAO/IFA.** 2001. *Global estimates of gaseous emissions of NH<sub>3</sub>, NO and N<sub>2</sub>O from agricultural land*. Rome. 106 pp.
- Fargeot, C.** 2004. La chasse commerciale et le négoce de la venaison En Afrique centrale forestière. Proceedings de: *La Faune Sauvage: Une Ressource Naturelle*, 6<sup>ème</sup> symposium international sur l'utilisation de la faune sauvage. Paris, France 6–9 July 2004.
- Fayer, R., Santin, M., Sulaiman, I.M., Trout, J., Xunde, L., Schaefer, F.W., Xiao, L. & Lal, A.A.** 2002. *Animal reservoirs, vectors, and transmission of microsporidia*. Presented at American Society of Tropical Medicine and Hygiene 51<sup>st</sup> Annual Meeting, Denver, Colorado, USA, 10–14 November 2002.
- Fearnside, P.M.** 2001. Soybean cultivation as a threat to the environment in Brazil. *Environmental Conservation*, 28: 23–38.
- Field, L.Y., Embleton, K.M., Krause, A., Jones, D. & Childress, D.** 2001. *Livestock manure handling on the farm*. University of Wisconsin-Extension, Minnesota Extension Service, and the United States Environmental Protection Agency Region 5. (Available at <http://danpatch.ecn.purdue.edu/~epados/farmstead/yards/src/title.htm>).
- Filson, G.C.** 2001. *Agroforestry extension and the Western China development strategy*. Canadian Society of Extension.
- Fishmeal Information Network.** 2004. *Fish meal from sustainable stocks*. (Accessed: 14 October 2005).
- Flanigan, V., Shi, H., Nateri, N., Nam, P., Kittiratanapiboon, K., Lee, K. & Kapila, S.** 2002. *A fluidized-bed combustor for treatment of waste from livestock operations*. Conference on the Application of Waste Remediation Technologies to Agricultural Contamination of Water Resources, Great Plains/Rocky Mountain Hazardous Substance Research Center (HSRC), Kansas State University, USA, 30 July–1 August 2002.
- Florinsky, I.V., McMahon, S. & Burton, D.L.** 2004. Topographic control of soil microbial activity: a case study of denitrifiers. *Geoderma*, 119(1-2): 33–53.
- Foley, J.A., DeFries, R., Asner, G.P., Barford, C., Bonan, G., Carpenter, S.R., Chapin, F.S., Coe, M.T., Daily, G.C., Gibbs, H.K., Helkowski, J.H., Holloway, T., Howard, E.A., Kucharik, C.J., Monfreda, C., Patz, J.A., Prentice, I.C., Ramankutty, N. & Snyder, P.K.** 2005. Global consequences of land use. *Science*, 309(5734): 570–574.
- Folliott, P.** 2001. *Managing arid and semi-arid watersheds: Training course in watershed management*. USA, University of Arizona.
- Fouchier, R.A.M., Munster, V.J., Keawcharoen, J., Osterhaus, A.D.M.E. & Kuiken Thijs.** 2006. *Virology of avian influenza in relation to wild birds*. FAO/OIE International Scientific Conference on Avian Influenza and Wild Birds.

- Frank, L.G., Woodroffe, R. & Ogada, M.O.** (in press). People and predators in Laikipia District, Kenya. In: Woodroffe R., Thirgood S., Rabinowitz A.R., Eds. *People and wildlife – conflict or coexistence?*
- Frolking, S.E., Mosier, A.R., Ojima, D.S., Li, C., Parton, W.J., Potter, C.S., Priesack, E., Stenger, R., Haberbosch, C., Dorsch, P., Flessa, H. & Smith, K.A.** 1998. Comparison of N<sub>2</sub>O emissions from soils at three temperate agricultural sites: Simulations of year-round measurements by four models. *Nutrient Cycling in Agroecosystems*, 52[2–3]: 77–105.
- Galloway, J.N., Schlesinger, W.H., Levy, H., II, Michaels, A. & Schnoor, J.L.** 1995. Nitrogen fixation: Anthropogenic enhancement-environmental response. *Global Biogeochemical Cycles*, 9(2): 235–252.
- Galloway, J.N., Aber, J.D., Erisman, J.W., Seitzinger, S.P., Howarth, R.W., Cowling, E.B. & Cosby, B.J.** 2003. The nitrogen cascade. *Bioscience*, 53(4): 341–356.
- Galloway, J.N., Dentener, F.J., Capone, D.G., Boyer, E.W., Howarth, R.W., Seitzinger, S.P., Asner, G.P., Cleveland, C.C., Green, P.A., Holland, E.A., Karl, D.M., Michaels, A.F., Porter, J.H., Townsend, A.R. & Vörösmarty, C.J.** 2004. Nitrogen cycles: past, present, and future. *Biogeochemistry*, 70: 153–226.
- Galloway, J., Burke, M., Bradford, E., Falcon, W., Gaskell, J., McCullough, E., Mooney, H., Naylor, R., Oleson, K., Smil, V., Steinfeld, H. & Wassenaar, T.** 2006. *International trade in Meat: The tip of the pork chop*. In press.
- Gate Information Services – GTZ.** 2002. *Treatment of tannery waste water*, factsheet.
- GDRS.** 2000. *Irrigation in the basin context: The Gediz River basin study, Turkey*. IWMI and GDRS (IWMI and General Directorate of Rural Services). International Water Management Institute, Colombo, Sri Lanka (2000).
- Gerber, P. & Menzi, H.** 2005. *Nitrogen losses from intensive livestock farming systems in Southeast Asia: a review of current trends and mitigation options*.
- Gerber, P., Chilonda, P., Franceschini, G. & Menzi, H.** 2005. Geographical determinants and environmental implications of livestock production intensification in Asia. *Bioresource Technology*, 96: 263–276.
- Gerber, P.** 2006. Putting pigs in their place, environmental policies for intensive livestock production in rapidly growing economies, with reference to pig farming in Central Thailand. Doctoral Thesis in *Agricultural Economics*, Swiss Federal Institute of Technology, Zurich, 130 pp.
- Gerber, P. & Steinfeld, H.** 2006. *Regional planning or pollution control: policy options addressing livestock waste, with reference to industrial pig production in Thailand*. Submitted.
- Gerber, P., Carsjens, G.J., Pak-Uthai, T. & Robinson, T.** 2006. Spatial decision support for livestock policies: addressing the geographical variability of livestock production systems. *Agricultural Systems*. Submitted.
- Gerlach Jr., J.D.** 2004. The impacts of serial land-use changes and biological invasions on soil water resources in California, USA. *Journal of Arid Environments*, 57: 365–379.
- GESAMP** (IMO/FAO/UNESCO-IOC/WMO/WHO/IAEA/UN/UNEP Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection) and Advisory Committee on Protection of the Sea. 2001. *Protecting the oceans from land-based activities – Land-based sources and activities affecting the quality and uses of the marine, coastal and associated freshwater environment*. Rep. Stud. GESAMP No. 71, 162 pp.
- Gibon, A.** 2005. Managing grassland for production, the environment and the landscape. Challenges at the farm and the landscape level. *Livestock Production Science*, 96(1): 11–31.
- Gilbert, M., Wint, W., Slingenbergh, J.** 2004. Ecological factors in disease emergence from animal reservoir. FAO AGAH, unpublished report. 39 pp.
- GISD.** 2006. *Global Invasive Species Database*. Accessed on line, June 2006, (Available at <http://www.issg.org/database/welcome/>).
- Gleick, P.H.** 2000. Water futures: A review of global water resources projections. In: Rijsberman, F.R. ed. 2000. *World water scenarios: Analyses*. Earthscan Publications, London, pp. 27–45.

- Global Footprint Network.** *The ecological footprint*, (Available at [http://www.footprintnetwork.org/gfn\\_sub.php?content=footprint\\_overview](http://www.footprintnetwork.org/gfn_sub.php?content=footprint_overview)).
- Global Land Cover.** Global Land cover 2000, (Available at <http://www-gvm.jrc.it/glc2000/>).
- Godwin, D.C. & Miner, J.R.** 1996. The potential of off-stream livestock watering to reduce water quality impacts. *Bioresource Technology*, 58(3): 285–290.
- Goldewijk, K. & Battjes, J.J.** 1997. *A hundred year database for integrated environmental assessments*. Bilthoven, the Netherlands, National Institute of Public Health and the Environment.
- Golfopoulos, S.K., Nikolaou, A.D., Kostopoulou, M.N., Xilourgidis, N.K., Vagi, M.C. & Lekkas, D.T.** 2003. Organochlorine pesticides in the surface waters of Northern Greece. *Chemosphere*, 50(4): 507–516.
- Grazing & Pasture Technology Program.** 1997. *Grazing Management of Rangeland: A Watershed Perspective. The Grazing Gazette*; 8(3). Grazing and Pasture Technology Program, Regina Saskatchewan, Canada.
- Gretton, P. & Salma, U.** 1996. *Land degradation and the Australian agricultural industry*. Industry Commission, Australian Government Publishing Service.
- Groenewold, J.** 2005. *Classification and characterization of world livestock production systems – update of the 1994 livestock production systems datasets with recent data*. Unpublished report.
- Hadjigeorgiou, I., Osoro, K., Fragoso de Almeida, J.P. & Molle, G.** 2005. Southern European grazing lands: Production, environmental and landscape management aspects. *Livestock Production Science*, 96(1): 51–59.
- Hagemeijer, W. & Mundkur, T.** 2006. *Migratory flyways in Asia, Eurasia and Africa and the spread of HP H5N1*. FAO/OIE International Scientific Conference on Avian Influenza and Wild Birds.
- Hahn, R.W., Olmstead, S.M. & Stavins, R.N.** 2003. *Environmental regulation during the 1990s: A retrospective analysis*.
- Hall, S.J. & Matson, P.A.** 1999. Nitrogen oxide emissions after nitrogen additions in tropical forests. *Nature*, 400 (6740): 152–155.
- Hamilton, D.W., Fathepure B., Fulhage, C.D., Clarkson, W. & Lalman, J.** 2001. Treatment lagoons for animal agriculture. pp. 547–574. In *animal agriculture and the environment: national center for manure and animal waste management White Papers*. J.M. Rice, D.F. Caldwell, F.J. Humenik, eds., St. Joseph, Michigan, USA, the American Society of Agricultural and Biological Engineers.
- Hanley, N., Shogren, J. & White, B.** 2001. *Introduction to environmental economics*, Oxford University Press.
- Harper, J., George, M. & Tate, K.** 1996. *What is a watershed?* Fact Sheet No. 4: Rangeland Watershed Program; U.C. Cooperative Extension and USDA Natural Resources Conservation Service; California Rangelands Research and Information Center, Agronomy and Range Science, Davis, USA, University of California.
- Harrington, G.** 1994. Consumer demands: major problems facing industry in a consumer-driven society. *Meat Science*, 36: 5–18.
- Harris, B.L., Hoffman, D.W. & Mazac, F.J., Jr.** 2005. *TEX\*A\*Syst*. Water Sciences Laboratory, Blackland Research Center, Temple, Texas, (Available at <http://waterhome.brc.tamus.edu/index.html>).
- Harris, D. & Rae, A.** 2006 Agricultural policy reform and adjustment in Australia and New Zealand. In D. Blandford & B. Hill, eds. *Policy reform and adjustment in the agricultural sectors of developed countries*, Oxford, UK, CABI.
- Harrison, P.F. & Lederberg, J., eds.,** 1998. *Antimicrobial resistance: Issues and options* 1998. Forum on Emerging Infections, Institute of Medicine. Washington, DC, National Academy Press.
- Harvey, B.** 2001. *Biodiversity and fisheries. Chapter 1: Synthesis report, A primer for planners*. Proceedings of the international workshop funded by UNEP and IDRC “Blue Millennium: Managing Global Fisheries for Biodiversity” Victoria, BC, 25–27 June 2001.
- Harvey, J.W., Conklin, M.H. & Koelsch, R.S.** 2003. Predicting changes in hydrologic retention in an evolving semi-arid alluvial stream. *Advances in Water Resources*, 26(9): 939–950.

