

Inequality and Climate Change

Inégalité et changement climatique

This book is a product of the South-South Tricontinental Collaborative Programme of CLASCO, CODESRIA and IDEAs.

Ce livre est une compilation d'articles issus du programme tricontinental Sud-Sud entre Clasco, CODESRIA et IDEAs.

Inequality and Climate Change

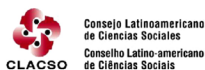
Perspectives from the South

Inégalité et changement climatique

Perspectives du Sud

Edited by / Sous la direction de

Gian Carlo Delgado Ramos



© CODESRIA 2015

Council for the Development of Social Science Research in Africa

Avenue Cheikh Anta Diop, Angle Canal IV

BP 3304 Dakar, 18524, Senegal

Website : www.codesria.org

ISBN : 978-2-86978-645-5

All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording or any information storage or retrieval system without prior permission from CODESRIA.

Typesetting: Alpha Ousmane Dia

Cover Design: Ibrahima Fofana

Distributed in Africa by CODESRIA

Distributed elsewhere by African Books Collective, Oxford, UK

Website: www.africanbookscollective.com

The Council for the Development of Social Science Research in Africa (CODESRIA) is an independent organisation whose principal objectives are to facilitate research, promote research-based publishing and create multiple forums geared towards the exchange of views and information among African researchers. All these are aimed at reducing the fragmentation of research in the continent through the creation of thematic research networks that cut across linguistic and regional boundaries.

CODESRIA publishes *Africa Development*, the longest standing Africa based social science journal; *Afrika Zamani*, a journal of history; the *African Sociological Review*; the *African Journal of International Affairs*; *Africa Review of Books* and the *Journal of Higher Education in Africa*. The Council also co-publishes the *Africa Media Review*; *Identity, Culture and Politics: An Afro-Asian Dialogue*; *The African Anthropologist*, *Journal of African Transformation*, *Method(e)s: African Review of Social Sciences Methodology*, and the *Afro-Arab Selections for Social Sciences*. The results of its research and other activities are also disseminated through its Working Paper Series, Green Book Series, Monograph Series, Book Series, Policy Briefs and the CODESRIA Bulletin. Select CODESRIA publications are also accessible online at www.codesria.org.

CODESRIA would like to express its gratitude to the Swedish International Development Cooperation Agency (SIDA), the International Development Research Centre (IDRC), the Ford Foundation, the Carnegie Corporation of New York (CCNY), the Norwegian Agency for Development Cooperation (NORAD), the Danish Agency for International Development (DANIDA), the Netherlands Ministry of Foreign Affairs, the Rockefeller Foundation, the Open Society Foundations (OSFs), TrustAfrica, UNESCO, UN Women, the African Capacity Building Foundation (ACBF) and the Government of Senegal for supporting its research, training and publication programmes.

Contents /Sommaire

List of Tables, Figures and Maps..... vii

Contributors / Les auteurs..... ix

Introduction

Gian Carlo Delgado Ramos..... 1

1. The Socioeconomic Implications of Renewable Energy and Low Carbon Trajectories in South Africa

Tara Caetano & James Thurlow..... 9

2. Les migrants climatiques en Quête d’adaptation : les éleveurs Mbororo immigrerent en Rd Congo

Félicien Kabamba Mbambu..... 31

3. Changements climatiques, genre, et inégalités sociales : les praticiennes de la médecine et de la pharmacopée traditionnelle en milieu urbain au Burkina Faso

Claudine V. Rouamba Ouédraogo & Natéwindé Sawadogo..... 47

4. Saint-Louis du Sénégal, les « aventuriers » de la terre

Adrien Coly & Fatimatou Sall..... 69

5. A New Cartography of International Cooperation: Emerging Powers in Sub-Saharan Africa – The Case of Biofuels Promotion by Brazil in Senegal

M.A. Gaston Fulquet 83

6. Climate Change and the Urban Political Ecology of Water

Gian Carlo Delgado Ramos..... 103

7. Indigenous People and Climate Change: Causes of Flooding in the Bolivian Amazon and Consequences for the Indigenous Population

