**DOCTORAL THESIS**

# Environmental Security in Mindanao: a Case for Comprehensive Methods

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# Environmental Security in Mindanao: A Case for Comprehensive Methods

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## Figures, Maps, and Tables

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## Abbreviations

| | |
|---|---|
| ADB | Asian Development Bank |
| AFP | Armed Forces of the Philippines |
| AHJAG | Ad Hoc Joint Action Group |
| AR4 | 4th 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 |

# Chapter One

***Humanity and the Environment: Timeless Relationships, Changing Stakes***

**Structure and Objectives**

Human history, while diffuse and differentiated, has been principally defined by relationships between social groups and the natural environment and humanity's unremitting search for security. The resources and environmental systems of the earth underwrite an exhaustive range of human activities, and the goal of attaining and preserving security drives a comparably extensive range of social actions. Given the foundational role of the environment and security in the human story, exploring the connections between the two sectors is valuable for understanding the conditions and acute challenges facing contemporary civilisations. Despite the relevance of the environment and security for human discourses, analysing the relationship between the two is inherently difficult. In the discipline of international relations specifically, such analyses are problematised by diverging views about the capacity of social actors to effectively manipulate the natural environment, competing notions of what is meant by 'security', dissimilar approaches to synthesising dynamics in environmental and security realms, and fundamental questions about the wisdom of pursuing such synthesis at all. These challenges are compounded by the reality that any analysis attempting to advance understandings of environment-security relationships must amalgamate the work of multiple disciplines in both the natural and social sciences; a fact that further calls into question the value of exploring the environment and security concomitantly.

Despite these and other intrinsic challenges, this thesis takes as a starting point that an exploration of the relationships between the environment and security is essential for advancing the international relations discipline. This chapter defends the importance of environmental security enquiry, and proceeds in three sections. The first section surveys

some of the most pronounced and significant ways in which contemporary human activities are affecting natural environments. Many contemporary global environmental challenges reflect the corollary effects of humankind's growing ability, through increasing numbers and greater logistical capacity, to exploit natural resources and manipulate ecological systems. Such growing capacities, along with the impetuses and will to act upon them, have significantly altered a multitude of resources and environmental systems upon which human activity and progress depend. These alterations to natural systems are relevant to a host of international relations interest areas; not least of all those concerned with peace and security. The second section demonstrates that, although contemporary environmental challenges are unique in scope and criticality, the relationship between humans and the environments upon which they depend is a topic rich in analytical history. As such, the dynamics connecting environmental and security questions have been present in human enquiries stemming back to antiquity and this thesis represents an extension of these well-established explorations.[1] Following these introductions of the contemporary relevance and historical foundations of synthesising environment and security issues, the final section of this chapter delineates the primary research questions of interest for this thesis. These questions speak to the importance of creating new analytical approaches to environmental security enquiry, and by doing so the questions inform both the structure and responsibilities of the forthcoming thesis chapters.

[1] The research traditions that are briefly explored in this introduction are admittedly Western-centric. For a valuable compendium of Eastern perspectives see: Callicott, J. Baird and Roger T. Ames, eds. (1989), *Nature in Asian traditions of thought: Essays in environmental philosophy*, Albany: State University of New York Press.

## 1. The Anthropocene

Twenty-first century human societies have an unprecedented ability to alter natural systems. While these abilities are by no means uniform, growing populations and attendant resource needs, progressive technological advancements, and escalating economic developments have leant disparate peoples around the world the capacity to lastingly affect the stability of natural systems. Since many of these natural systems underwrite the technological and economic progress that humankind has wrought throughout previous centuries, their alteration creates unique and at times pressing challenges. Brief explorations into contemporary patterns of demography, along with the threats facing essential natural systems such as forests, oceans and the atmosphere, reveal why some observers suggest that the earth has entered a new geological period known as the anthropocene; the age of humans.[2]

### 1.1 Demographic Shifts

Global demographic projections suggest that the challenges of solidifying and maintaining pragmatic strategies that couple environmental health with human development will become more pronounced.[3] It is likely that the global population did not exceed 500 million until the 16th century and did not reach the billion mark until the early 1800s. The 20th Century, however, saw a pronounced escalation of population growth in which the global populace

[2] For succinct reviews of the debate over whether contemporary environmental conditions constitute a new geological epoch see: Kolbert, Elizabeth (2010), "The Anthropocene Debate: Marking Humanity's Impact", *Yale Environment 360*. Access via: <http://e360.yale.edu/content/feature.msp?id=2274>; and Zalasiewicz, Jan, Mark Williams, Will Steffen and Paul Crutzen (2010), "The New World of the Anthropocene", *Environmental Science & Technology*, 44, pp. 2228-2231.

[3] The analyses presented in this section rely heavily, while not exclusively, on population projections made by the United Nations Department of Economic and Social Affairs (UNDESA). For a case study driven analysis on the track record of previous UN projections see: Khan, Hafiz T. A. and Wolfgang Lutz (2008), "How Well did Past UN Population Projections Anticipate Demographic Trends in Six South-East Asian Countries?", *Asian Population Studies,* 4(1), pp. 77-95. For a less region-specific review of previous UN projections and their accuracy see: O'Neill, Brian and Deborah Balk (2001), "World Population Futures", *Population Bulletin*, 56(3), pp. 1-40.

reached two billion in 1930 and then added extra billions by 1960, 1974, 1987 and 1999 respectively. This rapid 20th Century growth was a function of many factors and, as subsequent sections demonstrate, contributed to significant alterations to both local environments and shared global resources. 21st Century demographic trends and projections show that signs that population growth is slowing, but suggest that the billions set to join the human population over coming decades will exacerbate many challenges to the stability of environmental and social systems. The 2008 report on global population trends by the United Nations Department of Economic and Social Affairs (UNDESA) estimated the world population at approximately 6.8 billion people with an annual growth rate of less than 1.2 percent.[4] As such, global population numbers are predicted to largely level off at just over 9 billion by 2050, at which point the global populace will continue to add approximately 31 million persons annually.[5] This growth pattern represents a marked reduction from the world population growth rate from its peak of 2 percent during the late 1960s and the reduction is set to continue, with growth rates projected to decline to roughly 0.34 percent by the late 2040s.[6] This slowing population growth trend might suggest that demographic perils are subsiding and that warnings of critical environmental and social problems arising from population growth will prove misguided. However, closer analyses of global population trends reveal enduring demographic challenges.

The vast majority of twenty-first century population increases will occur in the developing world. Developing countries are projected to grow in aggregate population from 5.6 billion

[4] UNDESA (2009), *World Population Prospects: The 2008 Revision*, New York: United Nations Publications.
[5] Ibid. While annual increases of 31 million people are certainly significant, such figures represent a marked reduction from the contemporary average increases of almost 80 million people. These predictions represent UNDESA's median range projections and assume that fertility reduction trends in the developing world will continue.
[6] Ibid. Contemporarily, birth rates continue to fall throughout much of the world, including those areas rated as having high fertility (5 children or more per woman), and number of countries with high fertility rates declined from 59 in the 1990-1995 period to 27 during the years between 2005-2010.

currently to 7.9 billion by 2050.[7] By comparison, developed countries are projected to make a paltry contribution to global population growth with aggregate populations increasing from 1.23 to 1.28 billion.[8] Least developed countries (LDCs), which are currently growing at the highest rates globally, will make up a great deal of global demographic changes as their aggregate populations could more than double in size by 2050.[9] Disparities in population growth between the developed and developing worlds have a myriad of causes; primary among which are differing fertility rates and the relative youth of developing populations. Fertility rates are dropping in many developing countries, which helps explain the levelling of population growth projections for the mid-twentieth century, but these fertility rates remain significantly higher than in the developed world and are reducing over time rather than abruptly.[10] The effects of fertility decreases in developing countries will also be partially mitigated by the overall youth of their current populations. In 2008, 30 percent of the population of developing states was under the age of 15 and an additional 19 percent was aged between 15-24.[11] This youth bulge ensures that many developing countries with

[7] Ibid. This growth will be a function of many variables, the most significant of which include decreasing mortality rates, fertility rates that remain above the replacement level and demographic momentum resulting from the movement of large populations into their high fertility years. For a wider view of global demographic trends encompassing the period between 1950-2050 see: Bongaarts, John (2009), "Human population growth and demographic transition", *Philosophical Transactions of the Royal Society*, 364, pp. 2985-2990.

[8] UNDESA (2009), op. cit. Developed countries would contract in aggregate population were it not for net migration from developing states. UNDESA calculates a net annual migration of 2.4 million people from developing to developed countries for the period 2009-2050. Of the twenty-two nations that currently account for 75 percent of global population growth, only the United States is part of the developed world. US population growth will be predicated largely upon migration. It is projected to be by far the greatest net receiver of international migrants between 2010 and 2050; taking in 1.1 million migrants annually as compared to 214,000 migrants received annually by its closest competitor Canada. For contemporary trends and projections regarding migration the US see: Martin, Philip and Elizabeth Midgley (2010), "Immigration in America 2010", *Population Bulletin Update*, pp. 1-6.

[9] UNDESA (2009), op. cit.

[10] Ibid. The UNDESA report predicts that fertility rates in developing countries will drop from an average of 2.73 children per woman for the 2005-2010 period to 2.05 children per woman in 2045-2050. The projected reductions in fertility are even more pronounced in a group of forty-nine LDCs, where the rates are predicted to drop from 4.39 to 2.41 children per woman by the 2045-2050 period.

[11] Ibid. Tellingly, 76 countries with fertility rates that are *below* replacement levels (2.1 children per woman) added 47 percent of the global population growth from 2005-2010. China provides an interesting case, as the state actively and effectively pursues low female fertility and the country continues to experience significant population growth. Many developed countries paradoxically face the opposite challenge of ageing populations, where the population of persons over 60 is growing rapidly and outstripping growth in younger demographics.

declining fertility rates will continue to experience aggregate population growth as youthful segments of their populations reach primary reproductive years.

Many states that are predicted to substantially increase in population during the next fifty years already struggle to meet the basic social and economic needs of their populations. The developing countries of India, Pakistan, Nigeria, Ethiopia, the Democratic Republic of Congo, Tanzania, China and Bangladesh will combine to contribute almost half of the persons added to the global population by 2050.[12] These and other countries experiencing high aggregate growth, while unique in their own state circumstances, face many related challenges that accompany the needs of an expanding population.[13] In many developing regions the difficulties associated with meeting the requirements of bourgeoning populations are already pronounced. In sub-Saharan Africa for example, population growth has outpaced economic development, agricultural production, and education and health services since the 1950s.[14] The challenge is that even impressive development progress could be moderated by the demands of growing populations. In 2004, the then President of Pakistan Pervez Musharraf alluded to such a conundrum stating that in Pakistan rapid population growth was "the main factor retarding economic growth, poverty alleviation, and action on joblessness", and that the country's per capita income had been significantly affected by its large annual 3

[12] Ibid. See also: Homer-Dixon, Thomas (2006), *The Upside of Down: Catastrophe, Creativity, and the Renewal of Civilization*, Melbourne: Text Publishing, pp. 60-62.

[13] Mary M. Kent and Carl Haub, writing for the Population Reference Bureau, argue that "problems arise [in growing developing states] when population growth outpaces economic growth and where countries lack an infrastructure to accommodate the additional load on public services, especially education, health, housing, and transportation." See: Kent, Mary M. and Carl Haub (2005), "Global Demographic Divide", *Population Bulletin*, 60(4), p. 12.

[14] Ibid., p. 12. Kent and Haub relate sub-Saharan Africa's development problems at least partially to resource and environmental considerations, writing: "Although the region has thousands of square miles of sparsely populated land and lush rainforest, only part is suited for large-scale agriculture. In many areas insufficient water, overgrazing, deforestation, political unrest, government corruption, and severe health problems have seriously hindered development."

percent growth rate between 1951 and the 1980s.[15] As natural resources provide the bases necessary for pursuing economic advancement, the relationship between demography and the environment becomes particularly important.

The environmental ramifications of contemporary demographic trends are highly differentiated. Some argue that aggregate global population growth levels continue to threaten the overall carrying capacity of the earth and that global populations exceeding 9 billion will severely strain the viability of key strategic resources in aggregate.[16] 20th century resource exploitation gives some credence to these arguments, as rapid population growth, an astounding increase in global economic production, and attendant increases in consumption trends led to environmental changes on an unprecedented scale. Bill McKibben's assessed such aggregate resource exploitation in 1998 and concluded that more natural resources had then been consumed since the end of World War II than throughout human history up until that point.[17] The highly consumptive citizens of developed countries continue to be responsible, to differing degrees, for much of the world's greenhouse gasses, hazardous wastes and industrial pollution. The states that house these relatively wealthy citizens also

[15] Ibid., p. 12. Pakistan's population more than quadrupled between 1950 and 2005 and the country is set to continue to be a major contributor to global population increases during the twenty-first century. See also: "The President of Pakistan on the Need to Slow Population Growth in the Muslim World" (2005), *Population and Development Review* 31(2), pp. 399-400. Global data support Musharraf's contention for a wider sample, as high-fertility countries have average per capita income levels that are one-twelfth the size of income levels found in low-fertility states. This is not to suggest that high-fertility is the sole cause of development struggles, as it certainly also correlates exogenously as an important result of low development levels. However, dividing the economic resources of an underdeveloped state among a rapidly growing number of claimants logically contributes to per capita development challenges. See: Haub, Carl (2005), *2005 World Population Data Sheet*, Washington D. C.: Population Reference Bureau.

[16] It is important to note that the levelling off of global population growth in 2050 assumes a continuation of the declining fertility trends in developing countries. This assumption is logical but not guaranteed and higher range estimates for global population growth place it at stabilising around 12 million by 2060. David Pimental and colleagues argued in 1999 that such a population level was largely untenable and would lead to "inherently limited" natural resources being divided among increasing numbers of people with the result being the inability of large swathes of humankind to "maintain prosperity and a quality of life". See Pimentel, D., O. Bailey, P. Kim, E. Mullaney, J. Calabrese, L. Walman, F. Nelson and X. Yao (1999), "Will Limits of the Earth's Resources Control Human Numbers?", *Environment, Development and Sustainability,* 1, pp. 19-20.

[17] McKibben, Bill (1998), "A Special Moment in History", *Atlantic Monthly*, p. 63.

represent the primary drivers of demand for both renewable and non-renewable natural resources throughout the world.[18]

'Ecological footprints', which measure the area of land and water required to facilitate human activities, provide a valuable indication of the developed world's disproportionate resource use. The World Wildlife Fund (WWF) calculated in 2005 that the global average number of hectares required to facilitate human activities was 2.7 ha per person.[19] This measurement encompasses the sum of all cropland, grazing land, forest and fishing grounds used to produce the food, fibre and timber that one consumes as well as the land required to absorb the wastes emitted from energy use and the space required for infrastructure. The gap between high and low state-wide ecological footprints is immense. For example, the United States has an ecological footprint of over 9 ha per person, while Australia and Denmark average roughly 8 ha and Canada approximately 7 ha.[20] In addition to dwarfing the global average, these figures compare tellingly to the ecological footprints in Haiti, Afghanistan and Malawi which are all well under 1 ha per person.[21] Logically, low development levels correlate to relatively small ecological footprints. However, developing states with low ecological footprints combine a strong impetus to improve the standards of living with significant room to grow in resource consumption per capita. As these developing states realise much needed development progress, the effect on the resources utilised by their citizens will become more pronounced. This means that while steadying aggregate

[18] The distinction between renewable and non-renewable resources is not clear cut, as forthcoming analyses will demonstrate. See section 2.2 of chapter 2 and section 3.2 of chapter 4.
[19] World Wildlife Fund (2008), *Living Planet Report*, Gland, SUI: World Wildlife Fund International.
[20] Ibid., p. 14.
[21] Ibid., p. 15. When aggregated, as opposed to ranked on a per capita basis, population becomes much more relevant for a country's ecological footprint. For example, the United States and China each consume roughly 21 percent of the resources measured by the WWF; as China has a per capita ecological footprint roughly one-fourth the size of that in the US but a population roughly four times as large. As ecological footprints increase in heavily populated developing states, stresses on global resource supplies will almost certainly become more pronounced.

population growth trends might assuage concerns that resource consumption levels will continue to rise unabated, the distribution of population increases creates a number of potential threats to vital natural resources.

The booming populations of many developing states already severely strain numerous local environments; most notably forests, arable land, freshwater and coastal resources, and these problems will become more acute as these states continue to grow. Despite their historical and current roles in driving environmental changes, developed states have stagnating populations, low economic growth rates and an arguably growing recognition of the need to work towards reducing their environmental impacts. Conditions in the developing world stand in marked contrast. As populations expand in developing states, many citizens are compelled to migrate to fragile ecological areas in response to the overexploitation of resources in their homelands.[22] Efforts to meet the needs of the growing populations can also lead to the rapid and unsustainable exploitation of resource supplies over the short-term. When these short-term practices occur at levels that compromise the future viability of strategically important resources, the attendant environmental ramifications have the potential to undermine future growth and progress.

[22] For foundational analysis on environmentally-driven migration and its potential effects on marginal lands see: Swain, Ashok (1996a) "Environmental migration and conflict dynamics: focus on developing regions." *Third World Quarterly* 17(5), pp. 959-73.; and Hugo, Graeme (1996), "Environmental Concerns and International Migration." *International Migration Review* 30(1), pp. 105-31. The encroachment of people onto fragile lands in the Philippines as a result of population growth and environmental degradation is explored in chapters 4 and 5 of this thesis.

Consumption levels are increasing in many developing states.[23] While these increases are a welcome and positive step from a development perspective, they create further environmental challenges. As per-capita economic production increases so too will per-capita resource use. In 2003 the World Bank predicted that the following 50 years could see the population push to 9 billion accompanied by a four-fold increase in global Gross Domestic Product (GDP).[24] Much of this GDP expansion will occur in the dynamic markets of developing states where citizen expectation for improvements in quality of life is unsurprisingly already palpable.[25] The World Bank warns that if such economic advances are not undertaken in a sustainable manner, the environmental ramifications could derail development progress and paradoxically lead to declining qualities of life in locations around the world.[26] The population growth projections for much of the developing world compound such risks, as the positive per-capita economic growth among expanding populations may further threaten local, regional and in some cases global resource stocks and environmental systems.

The contemporary combination of population growth and economic advancement logically creates challenges for environmental systems in regions throughout the world. The following subsection reveals that such contemporary and future environmental challenges extend an already acute state of global environmental stress. Data on current state of forests and inland resources, oceans and coastal resources, and the atmosphere all show levels of unprecedented

[23] It is important to note from a global resource distribution perspective that such per-capita consumption levels still pale in comparison to those in developed states.
[24] World Bank (2003), *World Development Report: Sustainable Development in a Dynamic World,* Washington D.C.: The World Bank. Such an increase would bring global GDP to approximately US$140 trillion.
[25] Short-term speculation by the World Bank predicts global GDP growth of 3.3 percent in 2010 and 2011 and 3.5 percent in 2012. The authors cite population increases and higher productivity as reasons driving the disproportionately high amount of this GDP growth that will occur in developing countries. From the 2010-2012 period, the World Bank projects economic growth rates of roughly 6 percent in the developing world compared to rates hovering around 2.5 percent in developed states. See: World Bank (2010), *Global Economic Prospects, Fiscal Headwinds, and Recovery*, Washington D.C.: The World Bank.
[26] World Bank (2003), op. cit.

ecological stress. These resources play vital roles in both ecological and social systems, and their current state of degradation represents an ominous baseline from which future environmental stresses will proceed. Given that human activities are largely responsible for this contemporary degradation, the following data provide a compelling picture on the current state of humanity's relationship with the natural world.

### 1.2 Resource Stress

Human activities have drastically altered a multitude of territorial ecosystems throughout the world. The destruction and conversion of forests provides a prime example of such alterations and has had significant flow-on effects for a myriad of other natural systems. Forests currently cover just over 4 billion hectares (ha), or 31 percent, of the earth's total land area; a figure that has declined by roughly one-fifth since 1900.[27] During the 2000-2010 period approximately 13 million ha of forests were converted or lost annually, which when combined with reforestation equated to a net annual forest loss of 5.2 million ha during the decade.[28] Primary forests meanwhile, which house diverse and species-rich ecosystems, have decreased by over 40 million ha since 2000; a figure that is somewhat masked in aggregated global deforestation rates because of a growing presence of less ecologically valuable planted forests.[29] As is the case with many projected environmental changes, future forest exploitation will occur unevenly throughout developed and developing countries. The

[27] World Bank (2003), op. cit.; and FAO (2010), *State of the World's Forests 2009*, Rome: Food and Agricultural Organisation of the United Nations.
[28] FAO (2010), op. cit. These deforestation rates represent a reduction from the decade between 1990 and 2000, during which global forests were reduced at a rate of 8.3 million ha annually.
[29] Ibid. Such planted forests are effective sources of wood products and carbon storage but they provide a poor substitute for many of the non-wood forest products which are both economically valuable (the FAO conservatively values the exploited value of these products at US$18.5 billion in 2005) and serve vital social functions in many forest dwelling communities.

United Nations Food and Agricultural Organisation (FAO) projects that, while forest areas will likely stabilise or increase in most developed countries, that many developing states will see valuable forest resources decline as a result of agricultural expansion and growing demands for wood amongst expanding populations.[30] Such projections represent the continuation of trends from the 1990s, during which developing states lost 8 percent of their forested area to timber production and corporate and subsistence agriculture.

Deforestation contributes mightily to multiple environmental challenges, one of the most acute of which regards soil quality. Forests provide the root systems and help maintain hydrological cycles that protect topsoil from erosion. The decline of forests, conversion of land for large-scale agriculture and movement of people onto marginal lands for subsistence requirements has considerably altered soil conditions throughout much of the world. The International Soil Reference and Information Centre (ISRIC) reported in 1990 that "[t]he earth's soils are being washed away, rendered sterile or contaminated with toxic chemicals at a rate that cannot be sustained."[31] The ISRIC's 1990 Global Assessment of Soil Degradation (GLASOD) found that 17 percent of the world's vegetated areas lost soil productivity between 1950 and 1990, creating a baseline level of soil degradation to which the subsequent two decades have further contributed.[32] The erosion of soil due to water flows, which is aided by deforestation and the conversion of vulnerable (often highly sloped) land, was the

[30] Ibid. The FAO argues in a 2009 report that demographic changes and continuing economic growth will continue to be primary drivers of a growing global demand for forest products. The FAO calculates projections up until 2030, when it predicts a global population of 8.2 billion and an aggregated global GDP of US$100 trillion. A majority of this GDP growth will occur in developing economies, particularly in Asia.

[31] Oldeman, L. R., R. T. A. Hakkeling, and W. G. Sombroek (1991), *World Map of the Status of Human-Induced Soil Degradation: An Explanatory Note*, Wageningen: International Soil Reference and Information Centre, p. vi. The Global Assessment of Soil Degradation (GLASOD) report referenced here was compiled in conjunction with the United Nations Environment Programme (UNEP), the International Society of Soil Science, the Food and Agricultural Organisation of the United Nations and the International Institute for Aerospace Survey and Earth Sciences

[32] Ibid., See also Kuman, Pushpam (2004), *Economics of Soil Erosion: Issues and Imperatives from India*, New Delhi: Concept Publishing Company.

most causally relevant factor in losses in soil productivity and such trends have continued into the new millennium.

Soil's foundational role in both ecological stability and social activities mean that its degradation has wide-ranging ramifications. As soil biologist Lijbert Brussaard and colleagues point out, "soil provides the physical substratum for virtually all human activities [including] agriculture, buildings, and transport; it provides resources for industrial use and waste management; and it is central in elemental cycles, without which agriculture would not be possible."[33] This assessment by Brussaard and colleagues illuminates the elemental role that soil systems play in human activities, and by extension reveals humanity's vulnerability to degraded soil conditions. Natural and human activities combine as the driving forces behind degraded soil conditions, however anthropogenic effects on the earth's soils are increasing in scale. Human activities already move sediment at a rate that is an order of magnitude higher than all natural processes combined and have led to the alteration over half of the world's non-glaciated land.[34] Environmental changes on such a scale create pronounced challenges for meeting the growing agricultural and infrastructure needs of bourgeoning developing populations, and these challenges will likely become more acute.

Anthropogenic resource stresses further extend to freshwater supplies. Like the majority of resource stresses, those affecting freshwater supplies are highly geographically

[33] Cited in Homer-Dixon, Thomas (2002), *The Ingenuity Gap: Facing the Economic, Environmental, and other Challenges of an Increasingly Complex and Unpredictable World*, New York: Vintage Books, p. 60. See also Brussaard, Lijbert, et. al. (1997), "Biodiversity and Ecosystem Functioning in Soil", *Ambio*, 26(8), pp. 563-570.
[34] Regarding the anthropogenic movement of sediment see: Wilkinson, Bruce (2005), "Humans as Geologic Agents: A Deep-Time Perspective", *Geology* 33(3), pp. 161-164. For analysis on the human imprint on non-glaciated land see: Smil, Vaclav (2002), *The Earth's Biosphere: Evolution, Dynamics, and Change*, Cambridge, MA: MIT Press, pp. 239-240.

differentiated.[35] In sum however, growing demand for water along with significant alterations to natural river and reservoir systems have expanded the scope of water scarcity concerns. Roughly 1.4 billion people currently live in river basins in which water usage exceeds recharge rates.[36] According to FAO Director General Jacques Diouf, global water consumption increased at twice the rate of population growth during the 20th Century, water scarcity affects over 40 percent of the global population, and by 2025 two-thirds of the world's people will live with water stress and 1.8 billion will experience acute water scarcity.[37]

Such scarcity has multifarious causes and implications. Supply-induced causes of water scarcity result from the reduction of water availability, often through pollution and/or climatic alterations, demand-induced causes stem from the growing water needs of expanding and developing populations, and distributional causes of water scarcity are exacerbated from both naturally and socially-driven disparities in water availability.[38] As freshwater is the primary elixir of human life and activity, the consequences of scarcity can be calamitous. Freshwater expert Peter Gleick frames the global water scarcity problem in individual terms and argues that the most pronounced effect of water stress is "the continued failure to meet

[35] The 2006 United Nations Development Report focused upon what it calls a global water crisis. The report argues that, while growing populations and development needs will exacerbate water shortages in many locations, distribution rather than simple scarcity is the primary cause of acute water deprivation in poor communities. Most of the 1.1 billion people currently lacking adequate freshwater supplies survive on roughly 5 litres per day while average usage in the US and Europe is 400 litres and 200 litres per day respectively. Natural distribution is also an important consideration. Water-stressed countries such as those in North Africa and the Middle East can gain little benefit from the massive surpluses of water enjoyed by countries such as Canada and Brazil. See: UNDP (2006), *Human Development Report 2006, Beyond Scarcity: Power, Poverty and the Global Water Crisis,* New York: United Nations Development Programme.
[36] Ibid.
[37] "Coping with water scarcity: Q&A with FAO Director General Dr. Jacques Diouf" (2007), *FAONewsroom*, 22 March.
[38] Thomas Homer-Dixon delineates the causes of scarcity along these categories as being supply, demand and/or distributionally-driven. See: Homer-Dixon, Thomas (1999), *The Environment, Scarcity, and Violence,* Princeton, NJ: Princeton University Press.

*basic human needs* for water."[39] The World Health Organisation's (WHO) most recent figures substantiate Gleick's claims, calculating that roughly 884 million people lack safe freshwater sources and that 2.6 billion people in the world currently face dangerous sanitation conditions (an issue closely tied to freshwater resources).[40] Gleick's own research leads him to project that cumulative water-related deaths between 2003 and 2020 will range between 34 and 118 million, depending on the effectiveness of response strategies.[41] Beyond these health and well-being concerns, water's role in economic and human development is difficult to overstate. The United Nations Development Programme (UNDP) detailed in 2006 a myriad of ways in which water shortages can compromise economic activity.[42] These effects were often indirect, ranging from health sector expenditures and hours spent on water collection to time missed from productive activities due to water-related illnesses. The UNDP report cites an annual financial loss in sub-Saharan Africa of over $28 billion US Dollars (USD), or 5 percent of GDP, as a result of water scarcity.[43] These financial losses are felt disproportionately by households surviving on less than USD $2 per day.[44] An additional potential implication of growing water scarcity is competition and friction between or among communities and states dependent upon the same water supplies. Water is the "ultimate fugitive resource"; traversing communal, state and regional boundaries both above and below

[39] Gleick, Peter H. (2003), "Global Freshwater Resources: Soft-Path Solutions for the 21st Century", *Science*, 302, p. 1525. Italics added.
[40] World Health Organisation (WHO) (2010), *Progress on sanitation and drinking-water 2010 update,* Geneva: WHO and UNICEF. The WHO report points out that these figures represent a collective international failure to remain on track for Millennium Development Goal (MDG) targets. A minimum of 20 litres per day per person is the benchmark for adequate sanitation and personal water usage.
[41] See Gleick, Peter H. (2002), *Dirty Water: Estimated Deaths from Water-related Diseases 2000-2020*, Oakland, CA: Pacific Institute for Studies in Development, Environment, and Security. The United Nations General Assembly (UNGA) declared 2003 as the International Year of Freshwater and the MDGs aimed to reduce by half the proportion of people without access to adequate and safe freshwater and sanitation. The gulf between the figures presented here by Gleick represent relative optimism and pessimism regarding meeting MDGs regarding freshwater.
[42] UNDP (2006), op. cit.
[43] Ibid.
[44] Ibid. Two out of every three individuals coping with water scarcity live on less than US$2 per day.

the earth's surface.[45] One group's water usage has direct and immediate ramifications for the other groups dependent on that source. Upstream damming and water rerouting, excessive well drilling, and intensive irrigation policies instituted by one party can lead to flooding, erosion, reduced river flows, and water table reductions in neighbouring and downstream communities.[46] These inherent characteristics of freshwater make it a potential flashpoint for future domestic and international friction.[47]

The world's oceans also face environmental stress for which both the causes and effects often transcend human boundaries. Absolute fish production continues to grow annually, while per-capita global supply is held in check because of increases in human population. This is not an emerging trend. In 1995 the FAO stated that overexploitation of fisheries is "globally not sustainable and major ecological and economic damage is already visible."[48] While the stress to global fisheries has slowed in momentum, decades of unsustainable fishing yields have exacerbated the fragility of global fish stocks. The FAO estimates that as of 2007, 28 percent of global fish stocks were either overexploited, depleted or recovering from depletion and that an additional 52 percent of stocks were being fished to their maximum capacity.[49] A majority of the stocks of top ten fish species are currently overexploited and the taking of juvenile fish has created problems for the future reproductive cycles of many valuable

[45] Ibid., p. 6. This term was introduced by Kemal Derviş, the UNDP administrator the 2006 Human Development Report, in his opening remarks to the report.
[46] For an example of such a case see: Swain, Ashok (1996b), "Displacing the Conflict: Environmental Destruction in Bangladesh and Ethnic Conflict in India", *Journal of Peace Research*, 33(2).
[47] It is important to note that transboundary water resources have been the source of international cooperation in some areas that could be viewed as the most naturally contentious. For a collection of examples of successful water-sharing dialogues and agreements see: Draper, Stephen E. (2002), *Model Water Sharing Agreements for the Twenty-first Century,* Washington D.C.: ASCE Publications. Michael T. Klare declared in 2001 that water was an important part of an emerging global conflict landscape, and discussed multiple fracture points in the Middle East and the Nile River basin. See Klare, Michael T. (2001), *Resource Wars: The New Landscape of Global Conflict*, New York: Henry Holt and Company.
[48] FAO (1995), *The State of World Fisheries and Aquaculture 1995*, Rome: Food and Agriculture Organization of the United Nations, p. 6.
[49] FAO (2009), *The State of World Fisheries and Aquaculture 2008*, Rome: Food and Agriculture Organization of the United Nations.

fisheries.[50] Overexploitation challenges have no regard for human boundaries and large-scale offshore fishing operations have a notable capacity to undermine municipal fishing opportunities in developing coastal communities.[51] The future viability of fisheries is important for the almost 50 million individuals that depend on the fishing sector for livelihood, as well as the roughly 3 billion people who count on fish for a substantial portion of their protein intake.[52] Expanding populations during the coming decades will necessitate growing caloric sources, placing further strains on local fish stocks and exacerbating challenges to the future viability of many of the world's most important fisheries.[53]

The aggregated quantitative picture of global resource stress has the potential to mask the disparate ways in which these stresses will be felt. Environmental conditions can vary greatly across relatively small geographies and create challenges for communities, states and regions that are unique in both their causes and impacts. Taken in sum, however, the data addressing contemporary global resource stress reveal that social progress in locations around the world will increasingly depend upon the effective manipulation of fragile environmental conditions.[54] These challenges are exacerbated by changes to the global atmosphere. As a truly shared resource, anthropogenic alterations to the atmosphere originating in any location have ramifications for social and natural systems throughout the world. Atmospheric

[50] Ibid.
[51] Examples of this dynamic are discussed in chapter 4 section 4.1 and chapter 5 section 3.2.
[52] FAO (2009), op. cit. The FAO reports that as of 2006 roughly 43.5 million people were directly engaged in fish production with an additional 4 million indirectly engaged. Over the past three decades, growth in fishing sector employees has exceeded global population growth.
[53] Fish stocks are also affected by the destruction of mangroves and coral reefs, both of which face acute challenges in areas around the world. The UNEP estimates that over one-quarter of the earth's original mangroves have been destroyed, primarily as a result of wood extraction and aquaculture, while the WRI classifies 58 percent of the world's coral reefs to be at risk. See Spalding, Mark, Mami Kainuma and Loran Collins (2010), *World Atlas of Mangroves,* New York: United Nations Environmental Programme.; and Bryant, Dirk, Lauretta Burke, John McManus, and Mark Spalding (1998), *Reefs At Risk: A Map-Based Indicator of Threats to the World's Coral Reefs,* Washington D.C.: World Resources Institute.
[54] 'Social progress' cannot be universally defined. However, the term is used here to allude to improvements in the access to and development and maintenance of the foundational elements of human activity.

changes enhance the challenge of sustainably manipulating environmental systems and, like the stresses to vital global resources, they are poised to become more acute.

### 1.3 The Atmosphere

Increasingly voluminous, coherent and consistent scientific research on climate change over the last decade has revealed a growing understanding of humankind's effect of the global atmosphere.[55] The Intergovernmental Panel on Climate Change's (IPCC) release of the 4th Assessment Report (AR4) in 2007 shows, with the greatest confidence ever put forth by the IPCC, that anthropogenic alterations to the atmosphere will have specific, lasting and potentially acute ramifications for societies around the world.[56] The AR4's publication bolstered high level policy attention on the climate threat levels, with United Nations Secretary-General (UNSG) Ban Ki Moon declaring to the United Nations Security Council (UNSC) that, "[a]ccording to the most recent assessments of the Intergovernmental Panel on Climate Change, the planet's warming is unequivocal, its impact is clearly noticeable, and it is beyond doubt that human activities have been contributing considerably to it."[57]

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[55] There are varying definitions of climate change. For example, the IPCC uses the term to refer to "any change to the climate over time, whether due to natural variability or as a result of human activity." The United Nations Framework Convention on Climate Change (UNFCCC) limits its use of the term to "a change in climate is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and that is in addition to the natural climate variability observed over comparable time periods." See: Parry, M. L., O. F. Canziani, J. P. Palutikof, P. J. Van der Linden & C. E. Hanson, eds. (2007), *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change,* UK: Cambridge University Press, pp. 7-22.

[56] IPCC (2007), *Fourth Assessment Report, Climate Change 2007: A Synthesis Report,* Valencia, Spain: Adopted at the IPCC Plenary XXVII. The IPCC was established in 1988 by the World Meteorological Organization and the United Nations Environment Programme (UNEP). Its stated mandate is to provide the global community with contemporary and comprehensive scientific, technical and socio-economic information on climate change. The findings and recommendations of the IPCC have formed foundations for many policies implemented locally, nationally and internationally through the UNFCCC.

[57] Ki-Moon, Ban (2007), "Statement at the Security Council Debate on Energy, Security and Climate", 17 April 2007. Access via: <http://www.un.org/apps/news/infocus/sgspeeches/search_full.asp?statID=79#>

Contemporary measurements reveal increasing levels of heat-trapping greenhouse gases (GHG) in the atmosphere, which human activities contribute to in the pursuit of fundamental social functions such as power generation, transportation, agriculture and the use of forest resource. Global GHG emissions, for which carbon dioxide ($CO_2$) is the largest contributor, have grown at escalating rates for decades and overall GHG levels rose by 70 percent between 1970 and 2004.[58] The growth of GHG levels in the atmosphere has caused global mean temperatures to steadily rise in a process which a multitude of implications for natural and social systems.[59] Global contributions to GHG levels vary widely, as different communities, states and regions have diverse approaches and capabilities when it comes to GHG-producing activities. As of 2004, countries deemed developed by the UNFCCC accounted for roughly 57 percent of global economic production, 46 percent of global GHG emissions, but were home to only 20 percent of the global population.[60] Like these disproportionate GHG contributions, the effects of atmospheric changes are also differentiated around the world. The causes and effects do not correspond however, and many individuals, communities and states that are most vulnerable to the effects of climate change contribute little to the atmospheric alterations.

The IPCC defines "vulnerability" as "the degree to which a system is susceptible to, and unable to cope with, adverse effects of climate change, including climate variability and

[58] IPCC (2007), op. cit. $CO_2$ emissions grew at a rate of 0.92 gigatonnes (Gt) per year from 1995-2004 compared to just 0.43 Gt of $CO_2$ per year from 1970-1994.
[59] Ibid. The IPCC reports that the twelve years between 1995-2006 contained eleven of the warmest years since 1850, that a linear warming trend in global surface temperature from 195 to 2005 that was nearly twice the century average, and that as a result of these warming trends global sea levels have steadily risen with growing rapidity.
[60] Ibid. The UNFCCC divides developed and developing countries into different 'annexes'. A list of these annexes is available via: < http://unfccc.int/parties_and_observers/items/2704.php>

extremes."[61] Susceptibility can be either physical, in which the ecological character of an area is vulnerable to the physical effects of climate change, or social, in which the capacity for individuals and societies to meet the physical challenges of climate change is low. The dissemination of climate impacts varies geographically; both in terms of the natural challenges faced and the capacity of the various populations to deal with such challenges. The ability of a system to "adjust to climate change (including climate variability and extremes) to moderate potential damages, to take advantage of opportunities, or to cope with consequences" is defined by the IPCC as the system's "adaptive capacity."[62] It is in the developing world, where vulnerability is often high, adaptive capacity regularly low, and livelihoods frequently closely tied to natural resources where climate change has the most acute impact.[63]

The planet's warming will have wide-ranging effects on a myriad of natural systems that are essential for sustaining the viability and progress of many communities; particularly those which lack the means to effectively adapt to the changes. For example, the IPCC asserts with high confidence that during the coming half century, drought-affected areas will become more expansive while other locations will experience greater heavy precipitation events and flood risks.[64] The AR4 also predicts with high confidence that river runoff will decrease

[61] Parry, M. L., O. F. Canziani, J. P Palutikof, et. al., "Technical Summary", in M. L. Parry, O. F. Canziani, J. P. Palutikof & P. J. Van der Linden, eds. (2007), op. cit., pp. 23-27.
[62] IPCC (2007), op. cit., p. 21.
[63] See for instance: Smith, D. and Vivekananda, J. (2007), "A Climate of Conflict: The links between climate change, peace and war", *International Alert,* November. Many climate change impacts are already acute and exhaustive efforts to measure these impacts are a primary function of the climate change academic and policy communities. To supplement IPCC analyses on climate impacts, the Global Humanitarian Forum released a 2009 report detailing some contemporary climate impacts on people. The report estimates that climate change is currently responsible for 300,000 deaths, affects 325 million people seriously and results in economic losses of USD $125 billion annually. The authors at the Global Humanitarian Forum concede that these figures carry a significant margin of error. See: Global Humanitarian Forum (2009), *Human Impact Report – The Anatomy of a Silent Crisis*, Geneva: Global Humanitarian Forum.
[64] IPCC (2007), op. cit.

between 10 to 30 per cent across many dry regions and mid-latitudes, and glacially-stored water supplies will decline, reducing water availability for over one-sixth of the global population.[65] The changes in rainfall patterns at the source of these problems will affect both freshwater availability and agricultural production.[66] Increased drought conditions lead to water scarcity which reduces water available for consumption and negatively affects crop yields. For populations dependent upon local agriculture for food and income, smaller crop yields can lower individual caloric intake, which negatively affects human health, while reducing vitally important household incomes.[67] Throughout areas of water abundance, major precipitation events stemming from climate change also have a substantial capacity to affect vulnerable individuals and communities. Greater runoff and erosion from increased precipitation have negative consequences for agricultural production and flooding, while also compromising agriculture, can lead to population displacements that erode the social and economic foundations of affected communities and create strains upon communities receiving displaced peoples.[68]

The increasingly observable social consequences of climate change have led to its consideration as a potential security threat. According to Thomas Homer-Dixon, a widely-cited scholar on environmental conflict,

> [c]limate stress may well represent a challenge to international security just as dangerous - and more intractable – than the arms race between the United States and the Soviet Union during the Cold War

[65] Ibid.
[66] Ibid.
[67] UNDP (2008), *Human Development Report 2007/2008: Fighting climate change: Human solidarity in a divided world,* New York: Palgrave Macmillan.
[68] See: Couldrey, M. and M. Herson, eds. (2007) "Climate Change and Displacement", *Forced Migration Review*, 31, pp. 4-80.

> or the proliferation of nuclear weapons among rogue states today...It's time to put climate change on the world's security agenda.[69]

Some parties traditionally concerned with more conventional security threats have also added climate change to their calculations. For instance, the military advisory board to the US Center for Naval Analyses (CNA) write that "[c]limate change can act as a threat multiplier for instability in some of the most volatile regions of the world, and it presents significant national security challenges..."[70] Another sign of the climate's emergence in security studies came when the Center for New American Security (CNAS) and the Center for Strategic and International Studies (CSIS) published a substantive report in late 2007 that created detailed scenarios, from an international security perspective, for three respective increases in global mean temperatures.[71] These scenarios predict large-scale migration patterns, increased ethnic, social and religious cleavages, and greater absolute and relative deprivation throughout the developing world. The social fracturing, migration and deprivation dynamics presented in the CNAS/CSIS Report represent, according to the authors, significant risks to the security of individuals, states and the international system.

Atmospheric changes have the capacity to make previously explored demographic and environmental challenges more acute, and create unique challenges for both mitigating and adapting to changing climates. From a mitigation standpoint, climate change hastens the need for countries across the development spectrum to reassess their energy and emissions strategies. The demographic trends, current development levels and relatively low

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[69] Cited in: Campbell, Kurt M., Jay Gulledge, J. R. McNeill, John Podesta, Peter Ogden, Leon Fuerth, R. James Woolsey, Alexander T. J. Lennon, Julianne Smith, Richard Weitz, and Derek Mix (2007), *The Age of Consequences: The Foreign Policy and National Security Implications of Global Climate Change*, Washington D.C.: Center for New American Security and Center for Strategic & International Studies.

[70] The CNA Corporation (2007), *National Security and the Threat of Climate Change*, Alexandra, VA: CNA Corp. The assertion that this position originates from sources conventionally focused upon traditional security threats stems from the make-up of the military advisory board. It is chaired by General Gordon R. Sullivan, USA (Ret.) and made up of ten additional retired military personnel.

[71] Campbell et. al. (2007), op. cit.

contemporary per-capita emissions of the developing world make steadying and ultimately reducing GHG-intensive practices a problematic endeavour. Developed countries have a greater capacity to alter their energy and emissions strategies, but the high consumption levels to which they have become accustomed make substantial emissions reductions a particularly difficult prospect; at least in the short term. The communal nature of the atmosphere also necessitates that successful emissions reductions be pursued collectively, leading to a complex international negotiation process with an uncertain future. From an adaptation standpoint, a changing climate affects natural systems already under stress from decades of unsustainable resource exploitation. Contemporary strains to vital strategic resource stocks make adaptation challenges more pronounced, as these stocks need to be repaired and replenished in climate conditions that are shifting, unstable and potentially damaging to the health of the resources in question.[72]

Since these mitigation, adaptation and resource stresses challenge the very foundations of community and state functions, as well as their respective plans for future progress, ideas that humanity has entered into a potentially dangerous new epoch have gained salience. The ways in which individuals and groups respond to these twenty-first century environmental challenge will be predicated to a large extent upon the ways in which they conceptualise humankind's relationships with natural systems. Such relationships have defined in many ways the historical trajectories of civilisations and speak to the foundational elements of social and political organisation. As such, while contemporary global environmental

[72] The ramifications of a changing climate are mixed and can be positive in some cases. For example, one study suggests that a more carbon-intensive atmosphere will improve growing conditions for many if not most plant life. See DeLucia, Evan H., et. al. (1999), "Net Primary Production of a Forest Ecosystem with Experimental CO2 Enrichment", *Science,* 284(5417), pp. 1177-1179. The IPCC also points out multiple regions that will enjoy potentially positive results from current and future warming trends. However, a more comprehensive picture reveals negative consequences outweighing the positive. For example, climate change has the capacity to exacerbate strains on forests through increasing the frequency and intensity of fires, affect freshwater and soil by altering hydrological cycles and major runoff and flooding events, and further destabilise fish stocks, reefs and mangroves by altering ocean depths and temperatures.

dilemmas are unique in scope, questions regarding the relationship between humankind and the natural environment have an established analytical tradition from which move forward.