- Haynes, R.J. & Williams, P.H.** 1993. "Nutrient cycling and soil fertility in the grazed pasture ecosystem." *Advances in Agronomy*, 49:119–199.
- Hegarty, R.S.** 1998. Reducing methane emissions through elimination of rumen protozoa. *Meeting the Kyoto Target. Implications for the Australian Livestock Industries*. P.J Reyenga. and S.M. Howden, eds. Bureau of Rural Sciences, 55–61.
- Helsel, Z.R.** 1992. Energy and alternatives for fertilizer and pesticide use. In R.C. Fluck, ed. *Energy in farm production*. Vol.6 in Energy in world agriculture. Elsevier, New York. pp.177–201, [Available at [www.sarep.ucdavis.edu/NEWSLTR/v5n5/sa-12.htm](http://www.sarep.ucdavis.edu/NEWSLTR/v5n5/sa-12.htm)].
- Herrmann S.M., Anyamba, A. & Tucker, C.J.** 2005. Recent trends in vegetation dynamics in the African Sahel and their relationship to climate. *Global Environmental Change*, 15: 394–404.
- Heywood, V.** 1989. Patterns, extents and modes of invasions by terrestrial plants. In: Drake, J.A., Mooney, H.A., di Castri, F., Groves, R.H., Kruger, F.J., Rejmánek, M. and Williamson, M., 1989. *Biological invasions: A global perspective*, SCOPE 37, J. Wiley & Sons. pp 31–60
- Hobbs, P.T., Reid, J.S., Kotchenruther, R.A., Ferek, R.J. & Weiss, R.** 1997. Direct radiative forcing by smoke from biomass burning, *Science*, 275: 1776–1778.
- Hodgson, S.** 2004. Land and water – the rights interface, Livelihoods Support Programme (LSP), FAO, [Available at [www.fao.org/docrep/007/j2601e/j2601e00.htm](http://www.fao.org/docrep/007/j2601e/j2601e00.htm)].
- Hoffmann, I. & Scherf, B.** 2006. Animal genetic resources – time to worry? In *Livestock report 2006*. A. McLeod ed., FAO, Rome. pp 57–74.
- Hooda, P.S., Edwards, A.C., Anderson, H.A. & Miller, A.** 2000. A review of water quality concerns in livestock farming areas. *The Science of the Total Environment*, 250(1–3):143–167.
- Houben, P., Edderai, D. & Nzego, C.** 2004 L'élevage d'aulacodes : présentation des résultats préliminaires de la vulgarisation dans trois pays d'Afrique Centrale. Proceedings de: *La Faune Sauvage : Une Ressource Naturelle*, 6<sup>ème</sup> symposium international sur l'utilisation de la faune sauvage. Paris, France, 6–9 July 2004.
- Houghten, J.T., Meira Filho, L.G., Lim, B., Treanton, K., Mamaty, I., Bonduki, Y., Griggs, D.J. & Callender, B.A., eds.** 1997. *Revised IPCC guidelines for national greenhouse gas inventories*. Greenhouse Gas Inventory Reference Manual, Vol. 3. UK Meteorological Office, Bracknell, UK, [Available at <http://www.ipcc-nggip.iges.or.jp/public/gl/invs6c.htm>].
- Houghton, R. A.** 1991. Tropical deforestation and atmospheric carbon dioxide. *Climatic Change*, 19(1–2): 99–118.
- Hrudey.** 1984. Cited by UNEP Working Group for Cleaner Production in the Food Industry, 2004. Fact Sheet 7: Food Manufacturing Series, [Available at <http://www.gpa.uq.edu.au/CleanProd/Res/facts/FACT7.HTM>].
- Hu, Dinghuan, Reardon, T.A., Rozelle, S., Timmer, P. & Wang, H.** 2004. The emergence of supermarkets with Chinese characteristics: challenges and opportunities for China's agricultural development. *Development Policy Review*, 22(5): 557–586.
- Hutson, S.S., Barber, N.L., Kenny, J.F., Linsey, K.S., Lumia, D.S. & Maupin, M.A.** 2004. *Estimated use of water in the United States in 2000*. US Geological Survey Circular 1268, p. 46.
- Ibisch, P., Jennings, M.D. & Kreft, S.** 2005. Biodiversity needs the help global change managers not museum-keepers. *Nature*, 438:156.
- IFA.** 2002. *Fertilizer indicators*. Second edition. International Fertilizer Industry Association, Paris. p. 20, [Available at [www.fertilizer.org/ifa/statistics/indicators/ind\\_reserves.asp](http://www.fertilizer.org/ifa/statistics/indicators/ind_reserves.asp)].
- IFFO.** 2006. International Fishmeal and Fish oil Organisation. *Industry Overview*, [Available at <http://www.iffonet/default.asp?fname=1&url=253>].
- Immordino, G.** 2003. Looking for a guide to protect the environment: The development of the precautionary principle. *Journal of Economic Surveys*, 17(5): 629.
- Institute for International Cooperation in Animal Biologics.** 2004. *Cryptosporidiosis: Factsheet*. Center for Food Security and Public Health, College of Veterinary Medicine Iowa State University, [Available at <http://www.cfsph.iastate.edu/Factsheets/pdfs/cryptosporidiosis.pdf>].

- Institute for International Cooperation in Animal Biologics.** 2005. *Campylobacteriosis: Factsheet*. Center for Food Security and Public Health, College of Veterinary Medicine Iowa State University, (Available at [www.cfsph.iastate.edu/Factsheets/pdfs/campylobacteriosis.pdf](http://www.cfsph.iastate.edu/Factsheets/pdfs/campylobacteriosis.pdf)).
- International Water Management Institute.** 2000. *Projected water scarcity in 2025*, (Available at <http://www.iwmi.cgiar.org/home/wsmmap.htm>).
- IPCC.** 1997. *Revised 1996 IPCC guidelines for national greenhouse gas inventories – Reference manual* (Volume 3). (Available at [www.ipcc-nggip.iges.or.jp/public/gl/invs6.htm](http://www.ipcc-nggip.iges.or.jp/public/gl/invs6.htm)).
- IPCC.** 2000. *Land use, land use change and forestry*. A special report of the IPCC. Cambridge, UK, Cambridge University Press.
- IPCC.** 2001a. *Climate change 2001: Impacts, adaptation and vulnerability*. IPCC Third Assessment Report. UK, Cambridge University Press. 1 032 pp.
- IPCC.** 2001b. *Climate change 2001: The scientific basis*. Contribution of Working Group I to the Third Assessment Report of the Intergovernmental Panel on Climate Change [J.T. Houghton, Y. Ding, D.J. Griggs, M. Noguer, P.J. van der Linden, X. Dai, K. Maskell & C.A. Johnson, eds.]. Cambridge, UK and New York, Cambridge University Press. 881 pp.
- IPCC.** 2002. *Climate change and biodiversity*. Edited by H. Gitay, A. Suárez, R. T. Watson & D. J. Dokken. IPCC Technical Paper V.
- Isik, M.** 2004. Environmental regulation and the spatial structure of the US dairy sector. *American Journal of Agricultural Economic*, 86(4): 949.
- IUCN.** 2000. *IUCN Guidelines for the prevention of biodiversity loss caused by alien invasive species*. IUCN, Gland, Switzerland.
- IUCN.** 2004. *The 2004 IUCN red list of threatened species*, (Available at [http://www.iucn.org/themes/ssc/red\\_list\\_2004/GSAexecsumm\\_EN.htm](http://www.iucn.org/themes/ssc/red_list_2004/GSAexecsumm_EN.htm). Accessed July 2005).
- IUCN.** 2005. *Wetlands and water resources: The ongoing destruction of precious habitat*. International Union for Conservation of Nature and Natural Resources, (Available at <http://www.iucn.org/themes/wetlands/wetlands.html>).
- IUCN.** 2006. *Summary statistics for globally threatened species*. IUCN-World Conservation Union, Geneva.
- Jagtap, S. & Amissah-Arthur, A.** 1999. Stratification and synthesis of crop-livestock production system using GIS. *GeoJournal*, 47(4): 573–582.
- Jalali, M.** 2005. Nitrates leaching from agricultural land in Hamadan, western Iran. *Agriculture, Ecosystems & Environment*, 110 (3–4): 210–218.
- Jansen, H.G.P., Ibrahim, M.A., Nieuwenhuysse, A., 't Mannetje, L., Joenje, M. & Abarca, S.** 1997. The economics of improved pasture and sylvipastoral technologies in the Atlantic Zone of Costa Rica. *Tropical Grasslands*, 31: 588–598.
- Jayasuriya, R.T.** 2003. Measurement of the scarcity of soil in agriculture. *Resources Policy*, 29(3–4): 119–129.
- Jenkinson, D.S.** 1991. The Rothamsted long-term experiments: are they still of use? *Journal of Agronomy*, 83: 2–12.
- Jin, L. and Young, W.** 2001. Water use in agriculture in china: importance, challenges and implications for policy. *Water Policy*, 3: 215–228.
- Johansson, R.C.** 2000. *Pricing irrigation water – a literature survey*. Policy Research Working Paper 2249, Washington, DC, World Bank.
- Johansson, R.C., Tsur, Y., Roe, T.L., Doukkali, R. & Dinar, A.** 2002. Pricing irrigation water: a review of theory and practice. *Water Policy*, 4: 173–199.
- Johnson, N., Ravnborg, H.M., Westermann, O. & Probst, K.** 2002. User participation in watershed management and research. *Water Policy*, 3(6): 507–520.
- Kallis, G. & Butler, F.** 2001. The EU water framework directive: measures and implications. *Water Policy*, 3(2): 125–142.
- Kawashima, T.** 2006. *Use of co-products for animal feeding in Japan*. Paper presented at a workshop “Improving total farm efficiency in swine production” held in Taiwan Province of China by the Food and Fertilizer Technology Centre and by the Taiwan Livestock Research Institute.
- Ke, B.** 2004. *Livestock sector in China: Implications for food security, trade and environment*. Research Center for Rural Development (RCRE).

- Khaleel, R., Reddy K.R. & Overcash, M.R.** 1980. Transport of potential pollutants in runoff water from land areas receiving animal wastes: a review. *Water Research*, 14(5): 421–436.
- Khalil, M.A.K. & Shearer, M.J.** 2005. *Decreasing emissions of methane from rice agriculture*. 2<sup>nd</sup> International Conference on Greenhouse Gases and Animal Agriculture (GGAA 2005) – Working Papers, p. 307–315.
- Kijne, J.W., Barker, R. & Molden, D.** 2003. *Water productivity in agriculture: Limits and opportunities for improvement*. Wallingford, UK, CABI Publishing.
- King, B.S., Tietyen, J.L. & Vickner, S.S.** 2000. Consumer trends and opportunities. Lexington, USA, University of Kentucky.
- Kinje, J.** 2001. *Water for food for sub-Saharan Africa*. A background document for the e-mail conference on “Water for Food in Sub-Saharan Africa” 15 March – 23 April 1999, Rome.
- Klare, M.T.** 2001. *Resource wars: the new landscape of global conflict*. New York, USA, Metropolitan Books/ Henry Holt and Company.
- Klimont, Z.** 2001. *Current and future emissions of ammonia in China*. Proceedings of the 10<sup>th</sup> International Emission Inventory Conference “One Atmosphere, One Inventory, Many Challenges”, Denver, USA, 30 April – 3 May 2001.
- Klopp, J.** 2002. Can moral ethnicity trump political tribalism? The struggle for land and nation in Kenya. *African Studies* 61(2): 269–294.
- Kock, R.A.** 2005. What is this infamous “wildlife/livestock disease interface?” A Review of Current Knowledge for the African Continent. In: *conservation and development interventions at the wildlife/livestock interface implications for wildlife, livestock and human health*. Edited and compiled by Steven A. Osofsky. Proceedings of the Southern and East African Experts Panel on Designing Successful Conservation and Development Interventions at the Wildlife/Livestock Interface: Implications for Wildlife, Livestock and Human Health, AHEAD (Animal Health for the Environment And Development), 14<sup>th</sup> and 15<sup>th</sup> September, 2003. Occasional Paper of the IUCN Species Survival Commission No. 30. 1–13 pp.
- Kossila V.** 1987. The availability of crop residues in developing countries in relation to livestock populations. In J.D Reed, B.S. Capper & P.J.H. Neate eds. 1988. *Plant breeding and the nutritive value of crop residues*. Proceedings of a workshop held at ILCA, Addis Ababa, Ethiopia. International Livestock Centre for Africa, Addis Ababa. [Available at [www.ilri.cgiar.org/InfoServ/Webpub/Fulldocs/X5495e/x5495e03.htm](http://www.ilri.cgiar.org/InfoServ/Webpub/Fulldocs/X5495e/x5495e03.htm)].
- Krapac, I.G., Dey, W.S., Roy, W.R., Smyth, C.A., Storment, E., Sargent, S.L. & Steele J.D.** 2002. Impacts of swine manure pits on groundwater quality. *Environmental Pollution*, 120(2): 475–492.
- Krystallis, A. & Arvanitoyannis, I.S.** 2006. Investigating the concept of meat quality from the consumers perspective: the case of Greece. *Meat Science*, 72: 164–176.
- Kumar, M.D. & Singh, O.P.** 2001 Market instruments for demand management in the face of scarcity and overuse of water in Gujarat, Western India. *Water Policy*, 3: 387–403.
- Lal, R.** 1995. Erosion–crop productivity relationships for soils of Africa. *Soil Science Society of America Journal*, 59: 661–667.
- Lal, R.** 1997. Residue management conservation tillage and soil restoration for mitigating greenhouse effect by CO<sub>2</sub>-enrichment. *Soil and Tillage Research*, 43: 81–107.
- Lal, R.** 1998. Soil erosion impact on agronomic productivity and environment quality. *Critical Reviews in Plant Sciences*, 17(3): 19–464.
- Lal, R., Kimble, J., Follett, R. & Cole, C.V.** 1998 *Potential of US cropland for carbon sequestration and greenhouse effect mitigation*. Chelsea, Michigan, USA, Sleeping Bear Press. 128 pp.
- Lal, R. & Bruce, J.P.** 1999 The potential of world cropland soils to sequester C and mitigate the greenhouse effect. *Environmental Science and Policy*, 2: 177–185.
- Lal, R.** 2001. The potential of soils of the tropics to sequester carbon and mitigate the greenhouse effect. *Adv. Agron.*, 76: 1–30.
- Lal, R.** 2004a. Soil carbon sequestration impacts on global climate change and food security. *Science*, 304 (5677): 1623–1627.

