

Middlesex University Research Repository

An open access repository of

Middlesex University research

<http://eprints.mdx.ac.uk>

Muchie, Mammo and Baskaran, Angathevar, eds. (2013) Innovation for sustainability: African and European perspectives. Africa Institute of South Africa (AISA), TUT and Aalborg University, Pretoria, South Africa. ISBN 9780798303460

This version is available at: <http://eprints.mdx.ac.uk/10852/>

Copyright:

Middlesex University Research Repository makes the University's research available electronically.

Copyright and moral rights to this work are retained by the author and/or other copyright owners unless otherwise stated. The work is supplied on the understanding that any use for commercial gain is strictly forbidden. A copy may be downloaded for personal, non-commercial, research or study without prior permission and without charge.

Works, including theses and research projects, may not be reproduced in any format or medium, or extensive quotations taken from them, or their content changed in any way, without first obtaining permission in writing from the copyright holder(s). They may not be sold or exploited commercially in any format or medium without the prior written permission of the copyright holder(s).

Full bibliographic details must be given when referring to, or quoting from full items including the author's name, the title of the work, publication details where relevant (place, publisher, date), pagination, and for theses or dissertations the awarding institution, the degree type awarded, and the date of the award.

If you believe that any material held in the repository infringes copyright law, please contact the Repository Team at Middlesex University via the following email address:

eprints@mdx.ac.uk

The item will be removed from the repository while any claim is being investigated.

See also repository copyright: re-use policy: <http://eprints.mdx.ac.uk/policies.html#copy>

1 Embassy House
Cnr Bailey and Edmond Street
Arcadia, Pretoria

PO Box 630, Pretoria
0001 South Africa

Tel: +27 12 304 9700 (Switchboard)
Fax: +27 12 323 8153



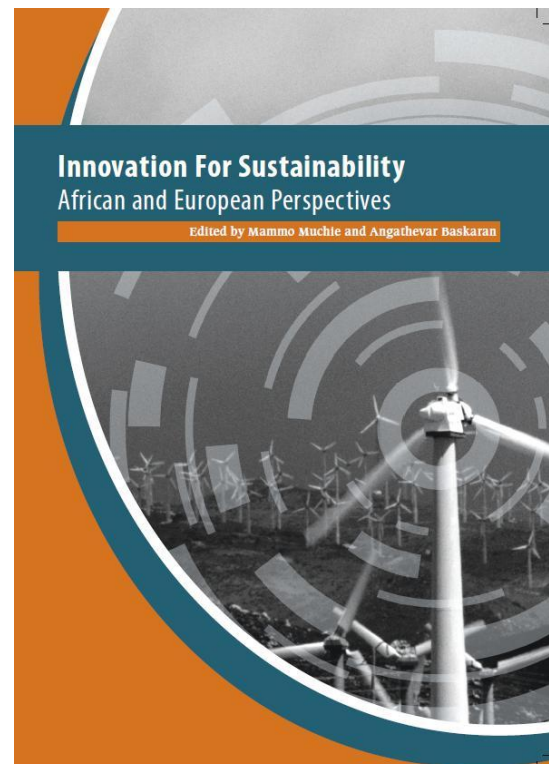
**Africa Institute
of South Africa**
Development Through Knowledge

New Book Notification

INNOVATION FOR SUSTAINABILITY African and European Perspectives

Editors: Mammo Muchie and Angathevar Baskaran
ISBN: 978-0-7983-0346-0
Size: 245 x 170mm
Extent: 198 Pages
Price: R150.00
Availability: January 2013
Co-Published by AISA, TUT and AALBORG UNIVERSITY

The innovation system theory has to deal with climate change as it generates the intellectual tools to promote development. A unified innovation system theory that integrates the eradication of threats to nature with the promotion of development is critically important to advance an original pedigree and trajectory of epistemology. Africa must learn and appreciate the costs to itself from the way Europe industrialised. It can neither follow nor imitate the European pattern of industrialisation. It has to include in its own development agenda both the meeting of social needs and choosing a path of development that would not bring ecological harm in the process. The African innovation system has to evolve in a nature protecting – rather than hurting – system; in addition, social needs must be met rather than exacerbating the social inequalities path of development.