## 2. The Environment and Human Agency

The anthropogenic alterations to environmental systems explored in the previous section have led to discussion about the potential for environmental degradation, along with attendant resource depletion and scarcity, to undermine the stability and security of communities, states and the international system as a whole.[73] Such discourse is logical given the foundational role that natural systems play in human activities, and the contemporary state of the global environment suggests that a fundamentally new relationship is emerging between humans and the natural environment in which the goals of the former may be undermined by dynamics in the latter. Such enquiries into the environment-security relationship, however, are not new. Daniel Deudney identifies that environmental variables have long been part of security calculations from Aristotle through Montesquieu and into the early 20th century. It is only relatively recently that connections between the environment and security have been hidden by the propensity of social theories to exhaustively seek social causes to problems. Deudney writes:

> [P]ost-World War II international-relations theory...has neglected nature and sought to locate the social causes of social events. The recent literature casts the natural environment as a new factor in politics, but the idea that nature is a powerful force shaping political institutions is extremely old. Arguments about nature as a cause of political outcomes were among the first in Western political science.[74]

[73] This discussion is at the centre of environmental security enquiry and is the focus of chapter 2. The issues introduced here are predicated upon the delineation of environmental resources in question as well as upon the definition of security. The position that this thesis takes on both of these foundational elements, as well as an analysis of scholarly manifestations of environment-security connections, is forthcoming.

[74] Deudney, Daniel H. (1999), "Bringing Nature Back In: Geopolitical Theory from the Greeks to the Global Era", in Deudney, Daniel H. and Richard Matthew, Eds. (1999), *Contested Grounds: Security and Conflict in the New Environmental Politics*, Albany: State University of New York Press, pp. 25-26. See also: Glacken, Clarence (1967), *Traces on the Rhodian Shore: Nature and Culture in Western Thought from Ancient Times to the End of the Eighteenth Century*, Berkeley: University of California Press.

Deudney argues convincingly that traditional geopolitical theories respected the capacity of nature to affect human affairs and that these theories should be viewed as precursors to modern efforts to link security with the environment. Thus, contemporary efforts to "bring nature back in" serve to return political science to its foundational theories.[75]

The theoretical questions underpinning environmental security issues address whether nature is something to be harnessed, something to be held in esteem, or something in which to participate. Answers to these questions, which are not necessarily mutually exclusive, have tangible import. For example, the principles of private property expounded by Enlightenment thinker John Locke suggest that humankind's relationship with nature necessitated the ownership of land, and that through private ownership individuals who worked on lands could receive appropriate recompense for their labour.[76] Locke's ideas, along with those of other Enlightenment thinkers, were extremely influential in establishing the foundations of Western liberal political and economic structures. The continuing relevance of these Western structures provides evidence of the power of Enlightenment ideas on the value of harnessing nature for human activity and benefit. The Romantics' rebuttal against the Enlightenment's commoditisation of the environment strictly for social 'progress' likewise remains relevant for contemporary schools of thought. Romantic thinkers extend the 'value' of natural processes and resources to include aesthetic intangibles and argue that these values transcend the monetary and/or strategic worth of nature. Such ideas remain present among those advocating for stewardship of the environment that goes beyond the simple protection of resources valuable to humankind. The positions espoused by Karl Marx and Frederick Engels, meanwhile, suggest that humankind's manipulation of natural systems and processes

[75] Deudney (1999), op. cit., p. 26.
[76] See: Locke, John (1939) [1690], "An essay concerning the true original, extent, and end of civil government", in Burtt, Edwin A., Ed. (1939), *The English philosophers from Bacon to Mill*, New York: The Modern Library.

inextricably tied the environment and humanity together in one system. The arguments of Marx and Engels retain salience for analyses suggesting that social activities must be viewed within the appropriate context of the relevant environmental conditions. The endurance of three adversarial positions on the relationship between humankind and the natural environment demonstrate their timelessness, and brief explorations each position provide the context from which the subsequent contributions of this thesis should be viewed.

Locke predicates his anthropocentric views of the environment upon the assumption that raw or "unassisted" nature can be *improved* through human activity to render it more useful for societies and individuals.[77] He gives little credence to ideas that nature has value beyond its capacity to serve human purposes. This position on production is complemented by Locke's attention to consumption. He argues that since consumption is an inherently individualistic activity, and that one should not have licence to consume that which does not belong to him or her, that private ownership is necessary to dictate what items belonged to whom. Thus, the inherent qualities of humanity and nature require that the latter is commoditised and owned by the former. It is therefore through these processes of owning property and converting natural materials to usable products that humankind could establish a fruitful relationship with the world's environmental bounty.[78]

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[77] Ibid. Locke was not alone in his declarations that industrious conversions of nature equated to progress, and these ideas proved capable of fomenting a perceived hierarchy among civilisations. Robert Cushman argued during the late eighteenth century that England had a right to convert (ie: improve) lands in North America because the indigenous populations there were essentially non-industrious and as such were not taking advantage of the bounty of the land. Cushman wrote that the Native Americans did not have the "faculty to use the land or the commodities of it; but all spoils rots and is marred for want of manuring, gathering, [and] ordering…" Cushman concluded that it was the duty of the English to improve the land and as a result modernise the Native American populace. Cushman is cited in: Drayton, Richard (2000), *Nature's Government: Science, Imperial Britain and the 'Improvement' of the World*, New Haven: Yale University Press, p. 56.

[78] James Tulley points out the religious undercurrents of Locke's writing that apply to his positions regarding humankind's dominion over the natural world. Tulley provides evidence that Locke bases many of his arguments on humanity's licence to alter natural systems on divine providence. See: Tully, James (1980), *A Discourse on Property: John Locke and His Adversaries*, Cambridge, NY: Cambridge University Press.

Despite his subjugation of the environment to human control, Locke recognises that environmental conditions must be taken into account when acquiring, manipulating or otherwise using natural resources. Such necessary account stems from Locke's realisation that the misuse or misappropriation of natural resources can lead to detrimental effects for those seeking to gain from natural resource values. Thus, Locke places conditions on the just conversion of common environmental goods into private property which require that enough of the good is left for others, that what is left is as good a quality as what is taken, and that only so much is taken as can be used without undue waste.[79] These caveats addressing the just distribution and conservation of environmental goods are consistent with contemporary calls for sustainability. However, the use of currency as the mechanism of economic transactions allows environmental goods to be exploited on illimitable scales without the rewards of such exploitation (money) going to waste.[80] Few would argue that the manipulation of nature is necessary for meeting the needs and advancing the progress of societies, but some adversarial schools of thought suggest that the overlording mentality and environmental commoditisation propounded by Locke and his contemporaries is problematic. Rather than something to be harnessed, these positions suggest that nature is something to be appreciated.

Romanticism rebelled virulently against Enlightenment ideas that the natural environment existed for the primary purpose of serving humankind. The work of Jean-Jacques Rousseau provides the basis of Romantic suggestions that nature is something to celebrate and respect for its capacity to enrich human life. Rousseau takes issue with Lockean assertions on the capacity for human activity to improve nature by making it more useful, and argues that the

[79] Locke (1939) [1690], op. cit.
[80] See: Benton, Ted (2007), "Humans and Nature: From Locke and Rousseau to Darwin and Wallace", in Pretty, Jules et. al., eds. (2007), *The SAGE Handbook of Environment and Society*, London: SAGE Publications.

large-scale manipulations of the natural environment which accompanied the growth of civilisations took humans further away from a contented relationship with nature. The social systems into which humans elected to enter were, for Rousseau, based upon the principles of private property and the resulted in injustice and misfortune. Rousseau suggests that:

> …as soon as one man realised that it was useful to have enough provisions for two, equality disappeared, property came into being, work became necessary, and vast forests were changed into smiling fields which man had to water with his sweat, and in which slavery and poverty soon germinated with his crops.[81]

The Romantic tradition following after Rousseau attempted to reflect the non-commodified value of nature through literature and the visual arts, and looked on spuriously at the growing momentum of those seeking monetary rewards from the environment.

The positions of Karl Marx and Frederick Engels look upon the relationship between the humanity and the environment in a yet another light. Marx and Engels focus on the ways in which human agency (often labour) transforms the potential of nature into usable commodities. Social relationships, such as that between the land owner and the worker, are predicated on this capacity for agency to produce commodities and thus humankind's position vis-á-vis nature is more complex than that of a steward or overlord. Marx states that:

> [l]abour is, first of all, a process between man and nature...He [man] confronts the materials of nature as a force of nature. He sets in motion the natural forces which belong to his own body, his arms, legs, head and hands, in order to appropriate the materials of nature in a form adapted to his own needs. Through this movement he acts upon external nature and changes it, and in this way he simultaneously changes his own nature.[82]

The change to the labourer's own nature that Marx refers to here is a social one. The 'nature' of the worker is not a simple reflection of social practices but rather is greatly affected by the role that he or she fulfils in the process of manipulating the environment. Engels takes this position a step further by declaring that since human agency is inherently reliant upon natural

[81] Rousseau, Jean Jacques and N. K. Singh, Ed. (2006) [1754], *Discourse on the Origin and the Foundation of Inequality among Men,* New Delhi: Global Vision Publishing House.
[82] Marx, Karl (1970) [1867], *Capital*, Vol. 1, London: Lawrence and Wishart, p. 177.

conditions, that alterations to such conditions can create challenges for human activities. He writes:

> Let us not, however, flatter ourselves overmuch on account of our human victories over nature. Each victory, it is true in the first place brings about the results we expected, but in the second and third places it has quite different, unforeseen effects with only too often cancel the first...Thus at every step we are reminded that we by no means rule over nature like a conqueror over a foreign people, like someone standing outside nature – but that we, with flesh, blood and brain belong to nature, and exist in its midst.[83]

Engels' statement emphasises the position of humanity *within* nature and, by extension, the capacity for natural factors to undermine human objectives. In combination, the positions of Marx and Engels criticise Enlightenment notions of private property for creating conceptual barriers between humankind and nature where they should not exist. Unlike the Romantics however, these two theorists unabashedly recognise and promote the importance of material human progress through physical interactions with nature.[84]

While the Enlightenment, Romantic and Marxist traditions all contribute influential analyses on the appropriate conceptualisations of humankind's relationship with nature, they say little about how successful humanity will be in overcoming environmental limitations. Given nature's foundational role in human activity, the spectrum of social possibilities is limited to activities for which there is an adequate natural underpinning. Contemporary environmental indicators, meanwhile, suggest that natural limitations to human progress could become more acute as critical environmental thresholds are crossed. These natural limitations, however, also constantly shift with advances in humankind's capacity to manipulate, circumvent and overcome environmental challenges. Human ingenuity and technical prowess continue to advance at impressive rates and contribute to arguments that environmental limitations will

[83] Cited in: Dickens, Peter (2004), *Society & Nature*, Cambridge, UK: Polity Press, p. 67. See also: Engels, Frederick (1969) [1883], *Dialectics of Nature,* Moscow: Progress.

[84] Marx and Engels do not shy away from the need to manipulate environmental resources for social progress. However, they do suggest that a greater understanding of the integrative relationship between humans and their environments is appropriate. Marx calls these relationships humanity's *metabolism* with nature. See: Marx, Karl (1970) [1867], op. cit.; and Engels, Frederick (1969) [1883], op. cit.

not threaten the upward trajectory of human progress. Like other facets of contemporary environmental security discourse, discussions of natural limitations and human ingenuity also have clear historical precedents.

Reverend Thomas Malthus's seminal 1798 treatise, *An Essay on the Principles of Population*, has proved foundational for over two centuries of debate on humankind's potentially volatile relationships with the natural world. Malthus's primary argument was mathematical in nature; stating that because food production increased linearly while population expanded exponentially that scarcity and human hardship was inevitable.[85] He went on to assert that natural factors would constrain populations to subsistence levels and be held constantly in check by factors such as famine, disease and violent altercations.[86] Malthus wrote in opposition to optimistic arguments concerning the capacity for humankind to overcome natural barriers to population growth and social progress through technological advancement. The French utopian Marquis de Condorcet presented such an argument, asserting that "...new instruments, machines, and looms can add to man's strength and improve at once the quality and accuracy of man's productions...A very small amount of ground will be able to produce great quantity of supplies..., [and] more goods will be obtained from a small outlay,..."[87] For Malthus and his followers, these optimistic assessments did not properly account for innate physical limitations that could not be circumvented or overcome through any amount of human agency. The only logical solution, from the Malthusian perspective, was to work towards reducing the demographic and

[85] Malthus, Thomas (1985) [1798]), *An Essay on the Principles of Population*, New York: Penguin Books.
[86] Ibid.
[87] Cited in: Homer-Dixon (1999), op. cit., p. 30. See also: Condorcet, Marquis de (2003) [1795], "Sketch for a Historical Picture of the Progress of the Human Mind", in Hyland, Paul, Olga Gomez and Francesca Greensides, eds. (2003), *The Enlightenment: A Sourcebook and Reader*, London: Routledge. Condorcet's position has foundations in still older scholarship, and represents an extension of Francis Bacon's work around the turn of the 17th century in which Bacon suggested scientific advancement as a way to extend the "bounds of human empire". See: Bacon, Francis and Lisa Jardin and Michael Silverthorne, eds. (2000) [1620], *The New Organon*, London: Cambridge University Press.

consumptive stresses being placed upon resources. These deep-rooted positions on humankind's capacity, or lack thereof, to overcome natural limitations remain relevant in current discourses on demography, resource use and the limits and possibilities of technology.

The following chapter demonstrates the relevance that the competing philosophical traditions briefly examined here have for the contemporary shape of the environmental security subfield. Enlightenment positions underscore environmental security approaches that explore natural resources strategically and emphasise the ways in which strategic resources have the capacity to undermine the security of individuals and/or socially constructed groups such as communities and states. The Romantic tradition predates environmental security positions that focus on securing environments themselves as opposed to the people, communities and states that depend upon them. The Marxist tradition, meanwhile, underwrites contemporary analyses suggesting that unjust commoditisation and distribution of resources creates insecurity for those at the bottom-end of capitalist economic constructs.[88] Finally, the Malthusian-utopian debate lives on through disagreements between neo-Malthusian positions on the earth's carrying capacity and liberal economic arguments on the ability of human ingenuity to overcome environmental constraints.[89] This thesis does not fit squarely into any of these traditions, but rather seeks a framework for environmental security analysis respective of aspects of multiple differentiated theoretical approaches. The following section's chapter breakdown shows how the construction of this framework construction proceeds.

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[88] Contemporary research approaches extending these foundational works are explored in the chapter 2.

[89] See for example: Pimentel, D., O. Bailey, P. Kim, E. Mullaney, J. Calabrese, L. Walman, F. Nelson and X. Yao (1999), "Will Limits of the Earth's Resources Control Human Numbers?", *Environment, Development and Sustainability,* (1) pp. 19-39; and Scanlan, Stephen J. (2001) "Neo-Malthusians and Technological Determinants of Food Security", *Sociological Forum*, 16(2), pp. 231-262.

## 3. Organisation of this Thesis

The remainder of this thesis consists of five chapters. The following chapter introduces the primary structural fractures that have characterised environmental security research since the early 1990s. In pursuit of this goal, the chapter first explores post-Cold War expansions of security studies that occurred concurrently with bourgeoning international attention to global environmental challenges. The confluence of these two analytical dynamics, which responded to tangible conditions in the international relations system, galvanised new efforts to include environmental considerations in security studies. This chapter defines security for the purposes of this thesis, reviews influential post-Cold War environmental security literature, and delineates specific areas of environmental security debate upon which the thesis subsequently focuses.

This thesis then moves to contribute to the primary methodological division that continues to demarcate environmental security research. The environmental security subfield is divided between highly inclusive, largely qualitative research methods and methodologies that are more quantitative and attempt to be more rigorous and testable. These competing methodologies address the same questions about the causal relevance of environmental variables for explaining cases of insecurity, but their differing approaches to these questions lead them to different conclusions. This thesis unpacks this debate and suggests a new methodological approach for reconciling some aspects of the debate and advancing the environmental security subfield through new methodological approaches.

The thesis applies its theoretical contributions through a comprehensive case study of environmental security challenges in the Mindanao regions of the southern Philippines. The

case study extrapolates a number of environmental factors that are causally-relevant to the creation and perpetuation of insecurity in Mindanao and in the process seeks to improve understandings of interplays among environmental and social variables. The thesis concludes by drawing lessons from the Mindanao case study for the wider environmental security subfield and revisiting issues concerning the relationship between the social and natural worlds.

# Chapter 2

***Muddy Waters: Navigating Environmental Security's Theoretical Terrain***

**Structure and Objectives**

This chapter introduces the theoretical foundations of environmental security that have emerged since the early 1990s.[1] These foundations reveal pervasive divisions along two primary lines of enquiry. The first line of enquiry regards the nature of security; what is being secured, by whom, and for what purposes. Debate over the appropriate positions on these referent object issues pits traditional theorists, who view security through a principally military lens, against expansionary theorists who bring multiple non-military variables into security discourse.[2] The chasm separating these two positions speaks to the very definition of security, and must therefore be engaged as a precursor to efforts to demarcate the parameters of the environmental security subfield. The second line of enquiry dividing environmental security scholarship focuses upon the appropriate role of the environment (if any) in security studies. A host of positions have emerged that seek to locate environmental factors within security discourse, and these positions reveal the differing emphases and definitional assumptions of contributing researchers. This chapter explores these dichotomous positions

[1] There are many competing notions on the meaning of the term 'environmental security'. For succinct discussions of these divisions see: Graeger, Nina (1996), "Environmental Security?", *Journal of Peace Research*, 33(1), pp. 109-116.; Elliott, Lorraine (1998), "What is Environmental Security? A Conceptual Overview", in Dupont, Alan, ed. (1998) *The Environment and Security: What are the Linkages*, Canberra: Australia National University.; and Matthew, Richard A. (1999), "Introduction: Mapping Contested Grounds", in Deudney, Daniel and Richard A. Matthew, eds., *Contested Grounds: Security and Conflict in the New Environmental Politics*, Albany: State University of New York Press. This chapter will make clear the areas of environmental security that are of primary interest for this thesis.

[2] For valuable work on traditional security positions see: Walt, Stephen M. (1991), "A Renaissance of Security Studies", *International Studies Quarterly*, 35, pp. 211-212. Kolodziej, Edward (1992), "Renaissance In Security Studies? Caveat Lector!", *International Studies Quarterly*, 36, pp. 421-438.; Gray, Colin (1995), "New Directions for Strategic Studies? How Can Theory Help Practice", *Security Studies* 1, pp. 610-636.; and Mearshiemer, John (1994/95), "The False Promise of International Institutions", *International Security*, 19, pp. 5-49. For valuable foundational literature on expanding the security discourse see: Ullman, Richard H. (1983), "Redefining Security", *International Security,* 8(1), pp. 129-153.; and Krause, Keith and Michael C. Williams (1996), "Broadening the Agenda of Security Studies: Politics and Methods", *Mershon International Studies Review,* 40, p. 229-254. For a review of scholarship on both sides of the security expansion debate see: Baldwin, David A. (1995), "Review: Security Studies and the End of the Cold War", *World Politics*, 48(1), pp. 117-141.

to uncover specific contentious areas of the environmental security discourse that require further analyses.[3]

This chapter thus proceeds in two primary sections that correspond to the two polarising lines of enquiry within environmental security. The first section reviews the security expansion discourse that occurred during the years surrounding the disillusionment of the bipolar international relations system. The aim of the section is to review some primary arguments of both traditional and expansionary security theorists and introduces a theoretical school that, while not polemically siding with either camp, offers an approach to security discourse that is valuable for addressing environmental questions. The second section synthesises environmental and security issues more overtly, and addresses the origins and character of the contemporary environmental security subfield. This section aims show the process by which environmental issues moved up the international relations agenda and into the purview of security studies. To this end, the section explores watershed events that revealed the growing relevance of the environmental sector in international relations, and reviews formative environmental security scholarship that accompanied such increased environmental attention. In combination, these two sections attempt to delineate the shape of the environmental security subfield and provide essential definitional and analytical foundations for the remainder of the thesis. The chapter concludes by introducing one of the subfield's primary challenges, a pervasive methodological schism, that is addressed by forthcoming analyses.

[3] Influential contributions to shaping the environmental security subfield include but are not limited to: Baechler, Günther and Kurt R. Spillman, eds. (1995), " Environment and Conflicts Project (ENCOP): International Project on Violence and Conflicts Caused by Environmental Degradation and Peaceful Conflict Resolution", *Centre for Security Studies,* Occasional Paper no. 14, pp. 1-185.; Homer-Dixon, Thomas F. (1991), "On the Threshold, Environmental Changes as Causes of Acute Conflict", *International Security*, Fall 16(2), pp. 76-116.; and Gleditsch, Nils Petter (1998), "Armed Conflict and the Environment: A Critique of the Literature", *Journal of Peace Research,* 35(3), pp. 381-400.

## 1.1 Security Sector Expansion

During the heightened tension of the Cold War, threat calculations had led a majority of Western scholarship and policy-making to equate security studies with military strategy.[4] According to security theorist Edward Kolodziej, "a focus on threat manipulation and force projections became central, almost exclusive, concerns of security studies."[5] Simon Dalby offers a similar classification of Cold War security approaches, stating "[s]ecurity in the Cold War was understood in terms of external threats coming from some place beyond the sphere of domestic political action and control. The response to these external threats was military force applied to counter the threat."[6] The realignment of international security priorities during the early 1990s expanded this narrow security scope. The fall of the Soviet Union reduced considerably the threat of nuclear confrontation involving major global powers. This threat had underwritten the strategic competition between the world's two great powers since World War II, and created a bipolar structure that affected the security calculations of states

[4] See: Baldwin, David A. (1995), op. cit. Baldwin offers a review of a wide-ranging body of scholarship on post-Cold War security studies reform; reviewing over fifty authors in four works: Allison, Graham and Gregory F. Treverton, eds. (1992), *Rethinking America's Security: Beyond Cold War to New World Order*, New York: W. W. Norton.; Gaddis, John Lewis (1992), *The United States and the End of the Cold War: Implications Reconsiderations, Provocations*, New York: Oxford University Press.; Hogan, Michael J., ed. (1992), *The End of the Cold War: Its Meaning and Implications*, New York: Cambridge University Press.; and Shultz, Richard, Roy Godson, and Ted Greenwood, eds., *Security Studies for the 1990s*, New York: Brassy's. Baldwin's analysis is admittedly limited by being US-centric, but, given the principal role of the US in international relations both during and after the Cold War, and the wealth of scholarship on security studies emanating from the US, these analyses are valuable. Baldwin asserts that the US conceptions of security became highly militarised during the periods of heightened tension during the Cold War and more expansive during calmer periods. Thus the period from 1955 to 1965, with its focus on nuclear deterrence, moved away from a more comprehensive assessment of security a decade earlier. Likewise, heightened tension in the late 1970s and early 1980s took attention away from rising policy sectors dealing with environmental challenges, poverty in the developing world and rising economic interdependence.

[5] Quoted in: Baldwin (1995), op. cit., pp. 123-4.

[6] Dalby, Simon (1999), "Threats from the South? Geopolitics, Equity, and Environmental Security", in Deudney, Daniel H. and Richard A. Matthew, eds. (1999), *Contested Grounds: Security and Conflict in the New Environmental Politics*, Albany: State University Press of New York, p.160.

around the world.[7] The dismemberment of the Soviet Union, by removing a primary player, unambiguously ended the bipolar strategic competition that was central to Cold War security calculations. This fundamental change in international security dynamics created a setting conducive for expanding the security discourse by allowing for greater attention to be paid to a wider-range of security concerns.

While the fall of the Soviet Union removed the primary impediment to broadening security discourse, the foundations for such an expansion existed long before the end of the Cold War.[8] Dalby points out some non-state-centric approaches to security that would gain traction in the 1990s were actually a return to the late-18th Century Enlightenment ideals.[9] Dalby argues that the "broadened agenda of political responsibilities" that accompanied the fall of the bipolar security system was consistent with the liberal policies of the late-18th and early-19th Centuries; as both eras witnessed efforts to erode the state-centrism of security definitions.[10] Shifting threat assessments that questioned military-centric security approaches were also in the offing prior to the fall of the Soviet Union. Addressing American security policies, Richard H. Ullman noted in the early 1980s that the United

[7] The end of bipolar geopolitical posturing dominating global security dynamics led to a myriad of propositions as to what new security dynamics would take primacy moving into the twenty-first century. Two acclaimed such suggestions were posited by Fukuyama, Francis (1992), *The End of History and the Last Man*, New York: Avon Books Inc.; and Huntington, Samuel P. (1996), *The Clash of Civilizations and the Remaking of World Order,* New York: Simon and Schuster. Expanding upon an earlier article, Fukuyama argues that the end of the Cold War signalled a fundamental shift in global security dynamics and a triumph of Western liberalism over competing ideologies. He sees the emerging world as one in which common economic interest and more homogeneous political cultures will make conflict less prevalent. Huntington, also expanding upon past work, suggests that fractures along lines of civilizations (defined through various linguistic, historical, cultural, religious and political ties), which were never fully dormant, will re-emerge as the primary security threats with the fall of the bipolar international systems. Neither of these seminal works on the post-Cold War restructuring of international relations gives much explicit attention to the environment. Based upon their main principles, however, Huntington would view environmental stress through the lens of competition among 'civilisations' over scarce resources and Fukuyama would espouse confidence that liberal economic policies and technological innovation would overcome scarcity limitations.

[8] The expansion of security studies discussed in this section is Western-centric, and based upon primary works written in English.

[9] Dalby, Simon (2002), *Environmental Security*, Minneapolis: University of Minnesota Press, p. 13. These enlightenment ideals, according to Dalby defined security as "individual freedom from political violence and as a precondition for economic activity."

[10] Ibid.

States' proclivity to focus on military issues at the expense to non-military threats could prove dangerous in the future.[11] For Ullman, such military myopia is irresponsible and he argues for the necessity of expanding security concepts; even if such an expansion is analytically and intellectually difficult.[12] The end of the US-Soviet bipolar power struggle would allow these expansionary foundations to flourish, and lead to a broadened security discourse that would largely define the field into the 21st Century.

Post-Cold War security literature is characterised by the re-evaluations of norms that had defined the field during previous decades. The international relations theorist David A. Baldwin explored much of the early post-Cold War security literature and observed themes that revealed an evolution of security concepts. Baldwin argues that the literature reveals that "military power has declined in importance in international politics," a re-examination of international security concepts is needed to respond to changing dynamics resulting from the end of the Cold War, and a broader view of security is needed to address "non-military external threats to national well-being as security issues."[13] Keith Krause and Michael C. Williams also analysed a range of post-Cold War proposals to amend security studies and reach similar conclusions to Baldwin regarding the field's movement away from a strict

[11] Ullman (1983), op. cit., p. 129. Ullman argues that political leaders find it "easier" to focus on military threats than non-military security challenges and also "easier" to build consensus on policies directed at a military enemy than to engage in non-military approaches that involve "other means of influence." For Ullman this is doubly problematic as it diverts domestic resources to military objectives that could be of more use if allocated to other sectors and also contributes to an overall "militarization of international relations" that will increase global insecurity long term.

[12] Ibid. Ullman derides the focus of security studies on Soviet-US threat perceptions, nuclear armaments and overall strategic posturing as being too narrow. He discusses these US-Soviet dynamics in some detail and, rather than refuting the Soviet nuclear threat, states that the US policy is too focused upon this threat to adequately address others; including conflict over scarce resources. Ullman also acknowledges the difficulties inherent in diffusing security concepts and lists various hypothetical conundrums that could accompany such an expansion. These difficulties do not dissuade him, however, from arguing for the appropriateness of such a widened scope.

[13] Baldwin (1995), op. cit., p. 118. On this first point, Baldwin divides scholars into those who find military threats less ubiquitous and those who question the use of military force as an effective tool of statecraft. He predicates the second point on the premise that previous security approaches had failed to predict the fall of the Soviet Union, and he bases his third assertion on the argument that conditions in the international system were fundamentally altered by the end of the Cold War.

military focus.[14] Krause and Williams divided security reformers into three categories: those attempting to "*broaden"* traditional security concepts to encompass a wide range of potential threats, those attempting to "*deepen"* security agendas either down to the individual level or up to the level of international security, and those wishing to retain a "state-centric approach" but modify security to include various multilateral and interstate cooperative objectives.[15] Uniting each of these approaches, Krause and Williams contend, is the repeated assertion that constricting security studies to focus on threats from external military forces was no longer sufficient in the post-Cold War era.[16] The cumulative relevance of expansionist post-Cold War literature was that it questioned the assumptions upon which decades of Western security thinking had been predicated, and challenged conventional answers to the elemental questions of what or who is being secured, from what threats, and by what means. These challenges created an environment in which a pressing list of non-military issues could be highlighted in the security discourse.

Within the environment of an expansionary security discourse, the United Nations Development Programme (UNDP) made a sweeping and influential contribution in the form of "human security" concepts.[17] A reflexive term, human security proposes shifting the primary referent object of security studies from states to individuals.[18] The UNDP defended such a shift in 1994, arguing that:

> The concept of security has for too long been interpreted narrowly: as security of territory from external aggression, or as protection of national interests in foreign policy or as global security from the threat of nuclear holocaust...Forgotten were the legitimate concerns of ordinary people who sought security in their daily lives...For many of them, security symbolised protection from the threat

[14] Krause and Williams (1996), op. cit. Krause and Williams point to influential neorealist theories specifically as a target for what they label the "critical" responses to antiquated approaches to security.
[15] Ibid., p. 230. Italics in original.
[16] Ibid.
[17] The human security concept first emerged in the 1993 *Human Development Report.* See: UNDP (1993), *Human Development Report, 1993*, New York: Oxford University Press.
[18] Human security therefore falls within what Krause and Williams categorise as "*deepened"* security.

> of disease, hunger, unemployment, crime, social conflict, political repression, and environmental hazards.[19]

The UNDP elaborated further upon the human security concept by organising its constituent parts along seven sectors:

1. *Economic security*, access to an income above poverty levels;
2. *Food security*, access to adequate food;
3. *Health security*, access to health care and disease prevention;
4. *Environmental security*, freedom from environmental hazards such as pollution and resource depletion;
5. *Personal security*, physical safety from violence such as war, torture and violent crime;
6. *Community security*, protection of traditional cultures and indigenous groups;
7. *Political security*, freedom from oppression and presence of political and civil rights.[20]

Human security has received much scholarly and political attention since its promulgation; resulting in several definitional variances.[21] The analytical point of convergence amongst these variances however, and the most important contribution made by human security, is the movement of individuals from being actors bearing the effects of state security policies to being subjects of securitisation in their own right.

Proposals for security expansion extended to traditionally military circles as well. In 1992 the sitting North Atlantic Treaty Organisation (NATO) Secretary General Manfred Worner argued that "the immense conflict building up in the Third World, characterised by growing wealth differentials, an exploding demography, climate shifts and the prospect for environmental disaster, combined with the resources conflicts of the future, cannot be left out

[19] UNDP (1994), *Human Development Report, 1994*, New York: Oxford University Press, p. 22.
[20] Ibid., pp. 24-33.
[21] See: Newman, Edward (2001), "Human Security and Constructivism", *International Studies Perspectives*, 2, pp. 242-247; King, Gary and Christopher J. L. Murray (2001-2002), "Rethinking Human Security", *Political Science Quarterly,* 116(4), pp. 585-610; and Henk, Dan (2005), "Human Security: Relevance and Implications", *Parameters*, Fall pp. 92-98.

of our security calculations."[22] Similarly, in 1992 the London-based International Institute for Strategic Studies (IISS), an organisation with a history of traditional security analysis, expanded its focus significantly. The IISS expanded its areas of concern from the "influence of modern and nuclear weapons of warfare upon the problems of strategy, defence, disarmament, and international relations" to a more encompassing agenda including "any major security issues, including without limitation those of political, strategic, economic, social or ecological nature."[23]

Shifts in military calculations, along with those which defined post-Cold War security literature and the contributions of the UNDP, reveal an extensive and significant reconsideration of concepts and policy strategies that defined security studies during the early to mid-1990s. These reconsiderations were united by the recognition that threats originate from multiple channels, and that strictly focusing upon state-based military actions and postures was insufficient for developing security calculi in a post-Cold War system. Such expansions of security concepts were not without opposition. Altering the referent object(s) of security studies, and opening up the field to include new non-military sectors was, for some, an inappropriate and analytically problematic approach.

### 1.2 Traditionalist Rebuttals

Critical arguments challenge the analytical value of security expansion, and demonstrate problems with many expansionist proposals. The most cutting critiques argue that the addition of multiple variables erodes the theoretical possibilities and analytical value of

[22] Quoted in: Kahl, Colin H. (2006), op. cit., p. 2. Italics added.
[23] Vale, Peter (1992), "Can International Relations Survive?" *International Affairs Bulletin*, 16(3), p. 100. Cited in: Henk, Dan (2005), "Human Security: Relevance and Implications", *Parameters*, Summer, p. 92. Italics added.

security research.[24] Stephen Walt, a principal neorealist scholar, determines the scope of security to be "the study of the threat, use, and control of military force" and tasks security inquiries with exploring "the conditions that make the use of force more likely, the ways the use of force affects individuals, states, and societies, and the specific policies states adopt in order to prepare for, prevent, or engage in war."[25] Walt goes on to assert that after the mid-1970s security studies became more "rigorous, methodologically sophisticated, and theoretically inclined," and that this led to an increased prominence for the security field.[26] For Walt, expanding the field beyond these familiar known parameters would "destroy its intellectual coherence" and make the emerging problems added to security studies more difficult to address.[27]

Roland Paris lodges similar grievances towards human security specifically. Paris evaluates multiple approaches to human security research and concludes that the concept has little utility for either policy makers or scholars.[28] He declares that the excessive inclusiveness of human security means that it lacks the analytical separation necessary to discuss the causes of security threats.[29] Paris concludes that "if human security means almost anything, then it effectively means nothing."[30] For Paris and for Walt, retaining an appropriately confined definition of security is vital for ensuring the definitional clarity of security studies and preventing the cooption of the field by an unmanageable agenda.

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[24] See: Gray (1995), op. cit.; and Mearshiemer (1994/95), op. cit.
[25] Quoted in: Stern, Eric K. (1999), "The Case for Comprehensive Security", in Duedney, Daniel and Richard A. Matthews, eds., *Contested Grounds: Security and Conflict in the New Environmental Politics*, SUNY Press, p. 135.
[26] Walt (1991), op. cit., pp. 211-212. Walt defines security as a 'subfield' rather than a 'field.' This thesis, conversely, delineates security as a 'field' under which environmental security exists as a 'subfield.'
[27] Ibid., For a detailed review of these and other neorealist claims see: Krause and Williams (1992), op. cit.
[28] Paris, Roland (2001), "Human Security: Paradigm Shift or Hot Air?", *International Security*, 26(2), pp. 87-102.
[29] Ibid.
[30] Ibid., p. 93.

Such traditionalist opposition is unsurprising, given that many proposals for security expansion fundamentally alter what is meant by the term 'security' and challenge foundational beliefs on the hierarchical relationship between the state and the individual. The security expansion conundrum, however, is that traditional models rigorously focus on military matters and thus run the risk of overlooking security threats emanating from non-traditional, non-military sources. Expansive security concepts, conversely, address this problem by becoming more inclusive, but in doing so risk becoming substantively and analytically ineffectual. The theoretical school of comprehensive security presents an approach that is well-placed to address this conundrum, and as such provides a valuable framework for integrating environmental considerations into security discourse.

### 1.3 Comprehensive Security

Comprehensive security theory (CST) seeks to expand the security discourse while still retaining analytical rigour.[31] CST engages with multiple referent objects and includes numerous non-military sectors in its analyses. However, rather than opening up security analyses in ways that lead to unmanageably inclusive agendas, CST deliberately explores and delineates appropriate referent objects for particular security sectors. Specifically, CST divides security enquiry into five sectors; each of which have unique and specific approaches to the referent object question. The sectors are delineated as follows:

1. *Military security*, "concerns the two-level interplay of the armed offensive and defensive capabilities of states, and states' perceptions of each other's intentions";

[31] The foundational work on comprehensive security is: Buzan, Barry (1983), *People, States and Fear: The National Security Problem in International Relations*, Brighton: Wheatsheaf Books. Buzan revised comprehensive security structures in a second addition of this work: Buzan, Barry (1991), *People, States and Fear: An Agenda for International Security Studies in the Post-Cold War Era*, 2nd ed. Hemel Hemstead: Harvester Wheatsheaf.

2. *Political security,* "concerns the organizational stability of states, systems of government and the ideologies that give them legitimacy";
3. *Economic security,* "concerns access to the resources, finance and markets necessary to sustain acceptable levels of welfare and state power";
4. *Societal security,* "concerns the sustainability, within acceptable conditions for evolution, of traditional patterns of language, culture and religious and national identity and custom";
5. *Environmental security,* "concerns the maintenance of the local and the planetary biosphere as the essential support system on which all other human enterprises depend."[32]

CST divides security in this fivefold manner as a way to "disaggregate" complex wholes within security enquiries for the purpose of observing patterns both within and among the sectors.[33] Organising security questions into sector, argue Buzan and colleagues, is an effective way to "reduce complexity" and create coherent structures during initial phases of exploring security dilemmas.[34] This sectorisation therefore provides structural rigour to an expansive security agenda.

Buzan and colleagues take a complementary approach to delineating the levels of analysis for the security sector.[35] Levels of analysis refer to the different strata within the international relations system that can be relevant for security enquiry. These strata span a continuum from the micro (individuals) to the macro (international systems), and include multiple levels in between. CST delineates five levels of analysis for structural clarity, and to

[32] List adapted from: Buzan, Barry (1991), op. cit., pp. 21-22. Italics added.
[33] Buzan, Barry, Ole Wæver and Jaap de Wilde (1998), *Security: A New Framework for Analysis*, London: Lynne Rienner Publishers, Inc., p. 8.
[34] Ibid.
[35] Buzan notes that differing approaches to levels of analysis represent central fracture points throughout international relations theory. See: Buzan, Barry (1994), "The Level of Analysis Problem in International Relations Reconsidered", in Booth, Ken and Steve Smith, eds. (1994), *International Political Theory Today*, London: Polity Press, pp. 385-399. For an account problematising the state-centrism that often dominates levels of analysis discourse see: Walker, R. B. J. (1993), *Inside/Outside: International Relations as Political Theory*, Cambridge: Cambridge University Press.

address the levels of analysis divisions at the centre of other security debates. The categories are as follows:

1. *International systems,* large interacting units with global scope that have no system level above them;
2. *International subsystems,* groups of units within the international system that are distinguished by "the particular nature or intensity of their interactions with or interdependence on each other." Regional organisations are the primary exemplars of this group;
3. *Units,* "actors composed of various subgroups, organisations, communities, and many individuals" which are cohesive enough to be differentiated from others. The primary example of a unit is the state;
4. *Subunits*, organised groups attempting to influence the behaviour of units. Subunits include Non-Governmental Organisations (NGOs), bureaucracies and lobbies;
5. *Individuals*, the "bottom line" of analysis in all social science.[36]

Buzan and colleagues argue that dynamics within each of these five levels of analysis have relevance for security inquiry. The authors argue that each level should be included in security explorations as "[t]hey enable one to locate the sources of explanation and the outcomes of which theories are composed."[37] In other words, important processes and actors should not be marginalised in security discourse because they fall outside of traditional statist approaches. This approach to levels of analysis allows CST to circumvent problems that define, to a large extent, the referent object debate between expansionary and traditional approaches to security studies. The primary fracture between traditional and human security approaches, for example, stems from the fact that the former is concerned almost exclusively with states (units) and the latter with people (individuals). By not aligning squarely with

[36] This list is adapted from: Buzan, Wæver and de Wilde (1998), op. cit., pp. 5-6.
[37] Ibid., p. 6. Buzan and colleagues do not suggest that all levels of analysis are of equal relevance for respective security questions, and they recognise the central role that the state continues to play in the international system. This central role is in fact represented in the CST levels of analysis model, in that subunits and individuals are parts of states and subsystems and systems consist largely of states.

either of these polemic positions, CST is able to create a framework that respects the relevance of a wider range of security issues.

CST's sectored approach to security, which respects the role of multiple levels of analysis, provides a valuable theoretical foundation from which to frame environmental security questions. Since natural resources underpin a wealth of social activities, it is a logical corollary that the degradation of such resources can create ramifications for the social activities which they underwrite. Such impacts are not confined to individuals, states or international systems, but conversely are relevant across multiple levels of analysis. The sectored approach, meanwhile, is valuable for environmental security because it creates a framework for analysing the role that environmental variables play in conjunction with the dynamics in other sectors. CST sectors are not independent from each other but rather interactive parts of a larger whole, and environmental factors are rarely, if ever, the sole causes of insecurity. As such, CST respects the multiplicitous causes of insecurity and suggests that, after the initial sectorisation of a security problem, the task becomes one of "reassembling" the sectors to gain a greater understanding of relationships among them.[38] For environmental security research, such reassembling entails pursuing greater understandings of the complex interplays that exist among natural and social dynamics and theorising about the implications that these interplays have for security studies. A reading of contemporary environmental security literature reveals that developing such improved social-environmental understandings has been a longstanding goal of the subfield, and one for which the organisational framework of CST is well-placed to assist. Exploring the origins

[38] Ibid., p. 8. Buzan and colleagues write that "disaggregation [into sectors] is performed only to achieve simplification and clarity. To achieve understanding, it is necessary to reassemble the parts and see how they relate to each other."

and character of contemporary environmental security contributions is therefore an important next step for extending the theoretical foundations of this thesis.

## 2.1 Origins of Contemporary Environmental Security

The formative period for contemporary environmental security research occurred from the late-1980s through the mid-1990s.[39] This period, not coincidentally, saw the post-Cold War security sector expansions occur concurrently with the rise of environmental issues in international relations discourse and institutional policy attention. The confluence of security expansion, which was enabled by waning threat perceptions regarding great power conflict and growing environmental awareness, provided a setting in which syntheses between the environmental and security disciplines became more likely and appropriate. Growing environmental awareness and policy attention during these years bolstered subsequent environment security research, and the 1987 publication of the so-called Brundtland Report and the convening of the 1992 Earth Summit both proved to be particularly formative events.[40]

The 1987 Brundtland Report described humankind's nascent capacity to affect ecological systems during the late 20th Century. The Report explores humankind's multifaceted relationship with the natural environment and reflects the increasing attention that this

[39] For a useful review of environmental security literature from this period see: Dabelko, Geoffrey D., Steve Lonergan, and Richard Matthew (1999), *State of the Art Review on Environment, Security and Development Co-operation*, Geneva: IUCN.

[40] The Brundtland Report is the commonly used name for: Brundtland, Gro Harlem, et. al. (1987), *Our Common Future: Report of the World Commission on Environment and Development*, Oxford: Oxford University Press. The Earth Summit refers to the United Nations Conference on Environment and Development (UNCED) that was held in Rio de Janeiro, Brazil in 1992.

relationship had garnered since the early 1970s.[41] The Brundtland Commission discusses the origins of this growing attention to environmental issues and compares the recent viewing of earth from space as a watershed event comparable in its social effects to the Copernican Revolution of the 16th Century.[42] The Report's disquieting findings affirm that, during the 20th Century, humankind had vastly expanded its capacity to alter natural systems. The Report's introduction states:

> When the century began, neither human numbers nor technology had the power radically to alter planetary systems. As the century closes, not only do vastly increased human numbers and their activities have that power, but major, *unintended* changes are occurring in the atmosphere, in soils, in waters, among plants and animals, and in the relationships among all of these.[43]

The claim of unintended consequences is significant, for it signals that human actions, which were responsible for great technological and social advancement during the 20th Century, were concurrently affecting natural systems in ways not fully understood. Humankind's "inability to fit its activities" into the world's natural systems, the authors claim, was leading to dangerous risks for both natural systems and human populations reliant upon them.[44] The "threats" posed by environmental stress were of a new ilk as they resulted not from the deliberate actions of a perceivable enemy, but rather emanated from seemingly progressive attempts to utilise resources to promote development across societies. In response, the Brundtland Report charges that reconsidering the ways in which human systems interact with

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[41] DeSombre, Elizabeth R. (2007), *The Global Environment and World Politics,* 2nd Edition, New York: Continuum International Publishing Group, p. 9-10. The early 1970s saw growing international environmental attention, which was exemplified and amplified by the Stockholm Convention on the Human Environment in 1972. This is not to suggest, however that the Stockholm Convention represented the origins of international institutional activities aimed at addressing environmental degradation. Elisabeth R. Desombre points to early-20th Century international cooperation regarding wildlife, such as the 1911 Fur Seal Convention, as preliminary success stories in environmental collaboration. She states, however, that the "modern era of international environmental cooperation is generally traced" to Stockholm in 1972.

[42] Brundtland, et. al. (1987), op. cit., p. 1. The Report states that this image conveys the "small and fragile" character of the earth dominated not by human activities, but by its physical attributes of clouds, soils, oceans and vegetation.

[43] Ibid., p.22. Italics added.

[44] Ibid., p. 1.

the environment is essential for preserving the "security, well being, and very survival of the planet."[45]

The Brundtland Report argues that environmental stresses have ramifications for a broad range of social systems, including those tasked with preserving security. The Report addresses instability and violence explicitly, stating that "[e]nvironmental stress is both a cause and an effect of political tension and military conflict."[46] The Brundtland Commission elaborates upon this claim by arguing that interplays among environmental stress, poverty and conflict exists but are exceedingly complex and scantily understood, and suggesting that when environmental and social stresses occur in conjunction in the developing world that they contribute to insecurity.[47] The Brundtland Commission cites cases in Ethiopia, where soil degradation led to famine and unrest, and in sub-Saharan Africa, where famine led to large refugee populations and increasing interstate tension, to support claims that the environment belongs in security calculations.