- Lal, R.** 2004b. Carbon sequestration in dryland ecosystems. *Environmental Management* 33(4): 528–544.
- Lambin, E.F., Turner, B.L., Geist, H.J., Agbola, S.B., Angelsen, A., Bruce, J.W., Coomes, O., Dirzo, R., Fischer, G., Folke, C., George, P.S., Homewood, K., Imbernon, J., Leemans, R., Li, X., Moran, E.F., Mortimore, M., Ramkrishnan, P.S., Richards, J.F., Skanes, H., Steffen, W.L., Stone, G.D., Svedin, U., Veldkamp, T.A., Vogel, C. & Zu, J.** 2001. The causes of land use and land-cover change: moving beyond the myths. *Global Environmental Change*, 11: 261–269.
- LandScan Project.** Oak Ridge National Laboratory, (Available at <http://www.ornl.gov/sci/landscan>).
- Larsen, R.E.** 1995. Manure loading into streams from direct fecal deposits - Fact Sheet No. 25. Rangeland Watershed Program; UC Cooperative Extension and USDA Natural Resources Conservation Service; California Rangelands Research and Information Center, Agronomy and Range Science, Davis, USA, University of California.
- Le Bel, S., Gaidet, N., Snoden, M., Le Doze, S. & Tendayi, N.** 2004. *Communal game ranching in the mid-Zambezi valley: Challenges of local empowerment and sustainable game meat production for rural communities*. Proceedings de: La Faune Sauvage: Une Ressource Naturelle, 6<sup>ème</sup> symposium international sur l'utilisation de la faune sauvage. Paris France from 6–9 July 2004.
- Le Quesne, T. & McNally, R.** 2004. *The green buck: Using economic tools to deliver conservation goals*. WWF field guide. The WWF Sustainable Economics Network, WWF. pp. 69.
- LEAD.** 2002. *AWI Nutrient balance*, (Available at <http://www.virtualcentre.org/en/dec/nutrientb/default.htm>).
- Lenné, J.M., Fernandez-Rivera, S. & Bümmel, M.** 2003. Approaches to improve the utilization of food-feed crops – synthesis, *Field Crops Research*, 84(1–2): 213–222.
- Leonard, D.K.** 2006. *The political economy of international development and pro-poor livestock policies*. PPLPI Working Paper No. 35. FAO, Rome.
- Lerner, J., Matthews, E. & Fung, I.** 1988. Methane emissions from animals: a global high resolution database. *Global Biogeochemical Cycles*, 2, p. 139–156.
- Leslie, R.** (ed.), 1999. Coral reefs: Assessing the threat. In *World resources: a guide to the global environment 1998–99*, American Association for the Advancement of Science, p 193.
- Lind, L., Sjögren, E., Melby, K. & Kaijser, B.** 1996. DNA fingerprinting and serotyping of campylobacter jejuni isolates from epidemic outbreaks. *Journal of Clinical Microbiology*, 34(4): 892–896.
- Lipper, L., Pingali, P.L. & Zurek, M.** 2006. *Less-favoured areas: Looking beyond agriculture towards ecosystem services*. Agricultural and Development Economics Division (ESA) Working Paper, forthcoming. Rome, FAO.
- Livestock In Development.** 1999. *Livestock in poverty focused development*. Crewkerne: Livestock in development.
- Loreau, M. & Oteng-Yeboah, A.** 2006. Diversity without representation. *Nature*, 442: 245–246.
- Lorimor, J., Fulhage, C., Zhang, R., Funk, T., Sheffield, R., Sheppard, D.C. & Newton, G.L.** 2001. *Manure management strategies/technologies*. White paper summaries, National center for manure and waste management.
- LPES.** 2005. *Livestock and Poultry Environmental Stewardship Curriculum: A national educational program*. (Available at [http://www.lpes.org/Lessons/Lesson01/1\\_Environmental\\_Stewardship.html](http://www.lpes.org/Lessons/Lesson01/1_Environmental_Stewardship.html)).
- Luke, G.J.** 1987. *Consumption of water by livestock*. Resource Management Technical Report No. 60, Department of Agriculture Western Australia.
- MacDonald, N.W., Randlett, D.L. & Zak, D.R.** 1999. Soil warming and carbon loss from a Lake States Spodosol. *Soil Science Society of America Journal*, 63(1): 211–218.
- Mack, R.N.** 1989. Temperate grasslands vulnerable to plant invasions: Characteristics and consequences. Pages 155–179. In: Drake, J.A., H.A. Mooney, F. di Castri, R.H. Groves, F.J. Kruger, M. Rejmanek, and M. Williamson, eds., *Biological invasions: A global perspective*. John Wiley & Sons Ltd.



- MAF-NZ.** 2005. *Environmental consequences of removing agricultural subsidies*. New Zealand, Ministry of Agriculture and Forestry. (Available at <http://www.maf.govt.nz/mafnet/rural-nz/sustainable-resource-use/resource-management/environmental-effects-of-removing-subsidies/agref004.htm>, accessed on 22 July 2005).
- MAFF-UK.** 1998. *Ministry of Agriculture Fisheries and Food Code of agricultural practices for the protection of water*. London MAFF publication.
- MAFF-UK.** 1999. *Agricultural land sales and prices in England*. Ministry of Agriculture, Fisheries and Food, UK, (Available at <http://statistics.defra.gov.uk/esg/pdf/alp9906.pdf>).
- Mainstone, C.P. & Parr, W.** 2002. Phosphorus in rivers—ecology and management. *Science of the Total Environment*, 282: 25–47.
- Margni, M., Jolliet, O., Rossier, D. & Crettaz, P.** 2002. Life cycle impact assessment of pesticides on human health and ecosystems Agriculture. *Ecosystems & Environment*, 93(1–3): 379–392.
- Marris, E.** 2005. Conservation in Brazil: The forgotten ecosystem. *Nature*, 437: 944–945.
- Marzocca, A.** 1984. *Manuel de Malezas*, 3<sup>rd</sup> Edición. Editorial Hemisferio Sur, Buenos Aires, 580 pp.
- Mather, A.** 1990. *Global forest resources*. Portland, Oregon, USA. Timber Press.
- Matson, P.A., Parton, W.J., Power, A.G. & Swift M.J.** 1997. Agricultural intensification and ecosystem properties. *Science*, 277(5325): 504–509.
- Matthews, E., Payne, R., Rohweder, M. & Murray, S.** 2000. *Pilot analysis of global ecosystems: Forest ecosystems*. Research Report, World Resources Institute, Washington, DC, 100 pp.
- May, P.H., Boyd, E., Veiga, F., & Chang, M.** 2003. *Local sustainable development effects of forest carbon projects in Brazil and Bolivia: a view from the field*. Shell Foundation and IIED – International Institute for Environment and Development: Rio de Janeiro, October 2003. (Available at <http://www.iied.org/>).
- Mayrand, K., Dionne S., Paquin, M., Ortega, G.A & Marron, L.F.** 2003. *The economic and environmental impacts of agricultural subsidies: A look at Mexico and other OECD countries*. Montreal, Canada.
- McCann, L.** 2004. Induced institutional innovation and transaction costs: the case of the Australian national native title tribunal. *Review of Social Economy*, Volume 62, No. 1, March 2004, Routledge, part of the Taylor & Francis Group. pp. 67–82(16).
- McDonnell, M.J., Pickett, S.T.A., Groffman, P., Bohlen, P., Pouyat, R.V., Zipperer, W.C., Parmelee, R.W., Carreiro, M.M. & Medley, K.** 1997. Ecosystem processes along an urban-to-rural gradient. *Urban Ecosystems*, 1(1): 21–36.
- McDowell, R.W., Drewry, J.J., Paton, R.J., Carey, P.L., Monaghan, R.M. & Condron, L.M.** 2003. Influence of soil treading on sediment and phosphorus losses in overland flow. *Australian Journal of Soil Research*, 41(5): 949–961.
- McKergow, L.A., Weaver, D.M., Prosser, I.P., Grayson, R.B. & Reed A.E.G.** 2003. Before and after riparian management: sediment and nutrient exports from a small agricultural catchment, Western Australia. *Journal of Hydrology*, 270(3–4): 253–272.
- McLeod, A., Morgan, N., Prakash, A. & Hinrichs, J.** 2005. *Economic and social impacts of avian influenza*. Meeting on Avian Influenza – Geneva, 7–9 November 2005, FAO. (Available at <http://www.fao.org/ag/againfo/subjects/en/health/diseases-cards/CD/documents/Economic-and-social-impacts-of-avian-influenza-Geneva.pdf>).
- Meat Research Corporation (MRC).** 1995. *Identification of nutrient sources, reduction opportunities and treatment options for Australian abattoirs and rendering plants*. Project No. M.445. Prepared by Rust PPK Pty Ltd and Taylor Consulting Pty Ltd.
- Médard, C.** 1998. Dispositifs électoraux et violences ethniques: réflexions sur quelques stratégies territoriales du régime Kényan. *Politique Africaine*, 70: 32–39.
- Melse, R.W. & van der Werf, A.W.** 2005. Biofiltration for mitigation of methane emissions from animal husbandry. *Environmental Science & Technology*, 39(14): 5460–5468.
- Melvin, R.G.** 1995. *Non point Sources of Pollution on Rangeland* – Fact Sheet No. 3. Rangeland Watershed Program; U.C. Cooperative Extension and USDA Natural Resources Conservation Service; California Rangelands Research and Information Center – Agronomy and Range Science – UC Davis.

- Melvin, R.G., Larsen, R.E., McDougald, N.K., Tate, K.W., Gerlach, J.D. & Fulgham, K.O.** 2004. Cattle grazing has varying impacts on stream-channel erosion in oak woodlands. *California Agriculture*, 58(3): 138.
- Mendis, M. & Openshaw, K.** 2004. The clean development mechanism: making it operational. *Environment, Development and Sustainability*, 6(1-2): 183–211.
- Mengjie, W. & Yi, D.** 1996. The importance of work animals in rural China. *World Animal Review*, FAO. pp. 65–67.
- Menzi H. & Kessler J.** 1998. *Heavy metal content of manures in Switzerland*. Proceedings of the 8<sup>th</sup> international Conference on the FAO ESCORENA Network on Recycling of Agricultural, Municipal and Industrial Residues in Agriculture (Formerly Animal Waste Management). Rennes, France, 26–29 May 1998.
- Menzi, H.** 2001. *Needs and implications for good manure and nutrient management in intensive livestock production in developing countries*. Area Wide Integration Workshop, unpublished.
- Mestbank.** 2004. *Voortgang 2004 aangaande het mest beleid in Vlaanderen*, (Available at <http://www.vlm.be/Mestbank/FAQ/algemeen/04voortgangsrapport.pdf>).
- Metting, F., Smith, J. & Amthor, J.** 1999. Science needs and new technology for soil carbon sequestration. In: N. Rosenberg, R. Izaurrealde & E. Malone, eds. Carbon sequestration in soils. Science monitoring and beyond, pp. 1–34. Proc. St. Michaels Workshop. Columbus, USA, Battelle Press.
- Micheli, E.R. & Kirchner, J.W.** 2002. Effects of wet meadow riparian vegetation on streambank erosion. 1. Remote sensing measurements of streambank migration and erodibility. *Earth Surface Processes and Landforms*, 27(6): 627–639.
- Milchunas, D.G. & Lauenroth, W.K.** 1993. A quantitative assessment of the effects of grazing on vegetation and soils over a global range of environments. *Ecological Monographs*, 63(4): 327–366.
- MEA.** 2005a. *Ecosystems and human well-being: synthesis*, Washington, DC, Island Press.
- MEA.** 2005b. *Ecosystems and human well-being: biodiversity synthesis*, Washington, DC, World Resources Institute.
- Miller, J.J.** 2001. *Impact of intensive livestock operations on water quality*. Proceedings of the Western Canadian Dairy Seminar.
- Milne, J.A.** 2005. Societal expectations of livestock farming in relation to environmental effects in Europe. *Livestock Production Science*, 96(1): 3–9.
- Miner, J.R., Buckhouse, J.C. & Moore, J.A.** 1995 Will a Water Trough Reduce the Amount of Time Hay-Fed Livestock Spend in the Stream (and therefore improve water quality)? Fact Sheet No. 20 Rangeland Watershed Program; UC Cooperative Extension and USDA Natural Resources Conservation Service; California Rangelands Research and Information Center, Agronomy and Range Science, Davis, USA, University of California.
- Ministério da Ciência e Tecnologia.** 2002. *Primeiro inventário brasileiro de emissões antrópicas de gases de efeito estufa: Emissões de metano da pecuária*. Empresa Brasileira de Pesquisa Agropecuária (EMBRAPA) – Ministério da Ciência e Tecnologia. (Available at [www.ambiente.sp.gov.br/proaong/SiteCarbono/2/Pecuaria.pdf](http://www.ambiente.sp.gov.br/proaong/SiteCarbono/2/Pecuaria.pdf)).
- Ministry of Science & Technology.** 2004. *Brazil's initial national communication to the united nations framework convention on climate change*. Ministry of Science and Technology, General Coordination on Global Climate Change. Brasilia, Brazil. p. 271.
- Mittermeier, R.A., Robles-Gil, P., Hoffmann, M., Pilgrim, J.D., Brooks, T.B., Mittermeier, C.G., Lamoreux, J. L. & Fonseca, G.A.B.** 2004. Hotspots Revisited: Earth's Biologically Richest and Most Endangered Ecoregions. Mexico City, CEMEX. 390 pp.