Council

Dr. B. Hlatshwayo (**Chairperson**), Prof. N. B. Biekpe, Dr. J. Daniel, Dr. K. S. Kongwa, Dr. T. Sidzumo-Mazibuko, Prof. Y. Sadie, Prof. N. Bohler-Muller
Mrs. S. Padayachy, Dr. N. Ramdhani, Mr. M. Nkoli, Dr. T. Auf der Heyde, Dr. M. P. Matlou (**Ex-officio**)

www.ai.org.za

Contents

Preface

Contributing authors

Introduction

Chapter 1

The Uptake of Environmentally Sensitive Innovation to Transform Production Systems in Sub-Saharan Africa

Mammo Muchie

Introduction

Case study of cleaner production examples from Tanzania

Example of cleaner production assessments in Zimbabwe

The significance of cleaner production from the few cases in Zimbabwe

Problems of cleaner technology transfer into Africa

Conclusion: the uptake of ests in firms and industrial policy

Notes and references

Chapter 2

Climate Debt Owed to Africa: What to Demand and How to Collect?

Patrick Bond

Introduction

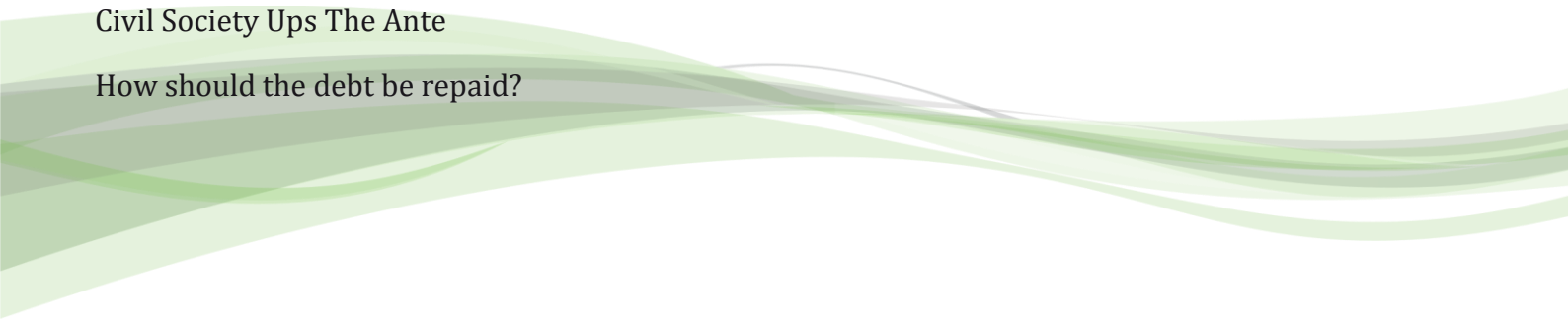
The choice of carbon trading versus climate debt

Demanding ecological and climate debt repayment

Africa united then divided on climate debt

Civil Society Ups The Ante

How should the debt be repaid?



Conclusion

Notes and References

Chapter 3

Education, Convergence and Carbon Dioxide Growth per Capita

Kinda Somlanare Romuald

Introduction

Literature review

Empirical analysis

Results

Robustness checks

Conclusion

Notes and references

Chapter 4

Green Markets of the Future: An Economic Opportunity also for Newly Industrializing Countries and South Africa?

