

Research Outputs: Prof JO Mugabe

Books and monographs

Coming to Life: Biotechnology in Africa's Economic Recovery, 1995 ACTS Press, Nairobi (with Calestous Juma and Patricia Kameri-Mbote).

Managing Biodiversity: National Systems of Conservation and Innovation in Africa. ACTS Press, Nairobi. (1998). (with Norman Clark)

Managing Access to Genetic Resources: Benefit-sharing Strategies.(with Charles Barber, Lyle Glowka, Henne Gudrun, and Antonio La Vina. ACTS Press, Nairobi (1996) Biopolicy International No. 17, ACTS Press, Nairobi.

Technology Transfer and the Convention on Biological Diversity: Emerging International Policy Issues (with Norman Clark), 1996, Biopolicy International No. 18. ACTS Press, Nairobi.

Access to Genetic Resources: Strategies for Sharing Benefits (with Charles Barber, et. al.) ACTS Press and Initiatives Publishers, Ltd., Nairobi (1997)

Environmental Adjustment in Kenya: Opportunities and Challenges. (with Frances Seymour and Norman Clark) ACTS Press, Nairobi. (1998)

Traditional Knowledge and Intellectual Property Protection: An Exploration in International Policy Discourse. (1999, ACTS Press, Nairobi and WIPO Geneva)

Community Involvement in Forest Management in Eastern and Southern Africa: Overview of Policies, Laws and Institutions (with Fred Kigenyi and George Gondo), published by IUCN, 2002.

Governing Agricultural Biotechnology in Africa (with Norman Clark and James Smith, ACTS Press 2006)

Biotechnology Policy in Africa (with Norman Clark and James Smith), ACTS Press 2007)

Building Links: Science, Innovation and Public Policy in Africa. (Forthcoming 2010)

Research Papers and Contributions to Volumes

1. *Raising the Concerns for Quality in Kenya: Towards an Action Agenda*, with Juma, C. (1990) prepared for the United Nations Development Programme (UNDP), Nairobi.
2. "Biotechnology and African Economies: Long-term Policy Issues", in Sasson, A. and Costarini, V., (1991) *Biotechnologies in Perspective*, United Nations Educational, Scientific and Cultural Organization (UNESCO), Paris, France.
3. *Biotechnology and Small-Scale Agriculture in Kenya: An Inventory Study*, May 1991, Free University of Amsterdam and African Centre for Technology Studies, (co-author with Hans Brouwer).
4. "Managing Biological Diversity in Africa: Policy and Institutional Imperatives", Working Paper for the African Centre for Technology Studies-Biopolicy Institute, May 1991.
5. *Local Institutional Innovations and Natural Resource Management in Eastern Africa: A*