The Brundtland Report also provided evidence that persistent unsustainable development practices were depleting resources, both locally and as part of the global commons, and that such practices exacerbated the risk of competition over increasingly scarce resource stocks.[48] Predicting future work on environmental security, the Brundtland Report claims that environmental stress alone does not lead to insecurity, but rather is part of a "web of

[45] Ibid., p. 23. The previous statement in the Brundtland Report concerning humanity's contemporary need to 'fit' into a planetary system that exists as a part of vast physical environment much greater than themselves (ie. universe) runs somewhat counter to this statement about humankind's ability to compromise the very survival of the earth itself. The clearest way to reconcile these potentially contradictory concepts is to assume that such language referring to the survival of the planet actually refers the survival of a planet fit for human existence. This is an important distinction to make when analysing humanity's overall relationship with ecological systems and calls into question the validity, at least from a linguistic perspective, of statements about 'saving' the planet.
[46] Ibid., p. 290.
[47] Ibid., pp. 291-292
[48] Ibid., pp. 291-292.

causality" contributing to conflict in which environmental factors can be catalytic.[49] The Report provides evidence for such claims in broad terms but stops far short of demarcating the relationships linking the environment and insecurity.[50] Despite these uncertainties, however, the Brundtland Commission still strongly advocated for shifting away from a traditional approach to security:

> The whole notion of security as traditionally understood—in terms of political and military threats to national sovereignty—must be expanded to include the growing impacts of environmental stress—locally, nationally, regionally, and globally...a comprehensive approach to international and national security must transcend the traditional emphasis on military power and armed competition.[51]

An expansion of this nature, the Report states, "could evolve through the widespread acceptance of broader forms of security assessment and embrace military, political, environmental, and other sources of conflict."[52] Such an effort to expand the role of environmental issues in security and political sectors would take place five years hence, at the then-largest environmental summit ever convened.

The 1992 UN Conference on Environment and Development (UNCED), or Earth Summit, built upon the work of the Brundtland Commission and became a watershed event for international environmental dialogue.[53] UN Secretary General Boutros Boutros-Ghali and the President of the Conference, Fernando Collar of Brazil both praised the Brundtland Commission for its "widely noted" theoretical advancement of environmental research, and

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[49] Ibid., p. 291. For further analysis connecting the Brundtland Report to future work on environmental security see: Dabelko, Geoffrey D. (2008), "An Uncommon Peace: Environment, Development, and the Global Security Agenda, *Environment*, 50(3), pp. 34-36.

[50] The format of the Brundtland Report necessitates such broad scope and precludes the possibility of substantive and rigorous case studies. In three paragraphs on environmental stress and insecurity, the Report address the security implications of drought and famine in the Horn of Africa, environmental refugees moving from the Sahel, and soil degradation in Central America. This macro approach represents a clear limitation of the Brundtland Report, but does not detract from its importance for the promotion of the environmental security agenda.

[51] Ibid., p. 290.

[52] Ibid., p. 303.

[53] Brundtland Commission chairperson Harlem Gro Brundtland addressed the Conference, and the UN Secretary General Boutros Boutros-Ghali, President of the Conference Fernando Collar of Brazil, and the Conference Secretary General Maurice F. Strong, among others, all discussed the Brundtland Report explicitly in their addresses.

John S. Dryzek called the Earth Summit "a lengthy and detailed follow-up to Brundtland's efforts."[54] Maurice F. Strong, Secretary-General of the Conference, stated that the Brundtland Commission "*made clear* in its landmark report [that] the environment, natural resources and life-support systems of our planet have continued to deteriorate, while global risks like those of climate change and ozone depletion have become more acute."[55] Strong recognised that such problems, apparent as they may have been during the early 1990s, would only become more severe with growing populations and "human activity" in the future.[56] The Earth Summit's significance for environmental security was that it provided an arena for bringing the Brundtland Commission's findings, including those concerning connections between the environment and security, to a large and influential audience.

The Earth Summit hosted 171 national government delegations, over 100 led by heads of state, along with industry leaders and a bourgeoning environmental NGO contingency. Boutros-Ghali spoke to the landmark scope of the Summit when he declared that its convening would come to symbolise a "great epistemological break" when viewed by future generations.[57] The UN Secretary General further stated:

> In the past, the individual was surrounded by nature so abundant that its immensity was terrifying. This was still true at the beginning of this century... Yet, the time of the finite world has come, a world in which we are under house arrest: what this means is simply that nature no longer exists in the classic sense of the term, and that henceforth nature lies within the hands of man.[58]

Boutros-Ghali's statement encapsulated the underlying principle of the Earth Summit: that the relationship between the environment and social activity was changing rapidly and that these changes required greater international attention. The scope of the Summit leant this

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[54] Dryzek, John S. (2005), *The Politics of the Earth: Environmental Discourses*, Oxford: Oxford University Press, p. 149. The phrase "widely noted" came from Boutros-Ghali, with Collar offering similar sentiments. See: UNGA (1992), *Report of the United Nations Conference on Environment and Development: Rio de Janeiro, 3-14 June 1992*., Annex II Opening Statements, pp. 35-63, UN A/CONF.151/26 (Vol. IV). Accessed on 1 September, 2010 via: <http://www.un.org/esa/documents/ga/conf151/aconf15126-4.htm>
[55] Ibid. Italics added.
[56] Ibid.
[57] Boutros-Ghali, Boutros (1992), in United Nations General Assembly (1992), op. cit., pp. 35-63.
[58] Ibid.

underlying principle access to a considerable public platform. According to C. Anthony Giffard, the Earth Summit was the largest international conference ever held and the first major international conference of the post-Cold War era.[59] Tens of thousands of people and hundreds of Non-Governmental Organisations (NGOs) attended the Summit and its parallel Global Forum.[60] Over 7,000 journalists from both localised and global media outlets covered the Summit, releasing hundreds of reports for global syndication during the Summit.[61] The Earth Summit's high level political representation, wide-ranging non-governmental participation and extensive media coverage had the cumulative effect of accelerating the movement of environmental issues into a higher echelon in the international relations hierarchy.[62] This movement coincided with the publication of formative environmental security literature. The literature would expand upon the basic premises put forth in the Brundtland Report, and provide the foundations for a more mature environmental security discourse.

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[59] Giffard, C. Anthony (1996), "International News Agency Coverage of Rio Earth Summit", in Braman, Sandra and Annabelle Sreberny-Mohammadi, eds. (1996), *Globalization, Communication and Transnational Civil Society*, Cresskill, NJ: Hampton Press, p. 197.

[60] The Global Forum was held in conjunction with the UNCED in Rio de Janeiro. It was convened specifically for NGOs.

[61] Klein, Hans (2004), "Understanding WSIS: An Institutional Analysis of the UN World Summit on the Information Society", *Information Technologies and International Development*, 1(3-4), Spring-Summer, p. 4. C. Anthony Giffard studied wire service reports over the period from 13 May – 14 June, which represents the two weeks prior to the Conference and the Conference itself. The study records 167 reports submitted by Reuters, 69 by the NY Times News Service, 102 by the AP and 85 by the IPS English Service. See: Giffard (1996), op. cit.

[62] The movement of the environment up the international relations hierarchy is evidenced, not least of all, by the continuation of large-scale environmental summitry and growing domestic and international political attention to environmental issues since convening of the Earth Summit. This is not to suggest that the subsequent international environmental regimes have successfully achieved their stated objectives. The Earth Summit did leave tangible legacies. It created a unified set of principles and a plan of action for the principles' implementation. The plan of action led to, among other things, the formation of the UNFCCC and prompted roughly 150 countries to implement national commissions for sustainable development. Measuring the efficacy of such efforts is inherently difficult, however, as Elizabeth Desombre points out. Desombre cites the difficulties with monitoring international environmental regimes that result from ambiguities regarding natural and anthropogenic changes, the presence of time lags from the point of regulation until the results are realised, and the futility of constructing additional measurements of how degraded a given natural resource would be if no regulation or less effective regulation been pursued. See: Desombre (2007), op. cit.

## 2.2 Formative Contributions to the Environmental Security Subfield

Jessica Tuchman Mathews' oft-cited 1989 article "Redefining Security" helped shape the environmental security subfield by forcefully arguing that global environmental stresses represent significant security threats to individuals, states and the international system.[63] Despite the title of the article, Mathews focused relatively little attention to "redefining security" explicitly, and concentrates on illuminating dangerous environmental projections that she contends have the potential to foment wide-ranging social instability. Focusing on the developing world, Mathews argues that the prevailing trends at the end of the 1980s regarding demography and renewable resource management could lead to economic declines that result in "frustration, resentment, domestic unrest, and even civil war."[64] She also emphasises the transboundary character of environmental systems, and calls for multilateral cooperation to address the dangers emanating from environmental stress. Mathews writes:

> The majority of environmental problems demand regional solutions which encroach upon what we now think of as the prerogatives of national governments. This is because the phenomena themselves are defined by the limits of watershed, ecosystem, or atmospheric transport, not by national borders. Indeed, the costs and benefits of alternative policies cannot often be accurately judged without considering the region rather than the nation.[65]

[63] Mathews, Jessica Tuchman (1989), "Redefining Security", *Foreign Affairs*, Spring, pp. 162-177. Mathews argues that while state destabilisation is a likely result of environmental stress, environmental challenges do not respect state boundaries.

[64] Ibid., pp. 167-168. Notably, Mathews also points out the ineffectuality of the term "renewable resource." She writes on page 164: "An important paradox to bear in mind when examining natural resource trends is that so-called non-renewable resources-such as coal, oil and minerals-are in fact inexhaustible, while so-called renewable resources can be finite. As a non-renewable resources becomes scarce and more expensive, demand falls, and substitutes and alternative technologies appear. For that reason we will never pump the last barrel of oil or anything close to it. On the other hand, a fishery fished beyond a certain point will not recover, a species driven to extinction will not reappear, and eroded topsoil cannot be replaced (except over geological time). There are thus threshold effects for renewable resources that belie the name given them, with unfortunate consequences for policy."

[65] Ibid., pp. 174-175. Matthews expands upon her calls for greater functional international cooperation to also call for the establishment of a global sense of "shared destiny".

Mathews further contends that demographic stress and resource mismanagement could lead to acute transboundary challenge resulting from forced migration and its attendant social and ecological stresses upon receiving communities.[66]

Mathews' primary contribution to future environmental security research is her argument that the traditional sanctity of the sovereign state has been eroded by environmental realities and that maintaining the security status-quo regarding state interests is therefore counterintuitive. Mathews states:

> ...traditional prerogatives of nation states are poorly matched with the needs for regional cooperation and global decision making. And ignorance of the biological underpinning of human society blocks a clear view of where the long-term threats to global security lie.[67]

In addition to criticising state-centric thinking, this passage reflects Mathews' overarching position that nature underlies all social systems; including those tasked with ensuring security. Mathews brought to the fore prescient questions about the preparation, or lack thereof, of individuals, states and international systems to address modern environmental stresses, and she elucidated ways in which environmental realities necessitate new analytical and policy approaches. Mathews also provided an important impetus for further environmental security research by vehemently maintaining the vital, and by her estimation underappreciated, role that natural resources play in preserving social stability. Mathews stopped short, however, of providing detail on the *processes* by in which environmental stress would lead to insecurity throughout her multiple levels of analysis. She also made only a marginal contribution to analysing the character of insecurity that might result from the acute environmental stresses that were her focus. Robert Kaplan's subsequent polarising article engaged with these processes more explicitly, and brought greater attention to ways in which

[66] Ibid., p. 168. Mathews calls the migrants "environmental refugees", a term that she does not define but rather discusses as though it is reflexively understood. Later work would illuminate the difficulties inherent in this terminology. See: Swain (1996a), op. cit.; and Graeme (1996), op. cit.
[67] Mathews, op. cit., p. 173.

environmental stress might contribute to unrest and conflict in developing states throughout the world.[68]

Kaplan's "The Coming Anarchy" constructs an image of a future world filled with chaos, war, large-scale erosions of nation states and the redrawing of international borders. At the centre of Kaplan's images of social breakdowns are environmental degradation, resource depletion and competition, and perpetual violence throughout the growing populations of the developing world. For Kaplan, correlations between these natural and social phenomena are inadequately understood and the leadership structures of the early 1990s ill-prepared to deal with such emerging challenges. He writes:

> Mention The Environment or "diminishing natural resources" in foreign-policy circles and you meet a brick wall of scepticism or boredom. To conservatives especially, the very terms seem flaky... It is time to understand The Environment for what it is: the national-security issue of the early twenty-first century.[69]

Kaplan defends his claim on the primacy of environmental issues for 21st Century security calculations by naming several emergent trends that would create new strategic challenges. Kaplan writes:

> The political and strategic impact of surging populations, spreading disease, deforestation and soil erosion, water depletion, air pollution, and, possibly, rising sea levels in critical, overcrowded regions... - developments that will prompt mass migrations and, in turn, incite group conflicts - will be the core foreign-policy challenge from which most others will ultimately emanate, arousing the public and uniting assorted interests left over from the Cold War.[70]

For Kaplan, the environmental issues facing the developing world were rapidly accelerating because of growing populations, underdevelopment, social fractures and environmental

[68] Kaplan, Robert D. (1994), "The Coming Anarchy", *The Atlantic Monthly,* February. The version of the article used here was accessed on 1 May, 2010 via: <http://www.theatlantic.com/politics/foreign/anarchy.htm>. According to Marc A. Levy, Kaplan's article received great attention in top political echelons in Washington, with President Clinton having "scribbled notes on his personal copy" and his Cabinet members repeatedly alluding to the piece in testimonies before the US Congress. See: Levy, Marc A. (1995), "Is the Environment a National Security Issue?" *International Security*, 20(2), p. 35.
[69] Kaplan (1994), op. cit., p. 11.
[70] Ibid.

degradation.[71] He predicts that as populations increase, competition for resources among both states and local actors would become more pronounced and result in large-scale state failure and widespread violence.[72] Kaplan points to West Africa as the region most vulnerable in the short term but states that much of the rest of the world could soon be facing the same Malthusian fate.[73]

Kaplan asserts that while the effects of environmental stresses will be felt globally, the effectiveness of addressing these stresses will vary widely. He describes a dichotomised scenario of haves and have nots, stating:

> We are entering a bifurcated world. Part of the globe is inhabited by Hegel's and Fukuyama's Last Man, healthy, well fed, and pampered by technology. The other, larger, part is inhabited by Hobbes's First Man, condemned to a life that is "poor, nasty, brutish, and short." Although both parts will be threatened by environmental stress, the Last Man will be able to master it; the First Man will not.[74]

Kaplan contends that the global community must be prepared for the fracturing of the contemporary international system as a result of demographic and environmental stresses; against which developing states will be unable to cope.[75] He bolsters this position by citing a conversation with influential environmental security theorist Thomas Homer-Dixon in which

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[71] Ibid., p. 23. Kaplan buttresses this position by arguing that the world was already full of social fractures as the result of sovereign borders that often did not represent actual control over a given area. Kaplan maintains a "healthy scepticism of maps" resulting from his travels in the politically chaotic West African region, experiences with Eritrean guerrillas in northern Ethiopia and Kurdish fighters in northern Iraq, and time spent in areas controlled by mafia forces in the Caucasus. For Kaplan maps represent "conceptual barrier" that prevents analysts from acknowledging the break-up of the state system in its contemporary form. For more analysis on these cartographic issues see: Shapiro, Michael J. (2007), "The New Violent Cartography", *Security Dialogue*, 38(3), pp. 291-313; and Neocleous, Mark (2003), "Off the Map", *European Journal of Social Theory*, 6(4), pp. 409-425.

[72] Kaplan (1994), op. cit., p. 5. Kaplan discussed his own experiences in West Africa's dilapidated cities, shows demographic figures for rapid population growth and urbanisation in Sierra Leone and Ivory Coast and concludes that: "... it is Thomas Malthus, the philosopher of demographic doomsday, who is now the prophet of West Africa's future. And West Africa's future, eventually, will also be that of most of the rest of the world."

[73] Ibid.

[74] Ibid., p. 13., Hobbes (1999) [1651], *Leviathan*, Hamilton, Ontario: McMaster University.; Fukuyama (1992), op. cit. The "Last Man" here alludes to citizens of the developed world that will be able to use technology and innovation to overcome many future environmental challenges, whereas the "First Man", citizens of the developing world and the majority of global population, will suffer. Kaplan employs hypothetical examples of responses to sea-level rise in which the United States builds dikes to save Chesapeake beaches while the Maldives 'sink into oblivion' and receding shorelines in Egypt, Bangladesh and Southeast Asia cause mass population flows and sharpen ethnic divisions.

[75] Ibid.

Homer-Dixon suggests that environmental realities necessitate new decision making calculations.[76] Kaplan quotes Homer-Dixon as stating:

> ...for too long we've been victims of 'social-social' theory, which assumes there are only social causes for social and political changes, rather than natural causes, too. This social-social mentality emerged with the Industrial Revolution, which separated us from nature. But nature is coming back with a vengeance, tied to population growth. It will have incredible security implications.[77]

Kaplan's article brought attention and controversy to environmental security discourse. His work did not go uncriticised and was accused of being alarmist and for failing to solidify claims about the environment as the eminent future fomenter of insecurity.[78] Dalby provides a particularly thorough critical account of Kaplan's article stating:

> Precisely where the crucial connections between environmental change, migration, and conflict should be investigated, the analysis turns away to look at ethnic rivalries and the collapse of social order. The connections are implied, not demonstrated; the opportunity for detailed analysis missed; and the powerful rhetoric of the argument retraces familiar political territory instead of looking in detail at the environment as a factor in social change. In this failure to document the crucial connections in his case, Kaplan ironically follows Malthus, who relied on his unproven key assumptions that subsistence increases only at an arithmetic rate in contrast to geometric population growth.[79]

Despite Dalby's well-placed criticisms, Kaplan's work retains significant value. The scenarios that Kaplan posited on the breakdown of social order in response to growing demographic and environmental stress would remain at the centre of environmental security research as it progressed into the 21st Century. Issues of instability along group identity lines, resource competition, migration, dangerous demographic shifts and the dichotomy between the developed and developing world all continue to be pertinent to environmental security research. Kaplan's arguments, despite shortcomings, garnered increasing attention for important environment-security connections that would be solidified through subsequent

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[76] Kaplan (1994), op. cit., p. 12. Kaplan boldly compares Homer-Dixon's formative 1991 article on the environment and violent conflict to the eminent work on US Cold War strategy by George F. Kennan. Kaplan then suggests that environmental security scholars will be the standard-bearers of contemporary Western security strategies. The article Kaplan refers to here is credited to George Kennan, although it was signed as 'X'. See: X (1947), "The Sources of Soviet Conduct", *Foreign Affairs*, July. This article was accessed on 5 October, 2010 via: <http://www.foreignaffairs.com/articles/23331/x/the-sources-of-soviet-conduct>

[77] Homer-Dixon quoted in: Kaplan (1994), op. cit., p. 14.

[78] Simon Dalby offers perhaps the most detailed critique of Kaplan's "The Coming Anarchy". See: Dalby (2002), op. cit., pp. 18-40

[79] Ibid., p. 36.

research. A key developer of this growing body of environmental security research was Kaplan's former interviewee, Thomas Homer-Dixon.

Throughout the 1990s, Homer-Dixon explicitly and systematically addressed environmental stresses as potential causes of violent conflict.[80] In doing so, he made two essential contributions to the foundations of environmental security. First, Homer-Dixon contributed a valuable assessment of six profound difficulties associated with linking the environment and conflict through rigorous research. These difficulties are as follows:

1. Traditional terrestrial and aquatic environmental challenges have been neglected in favour of atmospheric concerns;
2. Much of the existing work is anecdotal;
3. Environmental phenomena have multiple causes and effects and a mass of intervening variables in a complex, interactive, non-linear structure and are therefore inherently difficult to analyse;
4. Prevailing epistemological and ontological approaches to social science not suited for linking physical and social variables;
5. Researching environmental conflict requires a wide array of transdisciplinary knowledge and;
6. Modern international relations theory used to understand security is not sufficient for explaining environmental conflict dynamics.[81]

Like Mathews, Homer-Dixon argues through these six points that prevailing analytical and policy approaches to international relations, and security studies more specifically, are not up to the task of recognising and addressing the threats posed by environmental dynamics.

[80] For a defence of Homer-Dixon's role in establishing the terminology of environmental security see: Dalby (2002), op. cit., pp. 18-20. For Homer-Dixon's first major contribution to the subfield see: Homer-Dixon (1991), op. cit. Homer-Dixon avoids the term "security" to a great extent throughout his work. He states that the enormous complexity surrounding the concept of security, particularly when conceived with a broad definition, makes it too large a topic for analytical use; a problem Homer-Dixon addresses by substituting the word "conflict." This thesis uses the term security as it is defined by CST.

[81] Homer-Dixon (1991), op. cit., pp. 83-84. These challenges remain relevant and much existing work in environmental security has been criticised along criteria outlined here, including (somewhat paradoxically) work conducted under the leadership of Homer-Dixon. Analysis of such criticisms is forthcoming.

Homer-Dixon responds to these perceived shortcomings through his second contribution to the foundations of the subfield: a substantive research agenda for future environmental security enquiry that explores the potentially causal relationships between environmental stress and violent conflict.[82] Homer-Dixon recognises that to better understand these relationships research must engage with the complex causal webs, containing both environmental and social variables, which lead conflict.

Specifically, Homer-Dixon hypothesises that acute environmental stress has the capacity to foment conflict by causing economic declines, decreasing agricultural production, population displacements and the erosion of political institutions.[83] Homer-Dixon then divides the conflicts ensuing from environmental stresses into the categories of simple scarcity, group-identity and relative deprivation conflicts respectively.[84] Simple scarcity conflicts arise from a zero-sum approach to resource exploitation that encourages stakeholders to employ violence to acquire increasingly scarce natural commodities.[85] Group identity conflicts are defined by the encroachment of environmentally-driven migrants into lands of populations with different group identities.[86] Relative deprivation conflicts reflect the frustration, expressed in violent action, which marginalised groups feel towards privileged groups or governments.[87] Beyond these useful categorisations, Homer-Dixon's most lasting contribution to the foundations of environmental security was his consistent emphasis on the importance of *interrelationships* among natural and social variables. Rather than searching

[82] Homer-Dixon (1991), op. cit., p. 87.
[83] Ibid.
[84] Ibid.
[85] For work on simple scarcity conflicts see: Klare, Michael T. (2001), op. cit.
[86] For work on the environmental degradation-migration-conflict process see: Homer-Dixon, Thomas (1994), "Environmental Scarcities and Violent Conflict: Evidence from Cases", *International Security*, 19(1), pp. 5-40. Homer-Dixon (1999), op. cit.; Graeme (1996) op. cit.; Swain (1996a) op. cit.; and Swain (1996b), "Displacing the Conflict: Environmental Destruction in Bangladesh and Ethnic Conflict in India", *Journal of Peace Research* 33(2). For a foundational work on ethnic conflicts more generally see: Horowitz, Donald L. (1985), *Ethnic Groups in Conflict*, Berkeley: University of California Press.
[87] The UNDP provides an extensive discussion of relative deprivation conflict in: UNDP (2005), *Philippine Human Development Report 2005*, Human Development Network.

for the existence of direct correlative relationships between individual environmental variables and cases of violent conflict, Homer-Dixon, and the subsequent research that he influenced, tried to ascertain how environmental dynamics fit into causal conditions leading to violence and insecurity.[88] Homer-Dixon, by placing social-natural variable interactions at the centre of his approach to environmental security, provided a stronger structural foundation for research endeavours seeking to explain the potential role of the environment as a driver of insecurity. The following section demonstrates, however, that such basic assertions on the need to include the environment in security discourse did not go uncontested. Rather, forceful arguments emerged that challenged the fundamental wisdom behind analytically connecting the environment and security.

### 2.3 Challenges to Environmental Security Premises

Cogent arguments question the value of synthesising environmental and security issue areas, speak to the intentions and potential biases of environmental security research, and address the perceived chasm that exists between the inherent natures of environmental issues and traditional issues that the security field was better prepared to address. Marc A. Levy offered an early critical account of environmental security enquiry by contesting the value of connecting environmental issues with security concerns from a policy perspective.[89] Levy accepts that environmental issues can help explain the causes of insecurity, but questions the utility of analysing this explanatory role. In Levy's words, "[t]he assertion that many

[88] Homer-Dixon's framework provided the basis for subsequent work under his leadership at the Peace and Conflict Studies Program at the University of Toronto (hereafter the Toronto Group) and also influenced the research agenda at the Environment and Conflict Project (ENCOP) based in Switzerland. For a summary of the Toronto Group's research see: Homer-Dixon, Thomas and Jessica Blitt, eds. (1998), *Ecoviolence: Links among Environment, Population, and Security*, Lantham Md: Rowan and Littlefield. For a summary of ENCOP's research see: Baechler and Spillman, eds. (1995), op. cit.; and Baechler, Günther (1998), "Why Environmental Conflict Causes Violence: A Synthesis", *Environmental Change and Security Project Report*¸ Woodrow Wilson Center, Issue 4, pp. 24-44.
[89] Levy (1995), op. cit.

environmental problems constitute security risks is correct, and is of very little importance."[90] Levy's argument suggests that maintaining continuity and analytical coherence within individual disciplines takes primacy over gaining a more holistic understanding of underlying causes of insecurity. This position mirrors those opposing security expansion more generally, and suggests that security and environmental issues should are best left to specialists in those respective fields. As the tools for addressing environmental challenges and those deployed against traditional security threats are profoundly different, the argument goes, it is counterproductive to seek convergences between the environment and security. From such a perspective, synthesising environmental and security issue areas risks creating convoluted analyses and policies that are of little practical use.

Arguments for disciplinary separation between the environment and security are supported by very real differences in the nature of threats stemming from environmental challenges versus threats more traditionally addressed in security studies. For example, environmental degradation the subsequent scarcity of strategic resources typically result from environmental mismanagement and the unintended consequences of development policies. The "culprit" in these cases of environmental stress is often a set of complex processes within one's own society, and therefore the "enemy" that is responsible for the problematic environmental situation cannot be clearly identified.[91] Moreover, since environmental stresses often accumulate over time, retrospectively assigning blame for contemporary environmental problems becomes even more difficult.[92] Past generations can offer a scapegoat for

[90] Ibid., p. 60.
[91] Deudney, Daniel (1991), "Environmental Security: Muddled Thinking", *Bulletin of Atomic Sciences,* 47(3), pp. 24-26.
[92] Ibid. Deudney asserts a difference in human cognition is important here, because "sentiments associated with national security are powerful because they relate to war." Adversely, environmental challenges do not elicit such nationalist sentiments. See also: Daniel Deudney (1990), "The Case Against Linking Environmental Degradation and National Security", *Millennium: Journal of International Studies*, 19(3) pp. 461-76.

contemporary environmental plights, but these generations cannot be compared to protagonists in confrontations like those typically addressed in security studies. As a result, environmental issues do not lend themselves to the traditional language and analytical foundations of security studies. This inescapable reality contributes to arguments such as Levy's that suggest that introducing the environment into security calculations can counterproductively move analyses away from their appropriate foundations.

Further arguments question the validity of environmental security research by pointing out problems stemming from the potential values and biases of environmental security researchers. These arguments centre upon intentions, and originate from surprisingly different sets of assumptions. On the one hand, Levy and Daniel Deudney point out that researchers with an environmental focus can have a predisposed agenda for moving the environment into the security sector.[93] Such agendas can, according to Deudney, encourage environmental security research to inflate the significance of the environment and neglect the importance of social variables.[94] Deudney offers the example of an influential environmental security contribution by Norman Myers as a case in which a "natural scientist with a political reform agenda" exaggerates the relevance of environment for security studies in order to advance the position of the environment in international relations discourse and policy making.[95] Levy lodges similar criticisms against the work of both Myers and Jessica Tuchman-Matthews, which he claims is "fundamentally flawed" due to its underlying political objectives.[96] Uniting both Deudney and Levy's criticisms is the idea environmental

[93] Deudney (1990), op. cit.
[94] Ibid.
[95] Deudney, Daniel (1994), "Environment and security: Review", *Issues in Science and Technology,* Fall, pp. 81-83. See also: Myers, Norman (1993), *Ultimate Security: The Environmental Basis of Political Stability*, New York: W. W. Norton.
[96] Levy (1995), op. cit., pp. 42-43. See also: Mathews (1989), op. cit. and Myers (1993), op. cit.

security enquiry naturally lends itself to biased findings that seek to gain greater attention to and funding for environmental issues.[97]

A separate criticism of the intentions of environmental security research comes from Dalby, who argues that the "securitisation" of the environment can be used as a ploy by developed countries to gain greater control over global environmental and resource policies.[98] Dalby frames this concern along what he perceives is a global fracture between the northern and southern hemispheres, stating that:

> Concern about environmental security, particularly when it entails policies of limiting the use of resources, slowing population growth, and curtailing specific economic activities in the South, can thus easily be criticised as just one more political tactic on the part of those in the North who wish to maintain their control over global politics and resource flows.[99]

For Dalby, securitising the environment distracts attention away from the more important issues of resource sustainability and distribution which are better dealt with independently of security concerns. Perhaps more pressingly, Dalby suggests that the position of primacy given to state security concerns could lead to powerful states forcing environmental agendas upon weaker states in the name of promoting security.[100]

The critical arguments of Levy, Deudney and Dalby, which all challenge the fundamental desirability of exploring environment-security connections, reflect the different emphases from which they originate. Levy emphasises practical policy applicability, and, while he recognises the potential for environmental stress to create security challenges, Levy sees convoluted analytical groupings of the two issue areas as doing more harm than good.

[97] In Deudney's words, these efforts equate to trying to "make people respond to the environment with a new sense of urgency"; which is a goal that compromises objective assessments of security issues. See: Deudney (1991), op. cit., p. 24.
[98] Dalby (1999), op. cit.
[99] Ibid., p. 160
[100] Ibid.

Deudney similarly advocates for disciplinary separation between environmental and security issue areas, and questions the qualifications and intentions of those seeking to cross the disciplinary divide. He emphasises the differentness between environmental and traditional security issues, and challenges whether the latter category is the appropriate place for addressing the challenges of the former. Dalby, meanwhile, emphasises the distribution of natural resources rather than the capacity for these resources to be subjects of security studies. For Dalby, focusing upon environment as a potential security threat draws environmental discourse away from a more appropriate focus on global resource exploitation and unjust distribution. All of these critiques comment upon what analytical and policy making strategies are most appropriate for the environmental and security spheres; they do not question in earnest the capacity for the environment to effect security on some significant level.[101]

Research that attempts with a reasonable level of objectivity to ascertain the ways in which environmental factors affect security calculations does not come into direct confrontation with the critiques of Deudney, Levy and Dalby. Rather, these three authors offer valuable precautionary contributions that reveal pitfalls to be avoided. Other critiques, however, *do* challenge the basic premise that environmental stresses represent significantly relevant causes of insecurity.

[101] Richard A. Matthew discusses the structural divisions that define the environmental subfield and points to adversarial arguments on how best to deploy research resources as a primary fracture point. Matthew writes "most of those who study the issue [environmental security] agree that environmental change threatens human welfare in some way. There is sharp disagreement, however, on how best to apply which resources to what ends." See: Matthew, (1999), op. cit., p. 11.

## 2.4 The Environment, Economics, and Security

Economically-driven arguments question the capacity for environmental stress to cause insecurity, and suggest conversely that the economic processes that control the manipulation and use of natural resources are designed to ensure that environmental limitations can be overcome without social breakdowns.[102] The dichotomous positions of foundational environmental security literature and these economic critiques extend the previously-explored debate between Malthus and Condorcet, and continue to reflect profoundly different perspectives on the relevance and position of the environment in security studies. The economic challenges to environmental security premises are the most pronounced facing the subfield, and represent area to which this thesis attempts to make a substantive contribution.

Contemporary neo-Malthusians and economic optimists disagree about humankind's capacity to circumvent and/or overcome environmental limitations. Neo-Malthusians argue that population pressures, growing consumption patterns and the attendant unsustainable exploitation of natural resources are untenable and will lead to social breakdowns and violence.[103] Economic optimists counter that pessimistic neo-Malthusian predictions are misplaced because market institutions are responsive to environmental challenges and will

[102] For economic optimist work see: Barnett, H. and C. Morse (1963), *Scarcity and Growth: The Economics of Natural Resource Availability*, Baltimore: John Hopkins Press for Resources for the Future.; Boserup, Ester (1965), *The Conditions of Agricultural Growth*, Chicago: Aldine.; and Scanlan, Stephen J. (2001) "Neo-Malthusians and Technological Determinants of Food Security", *Sociological Forum*, 16(2), pp. 231-262.

[103] For neo-Malthusian work see: Ehrlich, Paul (1968), *The Population Bomb,* New York: Penguin Books; Pimentel, D. (1998) "An optimum population for North and Latin America. Population and Environment", *A Journal of Interdisciplinary Studies*, 20(2), 125–148; Pimentel, D., O. Bailey, P. Kim, E. Mullaney, J. Calabrese, L. Walman, F. Nelson and X. Yao, (1999), "Will Limits of the Earth's Resources Control Human Numbers?" *Environment, Development and Sustainability,* 1, pp. 19-39.

incentivise conservation and sustainability as necessary.[104] Both polemics tend to extend their respective positions too far to recognise legitimate points raised by the opposition; as neo-Malthusians at times underestimate the capacity for human innovation to solve problems of scarcity, and economic optimists can be guilty of overconfidence concerning the ability of economic structures to overcome problems of acute resource scarcity.[105] More compelling than these two polemic positions, however, is the debate about whether resource *abundance*, because of economic dynamics, offers a greater explainer of insecurity than resource stress.

Economically-grounded positions question the supposed capacity for resource stress to act as a significant cause of conflict and insecurity, and argue that it is actually resource abundance that provides a more appropriate variable for explaining nascent security threats. Colin H. Kahl explores these arguments and divides the resource abundance arguments between the "honey pot hypothesis" and the "resource curse hypothesis."[106] The honey pot hypothesis states that "greed rather that grievance" in terms of access to natural resources is more likely to lead to violent conflict, and abundant supplies of natural resources provide incentives for conflicting groups to fight to capture them.[107] Kahl fittingly points out that the honey pot hypothesis is far more applicable to conflicts centring upon capturing non-renewable

[104] Scanlan (2001), op. cit.

[105] Homer-Dixon makes a similar argument, stating: "the neo-Malthusian view has suffered because, during the last two centuries, humankind has breached many resource barriers that seemed unchallengeable", and that economic optimists fail to recognise that "[e]ven under the best conditions, it seems unlikely that population growth can boost yields at the pace required by population growth rates in Africa and elsewhere that sometimes exceed 3 percent per year." Homer-Dixon (1999), op. cit., pp. 34-35.

[106] Kahl, Colin H. (2006) *States, Scarcity and Civil Strife in the Developing World*, Princeton: Princeton University Press. Kahl discusses these two theories on pp. 14-21. For research on the honey pot hypothesis see: Ross, Michael L. (2004a), "What do we know about Natural Resources and Civil War?" *Journal of Peace Research* 41(3), pp. 337-56; Ross, Michael L. (2004b), "How Do Natural Resources Influence Civil War? Evidence from Thirteen Cases," *International Organisation*, 58(1), pp. 35-67. For analysis on resource curse hypothesis see: Sachs, Jeffrey D. and Andrew M. Warner (1999), "The Big Push, Natural Resource Booms, and Growth," *Journal of Development Economics,* 59(1), pp. 43-76; Sachs, Jeffrey D. and Andrew M. Warner (2001) "The curse of natural resources," *European Economic Review*, 45(4-6), pp. 827-838; and Ross, Michael L. (1999), "The Political Economy of the Resource Curse," *World Politics,* 51(2), pp. 297-322.

[107] Kahl (2007), op. cit., and Ross (2004a), op. cit.

resources such as minerals and energy deposits than those concerning the use of more renewable resources such as fish, freshwater and farm land.[108] The resource curse hypothesis is more relevant for environmental security research that emphasises resource use within states as opposed to forceful resource capture. The resource curse hypothesis argues that abundance of particular resources leads to economic dependence upon the export of these resources and disincentivises diversification of a state's economy. Such dependence can then lead to political domination of the abundant resource; disenfranchising large segments of the population and create a situation prone for violent revolt.[109] Kahl presents the political aspect of the resource curse hypothesis in the following passage:

> States that accrue a significant amount of revenue from natural resource exports that they directly control are prone to developing corrupt, narrowly based authoritarian or quasi-democratic governing institutions...[N]atural resource wealth can be used to maintain rule through patronage networks and outright coercion. The institutional makeup of rentier states therefore reduces the prospects for broad-based, benevolent economic and political reform, weakening the state over the long term and generating substantial societal grievances.[110]

Resource abundance hypotheses effectively demonstrate the capacity for environmental realities to influence the behaviour of actors seeking control over valuable resources, and emphasise the ways in which such behaviours can lead to detrimental effects. These hypotheses are constructed in opposition to neo-Malthusian theories about scarcity leading to violent conflict, arguing that the presence of valuable resources creates greater risks of conflict than that posed by resource scarcity and environmental stress. These seemingly dichotomous positions are reconcilable, however, and the resource abundance and environmental stress can together constitute a reinforcing process leading to insecurity.[111]

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[108] Kahl (2007), op. cit.
[109] Ibid.
[110] Ibid., p. 16. Rentier states are those accruing large financial returns on natural resource exports.
[111] Resource abundance theories also, somewhat paradoxically, undermine the positions of economic optimists who suggest that innovation and market processes will ensure that resources are not exploited to the point of exhaustion.

Environmental thresholds lead to the potential for heavy exploitation to replace abundance with scarcity over time. Kahl addresses this dynamic stating:

> If development is viewed as a hypothetical sequence of temporal stages, a good case can be made that the development pathologies of the resource curse and those emerging from rapid population growth, environmental degradation, and resource scarcity can all occur and interact with one another within the same country over time.[112]

The process of resource abundance transitioning to resource scarcity calls into question the economically-driven challenges to connections between environmental stress and insecurity. Economic processes driving resource exploitation can be responsible for creating environmental changes even in areas of relative resource abundance. These changes can in turn have acute negative impacts on the societies that depend upon the natural systems of the exploited area for sustenance and livelihoods. In pronounced cases of unsustainable resource exploitation, these negative impacts can foment violent conflict.

**Conclusion**

In sum, the interconnectedness of environmental and economic dynamics problematises arguments that are firmly entrenched within either analytical sphere. The existence, health, accessibility and future viability of and strategically valuable natural resources underwrites economic activities in ways that intractably connect the two sectors. Likewise, the capacity for economic needs, decisions and policies to define the exploitation patterns of strategic natural resources also feeds a relationship that is multidirectional and interdependent. The complex relationship is further complicated by virtually illimitable factors from other social sectors, such those associated with politics, group identity, military power, and the like, that affect both environmental and economic dynamics. The forthcoming Mindanao case study of

[112] Kahl (2007), op. cit., p. 20. Kahl lists population growth, environmental degradation and resource scarcity here as these three phenomena constitute his Demographic and Environmental Stress (DES) variable. Kahl goes on to present ways in which DES can undermine state capacities and lead to civil unrest.

this thesis engages with interconnected environmental and economic processes at length, and in doing so attempts to erode some longstanding conceptual divisions separating the two fields.

Before presenting this case study analysis, however, this thesis must address the inherent methodological challenges that derive from the interconnectedness of the environment with an exhaustive range of social systems. Ascertaining environment's role in fomenting insecurity is difficult because this role is masked by a myriad of complex and multidirectional relationships between the environmental and social variables. Disagreements about the appropriate ways to seek out the role that environmental factors play in causing conflict constitute a pronounced methodological divide in the environmental security subfield. On one side of this divide are theorists who employ largely qualitative case-study methods that seek to place the environment within security studies through tracing the processes that might link natural systems and conflict dynamics.[113] On the other side of the divide, theorists criticises such qualitative approaches as being unsystematic, untestable and lacking in appropriate methodological rigour.[114] In place of case study-driven analyses, these theorists present largely quantitative studies over large samples that seek to isolate, measure, and test the role of the environment as a cause of insecurity. These two methodological approaches lead to substantially different conclusions about causal relevance of the environment for contemporary security studies. These different conclusions lend even greater importance to

[113] See: Baechler and Spillman, eds. (1995), op. cit.; Homer-Dixon, Thomas and Valerie Percival (1996), *Environmental Scarcity and Violent Conflict: Briefing Book*, Toronto: American Association for the Advancement of Science and University College.; and Homer-Dixon and Blitt (1998), op. cit.

[114] See: Gleditsch, Nils Petter (2001), "Armed Conflict and the Environment", in Diehl, Paul F. and Nils Petter Gleditsch, eds. (2001), *Environmental Conflict*, Boulder, CO: Westview Press, pp. 251-272.; Hauge, Wench and Tanja Ellingsen (2001), "Causal Pathways to Conflict", in Diehl, Paul F. and Nils Petter Gleditsch eds. (2001), op. cit., pp. 36-57.; and Urdal, Henrik (2005), "People vs. Malthus: Population Pressure, Environmental Degradation, and Armed Conflict Revisited", *Journal of Peace Research*, 42(4), pp.417-434.

the methodological foundations of current environmental security research, and create the need for new approaches to dealing with the subfield's inherent complexity.

# Chapter 3

***Critical Realism and Environmental Security Methods***

**Structure and Objectives**

This chapter contributes to the methodological discourse of environmental security, and offers new approaches based upon the theories of critical realism.[1] Since strategic environmental resources are the essential underpinning upon which an exhaustive number of human enterprises depend, the degradation, depletion and/or scarcity of such resources does affect the human enterprises which these resources underwrite.[2] While this basic premise is largely self evident, disagreements abound concerning the appropriate methods for determining the capacity of environmental factors to erode social stability and threaten security. These disagreements are invigorated by the methodological challenges that are inherent to environmental security enquiry. Environmental dynamics, as Levy points out, "interact with a variety of other factors to spawn violent conflict" in a process which makes it difficult to "see the independent contribution of environmental degradation" within a causal chain.[3] This difficulty has generated two dichotomous methodological approaches that continue to divide the environmental security subfield.

The first general methodological approach to environmental security, which this thesis labels complex inclusivism (CI), seeks to develop greater understandings of the interrelationships that exist among environmental and social variables that are potentially relevant explainers of

[1] An abridged version of this chapter, entitled "A Way in the Wilderness: Using Critical Realism to Navigate Environmental Security's Theoretical Terrain," will be published in a forthcoming edition of the *International Journal of Interdisciplinary Social Sciences*. Critical realism is a theoretical school of sociology and philosophy commonly associated with foundational work by Roy Bhaskar. It should not be confused with the realist theories of international relations. See: Bhaskar, Roy (1975), *A Realist Theory of Science*, London: Leeds Books LTD. An abridged version of this chapter is

[2] Barry Buzan discusses the capacity for stress on strategically valuable environmental resources to create challenges for the social activities which these resources underwrite. See: Buzan (1991), op. cit., pp. 22-25.

[3] Levy (1995), op. cit., p. 58. Homer-Dixon similarly argues that "[e]nvironmental scarcity is never a sole or sufficient cause of large migrations, poverty, or violence; it always joins with other economic, political, and social factors to produce its effects." See: Homer-Dixon (1999), op. cit., p. 16.

conflict.[4] CI research constructs qualitative models and detailed case studies that trace the interactive processes that link environmental and social variables with insecurity.[5] CI researchers contend that gaining a greater understanding of these environmental-social connections leads to a clearer picture of the causal processes by which the environment can exacerbate conflict dynamics. Such causal processes are diverse and multidirectional, but typically involve environmental stress contributing to levels of social breakdown and institutional failure that engender significant levels of violence.[6] For this reason, CI research suggests that further investigation into relationships between social and environmental variables is needed to move the environmental security subfield forward.[7]

The second general methodological approach to environmental security questions, which this thesis labels empirical isolationism (EI), seeks to determine the *degree* to which environmental factors are relevant for explaining of conflict.[8] EI methods rest on the premise that arguments concerning environmental causes of conflict "should be expected to stand up to empirical testing," and environmental security methods should evaluate the causal relevance of environmental factors relative to other potential conflict drivers.[9] EI research promotes and employs large-N multivariate models to test hypotheses about the connections between environmental degradation and conflict. These tests produce numerical values and coefficients that reveal the variables which, according to the respective EI studies, represent

[4] See: Homer-Dixon and Blitt, eds. (1998), op. cit.; and Baechler (1998), op. cit.
[5] See: Baechler (1995), op. cit.; Baechler (1998), op. cit.; Homer-Dixon and Percival (1996), op. cit.; Homer-Dixon and Blitt (1998), op. cit.; and Ewing, J. Jackson (2009), "Converging Peril: Climate Change and Conflict in the Southern Philippines", Working Paper No. 187, S. Rajaratnam School of International Studies.
[6] Moreover, the state of decline that marks many of the earth's most strategic natural resource stocks, such as forests, oceans and the atmosphere, provides further credence to arguments suggesting that environmentally-driven conflicts will become more pervasive in the future. For contemporary data on the state of global oceans, forests, the atmosphere respectively see: FAO (2009), op. cit.; FAO (2010), op. cit.; and IPCC (2007), op. cit.
[7] Dabelko, Geoffrey and Richard A. Matthew (2000), "Environment, Population, and Conflict: Suggesting a Few Steps Forward", *Environmental Change and Security Project Report*, 6, pp. 99–103.
[8] See: Hauge, Wenche and Tanja Ellingsen (2001), op. cit.; and Urdal (2005), op. cit.
[9] Urdal (2005), op. cit., p. 419.

the strongest causes of the conflicts under investigation.[10] Advocates of EI research, such as Nils Petter Gleditsch, contend that variable testing is essential for validating claims on environment-conflict connections, and Gleditsch has roundly criticised his CI counterparts for failing to conduct such tests and thus falling outside the parameters of systematic research.[11] Specifically, Gleditsch argues that CI research underemphasises the role of important social variables, creates models that are too complex to allow for empirical testing, and bases conclusions upon a biased case study selection processes that seeks cases in which environmental connections to conflict are already thought to exist.[12] The result, according to Gleditsch, is that the CI school produces results that are anecdotal and unsubstantiated and to move forward the subfield must produce more rigorous empirical studies.[13]

The different methods employed by CI and EI research yield fundamentally different conclusions. The CI school, while differentiated, essentially claims that environmental stress does contribute to violent conflict in a myriad of ways in cases throughout the developing world.[14] EI studies conversely, while also individual and unique, largely agree that there is less than "robust" empirical support for CI claims and argue that non-environmental variables, many of them economic, offer "far greater predictors" of violent conflict than those

[10] Two primary examples of EI research in practice are: Hauge and Ellingsen (2001), op. cit. and Urdal (2005), op. cit. Hauge and Ellingsen create eight hypotheses, five of which are derived from the complex inclusivists models and three addressing the arguments of their critics, and test these against the incidence of civil war from 1980-1992 and the incidence of armed conflict from 1989-1992. The variables cover a range of social factors, including regime type, per-capita GDP, income disparities, political stability and population density, as well as environmental data on deforestation, land degradation and freshwater availability. Urdal creates a logical regression statistical method to test five population-driven variables that correspond with the scarcity-driven conflict CI models of Homer-Dixon and his associates. He controls for development indicators by including economic growth and infant mortality rates (IMR) as potential conflict drivers.
[11] Gleditsch (1998), op. cit.
[12] Ibid. Gleditsch also contends that the scant attempts to test the causal connections among environmental variables and violent conflict that do exist have failed to demonstrate strong linkages
[13] Ibid.
[14] In his 1994 article Homer-Dixon was quite clear on this assertion by the Toronto Group, stating explicitly that "[o]ur research show that environmental scarcity causes violent conflict." See: Homer-Dixon (1994), op. cit., p. 39.

in the environmental sector.[15] In short, the combative methodologies of CI and EI reflect elementally different approaches to social scientific enquiry and, partially as a result, have posited profoundly different findings about the nature of the environment-security connection. Advancing the environmental security subfield thus necessitates engaging with this methodological division and offering new approaches. Critical realism is a theoretical school that is well-placed to make such a contribution.