Gabriela Canedo Vásquez..... 121

8. Gender-wise Rural-to-Urban Migration in Orissa, India: An Adaptation Strategy to Climate Change <i>Nirmala Velan & Ranjan Kumar Mohanty</i>	137
9. Effects of Climate Change and Heat Waves on Low Income Urban Workers: Evidence from India <i>Saudamini Das</i>	171

List of Figures, Tables and Map

Figures

Figure 0.1: GHG emissions by Economic Sectors.....	1
Figure 1.1: The planned capacity builds for all three scenarios (GW).....	12
Figure 1.2: Emissions Pathways for the Base Case, Policy-Adjusted and Emissions 3 Scenarios.....	13
Figure 3.1: Répartition des religions en fonction des groupes ethniques à Ouagadougou 1909.....	52
Figure 4.1 : Saint-Louis du Sénégal (Cluva, 2014).....	70
Figure 4.2 : Évolution de la pluviométrie à Saint-Louis par rapport aux moyennes sèche et humide et à la normale.....	71
Figure 4.3 : Analyse des années sèches et humides de 1954 à 2012.....	71
Figure 4.4 : Évolution de la population et événements majeurs.....	72
Figure 4.5 : L'évolution du bâti à Saint-Louis entre 1973 et 2009.....	73
Figure 4.6 : Schémas de conquête de l'espace.....	75
Figure 4.7 : Méthodes de conquête des bas-fonds.....	76
Figure 4.8 : Évolution de l'occupation du sol entre 2003 et 2011 en ha.....	79
Figure 4.9 : Urbanisation et vulnérabilité à Saint-Louis.....	80
Figure 6.1: Per capita GHG Emissions versus Population Density for Selected	104
Figure 6.2: Urban Metabolism Framework – urban Biophysical Flows –.....	104
Figure 6.3: Urban Water Metabolism of Mexico City Metropolitan Area	108
Figure 8.1: Male Migrants and Non-migrants.....	162
Figure 8.2: Female Migrants and Non-migrants.....	163
Figure 9.1: Annual Counts of Heat Wave Days in Bhubaneswar and Sambalpur, Odisha.....	173

Tables

Table 0.1: Planetary Boundaries.....	3
Table 1.1: Intermediate and Factor Estimates for Electricity Generation Technologies.....	14
Table 1.2: Structure of South Africa's economy and Labour Market (in percentage).....	15

Table 1.3:	Simulation Results without a Carbon Tax (in percentage).....	23
Table 1.4:	Simulation Results with a Carbon Tax (in percentage).....	24
Tableau 2.1 :	Démographie dans les territoires des Bas-Uélé et Haut-Uélé.....	40
Tableau 2.2 :	Effectifs des Mbororo en 2007.....	41
Tableau 3.1 :	Répartition des tradipraticiens selon les techniques de soins déclarées.....	61
Tableau 4.1 :	Actions mises en œuvre par les aventuriers de la terre.....	74
Table 8.1:	Descriptive Statistics.....	149
Table 8.2:	Gender-Wise Occupational Structure by Migrant Status.....	151
Table 8.3:	Perceived Degree of Climatic Change Effects.....	153
Table 8.4:	Gender-Wise Details of Migration	154
Table 8.5:	Logit Regression Results: Migration Decision Function.....	155
Table 8.6:	Gender-Wise Push/Pull Factors of Migration	157
Table 8.7:	Gender-wise Reason for Non-Migration	158
Table 8.8:	Comparative Pre and Post-Migration Work and Living Conditions.....	160
Table 8.9:	Problems of Having Migrated by Gender.....	161
Table 8.10:	Gini Coefficient.....	165
Table 9.1:	Distribution (per cent) of the Sample According to Occupation and Income Class.....	178
Table 9.2:	Change in time allocation and work time loss on low-income category working class because of heat waves.....	179
Table 9.3:	Economic Burden in Terms of Extra Monthly Expenditure on Food and other Routine Items by Low-income Working Class Because of Heat Waves.....	181
Table 9.4:	Annualised Averted Expenditures on Consumer Durable Goods Due to Heat Waves.....	183

