

Environmental Security in Mindanao: A Case for Comprehensive Methods

J. Jackson Ewing

Submitted 12 October, 2010

Bond University

Contents

<i>Acknowledgements</i>	3
<i>List of Figures, Maps, and Tables</i>	4
<i>List of Abbreviations</i>	5
1. Humanity and the Environment: Timeless Relationships, Changing Stakes	7
2. Muddy Waters: Navigating Environmental Security’s Theoretical Terrain	41
3. Critical Realism and Environmental Security Methods	79
4. Contemporary Security Threats Emanating from the Southern Philippines	137
5. Deep Roots: The Historical Underpinnings of Insecurity in Mindanao	214
6. Lessons from Mindanao and Ways Forward for Environmental Security	300
Appendixes	324
References	346

Acknowledgments

People and institutions too numerous to name assisted me over the course my doctoral research. First and foremost I would like to thank Professor Anne Cullen, my primary supervisor at Bond University. Professor Cullen's insightful comments and unwavering encouragement have been a constant well of support for me during this process, and what structural coherence that might exist in this thesis is due in large part to her guidance. I would also like to thank my students at Bond for their consistently challenging insights, and the University itself for supplying much of the funding and institutional assistance that has made this thesis possible.

I also owe a debt of gratitude to those who assisted my research in the Philippines. Namely, I wish to thank the Manila Observatory, Ateneo de Manila University's Center for Asian Studies, the Philippine Council for Islam and Democracy, International Alert, SustainUS, the Centre for Non-Traditional Security Studies at the S. Rajaratnam School of International Studies, the Australian Centre for Ocean Resources and Security, and finally the Institute for Strategic and Development Studies where I spent three months as a Visiting Fellow. I would also like to especially thank those individuals who provided me with invaluable help in understanding the complex environmental security challenges facing the Philippines. Specifically, I wish to acknowledge the assistance of Neric Acosta, Rommel Banlaoi, Mely Cabellero-Anthony, Emmi Capilli, Father Archie Casey, Rodel Cruz, Albert Ferro, Ed Garcia, John Harrison, Carolina Hernandez, Cora Laureano, Ron May, Father Elise "Jun" Mercado, Herman Kraft, Joyce Palocol, Mary-Ann Palma, and Amina Rasul.

Last but not least, I wish to thank Jack and Joanne Ewing and Aimee Cornell for their love and support throughout this process. I owe you each a level of gratitude that is beyond description.

Figures, Maps, and Tables

List of Figures

Figure 3.1: The Resource Pie Analogy	85
Figure 3.2: CI Systems Diagram: Core Model on Scarcity and Violence	87
Figure 3.3: Hauge and Ellingsen's Logit Estimates for Indicators of Domestic Conflict	91
Figure 5.1: Upland Population Growth, 1950-1985	256
Figure 5.2: Resource Exploitation and Environmental Change	263
Figure 6.1: Societal Divisions, Resources, and Conflict in Mindanao	304
Figure 6.2: The Environment and Economic Insecurity in Mindanao	308

List of Maps

Map 4.1: Provinces of the Philippines	143
Map 4.2: Regional Map of Mindanao	144
Map 4.3: Forest Cover Losses during the 20th Century	195
Map 4.4: Areas of vulnerability to sea-level rise in the Philippines	204
Map 4.5: Sulu's vulnerability to sea-level rise	205

List of Tables

Table 4.1: Lowest real per capita income 2003 (1997 Pesos)	209
Table 4.2: Life expectancy in years, 2003	210
Table 4.3: Poverty Incidence by Percentage of Families in Mindanao	211
Table 5.1: Demographic Shifts in Mindanao during the US colonial administration	224
Table 5.2: Changes in the Philippine's Forest Cover from 1950-1987	249
Table 5.3: Philippine Deforestation Rates from 1950-1987	249
Table 5.4: Regional Philippine Deforestation Rates from 1950-1987	250
Table 5.5: Changes in Population Density and Arable Land from 1960 to 1990	255
Table 5.6: The Philippines' Annual Fish Catch and Fleet Effort from 1946 to 1984	260
Table 5.7: Philippine Trading Partners (1899-1925)	266
Table 5.8: Philippine Exports to the US (1906-1915)	267

Abbreviations

ADB	Asian Development Bank
AFP	Armed Forces of the Philippines
AHJAG	Ad Hoc Joint Action Group
AR4	4 th Assessment Report
ARMM	Autonomous Region of Muslim Mindanao
ASEAN	Association of Southeast Asian Nations
ASG	Abu Sayyaf Group
AYA	Agency for Youth Affairs
BDA	Bangsamoro Development Agency
BIAF	Bangsamoro Islamic Armed Forces
BJE	Bangsamoro Juridical Entity
CAFGU	Civilian Armed Force Geographical Unit
CNA	Center for Naval Analyses
CNAS	Center for New American Security
CI	Complex Inclusivism
CPP	Communist Party of the Philippines
CPUE	Catch Per Unit of Effort
CSIS	Center for Strategic and International Studies
CST	Comprehensive Security Theory
CVO	Civilian Volunteers Organisation
DES	Demographic and Environmental Stress
DND	Philippine Department of National Defence
DOE	Department of Energy
EI	Empirical Isolationism
ENCOP	Environment and Conflict Project
FAO	United Nations Food and Agricultural Organisation
FPA	Final Peace Agreement
GDP	Gross Domestic Product
GHG	Greenhouse Gases
GLASOD	Global Assessment of Soil Degradation
GRP	Government of the Republic of the Philippines
ICG	International Crisis Group
IISS	International Institute for Strategic Studies
IMF	International Monetary Fund
IMR	Infant Mortality Rate
IMT	International Monitoring Team
INP	Integrated National Police
IPCC	Intergovernmental Panel on Climate Change
ISRIC	International Soil Reference and Information Centre

JI	Jemaah Islamiyah
LDC	Least Developed Country
LRA	Land Registration Act
LSDF	Local Self-Defense Force
MDG	Millennium Development Goals
MER	Maximum Economic Rent
MILF	Moro Islamic Liberation Front
MNC	Multinational Corporation
MOA-AD	Memorandum of Agreement on Ancestral Domain
MSY	Maximum Sustained Yields
NATO	North Atlantic Treaty Organisation
NCR	National Capital Region
NDCC	National Disaster Coordinating Council
NEPC	National Environmental Protection Council
NGO	Non-Governmental Organisation
NPA	New People's Army
NSCB	National Statistical Coordination Board
OIC	Organisation of Islamic Conference
PA	Philippine Army
PC	Philippine Constabulary
PLA	Public Land Act
PNP	Philippine National Police
PPC/PHILPAK	Philippine Packing Company
PRIO	International Peace Research Institute
RP	Republic of the Philippines
TLA	Timber License Agreements
UNCED	United Nations Conference on Environment and Development
UNDESA	United Nations Department of Economic and Social Affairs
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNGA	United Nations General Assembly
UNHCR	United Nations High Commission on Refugees
UNHDR	United Nations Human Development Report
UNSC	United Nations Security Council
UNSG	United Nations Secretary-General
UP	University of the Philippines
US	United States
USD	United States Dollars
USAID	United States Agency for International Development
WHO	World Health Organisation
WRI	World Resource Institute
WWF	World Wildlife Fund