This chapter applies critical realism to the environmental security methodological debate with two primary objectives. The first objective, which is pursued in section one, is to illuminate areas of environmental security that require new methodological contributions. This section begins by exploring the CI-EI debate in greater detail and then challenges the capacity for statistically-driven methods to reach appropriate conclusions concerning connections between the environment and security. The first section concludes by showing the subfield's need for methods which focus explicitly on the ways in which environmental and social variables can *interact* to cause insecurity. The second objective, pursued in section two, introduces critical realist tools as a means for advancing the research agenda of environmental security. This second section proposes methodological strategies that are valuable for gaining greater understandings of the interplays between environmental and social dynamics along causal chains leading to conflict. The chapter concludes by presenting the framework for environmental security enquiry that is applied in the subsequent case study analyses of this thesis.

[15] Urdal (2005), op. cit., p. 426.; and Hauge and Ellingsen (2001), op. cit., p. 54.

### 1.1 The CI-EI Methodological Debate

The CI methodological platform is most thoroughly represented by Homer-Dixon and his colleagues in the Toronto Group.[16] The Toronto Group's methodological foundations reflect Homer-Dixon's recognition that "[e]nvironmental scarcity is never the sole or sufficient cause of large migrations, poverty, or violence; it always joins with other economic, political, and social factors to produce its effects."[17] This premise leads the Toronto Group to employ methods that trace the processes by which both environmental and non-environmental variables interact to lead to violent conflict. Specifically, the Toronto Group creates detailed case studies that explore the complex and multidirectional connections that are characteristic of relationships between environmental and social dynamics. In essence, CI research presents case study-driven analyses to illuminate the processes, or *causal mechanisms*, by which environmental and social variables coalesce to foment insecurity.[18] Homer-Dixon's multipronged classification of resource scarcity offers a useful example of the emphasis that CI research places upon these causal mechanisms.

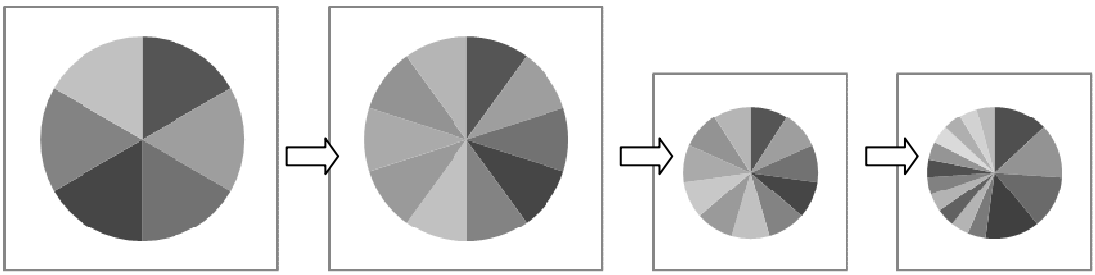
Homer-Dixon categorises the three primary causes of resource scarcity as population pressure, environmental change and unequal resource distribution.[19] These causes

[16] The Toronto Group is a widely-used categorisation of the group of scholars participating in the Project on Environment, Population, and Security at the University of Toronto. This chapter emphasises the work of the Toronto Group for the complex inclusivist position because its projects are widely-cited, controversial and have stimulated significant debate in the subfield.
[17] Homer-Dixon (1999), op. cit., p. 16.
[18] Causal mechanisms refer to the causal *process* through which explanatory variables lead to effects. See Bennett, Andrew (1997), "Lost in the Translation: Big (N) Misinterpretations of Case Study Research", Paper presented at the 38th Annual Convention of the International Studies Association, Toronto, 18-22 March 1997. Accessed 1 October, 2010 via: <http://www.georgetown.edu/faculty/bennetta/bign.htm>. The stated objectives of Homer-Dixon and his colleagues are to construct case studies that can elucidate "the causal mechanisms that might connect environmental scarcity and conflict." See: Schwartz, Daniel M., Tom Deligiannis, and Thomas F. Homer-Dixon (2000), "The Environment and Violent Conflict: A Response to Gleditsch's Critique and Some Suggestions for Future Research", *Environmental Change & Security Project Report,* Summer (6), p. 41.
[19] Homer-Dixon (1994), op. cit.; and Homer-Dixon (1999), op. cit. Environmental change results from the exploitation of renewable resources at a rate greater than that necessary for the resources' natural replenishment.

correspond to his three categories of scarcity, which are *demand-induced*, *supply-induced* and *structural scarcity* respectively.[20] Population pressure leads to demand-induced scarcity by dividing resources among more claimants. Environmental change results from the degradation of natural systems and leads to supply-induced scarcity by reducing resource availability. The unequal distribution of resources, meanwhile, creates structural scarcity for marginalised groups that fail to receive adequate amounts of the resource in question. What is illuminating from a methodological perspective is that Homer-Dixon recognises and explores the processes by which these three categories of scarcity can interact. Population pressure, for example, exacerbates all three forms of scarcity, as it increases the number of resource claimants, encourages greater resource exploitation (environmental change), and makes equitable resource distribution more difficult by dividing the resource among more claimants.[21] Homer-Dixon uses the analogy of a "resource pie", represented in Figure 3.1, to demonstrate the compounding dynamics connecting the three forms of scarcity. The model in Figure 1 shows that, rather than attempting to determine which scarcity driver is of greatest importance, Homer-Dixon focuses upon the ways in which multiple causes of scarcity can have compounding relationships.

[20] Homer-Dixon (1999), op. cit., p. 48.
[21] Ibid.

**Figure 3.1: The Resource Pie Analogy**[22]



**No Resource Scarcity** | **Population Growth** | **Population Growth +Resource Depletion** | **Population Growth +Resource Depletion +Unequal Distribution**

The image on the far left of Figure 3.1 represents a resource pool that is not depleted and makes adequately equitable distribution among resource claimants possible.[23] The image to its immediate right reflects the process by which population growth leads to this resource pool being divided among more claimants, each of whom will therefore receive smaller portions of the resource. As the overall resource pool dwindles, the pie itself gets smaller, as reflected in the third image from the left. The final image on the right represents the culmination of combined scarcity drivers, as population growth, overall resource depletion and unequal distribution lead to still smaller amounts of the resource in question for the most marginalised claimants.

This model is telling from a methodological viewpoint, as it represents the ways in which social factors such as population growth and resource extraction policies combine with

[22] Figure 1 is the author's own visual rendering of Homer-Dixon's resource-pie analogy. It should not be mistaken for an adaptation of an image created by Homer-Dixon or his colleagues in the Toronto Group. For Homer-Dixon's analyses on these three forms of scarcity see: Homer-Dixon (1999), op. cit., pp. 15, 48.

[23] This claim of 'equal distribution' cannot withstand a literal interpretation. Rather, it refers to resource allocations that satisfactorily meet the sustenance and livelihood needs of the legitimate claimants to a given resource. This criterion requires a sufficiently large resource pool for the population's needs as well as effective distribution programmes on behalf of governing bodies.

natural limitations of resource availability to create pronounced scarcity.[24] Homer-Dixon categorises scarcity causes in the three-fold way to reduce the complexity of the scarcity issue and provide an organisational framework for exploring how scarcity is realised in societies. His categorisation does not, however, intimate that these sources of scarcity are independent of one another or that some causes of scarcity are more relevant for environmental security than others. Conversely, Homer-Dixon explicitly constructs an interactive theoretical approach that reflects the interdependence and shared relevance of multiple causes and forms of resource scarcity.

Homer-Dixon's embrace of interconnected natural and social variables extends to the Toronto Group's larger models concerning violent conflict. Homer-Dixon contends that states and communities with low capacities to address resource scarcity will face a myriad of challenges which, in acute cases, can lead to violent conflict.[25] Along such scarcity-driven pathways to violent conflict are causes of instability and friction that are both multidirectional and potentially reinforcing. These causes include, but are not limited to, the degradation of valuable ecological systems, the capturing of scarce resources by elites, the expulsion of local populations from their native lands, and the compelled or forced migration of peoples into lands inhabited by populations with different group identities.[26] Such dynamics in-turn weaken state and local economic and political institutions, rendering them less capable of dealing with the scarcities at the origins of the problem, and lead to the political and social

[24] Homer-Dixon laments that research too often focuses upon one source of scarcity at the expense of others. He writes: "Unfortunately, analysts tend to focus on only one type of scarcity at a time. For example, ecologists and environmentalists often focus on *environmental change*, a term that refers only to a human-induced decline in the quality or quantity of a renewable resource-that is, to worsening supply-induced scarcity...[N]eo Malthusians and economic optimists accent supply-induced and demand-induced scarcities while generally overlooking the political economy of resource distribution." Homer-Dixon (1999), op. cit., p. 48. Italics in original.
[25] Homer-Dixon (1994), op. cit.
[26] Homer-Dixon (1994), op. cit; and Homer-Dixon (1999), op. cit. For discussion of environmentally-induced migration see Hugo (1996), op. cit.; and Swain (1996a), op. cit.

disenfranchisement of portions of the affected population.[27] If aggrieved portions of the population come to view violent conflict as a way to achieve a more acceptable social situation, and they have the means with which to pursue armed insurrection, then the situation can become untenable from a security standpoint and result in violent challenges governing bodies. Figure 3.2 provides a visual representation of this basic process by which Homer-Dixon suggests that scarcity can contribute to violent conflict.

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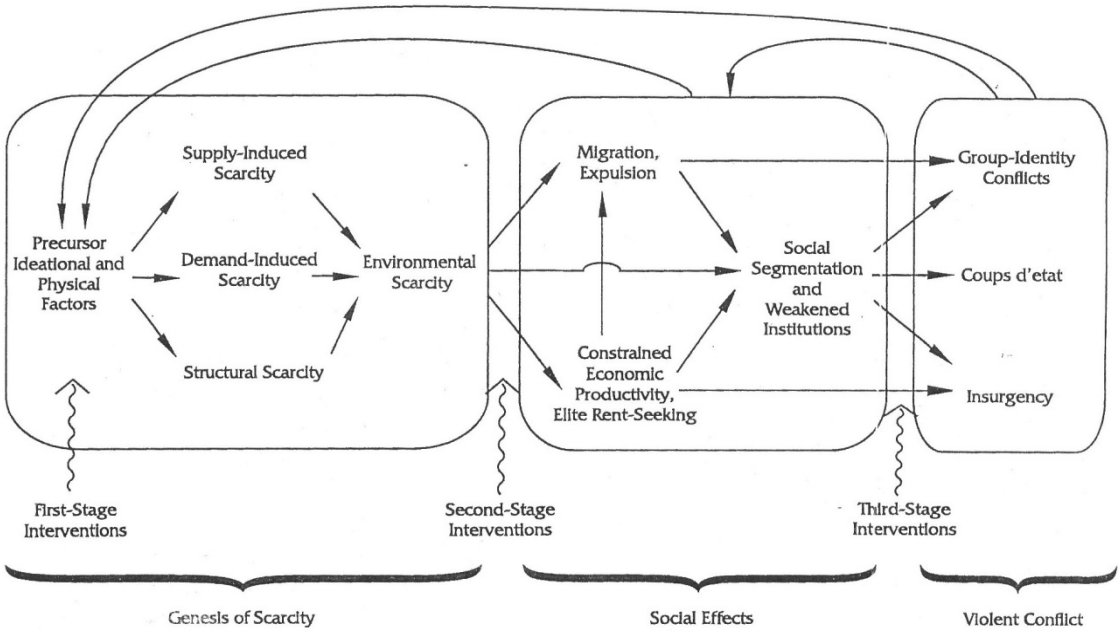
**Figure 3.2: CI Systems Diagram: Core Model on Scarcity and Violence**




Source: Homer-Dixon (1999), op. cit., p. 134.

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Figure 3.2 shows a process that is multidirectional and contains positive feedback dynamics. The arrows spanning the top of the diagram illustrate that Homer-Dixon views conditions of scarcity as both exogenous (a cause) and endogenous (a result) of social factors such as

[27] Homer-Dixon (1999), op. cit., pp. 80-84. Homer-Dixon discusses the positive feedback loops described here when addressing the social effects of environmental change. Dan Smith and Janani Vivekanada make a similar argument to describe potential positively reinforcing relationships among climate change, environmental degradation and insecurity. See: Smith, Dan, and Vivekananda, Janani (2007), "A Climate of Conflict: The links between climate change, peace and war", *International Alert,* November 2007.

migration, weakened social institutions and conflict. The relationships reflect an *interdependent* causal model, in which combinations of factors coalesce to lead to insecurity and this insecurity then exacerbates the coalescing factors themselves. Homer-Dixon's model makes no attempt to rate the relative causal strength of along any part of the scarcity-conflict continuum. Rather, this model embodies an inclusive approach predicated upon improving understandings of relationships among variables within complex wholes.

The EI research approach challenges CI methods and findings along multiple fronts. Leading the EI school, Gleditsch provides cutting critiques of inclusivist environmental security literature which suggest that much of the work produced by the CI school does not qualify as methodologically-sound "systematic" research.[28] Firstly, Gleditsch contends that inclusivist scholarship overemphasises the role of the environment as a causal factor leading to conflict.[29] The CI researchers, according to Gleditsch, overemphasise environmental variables in their models and as result under-represent important political, economic and cultural causes of conflict.[30] Secondly, Gleditsch argues that the CIs corrupt the case study selection process by choosing cases in which the existence of environmental degradation and insecurity are predetermined; leading to findings that are predisposed to reveal environment-insecurity correlations.[31] Thirdly, Gleditsch takes issue with "testability", or lack thereof, of

[28] Gleditsch (1998) op. cit.; and Gleditsch (2001), op. cit. Gleditsch led environmental security leadership at the International Peace Research Institute in Oslo (PRIO) during the formative years of environmental security's methodological debate.
[29] Gleditsch (1998), op. cit., pp. 389-90.
[30] Ibid.
[31] Gleditsch (1998), pp. 391-392. Gleditsch argues that case studies where environmental degradation exists and violence does not occur should be included as controls for more effective analyses.

the CI models.[32] For Gleditsch, empirical verification is needed across large samples of cases to support claims that environmental stresses are relevant conflict drivers.[33] Gleditsch points out that CI research does not meet such criteria, which he concludes renders such research anecdotal and unsubstantiated.[34]

These EI critiques of inclusivist environmental security literature are bolstered by two empirical tests of theories linking the environment and conflict.[35] Wenche Hauge and Tanja Ellingsen conducted a large-N multivariate analysis that tests hypotheses on links between environmental degradation and conflict during the years from 1980 and 1992.[36] Hauge and Ellingsen's study is designed to address two of the perceived shortcomings of the literature on the environment and conflict: the reliance upon biased case studies and under-representation of non-environmental conflict-generating factors. The authors create eight hypotheses, five of which are derived from the CI models and three from critical EI positions, and test them against the incidence of civil war from 1980-1992 and the incidence of global armed conflict from 1989-1992. The hypotheses lead to operationalised variables covering a range of social factors, including regime type, per-capita GDP, income disparities, political stability and population density, as well as environmental data on deforestation, land degradation and freshwater availability. Hauge and Ellingsen run tests on the power of

[32] Gleditsch (2001), pp. 262-263. Gleditsch provides examples in the form of the Toronto Group's case studies in Chiapas and the Gaza Strip. According to Gleditsch the rebellion in Chiapas study contains seven independent variables acting through nine intervening variables, while the Gaza case is explained by eight independent and intervening variables which draw upon a six-variable explanation of water scarcity and a ten-variable scheme addressing grievances against the Palestine National Authority. The result is that these studies do not lend themselves to empirical assessment. For the case studies see: Howard, Philip and Thomas Homer-Dixon (1995), *Environmental Scarcity and Violent Conflict: The Case of Chiapas Mexico*, Toronto: Project on Environment, Population, and Security. University College, University of Toronto and Washington DC: American Association for the Advancement of Science.; and Kelly, Kimberly and Thomas Homer-Dixon (1995), *Environmental Scarcity and Violent Conflict: The Case of Gaza,* Toronto: Project on Environment, Population, and Security.
[33] Gleditsch (2001), op. cit.
[34] Ibid., pp. 255-257 and 260-261. Gleditsch also contends that where empirical testing has occurred the results have not supported the arguments put forth in CI research.
[35] Hauge and Ellingsen (2001), op. cit. and Urdal, Henrik (2005), op. cit.
[36] Hauge and Ellingsen (2001), op.cit.

correlative relationships between each variable and the incidences of conflict. These tests yield Beta estimates, in the form of variable coefficients, that claim to reveal the causal relevance that individual factors have for explaining incidents of conflict. The higher a given positive coefficient is, the stronger the correlation is between that variable and conflict incidences. Figure 3.3 provides the most comprehensive visual representation of Hauge and Ellingsen's findings.[37]

[37] Hauge and Ellingsen (2001), op. cit., pp. 43-44 describe their research design as follows: "Our first three hypotheses refer to the relationship between supply-induced scarcity and domestic armed conflict, whereas the fourth concerns demand-induced scarcity, and the fifth, structural scarcity. All of these hypotheses were derived from the work of Homer-Dixon and the Toronto Group. We have expanded the model by including other conflict-generating elements, such as political and economic factors, forming a sixth and a seventh hypothesis. Finally, we posited an eighth hypothesis, on the importance of the various variables relative to each other. These hypotheses are tested in two different ways. First, in a mixed cross-sectional and diachronic analysis, where we use a logit model based on all country-years in the international system in the period 1980-92. Here, incidence of domestic armed conflict was the dependent variable. Second, in a pure cross-sectional analysis for the period as a whole, with battle-deaths as percentage of the total population as the dependent variable."

**Figure 3.3: Hauge and Ellingsen's Logit Estimates for Indicators of Domestic Conflict**

| Independent Variable | *Incidence of Civil War 1980–92* Coefficient | Standard Error | N | *Incidence of Armed Conflict 1989–92* Coefficient | Standard Error | N |
|---|---|---|---|---|---|---|
| Constant | – 5.67* | 2.05 | 107 | – 4.17* | 1.36 | 39 |
| Domestic conflict last year? | | | | | | |
| No | | | 816 | | | 281 |
| Yes | 5.78* | 0.48 | 77 | 3.43* | 1.12 | 22 |
| GNP per capita | – 0.49* | 0.11 | 893 | – 0.29* | 0.13 | 303 |
| High | | | | | | |
| Low | | | | | | |
| Type of Political Regime | | | | | | |
| Democracy | | | 453 | | | 175 |
| Autocracy | 0.33* | 0.14 | 270 | 0.27* | 0.12 | 72 |
| Semi-democracy | 0.74* | 0.23 | 170 | 0.91* | 0.39 | 56 |
| Income inequality | | | | | | |
| Low inequality | | | 168 | | | 68 |
| Moderate inequality | 0.51 | 0.89 | 424 | 0.49 | 0.35 | 134 |
| High inequality | 0.61 | 0.88 | 301 | 0.61 | 0.33 | 101 |
| Political instability | | | | | | |
| No | | | 585 | | | 199 |
| Yes | 0.27 | 0.13 | 308 | 0.45* | 0.17 | 104 |
| Population density | | | | | | |
| Low population density | | | 276 | | | 89 |
| Moderate population density | 0.18 | 0.15 | 423 | 0.26 | 0.16 | 176 |
| High population density | 0.35* | 0.17 | 199 | 0.44* | 0.21 | 38 |
| Change in forest | | | | | | |
| Increase in forest | | | 197 | | | 73 |
| No change in forest | 0.05 | 0.72 | 278 | 0.15 | 0.26 | 89 |
| Deforestation | 0.31 | 0.51 | 418 | 1.08* | 0.21 | 141 |
| Land degradation | | | | | | |
| Low land degradation | | | 169 | | | 59 |
| Moderate land degradation | 0.68* | 0.14 | 402 | 0.95* | 0.31 | 132 |
| High land degradation | 1.38* | 0.29 | 322 | 1.77* | 0.42 | 112 |
| Freshwater availability per capita | | | | | | |
| High freshwater availability per capita | | | 232 | | | 78 |
| Medium freshwater availability per capita | 0.11 | 0.18 | 139 | 0.26 | 0.18 | 46 |
| Low freshwater availability per capita | 0.65* | 0.18 | 522 | 0.95* | 0.26 | 179 |

Civil War 1980–92: –2 log likelihood: 544.527; model chi-squared improvement: 399.329; * $p < 0.05$; $N = 893$; correctly predicted: 87%. Armed Conflict 1989–92: –2 log likelihood: 311.414; model chi-squared improvement: 103.316; * $p < 0.05$; $N = 303$; correctly predicted: 83%. The first category for each variable is the reference group. GNP per capita is a continuous variable, while the other variables are categorical. Several models were tested – the one presented here had the lowest log likelihood and therefore provides the best fit. No significant interactions were found.

Source: Hauge and Ellingsen (2001), op. cit., pp. 50-51.

The coefficient values in Figure 3.3 show that the existence of war in a country during the previous year has the highest explanatory value for explaining both forms of conflict,

followed by GDP per capita and land degradation respectively. For civil wars specifically, values for land degradation, deforestation and freshwater availability all rank higher than political variables like regime type. Hauge and Ellingsen conclude that environmental scarcity is "less important than economic factors for explaining domestic armed conflict" but is in some circumstances "more important than political factors."[38] The positive values of the coefficients reflect that Hauge and Ellingsen do find evidence that the three forms of scarcity correlate with incidences of armed conflict during the time-period under study. They conclude that:

> ...all of the environmental factors - deforestation, high land-degradation, low fresh-water availability per capita - have positive beta estimates, whether the dependent variable is civil war or armed conflict. This is in line with our hypotheses [that] the likelihood of domestic conflict is higher in such countries, than in countries with no or less environmental degradation.[39]

These findings are consistent with Hauge and Ellingsen's overall conclusion that countries experiencing environmental stress, particularly land degradation, are more prone to civil conflict but that economic factors are *far greater predictors* of conflict than the environmental variables.[40]

Henrik Urdal further extended the EI research platform by conducting a large-N empirical test covering the period of 1950 to 2000 in order to examine the claims of CI research.[41] Urdal attempts to test empirically what he determines to be the primary 'neo-Malthusian concerns': that rapid population growth will lead to degradation and scarcity in natural resources such as cropland, freshwater, forests and fisheries and that these scarcities will

[38] Ibid., p. 49.
[39] Ibid., pp. 48-49.
[40] Ibid., pp. 48-49 and 54. Hauge and Ellingsen conclude that "[t]he level of economic development has the strongest effect on the incidence of domestic armed conflict as well as a relatively strong impact on the severity [of conflict]...Environmental factors emerge as less important in determining the incidence of civil conflict than economic and political factors." Italics added.
[41] Urdal, Henrik (2005), op. cit. Urdal's study therefore covers a much larger timeframe than that of Hauge and Ellingsen.

exacerbate the risk of violent conflict.[42] Urdal reviews the history of claims about scarcity-conflict connections, about which he is sceptical, and concludes that these claims "should be expected to stand up to empirical testing."[43] He creates a logical regression statistical method to test five population-driven variables that correspond with the scarcity-driven conflict models of Homer-Dixon and his associates in the Toronto Group. Urdal also includes development indicators in his study, such as economic growth and infant mortality rates (IMR), as comparative non-environmental potential conflict drivers.[44] He concludes that "[c]laims that the world has entered a 'new age of insecurity' after the end of the Cold War, where demographic and environmental factors threaten security and state stability, appear to be unfounded", and he suggests that neo-Malthusian arguments are rather alarmist attempts to predict apocalyptic future scenarios.[45] Urdal's study finds only limited and "not very robust" support for neo-Malthusian claims, and he concludes that the findings of Homer-Dixon and his associates does not reflect a "strong trend" in conflict occurrence over time.[46]

The critiques of Gleditsch and the studies of Hauge and Ellingsen and Urdal reflect the EI school's emphasis upon *causal effects*. EI research measures the strength of causal relationships based upon the frequency of observable *correlations* between variables over the course of a study. If repeated observable correlations are found between a variable and an effect, the argument follows that there is a strong causal relationship between these two phenomena. Such emphases on correlations between causes and effects represents the EI's

[42] Urdal (2005), p. 418.
[43] Ibid., p. 419.
[44] Ibid., p. 425. Urdal includes the IMR variable to include "the diverse aspects of development" in his model.
[45] Ibid., p. 417. One 'alarmist' neo-Malthusian example that Urdal cites is Kaplan's "The Coming Anarchy", which he compares to earlier apocalyptic scenarios on food shortages that failed to come to fruition. See: Kaplan (1994), op. cit.; Erlich, Paul R. (1968), *The Population Bomb*, New York: Ballantine.; and Erlich, Paul R. and Anne H. Erlich (1996), *Betrayal of Science and Reason: How Anti-Environmental Rhetoric Threatens Our Future*, Washington DC: Island.
[46] Urdal (2005), op. cit., pp. 426 and 431. Urdal classifies Homer-Dixon and his colleagues, as well as Colin H. Kahl as 'moderate' neo-Malthusians. See: Kahl, Colin H. (2002), "Demographic Change, Natural Resources and Violence", *Journal of International Affairs* 56(1), pp. 257-282.

fundamental point of methodological divergence from the CI school. CI research seeks greater understandings of processes by which causes produce effects, while EI research rates causality by the volume of observable conjunctions of events. These dichotomous emphases and methods reflect the different social scientific research traditions from which CI and EI originate. Engaging in the environmental security methodological debate in earnest thus necessitates addressing the larger philosophical discourse on the nature of causality in social systems. The follow subsection enters this discourse through the path of critical realism.

### 1.2 Enter Critical Realism: The Problems of Reductionism and Collectivism

Critical realism is a philosophical school that contributes to debates concerning appropriate theoretical approaches to social science, and posits arguments that are pertinent to methodological divisions such as those separating the CI and EI schools.[47] The goal of critical realist social science is to create explanatory research that improves understandings of the driving forces that underlie complex phenomena. Doing so requires progressing beyond strict empirical measurements and quests for strong correlations, and moving instead towards understanding the broader conditions that lead to social phenomena. Berth Danermark and colleagues describe the goals of critical realist social science as follows:

[47] Critical realism is an ontologically-focused school of philosophy and social science that pursues the understanding of causal mechanisms as a primary means for explaining social phenomena. Many foundations of contemporary critical realism are found with the works of Roy Bhaskar during the late 1970s. Bhaskar argued against the positivist philosophical tradition then holding primacy in the social sciences. The fundamental critical realist positions relevant to social science are: 1) Natural and social phenomena are ontologically different and these differences preclude unifying methods for exploring them; 2) Reality exists independently of our understanding of it and causal mechanisms exist even if their potential effects are not always realised; 3) Reality is stratified and composed of events, states of affairs and discourses and the structures, powers and tendencies that underlie them; 4) Exploring relationships among the structures, powers and tendencies of objects and agents is essential for explaining phenomena; 5) Constant conjunctions of events are not sufficient for explaining causality; and 6) Effective explanations postulate causal mechanisms behind social phenomena, and attempt to demonstrate the existence of these mechanisms. This list is the author's own interpretation of the primary tenets of critical realism, for elaboration on the schools foundational principles see: Bhaskar (1975), op. cit.

> An overall aim in social science research is to explain events and processes. To explain something implies (from the perspective of critical realism) first describing and conceptualising the properties and causal mechanisms generating and enabling events, making things happen...and then describing how different mechanisms manifest themselves under specific conditions.[48]

Such goals are promising for environmental security, as interactions between social and natural variables, which can combine to cause insecurity in locations challenged by environmental stress, warrant further exploration.[49]

Applying critical realism to the environmental security debate more thoroughly requires first exploring critical realist conceptions of the social world. The defining characteristic of these conceptions is the critical realist refutation of the reduction of society to individuals and opposition to the collectivisation of society to groups. The critical realist refutation of these two polemic conceptions of society has methodological significance for its overall approach to social scientific research, and by extension the enquiries of environmental security.

Critical realism argues that social structures are real and irreducible to human beings. This argument opposes positivist research traditions which state, in the words of Karl Popper, that "all social phenomena, and especially the functioning of social institutions, should be understood as resulting from the decisions etc. of human individuals...we should never be satisfied by explanations in terms of so-called "collectives".[50] Roy Bhaskar, the formative contributor to the critical realist school, refutes such reductionism. Bhaskar argues that, while the actions of human beings certainly affect the creation, maintenance and alteration of social structures, these human actions should not be viewed as totally autonomous. Rather, human agency is conditioned by the social context in which actions are taken. Bhaskar

[48] Danermark, Berth, Mats Ekström, Liselotte Jakobsen and Jan Ch. Karlsson (2002), *Explaining Society,* New York: Routledge, p. 74
[49] See: Kahl (2006), op. cit., pp. 25-26
[50] Popper, Karl R. (1962), *The Open Society and its Enemies*, Vol. II, London: Routledge & Kegen Paul, p. 98. The work of John Stuart Mill is also influential on this point. Mill writes that "the laws of the phenomenon of society are, and can be, nothing but the actions and passions of human beings united together in the social state." See: Mill, John Stuart (1868), *A System of Logic*, London: Longmans, p. 466.

explains this point by stating that "societies are irreducible to people...[and] social forms are a necessary condition for any intentional act."[51] For Bhaskar, the "pre-existence" of social structures lend them a level of autonomy that precludes the reduction of social science to simple human agency, and makes social structures an appropriate additional subject for exploration.[52]

Bhaskar's refutation of reductionism does not go so far as to suggest that social structures should be viewed as entities that radically govern human activities. Such a position equates to collectivism, which is also problematised by critical realism. Extending the foundations of Émile Durkheim, collectivists view societies as coercive external structures that possess seemingly autonomous powers over the individuals living within them.[53] For Durkheim, since social structures predate the birth of individuals into a society, they exist separately from individuals and possess dictative power over human agency.[54] Through refuting reductionism, Bhaskar does find some common ground with Durkheim in that social context must be taken into account when observing human activity. Bhaskar does not accept, however, Durkheim's externalisation of societies.[55] Bhaskar observes that humans do not have control over the social situations that they are born into, but they do affect social situations and contexts through their own agency.[56] Given this multidirectional relationship,

[51] Bhaskar, Roy (1979), *On the Possibility of Naturalism*, Hemel Hempstead: Harvester Press Ltd., p. 25. The example of a simple monetary transaction helps illuminate this point. Understanding an observed monetary transaction requires that the social context (money is a valuable commodity that can be exchanged for the goods and/or services) be considered to understand the human actions (the physical exchange of money for goods and/or services) that occur during the transaction. The laws governing monetary transactions in this example must exist *prior* to the exchange itself and these laws make possible the human activities that drive the transaction.
[52] Ibid.
[53] Bhaskar, Roy (1989), *Reclaiming Reality: A Critical Introduction to Contemporary Philosophy*, London: New Left Books, p. 73. Bhaskar calls this reconstruction the error of reification. Also see: Durkheim, Émile (1964) [1895], *The Rules of Sociological Method*, New York: Free Press.
[54] Durkheim (1964) [1895], op. cit., pp. 1-2.
[55] Bhaskar (1979), op. cit., pp. 34-35.
[56] Ibid., p. 34.

the interplays between social contexts and individual actions are important considerations in social science.

Critical realism constructs a *relational* argument for explaining human activities within society as a counter to both reductionist and collectivist positions. Humans hold *positions* within a society and conduct *practices* relating to their position.[57] Societies are therefore combinations of social structures, which provide the context for human behaviour; and human agency, which contributes to the make-up of a society and has the ability to alter it. Bhaskar simplifies relational social activities, using Aristotelian terms, by comparing human actions to those of a sculptor "fashioning a product out of the material and with the tools available to him or her."[58] Social conditions help explain human activities while human activities help form the social conditions that will provide the context for future human actions. Social contexts and norms are therefore fluid and transformational as well as being contingent upon actions of humans, and social structures have only limited autonomy and are susceptible to being altered, rendered obsolete or destroyed by human agency. The critical realist position argues that societies are made up of more than individuals and represent the "sum of relationships" within which individuals, groups and contexts exist.[59] These relationships, rather than solely their observable and measurable effects, are at the centre of critical realist social scientific enquiry.

The methodological implications of critical realism's relational construction of society are acute. Such a construction necessitates social scientific research that addresses phenomena with respect to the contexts in which they occur. The phenomena under study will, in

[57] Ibid., p. 41. Going back to the previously-cited example of the monetary transaction (see footnote 51), the *positions* of the merchant and customer are vital for understanding their *practices* (in this case a sale and a purchase).
[58] Bhaskar (1989), op. cit., p. 78.
[59] Ibid., p. 26.

virtually all cases, result from a combination of driving forces existing within social structures and stemming from the human activities that occur within these social contexts. Bhaskar explains such a situation by stating that social phenomena are "conjunctionally determined, and, as such, have to be explained in terms of a multiplicity of causes."[60] Critical realist enquiry therefore does not attempt to isolate single causes of phenomena or rank individual causes based upon their measurable explanatory power; as does EI environmental security research.[61] Conversely, critical realism seeks to understand the web of multidirectional and interdependent relationships connecting social structures with human agency. The ontological point of interest for critical realism moves away from events, states of affairs and correlative effects to the conjunctive relationships that generate them.[62] The web of relationships connecting actors to the contexts within which they act constitutes an 'open system', and explaining phenomena within open systems requires different methods than those utilised in the closed systems of natural scientific enquiry.

### 1.3 Open versus Closed Systems and the Problems of Naturalism

Critical realism challenges social scientific research that endeavours to create artificially 'closed systems' in order to conduct rigorous empirical testing. Natural scientific research to isolate causes and effects through closures constructed in experimentation. These closures reduce, and in ideal cases eliminate, explanations for an observed phenomenon that exist outside the parameters of the experimental system. Natural science advances as experimental and measurement techniques improve the abilities of researchers to isolate the variables

[60] Bhaskar (1979), op. cit., p. 43.
[61] For example, Gleditsch predicates his calls for more rigorous environmental security methods on the premise that statistically ranking the causal efficacy of individual variables is the appropriate goal for the subfield. See: Gleditsch (2001), op. cit. The empirical studies of Hauge and Ellingsen and Urdal, meanwhile, operationalise the primacy given to statistical ranking by the EIs. See: Hauge and Ellingsen (2001), op. cit.; and Urdal (2005), op. cit.
[62] See: Bhaskar (1989), op. cit., p. 181; and Danermark et. al. (1997), op. cit., p. 1.

leading to phenomenon or group of phenomena. Such experiments are appropriate because many natural scientific mechanisms, such as the laws of motion in physics, are stable and repeatedly observable in both the laboratory and/or the physical world. Natural mechanisms also exist and operate independently of human understanding and possess powers that cannot be altered by human agency.

The practice of applying natural scientific methods to social systems gained momentum through the work of the late-18th Century philosopher David Hume, who attempted to apply a natural scientific method based upon Newtonian mechanics to address social and political theory.[63] Hume's goal was to create structural and methodological approaches for exploring social systems that rival the rigour, regimentation and solution finding potential of natural scientific enquiry. He gives overwhelming primacy to the human senses; reducing objects to the sensory perceptions that humans assign them and, like Popper, Hume reduces societies to the workings of human beings.[64] His desire to apply scientific methods socially ultimately leads Hume to elucidate the 'science' of human nature, the 'science' of politics and so on.[65] Bhaskar labels such attempts to merge natural and social scientific methods as "naturalism"; which he defines as "the thesis that there is (or can be) an essential unity of method between the natural and social sciences."[66] Critical realism problematises such Humean naturalism, and along with it the methodological assumptions of EI environmental security research.

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[63] Patomäki, Heikki (2002), *After International Relations: Critical realism and the (re)construction of world politics*, New York: Routledge, pp. 21-25.

[64] Hume, David (1987) [1777a], "The Sceptic", in *Essays: Moral, Political, and Literary*, Indianapolis, IN: Liberty Fund Inc., pp. 162-165. See also: Popper (1962), op. cit.

[65] Patomäki (2002), op. cit., pp. 23-24. See also: Hume, David (1987) [1777b], "That Politics may be reduced to a science", in *Essays: Moral, Political, and Literary*, Indianapolis, IN: Liberty Fund Inc., pp. 14-31.

[66] Bhaskar (1989), op. cit., p. 67. Bhaskar does not refute naturalism outright, but rather mitigates it to argue for the possibility of a non-reductionist naturalism along critical realist lines. See: Bhaskar (1979), op. cit., p. 27 and pp. 44-54. Bhaskar's altered naturalism is not discussed in detail here, as it remains highly critical of unified methods in the social and natural sciences. Regarding naturalism, it is critical realism's refutation of the unity of method that is most significant for environmental security enquiry.

Critical realism argues that, while closed system research can be useful in the laboratory settings unique to natural science, closure does not exist in the social world. In social science, where human agency and fluctuating contexts add erratic inputs into experiments, mechanisms are more mutable. Social systems are more "*changeable*" than natural systems in that they are inherently and fundamentally influenced by human activities and interpretations.[67] Social mechanisms are not universal, but rather change constantly as a result of altered human behaviour and changes in the context within which human actions are taken. This precludes experimentation in the natural scientific sense. As Danermark and colleagues observe, "...it is hardly possible to create a social situation where one can systematically manipulate and control the influences from all conceivable social factors, in order to study the effects of one or a few of these factors."[68] Such systematic manipulation and control, however, is largely what EI environmental security research is based upon. Gleditsch, for example, repeatedly calls for theories to be constructed in ways that lend themselves to empirical testing.[69] He points out that environmental factors have not traditionally been part of security studies, and states that, while this may simply mean that environmental factors have little relevance for security, one can only be "confident of this conclusion if environmental hypotheses had at least been tested."[70] Attempts to conduct such tests in the open systems of environmental security, however, run into some fundamental problems.[71] Whereas the rigidity of laws in the natural world lends itself to strict experimentation and is conducive to rigid empirical methodological approaches, social

[67] Danermark, et. al. (1997), op. cit., p. 35. Italics included in the original.
[68] Ibid.
[69] Gleditsch (1998), op. cit.; and Gleditsch (2001), op. cit.
[70] Gleditsch (1998), op. cit., p. 386. Gleditsch accurately points out that traditional security has focused on power constructs from a realist perspective and regime type and economic relationships from a liberal perspective; the environment has been missing (with good reason from Gleditsch's perspective). The 'realist perspective' alluded to here refers to political realism and should not be confused with critical realism.
[71] Bhaskar, for example, contends that social scientific methods such as strict empirical testing based on "scientific rationality" are largely futile. See: Bhaskar (1979), op. cit., pp. 14-15.

sciences, as William Outhwaite argues, can "forget about closures".[72] This suggestion does not render efforts to explain social phenomena useless, but it does call into question such efforts that depend upon quasi-scientific methods.

Closure exists only when "reality's generative mechanisms can operate in isolation or independently of other mechanisms," a scenario that is only possible in the systems explored in natural science.[73] Movement away from artificial experimental closures in social science is necessary because interdependent and contextually varying social relationships are not 'measureable' in the traditional empirical sense. Bhaskar elaborates upon this point to suggest that the "chief empirical limit" of social scientific enquiry is that its objects of investigation "only manifest themselves in 'open systems'; that is, in systems where invariant empirical regularities do not obtain."[74] EI research, however, depends on the possibility of social scientific closure at a fundamental level; presupposing that testing and statistically rating certain variables as strong indicators of conflict, others as weak, and others as insignificant is the key to understanding the causes of conflict generally. The tacit 'either-or' approach to determining the causal relevance of multiple interconnected variables reveals EI

[72] Outhwaite, William (1998), "Realism and the Social Sciences", in Archer, Margaret, Roy Bhaskar, Andrew Collier, Tony Lawson and Alan Norrie, eds. (1998), *Critical Realism: Essential Readings*, London: Routledge, p. 292. See also: Collier, Andrew (1994), *Critical Realism: An Introduction to Roy Bhaskar's Philosophy,* London: Verso, pp. 250-251.
[73] Danermark, et. al., (1997), op. cit., p. 47. See also: Bhaskar (1978), op. cit., pp. 14-15.; Bhaskar (1979), op. cit., p. 21 and pp. 45-48.; Collier (1994), op. cit., p. 34.; and Danermark, et. al., (1997), op. cit., pp. 34-41. One significant factor that contributes to the uniqueness of social versus natural scientific questions is that in the latter, the closed systems of natural science explore *disinterested* objects and processes that exist independently of human knowledge of them or the significance that anyone assigns to them.
[74] Bhaskar (1979), op. cit., p. 49.

assumptions on the possibility of closure and the value of variable isolation.[75] Since open systems are fluid, changeable through human agency, malleable through the differing contexts of space and time, and not conducive to the closure needed to strictly isolate the measurable causes and effects behind phenomena, these EI assumptions are problematic.

The foundational goals of the empirical isolationists, to rate the causal weight of variables contributing to conflict, do not respect interactive relationships among variables in a multipart system. The comparative variable analyses, advocated by Gleditsch and pursued by Hauge and Ellingsen and Urdal, are not methodologically capable of recognising the interplay that exists among social and natural variables leading to insecurity. In a CI response to Gleditsch; Daniel M. Schwartz, Tom Deligiannis and Homer-Dixon call upon the work of Richard Lewontin to illuminate this problem:

> Gleditsch implicitly accepts the notion that independent variables can be assigned weights that indicate their relative causal power. Gleditsch, of course, is hardly alone here. Causal weighting is widely considered to be the ultimate goal of statistical analyses... The practice of causal weighting, however, has its problems... Richard Lewontin argues that, although causal weighting may be appropriate when the relationships among variables are *additive*, it is misguided when the relationships are *interactive*. Lewontin contends that analysis of variance produces uninterpretable results when dealing with *interactive* variables.[76]

EI methods fail to appropriately represent the causal relevance of interactive variables at the centre of environmental security questions. In the words of Margaret Archer, such related variables in open systems "will not necessarily or usually be demonstrable by some regular

[75] Gleditsch provides an illuminating look into the 'either-or' premises underlying EI research. He cites a study by Robert Mandel to question the relative relevance of resources versus ethnicity for explaining violent border disputes, writing: "...Mandel hypothesized that ethnically-oriented border disputes would be more severe than resource-oriented ones because ethnic issues seemed less tractable, more emotional, and less conducive to compromise. He was able to confirm his hypothesis in a study of inter-state border disputes after World War II, using data from Butterworth." Mandel's 'confirmed' hypothesis, championed by Gleditsch, assumes that it is appropriate to classify border disputes as being driven by resources *or* ethnic divisions, and further assumes that findings supporting ethnic disputes being fundamentally more intractable can be 'confirmed' through testing a dataset. See: Gleditsch (1998), op. cit., p. 385. See also: Mandel, Robert (1980), "Roots of the Modern Interstate Border Dispute", *Journal of Conflict Resolution,* 24(3), pp. 427-454.; and Butterworth, Robert L. (1976), *Managing Interstate Conflict, 1945-1974*, Pittsburgh, PA: University Center for International Studies.

[76] Schwartz, et. al. (2000), pp. 77-94. See also Lewontin, Richard C. (1976), "The Analysis of Variance and Analysis of Causes", in Block, J. J. and Gerald Dwarkin (1976), *The IQ Controversy: Critical Readings*, New York: Pantheon. Italics added.

covariance in observable systems and thus will almost always fail to establish a claim to reality on the empiricist criterion of causality."[77]

A further problem with naturalist approaches to environmental security is that such methods focus upon observable effects of phenomena under study at the expense of understanding the mechanism which produce these effects. While these naturalist approaches lend themselves to searching for repeated conjunctions of events that demonstrate consistent results, such conjunctions do not address the reasons that these events occur.[78] Critical realism, unlike naturalism, seeks to understand the mechanisms that lead to observable effects as a primary research objective and as a result posits fundamentally different approaches to causality than those strategies focusing exactingly upon empirical observations.[79] The methodological fracture that divides CI and EI environmental security research reflects the different emphases that the two schools place on generative mechanisms versus observable effects. The following section explores the theoretical assumptions behind these different emphases, and argues for the importance of seeking out generative mechanisms in environmental security research.