Map

Map 7.1:	Hot Spots.....	130
----------	----------------	-----

Contributors / Les auteurs

Tara Caetano completed her master's degree in energy studies in 2011, with a thesis on the socioeconomic impacts of South Africa's electricity development plan (Integrated Resource Plan 2010). At the time of writing, she was based at University of Cape Town's Energy Research Centre. Prior to this, she was at the German Institute of Global and Area Studies in Hamburg, where her work focused on researching win-win situations for emissions reduction and development in the South African context. She also spent a couple of months at United Nations University World Institute for Development Economics Research (UNU-WIDER) in Helsinki on a research stay working with James Thurlow, developing a Computable General Equilibrium model for South Africa. Tara's research interests are primarily on pursuing a development-first approach to climate change. She is particularly interested in finding synergies between mitigation, employment creation and poverty alleviation.

Adrien Coly est enseignant chercheur à l'Université Gaston Berger de Saint Louis. Docteur en géographie de l'Université Cheikh Anta Diop de Dakar, il est certifié en gestion intégrée des ressources hydriques pour les pays en voie de développement de la Fondation Universitaire Luxembourgeoise en Belgique. Il est membre du conseil de Laboratoire « *Leidi* » – *dynamique des milieux et développement* – et dirige le « pole eau » dénommé « Gouvernance des territoires de l'eau » dont les travaux de recherche s'intéressent au rapport de l'eau au territoire suivant une approche « syndrome ». Dans le domaine des risques naturels et vulnérabilités (risques urbains, sécurité en eau, pollution des milieux), Dr Coly coordonne différents programmes de recherche à l'Université Gaston Berger et il est l'auteur de plusieurs articles et publications scientifiques.

Saudamini Das is an associate professor in Environment and Development issues at the Institute of Economic Growth, Delhi (on lien from Swami Shradhanand College of University of Delhi). Saudamini is a Fellow of South Asian Network for Development and Environmental Economics (SANDEE) and has also worked as Mälär scholar at the Beijer Institute of Ecological Economics,

Royal Swedish Academy of Sciences, Stockholm. Her research areas are natural disaster analysis, valuation of ecosystem services, coastal vulnerability, adaptation to climatic extreme events (storms and heat waves), and evaluation of public policy among others. Saudamini has publications in reputed journals such as *Proceedings of National Academy of Sciences, USA; Climate Change Economics; and Natural Hazard; Estuarine, Coastal and Shelf Sciences; Economic and Political Weekly*. Her significant research on storm protection services of mangroves during the October 1999 super cyclone in India has been turned into as a short movie by the American Museum of Natural History and has also been published as a special article; “The Mystery of Mangroves” by *Nature Conservancy* magazine in its ‘Summer 2010’ issue.

Gaston Fulquet is a PhD candidate in the Social Sciences Doctoral Programme of *Facultad Latinoamericana de Ciencias Sociales* (FLACSO Argentina), assistant lecturer and coordinator for the Global Studies Programme at the same institution. In addition he works as consultant with the National Environmental Secretariat of Argentina. His areas of interest include global governance, regional and interregional cooperation, international political economy, emerging powers and environmental politics.

Félicien Kabamba Mbambu, est de la République démocratique du Congo, il est titulaire d’un doctorat en Sciences Politiques et Administratives de l’Université de Kinshasa où il est professeur de Sciences Politiques au Département des Sciences Politiques et chercheur au Centre d’Etudes Politiques. Auteur de nombreuses publications, ses recherches sont orientées vers les questions des ressources naturelles (Forêts, mines, agriculture) en Afrique centrale avec un accent sur les thématiques de REDD+ et de climat.

Ranjan Kumar Mohanty is a PhD Candidate, Centre for Economic Studies & Planning, School of Social Sciences, Jawaharlal Nehru University, New Delhi, India.