Rainer Walz

Introduction

Conceptual issues

Technological capability of NICS in green technologies – publications

Disaggregated analysis for South Africa

Conclusion

References



Chapter 5

Science for the Future: Challenges and Methods for Transdisciplinary Sustainability Research

Martina Schäfer, Dörte Ohlhorst, Susanne Schön and Sylvia Kruse

Introduction

Characteristics of sustainability research and methodological challenges

Constellation analysis: a bridging concept for inter- and transdisciplinary research

Conclusions

Notes and references

Chapter 6

Conceptualizing Sustainable Development as a Global Problem: The Role of Strategic Knowledge

Britta Rennkamp

Introduction

Governance of knowledge

Knowledge for global problem solving

Multilateral and bilateral cooperation in science and technology for sustainable development

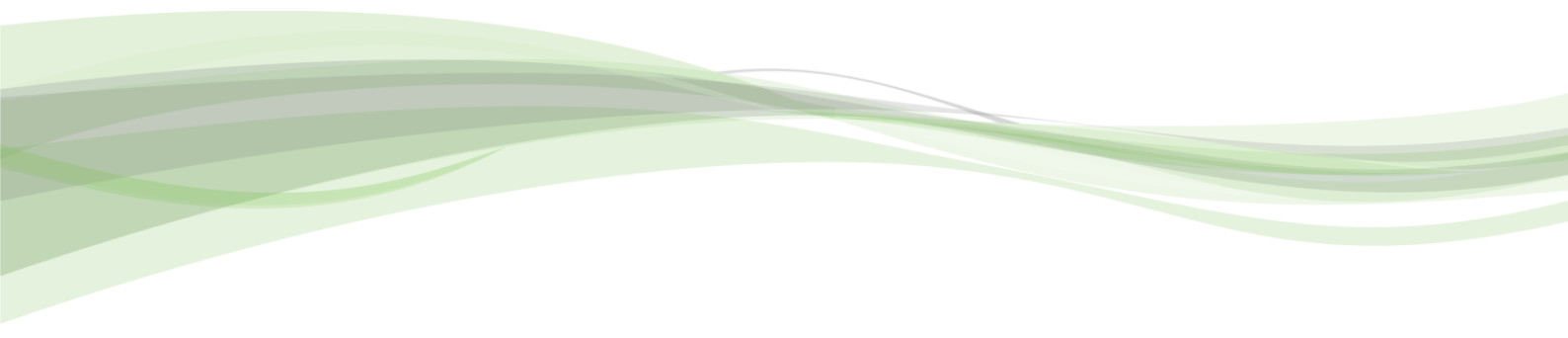
Linking bilateral scientific and technological cooperation to development

Strengthening sustainability oriented innovation systems

Linking cooperation lines: the German-South African dialogue for sustainability science

Concluding remarks

References



Chapter 7

Why Radical Innovations Fail: The Case of Technological Change in German Coal-fired Power Plants

Klaus Rennings, Peter Markewitz and Stefan Vögele

Introduction

Incremental and radical innovations from the perspective of evolutionary economics

Incremental and radical innovations in power plant technology in Germany

Supercritical coal-fired power plants as an incremental innovation

Carbon dioxide capture in power plants: radical or incremental?

Conclusions

References

Chapter 8

In Search of Green Knowledge: A Cognitive Approach to Sustainable Development

Andrew Jamison

It all started with steam cars

Change-oriented research

The cognitive approach

The hybrid imagination

References

Chapter 9

Innovation for Sustainability in a Changing World: The South African-German Dialogue on Science for Sustainability

Lothar Mennicken, Wolf Junker, Imraan Patel and Oksana Buranbaeva

South Africa and Germany in dialogue



Background: the role of the science policy dialogue
Linking sustainable development and innovation policy
The state of the South African–German bilateral cooperation in science for sustainability
The way forward

Chapter 10

The Ecological Economics Synthesis for Sustainability: Post Scriptum Conclusion

Mammo Muchie and Agathevar Baskaran

To Order Contact
Africa Institute of South Africa
P.O. Box 630
Pretoria
0001
Tel: +12 304 9700
Fax: +12 323 8153
Email: publish@ai.org.za

Orders Worldwide excluding N. America
African Book Collective Ltd
P.O. Box 721
Oxford OX1 9EN
UK
Tel/Fax: +44 (0) 1869 349110
Email: orders@africanbookscollective.com

Orders from within N. American (US and Canada)
Michigan State University Press
1405 South Harrison Road
25 Manly Miles Building
East Lansing
MI 48823-5202
USA
Tel: +1 517 335 9543
Fax: +1 517 432 2611
Email: msupress@msu.edu