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[77] Archer (1998), op. cit., p. 192. More simply put, the subject matter of environmental security "circumscribes the possibility of measurement…[f]or meanings cannot be measures, only understood." See: Bhaskar (1979), op. cit., p. 46.

[78] Hume argues that the powers which produce results mask themselves from human observation. Therefore, explorations into causes and effects must be limited to those processes which can be readily observed as being causally connected. See: Hume, David (1976) [1777d], "On the Idea of Necessary Connection", in Brand, Myles, ed. (1976), *The Nature of Causation*, Chicago: University of Illinois Press, pp. 45-64. See also: Archer, Margaret (1998), "Introduction: Realism in Social Sciences", in Archer, et. al., eds. (1998), op. cit., p. 192. Again the example of a simple monetary transaction provides a useful analogy. Observing repeated exchanges of money for goods or services does not sufficiently explain *why* these exchanges occur or illuminate the bases upon which they are founded. Answering the 'why' question requires understanding underlying social structures (such as supply and demand, currency values, etc. in the monetary exchange example) that are impervious to strict sensory observation and therefore not readily empirically observable

[79] Ibid., p. 190. Archer describes the objective of critical realist enquiry as the "quest for non-observable generative mechanisms...[leading] to the variety of intervening contingencies which cannot be subject to laboratory closure."

### 1.4 Causality and the Problems of Positivism

Naturalist methods that seek causal connections within environmental security research problematically fail to address the structures and powers that exist between causes and effects. Hume provides the foundation for these shortcomings by creating a framework that intends to help an enquirer determine true causes of events by distinguishing which events are the result of *chance* and which are the result of discernible *causes*. He concludes that, while making such determinations is challenging, the most appropriate path forward is to look for the repetition of consistent causes resulting in similar effects.[80] Hume's general rule of causality states that "[w]hat depends upon a few persons is, in a great measure, to be ascribed to chance, or secret and unknown causes; what arises from a great number, may often be accounted for by determinate or known causes."[81] This principle is consistent with Hume's attempts to "naturalise" social scientific enquiry, in that observable repetitious conjunctions of events (also known as empirical regularities) are often capable being meticulously measured. Hume's relatively simple premise promoting repeated observation as the standard for causality has since underpinned generations of positivist social scientific research.

The positivist philosophical tradition, to which EI environmental security research is a part, takes up the Humean banner to construct research models that tie causality to observable conjunctions of events in which a cause *A* leads to an event *B*. The positivist approach is epistemologically-based as it relegates reality to the sensory perceptions of humans.[82] Reality existing outside of human perceptions holds little value for positivism, which reduces discourses on causes and effects to that which is observable. The positivist focus upon

[80] See: Hume, David (1987) [1777c], "On the Rise of Arts and Sciences", in *Essays: Moral, Political, and Literary,* Indianapolis, IN: Liberty Fund Inc., pp. 111-137.
[81] Ibid., p. 112.
[82] Danermark et. al. (1997), op. cit., p. 8.

observation, and refutation of the value (or possibility) of investigating unobservable phenomena, leaves establishing empirical regularities as the primary means for determining causality. In other words, if effect *B* can be shown to follow cause *A* repeatedly throughout a study, then the basis for arguing that a causal relationship exists between *A* and *B* is established. Strong correlations between events, the argument goes, are useful for explaining social phenomena and predicting future events based upon established causal relationships. Russel Keat and John Urry succinctly describe the foundations of positivist methods as follows:

> For the positivist, science is an attempt to gain predictive and explanatory knowledge of the external world. To do this, one must construct theories, which consist of highly general statements, expressing the *regular* relationships that are found to exist in the world.[83]

For positivists, since observing the conjunctions of events is necessary for establishing causality, empirically verifying theories regarding these conjunctions is the key to strong research.[84] The greater empirical evidence a study can develop to support a theorised causal correlation, the stronger the argument is for causality existing between or among events.

Positivist methods for establishing causality are predicated on some fundamental assumptions about the social world. The first assumption is that human perceptions of reality are tantamount, for practical purposes, to the construction of reality itself. Hume argued that reality is based upon human impressions and ideas that must be legitimised by observable and defendable human experiences.[85] He stated that the "science of man is the only solid foundation for other science" and that human science is predicated upon experience and

[83] Keat, Russell and John Urry (1978), *Social Theory as Science*, London: Routledge, p. 4. Italics added.
[84] This statement is the overriding premise behind Gleditsch's critiques of CI research. See: Gleditsch (1998), op. cit.; and Gleditsch (2001), op. cit.
[85] Hume, David (1739), "*Introduction to a Treatise of Human Nature*" in Capaldi, Nicholas, ed. (1967), *The Enlightenment*, New York: Capricorn Books, pp. 85-89.

observation.[86] The second key assumption is that repeated, observable conjunctions of phenomena support arguments that these phenomena are *linked* causally.[87] This assumption is consistent with naturalist social scientific strategies that apply methodological underpinnings from the physical sciences to the social world; as natural science establishes laws by defending theories through repeated observations of causal relationships.[88]

Critical realists challenge the assumptions of positivism, and take issue firstly with suggestions that reality in the social world is subject to human observations and impressions. Critical realist Peter Dickens argues that a reality must be recognised that is "independent of discourse and language" in order to avoid the "problem of empiricism" and move analyses beyond mere deductions based upon observable facts.[89] For critical realism, reality exists independently of human conceptions of it and of theoretical frameworks that attempt to explain it. Bhaskar argues therefore that it is the nature of things that make them objects of knowledge for us, using the analogy that "it is because sticks and stones are solid that they can be picked up and thrown, not because they can be picked up and thrown that they are solid."[90] In other words, the reality of natural phenomena, such as changes in the earth's atmosphere for example, transcends humankind's ability to observe and theorise about them.[91] The role of theories, as opposed to constructing working perceptions of reality, is to

[86] Hume (1739), op. cit., quoted in: Patomäki, Heikki and Colin Wight (2000), "After Postpositivism? The Promises of Critical Realism, *International Studies Quarterly,* 44, p. 219.
[87] Hume (1987) [1777c], op. cit., p. 112.
[88] Positivist approaches borrow heavily from natural scientific methods, with strategies that, according to Hollis and Smith, are "modelled on the methods of natural science and [are] usually described as a search for causes...the broad idea is that events are governed by laws of nature which apply whenever similar events occur in similar conditions." See: Hollis, Martin and Steve Smith (1990), *Explaining and Understanding International Relations*, Oxford: Clarendon Press, p. 3.
[89] Dickens, Peter (2004), op. cit., p. 20.
[90] Bhaskar (1979), op. cit., p. 25. The critical realist approach to reality is applicable to both natural and social sciences, and Bhaskar's first foundational work of critical realism focuses upon natural rather than social science. See: Bhaskar (1975), op. cit.
[91] The progress of human knowledge also provides strong examples of reality transcending human understanding. The sun, for example, was the centre of the universe during times before the acceptance of heliocentrism.

try to provide an interpretive framework for understanding the world as it is constituted.[92] When applied to social scientific questions, this theoretical goal necessitates exploring the generative mechanisms that lead to outcomes in open systems.

Critical realism also challenges the positivist assumption that repeated conjunctions of events reflect causality in the social world. Social phenomena result from a *combination* of interdependent generative mechanisms that lead to an effect or set of effects. For this reason the isolation, measurement and testing individual generative mechanisms is counterintuitive for social science, and conclusions drawn from such methods are problematic.[93] Firstly, such conclusions can be incorrect or misleading. One might observe strong empirical regularities connecting *A* and *B*, that is *B* follows on from *A* to a large extent throughout a study, but these findings might ignore other variables that are causally relevant to understanding what actually leads to *B*. Even carefully constructed studies can misinterpret the causal linkages connecting two or more objects and as a result reach conclusions about causes that, in Humean terms, actually equate to chance.[94] Such conclusions risk producing misleading results that overestimate, underestimate or missing completely important causal relationships. Secondly, even where empirical regularities can correctly inform social science about correlative relationships, and be accepted as true without controversy, they do not explain the nature of the actual causes leading to the particular result. As Danermark and colleagues explain, "...the predominant methods of empiricist social science, the study of empirical regularities or co-variation between standardized variables, cannot offer opinions on anything but only empirical and statistical correlation; they cannot answer questions regarding

[92] Danermark et. al. (1997), op. cit., p. 112.
[93] Bhaskar (1979), op. cit., p. 45. Bhaskar claims that all philosophical traditions that presuppose closure in social science, including "Humean theories of causality and law", must be "totally discarded."
[94] For a useful and succinct analysis of this problem with Hume's assessment of causality see: Ducasse, C. J. (1976), "Causality: Critique of Hume's Analysis", in Brand, ed. (1976), op. cit., pp. 65-76.

cause."[95] Such studies can establish the presence of a strong correlation, but the knowledge of the correlation alone does not explain the reasons that it is so. Outhwaite contends that such knowledge is insufficient because "we still need to investigate the *mechanisms* that produce these effects."[96] As a result of these shortcomings, methods that emphasise variable correlations suffer from potentially misrepresenting causal relationships and tend to underemphasise important questions about the generative mechanisms leading to social phenomena.

Critical realism aims to avoid the pitfalls of positivism by creating objectives beyond establishing empirical regularities. Danermark and colleagues explain these goals thusly:

> ...the task of science to try, as far as possible, to reach beyond the purely empirical assertion of a certain phenomenon, to a description of what it was in the object that made it possible. We cannot be satisfied with just knowing that A is generally followed by B; a scientific explanation should also describe how this happens, what the process looks like where A produces B – if there is any real causal relationship at all between the events observed.[97]

Examining interplays among variables, both social and natural, that combine to lead to the phenomena under study is therefore the primary objective of critical realist research. This objective is conducive to the challenges of environmental security, where a myriad of social and natural variables interact to produce effects in complex systems. Such an objective creates the need for methods that can provide organisational and theoretical clarity to research seeking to illuminate causal relationships. The following section demonstrates how critical realism provides such clarity and presents critical realist methods as a way forward for the environmental security subfield.

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[95] Danermark, et. al., (1997), op. cit., p. 53.
[96] Outhwaite, (1998), op. cit., p. 285. Italics added.
[97] Danermark et. al. (1997), op. cit., p. 58. In a related position, Andrew Sayer notes that "[m]erely knowing that *C* has generally been followed by *E* is not enough: we want to understand the *continuous process* by which *C* produced *E*..." See: Sayer, Andrew (1992), *Method in Social Science: A Realist Approach*, 2nd ed., London: Routledge, pp. 106-107. Italics added. Interestingly, given the objective of this thesis to apply critical realist methods in environmental security, Sayer, who is a prominent critical realist scholar, is cited for this statement in the Toronto Group's response to Gleditsch. See: Schwartz, et. al. (2000), op. cit., p. 84. There appear to be few (if any) other *direct* linkages to critical realism in major environmental security research.

## 2.1 Critical Realism, Causal Mechanisms and Tendencies

To better understand causes, critical realism attempts to improve understandings of structures and relationships that possess causal powers. Critical realism argues that causal powers exist in objects and structures, and that these powers are present regardless of whether or not they are exercised. The power of objects results from their inherent natures, such as a match having the power to produce fire. These powers will only be actuated and produce events if they are triggered; in the case of the match such triggering requires that it be struck, but the powers exist regardless of whether or not such an effect eventuates.[98] The context within which a causal power exists is also important, as this context helps determine whether or not the power will be triggered. A match sitting in a box, for example, is of less interest than a match in a person's hand. Critical realist research seeks greater understandings of the nature of objects and powers that are "causally efficacious" for producing a phenomenon or phenomena under study.[99] Therefore, the combination of causal powers and the context within which they exist are both vital for understanding the processes that underlie events.

As with the triggering of causal mechanisms, context is an important determinant of the effect(s) that *result* from a mechanism being actuated. Understanding causal powers does not lead to direct or universal conclusions about causal effects. Causal mechanisms do not have normic effects; rather the circumstances within which a causal mechanism acts help to determine the outcome. The example of a match can also help illuminate this point. A match has the power to produce fire if it is triggered (lit), therefore the match's capabilities may be said to be causally efficacious to the production of fire. The *effect* of the match being lit, however, will vary greatly depending upon the context in which its powers are triggered.

[98] Collier (1994), op. cit., p. 43.
[99] Patomäki (2002), op. cit, p. 8.

Consider, for example, the potentially different outcomes that might result from lighting a match on a dry day near a pool of petroleum versus lighting the same match in the midst of a rain storm.[100] Danermark and colleagues address such contextual considerations, stating that:

> ...the relation between causal powers or mechanisms and their effects is not determined but *external* and *contingent*. The fact that a generative mechanism only operates when it is being triggered indicates that it does not always operate – and that, if it is ever triggered, or when it is, the present conditions or circumstances determine whether it will operate. And if it does, the actual effect is also dependent on the conditions.[101]

The importance of context is further bolstered by the capacity for multiple causal mechanisms to affect each other. In complex causal chains such as those linking the environment and security, for example, some combinations of mechanisms will not affect each other, others will frustrate or prevent certain other mechanisms from being actuated, and other combinations will be reinforcing and compounding.[102]

The importance of context for both the actuation and potential effects of causal powers has weighty methodological ramifications for social science. Focusing solely upon empirical regularities that are hypothesised to lead to consistent results in observable scenarios is not consistent with respecting important contextual considerations in the social world. As social science deals with open systems, and effects of mechanisms operating within open systems vary depending upon context, the possibilities for consistent outcomes and universal principles in social science is limited. As critical realists Patomäki and Wight point out "[g]iven that the social world is open not closed, then it is hardly surprising that no laws have yet been discovered."[103] The multiplicitous contextual conditions of the social world restrict the possibilities for creating strict norms based upon observable effects, and limit the applicability of understandings of causal mechanisms outside of a particular study. In other

[100] Collier (1994), op. cit., pp. 43-44. Richard Taylor makes a similar claim to Colliers' while also using the example of a match being lit. See: Taylor, Richard (1976), "Causation", in Brand ed. (1976), op. cit., pp. 296-313.
[101] Danermark, et. al. (1997), op. cit., p. 55. Italics added.
[102] Ibid. (2007), p. 56.
[103] Patomäki and Wight (2000), op. cit., p. 228.

words, since context conditions both the causes and effects of phenomena, the quest for normic predictions in social scientific enquiry must be mitigated.

The importance of context for causal processes in open systems limits the predictive capabilities of social science. The positivist assumptions underlying EI research are predicated upon the search for correlations that can lead to predictive power. Archer constructs a crude representation of this goal as: *Observation + Correlation = Explanation + Prediction*.[104] Critical realism avoids the quest for observable correlations and challenges the possibilities of predictions in open systems. Understanding causal mechanisms does not lead to knowledge of universal effects that will result from said mechanisms being exercised. As Danermark and colleagues point out, "explanation and predictability are not one and the same: if we can explain how something works it does not automatically follow that we can also predict how it will behave, and vice-versa."[105] Prediction is precluded by the impossibility of artificially 'closing' social systems to test causal hypotheses, and because the fluctuating contexts in which mechanisms will be exercised will affect their outcomes. On the surface, such an assertion appears crippling for the goals of social science; and environmental security by extension. If there is not predictive value in improving understandings of mechanisms producing events, then what practical application does social theory possess? This problem is taken up by critical realism through the recognition of *tendencies*.

While strict prediction, denoting universal results from a mechanism or mechanisms being actuated, may be impossible; strong social theories illuminate useful predictive tools called

[104] Archer (1998), op. cit., p. 190.
[105] Danermark, et. al. (1997), op. cit., p. 68. Bhaskar radically declares prediction to be impossible in the open systems of social sciences, stating that social theories should be focus on being explanatory. See: Bhaskar (1979), op. cit., p. 5.

tendencies. As Bhaskar states, "a powerful explanatory theory will allow us to make conditional predictions about the tendencies which may manifest themselves in the future."[106] Danermark and colleagues expand upon this notion by stating that, while prediction in the natural scientific sense is impossible in open systems, analyses of causal mechanisms make it "possible to conduct a well-informed discussion about the potential consequences of mechanisms working in different settings."[107] There is predictive value in explanatory social science, including within environmental security, so long as the focus remains upon providing detailed explanations of the particular phenomena being studied. Predictive analyses must therefore remain appropriately tentative and recognise the limitations inherent to open systems.[108]

Gaining knowledge of the causal mechanisms and tendencies underlying a phenomenon requires exploring what causes and contextual factors combined to make said phenomenon possible. In other words, to make valuable contributions to learning about *how* conditions lead to events, research must first delineate what constitutes a relevant causal condition. In environmental security terms, this requires determining *whether* there are significant linkages between environmental dynamics and conditions leading to insecurity.[109] Such delineation requires not only detailed knowledge of the case(s) at the centre of the enquiry, it also necessitates using a set of criteria to establish the relevance of hypothesised causal conditions. Without criteria, assertions about causal relevance would be speculative and lack

[106] Ibid.
[107] Danermark (1997), op. cit., p. 1. A similar sentiment is expressed by Patomäki (2002), op. cit., p. 1.
[108] Outhwaite (1998), op. cit., p. 291.
[109] Swartz, et. al. (2000), op. cit., p. 86. The complex inclusivist research design presented here shows that the Toronto Group employed "*process-tracing*" methods "to determine if the independent and dependent variables were actually linked..." Italics in original. This thesis expands upon the CI methodological approach by constructing criteria for determining the relevance of such potential linkages.

analytical rigour. The critical realist interpretation of J. L. Mackie's INUS condition represents such a set of criteria.[110]

## 2.2 The INUS Condition

Mackie contends that causes are typically *Insufficient* but *Necessary* (or *Nonredundant*) elements of a condition that is *Unnecessary* but *Sufficient* (INUS) for producing a result.[111] Mackie simplifies this seemingly complex construction using the example of a house catching fire as the result (in the conventional sense of the word) of a short circuit:

> If I say that this short circuit caused this fire, I am claiming only that the short circuit in conjunction with other factors which were actually present formed a sufficient condition for the fire's breaking out, that these other factors alone, without the short circuit, were not a sufficient condition for the fire, and that no other sufficient condition for the fire was present. I should probably admit that quite different sets of factors could constitute sufficient conditions for such a fire. The short circuit, which I describe as the cause of the fire, or as having caused it, is not in itself either necessary or sufficient for the fire; but it is a nonredundant part of a sufficient condition which was also, as it turned out, nonredundant. This sort of condition, an *insufficient* but *necessary* part of an *unnecessary* but *sufficient* condition, I call for short (using the initial letters of these words) an *inus* condition.[112]

Mackie's example shows that a conglomeration of factors creates conditions leading to a result. When one says that a short circuit 'caused' a fire, what he or she actually means is that the short circuit combined with other elements, present within the context in which the

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[110] The INUS condition first appears in Mackie, J. L. (1965), "Causes and Conditions", *American Philosophical Quarterly,* 2(4), pp. 245-264.

[111] Mackie's work has affinity in many ways with arguments on causal conditions presented by Richard Taylor. Taylor writes that "[e]very event occurs under innumerable and infinitely complex conditions. Some of these are relevant to the occurrence of the event in question, while others have nothing to do with it." See: Taylor (1976), op. cit., p. 296.

[112] Mackie, J. L. (1966), "The Direction of Causation, *The Philosophical Review*, 75(4), p. 445. Mackie elaborated upon this example in 1976 by framing it in terms of the meaning of 'cause' in everyday usage. He suggested that when fire experts state that the 'cause' of the fire was a short circuit, what they actually mean is that it was a nonredundant part of condition that was essential for producing a result (in this case a fire). Mackie writes: "Clearly the experts are not saying that the short-circuit was a necessary condition for this house's catching fire at this time; they know perfectly well that a short-circuit somewhere else, or the overturning of a lighted oil stove, or any number of other things might, if it had occurred, have set the house on fire. Equally, they are not saying that the short-circuit was a sufficient condition for this house's catching fire; for if the short-circuit had occurred, but there had been no inflammable material nearby, the fire would not have broken out, and even given both the short-circuit and the inflammable material, the fire would not have occurred if, say, there had been an efficient automatic sprinkler at just the right spot. See: Mackie, J. L. (1976), "Causes and conditions", in Brand, Myles ed. (1976), op. cit., p. 308.

short occurred, to produce fire.[113] The short circuit is an *insufficient* cause, in that other factors (presumably the presence of flammable objects nearby) are also needed to explain the occurrence of fire.[114] The combination of the circuit shorting within an environment conducive to causing fire is also an *unnecessary* cause of fire, as to argue otherwise would require demonstrating that no other causes of fire exist. However, the short circuit is a *necessary* part of a condition *sufficient* for causing fire. The fire would not have occurred at the time and under the conditions that it did were it not for the short circuit. The combination of factors was clearly *sufficient* for causing fire since a fire did actually occur. Sufficiency in this case is most directly evidenced by the presence of the result.

The INUS condition represents a more accurate portrayal of the way cause and effect actually occurs in the social world than analyses that seek-out empirical regularities. Attempts to establish causes through isolating individual cause-effect relationships run the risk of underemphasising other causes, and the context of the causes, leading to an event, and as a result lead to an overly simplified definition of a 'cause'. For example, in the case of the relationship between a short circuit and a fire, Mackie points out that common vernacular supports stating that the short circuit 'caused' the fire.[115] This statement is an oversimplification that does not respect the other necessary components of the fire's origins. What is really meant by cause, when there are a multiplicity causes acting together, is an INUS condition.[116] Rather than inaccurately claiming that cause *A* led to event *B*, an INUS approach argues that cause *A* was a nonredundant part of the condition that caused event *B*. Since causes in social science are characterised by multiple causality, the INUS condition is a

[113] Mackie (1976), op. cit., p. 308.
[114] This point is further evidenced by the fact that circuits often short without producing fires.
[115] Ibid.
[116] Marini, Margaret M. and Burton Singer (1988), "Causality in the Social Sciences", *Sociological Methodology,* 18, p. 355.

more appropriate representation of the conditions leading to an event than those which suggest a more direct link between cause *A* and effect *B*.

Accepting the INUS condition as the criterion for establishing causality informs the goals of social scientific research. Since it refutes the notion that individual mechanisms 'cause' events, the search for such individual cause-event relationships cannot be the logical goal of INUS-driven social scientific inquiry. Moreover, it is not expected that conditions (meaning a combination of causal mechanisms existing within a unique context) leading to events will be completely understood or explained. As sociologists Margaret M. Marini and Burton Singer state, "[b]ecause complex regularities are seldom, if ever, fully known, we are usually in a position to formulate only incomplete propositions reflecting them..."[117] Accepting this notion places causality in a new light, in that it mitigates the goals of what research must attempts to argue. Consistent with the critical realist notion of tendencies, Mackie suggests that developing greater understandings of causal conditions, while not establishing that *A* necessitates *B*, can provide evidence that *A* is likely to be followed by *B* in other cases.[118] Developing a detailed understanding of the condition to which cause *A* contributes is therefore essential for effectively arguing that causes similar to *A* could, in other cases, contribute to conditions leading to effects similar to *B*. The development of detailed understandings of such conditions can be missed by social scientific research that seeks evidence of empirical regularities.

[117] Ibid., p. 357. The incomplete nature of our knowledge on complex combinations of factors leading to causal conditions problematises deterministic statements on cause and effect. While strict determinism, meaning cause *A* uniformly leads to condition *B*, is problematic in complex scenarios characterising social science inquiry, the concept of *probabilism* holds more promise. We may say that conditions, based upon our prior knowledge of them through investigation, increase the *probability* that an given event will follow. This is very similar to the critical realist emphasis on searching for tendencies.

[118] See: Mackie, J. L. (1974), *The Cement of the Universe: A Study on Causation,* Oxford: Oxford University Press.

Statistical approaches to environmental security research, including those that attempt inclusiveness through analysing numerous variables across multiple sectors, are limited in their methodological capacity to understand overall condition that leads to an event. Establishing the INUS condition as the criterion for causality when constructing theories in environmental security provides a means for avoiding these shortcomings. To employ the INUS condition effectively requires developing a detailed understanding of the character of the event (that is: the result of the causal condition) under study and rigorously applying the INUS test to support arguments on the causal efficaciousness of the mechanisms constituting the condition. Such an approach has particular importance for understanding the complex causal chains linking environmental factors and insecurity.

Exploring causality via complexes made up of multiple components is a valuable way to address the multifaceted conflict scenarios found in the environmental security subfield. The INUS condition, which is complementary to critical realist methods, provides a criterion for exploring causality in inclusivist environmental security research.[119] The search for causal conditions already underwrites the goals of much of the existing CI research and, as Swartz and colleagues point out, these goals require "unearthing the myriad and variegated ways in which environmental scarcity interacts with other social, economic, and political factors to

[119] The INUS condition is largely consistent with the theories of critical realism. Bhaskar creates a process for explaining phenomena in open systems that, by his own account, has similarities to Mackie's work on causal conditions. Bhaskar's labels his framework the RRRE model of explanation in open systems. This acronym stands for the *Resolution* of a complex event into components, and *Redescription* of component causes, *Retrodiction* to possible causes of components via independently validated statements, and *Elimination* of alternative possible causes of components. See: Bhaskar (1979), op. cit., p. 129. Patomäki, a critical realist scholar, engages with the INUS condition in greater depth, and argues that there is "never a single cause but instead always a causal complex" that must be addressed by explanatory research. Patomäki extends the INUS condition to represent causal conditions as: causal complex (*K*), which is capable of producing events, is made up on actors (*AR*); regulative and constitutive rules (*RU*); resources as competencies and facilities (*RE*); relational and positioned practices (*PRA*); and meaningful action (*AN*). Patomäki's causal complex is therefore represented as: $K = \{AR, RU, RE, PRA, AN\}$. Patomäki's model emphasises the importance of historical factors and the necessity of respecting the contextual factors that affected phenomena during a particular time and place. He proposes using the INUS framework as part of a "genealogical query" that can illuminate how events were generated within specific historical contexts. See: Patomäki (2002), op. cit., pp. 78-79 and pp. 119-120.

engender conflict."[120] Importantly, Schwartz and colleagues also recognise the need to explore parts of causal conditions leading to events in a way that avoids adding, removing or combining variables in an unsystematic fashion.[121] By establishing a set of criteria, the INUS condition helps reduce the analytical risks of haphazard combinations by enabling environmental security research to address the combinations of factors and contexts while retaining a rigorous approach to causality.

In sum, the search for causal mechanisms (and by extension tendencies) represents an appropriate goal for environmental security enquiry and the INUS condition constitutes a valuable set if criteria for assessing the relevance of given mechanisms and contexts. Taken together, this goal and these criteria create a strong extension of the methodological foundations of environmental security research. There remains a need, however, to delineate *how* such explorations into the causal connections between environmental and security dynamics might be pursued. Single case analyses represent such a means for exploration.

### 2.3 Defending Single Case Methodologies

Inclusive environmental research has drawn criticism for employing single case study methodologies.[122] Specifically, Gleditsch attacks multiple CI research projects for producing

[120] Schwartz, et. al. (2000), op. cit., p. 87.
[121] Ibid., Schwartz and colleagues are careful not to refute the "important goal of parsimony." Rather, they remove their own research from holding parsimony as an objective. Instead, Schwartz and colleagues advocate "process-tracing" as a method that helps "determine the boundaries of the INUS-condition." This methodological underpinning requires research that conducts detailed inclusive case studies.
[122] See: Gleditsch (2001), op. cit.; Levy (1995), op. cit.; and Rønnfeldt, Carsten (1997), "Three Generations of Environment and Security", *Journal of Peace Research* 34(4), pp. 473-482.

case-study findings that, because of the lack of a control group, are rendered anecdotal.[123] Such criticisms are predicated upon two assumptions. First, these criticisms assume that one can find two cases in which environmental and contextual factors (political, economic, ethnic, military factors for example) are roughly equal while the outcomes of the confluence of these variables differ from a security perspective. Second, Gleditsch's critique assumes that sampling and comparing case studies to establish whether insecurity consistently results from environmental stress is a necessary test of theory. Gleditsch states, for example, that to evaluate causal linkages in environmental security "we need to examine cases *without* conflict" before even considering claiming that a causal connection exists.[124] The task, based upon these two assumptions, becomes to find cases in which environmental and social variables are comparable and insecurity results in some cases and not others. By then comparing these case studies, such logic goes, the researcher can determine the strength of the case for an environment-insecurity connections based upon the prevalence (or lack thereof) of observable correlations between environmental and security dynamics. Such comparative possibilities are inherently eschewed by single case methodologies, leading to criticism that the absence of comparative analyses precludes possibilities for establishing causal linkages.

[123] Gleditsch (1998), op. cit., pp. 391-392. Gleditsch cites specific studies by the Toronto Group as well as those conducted by ENCOP and one study conducted by Shin-wha Lee. See: Homer-Dixon (1994) op. cit.; Baechler (1998) op. cit.; and Lee, Shin-wha (1996), "Not a One-Time Event: Environmental Change, Ethnic Rivalry, and Violent Conflict in the Third World", paper presented at the 37th Annual Convention of International Studies Association, San Diego, CA, 16-20 April.

[124] Gleditsch (1998), op. cit., p. 391. Kahl, a CI researcher, appears receptive to Gleditsch's critique and pursues a comparative analysis of two case studies: the communist insurgency in Philippines and land clashes in Kenya. Kahl is inclusive in his overall methodology (in which he relies heavily on qualitative analyses of detailed cases) and he draws comparisons between similar levels of demographic and environmental stress in both Kenya and the Philippines that resulted in different levels of violence. Kahl supports the value of single-case methodologies aimed at extrapolating causal linkages between environmental and security issues, but he conducts two case studies for the sake of comparative analysis. This thesis takes a different approach; avoiding declarations about similarities of circumstances between or among cases (which risk reducing the complexity of individual cases) in favour of employing a single case study method. See: Kahl (2006), op. cit.

The assumptions underlying EI criticism's of single case methodologies in environmental security are unsound. The first assumption presupposes that case studies exist in which one might place environmental and contextual factors as more or less equal and measure the frequency and levels of insecurity that result. This assumption does not respect the complexity of social-environmental interactions that contribute to insecurity in *individual* cases and as a result seeks to categorise diverse cases into rigid comparative frameworks. In complex environment-insecurity connections, the list of important factors for consideration quickly overwhelms efforts to determine consistent similarities among different cases.[125] Such factors include political considerations such as regime type and institutional capacities, micro- and macroeconomic factors such as income levels, aggregate growth, regional economic disparities, and relative deprivation levels, societal factors such as the ethno-religious diversity of the state and its regions, levels of autonomy for ethno-religious groups, levels of persecution, and histories of group-identity friction, as well as military actions and overall security priorities. This list is far from exhaustive and the categories within it inherently broad. Such important multi-sectoral factors must then be considered within the ecological context in which the case takes place. Some regions prone to drought, some to storms and flooding, others particularly vulnerable to climatic changes, and individual areas are all starting from particular levels of previous resource exploitation and scarcity. The sum of these factors renders cases extremely complex and intrinsically unique. Comparing cases to evaluate the frequency and nature of conflict occurrence thus risks reducing the individuality of cases for the sake of research design, and can lead to conclusions that do not respect the unique circumstances that define individual cases.

[125] For examples of cases that are both complex and unique see: Howard and Homer-Dixon (1995), op. cit.; and Kelly and Homer-Dixon (1995), op. cit.

The second assumption of arguments critical to single case methods in environmental security, that comparative case analyses are essential tests of causality, is consistent with the EI propensity to reduce complexity for the sake of creating testable research models.[126] Gleditsch, for example, does not accept complexity as innate to environmental security questions, stating rather that "any social system is as complex as the theory developed to study it. In other words, the complexity is in the mind of the beholder rather than the phenomenon itself."[127] From such a position, the task is to construct rigorously testable comparative case methods that can provide a definitive answer as to whether environmental stresses are causally relevant for security studies. The answer will result from the frequency of cases in which insecurity results from environmental stress. According to such an argument, studies that fail to conduct empirical case study comparisons are therefore considered anecdotal, regardless of the detailed explanatory constructions that they create.

The assumption that comparative case analyses are essential for establishing causality in environmental security is problematic for two reasons. The first problem concerns the EI refutation of complexity in any realm other than research design. Interrelationships between natural and social variables that create the conditions leading to conflict can be exceedingly complex. The interplays that exist among environmental realities (such as resource availability and natural resource vulnerabilities), and contextual social factors (such as resource exploitation and allocation) are both multifaceted and multidirectional. These complex relationships are present independently from any scientific methods attempting to explain them. Critical realism is informative on this point, as it recognises reality as being

[126] The studies of Hauge and Ellingsen and Urdal are examples of such testable research designs. See: Hauge and Ellingsen (2001), op. cit.; and Urdal (2005), op. cit.
[127] Gleditsch (1998), op. cit., p. 392.

independent of discourse, language and theory.[128] As it relates to environmental security enquiry, the critical realist conception of reality is polemically opposed to Gleditsch's contention that complexity exists only in the eye of the beholder. The methodological import of this distinction is that a critical realist approach to environmental security will avoid reducing complexity for comparative testing and instead labour to create explanatory frameworks for explaining interactions that exist among multiple social and environmental variables. Single case methodologies are conducive to this goal as such methods can draw out the unique characteristics of the case under study and improve understandings about the *ways* in which variable interactions can occur. Accepting such improved understandings as the goal of single case methods illuminates the second problematic aspect of demanding comparative case study methods.

Assuming the essential value of comparative case study analyses misrepresents the goals of single case studies in environmental security. CI single case studies, for example do not endeavour to create normic models in which cause *A* will invariably lead to effect *B*. Conversely, a main objective of CI researchers, and thus the primary criteria upon which their research should be assessed, is to improve understandings of the means by which environmental stresses can encourage and/or exacerbate security risks. Regarding causality, events are instances of conflict and insecurity, and the mechanisms of interest are those dealing with the interplay among environmental and social variables. For this reason, it is logical for inclusivist research to select case studies that appear on the surface to exhibit conditions under which this interplay may be explored. As Schwartz and colleagues state:

> If causal mechanism is believed to be an integral aspect of causality, then selecting case studies on the independent and dependent variable is hardly an egregious error in research design. Indeed, in order to

[128] Dickens (2004), op. cit., p. 20. Patomäki and Wight describe reality, from the critical realist perspective, as being "composed not only of events, states of affairs, experiences, impressions, and discourses, but also of underlying structures, powers, and tendencies that exist, *whether or not detected or known through experience and/or discourse*." See: Patomäki and Wight (2000), op. cit., p. 223. Italics added.

> understand whether there are causal links between environmental scarcity and violent conflict—and, if there are, *how* these variegated links work—it will be sometimes necessary to select cases in this manner. The Toronto Group therefore intentionally selected cases in which environmental scarcities and violent conflict were known *a priori* to exist.[129]

This statement by Schwartz and colleagues explicitly rests upon the presupposed value of illuminating causal mechanisms to advance the environmental security subfield. Within the framework of a single case study methodology, critical realism offers some valuable tools for making such illuminations.[130]

## 2.4 Abstraction

Abstraction delineates what causal components of a phenomenon constitute the focus of a particular social scientific study. To improve understandings of generative mechanisms that are causally relevant, research must focus on certain mechanisms at the temporary expense of

[129] Schwartz, et. al. (2000), op. cit., p. 86. See also: Homer-Dixon (1999), op. cit., pp. 169-76. The Toronto Group defends their case study-driven methods with several supporting arguments from literature. For the most important of these see: Eckstein, Harry (1975), "Case Study and Theory in Political Science", in Greenstein, Fred I. and Nelson W. Polsy, eds., *Strategies of Enquiry: Handbook of Political Science Volume 7*, Cambridge, MA: Addison Wesley, pp. 125-126.; and George, Alexander and Timothy McKeown (1985), "Case Studies and Theories of Organizational Decision-Making", in Coulam, Robert and Richard Smith, eds., *Advances in Information Processing in Organizations*, Vol. 2, London: JAI Press, pp. 34-41.

[130] Critical realism a philosophy about the nature of reality rather a uniform set of explicit methods for social science. The primary objectives of leading critical realist scholarship, as well as the goals of oppositional philosophies, appears to be the refinement of philosophical positions as opposed to explicitly delineating how these philosophies should be practiced. See: Wai-chung, Henry (1997), "Critical realism and realist research in human geography: a method or a philosophy in search of a method?" *Progress in Human Geography,* 21(1), pp. 51-74.; see also Danermark (1997), op. cit., p. 73. The school's philosophical focus has led Henry Wai-chung to argue that critical realism is "a philosophy in search of a method" and that social scientists have been guilty of misappropriating critical realism as if it were a method. Wai-chung's argument points out that, while critical realism can provide philosophical underpinnings for research, it is up to social scientists to solidify critical realist methodologies through practice.[130] Wai-chung argues that such applications contribute to the two-way relationship between philosophy and social science, in which philosophy informs social scientific research which in turn sheds light on the practice of the philosophy itself. However, while Wai-chung's positions on this two-way relationship have merit, it is a mistake to suggest, however, that radical methodological interpretations of critical realist philosophies are necessary. Guidelines for employing critical realist methods are present in Bhaskar's foundational works and were further developed during the following two decades. See: See Bhaskar (1979), op. cit.; Allen, John (1983), "In Search of a Method: Hegel, Marx and Realism", *Radical Philosophy,* 35, pp. 26-33.; and Sayer (1992), op. cit. The task for critical realist social science is to create an appropriate critical realist framework for the phenomena under study. For the environmental security subfield, this framework begins with abstraction.

others.[131] Abstraction is particularly necessary for research conducted within open systems.[132] In closed systems, research can afford to rely, to a degree, upon testable observations of empirical regularities. Open systems, adversely, typically erode such testable opportunities and require abstractions to categorically organise components contributing to an event.[133] By temporarily individuating the causes and circumstances leading to an event, abstractions begin the process of developing knowledge about the characteristics of these causes and circumstances. In critical realist terms, the event at the end of the causal chain is the 'concrete' and research must construct abstractions of the concrete for explanatory purposes. After this impermanent abstraction of specific dynamics, the task becomes to reconstitute the drivers of the phenomenon under study in a way that respects the interplay among them. Tony Lawson describes the value of abstraction thusly:

> The point of abstraction is to individuate one or more aspects, components or attributes and their relationships in order to understand them better. Once this has been achieved it may be possible to combine or synthesise the various separate understandings into a unity that reconstitutes, or provides a better understanding of, the concrete.[134]

By individuating and then reconstituting the variables underlying an event, abstracting methods avoid the reduction of the concrete to abstract concepts (which is overly epistemological), and the reduction of the abstract to the concrete (which is overly ontological).[135] To this end, abstraction requires categorising the contexts, powers and tendencies that contribute to an event. Delineating the categories or sectors to be abstracted upon for greater understanding is an essential initial step in research design.

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[131] Abstraction is particularly necessary for research conducted within open systems that focuses upon causal mechanisms. See: Dickens, Peter (2003), "Changing our environment, changing ourselves: critical realism and transdisciplinary research", *Interdisciplinary Science Reviews*, 28(2), pp. 99-100.
[132] Ibid.
[133] See: Sayer (1992), op. cit., p. 116.; and Danermark, et. al. (1997), op. cit., p. 69.
[134] Lawson, Tony (1998), "Economic science without interpretation/Abstraction", in Archer, et. al., eds., op. cit., p. 170.
[135] Danermark, et. al. (1997), p. 50.

Choosing the categories upon which to abstract reflects the values and interests of the research being undertaken. Critical realism and CI environmental security scholarship both endeavour to create a semi-holistic account of a phenomenon under study, as both theoretical approaches avoid variable isolations and emphasise interactions among different structures and powers that lead to events. There are however limits to holism. Just as it is misleading to reduce complex phenomena to simply their constituent parts, it is likewise misleading to explain such phenomena only in terms of the whole which they constitute.[136] Collier points out the futility of taking holism to its logical end by stating that such methods would "generate a regress that reduces wholes to greater wholes of which they are parts, or parts of smaller parts of which they are composed, until we reach...One Big Whole."[137] As opposed to holism therefore, a critical realist approach to environmental security necessitates constructing appropriate abstractions of the sectors that are of greatest interest for environmental security. As Andrew Sayer proposes, abstractions must isolate variables with the whole in mind and "neither divide the indivisible nor lump together the divisible and the heterogeneous."[138] The sectors selected for abstraction must be causally relevant and the task of the research remains to create a moderately comprehensive analysis of conditions leading to an event. The focus on particular drivers of this event, however, remains essential, and this focus reflects the vantage point of the researcher.[139]

The vantage point from which social scientific research is undertaken defines its explanatory goals. Progressive research attempts to explain events in ways in which they have not been

[136] This polemic description of problematic ways to explain phenomena mirrors previously-explored divergent conceptions on the nature of society. The positivist reductions of society to individuals (Popper) and the collectivist expansions of society to show its coercive power (Durkheim) are similar to the division between segregating and holistic approaches to explaining concrete events. While critical realism constructs a *relational* model of society in response to the former problem, it constructs *abstractions* to respond to the latter.
[137] Collier (1994), op. cit., p. 117. Collier states that another possible end to such holistic inquiry would be the construction of "a mass of literal atoms, differing only numerically and related only mechanically."
[138] Sayer (1992), op. cit., p. 88.
[139] Lawson (1998), op. cit., p. 172.

previously addressed, and, in doing so, contribute to a greater understanding of the characteristics of the event and the causal processes that generated it. Outhwaite succinctly explains this goal from a critical realist perspective as follows:

> The social scientist directs his or her attention to an object of inquiry which is already defined in certain ways...[and] will typically set to redescribe this object so as to bring out its complexity, the way in which it is determined...as an outcome of a multiplicity of interacting tendencies.[140]

The angles from which the researcher pursues Outhwaite's redescription of a phenomenon reflects his or her vantage point and explanatory goals, and these goals are realised in the causal mechanisms that such research ultimately illuminates. As opposed to a holistic approach, explanatory research that seeks to clarify causal mechanisms must focus upon particular linkages in the causal chain. Such explanations will be necessarily inefficient in totality, but can succeed in improving the understanding of certain processes that are important parts of the conditions leading to the event under study. As Lawson points out, the selection of which causal processes become the focus reflects the researcher's own objectives:

> [I]t is not merely the choice of phenomenon to be explained that reflects our knowledge, understandings, values and interests; in the end the latter bear upon the particular set of causal factors pursued as well...the contrast chosen reflects our interests and understandings.[141]

Environmental security research, by focusing on environmental factors, tacitly reflects Lawson's position on selecting abstractions that respect the researchers' vantage points, and must strive to meet Outhwaite's criteria for redescribing of an event in a way that brings out its complexity.

Since environmental factors virtually always act in conjunction with non-environmental variables when contributing to insecurity, the challenge is to create a framework that respects complex variable interactions while retaining a focus on the environment that is consistent with the research's explanatory goals. Abstraction provides the first step towards this

[140] Outhwaite (1998), op. cit., p. 291.
[141] Lawson (1998), op. cit., p. 172.

objective, but appropriate forms of logical argumentation are also necessary. This requirement necessitates addressing competing modes of inference and arguing for those which are most conducive for addressing the questions at the centre of environmental security enquiry.

### 2.5 Modes of Inference: Induction and Deduction versus Abduction and Retroduction

Inference is the process of relating the particular to the general. From a methodological standpoint, inference provides a group of ways in which arguments can be logically constructed to reveal how an observed individual phenomenon is linked to the larger dynamics surrounding an investigation.[142] Two prevalent modes of inference in social science, inductive and deductive logic, provide dichotomous (although not necessarily conflicting) approaches for revealing such linkages. Simply put, inductive inference creates theories from empirical observations while deductive inference begins with established theories and tests their validity with empirical observation. These two modes of inference have oft-demonstrated value for social scientific research. There are, however, limitations to both inductive and deductive inference that create the need for alternative modes of inference for a critical realist approach to environmental security.

Inductive inferences construct generalisations based upon repeated observations. These generalisations are sought by inductive research so that the research might reveal explanatory or predictive relationships that will hold true in cases beyond the sample(s) that were directly studied. For example, an experiment that cools water down would observe that when water temperatures reach zero degrees centigrade, the water changes to solid form (freezes). If such

[142] Danermark, et. al. (1997), op. cit., p. 78.

an experiment is carried out repeatedly and achieves consistent results, then the researcher can inductively infer that if water is cooled to zero degrees centigrade in other contexts that it will also freeze. This simple example reveals the value of inductive logic, in that it can allow for predictive inferences to be understood for stable and repeatedly observed processes. For the complex objects of study that define environmental security however, induction has some inherently limiting factors that create the need for additional methodological tools.

The first limiting factor of induction is the uncertainty surrounding the representative nature of samples that are directly studied. Fundamentally, this limitation is consistent with the previously-discussed inherent shortcomings of empirical observations as an explanatory and predictive tool.[143] Levels of uncertainty are fluctuating and relative. The example of water freezing shows that with inductive inferences, if basic contextual elements remain stable (such as that the water is pure from additional particles and the cooling process proceeds uninterrupted), then the results will be consistent and predictable. Likewise, social scientific studies can endeavour to make samples highly representative of larger groups under study to reduce the risk of making errors of inference. Large sample groups and advanced statistical methodologies are ways to increase confidence that inferred conclusions are accurate. However, for complex questions that transcend multiple sectors of analysis and are changeable over time and in varying contexts, the levels of uncertainty inherent to induction can overwhelm the value of its conclusions. Since environmental security is concerned with such complex and changeable scenarios, inductive logic will struggle to draw appropriate conclusions because it applies methods that are more appropriate for understanding relatively stable phenomena.