- Mizutani, F., Muthiani, E, Kristjanson, P. & Recke, H.** 2005. Impact and value of wildlife in pastoral livestock production systems in Kenya: Possibilities for healthy ecosystem conservation and livestock development for the poor. In *conservation and development interventions at the wildlife/livestock interface implications for wildlife, livestock and human health*. Edited and compiled by Steven A. Osofsky. Proceedings of the Southern and East African Experts Panel on Designing successful conservation and development interventions at the wildlife/livestock interface: implications for wildlife, livestock and human health, AHEAD (Animal Health for the Environment And Development), 14–15 September, 2003. Occasional Paper of the IUCN Species Survival Commission No. 30. pp. 121–132.
- Molden, D. & de Fraiture, C.** 2004. *Investing in water for food, ecosystems and livelihoods*. Comprehensive Assessment of Water Management in Agriculture, International Water Management Institute (IWMI).
- Monteny, G.J., Bannink, A. & Chadwick, D.** 2006. Greenhouse gas abatement strategies for animal husbandry. *Agriculture, Ecosystems and Environment*, 112:163–170.
- Mooney, H.A.** 2005. *Invasive alien species: the nature of the problem*. In: *Invasive alien species: a new synthesis*, p. 1–15, Mooney, H.A., Mack, R.N., McNeely, J.A., Neville, L.E., Schei, P.J. and Waage, J.K. eds. SCOPE 63, Washington, DC, Island Press.
- Morrison, J.A., Balcombe, K., Bailey, A., Klonaris, S. & Rapsomanikis, G.** 2003. Expenditure on different categories of meat in Greece: the influence of changing tastes. *Agricultural Economics*, 28: 139–150.
- Morse and Jackson.** 2003. Fate of a representative pharmaceutical in the environment. Final report submitted to Texas Water Resources Institute. Texas Tech University.
- Mosier, A., Wassmann, R., Verchot, L., King, J. & Palm, C.** 2004. Methane and nitrogen oxide fluxes in tropical agricultural soils: sources, sinks and mechanisms. *Environment, Development and Sustainability*, 6(1–2): 11–49
- Mosley, J.C., Cook, P.S., Griffis, A.J. & O’Laughlin, J.** 1997. *Guidelines for managing cattle grazing in riparian areas to protect water quality: Review of research and best management practices policy*. Report No. 15, Policy Analysis Group (PAG) Report Series. Idaho Forest, Wildlife and Range Policy Analysis Group.
- Mosquera-Losada, M.R., Rigueiro-Rodríguez, A. & McAdam, J., eds.** 2004. *Proceedings of an International Congress on Silvopastoralism and sustainable management*. Lugo, Spain, April 2004. Walingford, UK, CABI Publishing.
- Mott, J.J.** 1986. Planned invasions of Australian tropical sanannas. In: Groves, R.H. and Burdon, J.J., eds., *Ecology of biological invasions*, pp. 89–96., Cambridge, UK, Cambridge University Press.
- Muirhead, R.W., Davies-Colley, R.J., Donnison, A.M. & Nagels, J.W.** 2004. Faecal bacteria yields in artificial flood events: quantifying in-stream stores. *Water Research*, 38(5): 1215–1224.
- Muller, W. & Schneider, B.** 1985. *Heat, water vapour and CO2 production in dairy cattle and pig housing*. Part 1. Provisional planning data for the use of heat exchangers and heat pumps in livestock housing. (IN GERMAN) Tierärztliche Umschau 40, 274–280.
- Mulongoy, K.J. & Chape, S.P., eds.** 2004. *Protected areas and biodiversity: An overview of key issues*. UNEP-WCMC Biodiversity Series 21. The Secretariat of the Convention on Biological Diversity(CBD) and the UNEP World Conservation Monitoring Centre (UNEP-WCMC), Cambridge, UK.
- Murgueitio, E.** 2004. *Silvopastoral systems in the Neotropics*. Proceedings of an international congress on Silvopastoralism and Sustainable Management, Lugo, Spain, April 2004.
- Mwendera, E.J. & Mohamed Saleem, M.A.** 1997. Hydrologic response to cattle grazing in the Ethiopian highlands. *Agriculture, Ecosystems & Environment*, 64(1): 33–41.
- Myers, N., Mittermeier, R.A., Mittermeier, C.G., de Fonseca, G.A.B. & Kent, J.** 2000. Biodiversity hotspots for conservation priorities. *Nature*, 403: 853–858.

- Myers, R.J.K. & Robbins, G.B.** 1991. Sustaining productive pastures in the tropics 5: maintaining productive sown grass pastures. *Tropical Grasslands*, 25: 104–110.
- Myers, T.J. & Swanson, S.** 1995. Long-term aquatic habitat restoration: Mahogany Creek, Nevada, as a case study. *Water Resources Bulletin*, 32(2): 241–252.
- Nagle, G.N. & Clifton, C.F.** 2003. Channel changes over 12 years on grazed and ungrazed reaches of Wickiup Creek in eastern Oregon. *Physical Geography*, 24(1): 77–95.
- Napier, T.** 2000. Soil and water conservation policy approaches in North America, Europe, and Australia. *Water Policy*, 1(6): 551–565.
- NASA.** 2005. *Global temperature trends: 2005 summation*, (Available at <http://data.giss.nasa.gov/gistemp/2005/>).
- National Conservation Buffer Team.** 2003. Leaflet.
- National Park Service.** 2004. US Department of the Interior. *Geologic resource monitoring parameters: Soil and sediment erosion*. (Available at [http://www2.nature.nps.gov/geology/monitoring/soil\\_erosion.pdf](http://www2.nature.nps.gov/geology/monitoring/soil_erosion.pdf)).
- National Public Lands Grazing Campaign.** 2004. *Livestock and water*. (Available at [http://www.publiclandsranching.org/htmlres/fs\\_cows\\_v\\_water.htm](http://www.publiclandsranching.org/htmlres/fs_cows_v_water.htm) Consulted in 2004).
- National Research Council.** 1981. *Effects of environment on nutrient requirements of domestic animals*. Subcommittee on Environmental Stress, Committee on Animal Nutrition, National Research Council, Washington DC, National Academy Press. pp. 168.
- National Research Council.** 1985. *Nutrient requirements of sheep – Sixth Revised Edition*, Subcommittee on Sheep Nutrition, Committee on Animal Nutrition, National Research Council. Washington, DC, National Academy Press. 112 pp.
- National Research Council.** 1987. *Predicting feed intake of food-producing animals*. Subcommittee on Feed Intake, Committee on Animal Nutrition National Research Council, Washington, DC, National Academy Press. 248 pp.
- National Research Council.** 1993. *Managing global genetic resources: Livestock*. Committee on Managing Global Genetic Resources: Agricultural Imperatives. Washington, DC, National Academy Press.
- National Research Council.** 1994. *Nutrient requirements of poultry – Ninth Revised Edition*. Subcommittee on Poultry Nutrition, Committee on Animal Nutrition, National Research Council, Washington, DC, National Academy Press. 176 pp.
- National Research Council.** 1998. *Nutrient requirements of swine – 10<sup>th</sup> Revised Edition*. Subcommittee on Swine Nutrition, Committee on Animal Nutrition, National Research Council, Washington, DC, National Academy Press. 210 pp.
- National Research Council.** 2000a. *Nutrient requirements of beef cattle – Seventh Revised Edition*. Subcommittee on Beef Cattle Nutrition, National Research Council, Washington, DC, National Academy Press. 248 pp.
- National Research Council.** 2000b. *Clean coastal waters: Understanding and reducing the effects of nutrient pollution*. Washington, DC, National Academy Press.
- National Research Council.** 2003. *Air emissions from animal feeding operations: current knowledge, future needs*. Ad Hoc Committee on Air Emissions from Animal Feeding Operations, Committee on Animal Nutrition, National Research Council, Washington, DC, National Academy Press. 263 pp.
- NatureServe.** 2005. *NatureServe Explorer: An online encyclopedia of life* [web application]. Version 4.5. NatureServe, Arlington, Virginia. (Available at [www.natureserve.org/explorer](http://www.natureserve.org/explorer). Accessed July 2005).
- Naylor, R., Steinfeld, H., Falcon, W., Galloway, J., Smil, V., Bradford, E., Alder, J. & Mooney, H.** 2005 Losing the links between livestock and land. *Science*, 310: 1621–1622.
- Nelson, P.N., Cotsaris, E. and Oades, J.M.** 1996. Nitrogen, phosphorus, and organic carbon in streams draining two grazed catchments. *Journal of Environmental Quality*, 25 (6): 1221–1229.

- Neumann, C.G., Bwibo, N.O., Murphy, S.P., Sigman, M., Whaley, S., Allen, L.H., Guthrie, D., Weiss, R.E. & Demment, M.W.** 2003. Animal Source Foods Improve Dietary Quality, Micronutrient Status, Growth and Cognitive Function in Kenyan School Children: Background, Study Design and Baseline Findings. *The American Society for Nutritional Sciences J. Nutr.* 133:3941S–3949S.
- Ni, J.-Q., Hendriks, J., Coenegrachts, J. & Vinckier, C.** 1999. Production of carbon dioxide in a fattening pig house under field conditions. 1. Exhalation by pigs. *Atmospheric Environment*, 33: 3691–3696.
- Nicholson, F.A., Smith, S.R., Alloway, B.J., Carlton-Smith, C. & Chambers B.J.** 2003. An inventory of heavy metals inputs to agricultural soils in England and Wales. *The Science of the Total Environment*, 311: 205–219.
- Nielsen, L.H. & Hjort-Gregersen, K.** 2005. Greenhouse gas emission reduction via centralized biogas co-digestion plants in Denmark. *Agric. Ecosys. Environ.* 112.
- Niklinska, M., Maryanski, M. & Laskowski, R.** 1999. Effect of temperature on humus respiration rate and nitrogen mineralization: Implications for global climate change. *Biogeochemistry*, 44: 239–257.
- Nil, K.** 2005. *US soybean production is more sustainable than ever before.* Press Release, September 2005. American Soybean Association.
- NOAA.** 2006. *Trends in atmospheric carbon dioxide.* NOAA/Earth System Research Laboratory, Global Monitoring Division.
- Nori, M., Switzer, J. & Crawford, A.** 2005. *Herding on the brink: Towards a global survey of pastoral communities and conflict.* International Institute for Sustainable Development.
- Norton, R.D.** 2003. Agricultural development policy: Concepts and experiences. Food and Agriculture Organization of the United Nations. UK, John Wiley & Sons Ltd.
- Norton-Griffiths, M.** 1995. Economic incentives to develop the rangelands of the Serengeti: Implications for wildlife conservation. In *Serengeti II: research, management and conservation of an ecosystem.* A.R.E. Sinclair and P. Arcese, eds., Chicago, USA, University of Chicago Press. 14 pp.
- Notermans, S., Dufrenne, J. & Oosterom, J.** 1981. Persistence of Clostridium Botulinum type B on a cattle farm after an outbreak of Botulism. *Applied and Environmental Microbiology*, 41(1): 179–183.
- Novotny, V., Imhoff, K.R., Olthof, M. & Krenkel, P.A.** 1989. *Handbook of urban drainage and wastewater.* New York, USA, Wiley & Sons Publishers.
- Nye, P.H. & Greenland, D.J.** 1964. Changes in the soil after clearing tropical forest, *Plant and Soil*, 21(1): 101–112.
- Odling-Smee, L.** 2005. Dollars and sense. *Nature*, 437: 614–616.
- OECD.** 1999. *Agricultural water pricing in OECD Countries.* Paris, Organization for Economic Cooperation and Development. 1999.
- OECD.** 2001. *Towards more liberal agricultural trade.* Policy Brief. Paris: Organization for Economic Co-operation and Development.
- OECD.** 2002. *Farm household income issues in OECD countries: A synthesis report.* Paris. Organization for Economic Co-operation and Development.
- OECD.** 2004. *Agriculture and the environment: lessons learned from a decade of OECD work.* Paris. June 2004.
- OECD.** 2006. *Agricultural policies in OECD countries – at a glance.* Paris. 2006.
- Oldeman, L.R.** 1994. The global extent of land degradation. In Greenland, D.J. & I. Szabolcs, eds., *Land resilience and sustainable land use*, 99–118. Wallingford, UK, CABI Publishers.
- Oldeman, L.R. & Van Lyden, G.W.J.** 1998. Revisiting the GLASOD methodology. In R. Lal, W.H. Blum, C. Valentine & B.A. Stewart, eds. *Methods for assessment of soil degradation*, pp. 423–440. Boca Raton, USA, CRC/Lewis Publishers.
- Olea, L., Lopez-Bellido, R.J. & Poblaciones, M.J.** 2004. *European types of silvopastoral systems in the Mediterranean area: dehesa.* Proceedings of an international congress on Silvopastoralism and Sustainable Management, Lugo, Spain, April 2004.
- Olivier, J.G.J., Brandes, L.J., Peters, J.A.H.W. & Coenen, P.W.H.G.** 2002. Greenhouse gas emissions in the Netherlands 1990–2000. National Inventory Report 2002. Rijksinstituut voor Volkgezondheid en Milieu. RIVM Rapport 773201006. pp. 150.