Claudine Valérie Ouédraogo épouse Rouamba est Maître assistante au département de Sociologie à l’Université de Ouagadougou. Elle possède un doctorat en Sciences de l’éducation obtenu à l’Université Paris 8 Vincennes-St Denis et un DESS en Sociologie du développement de l’Institut d’Etudes du Développement Economique et Social IEDES-Paris 1 Panthéon Sorbonne. Actuellement chargée de cours à l’Université de Ouagadougou, de Koudougou et catholique St Thomas D’Aquin, elle est membre du laboratoire Genre et

Développement et du Groupe de recherche sur les initiatives locales (GRIL). Dr Ouédraogo est également membre de la Chaire « Femmes, Sciences, Sociétés et Développement Durable » de l'Université de Ouagadougou et Vice présidente de la Commission Nationale des Droits Humains du Burkina Faso. Elle effectue des recherches sur les politiques éducatives (innovations pédagogiques et reformes) et sur la problématique de l'inégalité de genre.

Gian Carlo Delgado Ramos graduated with a degree in economics from the National Autonomous University of Mexico (UNAM), before proceeding to the Autonomous University of Barcelona, Spain, for his master's and doctoral studies in Ecological Economics, Environmental Management, and Environmental Sciences, . He is a full time researcher on “City, Management, Land and Environment” program of the Interdisciplinary Research Centre on Sciences and Humanities at UNAM. He is also member of the National Research System of the National Science and Technology Council (CONACYT), Mexico. He is the recipient of the Mexican Academy of Sciences Research Prize on Social Sciences – 2014 and the National University Prize for Young Researchers – 2011. He is the lead-author of Chapter 12, Group III, of the 5th Assessment Report of the Intergovernmental Panel on Climate Change (IPCC).

Fatimatou Sall est assistante scientifique et pédagogique à l'Institut Africain de Gestion Urbaine dans le cadre d'un master en « aménagement urbain et environnement » et doctorante au Laboratoire LEIDI/Pôle Gouvernance des Territoires de l'Eau de l'université Gaston Berger de Saint-Louis (Sénégal). Elle fait une thèse unique sur « La résilience au prisme de la ville et des écosystèmes : analyse de la dynamique des zones humides et ses impacts sur les services écosystémiques dans la ville de Saint-Louis. Géographe environnementaliste, Fatimatou est également titulaire d'un master professionnel en *Développement spécialité Gestion des Aires Protégées* de l'université Senghor d'Alexandrie (Egypte). Elle a participé au programme de recherche dénommé CLUVA (Climate change and Urban Vulnerability in Africa) en tant que chercheur junior de Mars 2011 à Décembre 2013.

Natéwindé Sawadogo is a sociologist with a PhD on Science, Technology and Society, University of Nottingham. He is member of Laboratoire de Recherche Interdisciplinaire en Sciences Sociales et Santé, Department of Sociology, University of Ouagadougou, Burkina Faso. His area of interest include Medical sociology, Science and Technology Studies and Social theory.

James Thurlow is an applied economics scholar, whose research focuses on the interactions between policies, economic growth and poverty in low-income countries. Before joining the United Nations University World Institute for Development Economics Research (UNU-WIDER), he was a Research Fellow at the International Food Policy Research Institute, where he researched into rural and regional development strategies, agricultural investments, and weather risk and climate change. He holds a PhD in economics from the University of Natal (South Africa), and has worked throughout eastern and southern Africa, and in Bangladesh, Ghana, Peru and Vietnam. His research interests include agriculture and rural development, climate change adaptation and mitigation, economic growth and poverty, and economic modeling techniques.

Gabriela Canedo Vásquez is a sociologist. She graduated from Universidad Mayor de San Simón (UMSS), Bolivia and later obtained her master's and PhD degrees on Social Anthropology from the Center for Research and Advanced Studies in Social Anthropology, Mexico. She currently teaches at the UMSS. From the year 2011 to 2015, she was a UNDP consultant, and served as vice-president of the Bolivian Studies Association from 2013 to 2015. Her research work and publications focus on territorial disputes, indigenous people, gender, democracy and multiculturalism. Some recent publications are: "La Loma Santa una utopía cercada. Estado, territorio y cultura en la Amazonia boliviana" (2011); and "Diez años SAN-TCO. La lucha por los derechos territoriales indígenas de Tierras Bajas de Bolivia" (2008).

Nirmala Velan is faculty member and Chair of the Department of Economics, Pondicherry University, India. She specializes in gender studies, labor markets, and development economics. She has published papers in refereed national/international journals and she is author of several books. She is a member of various academic committees and examination boards.