[143] Even Hume, for whom empirical regularities were of paramount importance, acknowledged the uncertainty that accompanies constructing generalisations based upon a sample of observations. See: Hume, David (1987) [1777c], op. cit.

The second fundamental shortcoming of applying induction in environmental security research is that it fails to reveal the underlying structures and mechanisms that lead to phenomena. Induction is consistent with the empiricist attempts, based upon foundations established by Aristotle, Hume, Mill and others, to draw conclusions from consistent observations.[144] If a study's interest lies with gaining greater understanding *how* processes and contexts lead to phenomena, then induction becomes insufficient for constructing explanations. In the words of Danermark and colleagues, "[i]nduction gives no guidance as to how, from something observable, we can reach knowledge of underlying structures and mechanisms, it is limited to conclusions of empirical regularities."[145] Given that the responsibility of this thesis is to advance the understanding of causal mechanisms that lead to environmental security threats, induction is not an ideal mode of inference.

Deductive inference, while polemically different from induction, is likewise not the most suitable method for improving understandings of the structures and mechanisms that lead to phenomena of interest to the environmental security subfield. While induction formulates theories based upon observations, deduction takes theories as a starting point and tests them empirically.[146] Deduction is an invaluable method for substantiating conclusions drawn from specific accepted premises. The foundation of deduction is a search for evidence supporting a conclusion, and therefore some amount of deductive reasoning should be present, either implicitly or explicitly, in any scientific inquiry.[147] A limitation of deduction, however, is that it reveals little that is new beyond the premise from which deductive tests begin. If the initiating premise in a deductive logical study is that *A* leads to *B*, then if *A* occurs we may

[144] See: Aristotle (1992), *Rhetoric*, Whitefish, MT: Kessinger Publishing.; Hume (1976) [1777d], op. cit.; and Mill (1868), op. cit.
[145] Danermark, et. al. (1997), op. cit., p. 87.
[146] Cederblom, Jerry and David W. Paulsen (2001), *Critical Reasoning: Understanding and Criticising Arguments and Theories*, 5th ed., Belmont CA: Wadsworth/Thompson Learning.
[147] Danermark, et. al. (1997), op. cit., p. 82.

logically deduce that *B* will follow. These claims may be tested empirically to ensure that the premise *A* leads to *B* is "logically valid."[148] The shortcoming to the deductive approach is that, while it can provide for greater defence of the premise that *A* leads to *B*, its explanatory powers remain tied to the research's originating hypothesis. Deductive approaches, like induction, fail to address *how* generative structures and mechanisms lead to events. To meet the challenge of understanding processes that lead to environmentally-driven insecurity, less prominent modes of inference prove valuable. These modes of inference, namely retroduction and abduction, shift the research focus away from the strictly empirical to one emphasising the explanation of underlying abstracted structures and mechanisms that make phenomena possible.

Critical realism separates the realms of observable events from the underlying structures and mechanism that make the events possible, and focuses upon understanding the structures and mechanisms instead of measuring observable conjunctions of events. Retroduction is an invaluable methodological tool for this endeavour because it begins with empirically observable events and moves towards conceptualising about the conditions that were essential for the events coming to fruition. Retroduction "moves from a description of some phenomenon to a description of something which produces it or is a condition for it."[149] Retroductive analyses reconstruct the causal factors leading to an event, which will have been described at the outset of the study, in order to attain greater understanding of how the events

[148] Ibid., p. 84.
[149] Bhaskar, Roy (1986), *Scientific realism and human emancipation*¸ London: Verso, p. 11.

in question came to pass.[150] Retroduction is thus based upon the basic question of "what makes the phenomenon under study possible?"[151]

In practical terms, retroduction necessitates first describing a phenomenon of interest based upon its observable characteristics and then disaggregating the phenomenon into its constituent parts in search of the conditions that led to it. Retroductively tracing the constituent parts that are essential for understanding the phenomenon in question allows research to draw out causally relevant structures and mechanisms. This approach also enables research to make inferences about the relationships that exist between or among these constituent parts. Retroduction is therefore a valuable tool for achieving the overarching critical realist aim of providing analyses of the generative mechanisms and structures that are essential for understanding why a phenomenon exists in its observable form.

Retroduction provides a structure for reconstructing the generative factors leading to an event, but to be valuable such restructuring must introduce new ideas and analyses about the generative factors themselves. This goal necessitates creative conceptual approaches to disaggregating the event into relevant constituent parts. Abduction is a mode of inference that provides a useful tool for meeting this objective.[152] Abduction is essentially a redescription of an event aimed at developing a deep conception of its make-up and underlying constituent parts. Abductive inference requires recontextualising a phenomenon in ways that use new ideas and approaches to provide a unique understanding of its

[150] Habermas, Jürgen (1984), *The Theory of Communicative Action: Volume I*, Cambridge: Polity Press. Habermas uses the term "reconstructive science" to describe a methodology quite similar to Bhaskar's retroduction. Habermas, while not a declared critical realist, adheres to similar philosophical underpinnings. For a discussion of these similarities see: Outhwaite, William (1987), *New Philosophies of the Social Sciences: Realism, Hermeneutics and Critical Theory,* London: Macmillan.
[151] Danermark, et. al. (1997), op. cit., p. 99.
[152] The concept of abduction as a mode of inference can be traced to: Peirce, Charles (1932), *Collected Papers of Charles Sanders Peirce vol. 2,* Hartshorne, Charles and Paul Weiss, eds., Cambridge: Belknap Press.

character.[153] Such an approach is foundational for social science, where multiple approaches to the same phenomenon contribute to the greater understanding of how and why it came to pass. As Danermark and colleagues state:

> Social science discoveries are to a large extent associated with recontextualisation. Social scientists do not discover new events that nobody knew about before. What is discovered is connections and relations, not directly observable, by which we can understand and explain already known occurrences in a novel way.[154]

Abduction, therefore, is a method that broadens knowledge of, and stimulates new thought processes about, a particular phenomenon as opposed to endeavouring to establish its "true" nature.

Accepting abduction as a method requires eschewing the search for truth in favour of the pursuit of greater understandings. Abduction is concerned with constructing plausible theories and supporting them with logical argumentation and evidence. The conclusions that are drawn in abductive analyses help develop understandings about the facets of a phenomenon that are the focus of the research. The conclusions cannot claim to be infallible, encompassing or truthful. They are rather constructed to contribute to an understanding of the phenomenon, and this contribution will reflect the approach and goals of the research being undertaken. The conclusions drawn will also be only some among many, and this multiplicity reflects the differing perspectives, goals and values that define varying research on the same or like phenomena.[155] The goals of abduction therefore represent an important departure from traditional deductive approaches to theory construction. Where deduction is concerned with proving something to be a certain way, abduction is concerned with showing how something *could* be.[156]

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[153] Jensen, Klaus Bruhn (1995), *The Social Semiotics of Mass Communication*, London: Sage, p. 148.
[154] Danermark, et. al. (1997), op. cit., p. 91.
[155] Denizen, Norman (1989), *The Research Act: A Theoretical Introduction to Sociological Methods*, New Jersey: Prentice Hall, p. 100.
[156] Habermas, Jürgen (1972), *Knowledge and Human Interest,* Boston: Beacon Press, p. 113.

Effective abductive research must avoid devolving into simple conjectures about the constituent parts of a phenomenon, and then holding these conjectures to an easily met standard defined by the goals of the research. Establishing criteria that assess the relevance that particular constituent parts and processes have to the main phenomenon is essential. As it does with solidifying the search for causality, the INUS condition framework provides an essential standard for analysing the value of new ideas put forth during an abductive approach. Abduction calls upon research to propose new explanations about why a certain phenomenon is the way that it is. The INUS condition necessitates that the explanations proposed be analysed by questioning whether a respective factor or process represents an *insufficient* but *nonredundant* part of an *unnecessary* but *sufficient* condition to cause the main phenomenon under study. Combining the abductive method with the INUS criterion lends rigor to such research while still respecting the complex and multifaceted nature of the phenomenon and the possibility of multiple ways of explaining it.

**Conclusion: A Framework for the Forthcoming Case Study Analyses**

The goals of this thesis necessitate that it constructs and applies new frameworks and methods to fundamental areas of interest for the environmental security subfield. The previously-introduced sectorisation of comprehensive security theory (CST) combines with critical realist methods to make such a contribution. The critical realist methods of abstraction, abduction and retroduction are remarkably complimentary to the CST framework.[157] CST endeavours to disaggregate complex cases of insecurity in order to observe conflict drivers that exist in different sectors, which are divided along military,

[157] For the CST framework see chapter 2, pages 51-55.

political, economic, societal and environmental lines.[158] This disaggregation serves as an organising method for observing multiplicitous sources of insecurity, while also recognising relationships and patterns that connect dynamics among different sectors. After the initial disaggregation, the task becomes to "reassemble" the sectors in order to draw more comprehensive and holistic understandings of the causally relevant conflict drivers.[159] This organisational structure is ideal for a critical realist case study analysis in environmental security because it delineates the sectors within which abstractions can be constructed. Abstractions serve a similar function as the disaggregating principle in CST: they separate parts of a complex whole without abandoning the comprehensive context inside which the separate parts are understood. Lawson describes abstraction as "focusing upon certain aspects of something to the (momentary) neglect of others…[o]nce this has been achieved it may be possible to combine or synthesise the various understandings into a unity that reconstitutes, or provides a better understanding of, the concrete."[160] The sectors of CST thus provide categories for abstractions that can place the focus on particular insecurity-drivers while keeping the larger context intact. Since this thesis is a contribution to environmental security discourse, abstractions within the environmental sector are analysed for their relationships with abstractions within other sectors in the search for causal efficaciousness. The focus upon the environmental sector reflects the values and goals of this thesis, which is consistent with employing abduction as a method of inference.

[158] See: Buzan (1991), op. cit., pp. 21-22.; and Buzan, Waever, and de Wilde (1998), op. cit., p. 8.
[159] Buzan, Waever, and de Wilde (1998), op. cit., p. 8.
[160] Lawson (1999), op. cit., pp. 170, 174. Lawson provides a helpful example of the process of making abstractions within a complex whole by stating: "[w]hen, for example, we focus upon a particular footballer or hockey player setting off down one side of the playing field with the ball just in front of him or her, we do not suppose that other players, who may be momentarily out of view, cease to exist. Indeed, we interpret the objectives or tactics of the player out of view conditionally upon our understandings and expectations of others, the rules of the games, the player's own ambitions, competencies, confidence and history, as well as upon our assessment of his or her understanding of the tactics and competencies of others, and so on."

The forthcoming case study utilises abduction to construct new explanations of the causal relevance that environmental factors have for insecurity emanating from the Mindanao regions of the southern Philippines.[161] The focus on the environment is a reflection of the objectives of this thesis rather than a claim that environmental factors hold greater primacy than those represented in other sectors. Utilising CST's sectoral organisation ensures, however, that abductions constructed within the environmental sector are not analysed in isolation. Rather, in being consistent with inclusive environmental security goals, the abductive analyses reflect the relationships and patterns that connect environmental factors to military, political, economic and societal considerations.

Constructing the case study retroductively is also consistent with the comprehensive security organisational framework. Retroduction necessitates beginning the case study with a broad and holistic account of the instance(s) of insecurity that the case seeks to explain. The case can then be divided among its constituent parts (abstraction) along the comprehensive security sectors and explored to provide new analyses (abduction) on specific causally-relevant insecurity drivers. Retroduction requires an initial description of the phenomenon under investigation to be followed by explorations into the underlying generative mechanisms that are responsible for its existence in a particular form. Applying retroduction therefore necessitates introducing the state of contemporary insecurity in Mindanao before disaggregating and reconstituting the causes underlying the region's contemporary security challenges.

[161] The terminology of "stemming from", as opposed to "in" or "surrounding" Mindanao, is employed here purposefully. The case study demonstrates that the security threats emanating from activities in Mindanao are not confined to the Mindanao regions or the Philippine state.

The Mindanao case study thus proceeds in two primary portions, which constitute the following two chapters. Chapter four provides an overview of the contemporary security situation in Mindanao, along with the ramifications that this situation has outside of the region. Insecurity throughout the case study is defined along the criteria of CST, and chapter four reintroduces the referent objects of concern for security in each of CST's five sectors.[162] The initial task of the case study is to provide evidence that contemporary conditions in Mindanao represent significant security threats and that these are differentiated throughout the military, political, societal, environmental and economic sectors.

The second task of the Mindanao case study, pursued in chapter five, is to use the premises of abstraction and abduction to construct deeper understandings of particular generative mechanisms that help explain the contemporary security threats emanating from Mindanao. Chapter five proceeds chronologically and provides insights into the processes that have occurred over time to lead to the previously-explored contemporary security conundrum. Environmental factors are explored for causal relevance, defined by the INUS condition, within the context of their relationships with factors in other sectors. The final goal is to demonstrate the causal relevance of the environment in the Mindanao security case and, in doing so, advance the understanding of the ways in which causal mechanisms can operate within the environmental security subfield.

[162] For an overview of CST's multifaceted definition of security see chapter 2, pages 51-55.

# Chapter 4

***Contemporary Security Threats Emanating from the Southern Philippines***

**Structure and Objectives**

This chapter outlines the contemporary security situation in the southern Philippines.[1] The area of interest for this case study is acute and prevalent insecurity existing in, and emanating from, the Mindanao regions of the Philippines.[2] The chapter is confined to the contemporary period, beginning with the "all-out war" initiated by President Joseph 'Erap' Estrada in Mindanao in March 2000 and extending through the presidential administration of Gloria Macapagal-Arroyo; who left office in June 2010.[3] This chapter demonstrates that profound security threats emanating from Mindanao have existed throughout these years and that these threats have important ramifications for security throughout multiple sectors of comprehensive security theory (CST).

Southeast Asian regional concepts of comprehensive security extend the foundation for this chapter's contributions.[4] The Association of Southeast Asian Nations (ASEAN) and the ASEAN Regional Forum (ARF) both explicitly recognised the term comprehensive security

[1] The analytical approach of this thesis follows a retroductive mode of inference, which is explored in section 2.5 of chapter 3, and leads the case study to first explore contemporary security dynamics in Mindanao and then later seek out the historical dynamics that have contributed to these dynamics.

[2] The word 'emanating' is used here as many threats with origins in Mindanao have ramifications that, rather than being confined to the Mindanao regions, are relevant for national, regional and international security. Because of its wide-ranging ramifications, this thesis views the conflict between Moro forces in Mindanao and the Government of the Republic of the Philippines (GRP) as the most dangerous dynamic for the security of the Philippine state. This position is not without opposition. The Philippines also faces a longstanding conflict with communist guerrilla groups operating under the leadership of the Communist Party of the Philippines (CPP) and its armed wing, the New People's Army (NPA). This thesis does not explore the security dynamics between the GRP and the CPP-NPA in any significant detail. For contemporary and historical accounts of this conflict see: Kahl (2006), op. cit., pp. 65-116; and Weekley, Kathleen (2001), *The Communist Party of the Philippines, 1968-1993: A Story of its Theory and Practice*, Quezon City: University of the Philippines Press.

[3] Hereafter 'Arroyo', the Arroyo administration succeeded that of President Estrada in January 2001. The conflict dynamics inherited by the Arroyo administration are discussed, with an emphasis on the 'all-out war' pursued by Arroyo's predecessor against the Moro Islamic Liberation Front (MILF).

[4] This thesis delineates the Southeast Asian 'region' as consisting of the ten member states that make up the Association of Southeast Asian Nations (ASEAN). While ASEAN represents a significant manifestation of the growing 'regional' character of Southeast Asia, it is important to recognise the cultural heterogeneity of the area as well as the Eurocentric and geographically convenient pretext under which this region initially came to be delineated. See Chapters 1 and 2 of: Weatherbee, Donald E. (2005), *International Relations in Southeast Asia: The Struggle for Autonomy*, New York: Rowan & Littlefield Publishers, Inc.

during the mid-1990s, and the primary structures of the theory remained in both ASEAN and ARF security policies throughout the 2000s.[5] The Council for Security and Cooperation in the Asia Pacific (CSCAP) provides a concise assessment, in-line with the positions of ASEAN and the ARF, of the referent objects that are of interest for comprehensive security in the region. According to CSCAP:

> Comprehensive security posits that security of person, community and state is multifaceted and multidimensional in character. Ultimately security encompasses the security of all the fundamental needs, core values and vital interests of the individual and society in every field – economic, social, political, cultural, environmental and military. Any significant threat to the comprehensive well-being of *man, society* and *state*, whether emanating from external sources or from within a state, is deemed a threat to security.[6]

This CSCAP statement encapsulate the criteria for selecting referent objects in this chapter. The conflict dynamics in Mindanao are presented to show the multiple sectors in which insecurity exists and to demonstrate ways in which the contemporary situation represents palpable security threats to individuals, communities and states.

The criteria for establishing that a situation constitutes a security threat differ among different sectors of analysis. This chapter is organised along the five sectors delineated by CST; namely military, political, societal, environmental and economic security. As the CSCAP position states, threats to individuals, communities and states can emanate from any of these

[5] For example, the ARF's 2009 Annual Security Outlook contained multiple explicit allusions to comprehensive security strategies for Southeast Asia. See: ASEAN Regional Forum (2009), "Annual Security Outlook 2009", Thailand: 42nd AMM/PMC, 16th ARF, pp. 120, 140-2. Thailand claims in the Report to model its security strategy upon the ASEAN principle that member states should "respond effectively, in accordance with the principle of *comprehensive security*, to all forms of threats, transnational crimes and transboundary challenges." Vietnam also places comprehensive security at the centre of its strategic position, stating that it "actively promotes the initiatives of *comprehensive security*, according to which Vietnam would deal with domestic and regional security issues through sustainable development of economy associated with hunger eradication and poverty reduction, environmental protection, and the narrowing of the gap between the rich and the poor and the distance between regions." Italics added.

[6] Council for Security Cooperation in the Asia Pacific (CSCAP), (1995), "Memorandum 3: The Concepts of Comprehensive Security and Cooperative Security", pp. 2-3. Italics added. Accessed via: <http://www.cscap.org/uploads/docs/Memorandums/CSCAP%20Memorandum%20No%203%20--%20The%20Concepts%20of%20Comp%20Sec%20and%20Coop%20Sec.pdf> CSPAP defends its construction of comprehensive security by stating that it is consistent with "the concept of comprehensive security espoused and practiced by ASEAN."

sectors. The nature of threats in each of the five sectors is encapsulated by Buzan in his seminal work establishing the foundations of CST:

> Generally speaking, the military security concerns the two-level interplay of the armed offensive and defensive capabilities of states, and states' perceptions of each other's intentions. Political security concerns the organizational stability of states, systems of government and the ideologies that give them legitimacy. Economic security concerns access to the resources, finance and markets necessary to sustain acceptable levels of welfare and state power. Societal security concerns the sustainability, within acceptable conditions for evolution, of traditional patterns of language, culture and religious and national identity and custom. Environmental security concerns the maintenance of the local and the planetary biosphere as the essential support system on which all other human enterprises depend.[7]

Buzan's sectoral categorisation reveals the wide analytical scope and stratified organisational framework espoused by comprehensive security. Disaggregating security dynamics into these five sectors provides organisational clarity and helps to simplify a complex phenomenon.[8] The separation also helps illuminate the true targets of insecurity.

Contemporary conditions in Mindanao directly threaten the Philippines' defensive capabilities (military security) and sovereignty (political security), the self-determination of the Moro nation (societal security), the viability of strategic resources in country's south (environmental security) and the quality of life of individuals (economic security). Who or what is facing insecurity (the referent object) is therefore dictated by the sector of analysis under investigation. International security threats emanating from Mindanao also exist but are more confined. These international threats exist primarily within the military sector, and result from terrorist activities relating to the conflict dynamics in the southern Philippines. Such threats from terrorism have the capacity to physically threaten the security of individuals, communities and states outside of the archipelago; a reality that is explored in section one of this chapter.

[7] Buzan (1991), op. cit., pp. 19-20.
[8] Buzan, Wæver and de Wilde (1998), op. cit., p. 8.

The chapter eschews making a concerted effort to establish the links and interrelationships existing among the five sectors.[9] These links are vitally important for improving understandings of the conditions that have fomented insecurity in Mindanao and, most notably for this thesis, the role that the environmental sector has played in creating such conditions. The chapter's explicit avoidance of these important cross-linkages among sectors, along with its confinement to the contemporary period, precludes it from providing detailed analysis into the *causes* of insecurity in Mindanao. This limitation is a function of the necessity, within a retroductive analysis, of establishing the character of the phenomenon which is of interest for the research *prior* to exploring its causes.[10]

In addition to these methodological requirements, it is essential to delay explorations of underlying causes because of the limited timeframe addressed in this chapter. The events and dynamics of the more distant past, like cross linkages, are essential to understanding the generative mechanisms leading to the contemporary security situation.[11] These historical foundations of contemporary insecurity in Mindanao, along with an explicit focus on the causal mechanisms which have led to it, are forthcoming in the following chapter. This chapter, conversely, retains throughout the fundamental goal of establishing, along the criteria of CST, that the contemporary situation in Mindanao represents significant and differentiated security threats throughout multiple sectors and levels of analysis.

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[9] While care is taken to avoid discussing relationships between and among sectors, some exceptions were unavoidable. Buzan and colleagues discuss the difficulty of retaining the strict focus on one sector at the expense of others. See: Buzan, Wæver and de Wilde (1998), op. cit., pp. 167-168. In this chapter, cross-linkages among sectors are necessary to create transitions between sections. Specifically, important cross-linkages are used to describe the societal underpinnings of groups engaged in acts that fall within both military and political security sectors, and the inherently interrelated relationship between the environmental and economic sectors. The relationships of dynamics within the sectors of CST are embraced to a greater degree in the following chapter.

[10] For a succinct review of the retroductive methodological structure see: Danermark, et. al. (1997), op. cit., pp. 96-106.

[11] Brief background information is provided where necessary to frame the contemporary analysis.

The military security situation in Mindanao is addressed in the first case study section, which initially focuses upon the conflict dynamics between Philippine military and police forces and rebel Moro groups in Mindanao and then widens in scope to explore the international security implications of the protracted instability in Mindanao. The second section explores the closely related political sector, and concentrates upon diplomatic struggles between the Government of the Republic of the Philippines (GRP) and the leading contemporary organisation vying for Moro self-determination; the Moro Islamic Liberation Front (MILF).[12] The third section addresses societal security by exploring the Moro's contemporary struggle for self determination, which many within the Bangsamoro (Muslim community) contend is undertaken to oppose threats to the viability and security of their nation.[13] The fourth section provides an analysis of the contemporary state of strategic resources in Mindanao, including resource degradation and depletion along with resultant contemporary environmental vulnerabilities. The concluding section addresses economic security by addressing extremely low levels of economic and human development in Mindanao.

Understanding the region under consideration requires learning its geographic character, which is introduced in Maps 4.1 and 4.2. Map 4.1 displays the provincial divisions of the entire archipelago while Map 4.2 shows the provincial divisions in Mindanao along with major cities and the primary MILF camp. The Autonomous Region of Muslim Mindanao (ARMM), which was created as a result of negotiations between the Moro National Liberation Front (MNLF) and the GRP in 1990, includes western and archipelagic Mindanao.

[12] The political section concludes by addressing the most contemporary failure of these negotiations and a confronting subsequent act of political violence, known as the Maguindanao Massacre, that alarmed the country. This act of violence, far from being an isolated incident, provides valuable initial insights into the complexity of the political security situation in Mindanao.

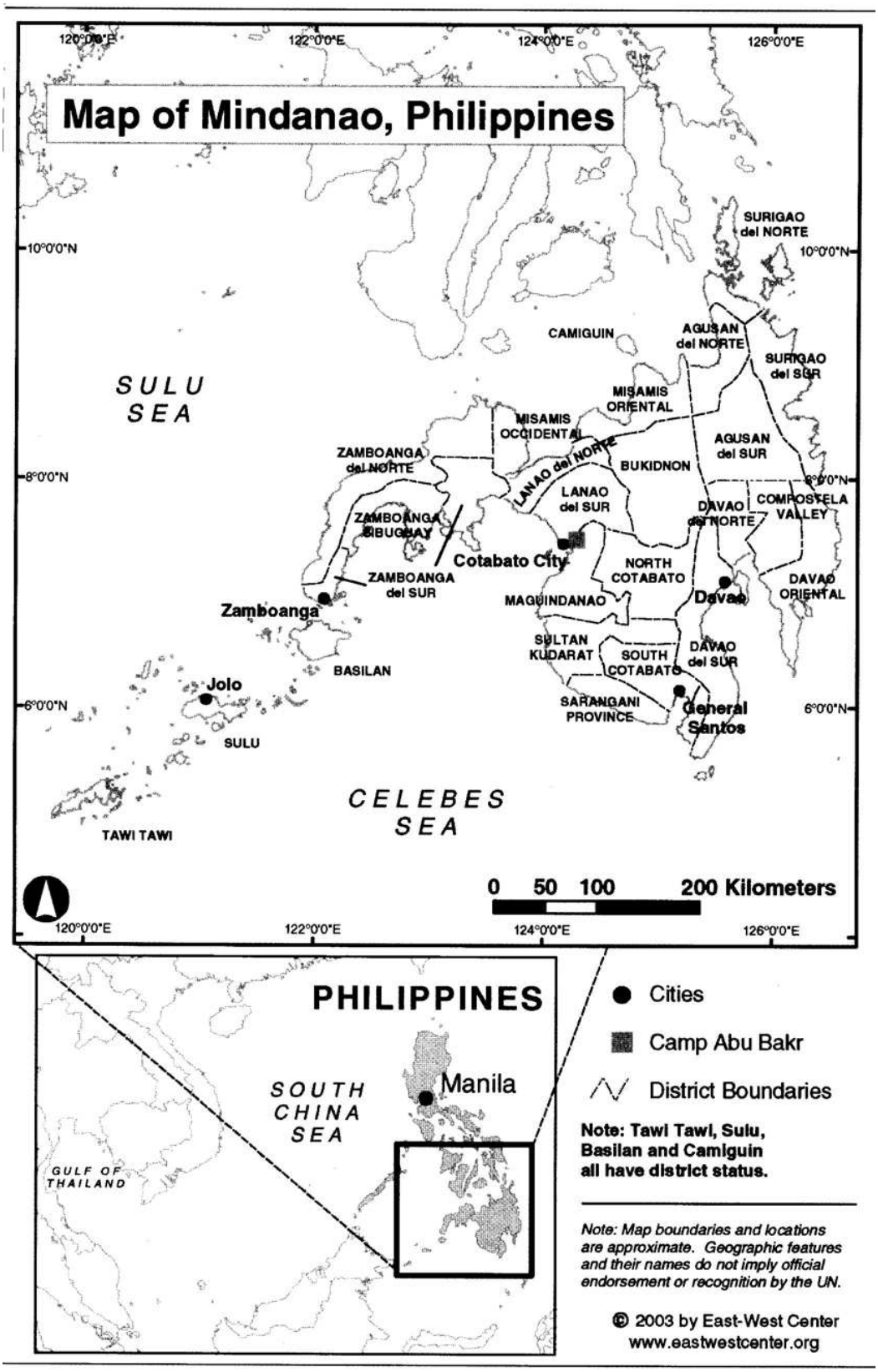
[13] The term Bangsamoro originates from the Spanish colonial period and translates literally as 'community of the Moros'. Early Spanish conquistadors labelled the Muslims that were concentrated in what would become the Southern Philippines as "Moors", after the Muslim populations of Europe's Iberian Peninsula. The subsequent terms Moro and Bangsamoro were ultimately adopted by Philippine Muslims as their own, and are now associated with communal pride.

The ARMM originally consisted of the four Muslim-majority provinces of Maguindanao, Lanao del Sur, Sulu and Tawi-Tawi and was extended to include Basilan and six additional municipalities in 2001. In 2007 the Maguindanao Province was divided in two, creating Shariff Kabunsuan as the sixth ARMM province. This partition was later ruled to be unconstitutional however, and the administrative future of Shariff Kabunsuan is currently unclear. In addition to the ARMM, the provinces throughout central and southern Mindanao have all experienced significant direct and indirect security challenges contributing to the overall unrest in the country's south.

**Map 4.1: Provinces of the Philippines**


Source: Cebu-ph.com, accessed 1 May 2010 via: <http://www.cebuph.com/Maps/PHILIPPINE%20 PROVINCE%20 MAP.gif>

**Map 4.2: Regional Map of Mindanao**




Source: Gutierrez, Eric and Saturnino Borras, Jr. (2004), *The Moro Conflict: Landlessness and Misdirected State Policies*, Washington D. C.: East – West Center: Policy Studies 8, p. 69.

### 1.1 Military Insecurity in Mindanao: Contemporary Conflict Dynamics

The state is the primary referent object of the military sector. Maintaining state security is both the traditional and contemporary task of armed forces, and military and civilian bodies dictate force deployments in ways intended to cultivate and/or preserve the security of the state. The task of promoting and maintaining the security of the state is intrinsically tied to the concept of state sovereignty, as sovereignty represents the condition which military security operations are tasked with preserving. As Buzan and colleagues succinctly state:

> The modern state is defined by the idea of sovereignty – the claim of exclusive right to self-government over a specified territory and its population. Because force is particularly effective as a way of acquiring and controlling territory, the fundamentally territorial nature of the state underpins the traditional primacy of its concern with the use of force. Throughout history, the right to govern has been established by the capability to assert and defend that claim against armed challengers from within and without.[14]

Military security matters therefore relate to the ways in which sovereignty is maintained by governments through the use of force. Where sanctioned force is required to protect state sovereignty, military security is, at least from the perspective of the state, typically being threatened.

Military security threats are not confined to existential threats to the state based outside its borders but rather include internal threats to the state apparatuses. Westphalian ideas on the use of force suggest that force can only be 'legitimate' when employed as an instrument of the state, which holds discretion over what threats necessitate a military response.[15] These ideas continue to have import for explaining state uses of force. However, non-state actors that seek sovereignty over territories within a state also represent referent objects of interest

[14] Buzan, Wæver and de Wilde (1998), op. cit., pp. 49-50.

[15] Buzan, Wæver and de Wilde (1998), op. cit. Buzan and colleagues point out that the contemporary state-centric system represents a contrast from the pre-Westphalian world in which empires and feudal lords possessed standing armies that could be readily levelled at each other. The state-based system discourages the possession of a large armed population, and encourages disarming the citizenry with the exception of a unified and state-controlled military force.

for the military sector of analysis. Internal military security threats arise domestically and compromise a state's capacity to preserve its civil peace, territorial integrity and the reach of the government over its citizenry.[16] Unsurprisingly, armed criminal, separatist/revolutionary and terrorist movements are the most common sources of domestic military insecurity.[17]

Where friction exists between the ruling and the ruled, organised and disgruntled elements of a state's citizenry (often tribes or nations) can become significant referent objects for the military sector.[18] Such groups possess wide-ranging goals and capabilities. Goals range from localised power aspirations (as when groups seek autonomy over or independence for a portion of state territory), to the creation of greater governing communities that transcending the borders of the state or states in question (as when groups seek new transboundary governance systems based upon tribes or religions). The capabilities of such non-state entities are likewise diverse; ranging from loosely disseminated groups linked largely through tribal or ideological affinity, to highly competent, armed and organised groups capable of controlling territory and engaging in combat against government forces. Such highly organised groups can become quasi-states, exerting functional sovereignty over areas of territory that are officially recognised as being integral parts of a sovereign country. These situations in which groups usurp state sovereignty over particular territories present clear challenges and necessitate state responses, either through military or non-military channels, which aim to preserve the state's territorial integrity.

[16] See: Ayoob, Mohammed (1995), *The Third World Security Predicament: State Making, Regional Conflict, and the International System,* Boulder: Lynne Rienner.
[17] Buzan, Wæver and de Wilde (1998), op. cit., pp. 50-51. Buzan and colleagues are careful to note that in some cases the military apparatuses of the state are levelled at unarmed groups. Such cases are of only peripheral interest for the military sector of CST enquiry.
[18] Buzan, Wæver and de Wilde (1998), op. cit., p. 51.

Such military security threats to the Philippine state abound in areas of contemporary Mindanao. Separatist and terror organisations in the region, which are divided by exceedingly blurry lines, actively attempt to usurp the GRP as the dominant governing entity in the region. The GRP responds to threats to its sovereignty with both military and non-military strategies geared to preserve the territorial integrity of the archipelago and the governing reach of Malacañang.[19] Such responses have had varying degrees of success during the contemporary period, but on the whole have proved incapable of stymieing substantial levels of violence in the southern Philippines. As a result, pervasive armed conflict has plagued the country for much of the early 21st Century.

Addressing the country in her 2009 State of the Nation Address, President Arroyo stated, "[w]e inherited an age-old conflict in Mindanao, exacerbated by a politically popular but near-sighted policy of massive retaliation. This only provoked the other side to continue the war."[20] Arroyo's statement is certainly prescient in its declarations of the 'age-old' nature of the conflict, the difficulties inherited by her administration and the propensity for the rebel forces to meet violence with violence. However, the end of the Arroyo presidency necessitates taking stock of the security legacy that her administration leaves to its successor. At the close of the first decade of the 21st Century, Mindanao remains mired in conflict despite sustained efforts by the GRP to reach both military and diplomatic solutions. Arroyo's successor inherits the challenge of continuing hostilities in Mindanao just as Arroyo

[19] Malacañang refers to the presidential palace and is often used in Philippine parlance to describe the source of executive political actions.

[20] Arroyo, Gloria Macapagal (2009), "Her Excellency President Gloria Macapagal-Arroyos' State of the Union Address for the 3rd Regular Session of the 14th Congress", Office of the President, Republic of the Philippines. Accessed via: <http://www.op.gov.ph/index.php?option=com_content&task=view&id=25780&Itemid=38>

did in 2001, and the attendant security costs for the state and international community remain disconcerting.[21]

The conflict in Mindanao centres upon the discord between the desires of the Bangsamoro for political self-determination and the Philippine government's protection of national sovereignty. The two primary stakeholders in this contemporary conflict are the MILF and the GRP, with civilian populations in Mindanao suffering the most pronounced effects of the ongoing fighting. The MILF is an organisation with complex goals and a fluid modus operandi. It emerged when a leadership struggle within its precursor organisation, the Moro National Liberation Front (MNLF), became untenable and the future MILF leader Salamat Hashim broke ties with the MNLF during the late 1970s.[22] As its Islamised name suggests, the MILF took on a more "faith-based" agenda than its predecessor while continuing the pursuit of nationalist goals of autonomy and/or independence.[23] MNLF negotiations with the government meanwhile reached a zenith with the 1996 Jakarta Accord which aimed to implement previous agreements reached in 1976 in Tripoli and 1987 in Jeddah.[24] With the rapprochement of the MNLF and GRP in the mid to late 1990s, the MILF emerged as the primary belligerent faction still pursuing a militant line against the government. As with past

[21] The International Crisis Group (ICG) wrote in October 2008 that the breakdown of negotiations during that month effectively "ended any hope of peacefully resolving the 30-year conflict in Mindanao while President Gloria Macapagal-Arroyo remains in office." International Crisis Group (2008), "The Philippines: The Collapse of Peace in Mindanao", Asia Briefing N°83, 23 October. Benigno ('Noynoy') Aquino III succeeded Arroyo as Philippine President on 30 June 2010.

[22] For a succinct telling of the MNLF-MILF split see: Abreu, Lualhati (2008), "40 Years of Revolutionary Struggles", in Tuazon, Bobby M., ed. (2008), *The Moro Reader: History and Contemporary Struggles of the Bangsamoro People*, Quezon City: CenPEG Books.

[23] International Crisis Group (2004), "Southern Philippines Backgrounder: Terrorism and the Peace Process", ICG Asia Report N°80, 13 July 2004, p. 4. Autonomy and independence are both recognised as MILF goals here as the organisation has, throughout the years of conflict and negotiation, pursued both of these goals at various junctures. During the early years after the split in Moro rebel leadership, the MILF differentiated itself from the MNLF by pursuing independence as opposed to autonomy. For analysis on the debate over independence versus autonomy from a Moro perspective see: Rivera, Temario C. (2008), "The Struggle of the Muslim People in the Southern Philippines: Independence or Autonomy", in Tauzon (2008), op. cit.

[24] See: Appendix A and Appendix B for the text of the Tripoli Agreement and Jeddah Accord, which laid the foundations for the Jakarta Accord in 1996.

agreements the implementation of the Jakarta Accord proved difficult, leading increasing numbers of disenfranchised Moro nationalists to shift allegiance from the MNLF to the MILF.[25] MNLF founding leader Nur Misuari blamed the difficulties on the government's failure to live up to commitments on economic and social development in Mindanao; which Misuari viewed as a precursor to other stipulations of the Jakarta Accord.[26] Despite the difficulties that the MNLF encountered with government negotiations, Misuari continued to pursue such non-military pathways to Moro self-determination and in doing so distanced the MNLF from the MILF with respect to both methods and objectives. Misuari describes this distance stating, "[m]y difference with them [the MILF] in terms of goal and approach is that they want independence and want to pursue it through armed struggle."[27] The armed struggle approach continued to hold salience with elements of the Moro population that did not trust the GRP to negotiate on good faith. As a result, the MILF continued to bolster its military capabilities during the late 1990s and in doing so attracted increasing attention from the GRP.

The mounting capabilities of the MILF combined with failure by the GRP to assuage the Muslim concerns in the ARMM created an environment ripe for hostilities at the turn of the 21st Century. The year preceding Arroyo's inauguration witnessed escalating conflict between the MILF and the GRP. As a function of the growing threats posed by the MILF, GRP-MILF negotiations were underway in early-2000 that centred upon the official recognition of various camps and territories under MILF control. These negotiations made no significant headway however, and on 25 February 2000 a ferry bombing off of Ozamiz

[25] International Crisis Group (2004), op. cit. The signing of the treaty in Jakarta promoted the MILF to the centre of the Philippine government's attention and marks the time at which they became the primary belligerent force in the Mindanao regions.
[26] See: Bauzon, Kenneth E. (2008a), "Searching for Peace in the Southern Philippines: A Conversation with Nur Misuari", in Tauzon, Bobby M., ed. (2008), op. cit., pp. 113-131. For the text of the Tripoli Agreement and Jeddah Accord, which provided the foundations for negotiations in Jakarta, see: Appendixes A and B.
[27] Ibid., p. 112. Again, the 'independence' goal of the MILF was tempered by other statements suggesting that 'genuine Muslim autonomy' would be sufficient.

City in the Misamis Occidental province of Mindanao killed thirty-nine passengers and sparked a major escalation in conflict between government and Moro forces.[28] The government claimed that the bombing suspects had received sanctuary in an MILF camp; an accusation that would be repeated with future acts of terrorism throughout the country.[29] President Joseph "Erap" Estrada responded by escalating conflict in Mindanao and declaring an "all-out war" against the MILF as skirmishes spread from Lanao to Maguindanao in mid-2000.

Estrada's all-out war led to severe human costs. Measuring these costs accurately is difficult as there is little systematic documentation of the exact numbers of lives lost, and both protagonists have an incentive to inflate the numbers of casualties among their opponents while understating their own losses.[30] However, it is clear that the all-out war led to acute physical destruction in the conflict zones and spread fear and human displacement throughout the region. After the government troops overthrew the MILF stronghold at Camp Abubakar, MILF chairman Salamat Hashim used radio broadcasts to call upon the Moro people to engage in *jihad* against "the enemy of Islam."[31] Predictably, violence escalated throughout Central and Southern Mindanao following Salamat's call and ultimately spread to the islands of Jolo and Basilan. In addition to combat losses, the conflict resulted in large-scale

[28] Yamzon, Wilma N. (2000), "44 dead in ferry bombing", *Manila Bulletin,* 27 February.
[29] See: Niksch, Larry (2007), "Abu Sayyaf: target of Philippine-US Anti-Terrorism Cooperation", Congressional Research Service, Report for Congress, 24 January.
[30] UNDP (2005), "Philippine Human Development Report 2005", Human Development Network. For an analysis on conflict figures that compares multiple datasets see: Bautista, Maria Cynthia Rose Banzon (2005), "Ideologically Motivated Conflicts in the Philippines: Exploring the Possibility of an Early Warning System", Background paper for the *Philippine Human Development Report 2005*, Human Development Network Foundation Inc.
[31] Quimpo, Nathan Gilbert (2001), "Options in the Pursuit of a Just, Comprehensive, and Stable Peace in the Southern Philippines", *Asian Survey*, 41(2), March/April, p. 272. Quimpo writes in footnote one: "Ever since its founding, the MILF has often referred to its struggle as a *jihad*. Thus, Salamat's call for *jihad* in July [2000] is actually only a reiteration, but its timing and characterisation of the Philippine government as the enemy of Islam are significant." Italics in the original.

displacement of civilians caught between the fighting among government and rebellious forces throughout Mindanao. The internally displaced from Estrada's all-out war would ultimately exceed 900,000 civilians, swelling the region's urban centres and refugee camps.[32] The United Nations estimates that over 6,400 homes were totally destroyed during the peak of violence in 2000-2001, necessitating 276 evacuation centres which were strained by the pervasive conflict environment that prevented the internally displaced from returning home.[33] Near the end of 2000, as Estrada was facing unrelated political turmoil, coordinated bomb attacks were launched in Manila which resulted in 22 deaths and nearly 100 injuries and sewed fear of further acts of terror outside of Mindanao. The Philippine National Police (PNP) blamed these bombings on MILF extremists and tensions remained high between the GRP and MILF as Estrada's presidency came to an abrupt and ignominious end.[34]

Estrada defended his decision to launch all-out war against the MILF as a last resort after multiple negotiations had proven unsuccessful. In a 2008 speech concerning the GRP-MILF conflict, Estrada stated that his "administration's objective was peace" and that they underwent multiple negotiations before declaring all out war.[35] He contended during his presidency that the MILF was "an organisation that does not remain true to its word" and

[32] The United Nations in the Philippines quotes a figure of 932,000 internally displaced people coming as the result of Estrada's all-out war. See: United Nations (2004), *A Common View, A Common Journey: A Common Country Assessment of the Philippines,* Manila: United National, Philippines, p. 17. The MILF Chairman Salamat Hashim went further to declare that Estrada's policies displaced "almost one million Muslims and tens of thousands of Christians". See: Hashim, Salamat (2001a), "The Fourth Statement on the on-going War between the Oppressed Moro Muslims and the Tyrant Philippine Government", in Hashim, Salamat, ed. (2001), *The Bangsamoro People's Struggle against Oppression and Colonialism*, Darussalem, Camp Abubakre As-Siddique: Agency for Youth Affairs-MILF.
[33] United Nations (2004), op. cit.
[34] The PNP arrested over a dozen mostly Muslim suspects after these bombings. The MILF denied accusations that it was behind these bomb attacks and accusations surfaced that Estrada's allies perpetrated the attacks to distract attention away from the president's own political troubles.
[35] Estrada, Joseph (2008), "Speech of Former President Estrada on the GRP-Moro Conflict", University of the Philippines-Human Development Network Forum on the GRP-Moro Conflict, 18 September 2008. Accessed 1 October, 2010 via: <http://hdn.org.ph/speech-of-former-president-estrada-on-the-grp-moro-conflict/>

"only uses ceasefires to regroup and strengthen their forces."[36] Estrada claims to have decided to go on the military offensive because of the severe human costs that the MILF had already inflicted and upon the MILF's refusal to "recognise the territorial integrity" of the Philippine state.[37] Estrada has further defended the all-out war as being won "swiftly and at a modest cost" and has argued that the ascension of the Arroyo administration marked a return to the "old pattern of peace talks and ceasefires with kidnap-for-ransom and other hostilities throughout."[38] Estrada's remembrance of the all-out war is predictably positive and certainly controversial. The clear reality, however, was that as his presidency drew to a close, MILF-GRP animosity was palpable; along with the potential for further violence and insecurity.

Perhaps nowhere is the contemporary MILF-GRP animosity on greater display than within the public declarations of the MILF during the early 21st Century. While the Estrada's military offensives successfully overran a number of MILF strongholds, the group's military wing known as the Bangsamoro Islamic Armed Forces (BIAF) remained largely intact and retained a capacity to wage guerrilla warfare.[39] Estrada's all-out war had hardened the resolve of some Moro forces to continue to pursue full independence from the Philippine state. The MNLF acquiescence to government overtures notwithstanding, the Bangsamoro witnessed the Arroyo inauguration highly suspicious of any efforts towards rapprochement with the government and heavily entrenched for a continued fight. The MILF's October

[36] Ibid.
[37] Ibid. Estrada mentions multiple instances of the MILF instigating hostilities, concluding with the statement: "[s]o many lives have been killed, so many soldiers sacrificed – thousands, maybe even hundreds of thousands because of the conflict with the MILF in Mindanao."
[38] Ibid. Estrada elaborates upon this claim stating that the Armed Forces of the Philippines (AFP) quickly "overran 33 minor camps or a total of 46 camps of the MILF, with breakaway groups of MILF forces withdrawing to different directions and Salamat Hashim fleeting to Malaysia." Of note, these camps represented significant swaths of arable land in Mindanao and also included oil and natural gas deposits in the Liguasan Marsh, creating a possible economic incentive for the military offensive.
[39] Concepcion, Sylvia, Larry Digal, Rufa Guim, Romulo de la Rosa, and Mara Stankovitch (2003), "Breaking the links between economics and conflict in Mindanao", *International Alert Business and Conflict Programme*, London: The Good News Press.