- Olson, D.M. & Dinerstein, E.** 1998. The Global 200: A representation approach to conserving the earth's most biologically valuable ecoregions. *Conservation Biology*, 12: 502–515.
- Olson, D. M., Dinerstein, E.** 2002. The Global 200: Priority ecoregions for global conservation. *Annals of the Missouri Botanical Garden* 89 : 125–126.
- Olson, M.E., O'Handley, R.M., Ralston, B.J., McAllister, T.A. & Thompson, R.C.A.** 2004. Update on Cryptosporidium and Giardia infections in cattle. *Trends in Parasitology*, 20(4): 185–191.
- Ong, C., Moorehead, W., Ross, A. & Isaac-Renton, J.** 1996. Studies of Giardia spp. and Cryptosporidium spp. in two adjacent watersheds. *Applied and Environmental Microbiology*, 62(8): 2798–2805.
- Ongley, E.D.** 1996. *Control of water pollution from agriculture*. FAO Irrigation and Drainage Paper No. 55, FAO, Rome.
- Orr, J.C., Fabry, V.J., Aumont, O., Bopp, L., Doney, S.C., Feely, R.A., Gnanadesikan, A., Gruber, N., Ishida, A., Joos, F., Key, R.M., Lindsay, K., Maier-Reimer, E., Matear, R., Monfray, P., Mouchet, A., Najjar, R.G., Gian-Kasper Plattner, Rodgers, K.B., Sabine, C.L., Sarmiento, J.L., Schlitzer, R., Slater, R.D., Totterdell, I.J., Weirig, Marie-France, Yamanaka, Y. & Yoo, A.** 2005. Anthropogenic ocean acidification over the twentyfirst century and its impact on calcifying organisms. *Nature*, 437: 681–686.
- Osoro, K., Celaya, R., Martinez, A. & Vasallo, J.M.** 1999. Development of sustainable systems in marginal heathland regions. LSIRD Network Newsletter Issue 6. European Network for Livestock Systems and Integrated Rural Development.
- Osterberg, D. & Wallinga, D.** 2004. *Determinants of rural health*. American Journal of Public Health 94(10).
- Ostermann, O.P.** 1998. The need for management of nature conservation sites designated under Natura 2000. *Journal of Applied Ecology*, 35(6), 968–973.
- Oweis, T.Y. & Hachum, A.Y.** 2003. Improving water productivity in the dry areas of West Asia and North Africa. Chapter 11, pp 179–198, In J.W. Kijne, R. Barker, & D. Molden. 2003. *Water productivity in agriculture: Limits and opportunities for improvement*. Wallingford, UK, CABI Publishing.
- Pagiola, S., Agostini, P., Gobbi, J., de Haan, C., Ibrahim, M., Murgueitio, E., Ramirez, E., Rosales, M. & Pablo Ruiz, J.** 2004. *Paying for biodiversity conservation services in agricultural landscapes*. Environment Department Paper No.96. Washington, DC, World Bank Environment Department, World Bank.
- Pagiola, S., von Ritter, K. & Bishop, J.** 2004. *Assessing the economic value of ecosystem conservation*. Environment Department Paper No.101. Washington, DC, World Bank Environment Department, World Bank.
- Pallas, Ph.** 1986. *Water for animals*. Land and Water Development Division, FAO. (Available at [www.fao.org/docrep/R7488E/R7488E00.htm](http://www.fao.org/docrep/R7488E/R7488E00.htm)).
- Parris, K.** 2002. *Environmental impacts in the agricultural sector: using indicators as a tool for policy purposes*. Paper presented to the Commission for Environmental Cooperation Meeting: *Assessing the Environmental Effects of Trade*, Montreal, Canada, 17–18 January 2002.
- Parry, M.L., Rosenzweig, C., Iglesias, A., Livermore, M. & Fischer, G.** 2004. Effects of climate change on global food production under SRES emissions and socio-economic scenarios. *Global Environmental Change*, 14: 53–67.
- Patten, D.T., Ohmart, R.D., Meyerhoff, R., Ricci, E. Shirley, D. Minckley W.L. & Kubly D.M.** 1995. The Arizona Comparative Environmental Risk Project: Ecosystems – *Riparian ecosystems*, Section 2, Chapter 1. The Arizona Comparative Environmental Risk Project (ACERP) Report. Arizona EarthVision.
- Patterson, B., Kasiki, S., Selempo, E. & Kays, R.** 2004. Livestock predation by lions (*Panthera leo*) and other carnivores on ranches neighboring Tsavo National Parks, Kenya. *Biological Conservation*, 119: 507–516.
- Pauly, D. & Watson, R.** 2003. Counting the last fish. *Scientific American Magazine*, 289(1): 34–39.
- Pauly, D., Alder, J., Bennett, E., Christensen, V., Tyedmers, P. & Watson, R.** 2003. The Futures for Fisheries. *Science*, 302(5649):1359–1361.
- Paustian, K., Andren, O., Janzen, H.H., Lal, R., Smith, P., Tian, G., Tiessen, H., Van Noordwijk, M. & Woomer P.L.** 1997. Agricultural soils as a sink to mitigate carbon dioxide emissions. *Soil Use and Management*, 13(4): 230–244.

- Pearce, D.** 2002. Environmentally Harmful Subsidies: Barriers to Sustainable Development, Paper presented at the OECD workshop on environmentally harmful subsidies, Paris, 7–8 November 2002.
- Perrings, C. & Touza-Montero, J.** 2004. *Spatial interactions and forests management: policy issues. In proceedings of the Conference on Policy Instruments for Safeguarding Forest Biodiversity – Legal and Economic Viewpoints.* The Fifth International BIOECON Conference 15<sup>th</sup>–16<sup>th</sup> January 2004, House of Estates, Helsinki. [Available at <http://www.metla.fi/julkaisut/workingpapers/2004/mwp001-03.pdf>].
- Perry, C.J., Rock, M. & Seckler, D.** 1997. *Water as an economic good: a solution or a problem?* In: *water: economics, management and demand*, eds. M. Kay, T. Franks, L.E. Smith & F.N. Spon, pp. 3–10.
- Phoenix, G.K., Hicks, W.K., Cinderby, S., Kuylenstierna, J.C.I., Stock, W.D., Dentener, F.J., Giller, K.E., Austin, A.T., Lefroy, R.D.B., Gimeno, B.S., Ashmore, M.R. & Ineson, P.** 2006. Atmospheric nitrogen deposition in world biodiversity hotspots: The need for a greater global perspective in assessing N deposition impacts. *Global Change Biology*, 12(3): 470–476.
- Pidwirny, M.** 1999. *Fundamentals of physical geography: Introduction to the hydrosphere* (Chapter 8). Department of Geography, Okanagan University College.
- Pierre, C.** 1983. US agriculture and the environment. *Food Policy*, 8(2): 99–110.
- Pieters, J.** 2002. *When removing subsidies benefits the environment: Developing a checklist based on the conditionality of subsidies.* Paper presented at the OECD workshop on environmentally harmful subsidies, 7–8 November, Paris, France.
- Pimentel, D., Berger, B., Filiberto, D., Newton, M., Wolfe, B., Karabinakis, E., Clark, S., Poon, E., ABBETT, E. & Nandagopal, S.** 2004. *Water resources, agriculture and the environment.*
- Pingali, P.L. & Heisey P.W.** 1999. *Cereal crop productivity in developing countries: past trends and future prospects.* CIMMYT Working Paper 99–03. International Maize and Wheat Improvement Centre (CIMMYT), [Available at [www.cimmyt.org/Research/Economics/map/research\\_results/working\\_papers/pdf/EWP\\_2099\\_03.pdf](http://www.cimmyt.org/Research/Economics/map/research_results/working_papers/pdf/EWP_2099_03.pdf)].
- Pons, A., Couteau, M., de Beaulieu, J.L. & Reille, M.** 1989. The plant invasions in Southern Europe from the paleoecological point of view. In di Castri, F., Hansen, A.J., Debussche, M. (Eds.), *Biological invasions in Europe and the Mediterranean Basin*, Kluwer Academic Publications, Dordrecht.
- Popkins, B., Horton, S. & Kim, S.** 2001. The nutrition transition and prevention of diet-related chronic diseases in Asia and the Pacific. *Food and Nutrition Bulletin*, 22 (4: Suppl.). Tokyo, United Nations University Press.
- Porter, G.** 2003. *Agricultural trade liberalisation and the environment in North America: Analysing the “production effect”.* Prepared for “the second North American Symposium on Assessing the Environmental Effects of Trade”. Commission for Environmental Cooperation.
- Postel, S.** 1996. *Dividing the waters: Food security, ecosystem health, and the new politics of scarcity.* Worldwatch Paper 132, September 1996. 76 pp.
- Pott, R.** 1998. Effects of human interference on the landscape with special reference to the role of livestock. In M.F. WallisDeVries, J.P. Bakker, & S.E. Van Wieren, eds., *Grazing and conservation management.* Kluwer, Dordrecht, pp. 107–134.
- Pretty, J.N., Brett, C., Gee, D., Hine, R.E., Mason, C.F., Morison, J.I.L., Raven, H., Rayment, M.D. & van der Bijl, G.** 2000. An assessment of the total external costs of UK agriculture. *Agricultural Systems*, 65(2): 113–136.
- Price, L., Worrell, E., Martin, N., Lehman, B. & Sinton, J.** 2000. *China's industrial sector in an international context.* Environmental Energy Technologies Division. Lawrence Berkeley National Laboratory. Report LBNL 46273. p. 17. [Available at <http://eetd.lbl.gov/ea/IES/iespubs/46273.pdf>].
- Prince, S. D. & S. N. Goward.** 1995. Global primary production: a remote sensing approach. *Journal of Biogeography* 22: 815–835.

- Purcell, D.L. & Anderson, J.R.** 1997. *Agricultural Research and Extension: Achievements and problems in national systems*; World Bank Operations Evaluation Study, Washington DC, World Bank.
- Purdue University.** 2006. *Department of Agronomy: Crop, Soil and Environmental Sciences*. [accessed April 2006. Available at <http://www.agry.purdue.edu/index.asp>].
- Quinlan Consulting.** 2005. *The effects of deforestation on the Hydrological Regime*. [Available at: <http://www.headwaterstreams.com/hydrology.html>, accessed April 2006].
- Quist, & Chapela, I.** 2001. Transgenic DNA introgressed into traditional landraces in Oaxaca, Mexico. *Nature*, 414(6863): 541–543.
- Rabalais, N.N., Turner, R. & Scavia, D.** 2002. Beyond science into policy: Gulf of Mexico hypoxia and the Mississippi river. *BioScience*, 52(2), 129–142.
- Rae, A.** 1998. The effects of expenditure growth and urbanisation on food consumption in East Asia: a note on animal products, *Agricultural Economics*, 18(3): 291–299.
- Rae, A. & Strutt, A.** 2003. Agricultural trade reform and environmental pollution from livestock in OECD countries; Paper presented to the sixth Annual Conference on Global Economic Analysis, The Hague, 12–14 June 2003.
- RAMSAR.** 2005. The Ramsar Convention on wetlands: Background papers on wetland values and functions, [Available at [http://www.ramsar.org/info/values\\_intro\\_e.htm](http://www.ramsar.org/info/values_intro_e.htm)].
- Ranjhan, S.K.** 1998. *Nutrient Requirements of livestock and Poultry*. New Delhi, Indian council of Agricultural Research, India.
- Rao, J.M.** 1989. Taxing agriculture: instruments and incidence; *World Development*, 17(6), 1989: 813.
- Reddy, K.R., Kadlec, R.H., Flaig, E. & Gale, P.M.** 1999. Phosphorus retention in streams and wetlands: a review. *Critical Reviews in Environmental Science and Technology*, 29(1): 83–146.
- Redecker, B., Hardtle, W., Finck, P., Riecken, U. & Schroder, E., eds.** 2002. *Pasture, landscape and nature conservation*. Springer. 435 pp.
- Redmon, L.A.** 1999. *Conservation of soil resources on lands used for grazing*. Proceedings of the third Workshop, conservation and use of natural resources and marketing of beef cattle, 27–29 January 1999. Monterrey, Mexico.
- Reich, P.B., Peterson, D.A., Wrage, K. & Wedin, D.** 2001. Fire and vegetation effects on productivity and nitrogen cycling across a forest-grassland continuum. *Ecology*, 82: 1703–1719.
- Reich, P.F., Numbem, S.T., Almaraz, R.A. & Eswaran, H.** 1999. Land resource stresses and desertification in Africa. In E.M. Bridges, I.D. Hannam, L.R. Oldeman, F.W.T. Pening de Vries, S.J. Scherr & S. Sompatpanit, eds., *Responses to land degradation. Proceedings of the second international conference on land degradation and desertification*, Khon Kaen, Thailand. New Delhi, Oxford Press.
- Reid, R., Thornton, P.K., Mccrabb, G., Kruska, R., Atieno, F. & Jones, P.** 2004. Is it possible to mitigate greenhouse gas emissions in pastoral ecosystems of the tropics? *Environment, Development and Sustainability*, 6: 91–109.
- Rejmánek, M., Richardson, D.M., Higgins, S.I., Pitcairn, M.J. & Grotkopp, E.** 2005. Ecology of invasive plants: State of the art. In: *Invasive alien species, a new synthesis*, ed. H.A. Mooney, et al., SCOPE 63, Island Press. 368 pp.
- Relyea, R.A.** 2004. The growth and survival of five amphibian species exposed to combinations of pesticides. *Environmental Toxicology and Chemistry*, 23:1737–1742
- Renner, M.** 2002. The anatomy of resource wars. Worldwatch Paper No. 162. Worldwatch Institute.
- Renter, D.G., Sargeant, J.M., Oberst, R.D. & Samadpour, M.** 2003. Diversity, frequency, and persistence of *Escherichia coli* O157 strains from range cattle environments. *Applied Environmental Microbiology*, 69(1): 542–547.
- Requier-Desjardins, M. & Bied-Charreton, M.** 2006. *Evaluation des coûts économiques et sociaux de la dégradation des terres et de la désertification en Afrique*. Centre d'économie et d'éthique pour l'environnement et le développement; Versailles, France, Université de Versailles Saint Quentin-en-Yvelines.