- Case Study from Kenya*. Paper prepared for the Royal Tropical Institute Amsterdam, The Netherlands. October, 1991.
6. *Biotechnology in Sub-Saharan Africa: Creating and Utilizing Endogenous Technological Capability*. Paper prepared for the Expert Meeting on the Application of Biotechnologies to Food Processing in Africa, Ibadan, Nigeria, organized by United Nations Industrial Development Organization (UNIDO) December, 1991.
 7. *Biotechnology in Africa: Strengthening Policy-Making Capability*, with Juma, C. Report prepared for the Swedish Agency for Research Cooperation with Developing Countries (SAREC) and the Swedish International Development Authority (SIDA), Stockholm, Sweden, January 1992.
 8. *Biotechnology and Biodiversity in the Third World: Policy and Institutional Issues for Sustainable Development*, Paper for the 14–17, 1992. Eco' World 1992 Conference of Hunger Project, Washington, D.C. U.S.A.
 9. *Wildlife Management in Kenya: Institutional Change and Techno-Scientific Capabilities*. Paper prepared for ACTS Policy Outlook Workshop May, 1993, Nairobi.
 10. "Wildlife Management and Structural Adjustment in Kenya." Published in Krugman, H. and Juma, C. eds., (1993). *The Unsteady State: Structural Adjustment Programmes and Sustainable Development in Kenya*. ACTS Press, Nairobi.
 11. *Transfer and Development of Environmentally-sound Technologies: Strengthening National Systems of Technological Change and Management*. Paper prepared for the United Nations Conference on Trade and Development (UNCTAD) for the Workshop on the Transfer and Development of Environmentally-Sound Technologies, Oslo October 12–15, 1993.
 12. *Gene Banking and Plant Germplasm Conservation in Kenya*. Article prepared for the Biotechnology and Development Monitor of the Department of International Relations of the University of Amsterdam, May, 1993.
 13. *Indigenous Knowledge and Plant Germplasm Conservation in Ethiopia*. Article prepared for the Biotechnology and Development Monitor of the Department of International Relations of the University of Amsterdam, August 1993.
 14. *Environmental Management in Kenya: Policy and Institutional Reforms*: Background paper prepared for the European Centre for Development Policy Management (CDPM), Maastricht, The Netherlands, July 1992.
 15. *Gene Banking in Kenya: Technological Capabilities and Institutional Development*. Policy Outlook paper for the African Centre for Technology Studies, August 1993.
 16. *Sustainable Agriculture and Wildlife Management in Kenya: Support Systems for Policy Innovations*. With Norman, Clark and Guy Engelen, August 1993.
 17. *Biotechnology and Human health in Africa: Challenges and Opportunities*. Article prepared for the Biotechnology and Development Monitor of the Department of International Relations of the University of Amsterdam, August 1993.
 18. *Technology and Biodiversity in Kenya: Institutional Change and Technological Capabilities*. Paper prepared for the Global Forum on Biodiversity, October 6–9, 1993, Geneva, Switzerland.

19. *Technology and Biodiversity Management: On National Systems of Conservation*. Concept paper prepared for ACTS, December 1993.
20. *Technology and Conservation in Kenya: An Overview of Policy and Institutional Regimes*. Background paper for the Biodiversity Management Project of ACTS, March 1994.
21. *Wildlife Management in Kenya: Institutional Change and Continuity*. Paper presented at a Public Seminar Organized by Moi University's School of Environmental Studies, Eldoret, Kenya.
22. *Biodiversity Prospecting in Africa: Institutional Change and Capacity Building*. Paper Prepared for the International Council of Scientific Unions, Paris, September 1994.
23. *Institutional Support for the East African Biodiversity*. Report prepared for the UN Food and Agriculture Organization, Rome, June 1994.
24. *Technology Development and the Convention on Biological Diversity: Emerging International Policy Issues*. Paper prepared (with C. Juma) for the G77 Developing Countries and China, November 1994.
25. *Biotechnology in Africa: Options for Capability Building*. Paper prepared for the United Nations Food and Agriculture Organization (FAO) Ceres Journal, March 1995.
26. *Biotechnology in Developing Countries: Issues of Technological Capability Building*. (with Rohini Acharya) Prepared for the Biopolicy International Series, March 1995.
27. *Managing Global Forests: Capacity Building in Developing Countries*. Paper prepared for the United Nations Development Programme (UNDP), New York: April 1995.
28. *Managing Biological Diversity: Institutional and Policy Options for Capacity Building in Developing Countries*. Paper prepared for the Scientific and Technical Advisory Panel (STAP), June 1995.
29. *The Greening of Technical Change: Options for Capacity Building in Africa*. ACTS Research Memorandum, June 1995.
30. *Regulating Access to Genetic Resources: National Policy, Legal and Administrative Regimes*. Background Paper for the Secretariat on the Convention on Biological Diversity, Geneva Switzerland: July 1995.
31. *Implementing the Convention on Biological Diversity: Opportunities and Challenges for Africa*. Paper presented at Regional Workshop on Biodiversity Management, September 28-29, Nairobi, Kenya.
32. *Technology and Sustainable Development in Africa: Creating Capacities for Technology Needs Assessment*. Paper Prepared for the United Nations Division for Policy Coordination and Sustainable Development, New York.
33. *Technology Transfer and the Convention on Biological Diversity: Emerging International Policy Issues* (with Norman Clark), 1996, ACTS Press, Nairobi.
34. *Incentives for Biodiversity Management in Kenya. The Case of Community Conservation Programme*. Paper Prepared for the World Wide Fund for Nature, (WWF), Gland, Switzerland, April 1996.
35. *Capacity-Building in Biosafety: Policy and Institutional Consideration in Africa*. Paper