2001 public assessment of the conflict is telling in its tone of unflinching resolve. In this release MILF Chairman Salamat Hashim declares, "[u]nless the Bangsamoro people will be free and independent, the struggle will drag on forever. Any attempt to assimilate the Bangsamoro into the mainstream of Philippine society will surely fail."[40] The MILF claimed not to be dissuaded from its objectives by the eruption of all-out war and continued to assert that they would work towards independence from the Philippine 'colonisers'. Chairman Salamat listed among the Estrada administrations tactics "lying, deception, treachery and betrayal" and declared that there could be "no hope" for reconciliation in the current conflict climate.[41] Salamat's propagandist public statements accuse the Estrada government of waging a war against "not just the MILF" but rather a larger "genocidal" campaign against the Bangsamoro community.[42]

Throughout 2001, the MILF waged what it deemed an armed jihad in opposition to an oppressive and unjust Philippine government. The MILF's public statements during this period reflect a shift from considerations for autonomy to a consolidated desire for independence. Chairman Salamat for example declared that:

> The all-out war launched by the Estrada government against the MILF and the Bangsamoro people has opened the doors for victory and paved the way for the Bangsamoro people to regain their illegally usurped freedom and independence. Had it not been for the all-out war some Bangsamoro were considering the autonomy that is being used by the government to deceive the Bangsamoro people. After the all-out war only a few individuals talk about autonomy. The Bangsamoro people now are unanimously demanding independence.[43]

[40] Hashim, Salamat, (2001b), "Foreword by Chairman Salamat Hashim", in Hashim, Salamat, ed. (2001), op. cit., p. iv.
[41] Hashim, Salamat (2000), "First Statement of the Latest Jihad Development in the Invaded Bangsamoro Homeland", in Hashim, Salamat, ed. (2001), op. cit., p. 16.
[42] Ibid., p. 18.
[43] Ibid., p. 19.

The rousing and often vitriolic language of the MILF leadership must be tempered by the realities of both context and the desired audience. Future developments have shown that the MILF has remained, to varying degrees, open to negotiating with the Philippine government over terms for autonomy, which the public statements of Salamat and other MILF leaders in 2001 claim to be an unacceptable scenario.[44] These MILF statements are important however, for revealing the level to which the military security situation in Mindanao had deteriorated at the time of the Estrada-Arroyo power transfer. The MILF boldly claimed during this period that political uncertainty in the capital had been "conducive for [j]ihad operations" and that it had helped the "[m]ujahedeen" carry out thirty-seven attacks during the transition between Estrada and Arroyo which inflicting upon the enemy a "tremendous loss in lives and materials."[45] It was within this highly deteriorated security situation that Arroyo attempted to alter the direction of military security in Mindanao.

The Arroyo administration faced a conflict situation in Mindanao in which previously attained diplomatic successes had been largely nullified and violent altercations between government and rebel forces were the norm. Arroyo's short term response to the declining military security situation emanating from Mindanao was to reverse the approach of her predecessor, President Estrada. She quickly sent emissaries to the MILF, organised an interagency task force to address the conflict, and sought funds from international donors for institutional development in Mindanao.[46] Arroyo also sought to rapidly reignite official peace talks with the MILF with Malaysia as an intermediary. The resulting GRP-MILF talks

[44] The MILF and GRP have held many significant meetings since 2001 to negotiate upon terms for potential Moro autonomy in parts of Mindanao. The most significant of these efforts are detailed in section 2 of this chapter.

[45] Chairman Salamat publically claimed that these government losses included the capture of "a huge amount of war spoils including a number of arms of different calibres" by MILF forces. Hashim, Salamat (2001a), op. cit., p. 26.

[46] This programme for the "reconstruction of institutions for Mindanao's enhanced development" was codenamed PRIMED.

in Kuala Lumpur in March 2001 were productive enough to warrant further negotiations, which were hosted by Libya later that year.[47] The Libya negotiations in June 2001 culminated with the Tripoli Agreement on Peace, which established security, relief and rehabilitation as three issue areas for negotiation.[48] The peace agenda that emerged from Tripoli established an International Monitoring Team (IMT) to oversee a ceasefire between government and MILF forces as well as the Bangsamoro Development Agency (BDA), which was mandated to facilitate relief, rehabilitation and development programmes in conflict-affected areas of Mindanao. The IMT and BDA would continue to play an important role in peacebuilding efforts in Mindanao throughout the remainder of the decade. However, despite the Arroyo administration's attempts at diplomatic rapprochement, the relative calm that welcomed in her administration proved fleeting.

The GRP-MILF conflict reignited in February 2003 in North Cotabato and Maguindanao. In spite of continuing dialogue between the government and rebel forces, and the declaration of a ceasefire three weeks after the February outbreak of violence, the fighting proved impervious to diplomatic settlement and continued largely unabated. In March 2003, roughly one month after a GRP-MILF agreement to resume peace talks, some 600 rebels attacked two towns in Lanao del Norte in what MILF spokesman Eid Kabalu called part of the group's "continuing active defence against military forces."[49] The unrest of early to mid-2003 transcended guerrilla warfare to include acts of terror against civilians. That April three mosques were bombed and riddled with small arms fire in southern urban centre of Davao City just hours after a separate bomb killed sixteen and wounded fifty-seven at the terminal

[47] Libya and Malaysia have both played important mediating roles throughout the years of conflict in Mindanao.
[48] See: Appendix C for the full text of the Tripoli Agreement on Peace.
[49] "16 Die in New Outbreak of Fighting in Mindanao", *Philippine Daily Inquirer,* 25 April 2003.

gate of Sasa Wharf in Davao.[50] The attacks in Davao City furthered fears of continuing violence and unrest that were still fresh from a major attack on the city's airport the previous month, which had left twenty-two dead and 159 injured.[51] Arroyo cited a "state of lawlessness" in ordering increased military control over the city.

The fighting in North Cotabato and Maguindanao and the violence against civilians in Davao City are microcosms of the pervading sense of instability that existed in Mindanao in 2003. The attacks against civilians also called into question the ability of the MILF's central control to prevent members of its organisation from participating in, allowing or condoning terrorism. Arroyo declared a 1 June 2003 deadline for the MILF to surrender any members involved in recent attacks against civilians, commit to refraining from terrorism, and dissociate itself from recognised terror organisations such as the Abu Sayyaf Group (ASG), Jemaah Islamiyah (JI) and Al-Qaeda.[52] The complex strategic, ideological and family ties existing among MILF members and members of these recognised terror groups made such dissociation unlikely in practice. Meanwhile, the Philippine Department of National Defence (DND) pushed for the MILF itself to be included on the United States' list of terrorist groups.[53] Secretary of Defence Angelo Reyes claimed that the MILF's continued terrorist activities showed its leaders to be insincere in their desires to negotiate with the government and asserted that the MILF was known to collude with ASG and JI.[54] Alongside calls for the MILF to be labelled a terrorist organisation were government declarations that the MILF must exert greater control over its strongholds to ensure that attacks against civilians were

[50] "3 Mosques Bombed", *Philippine Star,*4 April 2004.
[51] The MILF denied responsibility for these attacks, and suspicion abounded regarding the potential involvement of both domestic and international terror groups. For a detailed look at the events surrounding these bombings see: International Crisis Group (2004), "Southern Philippines Backgrounder: Terrorism and the Peace Process", Asia Report N°80, 13 July.
[52] "MILF set demands for peace talks", *Asia Political News*, 20 May 2003.
[53] "DND Eyes Terror Tag on MILF", *Philippine Star*, 12 May 2003.
[54] Ibid.

prevented.[55] While the MILF ultimately avoided being classified as a terror organisation, as such classification would derail the GRP's diplomatic initiatives, disagreements between the two belligerents over MILF culpability in attacks against civilians hindered peace efforts and helped sustain a state of military insecurity.

Further violence in mid-2003 exemplifies the capacity for military insecurity to derail diplomatic initiatives and demonstrates the dichotomous positions of the GRP and MILF regarding culpability. The government cancelled GRP-MILF peace talks scheduled for May 2003, citing continuing violence towards both civilians and government forces in Mindanao. Arroyo asserted that the government would postpone the talks in Kuala Lumpur until "more auspicious circumstances to move the peace process forward" could be established.[56] In the interim, the conflict continued and Arroyo hardened the GRP stance by pledging to "deploy all the lawful instruments of the State to end this conflict and bring peace to the homes of our people."[57] The MILF took umbrage with government positions, both implicit and explicit, that placed culpability for the continuing violence with the Moro forces. The MILF concentrated its efforts to distance itself from terror tactics and place contemporary violence in the context of the larger Moro struggle. An MILF press release in May of 2003 accused the government of using civilian casualties from a recent altercation in Zamboanga del Norte to defeat the MILF in "the battle for public opinion" and "abandon peace talks without

[55] For example, Chairman of the House Defence Committee Representative Prospero Pichay declared that for the MILF to truly distance itself from terrorist elements it needed to surrender those responsible for attacks against civilian targets. See: Jamaylin, Mayen (2003), "Palace: No Deadline for MILF to Renounce Terrorism", *Philippine Star*, 4 June. Pichay was quoted as stating that "blame" for the situation of unrest in mid-2003 should not be directed towards the government or the military but rather placed "squarely on the MILF…especially after their elements began to go after civilian targets."
[56] "Government Aborts Peace Talks with MILF", *Philippine Star*, 7 May 2003.
[57] Ibid.

blame."[58] The MILF released a strongly worded statement condemning the targeting civilians, calling civilian deaths "tragic" and claiming that they were the result of a fierce crossfire between Moro and government forces.[59] The MILF's mid-2003 rhetoric also, as is common for the organisation, placed the current fighting in a context of longstanding subjugation, injustice and violence towards the Bangsamoro on behalf of the Philippine government. The MILF's May press release, for example, states that "against the backdrop of a recent grim past where thousands upon thousands of Moros including children, women and the aged were massacred by government forces, expect indiscretions or excesses, much to our detestation, to take place once and a while."[60]

During the height of the MILF's military and rhetorical barrage against the GRP in July 2003, the organisation's founding Chairman Salamat died of natural causes; permanently changing the atmospherics of the contemporary conflict and peacebuilding dynamics in Mindanao. Just weeks before his death, Chairman Salamat released a strong condemnation of terror activities and in doing so paved the way for a renewed peace process between government and Moro forces. Salamat declared in an MILF statement that terrorism was "anathema to the teachings of Islam" and he reiterated the MILF "condemnation and abhorrence of terrorist tendencies" and rejected and denied "any link with terrorist organisations or activities in this part of the Asian region...and elsewhere in the world."[61] The government lauded Salamat's declaration, with Presidential Advisor to the Peace Process Eduardo Ermita declaring it to be

[58] "MILF Press Release on Siocon Attack and P50Million Bounty", Moro Islamic Liberation Front, Central Committee Press Release, 8 May 2003.
[59] Ibid. The May MILF press release argues that some collateral damage, while regrettable, is inevitably part of the Moro struggle for political representation
[60] Ibid. The MILF press release goes on to bring up former government-Moro violence from the 1970s, stating: "[w]hat happened to the 1,000 Moros killed in Malisbong, Palebang, Sultan Kudarat in 1974, to the 600 in Patikul, Sulu in 1977, to the 2,000 in Pata Island in Sulu in 1981, and many more? Where are their perpetrators?" This statement is consistent with the MILF propensity to frame contemporary events as part of a broader struggle.
[61] "Palace Lauds MILF Chief but Insists on Other Demands", *Philippines Daily Inquirer*, 23 June 2003.

"an important confidence-building measure that fulfils one of the conditions of President Arroyo for peace negotiations to move forward."[62] Salamat's declaration hushed, at least temporarily, continuing calls to label the MILF a terrorist organisation and enabled renewed talks on both an immediate ceasefire and the longer term goal of a Final Peace Agreement (FPA). Beyond Salamat's rhetoric however, was the reality that complex ties between the MILF and known terror groups were heavily entrenched and, while the GRP would continue talks with the MILF for the practical purpose of ending conflict, the government would continue to hold the MILF to some degree of responsibility for acts of terrorism emanating from Mindanao.

Chairman Salamat's death also created a crisis of control within the MILF and led to an increasingly prominent spoiling role for "renegade" MILF members pursuing the Moro struggle outside of MILF-GRP peace talks. While divergences in leadership existed from the MILF's inception, renegade commanders in the organisation began to play a more significant destabilising role in the conflict after the death of the organisation's founder. Principles among these fringe MILF leaders were commanders Ameril Umbra Kato (hereafter Kato), Abdullan Macapaar (hereafter known by his prominent alias "Bravo") and Aleem Sulaiman Pangalian.[63] Kato, Bravo and Pangalian would continue to pursue their vision of the Bangsamoro struggle for the remainder of the decade, with various levels of autonomy from

[62] Ibid.

[63] Bravo and Kato would become stalwart actors in the undermining of MILF-GRP rapprochement efforts throughout the 2000s. Commander Kato is a reputed Islamic scholar who studied in Saudi Arabia and gained a following within the MILF numbering in the thousands. Aggressive acts by Kato and his followers were triggering events for Estrada's all out war and Kato has continually challenged the MILF leadership on its positions regarding the peace process. Kato's religious background also appears to have engendered him to foreign jihadists in Mindanao who look to the MILF for support and sanctuary. Commander Bravo does not share Kato's theological credentials and relies upon military prowess and family connections to cultivate a powerful following. Like Kato, Bravo's activities have repeatedly derailed peace talks and led to government military offensives. Commander Pangalian is a lesser player in the MILF-renegade activities (evidenced perhaps most directly by the lower bounty placed upon him by the GRP) but has shown willing to contribute to violent activities outside of the MILF power structure.

the MILF hierarchy. Similarly to GRP positions regarding threats from terrorism, the government repeatedly called upon the 'legitimate' MILF leadership to reign in these renegade commanders and tighten the control and discipline of its organisation. The MILF's diminished capacity to mitigate the security threats posed by terrorism and its own renegade forces after Salamat's death further complicated an already difficult contemporary conflict dynamic in Mindanao.

Thus, Arroyo faced a conflict situation during the early years of her administration in which an armed and militarily-capable separatist force was violently consolidating its position in Mindanao, the unity and modus operandi of this force were in question, and government responses along military and diplomatic fronts were bearing little fruit. During the remainder of the Arroyo administration, despite some seemingly promising diplomatic initiatives, the MILF would remain a formidable fighting force, continue struggling to reign in its destabilising members and fail to completely sever its ties with known terror groups. This instability and violence that remains prevalent in Mindanao has ramifications that extend beyond the borders of the Philippines.

## 1.2 The Terrorist Threat: Domestic and International

Terrorist threats, both domestic and international, compound an already complex military security situation in contemporary Mindanao.[64] The region's conflict dynamics are largely defined by the ongoing struggle, on the battlefield and at the negotiating table, between the GRP and Moro groups seeking some level of political self-determination. However, instability in Mindanao, which exists along a fracture between Muslim and predominantly Christian populations, creates a locale in which ideologically-driven Islamic terrorist movements have gained a foothold. An enabling environment exists in parts of Mindanao that provides terrorist elements with locations from which to base their operations. Many of these elements conduct operations which, unlike the more localised operations of Moro insurgent groups, have wide-ranging implications outside of Mindanao. Complex connections exist between Moro insurgent groups and international terrorist organisations, and these connections are vital to understanding the broader military security threats emanating from Mindanao.

[64] A telling indicator of the international terrorist threat emanating from the southern Philippines is the attention that the region has garnered from counterterrorism actors in the United States. Shortly after the US invaded Afghanistan, the Philippines began being discussed in US policy circles as the 'second front' in the War on Terrorism. In late 2001, US President George W. Bush approved the participation of 200 US troops in a two-and-a-half week joint counterterrorism exercise and deployed 190 Special Forces officers to train the Armed Forces of the Philippine (AFP) in counterterrorism operations. In January 2002, in what would become a lasting strategic counterterrorism relationship, US Secretary of Defence Donald Rumsfeld deployed roughly 600 troops to Basilan to act as 'advisors' to the AFP's Southern Command. The subsequent US-Philippine counterterrorism efforts are not addressed in detail in this thesis. Two substantive works that address this bilateral effort are: Bond, Christopher S. and Lewis M. Simons (2009), *The Next Front: Southeast Asia and the Road to Global Peace with Islam*, Hoboken, NJ: John Wiley & Sons.; and Ressa, Maria A. (2003), *Seeds of Terror: An Eyewitness Account of Al-Qaeda's Newest Center of Operations in Southeast Asia*, New York: Free Press. For a collection of shorter works that place the US efforts in a modern strategic context (Castro, pp. 13-45, Abignales, pp. 84-112, and Quimpo, pp. 173-194), discuss US offensive military operations in the southern Philippine theatre (Docena, pp. 46-83), and explore the Abu Sayyaf Group (ASG) as an internationally relevant terror organisation (Banlaoi, pp. 113-150, and Collier, pp. 151-172) see: Abignales, Patricio N. and Nathan Gilbert Quimpo, eds. (2008), *The US and The War on Terror in the Philippines*, Pasig City: Anvil Publishing Inc.

Primary among the terrorist movements in Mindanao are the Abu Sayyaf Group (ASG) and the Southeast Asian terror leviathan Jemaah Islamiyah (JI). These two organisations are very different in their goals, scope and modus operands, but they share in common linkages with the more 'legitimate' Moro separatist forces of the MILF. These linkages persist despite seemingly earnest efforts by the MILF's central leadership to distance itself from both the ASG and JI as well as affiliated Arab-led terror organisations such as al-Qaeda.[65] Such de-linkage is logical for an MILF organisation that enjoys a seat at the negotiating table with the GRP. However, complex factors, which include longstanding family and friendship ties, a confluence of goals regarding control and power in Mindanao, and affinities that are based upon the Islamic character of both the insurgents and the terrorists, combine to link the struggle for Moro self-determination to the operations of both ASG and JI. The connections between Moros and terrorist groups from outside of Southeast Asia, most notably al-Qaeda, represent a third avenue from which international terror threats emanate from Mindanao. The connections within this third avenue have little to do with Moro self-determination but reflect levels of ideological affinity and decades-old family and operational ties between the culturally dichotomous groups.

The ASG is an incongruous organisation, containing the competing characteristics of an ideologically-driven terrorist organisation, a Moro separatist group and a criminal bandit faction.[66] The ASG is designated by the United Nations as one three terrorist organisations in Southeast Asia, along with JI and al-Qaeda, and is listed by the United States as a Foreign

[65] For analysis on the shift within the MILF towards viewing the presence of foreign jihadists as a liability see: International Crisis Group (2008), "The Philippines: Counter-Insurgency vs. Counter-Terrorism in Mindanao", Asia Report N°152, 14 May.
[66] For elaboration on such multiple categorisations of ASG see: Eusaquito, Manalo (2004), "Philippine response to terrorism: The Abu Sayyaf Group", MA Thesis, Naval Postgraduate School, Monterey CA.

Terror Organisation.[67] It has carried out acts of terror throughout the Philippine archipelago since its founding in the early 1990s and has both operational and ideological ties with the more substantial regional and international terrorist elements.[68] The group's formative mission statement, which calls for "the establishment of a purely Islamic government" in the Southern Philippines, suggests that it originated as an organisation with a vision for Moro political self-determination.[69] The ASG's methods meanwhile, which include petty street crime, drug dealing and kidnapping for ransom, are more akin to a criminal syndicate than either a true separatist group or an ideologically-driven Islamic terror movement.[70] To explore the ways in which the ASG represents a military security threat, the complex and often paradoxical character of the organisation must be explored further.

The ASG was founded by Abdurajak Abubakar Janjalani as a group tasked with providing a "bridge and balance" between the MNLF and MILF.[71] By the early 1990s the MNLF and MILF had growing differences in their respective views on the wisdom of engagement with the GRP, the role that Islamic ideals should play in the revolutionary movement, and the most appropriate methods for pursuing Moro self-determination. This expanding rift threatened the coherence of the larger Moro cause. Janjalani formed the ASG as a group that gravitated even more heavily than the MILF towards instilling an overtly Islamic character into the Moro movement. The "Four Basic Truths" mission statement that Janjalani released sometime between 1993 and 1994 reflects these religious foundations. In this document

[67] See: "Foreign Terrorist Organizations", Office of the Coordinator for Counterterrorism, US Department of State, 6 August 2010. Accessed 15 September 2010 via: <http://www.state.gov/s/ct/rls/other/des/123085.htm>
[68] It is unclear specifically when the ASG came to exist as a coherent organisation. The group also went through several name changes during its early years. For analysis on these formative dynamics see: Banlaoi, Rommel C. (2008), "The Abu Sayyaf Group and Terrorism in the Southern Philippines: Threat and Response", pp. 116-117 in Abignales, Patiricio N. and Nathan Gilbert Quimpo, eds. (2008), op. cit.
[69] Banlaoi (2008), op. cit.
[70] For analysis on the criminal activities of the ASG see: Brown, Lesley and Paul Wilson (2007), "Putting Crime Back into Terrorism: The Philippines Perspective", *Asian Criminology,* 2(35-36).
[71] See: Tan, Samuel K. (2003), *Internationalisation of the Bangsamoro Struggle*, Quezon City: University of the Philippines Center for Integrative and Development Studies.

Janjalani declares that his intention is "not to create another faction in the Muslim struggle, which is against the teaching of Islam, especially the Quran" nor was it to "ignore or usurp" the leadership of the MNLF or MILF.[72] Rather, the ASG's stated foundational goal was to work towards an "ultimate goal" of "the establishment of a *purely Islamic* government."[73] Again gravitating towards the MILF, which in the early 1990s remained suspect of negotiating with the GRP, Janjalani's Four Basic Truths go on to advocate violence as a means for pursuing the Moro cause. The document declares that "war is a necessity for as long as there exists oppression, injustice, capricious ambitions and arbitrary claims imposed on the Muslims."[74] The ASG thus began as an organisation which espoused localised revolutionary ideals based upon Islamic tenets rather than a group that focused upon the broader agendas of international terror groups. Such a faith-based revolutionary agenda was logical considering Janjalani's theological credentials.

Janjalani was a dedicated and charismatic Islamic scholar with an international educational background. Educated in Islamic jurisprudence in Mecca and on the history and political character of Islamic revolutions in Pakistan, his religious direction would permeate the ASG throughout the group's formative years. Upon finishing his education and returning to his home in Basilan in the mid-1980s, Janjalani quickly began spreading the theological and revolutionary ideals that he had cultivated abroad. He espoused fanatical beliefs, based upon the radical Arabian Wahabi Muslim sect, which called upon all Muslims to fight and die for cause of their religion.[75] Such ideals appealed to Muslim leaders and radicalised Moro youths in Basilan, Sulu, Tawi-Tawi and Zamboanga who had become disenchanted with the direction of the less radical MILF and MNLF. As his following gained momentum at home,

[72] For part of the text and further analysis of the "Four Basic Truths" see: Tan (2003), op. cit., pp. 96-97.
[73] Ibid. Italics added.
[74] Ibid.
[75] See: Banlaoi (2008), op. cit., p. 118.

Janjalani attended an Islamic course in Tripoli, Libya in 1987 where he recruited like-minded Moro youths to what would become the ASG. Until his death at the hands of the PNP and AFP in 1998, Janjalani's personal religious direction precluded the ASG's subsequent digression into banditry while at the same time contextualising the ASG and Moro cause as part of a broader Islamic movement. These Islamic foundations would remain a part of the ASG's organisational character after Janjalani's death, but would be coopted by opportunistic leaders who lacked Janjalani's theological pedigree. In the succeeding years, the ASG's goals and methods would become increasingly sporadic and undisciplined. Groups such as JI and al-Qaeda would take advantage of the ASG's fanatical underpinnings and international connections, established but not perpetuated by Janjalani, to develop operational relationships that proved dangerous for international security.

At the turn of the 21st Century the ASG was a "loose coalition" of radical Moro leaders and low-level operatives with largely localised loyalties.[76] This organisational fracture is described by ASG expert Rommel C. Banlaoi as follows:

> These groups had mixed objectives, from Islamic fundamentalism to mere banditry, and paid allegiance mostly to their respective leaders rather than to ASG doctrines. Only a few of these groups were truly committed to the idea of a separate Islamic state in the southern Philippines. Some Muslim bandit groups only wanted to be associated with the ASG for prestige, political expediency and economic gains. The dynamics behind these groups betrayed a common feature in that they were highly personalistic, rather than being ideological groups of Muslim radicals.[77]

This decentralisation represented a corruption of Janjalani's vision for the ASG and created an environment in which localised groups operating under the guise of the ASG could pursue violence as a means to advance their causes; whether these causes be ideological, political or material. Serious criminal and terrorist acts became the calling-card of the ASG. The group increased kidnapping, extortion and violent intimidation campaigns, and gain international attention in 2001 by kidnapping a group that included three Americans, one of whom was

[76] Kreuzer, Peter (2005), "Political Clans and violence in Southern Philippines", *PRIF Report*,71, p. 28.
[77] Banlaoi (2008), op. cit., pp. 123-124.

beheaded and another killed in a rescue attempt after one year of captivity.[78] While some groups focused upon conducting these criminal acts, other factions within the fractured ASG worked continually to advance their operational capabilities for acts of large scale terrorism. This search for improved capabilities brought the ASG into renewed contact with JI, the most operationally sophisticated terrorist organisation in Southeast Asia.

Connections between JI and ASG were first formed in al-Qaeda-funded and MILF-run training camps during the mid-1990s.[79] However, it was during the first years of the 21st Century that an opportunistic partnership between the ASG and JI was rekindled. Out of this partnership the ASG gained greater access to JI training in terrorist tradecraft while JI was able to strengthen its foothold in Mindanao as an area from which to base operations. A key figure in these renewed ties was a prominent JI operative named Zulkifli. The ASG reportedly approached Zulkifli, who was a Javanese graduate of terrorist training courses in Mindanao, in early 2001 seeking JI expertise.[80] Zulkifli agreed to assist ASG in exchange for its hosting of JI operatives in their established camps in Mindanao. This international relationship led to significant gains in the ASG's destructive capabilities. At Camp Jabal Quba in their stronghold of Basilan, ASG operatives enhanced their bomb-making capabilities under the tutelage of JI expert Rohmat Abdurrohim (also known as Zaki), who confessed upon capture that he had trained ASG members on bomb construction, concealment and mobile phone detonation.[81] According to the International Crisis Group (ICG), the ASG-JI ties of the early 2000s went beyond symbiotic training-for-sanctuary

[78] See: Villas, Anna Liza T. (2007), "14 Abu Sayyaf men sentenced for Dos Palmas Kidnap", *Manila Bulletin*, 7 December. A surviving captive, Gracia Burnham, wrote an account of her ordeal. See: Burnham, Gracie (2003), *In the Presence of my Enemies*, Carol Stream, IL: Tyndale House Publishers.
[79] For analysis of JI-ASG connections prior to 2000 see: Banlaoi, Rommel C. (2004), *War on Terrorism in Southeast Asia,* Manila: Rex Book Store International. The presence of terrorist training camps in Mindanao during the 1990s is discussed in the following chapter.
[80] International Crisis Group (2004), op. cit.
[81] Banlaoi (2008), op. cit., p. 125.

arrangements and included joint operations between the two groups along with MILF participation.[82] The overall result of the renewed partnership was a series of attacks that represented the most destructive acts of terrorism in Philippine history.

JI used its bourgeoning operational ties with Moro groups to lead attacks against civilians in the Philippines. The bombings of the Davao International Airport and the Davao wharf in March and April 2003 killed forty-eight civilians between them and represented the worst terror attacks in Southeast Asia since JI bombed foreign tourist destinations in Bali in 2002.[83] Controversy abounded over the alleged perpetrators of the Davao attacks, with suspects including JI, the ASG, the MILF as well as military involvement.[84] While a special Presidential Commission found no evidence of MILF culpability, local authorities continued to allege that the MILF colluded with JI and the ASG in the attacks.[85] Both Davao City mayor Rodrigo Duterte and PNP intelligence director Roberto Delfin argued that such collusion was behind these civilian attacks, with the former adding al-Qaeda to the list of the accused organisations and the latter naming five Indonesian suspects specifically.[86] Subsequent investigations into the role of MILF foot-soldiers led to arrests but not prosecution while a separate military intelligence report implicated the MILF's 212th Brigade as being responsible for both of the attacks.[87] The precise events behind these brazen terror attacks remain a mystery, but the most likely scenario is that Zulkifli was a key instigator of the attacks and that they were undertaken with the help of both MILF and ASG low-level

[82] International Crisis Group (2004), op. cit.
[83] See: Spaeth, Anthony (2003), "First Bali, now Davao", *Time*, 10 March.
[84] The accusations of military involvement stemmed from the declarations made by military mutineers later in 2003. The commission tasked by President Arroyo to investigate the bombings reported no evidence of military involvement and also controversially cleared the MILF of responsibility.
[85] "MILF hasn't refuted CPO bomb charges", *Mindanews*, 3 April 2004.
[86] International Crisis Group (2004), op. cit., p. 23. One of these Indonesian suspects, Nasruddin, was also rumoured to have participated in the 2002 Bali bombings.
[87] Ibid.

operatives.[88] According to one ASG operative arrested in connection with the Davao attacks, the MILF and JI "had a standing agreement wherein the MILF would accommodate JI fighters in the former's camps and in return, JI will help MILF guerrillas in conducting bombings in any targeted area until such time that Mindanao can attain its independence."[89]

While meetings between the MILF leadership and the Indonesia terror operatives are rumoured to have taken place around the time of these attacks, it remains unclear as to what elements of the MILF hierarchy might have signed off on them. As was discussed previously, both the MILF and the GRP had interests in distancing the MILF from attacks against civilians; as such revelations could be counterproductive for ongoing peace negotiations. However, an objective assessment of the terror threats in the southern Philippines reveals that the MILF remained heavily entwined in the operations of recognised terror organisations well into the 21st Century. Such collusion, which is steeped in decades-old family, ideological and operational ties, represents a significant military threat to the Philippines and has the potential to threaten international security.

What appears most clear about relationships among the ASG, the MILF and JI is that JI has sent members to camps controlled by the ASG and MILF and that these two Moro organisations have received training and influence from their Indonesian counterparts. MILF camps began hosting significant numbers of JI operatives in the mid-1990s, when JI began to shift its training operations from Afghanistan to Mindanao. Contemporarily, the ties that have been forged during the years since JI's arrival in Mindanao have proven difficult to sever; even as the MILF's upper echelon of leadership began to view foreign jihadists as a

[88] Ibid. An ICG interview with a source close to these two organisations states that ASG operatives made more effective foot soldiers because they had greater language skills and that MILF operatives were typically involved only in operations within Maguindanao or Lanao.
[89] "In terror pact – city airport, seaport bombings part of plot", *The Mindanao Times,* 16 April 2003.

liability. The symbiotic relationship between foreign jihadists and Moro fighters allowed elements of the Moro organisations to use their training to conduct what they viewed as asymmetrical warfare against an oppressive government. Meanwhile, JI operatives who had trained in camps in Mindanao proved willing and capable of taking terror back to their own archipelago.

Mindanao veterans in JI have been implicated in multiple acts and attempted acts of terror inside Indonesia during the 2000s. JI operative Sardjiyo (primary alias Sawad), who has been implicated in multiple bombings inside of Indonesia (including the bombing of the Philippine ambassador's residence in Jakarta), told Indonesian authorities that he went directly from Afghanistan to Mindanao in the mid-1990s where he trained and fought for a period of years in an MILF camp.[90] The JI bombings of a popular Western night spot in Bali in 2002, which left over 202 dead and scores injured, was the worst incidence of terrorism in Southeast Asian history and also has ties to Mindanao camps. Wan Min, who along with Sardjiyo was implicated in these attacks, testified that he helped set up JI facilities in the MILF's Camp Abu Bakar during the mid to late-1990s.[91] The majority of those implicated in the Madassar bombings in late-2002 had trained in camps in Mindanao, where JI had its own section of the MILF's Camp Abu Bakar. JI training in Camp Abu Bakar continued even after it was overrun by the AFP during Estrada's all out war. According to the declarations of two JI operatives, who were arrested with a major weapons cache in 2003, they had trained there

[90] International Crisis Group (2003), "Jemaah Islamiyah in South East Asia: Damaged but still Dangerous", Asia Report N°63, 26 August, p. 17. This claim is based upon the interrogation deposition of Sarjiyo (aliases: Sawad, Zaenal Abidin, Ibrahim) in April of 2003. In addition to the Philippine ambassador's residence, Sarjiyo has also been implicated in the 2002 Bali bombings and is suspected of smuggling arms from the Philippines to Indonesia in 2000 and 2001.
[91] Ibid.

under mostly Moro instructors in 2001.[92] JI later set up its operations in a camp in Maguindanao known as Jabal Quba 3, which is believed to be under MILF protection, and deployed operatives under the leadership of Umar Patek to work together with the ASG.[93] Such ties would ultimately outlast the Arroyo administration.

During the mid-2000s the dangerous arrangement between Moro groups and JI led to a terror attack in the Philippines that dwarfed the previous Davao attacks. The ASG and JI collaborated to attack the transportation infrastructure and civilian populations of the National Capital Region (NCR) in February 2004 and again in February 2005, leaving over 120 dead and the country shocked.[94] The GRP, with assistance from the United States, would enjoy a measure of success in targeting the terrorist elements in Mindanao, particularly the ASG, during the remainder of the Arroyo presidency. This was helped in no small degree by the MILF's primary leadership making the strategic decision to sacrifice such ties in return for increased legitimacy in official negotiations.[95] However, the levels of collaboration between foreign and domestic terrorists and Moro insurgents ensures that they will continue to possess both the will and means to threaten national and international security so long as Mindanao remains destabilised.

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[92] Ibid. The uncovered weapons cache was remarkable. Among the materials confiscated were: 1,000 non-electronic detonators, 25 electronic detonators, 900 kilograms of potassium chlorate along with other base products for making explosives, 19,000 5.6 mm bullets and smaller quantities of other rounds of ammunition.

[93] International Crisis Group (2008), op. cit., p. 3.

[94] Ibid., p. 8 The ICG points out that these attacks paralleled subsequent terrorist activities in Madrid and London and questions the lack of attention to the increasingly dangerous terrorist "nexus" forming in Southeast Asia. The ICG states: "[j]oint bombing operations involving JI, ASG, and extremists within MILF began well before the first Bali bombing and could have provided early clues to the regional jihadi nexus but were not taken seriously as instances of international terrorism."

[95] One programme instituted by the GRP encourage distance between the MILF core and known terrorist elements. The Ad Hoc Joint Action Group (AHJAG) was instigated to facilitate communication and information sharing between the GRP and MILF and to avoid clashes between the two organisations while he AFP pursued ASG and JI operatives.

## 2.1 Political Insecurity in Mindanao: War on a Second Front

Instability in Mindanao is intertwined with security threats in the political sector. Like the military sector, political security is concerned with threats to state sovereignty. As the military sector logically monopolises the analysis of military threats, the political sector focuses upon challenges to sovereignty that are actuated outside of the battlefield space. The political sector is fundamentally inclusive, a characteristic that poses inherent problems for defining its scope. Realistically, because of the ways in which political structures permeate other areas, all security threats can be related to the political sector.[96] Buzan and colleagues recognise the problematically encompassing character of the political sector, stating:

> The problem with the political sector is that, paradoxically, it is the widest sector and is therefore also a residual category: In some sense, all security is political. All threats and defences are constituted and defined politically. Politicization is political by definition, and, by extension, to securitize is also a political act. Thus, in a sense societal, economic, environmental, and military security really mean "political-societal security," "political-economic security," and so forth.[97]

The encompassing nature of the political security makes analytical coherence difficult. To ensure such necessary coherence requires first defining politics: "the shaping of human behaviour for the purpose of governing large groups of people," and next questioning what is necessary for, and by extension what threatens, efforts to govern.[98] While threats to the governing capacity of the state can emanate from any or all of the five sectors, and often results from a collusion of factors among multiple sectors, political threats result from actions that attempt to deny "recognition, support, or legitimacy" through means that are not military, societal, environmental or economic in nature.[99] Such threats attack the organisational

[96] See: Ayoob (1995), op. cit.; and Jahn, Egbert, Pierre Lemaitre and Ole Wæver (1987), "Concepts of Security: Problems of Research on Non-Military Aspects", Copenhagen Papers no. 1, Copenhagen: Centre for Peace and Conflict Research.
[97] Buzan, Wæver and de Wilde (1998), op. cit., p. 142-143
[98] See: Buzan, Barry, Charles Jones and Richard Little (1993), *The Logic of Anarchy: Neorealism to Structural Realism,* New York: Columbia University Press, p. 35. CST's definition of politics attempts to be succinct and relatively non-controversial. The seminal works on the theory do not present substantive discourses on the nature of 'politics' but rather focus on what the areas of interest are for political *security*.
[99] Buzan, Wæver and de Wilde (1998), op. cit., p. 142.

stability of the state and can call into question state control over given territories and/or populations.[100]

The protracted negotiations between the GPR and MILF represent a clear case of political threats to Philippine state security. These diplomatic dialogues centre upon the MILF's direct challenges to GRP claims of state sovereignty and organisational control over areas of Mindanao. MILF goals for the negotiations are consistent with Buzan's foundational claims that political threats attempt, among other things, to pressure the government, disrupt the political fabric of the state and foment secessionism.[101] The objectives sought by the MILF in their diplomatic struggle for self-determination demonstrate the tangible threats to state sovereignty that exist in the political sector of the Mindanao security case. These tangible threats are also evidenced by a chorus of vociferous and oppositional public and political reactions that consistently accompany diplomatic agreements between the MILF and GRP.[102] These reactions, which see stakeholders elucidate the negative implications that Moro autonomy could have for Philippine state sovereignty, demonstrate the high stakes of this political process. The major contemporary developments in the GRP-MILF negotiation process must therefore be explored in some detail.

The contemporary GRP-MILF diplomatic process began with the policy shift away from military operations that accompanied President Arroyo's ascent to power. However, the ongoing fighting in Mindanao during the early 2000s prevented Arroyo's initial overtures to the MILF from gaining much traction. A series of diplomatic breakthroughs occurred between mid-2005 and mid-2006 that would set the foundation for talks throughout the rest

[100] Buzan (1994), op. cit., p. 118.
[101] Ibid.
[102] For useful analysis of these oppositional reactions see: Williams, Timothy (2010), "The MoA-AD Debacle – An Analysis of Individuals' Voices, Provincial Propaganda and National Disinterest", *Journal of Current Southeast Asian Affairs*, 29(1), pp. 121-144.

of the decade. These diplomatic breakthroughs were enabled in part by growing efforts by both parties to separate the MILF, both conceptually and practically, from declared terror groups in the region. As a result, the AFP was able to launch substantial military offensives against Abu Sayyaf and the Southeast Asian terror principal Jemaah Islamiyah in July 2005 without derailing the peace process. That the AFP was allowed to target JI and ASG operatives that were based inside of MILF strongholds reveals the degree to which the central MILF leadership had come to view connections with these terror groups as at least a partial liability. By condoning GRP counterterrorism operations in Mindanao, the MILF presented itself as an organisation that was interested in a more substantial political discourse with the government.[103]

An April 2005 agreement on a number of "consensus points" between the GRP and MILF demonstrated resolve on the part of both groups to reach a diplomatic settlement and led to optimism that a FPA remained a possibility.[104] President Arroyo declared that these talks had moved beyond security and ceasefire matters to address the "social, economic and political" issues that are essential for forming a lasting peace.[105] The consensus points addressed a wide-range of issues regarding territorial demarcations, resource development and governance and was declared a breakthrough by both the GRP and MILF.[106] Diplomatic momentum continued in September 2005 when the two sides agreed during talks in Kuala Lumpur to work towards agreements on the conceptualisation of key issues regarding

[103] For analysis on the evolution of the MILF position regarding collusion with known terror groups see: International Crisis Group (2008), op. cit.
[104] For a contextualisation of these consensus points in the peace process see: East, Bob (2005), "The Bangsa Moro: Fighting for Freedom during the War on Terror: The Muslim Independence Movement of the Southern Philippines", Paper presented to the Social Change in the 21st Century Conference, 28 October. Accessed 15 September 2010 via: <http://eprints.qut.edu.au/3494/1/3494.pdf>
[105] Office of the Press Secretary (2005a), "Statement of the President: On the Peace Talks", 21 April.
[106] Office of the Press Secretary (2005b), "Joint statement of the peace panels on the 7th round of GRP-MILF talks in Malaysia", 21 April.

territory, governance and civil society.[107] The subsequent talks in February 2006 resulted in more substantial breakthroughs, as the two sides reached twenty-nine consensus points regarding "ancestral domain"; a term which refers to the Bangsamoro's historically-based claims to territory in Mindanao. An unrelated coup attempt in Manila later that month temporarily distracted the GRP from the Mindanao peace process, but it would continue to progress gradually over 2006 and 2007, ultimately culminating with the most significant GRP-MILF agreement to date; the Memorandum of Agreement on Ancestral Domain (MOA-AD).

The MOA-AD was initialled by negotiators from the GRP and the MILF in July of 2008, and delineated convergent positions by the two sides regarding territory, resources and governance while also spelling out agreed upon principles and terms of reference. The strength of the agreement was that it attempted to address fundamental disparities between the traditional negotiating positions of the GRP and MILF.[108] Regarding land, the MOA-AD begins broadly by confirming the mutual goal of both parties to reach a future agreement on what specific territories would be included lands placed under Moro administrative control. The MOA-AD quickly becomes more specific on this point however, stating that the Bangsamoro Juridical Entity (BJE) would include all of the ARMM, as well as municipalities in Lanao del Norte that voted for inclusion into the ARMM in 2001. The government also committed in the MOA-AD to conduct a plebiscite within one year in 737 Muslim-majority villages, or *barangays*, in Mindanao for possible inclusion into the BJE, as well as embark on a twenty-five year affirmative action development programme in 1,459 other conflict-

[107] Some of these consensus points were included in the more substantial Memorandum of Agreement on Ancestral Domain (MOA-AD) that was signed in July 2008.

[108] See: Appendix D for the full text of the MOA-AD. In addition to the MOA positions on land, resources and governance that are briefly discussed here, the importance of the definitional statements of the MOA should not be underestimated. The MOA accepts the identification of all native inhabitants of Mindanao to be part of the Bangsamoro, while respecting the freedom of choice of non-Muslim indigenous groups regarding this distinction. Sections 1-4 Concepts and Principles section of the MOA go on to define the ancestral domain of the Bangsamoro in decidedly historical terms.

affected areas in Mindanao (which would then have an opportunity to join the BJE). The territorial delineations of the BJE extended to maritime control as well, with the MOA-AD granting the BJE jurisdiction over resources in waters extending fifteen kilometres from its coastlines and providing details as to how these borders should be delimited. The MOA-AD empowered the BJE with "authority and responsibility for the land use, development, conservation and disposition of natural resources within the homeland."[109] The Memorandum further elaborated upon the BJE's rights to resource exploitation and outlined a 75-25 wealth sharing accord between the BJE and the GRP for revenue gained through resource exploitation, while also calling for joint ventures between the GRP and BJE on resource development.[110] With regard to governance, the MOA-AD acknowledged the desires of the Bangsamoro to put in place a system of governance that is "suitable and acceptable" to the to the Moro peoples.[111] The MOA-AD spelled-out an "associative" relationship between the GRP and BJE "characterised by shared authority and responsibility" and empowered the BJE to develop and maintain its own institutions.[112] This institutional responsibility would include "civil service, electoral, financial and banking, education, legislation, legal economic, and police and internal security force, judicial system and correctional institutions."[113]

The MOA-AD represents an attempt to assuage grievances that continued to fuel the contemporary MILF insurgency while still ensuring that none of Mindanao's citizens, Christian, Muslim or indigenous, would be collectively or unwittingly forced into a new

[109] See: Appendix D for Article One of the Resources Section.
[110] The MOA-AD did contain the caveat that the GRP could "temporarily assume or direct" the operations of "strategic resources" in "times of national emergency or when public interest so requires." See: Appendix D for Article Five of the Resources Section.
[111] See: Appendix D for Article 2 of the Governance Section.
[112] See: Appendix D for Article 4 of the Governance Section.
[113] See: Appendix D for Article 8 of the Governance Section.

system of governance and control. The key to this strategy was the issuance of plebiscites outside of the ARMM for potential inclusion into the BJE. Both the MILF and the government recognised that majority-Christian areas of Mindanao, along with areas that preferred the status-quo for economic reasons, would opt to be excluded from the BJE.[114] The MOA-AD also left room to manoeuvre on the implementation of the agreement, allowing for many of the details excluded from the MOA-AD to be negotiated in a forthcoming "Comprehensive Compact." In particular, the nature of the "associative" relationship between the BJE and GRP regarding governance remained deliberately vague. While there is no acknowledgment on behalf of the MILF of an overarching sovereignty over the whole of Mindanao by the GRP, there is likewise no mention of future independence or cessation possibilities. Despite such efforts to promote a flexible and a middle-ground approach, the MOA-AD would prove untenable from the perspective of many non-Muslim stakeholders in Mindanao as well as from the perspective of the national judiciary.