- Rice, C.W.** 1999. *Subcommittee on production and price competitiveness hearing on carbon cycle research and agriculture's role in reducing climate change.*
- Richards, K.** 2004. A brief overview of carbon sequestration economics and policy. *Environmental Management* 33(4): 545–558.
- Ricketts, T.H., Dinerstein, E., Boucher, T., Brooks, T.M., Butchart, S. H. M., Hoffmann, M., Lamoreux, J.F., Morrison, J., Parr, M., Pilgrim, J.D., Rodrigues, A. S. L., Sechrest, W., Wallace, G. E., Berlin, K., Bielby, J., Burgess, N.D., Church, D.R., Cox, N., Knox, D., Loucks, C., Luck, G.W., Master, L.L, Moore, R., Naidoo, R., Ridgely, R., Schatz, G.E., Shire, G., Strand, H., Wettengel, W. & Wikramanayake, E.** 2005. Pinpointing and preventing imminent extinctions. *Proceedings of the National Academy of Sciences (PNAS)*, 102(51): 18497–18501.
- Rihani, N.** 2005. Cours supérieur de production animale. Instituto Agronómico Mediterráneo de Zaragoza, Spain.
- Risse, L.M., Cabrera, M.L., Franzluebbers, A.J., Gaskin, J.W., Gilley, J.E., Killorn, R., Radcliffe, D.E., Tollner, W.E. & Zhang, H.** 2001. Land application of manure for beneficial reuse. pp. 283–316. In: *Animal agriculture and the environment: national center for manure and animal waste management white papers.* J.M. Rice, D.F. Caldwell, F.J. Humenik, eds. St. Joseph, Michigan, USA, published by the American Society of Agricultural and Biological Engineers.
- Ritter, W.F. & Chirnside, A.E.M.** 1987. Influence of agricultural practices on nitrates in the water table aquifer. *Biological Wastes*, 19(3): 165–178.
- Rodary, E. & Castellanet C.** 2003. Les trois temps de la conservation. In E. Rodary, C. Castellanet & G. Rossi, eds. *Conservation de la nature et développement, l'intégration possible?* Paris. Karthala and GRET, 225–237.
- Rogers, P., Bhatia, R. & Huber, A.** 1998. *Water as a social and economic good: How to put the principle into practice.* Global Water Partnership/Swedish International Development Cooperation Agency.
- Rook, A.J., Dumont, B., Osoro, K., WallisDeFries, M.F., Parente, G. & Mills, J.** 2004. Matching type of livestock to desired biodiversity outcomes in pastures – a review. *Biological Conservation*, 119:137–150.
- Roost, N., Molden, D., Zhu, Z. & Loeve, R.** 2003. *Identifying water saving opportunities: examples from three irrigation districts in China's Yellow River and Yangtze Basins.* Paper presented at the 1<sup>st</sup> International Yellow River Forum on River Basin Management Held in Zhengzhou, China, 12–15 May 2003
- Rosales, M. & Livinets, S.** 2005. Grazing and land degradation in CIS countries and Mongolia. In: Proceedings of the electronic conference “Grazing and land degradation in CIS countries and Mongolia”. 10 June – 30 July 2005. [Available at [http://www.lead.virtualcentre.org/ru/ele/econf\\_01\\_grazing/download/intro\\_en.pdf](http://www.lead.virtualcentre.org/ru/ele/econf_01_grazing/download/intro_en.pdf)].
- Rosegrant, M.W. & Binswanger, H.** 1994. Markets in tradable water rights: Potential for efficiency gains in developing country irrigation. *World Development*, 22: 1613–1625.
- Rosegrant, M.W., Leach, N. & Gerpacio, R.V.** 1999. Meat or wheat for the next millennium? Alternative futures for world cereal and meat consumption. *Proceedings of the Nutrition Society*, 58: 219–234.
- 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.* International food policy research institute (IFPRI) and International water management institute (IWMI).
- Roth, E.** 2001. *Water pricing in the EU: A review.* The European Environmental Bureau (EEB).
- Rotz, C.A.** 2004. Management to Reduce Nitrogen Losses in Animal Production. *Journal of Animal Science*, 82 (e. SUPPL.):E119–E137.
- Roulet, P.A.** 2004. Chasseur blanc, cœur noir? La chasse sportive en Afrique centrale. Une analyse de son rôle dans la conservation de la faune sauvage et le développement rural au travers des programmes de gestion de la chasse communautaire. Thèse de doctorat de Géographie. Laboratoire ERMES/IRD. Université d'Orléans, 2004.

- Rudel, T.K.** 1998. Is there a forest transition? Deforestation, reforestation and development. *Rural Sociology*, 64(4): 533–551.
- Rudel, T.K., Bates, D. & Machinguiashi, R.** 2002. A tropical forest transition? Agricultural changes, out-migration and secondary forests in the Ecuadorian Amazon. *Annals of the Association of American Geographers*, 92: 87–102.
- Russelle, M.P. & Birr, A.S.** 2004. Large-scale assessment of symbiotic dinitrogen fixation by crops: Soybean and alfalfa in the Mississippi river basin. *Agronomy Journal*, 96: 1754–1760.
- Rutherford, J.C. & Nguyen, M.L.** 2004. Nitrate removal in riparian wetlands: interactions between surface flow and soils. *Journal of Environmental Quality*, 33(3):1133–11–43.
- Ruttan, V.W.** 2001. *Technology, growth, and development: An induced innovation perspective*. New York, New York, USA: Oxford University Press.
- Ryan, B. & Tiffany, D.G.** 1998. Energy use in Minnesota agriculture. *Minnesota Agricultural Economist* No. 693 Fall 1998, Minnesota Extension Service, University of Minnesota. (Available at [www.extension.umn.edu/newsletters/ageconomist/components/ag237-693b.html](http://www.extension.umn.edu/newsletters/ageconomist/components/ag237-693b.html)).
- Sainz, R.** 2003. *Framework for calculating fossil fuel use in livestock systems*. Livestock, Environment and Development initiative report. (Available at <ftp://ftp.fao.org/docrep/nonfao/LEAD/X6100E/X6100E00.PDF>).
- Salmon Nation.** 2004. *Ten ways ranchers can help restore clean water and salmon*. (Available at <http://www.4sos.org/howhelp/ranchers2.html>).
- Salter, L.** 2004. *A clean energy future? The role of the CDM in promoting renewable energy in developing countries*. WWF International. pp. 11. (Available at [http://www.panda.org/downloads/climate\\_change/liamsalterfullpapercorrected.pdf](http://www.panda.org/downloads/climate_change/liamsalterfullpapercorrected.pdf)).
- Sanderson, J., Alger, K., da Fonseca, G., Galindo-Leal, C., Inchausty, V.H. & Morrison, K.** 2003. Biodiversity conservation corridors: Planning, implementing, and monitoring sustainable landscapes. Center for Applied Biodiversity Science- Conservation International. pp.43.
- Saunders, C.S., Cagatay, S. & Moxey, A.P.** 2004. *Trade and the environment: economic and environmental impacts of global dairy trade liberalisation*. Agribusiness and Economics Research Unit (AERU), Research report No. 267, February 2004.
- Sauvé Jilene L., Goddard, T.W. & Cannon, K.R.** 2000. *A preliminary assessment of carbon dioxide emissions from agricultural soils*. Paper presented at the Alberta Soil Science Workshop, February 22–24 2000, Medicine Hat, Alberta. (Available at [http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/aesa8419?opendocument](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/aesa8419?opendocument)).
- Schepers, J.S., Hackes, B.L. & Francis, D.D.** 1982. Chemical water quality of runoff from grazing land in Nebraska: II contributing factors. *Journal of Environmental Quality*, 11(3): 355–359.
- Scherf, B.** ed. 2000. *World watch list for domestic animal diversity*, third edition. Rome. FAO/UNDP.
- Scherr, S.J. & Yadav, S.** 1996. *Land degradation in the developing world issues and policy options for 2020*. Washington, DC, IFPRI.
- Schiere, H. & van der Hoek, R.** 2000. *Livestock keeping in urban areas a review of traditional technologies*. FAO report.
- Schmidhuber, J. & Shetty, P.** 2005. The nutrition transition to 2030. Why developing countries are likely to bear the major burden. *Acta Agriculturae Scandinavica*, Section C Economy, 2(3–4): 150–166.
- Schnittker, J.** 1997. *The history, trade, and environmental consequences of soybean production in the United States*. Report to the World Wide Fund for Nature. 110 pp.
- Schofield, K., Seager, J. & Merriman, R.P.** 1990. The impact of intensive dairy farming activities on river quality: The eastern Cleddau catchment study. *Journal of the Institution of Water and Environmental Management*, 4(2): 176–186.
- Scholes, M. & Andreae, M.O.** 2000. Biogenic and pyrogenic emissions from Africa and their impact on the global atmosphere. *Ambio*, 29: 23–29.

- Scholes, R.J., Schulze, E.D., Pitelka, L.F. & Hall, D.O.** 1999. Biogeochemistry of terrestrial ecosystems. In: *The Terrestrial Biosphere and Global Change: Implications for Natural and Managed Ecosystems*. B. Walker, W. Steffen, J. Canadell & J. Ingram, eds., Cambridge, UK, University Press Cambridge, 271–303.
- Schultheiß, U., Döhler H., Eckel, H., Früchtenicht, K., Goldbach, H., Kühnen, V., Roth, U., Steffens, G., Uihlein, A. & Wilcke, W.** 2003. *Heavy metal balances in livestock farming*. Proceeding from the workshop: AROMIS - Assessment and reduction of heavy metal inputs into agro-ecosystems. 24–25 November 2003, Kloster Banz, Germany.
- Schultz, R.C., Isenhardt, T.M. & Colletti, J.P.** 1994. *Riparian buffer systems in crop and rangelands*. Agroforestry and Sustainable Systems: Symposium Proceedings, August 1994.
- Schulze, D.E. & Freibauer, A.** 2005. Carbon unlocked from soils. *Nature*, 437: 205–206.
- Schwartz, P. & Randall, D.** 2003. *An abrupt climate change scenario and its implications for United States national security*, [Available at <http://www.greenpeace.org/raw/content/international/press/reports/an-abrupt-climate-change-scena.pdf>].
- SCOPE 21.** 1982. *The major biogeochemical cycles and their interactions*. Scientific Committee On Problems of the Environment (SCOPE). [Available at <http://www.icsu-scope.org/downloadpubs/scope21/>].
- Scrimgeour, G.J. & S. Kendall.** 2002. Consequences of livestock grazing on water quality and benthic algal biomass in a Canadian natural grassland plateau. *Environmental Management*, 29(6): 824–844.
- Secretariat of the Convention on Biological Diversity.** 2003. *Interlinkages between biological diversity and climate change*. Advice on the integration of biodiversity considerations into the implementation of the United Nations Framework Convention on Climate Change and its Kyoto protocol. Montreal, SCBD, 154 p. (CBD Technical Series No. 10).
- Sharpley, A., Meisinger, J.J. Breeuwsma, A., Sims, J.T., Daniel, T.C. & Schepers, J.S.** 1998. Impacts of animal manure management on ground and surface water quality. Pages 173–242 In J.L. Hatfield, & B.A. Stewart, eds., *Animal waste utilization: effective use of manure as a soil resource*. Chelsea, Michigan, USA, Ann Arbor Press.
- Sharrow, S.H.** 2003. Soil compaction during forest grazing. *The Grazier*, 317:2 Oregon State University.
- Sheffer, M., Carpenter, S., Foley, J.A., Folke, C. & Walker, B.** 2001. Catastrophic shifts in ecosystems. *Nature*, 413: 591–596.
- Sheldrick, W., Syers, J.K. & Lingard, J.** 2003. Contribution of livestock excreta to nutrient balances. *Nutrient Cycling in Agroecosystems*, 66(2): 119–131.
- Shepherd, C.J., Pike, I.H. & Barlow, S.M.** 2005. Sustainable feed resources of marine origin. European Aquaculture Society Special Publication 35: 59–66.
- Shere, J.A., Bartlett, K.J. & Kaspar, W.** 1998. Longitudinal study of *Escherichia coli* O157:H7 dissemination on four dairy farms in Wisconsin. *Applied and Environmental Microbiology*, 64(4): 1390–1399.
- Shere, J.A., Kaspar, C.W., Bartlett, K.J., Linden, S.E., Norell, B., Francey, S. & Schaefer, D.M.** 2002. Shedding of *Escherichia coli* O157:H7 in dairy cattle housed in a confined environment following waterborne inoculation. *Applied and Environmental Microbiology*, 68(4): 1947–1954.
- Siebers, J., Binner, R. & Wittich, K.P.** 2003. Investigation on downwind short-range transport of pesticides after application in agricultural crops. *Chemosphere*, 51(5): 397–407.
- Siebert, S. Döll, P. & Hoogeveen, J.** 2001, Global map of irrigated areas version 2.0, Center for Environmental Systems Research, University of Kassel, Germany/ Food and Agriculture Organization of the United Nations, Rome.
- Siegenthaler, U., Stocker, T.F., Monnin, E., Lüthi, D., Schwander, J., Stauffer, B., Raynaud, D., Barnola, J., Fischer, H., Masson-Delmotte, V. & Jouzel, J.** 2005. Stable carbon cycle–climate relationship during the late pleistocene. *Science*, 310(5752): 1313–1317.

- Simberloff, D.** 1996. Impacts of introduced species in the United States. *Consequences*, 2(2):13–22.
- Singh, B. & Sekhon, G.S.** 1976 Nitrate pollution of groundwater from nitrogen fertilizers and animal wastes in the Punjab, India. *Agriculture and Environment*, 3(1): 57–67.
- Siriwardena, L., Finlayson, B.L. & McMahon T.A.** 2006. The impact of land use change on catchment hydrology in large catchments: The Comet River, Central Queensland, *Australia Journal of Hydrology*, 326(14): 199–214.
- Sirohi, S. & Michaelowa, A.** 2004. *CDM potential of dairy sector in India*. HWWA discussion paper 273. Hamburgisches Welt-Wirtschafts-Archiv (HWWA). Hamburg Institute of International Economics. 73 pp.
- Skinner, B.J., Porter, S.C. & Botkin, D.B.** 1999. *The blue planet: An introduction to earth system science*, Second Edition. 576 pp.
- Slifko, T.R., Smith, H.V. & Rose, J.B.** 2000. Emerging parasite zoonoses associated with water and food. *International Journal for Parasitology*, 30(12–13): 1379–1393.
- Small, L. & Carruthers, I.** 1991. *Farmer financed irrigation – allocating a scarce resource: Water-use Efficiency* (Chapter 5 pp 77–95), Cambridge University Press.
- Smil, V.** 1999. Nitrogen in crop production: an account of global flows. *Global Biogeochemical Cycles*, 13(2): 647–662.
- Smil, V.** 2001. *Enriching the earth: Fritz Haber, Carl Bosch, and the transformation of world food production*. USA, MIT Press. p. 411.
- Smil, V.** 2002. Nitrogen and food production: proteins for human diets. *Ambio*, 31(2): 126–131.
- Smith, B.E.** 2002. Nitrogenase reveals its inner secrets. *Science*, 297(5587): 1654–1655.
- Sommer, S.G., Petersen, S.O. & Møller, H.B.** 2004. Algorithms for calculating methane and nitrous oxide emissions from manure management. *Nutrient Cycling in Agroecosystems*, 69: 143–154.
- Soto, A., Calabro, J.M., Prechtl, N.V., Yau, A.Y., Orlando, E.F., Daxenberger, A., Kolok, A.S., Guillette, L.J., Jr., le Bizec, B., Lange, I.G. & Sonnenschein, C.** 2004. Androgenic and estrogenic activity in water bodies receiving cattle feedlot effluent in eastern Nebraska, USA. *Environmental Health Perspectives*, 112(3).
- Spahni, R., Chappellaz, J., Stocker, T.F., Loulergue, L., Hausammann, G., Kawamura, K., Flückiger, J., Schwander, J., Raynaud, D., Masson-Delmotte, V. & Jouzel, J.** 2005. Atmospheric methane and nitrous oxide of the late Pleistocene from Antarctic ice cores. *Science*, 310(5752): 1317–1321.
- Speedy, A.W.** 2003. Global production and consumption of animal source foods. *Journal of Nutrition*, 133: 4048S–4053S.
- Stallknecht, D.E. & Justin D.** 2006 *Brown wild birds and the epidemiology of Avian Influenza*. FAO/OIE International Scientific Conference on Avian Influenza and Wild Birds.
- Steinfeld, H., de Haan, C.H., & Blackburn, H.** 1997. *Livestock and the environment Interactions: Issues and Options*. Suffolk, UK, WRENmedia.
- Steinfeld, H. & Chilonda, P.** 2006. Old players, new players. *Livestock Report 2006*. Rome, FAO.
- Steinfeld, H., Costales, A. & Gerber, P.** 2005. Underneath the livestock revolution: Structural change. In: McLeod, A., ed. 2006. *Livestock Report 2006*. Rome, FAO.
- Steinfeld, H., Wassenaar, T. & Jutzi, S.** 2006. Livestock production systems in developing countries: Status, drivers, trends. *Rev. Sci. Rech. Off. Int. Epiz.*, 25(2). In press.
- Stoate, C., Boatman, N.D., Borralho, R.J., Carvalho, C.R., Snoo, G.R.D. & Eden, P.** 2001. Ecological impacts of arable intensification in Europe. *Journal of Environmental Management*, 63(4): 337–365.
- Sumberg, J.** 2003. Toward a dis-aggregated view of crop–livestock integration in Western Africa. *Land Use Policy*, 20(3) 253–264.
- Sundermeier, A., Reeder, R. & Lal, R.** 2005. *Soil carbon sequestration – Fundamentals*. Ohio State University Extension Fact Sheet AEX-510-05. [Available at [ohioline.osu.edu/aex-fact/0510.html](http://ohioline.osu.edu/aex-fact/0510.html)].
- Sundquist, B.** 2003. *Grazing lands degradation: A global perspective*, Edition 4.