Prepared for the Workshop on Biosafety Capacity-Building Evaluation Criteria, Organized by the Stockholm Environment Institute: Stockholm, Sweden, May, 1995.

36. *Environmental Adjustment in Kenya: Opportunities and Challenges*. Paper Prepared for the Worldwide Fund For Nature—International, Washington DC, January 1997.
37. *Plant Genetic Resources Conservation in Africa: A Profile of Policy and Institutional Issues*. Background Document Prepared for the International Plant Genetic Resources Institute (IPGRI), January 1998.
37. *Environmental Content of Kenya-Finland Development Co-operation*. Report Prepared for the Finnish Environment Institute, June 1998.
38. *Genetic Resources Policy-Making in Kenya: National Policy and International Positions*. Background Paper Prepared for the World Bank, 1998.
39. *Intellectual Property Protection and Traditional Knowledge: An Exploration in International Policy Discourse*. Paper Prepared for the World Intellectual Property Organization (WIPO), Geneva, 1998.
40. *Biotechnology in Africa: Emerging Policy and Institutional Issues*. Paper prepared for the United Nations Environment Programme (UNEP), 1998.
41. 'Environmental Governance: Conceptual and Emerging Policy Issues' in Okoth-Ogendo, H. and Tumushabe, G. eds., 1999 *Governing the Environment* ACTS Press, Nairobi.
42. *Plant Genetic Resources and Food Security in Sub-Saharan Africa: Towards Long-Term Policies and Institutions*. Background Paper Prepared for the International Plant Genetic Resources Institute (Nairobi and Rome, 1999)
43. *Ecological Sources of Political Conflicts in Eastern and Central Africa* (with Godber Tumushabe, 1999). Paper for the Earth Council and Nautilus Institute
44. *The Political Economy of Environmental Policy Reform in Kenya* (with Frances Seymour, 2000) to be published by the World Resources Institute, Washington DC.
45. *Securing Africa's Future: A Regional Programme of Action*. Background Paper Prepared for the African Ministerial Conference on Environment (AMCEN) and the United Nations Environment Programme (UNEP), Nairobi, February 2000.
46. *Biotechnology in Developing Countries and Economies in Transition: A Long-term Capacity Building Agenda*. Paper Prepared for the United Nations Conference on Trade and Development (UNCTAD), Geneva, Switzerland, February 2000.
47. *Biotechnology in Sub-Saharan Africa: A Long-term Policy Research Agenda*. Report Prepared for the International Development Research Centre (IDRC), Ottawa, Canada, August 2000.
48. *Africa's Capacity Needs to Address Global Environmental Problems: An Indicative Assessment*. Report Prepared for the United Nations Development Programme (UNDP), New York, August 2000.
49. *Scientific and Technical Capacity Needs for Global Environmental Management*. Report Prepared for the United Nations Development Programme (UNDP), New York, October 2000.