- Sundquist, E.T.** 1993. The global carbon dioxide budget. *Science*, 259: 934–941.
- Sustainable Table.** 2005. *The issues, Environment*. [Available at <http://www.sustainabletable.org/issues/environment/>].
- Sutton, A., Applegate, T., Hankins, S., Hill, B., Sholly, D., Allee, G., Greene, W., Kohn, R., Meyer, D., Powers, W. & van Kempen, T.** 2001 Manipulation of animal diets to affect manure production, composition and odours: state of the science. pp 377–408. In *animal agriculture and the environment: National Center For Manure And Animal Waste Management White Papers*. J.M. Rice, D.F. Caldwell & F.J. Humenik, eds. St. Joseph, Michigan, USA. Published by the American Society of Agricultural and Biological Engineers.
- Swanson, S.** 1996. *Riparian pastures*, Fact sheet No. 19. Rangeland Watershed Program; UC Cooperative Extension and USDA Natural Resources Conservation Service; California Rangelands Research and Information Center, Agronomy and Range Science. Davis, USA, University of California.
- Swift, M.J., Seward, P.D., Frost, P.G.H., Qureshi, J.N. & Muchena, F.N.** 1994. Long-term experiments in Africa: developing a database for sustainable land use under global change. In R.A. Leigh, & A.E. Johnston, eds. *Long-term experiments in agricultural and ecological sciences*, pp. 229–251. Wallingford, UK, CABI Publishers.
- Syvitski, J.P.M., Peckham, S.D., Hilberman, R. & Mulder, T.** 2003. Predicting the terrestrial flux of sediment to the global ocean: a planetary perspective. *Sedimentary Geology*, 162: 5–24.
- Szott, L., Ibrahim, M. & Beer, J.** 2000. *The hamburger connection hangover: cattle pasture land degradation and alternative land use in Central America*. Turrialba, Costa Rica, CATIE.
- Tabarelli, M. & Gascon, C.** 2005. Lessons from fragmentation research: Improving management and policy guidelines for biodiversity conservation. *Conservation Biology*, 19(3): 734–739.
- Tadesse, G. & Peden, D.** 2003. Livestock grazing impact on vegetation, soil and hydrology in a tropical highland watershed. In: McCornick, P.G., Kamara, A.B., and Tadesse, G., eds. *Integrated water and land management research and capacity building priorities for Ethiopia*. Proceedings of a MoWR/EARO/IWMI/ILRI international workshop held at ILRI, Addis Ababa, Ethiopia 2–4 December 2002, pp. 87–97.
- Tansey, Grégoire, J., Stroppiana, D., Sousa, A., Silva, J., Pereira, J.M.C., Boschetti, L., Maggi, M., Brivio, P.A., Fraser, R., Flasse, S., Ershov, D., Binaghi, E., Graetz, D. & Peduzzi, P.** 2004. Vegetation burning in the year 2000: Global burned area estimates from SPOT VEGETATION data. *Journal of Geophysical Research Atmospheres*, VOL. 109, D14S03.
- Tate, K.W.** 1995. *Infiltration and overland flow*. Fact Sheet No. 37. Rangeland Watershed Program, U.C. Cooperative Extension and USDA Natural Resources Conservation Service; California Rangelands Research and Information Center, Agronomy and Range Science, Davis, USA, University of California.
- Thellung A.** 1912. La flore adventice de Montpellier. *Memoires de la Société Nationale des Sciences Naturelles et Mathématiques*, 38: 57–728.
- The State of Queensland.** 2004. *The Desert Uplands*. NRM facts, Land series. The State of Queensland, Department of Natural Resources and Mines.
- Thobani, M.** 1997. Formal water markets: why, when and how to introduce tradable water rights. *The World Bank Research Observer*, 12(2), August 1997: 163–165.
- Thomas, C.D., Cameron, A., Green, R.E., Bakkenes, M., Beaumont, L.J., Collingham, Y.C., Erasmus, B.F.N., Ferreira de Siqueira, M., Grainger, A., Lee Hannah, Hughes, L., Huntley, B., van Jaarsveld, A.S., Midgley, G.F., Miles, L., Ortega-Huerta, M.A., Peterson, A.T., Phillips, O.L. & Williams, S.E.** 2004. Extinction risk from climate change. *Nature*, 427:145–148.
- Thomas, D.S.** 2002. Sand, grass, thorns, and cattle: The modern Kalahari. In: Deborah Sporton and David S. G. Thomas, eds., *Sustainable livelihoods in Kalahari environments: Contributions to global debates*. New York, Oxford University Press, Inc. pp 21–38.

- Thompson, A.M., Witte, J.C., Hudson, R.D., Guo, H, Herman, J.R. & Fujiwara, M.** 2001. Tropical tropospheric ozone and biomass burning. *Science*, 291: 2128–2132.
- Thorsten, C., Schneider, R.J., Färber, H.A., Skutlarek, D. & Goldbach, H.E.** 2003. Determination of antibiotic residues in manure, soil, and surface waters. *Acta hydrochimica et hydrobiologica*, 31(1): 36–44.
- Tidwell, J.H. & Allan, G.L.** 2001. *Fish as food: aquaculture's contribution*. European Molecular Biology Organization (EMBO) reports 2(11): 958–963.
- Tietenberg, T.** 2003. *Environmental and natural resource economics*, sixth edition, Addison Wesley.
- Tilman, D., Fargione, J., Wolff, B., D'Antonio, C., Dobson, A., Howarth, R., Schindler, D., Schlesinger, W.H., Simberloff, D. & Swackhamer, D.** 2001. Forecasting agriculturally driven global environmental change. *Science*, 292(5515): 281–284.
- Tonhasca, A. & Byrne, D.N.** 1994. The effects of crop diversification on herbivorous insects: a meta-analysis approach. *Ecological Entomology*, 19: 239–244.
- Toutain, B.** 2001. *Mission d'appui scientifique sur le thème de la transhumance*. Programme régional parc du W - ECOPAS. Rapport CIRAD – EMVT No.01-43, July 2001.
- Tran Thi Dan, Thai Anh Hoa, Le Quang Hung, Bui Minh Tri, Ho Thi Kim Hoa, Le Thanh Hien & Nguyen Ngoc Tri.** 2003. *LEAD pilot project on the Area-wide integration (AWI) of specialized crop and livestock activities in Vietnam*. C. Narrod & P. Gerber, eds.
- Travasso, M.I., Magrin, G.O., Rodríguez, G.R. & Boullón, D.R.** 1999. Climate Change assessment in Argentina: II. Adaptation strategies for agriculture. Accepted in *Food and Forestry: Global Change and Global Challenge*. GCTE Focus 3 Conference. Reading, United Kingdom, September 1999.
- Tremblay, L.A. & Wratten, S.D.** 2002. Effects of Ivermectin in dairy discharges on terrestrial and aquatic invertebrates. *DOC Science Internal Series 67*. Department of Conservation, Wellington. 13 pp.
- Trimble, S.W. & Mendel, A.C.** 1995. The cow as a geomorphic agent—a critical review. *Geomorphology*, 13: 233–253.
- Tschakert, P. & Tappan, G.** 2004. The social context of carbon sequestration: considerations from a multi-scale environmental history of the Old Peanut Basin of Senegal. *Journal of Arid Environments*, 59(3): 535–564.
- Tsur, Y. & Dinar, A.** 1997. The relative efficiency and implementation costs of alternative methods of pricing irrigation water. *The World Bank Economic Review*, 11(2), May 1997: 243–262.
- Turner, K., Georgiou, S., Clark, R., Brouwer, R. & Burke, J.** 2004. Economic Valuation of water resources in agriculture, From the sectoral to a functional perspective of natural resource management. FAO paper reports No. 27, Rome, FAO.
- Tveteras, S. & Tveteras, R.** 2004. *The global competition for wild fish resources between livestock and aquaculture*. 13<sup>th</sup> Annual Conference of the European Association of Environmental and Resource Economics. 25–28 June 2004, Budapest, Hungary.
- UN.** 1992. *Rio Declaration on Environment and Development*, New York, USA, United Nations Conference on Environment and Development (UNCED) 1992.
- UN.** 2003. *World population prospects: The 2002 revision*, United Nations, New York, USA.
- UN.** 2005. *World Population Prospects*. The 2004 Revision. UN Department of Economic and Social Affairs. New York, USA, [Available at <http://www.un.org/esa/population/publications/sixbillion/sixbilpart1.pdf>].
- UNDP/UNEP/WB/WRI.** 2000. *A guide to world resources 2000–2001: People and ecosystems – The fraying web of life*. United Nations Development Programme, United Nations Environment Programme, World Bank, World Resources Institute. Washington, DC, World Resources Institute.
- UNEP.** 1991. *Status of desertification and implementation of the United Nations Plan of Action to combat desertification*. United Nations Environment Programme, Nairobi. 79 pp.
- UNEP.** 1994. Land degradation in South Asia: Its severity, causes and effects upon the people. World Soil Resources Report 78. INDP/UNEP/FAO. Rome, FAO.

- UNEP.** 1997. *World atlas of desertification*. United Nations Environment Programme, Second Edition. Nairobi. 182 pp.
- UNEP.** 2001. *Economic reforms, trade liberalization and the environment: A Synthesis of UNEP Country Projects*. Geneva, Switzerland. 5 November 2001.
- UNEP.** 2002. *Protecting the environment from land degradation* UNEP's action in the framework of the Global Environment Facility.
- UNEP.** 2003. *Global Environmental Outlook 3*. UNEP GEO Team, Division of Environmental Information, Assessment and Early Warning (DEIA&EW), United Nations Environment Programme.
- UNEP.** 2004a. *GEO Yearbook 2003*. Earthprint, 76 p. (Available at [www.unep.org/geo/yearbook/yb2003/](http://www.unep.org/geo/yearbook/yb2003/)).
- UNEP.** (2004b). *Land degradation in drylands (LADA): GEF grant request*. Nairobi, Kenya: UNEP.
- UNEP.** 2005a. *Global Environment Outlook Year Book 2004/05*, (Available at <http://www.unep.org/geo/yearbook/yb2004/>).
- UNEP.** 2005b. Environmental strategies and policies for cleaner production, (Available at [www.unep.org/pc/cp/understanding\\_cp/cp\\_policies.htm](http://www.unep.org/pc/cp/understanding_cp/cp_policies.htm); Accessed November 2005).
- UNEP-WCMC.** 1994. *Biodiversity data sourcebook*. B. Groombridge, ed. WCMC Biodiversity Series No. 1. World Conservation Monitoring Centre, United Nations Environment Programme, Cambridge, UK, World Conservation Press. 155 pp.
- UNEP-WCMC.** 1996. *The diversity of the seas: a regional approach*. WCMC Biodiversity Series No. 4. Edited by B. Groombridge and M.D. Jenkins. World Conservation Monitoring Centre, United Nations Environment Programme. Cambridge, UK, World Conservation Press.
- UNEP-WCMC.** 2000. *Chapter 1 of the Global Biodiversity Outlook: Global Biodiversity: Earth's living resources in the twenty-first century*. B. Groombridge & M.D. Jenkins, Cambridge, UK, World Conservation Press.
- UNEP-WCMC.** 2002. *Mountain watch: environmental change and sustainable development in mountains*. UNEP-WCMC Biodiversity Series No. 12 World Conservation Monitoring Centre, United Nations Environment Programme, Cambridge, UK, World Conservation Press.
- UNESCO.** 1979. *Tropical grassland ecosystems*. UNESCO, Paris.
- UNESCO.** 2005. Water portal. (Available at <http://www.unesco.org/water/>).
- UNFCCC.** 2005. *Feeling the heat*. Electronic background document - United Nations Framework Convention on Climate Change, (Available at [http://unfccc.int/essential\\_background/feeling\\_the\\_heat/items/2918.php](http://unfccc.int/essential_background/feeling_the_heat/items/2918.php)).
- Uri, N.D. & Lewis, J.A.** 1998. The dynamics of soil erosion in US agriculture. *The Science of the Total Environment*, 218(1): 45–58.
- USDA.** 2004. *US agriculture and forestry greenhouse gas inventory: 1990–2001*. U.S. Department of Agriculture, Global Climate Change Program, Technical Bulletin No. 1907. (Available at [www.usda.gov/oce/global\\_change/gg\\_inventory.htm](http://www.usda.gov/oce/global_change/gg_inventory.htm)).
- USDA/ERA.** 2002. *Adoption and pesticide use*. In: *Adoption of Bioengineered Crops*. Agricultural Economic Report No. (AER810) 67 pp.
- USDA/FAS.** 2004. *World Broiler Trade Overview*. Foreign Agricultural Service, United States Department of Agriculture.
- USDA/FAS.** 2000. *Meat and bone meal ban may induce South American soybean planting*. United States Department of Agriculture: Foreign Agricultural Service, (Available at [www.fas.usda.gov/pecad2/highlights/2000/12/EU\\_mbm\\_ban.htm](http://www.fas.usda.gov/pecad2/highlights/2000/12/EU_mbm_ban.htm)).
- USDA/NASS.** 2001. *Agricultural chemical use*. National Agricultural Statistics Service, USDA Economics and Statistics System.
- USDA/NRCS.** 1998. *Soil quality indicators: Infiltration*. Soil Quality Information Sheet. Soil Quality Institute, Natural Resources Conservation Service (NRCS), US Department of Agriculture (USDA).
- USDA-NRCS.** 1999. *Risk of human induced water erosion map*, Soil Survey Division, World Soil Resources. Washington, DC, USDA-NRCS.
- US-EPA.** 2004. *US emissions inventory 2004: Inventory of u.s. greenhouse gas emissions and sinks: 1990–2002* (April 2004). US Environmental Protection Agency.
- US-EPA.** 2005a. Mid-Atlantic Integrated Assessment (MAIA), (Available at <http://www.epa.gov/maia/html/about.html>).

- US-EPA.** 2005b. *Global warming – Methane*. US Environmental Protection Agency, (Available at <http://www.epa.gov/methane/>).
- US-EPA.** 2006. *EPA livestock analysis model*, (Available at <http://www.epa.gov/methane/rlep/library/lam/lam.html>).
- US-Geological Survey.** 2005a. *The water cycle*. United States Geological Survey (USGS). (Available at <http://ga.water.usgs.gov/edu/watercycle.html>).
- US-Geological Survey.** 2005b. *Estimated use of water in the United States in 1990: Livestock water use*. United States Geological Survey (USGS), (Available at <http://water.er.usgs.gov/watuse/wulv.html>).
- Van Aardenne, J.A., Dentener, F.J., Olivier, J.G.J., Klein Goldewijk, C.G.M. & J. Lelieveld.** 2001. A high resolution dataset of historical anthropogenic trace gas emissions for the period 1890–1990. *Global Biogeochemical Cycles*, 15(4): 909–928.
- van Auken, W.O.** 2000. Shrub invasions of North American semi-arid grasslands. *Annual Review Of Ecology and Systematics*, 31:197–216.
- Van der Hoek, K.W.** 1998. Nitrogen efficiency in global animal production. *Environmental Pollution*, 102: 127–132.
- van Ginkel, J.H., Whitmore, A.P. & Gorissen, A.** 1999. *Lolium perene* grasslands may function as a sink for atmospheric carbon dioxide. *Journal of Environmental Quality*, 28: 1580–1584.
- Van Vuuren, A.M. & Meijs, J.A.C.** 1987, In: *Animal manure on grassland and fodder crops: fertiliser or waste?* H.G. Van der Meer, R.J. Unwin, T.A. van Dijk & G.C. Ennik, eds., Nijhoff, Dordrecht, the Netherlands. pp 27–45.
- Vannuccini, S.** 2004. Overview of fish production, utilization, consumption and trade. Fishery Information, Data And Statistics Unit, FAO. 20 pp.
- Vasilikiotis, C.** 2001. *Can Organic Farming “Feed the World”?* University of California, Berkeley. Energy Bulletin, published 1 February 2001. (Available at <http://www.energybulletin.net/1469.html>).
- Velusamy, R., Singh, B.P. & Raina, O.K.** 2004. Detection of *Fasciola gigantica* infection in snails by polymerase chain reaction. *Veterinary Parasitology*, 120(1-2): 85–90.
- Vera, F.W.M.** 2000. *Grazing ecology and forest history*. Wallingford, UK, CABI Publishing.
- Verburg, P.H., Chen, Y.Q. & Veldkamp, A.** 2000. Spatial explorations of land-use change and grain production in China. *Agriculture, Ecosystems and Environment*, 82: 333–354.
- Verburg, P.H. and Hugo, A.C. & Van Der Gon, D.** 2001. Spatial and temporal dynamics of methane emissions from agricultural sources in China. *Global Change Biology*, 7(1): 31–47.
- Vet, R.** 1995. *GCOS observation programme for atmospheric constituents: Background, status and action plan*. Global Climate Observing System Report No. 20. World Meteorological Organization, (Available at <http://www.wmo.ch/web/gcos/Publications/gcos-20.pdf>).
- Vickery, J. A., Tallowin, J.R.B., Feber, R.E., Asteraki, E.J., Atkinson, P.W., Fuller, R.J. & Brown, V.K.** 2001. The management of lowland neutral grasslands in Britain: effects of agricultural practices on birds and their food resources. *Journal of Applied Ecology*, 38: 647–664.
- Viollat, P.L.** 2006. *Argentina, un cas d'école*. Le Monde Diplomatique, April 2006.
- Vitousek, P.M., Aber, J.D., Howarth, R.W., Likens, G.E., Matson, P.A., Schindler, D.W., Schlesinger, W.H. & Tilman, D.G.** 1997 Human alteration of the global nitrogen cycle: sources and consequences. *Ecological Applications*, 7(3): 737–750.
- Vlek, P.L.G., Rodríguez-Kuhl G. & Sommer R.** 2004. Energy use and CO<sub>2</sub> production in tropical agriculture and means and strategies for reduction or mitigation. *Environment, Development and Sustainability*, 6(1-2): 213–233.
- von Dörte, E.** 2004. *Water management in rural China: The role of irrigation water charges*.
- von Tschudi, J.J.** 1868. *Reisen durch Sudamerika*, Vol. 4. Leipzig: Verlag 1 Brockhaus. Stuttgart: Omnitypie-Gesellschaft Nachf. Leopold Zechall rep. 1971. 320 pp.
- Vought, L.B.M., Pinay, G., Fuglsang, A. & Ruffinoni, C.** 1995. Structure and function of buffer strips from a water quality perspective in agricultural landscapes. *Landscape and Urban Planning*, 31(1–3): 323–331.



- Wahl, R.W.** 1997. *Water pricing experiences: An international perspective – United States*. World Bank Technical Paper No. 386, pp 144–148.
- Walker, R.** 1993. Deforestation and economic development. *Canadian Journal of Regional Science*, 16(3): 481–497.
- Wallinga, D.** 2002. Antimicrobial use in animal feed: An ecological and public health problem. *Minnesota Medical Association*, Volume 85, October 2002.
- Ward, A.D.** 2004. ACSM 370 Teaching Materials: Principles of Hydrology, Lecture 2: *Infiltration*. Department of Food, Agricultural and Biological Engineering; USA, Ohio State University.
- Ward, F. & Michelsen, A.** 2002. The economic value of water in agriculture: concepts and policy applications. *Water Policy*, 4(5): 423–446.
- Ward, G.M., Knox, P. L. & Hobson, B.W.** 1977. Beef production options and requirements for fossil fuel. *Science*, 198: 265–271.
- Ward, R.C. & Robinson, M.** 2000. *Principles of hydrology* (4<sup>th</sup> ed.). McGraw-Hill Publishing Company, London, 450 pp.
- Wardrop Engineering.** 1998. Cited by UNEP Working Group for Cleaner Production in the Food Industry, 2004. Fact Sheet 7: Food Manufacturing Series. [Available at <http://www.gpa.uq.edu.au/CleanProd/Res/facts/FACT7.HTM>].
- Wassenaar, T., Gerber, P., Verburg, P.H., Rosales, M., Ibrahim, M. & Steinfeld, H.** 2006. Projecting land use changes in the Neotropics The geography of pasture expansion into forest. *Global Environmental Change*, In press.
- Waters, T.F.** 1995. *Sediment in streams: sources, biological effects, and control*. American Fisheries Society Monograph 7. American Fisheries Society, Bethesda, Maryland. pp. 251.
- Watson, R. & Pauly, D.** 2001. Systematic distortions in world fisheries catch trends. *Nature*, 414: 534–536.
- Webster, R.G., Naeve, C.W. & Krauss, S.** 2006. *The evolution of influenza viruses in wild birds*. FAO/OIE International Scientific Conference on Avian Influenza and Wild Birds.
- Westing, A.H., Fox, W. & Renner, M.** 2001. *Environmental degradation as both consequence and cause of armed conflict*. Working Paper prepared for Nobel Peace Laureate Forum participants by PREPCOM subcommittee on Environmental Degradation.
- White, R.P., Murray, S. & Rohweder, M.** 2000. *Pilot analysis of global ecosystems: grassland ecosystems*. Washington, DC, World Resources Institute.
- Whitmore, A.P.** 2000. *Impact of livestock on soil*. Sustainable Animal Production, [Available at <http://www.agriculture.de/acms1/conf6/ws4lives.htm>].
- WHO.** and Tufts University. 1998. Keeping fit for life: Meeting the nutritional needs of older persons.
- WHO.** 2003. Obesity and overweight. Fact sheet, Geneva, World Health Organization
- Wichelns, D.** 2003. The role of public policies in motivating virtual water trade, with an example from Egypt (I. Delft, Trans.). In A.Y. Hoekstra, ed., 2003. *Virtual water trade: Proceedings of the international expert meeting on virtual water trade*.
- Wilcock, R.J., Scarsbrook, M.R., Cooke, J.G., Costley, K.J. & Nagels, J.W.** 2004. Shade and flow effects on ammonia retention in macrophyte-rich streams: implications for water quality. *Environmental Pollution*, 132(1): 95–100.
- Woodroffe, R., Linsey, P., Romanach, S., Stein, A. & Ranah, S. M.K.** 2005. Livestock predation by endangered African wild dogs (*Lycaon pictus*) in northern Kenya. *Biological Conservation*, 124: 225–234.
- World Bank.** 1997. *Water pricing experiences An international perspective*. World Bank Technical Paper No. 386, Washington, DC, World Bank.
- World Bank.** 2005a. Managing the livestock revolution: Policy and technology to address the negative impacts of a fast-growing sector. Washington, DC, World Bank Agriculture and Rural Development Department.
- World Bank.** 2005b. *World development indicators: poverty estimates*.
- World Bank.** 2006. *World development indicators*. Washington, DC.

- World Conservation Monitoring Centre.** 1998. *Freshwater biodiversity: a preliminary global assessment*. By Brian Groombridge and Martin Jenkins. WCMC Cambridge, UK, World Conservation Press.
- World Resources Institute.** 2000. Freshwater biodiversity in crisis.
- World Resources Institute.** 2003. *The watersheds of the world CD*. Published by IUCN – The World Conservation Union, the International Water Management Institute (IWMI), the Ramsar Convention Bureau, and the World Resources Institute (WRI).
- World Resources Institute.** 2005. *EarthTrends: The Environmental Information Portal*. [Available at <http://earthtrends.wri.org>. Accessed 10/12/2005].
- WWF.** 2003. Soy expansion losing forests to the fields. Forest Conversion INFO – Soy. WWF Forest Conversion Initiative [Available at <http://assets.panda.org/downloads/wwfsoyexpansion.pdf#search=%22WWF%202003%20-%20CERRADO%22>].
- WWF.** 2005. *Wild Places Ecoregions*. [Available at <http://www.worldwildlife.org/ecoregions/>. Accessed August 2005].
- Xercavins Valls, J.** 1999. *Carrying capacity in east sub-Saharan Africa: A multilevel integrated assessment and a sustainable development approach*. Doctoral thesis. Universita Politècnica de Catalunya.
- Yang, H., Zhang, X. & Zehnder, A.J.B.** 2003. Water scarcity, pricing mechanism and institutional reform in Northern China irrigated agriculture. *Agricultural Water Management*, 61: 143–161.
- Yang, X., Zhang, K., Jia, B. & Ci, L.** 2005. Desertification assessment in China: an overview. *Journal of Arid Environments*, 63(2): 517–531.
- 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, 11–18 August 2006.
- Zhang, H., Dao, Thanh H., Wallace, H.A., Basta, N.T., Dayton, E.A. & Daniel T.C.** 2001. *Remediation techniques for manure nutrient loaded soils*. White paper summaries, National center for manure and waste management.
- Zhang, H.C., Cao, Z.H., Shen, Q.R. & Wong, M.H.** 2003. Effect of phosphate fertilizer application on phosphorus (P) losses from paddy soils in Taihu Lake Region I. Effect of phosphate fertilizer rate on P losses from paddy soil. *Chemosphere*, 50(6): 695–701.
- Zhang, Y.K. & Schilling, K.E.** 2005. Increasing streamflow and baseflow in Mississippi River since the 1940s: Effect of land use change. *Journal of Hydrology*, In Press, Corrected Proof, Available online 2 December 2005.
- Zhou, Z.Y., Wu, Y.R. & Tian, W.M.** 2003. Food consumption in rural China: preliminary results from household survey data. Proceedings of the 15<sup>th</sup> Annual Conference of the Association from Chinese Economics Studies, Australia.
- Zimmer, D. & Renault, D.** 2003. *Virtual water in food production and global trade: review of methodological issues and preliminary results*. Proceedings of the expert meeting held 12–13 December 2002, Delft, the Netherlands. Editor Arjen Hoekstra, Delft, the Netherlands, 2003, UNESCO-IHE.