50. *Intellectual Property Protection, Traditional Knowledge and Genetic Resources*. Background Paper Prepared for the African Delegates to the World Intellectual Property Organization (WIPO), April 2001.
51. *Mainstreaming the Environment into Kenya's Poverty Reduction Strategy Paper: An Overview of Issues and Process*. Paper Prepared for the Department for International Development (DFID) of the United Kingdom, June 2001.
52. *International Trends in Modern Biotechnology: Entry By and Implications for Developing Countries*. Paper Prepared for the World Resources Institute (WRI), Washington DC, August 2001.
53. *Closing the Genomic and Digital Divides: Harnessing Science and Technology for Africa's Development*. ACTS Working Paper, 2001.
54. *From Cartagena to Nairobi: Towards an African Agenda on the Biosafety Protocol*. ACTS Working Paper, 2000.
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57. *Environmental Action Plan of the New Partnership for Africa's Development (NEPAD)*. Prepared for the United Nations Environment Programme (UNEP) and the African Ministerial Conference on the Environment (AMCEN), June 2002.
58. *Keeping Hunger at Bay: Genetic Engineering and Food Security in Sub-Saharan Africa*. Prepared for the African Technology Policy Studies Network (ATPS), Nairobi, October 2002.
59. *Agricultural Biotechnology and Food Security in Sub-Saharan Africa*. Paper Prepared for the United Nations University Institute for Natural Resources in Africa, October 2002.
60. *Centres of Excellence in Science and Technology for Africa's Sustainable Development*. Paper Prepared for the 1st Meeting of the African Ministerial Conference on Science and Technology, November 2003, Johannesburg, South Africa. www.nepadst.org/doclibrary/pdfs/doc08_112003a
61. *International Cooperation in Science and Technology: An Overview of African Protocols and Approaches*. Paper Prepared for the 1st Meeting of the African Ministerial Conference on Science and Technology, November 2003, Johannesburg, South Africa. www.nepadst.org/doclibrary/pdfs/icst_oct2003
62. *Biotechnology and Sustainable Development in Africa: Towards Regional Consensus and Common Strategy*. Paper Prepared for the 1st Meeting of the African Ministerial Conference on Science and Technology, November 2003, Johannesburg, South Africa. www.nepadst.org/doclibrary/pdfs/doc08_112003b
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64. 'Health Innovation Systems in Developing Countries: Strategies for Building Scientific and Technological Capacities' Background Study Prepared for the World Health Organization (WHO) Commission on Intellectual Property Protection, Innovation and Health, Geneva, 2005.
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66. 'A Review of Ghana's Science, Technology and Innovation System'. Study Prepared for the United Nations Conference on Trade and Development (UNCTAD), Geneva, Switzerland, July 2008.
67. Knowledge and Innovation for Africa's Development: Priorities, Policies and Programmes. Study Prepared for the World Bank Institute, March 2009.
68. Science, Technology and Innovation Policy-Making in Africa: A Capacity Needs Assessment. A Study Prepared for the World Bank Institute, August 2009.
69. The United Nations Development Assistance Framework (UNDAF) 2007-2010 for South Africa: A Mid-Term Review Conducted for the United Nations Population Fund (UNFPA) and the United Nations Development Programme (UNDP), Pretoria August 2009.

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1. 'Biotechnology in Developing Countries: Critical Issues of Technological Capability Building' published in *Biotechnology Annual Review* Volume 2, 1996 Elsevier Science B.V.
2. 'Technology Transfer and the Convention on Biological Diversity' published in *Science and Technology Policy Issues*, Volume 7, 1996.
3. 'Grain of truth in fears of biotechnology' *Nature* 399, 319 (27 May 1999) doi:10.1038/20587
4. 'Guarding the Future: Africa in the Biotechnology Revolution'. *Electronic Journal on Technology and Development*, Vol. 3, May 2001.
5. 'Biotechnology and development: Threats and promises for the 21st Century', *Futures*, Volume 34 (December 2002). Authored with Norman Clark and Kathy Stokes.
6. Clark, N.G. and Mugabe, J. (2004), 'Initiatives for strengthening science and technology policy in the field of environment and development: the case of the African Centre for Technology Studies Capacity Development Programme', *International Journal of Technology Management and Sustainable Development* 3:2, p. 75-89, doi: 10.1386/ijtm.3.2.75/0
7. 'Moving African science forward', January 2006 *The Scientist* Vol. 20, Issue 6, pg. 49