Opposition to the MOA-AD was vigorous and extensive. Not least among the concerns of those in opposition were questions over the level of actual sovereignty to be afforded to the BJE. The influential Archbishop of Cotabato Orlando B. Quevado, who supported the MOA-AD, summarised some of these concerns:

> It is nowhere stated in the MOA-AD that the MILF acknowledges the authority and sovereignty of the Government of the Republic of the Philippines over all the territories covered by the term "Republic" in the Constitution of the Philippines...Does the MILF recognize either de jure or de facto that the Republic of the Philippines holds authority and sovereignty over the whole of Mindanao, Sulu, and Palawan? What do the negotiating panels mean by "associative relationship and associative arrangements"? Does the use of the term "central government" in the MOA-AD connote the idea that the Bangsamoro Juridical Entity recognizes the authority of a central government over it? Does the term "shared authority and control" in the MOA-AD connote the exercise of power by two equal authorities, or is it a recognition that in the sharing there is a "primus inter pares" principle?[115]

[114] On this point the International Crisis Group writes, "[n]othing was going to be forced on anyone, or at least that was how the negotiators on both sides saw it." International Crisis Group (2008), op. cit., p. 4.
[115] Quevado, Orlando B. (2008), "Can the MOA-AD bring lasting Peace", *MindaNews*, 10 August.

Archbishop Quevado speaks here to the underlying fears that the MOA-AD was tantamount to an erosion of the Philippines' territorial integrity, a clearly dangerous precedent for a large archipelagic state. These concerns, along with several more localised opposition points, extended to powerful non-Moro political forces that began a vitriolic campaign to void the MOA-AD before the terms of the Agreement were officially released.

A myriad of stakeholders to Mindanao's political future coalesced around their opposition to the MOA-AD. As the ICG succinctly states:

> Several elements were uneasy with, if not unalterably opposed to, the MOA. They included local officials and landowners worried about being unseated or dispossessed; President Arroyo's rivals, who saw the political potential of using the agreement against her, especially with national elections on the horizon in 2010; [and] the military, unhappy with concessions made to their former enemy and concerned with the implications for Philippines security...[116]

Of these oppositional actors, the political leaders and economic elites in non-Moro parts of Mindanao took the lead role in opposing the peace agreement. When the MOA-AD was in its final developmental stages, political leaders in predominantly Christian areas of Mindanao were consulted in an attempt to gain pre-emptory support for the agreement before its official release. Such support would not be forthcoming. According to reports from a meeting introducing the MOA-AD to Mindanao leaders, the then North Cotabato Governor Emmanuel Piñol declared that if the document were signed that "Christians will arm themselves and there will be bloodshed."[117] Shortly after this meeting a draft of the MOA-AD was leaked to the *Philippine Daily Inquirer*, a major state-wide newspaper, leading to vocal opposition by eighteen mayors in North Cotabato that were opposed to any of their territories being included in the proposed plebiscite over inclusion into the BJE. Opposition along such grounds was curious, since majority-Christian areas under the control of these leaders would almost certainly vote for exclusion from the BJE. However, Piñol and other

[116] International Crisis Group (2008), op. cit., p. 6.
[117] Ibid.

non-Moro leaders persisted with statements and actions suggesting that their territorial control was coming under attack. Piñol released a statement arguing that the MOA-AD was "a virtual declaration of a new and distinct state in the Southern Philippines" while the mayor of Iligan City claimed that his city would lose over eighty percent of its territory along with rights to copper and gold deposits under the terms of the MOA-AD.[118] These and other political officials lodged complaints against the MOA-AD to the Supreme Court which in turn temporarily restrained the progression of the agreement.

Opposition to the MOA-AD also extended north to Manila. Arroyo's political rivals, perhaps most conspicuously Senator Mañuel "Mar" Roxas, attacked the agreement on the grounds that it was negotiated without proper consultation with the government, it amounted to the creation of a separate sovereign state, and that it was in breach of constitutional principles.[119] Military opposition to the agreement was also palpable, as the upper echelons of the state's security leadership was unhappy about granting the BJE such pronounced authority.[120] The issue of constitutionality was further complicated by the possibility that implementing the MOA-AD would require altering the charter of the Philippines constitution. Such charter change, known as "cha-cha" in the Philippine parlance, was controversial as accusations abounded that Arroyo would use such a situation to try to extend her own term in office.[121] As criticism of the MOA-AD abounded both in the public sphere and in hearings within the Supreme Court, the government manoeuvred to distance itself from the unpopular agreement.

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[118] "Catobato governor questions peace accord", *CBCP News*, 2 August 2008; and "Ilagan will lose gold, copper, 8 barangays to BJE – mayor", *GMANews.TV*, 5 August 2008.
[119] See "Government Junks MOA in all Forms", *Philippine Daily Inquirer,* 30 August 2008.
[120] The ICG reports that Defence Secretary Gilbert Teodoro and National Security Advisor Norberto Gonzales were opposed to the MOA-AD from the outset and actively looked for ways to derail the agreement. International Crisis Group (2008), "The Philippines: The Collapse of Peace in Mindanao", op. cit., p. 11.
[121] In addition to its extensive media coverage, the possible corollary effects of charter change are discussed in: "Cha-Cha favors the Elites and the US", *Center for People Empowerment in Governance,* Issue Analysis No. 8, 4 August 2005.

With the future of the MOA-AD in jeopardy, fighting quickly resumed between the MILF and government forces. Violent clashes became increasingly prevalent during June and July of 2008, with MILF forces targeting AFP troops as well as clashing with paramilitary groups operating within government-sanctioned Civilian Armed Force Geographical Units (CAFGUs) and Civilian Volunteers Organisations (CVOs).[122] The renegade commanders of the MILF, Kato, Bravo and Pangalian, played significant roles in the escalating conflict in mid-2008.[123] As they became increasingly frustrated with the breakdown of the diplomatic process, MILF elements extended their control and occupation into the controversial lands of North Cotabato; ultimately compelling the GRP to intensify its own military operations.

The death knell of the MOA-AD came in October 2008 when the Supreme Court ruled the MOA-AD unconstitutional. As the government had already distanced itself from the MOA-AD by dissolving the peace panel and stating that it would not sign the agreement in its current form, the Supreme Court could have declared the injunction against the MOA-AD moot (as did seven of the Court's fifteen members).[124] The Court's decision to declare the MOA-AD unconstitutional therefore represented a significant rebuff of the Arroyo administration and dealt a serious blow to the prospects for political reconciliation in Mindanao. The Court ruled that the MOA-AD "runs contrary to and in excess of the legal authority [of the negotiators] and amounts to a whimsical, capricious, oppressive, arbitrary and despotic exercise" of power.[125] In addition to criticising the government's

[122] CVOs and CAFGUs have a violent history in Mindanao, which includes instances of theft, harassment of civilians and instigations of bloody encounters. They are essentially private armies typically acting with little or no oversight beyond local governance leaders.
[123] The government called upon the MILF to handover these renegade commanders to no avail. The MILF stated that it would launch its own investigations into the activities of Kato, Bravo and Pangalian and then take appropriate action. See "MILF hits govt for bounty offer vs. 3 commanders", *GMANews.TV*, 9 September 2008.
[124] See: "Supreme Court rules domain agreement 'unconstitutional'", *GMANews.TV*, 14 October 2008.
[125] G.R. No. 183591, "The Province of North Cotabato vs. The Government of the Republic of the Philippines", 14 October 2008, pp. 8 and 36. Access 1 October, 2010 via: <www.supremecourt.gov.ph/jurisprudence /2008/october2008/183591.htm>

mismanagement its duty to consult with the potential stakeholders of the MOA-AD, the Supreme Court ruled that the "associative relationship" proposed to exist between the GRP and the BJE granted the BJE "the status of an associated state" and was thus in violation of fundamental tenets of the Philippine constitution.[126]

The failure of the MOA-AD was a major setback for the cause of Bangsamoro self-determination. While the central MILF leadership was restrained in its response, stating that the group would not launch retaliatory attacks, it was clear from the outset that elements of the MILF would actively escalate the fighting in Mindanao.[127] One MILF military leader went so far as to declare that the government's about-face "vindicated" the positions of renegade commanders Kato and Bravo and proved that the government could not be trusted in good faith.[128] For other influential Moros, the latest breakdown of the negotiating process rendered further efforts to reach an agreement foolhardy. As Dr. Abhoud Syed Lingga, the head of the Institute of Bangsamoro Studies put it, "[s]taying with the Republic of the Philippines now becomes untenable, and separation appears as the only viable option left to the Bangsamoro people."[129]

The consequences of the failure of political processes for the security situation in Mindanao were dire. The fallout from the Supreme Court ruling was a return to acute physical insecurity throughout multiple areas of Mindanao. Renewed fighting between government and Moro forces had severe ramifications for civilians caught amongst the violence.

[126] Ibid., pp. 41-42.
[127] For an account of the MILF diplomatic response to the Supreme Court ruling on the MOA-AD see: "MILF to take case to UN, Islamic states", *Kablalan,* October 2008.
[128] "MILF commander warns of 'bloodbath' with SC ruling; Jaafar says SC recognised MOA-AD as 'official'", *MindaNews*, 15 October 2008.
[129] "SC rules 8-7 vs. MOA-AD; MILF panel says 'SC ruling does not stop armed conflict'", *MindaNews*, 14 October 2008.

Estimates vary regarding the human costs of this renewed violence.[130] The GRP's National Disaster Coordinating Council (NDCC) reported that between August 2008 (when the MOA-AD was on the path to failure) and July of 2009 that 112 people were killed and 139 injured as a direct result of armed encounters with an additional 268 deaths and thirty-one injuries occurring due to illness inside of evacuation centres.[131] The office of the United Nations High Commission on Refugees estimated that 600,000 Filipinos became internally displaced in 2008 as a result of fighting in Mindanao, making it the largest displacement globally for that year.[132] The NDCC meanwhile claimed that the conflict directly affected or displaced a total of 756,554 people in the ARMM and two regions in Central Mindanao from August 2008 to July 2009.[133] The entire provinces of Maguindanao and Lanao del Norte, along with multiple municipalities, were officially declared to be in a state of "calamity".[134]

The contemporary political security situation in Mindanao did not recover from the failure of the MOA-AD. Conflict dynamics between Moro and government forces remained active throughout the remainder of Arroyo's tenure with the prospects for a political settlement appearing progressively bleaker. The tenuous situation continues to have serious ramifications for the political stability of the Philippine state. The encompassing terms of the MOA-AD, and the oppositional responses undermining the agreement, demonstrate that the sovereignty of the Philippine state and the capacity for the GRP to maintain governing influence over its territory are at the centre of the negotiating processes. This alone makes the situation in Mindanao a vital aspect of the Philippine's political security calculations.

[130] For a comparative account of these figures see: Amnesty International (2009), "Shattered Lives: Beyond the 2008-2009 Mindanao Armed Conflict", London: Amnesty International, pp. 31-54.
[131] National Disaster Coordinating Council (2009), "NDCC Update: Sitrep No. 86 re IDPs in Mindanao", 14 July.
[132] UNHCR, "Internally Displaced People Figures". Accessed 5 February 2010 via: <http://www.unhcr.org /pages /49c3646c23.html>
[133] National Disaster Coordinating Council (2009), op. cit.
[134] Ibid.

The eventual revocation of the MOA-AD reveals how entrenched political insecurity remains in contemporary Mindanao and the subsequent period of acute violence reveals the capacity for this situation to exert severe human tolls.

The difficult fractures between the MILF's quest for regional autonomy and the GRP's need to maintain state sovereignty are also compounded by the contemporary political situation *within* Moro-dominated areas of Mindanao. These more localised dynamics bare the footprint of overtures from Malacañang, and are vital for understanding the contemporary nature of political instability in the southern Philippines. One contemporary example of acute inter-Moro political violence, commonly known as the Maguindanao Massacre, illustrates the potentially dangerous dynamics surrounding governance and control in the ARMM, and shows that the GRP's complex relationships with Moro stakeholders have the capacity to further destabilise the region.

### 2.2 Contemporary Political Violence: The Maguindanao Massacre

On 23 November 2009, fifty-seven men and women were summarily executed in the ARMM province of Maguindanao. The hurried attempt to conceal the evidence of this crime, using heavy equipment that bore markings from the Maguindanao government, emotively demonstrates the culpability of local political and security forces in what came to be known as the Maguindanao Massacre.[135] Those killed included political supporters and family members of Esmail "Toto" Mangudadatu along with thirty local journalists.[136] Toto was in

[135] See: Ramos, Marlon (2009), "Backhoe operator sought in Maguindanao massacre", *Philippine Daily Inquirer*, 25 November.
[136] "Philippines: Massacre Shows Arroyo's Failure to Address Impunity", Human Rights Watch, News Release, 24 November 2009.

the process of declaring his intention to run for the governorship of Maguindanao and had his contingency targeted by members of the Ampatuan clan; a rival political faction that holds enormous power throughout the ARMM.[137] This event brought renewed national, regional, and international attention to the region's political instability. Not least among reasons for the large public outcry was the targeting of journalists, an act which The Committee to Protect Journalists called "the worst we have on record and most likely the worst in the history of journalism."[138] The Massacre also shocked the country by its direct targeting and mutilation of female members of Toto's family and political contingent.[139] Despite the additional attention brought by the violence against journalists and women, the massacre was classified by many as a relatively simple case of age-old clan on clan violence between belligerent Muslim factions.[140] While the Maguindanao Massacre was certainly unique in its modalities; it is misleading to view this event as one without wide-ranging political implications. Rather, the Maguindanao Massacre must be understood within the context of the collusive political relationships existing between the GRP and elements of the Moro leadership.

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[137] Toto himself was not present in the convoy that was attacked. Having heard rumours that he would be targeted if he declared himself eligible for the governorship of Maguindanao and being unable to secure military protection, Toto sent his wife and sisters to file his election papers; believing that the Ampatuan forces would not harm women. For an account of the events surrounding the Maguindanao Massacre see: International Crisis Group (2009), "The Philippines: After the Maguindanao Massacre", Asia Briefing N°98, 21 December; and "Roots of the massacre", *Philippine Daily Inquirer*, 8 December 2009.

[138] Dietz, Bob (2009), "Philippine groups move quickly to investigate massacre", *CPJ Blog, Press Freedom News and Views*, 3 December. For a more detailed report on the targeting of journalists see: The Philippine Center for Investigative Journalism, MindaNews and the National Union of Journalists of the Philippines (2009), "Report of the Humanitarian and Fact-Finding Mission to Maguindanao: 25-30 November." Accessed via: <http://cpj.org/blog/Maguindanao%20report.pdf>

[139] President Arroyo in her report to the Philippine Congress stated that the crime scene revealed widespread mutilation of the genitalia of the female victims, multiple signs of rape and "horrifying" mutilation of Genalin Mangudadatu; who was Toto's wife. See: "Report of Her Excellency President Gloria Macapagal-Arroyo on Proclamation 1959", Office of the President of the Philippines, 6 December 2009.

[140] For analysis on the clan-based dynamics surrounding the massacre, see: Maulana, Nash (2010), "After massacre, thinning blood ties", *Philippine Daily Inquirer*, 9 January. It is important to note that clan rivalry between the Ampatuans and Mangudadatus was did not have a longstanding history of conflict and bloodshed. The two clans were allies, sharing an alliance with President Arroyo along with other political interests. The emergent rivalry which would end in massacre appears to have began in earnest with Toto's challenge to Ampatuan possession of the governorship of Maguindanao. For information of this former alliance see: "Warring Maguindanao clans were once political allies", *Philippine Daily Inquirer*, 24 November 2009.

Exploring the relevance of the Maguindanao Massacre for political security requires first recognising the primary place held by the Ampatuans in security and political apparatus of Maguindanao. The Ampatuan clan has been a force in Maguindanao for centuries, and traces its lineage back to the Muslim preacher Shariff Aguak who is credited with introducing Islam to the area.[141] Led by Andal Ampatuan Sr., the family amassed unprecedented power in Maguindanao during the Arroyo administration. Andal Sr. began his rise during the administration of President Ferdinand Marcos (1965-1986) and consolidated some of the family's power during the succeeding years of the 20th century.[142] During the Arroyo administration however, the Ampatuans' close political ties with the president allowed them to gain overwhelming control of vital power structures in Maguindanao and extend their influence throughout the ARMM. The increase in Ampatuan power during the Arroyo administration is in large part a product of the political and security challenges faced by GRP in the Mindanao regions. With political and security threats ever-present during years of tumultuous fighting and negotiating with the MILF, the Arroyo administration turned to the

[141] The capital municipality of Maguindanao, which until 2000 was called Maganoy, is now named after Shariff Aguak.

[142] Ferdinand Marcos served as president from 1965-1986 and was succeeded by Corazon Aquino. Aquino replaced locally elected officials in Maguindanao and elsewhere and for two years during the late 1980s Andal Ampatuan Sr. was deposed from his position as mayor of Shariff Aguak (then called Maganoy). Andal Sr. ran to regain this position in 1988 and, during the campaign, his chief political rival was killed in a public market during daytime trading hours. Andal Sr. was charged for this crime but acquitted when no witnesses came forward. For discussion of these events in the 1980s see: Mercado, Jun (2009), "The Maguindanao Massacre, Part 2", *GMA News.TV*, 2 December. Parts 1 and 3 of Mercado's analysis on the Maguindanao Massacre, also published by *GMA News.TV* provide valuable insights into the lead up and government responses to the event respectively.

Ampatuan clan to deliver electoral results and promote government policies in Maguindanao and other regions of Mindanao.[143]

The Maguindanao Massacre, despite being outside of the traditional boundaries of the GRP-MILF conflict, should be viewed as the most contemporary manifestation of acute violence to result from an overarching environment of political insecurity in Mindanao. The Ampatuan clan responded to longstanding unrest between the MILF and the GRP by allying itself with the government and, with varying levels of government support, creating independent security forces and amassing control over political and security structures in Maguindanao and other parts of the ARMM.[144] The earmarks of Ampatuan power in Maguindanao include the election of clan members to the region's most important political positions, the building of a 2,000 men strong private military force armed with sophisticated weaponry, the endemic infiltration and control of police forces and the capacity to coopt or intimidate judicial processes.[145] As the ICG succinctly states, the Ampatuan clan "took advantage of the conflict between the government and the Moro Islamic Liberation Front (MILF) to position itself as a

[143] The Ampatuans were instrumental in helping Arroyo win the closely contested 2004 presidential election. Accusations of voter fraud and coercion marred this election campaign, most infamously with regard to the "Hello Garci" scandal of 2005 in which a taped conversation between Arroyo and an election commissioner led some to conclude that Maguindanao was being manipulated in Arroyo's favour by the Ampatuans. See: Chua, Yvonee (2005), "Arroyo and ARMM", *Philippine Center for Investigative Journalism*, 22 June. Three years later in 2007 the administration's senatorial candidates would enjoy Ampatuan support in elections that delivered a clean sweep with 96 percent voter turnout (compared to 65 percent as the national average). This result, along with subsequent developments suggesting voter fraud, led to criticism of the Arroyo-Ampatuan alliance. See: International Crisis Group (2009), op. cit., p. 5; and Collas-Monsod, Solita (2009), "History to remember GMA with massacre", *Philippine Daily Inquirer*, 5 December.

[144] These forces were amassed largely under the auspices of legitimate citizen militaries allowed for under the Arroyo administration through Citizens Armed Forces – Geographical Unit (CAFGU) and Civilian Volunteers Organisations (CVOs). Perhaps the most significant evidence of Ampatuan power outside of Maguindanao was the victory of Zaldy Ampatuan, Andal Sr.'s second son, for the governorship of the entire ARMM in 2005 and his re-election with 90 percent of the vote in 2008. See: Jimeno, Jaileen F. (2008), "Amid the Fighting, the clan rules in Mindanao", *Philippine Center for Investigative Journalism*, 4 September.

[145] The Ampatuan's exploited the opportunities provided by CAFGU and CVO programmes to arm a militia-type private security force that were equipped with formidable arsenals of assault rifles, rocket launchers, mortars, explosives and hundreds of thousands of rounds of ammunition. The extent of this weapons cache was not known until it was revealed by raids on Ampatuan compounds after the Maguindanao Massacre. See: "Missiles, rockets find stuns military", *Philippine Daily Inquirer*, 10 December 2009.

loyal counterinsurgency force, even though it used the green light obtained for arming civilians more to expand its own power than defend the state."[146]

Due to its brazen and ghastly nature, the Maguindanao Massacre shook the political security landscape of the Philippines to its core. This event demonstrated that during the final months of the Arroyo administration, the political security situation in the southern Philippines remained highly tenuous. The Maguindanao Massacre and the breakdown of the MOA-AD combined to significantly destabilise governance structures in the ARMM and create renewed questions about the future of the Bangsamoro quest for political self-determination. At the root of these political concerns however is the perceived separateness of the Moro and Filipino nations. This societal fracture underwrites military and political conflicts in Mindanao by delineating the conflicts' protagonists. Understanding the nature of the wider security conundrum in Mindanao therefore necessitates exploring contemporary societal security in the Philippines.

### 3.1 Securing Societies in Mindanao: Threats to the Moro Nation

The societal sector is concerned with the security of social groups as opposed to states.[147] Focusing upon the state as the primary security unit of interest is appropriate for the military and political analyses presented in the previous two sections. However, social groups and states represent unique entities that experience differing security concerns and calculations.

[146] International Crisis Group (2009), op. cit., p. 5.

[147] Such groups are often termed 'societies' or 'nations'; both of which create definitional challenges. See for example: Gottlieb, Gidon (2000), "Nations without States", in Mansbach, R.W. and E. Rhodes, eds. (2000), *Global Politics in a Changing World,* Houghton Mifflin Co., Boston, pp. 360-368. It is also important to note conceptual differences between societal security and what is commonly referred to as "social security". Social security is typically both economic and individual in character, referring to government social programmes geared at providing aid to appropriate individuals. Societal security has little conceptual affinity with this term.

The territorial character of a state, border disputes notwithstanding, is straightforward. But, as Buzan and colleagues point out, "[o]nly rarely are state and societal boundaries coterminous."[148] States are typically the physical home to multiple groups that identify themselves along their own criteria. Such social groups are largely self-defined by widespread notions of common identity. This identity is the defining characteristic of a society, or as Buzan and colleagues state, "[s]ociety is *about* identity, the self-conception of communities and of individuals identifying themselves as members of a community."[149] The security of these socially constructed groups, whose delineation is more complex than the lines of sovereign state borders, is the point of interest for societal security.[150]

Societal insecurity occurs when a society perceives an existential threat or threats to its communal character and viability.[151] For the Moro society of Mindanao, contemporary perceived threats proliferate.[152] These threats come both vertically, from a Philippine state intent upon maintaining physical and some measure of governance control over traditional Moro territories, and horizontally, with the cultural dominion of predominantly Christian

[148] Buzan, Wæver and de Wilde (1998), op. cit., p. 119

[149] Ibid. Italics added.

[150] For analysis on the character of groups that qualify as points of interest for societal security see the seminal work on this sector: Wæver, Ole, Barry Buzan, Morten Kelstrup and Peirre Lemaitre (1993), *Identity, Migration and the New Security Order in Europe*, London: Pinter Press. Buzan and colleagues declare that societal security to be concerned with "large, self sustaining identity groups" and assert that what constitutes such groups "empirically varies in both time and place." Buzan, Wæver and de Wilde (1998), op. cit., p. 119.

[151] Buzan, Wæver and de Wilde (1998), op. cit., p. 121. Buzan and colleagues discuss three categories into which common societal security threats fall. These are *migration*, in which communities are "overrun or diluted" by influxes of people from another society; *horizontal competition*, in which neighbouring cultures threaten the cultural dominion of the society in question; and *vertical competition,* in which the people within a society began to lose their societal identity in favour of another identity promoted by an outside force. These dynamics, particularly state-driven migration programmes, are very important for understanding security dynamics in Mindanao.

[152] It is important to note that the Bangsamoro is not a fully homogeneous community but is rather made up of multiple tribes and communities; some of which have quite localised concepts of their respective 'society'. These include the Tausugs of Sulu, Magindanaons of Maguindanao, Maranaos of Marawi, Kaagans of Davao, Kolibugan of Zamboanga, Sama of Tawi-Tawi, Panimusan and Molbog of Palawan, Iranum of Cotabato, Sangils of Sarangani, Yakan of Basilan, Jama Mapun of Cagayan de Tawi-Tawi, and the Bangingi of Tongkil and Zamboanga. This heterogeneity is a trait of many groups classified by CST as a society (one prominent example is the Kurds) The Bangsamoro still represent a society as evidenced by, among other things, the enduring prominence of unified Moro sentiments throughout Mindanao and the representation of Moro positions by the MILF in official negotiations with the GRP.

Filipinos being a powerful force in greater Mindanao. The overriding risk posed to the Bangsamoro by these forces is an erosion of its societal coherence. The existence of societal threats in Mindanao is most readily evidenced by centuries of Moro resistance against outside forces that threatened the cultural integrity and societal autonomy of the Bangsamoro. Resistance, however, is inherently reactive and therefore does not reveal the nature of perceived threats. To analyse the societal security threats that are of greatest interests to the overall security dynamics of Mindanao requires exploring the explicitly declared cultural grievances of Moros and Moro organisations.[153]

Culture is at the centre of Moro claims to a separate societal character from the Filipino nation and, by extension, perceived threats to Moro culture represent threats to the Bangsamoro's societal security. The Bangsamoro has consistently opposed amalgamation into Philippine society. As is explored in the following chapter, the Moros of Mindanao fought virulently against colonisation campaigns by successive Spanish and American forces. The Bangsamoro then resisted inclusion into the Philippine state during the independence process and, as a result, significant swaths of the Moro population continue to view the government in Manila as the latest in a sequence of imperial powers. Abraham Sakili, professor of Islamic Art at the University of the Philippines (UP), claims that cultural differences, as opposed to factors in other sectors, represent the core element of the "Moro problem". Sakili states:

> The Muslims in the Philippins constitute a bangsa (nation) culturally distinct from and historically older than the Filipino nationality...This distinct nationality has been *forcibly incorporated* and is in the process of being *assimilated* into the national body system...To them [the GRP] it is just a matter of

[153] Non-Moro indigenous groups in Mindanao, the largest of which are the Lumads (although the Lumads and other indigenous persons, or IPs, are not homogeneous), also face threats to their societal security, and the Lumad leadership follows the military and diplomatic conflicts between the GRP and MILF closely. Exploring the security threats faced by the Lumads and other IPs is beyond the scope of this thesis. See: Gaspar, Karl M. (2000), *The Lumad's Struggle in the Face of Globalization*, Davao City: Alternative Forum for Research in Mindanao.

> integrating the Muslims...but with poverty and lack of political empowerment, they (the Muslims) have become vulnerable to the forces of assimilation. That's the nature of cultural encounter.[154]

Sakili goes on to state that the Moro's strong historical and social "consciousness" has shielded their community from assimilation, despite a lack of economic resources or political representation within the Philippine state.[155] The perceived threats elucidated by Sakili represent fundamental grievances for Moro groups and individuals, many of which are well armed and capable of combating the Philippine state. The most prominent among these groups in the contemporary setting is, naturally, the MILF.

Public statements by the MILF reveal strong positions regarding the historical unity and uniqueness of the Bangsamoro and the need for its preservation and continuation; by force if necessary. In a statement released less than two years before his death in 2003, former MILF Chairman Salamat Hashim wrote that the Bangsamoro were facing a "genocidal war" aimed at an "all-out destruction" of the community's social formation.[156] Hashim claimed that the Bangsamoro represent "a nation entirely different from the Filipino nation" which was "independent long before the emergence of the Philippines."[157] He went further to argue that rising anti-Moro sentiments among Filipinos, what Salamat called the "strong resentment and detestation of the Bangsamoro people," were an offshoot of the unjust annexation of Moro lands by the Philippine state.[158] Most clearly, Chairman Salamat declared that "[a]ny attempt to *assimilate* the Bangsamoro into the mainstream of Philippine society will surely fail" as it is "[i]mpossible to unite *two nations* who have been fighting each other for more

[154] Quoted in: Remollino, Alexander M. (2008), "Songs of Resistance, Tales of Pride in Moroland", in Tuazon, eds. (2008), op. cit., p. 174. Italics added.
[155] Ibid.
[156] Hashim, Salamat, (2001), "Foreword by Chairman Salamat Hashim", in Hashim, Salamat, ed. (2001), op. cit., p. i.
[157] Ibid. The history of national divisions between Moros and Filipinos is explored in the following chapter.
[158] Ibid., p. iii-iv.

than four hundred years."[159] As a result, Salamat contends that the Bangsamoro have no choice; they must "fight or perish" in the face of hostilities on behalf of the Philippine state.[160] Unsurprisingly, other contemporary MILF leaders echo Salamat's sentiments, harkening back to the history of Moro civilisation to point out its uniqueness from the Filipino nation.[161]

In addition to nationalist appeals to the history and unique cultural character of the Bangsamoro, the MILF also explicitly appeals to the tenets of Islam in its attempts to galvanise the societal coherence of the community and defend its revolutionary cause.[162] The MILF frames the conflict between the Moro and Filipino nations along religious lines, which serves to further stratify the cultural divisions between the two social groups. Again the rhetoric of former Chairman Salamat proves telling, as his 2000 address on the state of the Bangsamoro struggle consistently employs the language and verse of Islam to defend the revolutionary activities of the MILF.[163] Salamat claims that the MILF has united elements of the Moro community by focusing on spiritual training and building schools, mosques and religious community centres. The MILF further strengthens its religious character by espousing "adherence to the belief of the religious pioneers of Islam, the belief of the Prophet (peace be upon him), and his companions"; calling for "[j]ihad in the way of Allah to make the word of Allah supreme and his religion triumphant"; liberating Moro lands to establish an "Islamic state where the Shari'ah [Islamic law] shall be fully implemented"; and constructing

[159] Ibid., p. iv. Italics added.
[160] Ibid.
[161] For example, Nu'ain Bin Abdulhaqq, Chairman of the MILF's Agency for Youth Affairs (AYA), tells of a proud Bangsamoro nation steeped in a "rich and colourful history of nationhood, international diplomacy, world trade, and glorious warfare against invaders and crusaders." See: Abdulhaqq, Nu'Ain Bin (2001), "Introduction: A Prophesized Reformer", in Hashim, Salamat, ed. (2001), op. cit., p. v. The AYA is a primary recruitment organisation for the MILF.
[162] The official MILF platform can be accessed via the organisation's website. Accessed 1 September 2010 via: <http://www.luwaran.com/>
[163] Hashim, Salamat (2001), "State of the Bangsamoro Struggle for Independence Address", in Hashim, Salamat, ed. (2001), op. cit., p. 2.

a Moro society that implements Islamic principles "in all spheres of life: transactions, penal, governance and others relative to it." [164]

The strong historical and ethno-religious claims to nationhood in the Bangsamoro continue to galvanise revolutionary activity in Muslim Mindanao and draw the ire of the GRP.[165] The case for the Bangsamoro representing a unique social group is strong and largely uncontentious. The Bangsamoro claims that their contemporary societal security is under threat is likewise relatively easily supported, given the previously explored military and political fractures between the GRP and influential Moro organisations. The Bangsamoro perception that their society faces serious threats, and that assimilation into Philippine society (arguably the GRP's overarching goal through much of the post-independence period) is unacceptable, are also important factors for establishing the nature societal insecurity for the Muslims of Mindanao.

The societal division between Moro and Filipino groups therefore provide and important dividing line along which the conflict between the GRP and elements of the Moro population is typically, and appropriately, analysed. While societal divisions delineate culturally the make-up of the two conflicting 'nations', these divisions do not account for the importance of development conditions within the southern Philippines. Accounting for these conditions requires exploring the environmental and economic sectors.

[164] Ibid., p. 4.
[165] This chapter gives special credence to the statements of Salamat Hashim because of his unparalleled standing within the MILF during the three years of the 21st century before his death. As the founder of the MILF, Salamat's positions provide the foundation of the contemporary MILF organisation. The core leadership of the MILF has remained true to the principles discussed in this section. The positions of the core MILF leadership can be most readily accessed through the organisation's Central Committee website. Accessed 10 September 2010 via: <http://www.luwaran.com/>

### 4.1 Environmental Threat in Mindanao: Inland and Coastal Resources

Exploring *direct* threats to the security of a given environment requires synthesising the concomitant agendas of scientific and political communities.[166] The scientific agenda is predictably embedded in natural scientific attempts to measure and list environmental challenges that can negatively affect relevant ecological processes.[167] The political agenda, conversely, is interested in the ways in which humankind, largely through governmental and intergovernmental activities, can address environmental challenges.[168] The political agenda is thus predicated upon scientific information in a fundamental way.[169] This relationship is not seamless however. Responses to environmental concerns voiced by elements of the natural scientific community are often highly politicised, with attention and resources allocated to environmental threats as a result of political expedience rather than strictly natural scientific findings.[170] The intersection of these social and scientific points of reference has led to a large variance in the referent objects of interest for environmental security.[171]

Comprehensive security enquiry is concerned with the status of *strategic* environmental resources. Resources gain strategic value through their importance for human activity. The role that a resource plays in fulfilling the human needs for sustenance and economic vitality dictates its strategic value. This is not to suggest, however, that the strategic value of a resource is confined to a directly measurable economic worth or that strategic value always

[166] Buzan, Wæver and de Wilde (1998), op. cit., pp. 71-72.
[167] Ibid., p. 72.
[168] Ibid.
[169] Ibid. Buzan and colleagues find the situation, which has political agendas predicated upon natural scientific findings, "exceptional" when compared to other sectors.
[170] Responses to environmental challenges have enjoyed relatively little success in meeting the CST securitisation requirement of "extraordinary measures".
[171] See: Graeger (1996), op. cit.; and Elliott (1998), op. cit.

lends itself to commoditisation. Conversely, natural systems, such as watersheds and root systems are difficult to quantify in economic terms but play foundational roles for human activities. If these resources become degraded, such as deforestation removing root systems that were previously preventing soil erosion and water siltation, the ensuing negative impacts can make their strategic value quickly apparent. Understanding the ways in which environmental dynamics affect human activity therefore requires exploring environmental processes themselves. As such, the contemporary conditions and future viability of strategic environmental resources in Mindanao create the parameters of the sector, with threats to such resources representing threats to environmental security. Underlying this categorisation of environmental security threats is the fear that such threats could lead to a reduction in "achieved levels of civilisation."[172] Such fears implicitly place the environment as an essential underlying component of human progress or, as Buzan's foundational work asserts, "the essential support system on which all other human enterprises depend."[173]

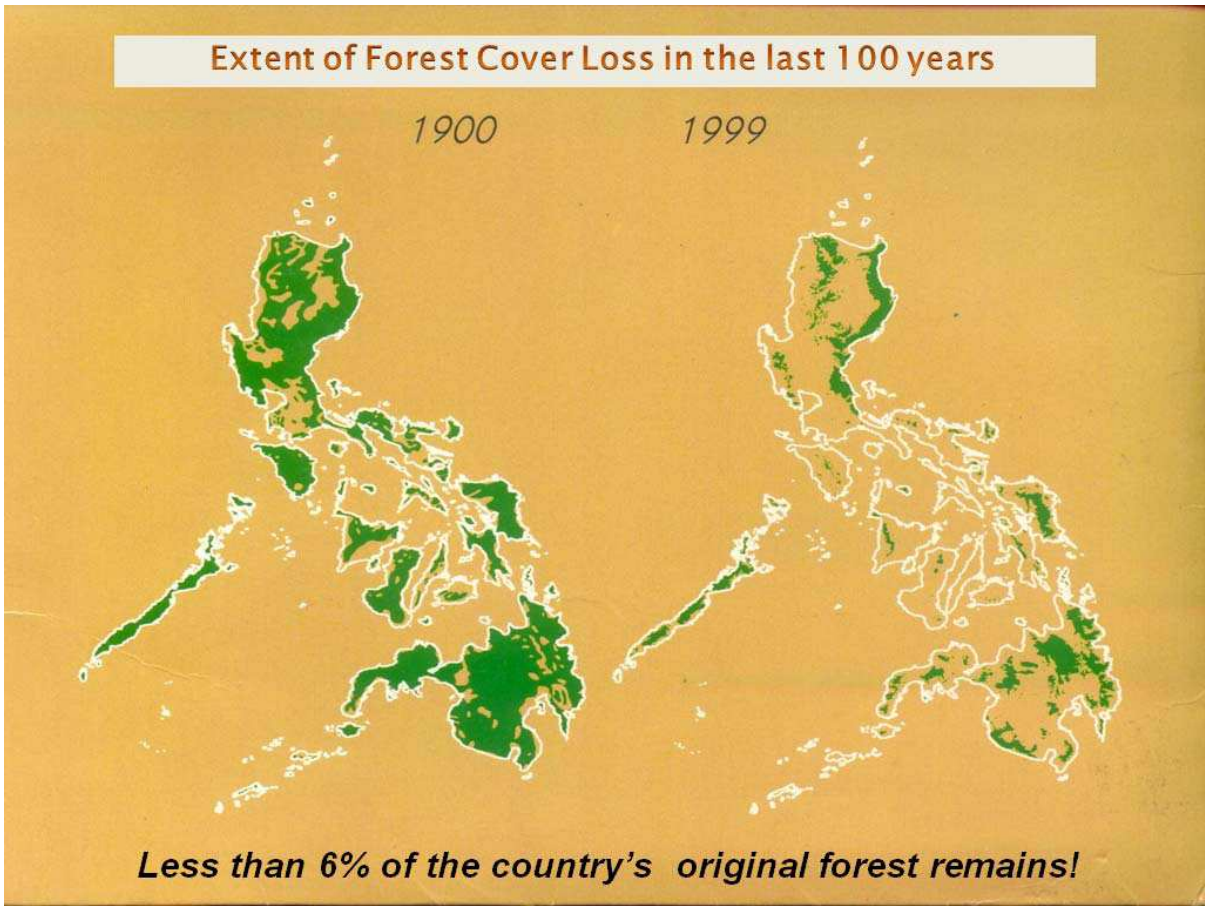
The contemporary environmental situation in Mindanao is bleak. Strategic environmental resources face acute threats as a result of longstanding mismanagement and human-induced degradation. The contemporary state of strategic resources in Mindanao is not the result of a naturally poor resource base. Mindanao possesses a strong natural endowment, leading to its distinction as the "rice bowl" of the archipelago and a "frontier" for individuals, companies and corporations to exploit as resource scarcity became more prevalent in the central and northern provinces of the Visayas and Luzon. The processes which have strained strategic environmental resources in Mindanao are therefore not new. Rather, these processes represent centuries-old resource exploitation dynamics that are explored in the following

[172] Buzan, Wæver and de Wilde (1998), op. cit., pp. 75-76. Italicised in the original. Buzan and colleagues point out that, in this sense, environmental concerns have replaced the Cold War fears of nuclear holocaust; as both are based upon the potential of a dynamic to undue or undermine human progress.
[173] Buzan (1994), op. cit., pp. 19-20.

chapter. Contemporarily, however, the most pressing environmental security risks in Mindanao concern the degradation of inland resources; namely forests, soils and freshwater, and threats to coastal resources such as fisheries, reefs and mangroves. In addition to these resource-specific threats, the Philippines, and Mindanao in particular, are acutely vulnerable to particular effects of a changing climate. Taken together, these environmental dynamics threaten economic and social underpinnings of life in Mindanao.

Contemporary land degradation in Mindanao is largely the result of longstanding land conversion practices. Such land conversions have led to pronounced changes to the ecological character of the region, some of which are irreversible within any foreseeable timeframe. The depletion of forest resources, which can be most appropriately appreciated through aerial imagery, provides the most visual representation of environmental change in Mindanao. Map 4.3 shows the change in forest resources in the Philippines during the 20th Century.

**Map 4.3: Forest Cover Losses during the 20th Century**




Source: Palocol, Joyce O. (2008), "Climate Change and Conflict: Peace-Building and Development Strategies", paper presented at the Asian Institute of Management 29 April. Reprinted with permission from the author.[174]

Map 4.3 shows the dire deforestation situation in Mindanao, which is most acute in the central and western regions that possess significant or majority Moro populations.

The strategic importance of forest resources can scarcely be overstated. Nearly a quarter of the Philippine population, much of it in Mindanao, relies on forest resources for its

[174] For similar findings see: World Bank (2004), *Philippines Environment Monitor 2004: Assessing Progress*, Manila: The World Bank Group, p. 7. The World Bank states: "Forest cover had declined from an estimated 21 million hectares or 70 percent of the country's total land area in 1900, to only 5.4 million hectares or 18.3 percent by 1988."

livelihood.[175] Despite such heavy reliance, the Philippines' per capita forest cover is the lowest in Asia and it is one of eleven states with the lowest per capita forest countries among tropical countries.[176] Ecologically, forests house the main watersheds of the entire country, making forests a linchpin for irrigation, energy generation and industrial household freshwater needs.[177] The degradation of forests directly correlates to hydrological deterioration which can in turn threaten both productivity and household access to freshwater.[178] As a result of deforestation, the majority of the watersheds in Mindanao are considered degraded.[179] Forests also play an essential role in preventing soil erosion, particularly in upland areas such those that cover much of Mindanao. When left unchecked, soil erosion can further degrade freshwater supplies and leave behind land with little agricultural or otherwise strategic value. While contemporary government initiatives have had some success in reversing deforestation trends, much of the remaining forest land in Mindanao and throughout the archipelago remains under threat.[180]

Land degradation is a ramification of deforestation and resource exploitation in the Philippines that also significantly threatens environmental security in Mindanao. A 2004

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[175] Ibid.

[176] Ibid. See also: Guiang, E.S. (2001), "Efficacy of Removing Natural Forest from Timber Production as a Strategy for Conserving Forests in the Philippines", in Durst, P., T. Waggener, T. Enters and T. Cheng, eds. (2001), *Forests Out of Bounds: Impacts and Effectiveness of Logging Ban in Natural Forests in Asia-Pacific*, Bangkok: FAO.

[177] Forest Management Bureau (1997), *Country Report: The Philippines,* Manila: Department of Environment and Natural Resources, p. 5.

[178] Ibid. The Forest Management Bureau estimated towards the beginning of the contemporary period that soil erosion and hydrological deterioration of watersheds set cost the country approximately P6.7 billion per year in terms of losses in productivity and utility of infrastructures and off-site costs.

[179] World Bank (2004), op. cit.

[180] World Bank (2004), op. cit. The years of the Marcos (1962-1986) administration mark the most profound era of deforestation in the Philippines. Administrations since Marcos have attempted, with varying degrees of success, to reverse deforestation trends but in many important ways the damage has already been done. For example Peter Dauvergne wrote in 1998 that "There is little commercial timber left...many reforms have come too late, many have failed...[a]nd in pockets of the country that still contain valuable commercial forests, local loggers, sometimes in conjunction with political and military allies, continue to degrade forest, and, as in the past, leave behind widespread environmental problems." According to Dauvergne, lower logging and deforestation rates during the 1990s were in many ways the result of there being "fewer forests to deforest". See: Dauvergne, Peter (1998), "Environmental Insecurity, Forest Management, and State Responses in Southeast Asia", Canberra: National Library of Australia, pp. 3-6.

World Bank Report on the state of the environment in the Philippines discusses the dire land degradation situation throughout the archipelago, stating:

> Of the total land area [of the Philippines], 76 percent faces some extent of degradation. Forty five percent of the total arable land, and 66 percent of non-agricultural land, have been moderately to severely eroded, triggering the movement of subsistence farmers to marginal lands to meet their daily food requirement. Approximately 5.2 million hectares are seriously eroded, resulting in 30-50 percent reduction in soil productivity and water retention capacity. This situation predisposes degraded lands to drought and other water availability problems.[181]

Land degradation challenges are particularly acute in Mindanao, where the FAO classifies a majority of the territory as being "severely" degraded.[182]

As the World Bank assessment suggests, land degradation creates multifarious challenges for communities in degraded areas; not least of all are threats to freshwater quality and availability. A prominent example of the capacity for land degradation to affect freshwater resources in Mindanao is exemplified by the degraded state of the Liguasan Marsh. The Liguasan March is a vast wetland of close to 300,000 hectares that spans the Maguindanao, Cotabato and Sultan Kudarat provinces of the ARMM and Region XII. The marsh provides a depository for water drained from the Cotabato River Basin and helps prevent flooding in low-lying downstream agricultural communities in central Mindanao. This role makes the Liguasan Marsh integral to agricultural viability of much of central and western Mindanao.[183] In addition to its agricultural role, the marsh also provides communities in the adjoining regions with the fish that represent a major source of their food.[184] All told, the Liguasan Marsh is estimated to be vital for the livelihoods of approximately 278,000 people; an important figure given that its contemporary ecological integrity is threatened by human

[181] World Bank (2004), op. cit., p. 7.
[182] The FAO produced a map of land degradation in the Philippines. See: FAO (2005b), "Philippines – Severity of Human Induced Soil Degradation", National Soil Degradation Maps. Accessed 1 October 2010 via: <http://www.fao.org/landandwater/agll/glasod/glasodmaps.jsp?country=PHL&search=Display+map+!>
[183] Corazon, Ma., G. De La Paz and Lisa Colson (2008), "Population, Health, and Environmental Issues in the Philippines: A Profile of the Autonomous Region in Muslim Mindanao (ARMM)", Washington: Population Reference Bureau.
[184] Global Environmental Facility (2008), "Biodiversity Conservation and Restoration of the Ligawasan Marsh", accessed on 5 March 2010 via: <http://sgp.undp.org/index.cfm>

activities both past and present.[185] Logging, and the attendant siltation of the marsh and obstruction of river flows feeding into it, along with the infilling of marshlands to create land for agriculture, all continue to degrade this important natural system.[186] Most acutely, the alteration of the Liguasan Marsh creates annual dry-season hardships for those dependent upon declining fish and crop harvests. A similar situation of environmental stress exists along the Mindanao's coastlines.

Strategic coastal resources in southern Philippines, most notably reefs, mangroves and fisheries, face significant contemporary risks. As the second largest archipelagic state globally, the Philippines is heavily endowed with, and highly dependent upon, coastal resources. The Philippine coastline of approximately 17,460 kilometres (km) is among the longest in the world, its coral reef area of 27,000 $km^2$ is the fourth largest globally, and its total marine area of approximately 220 million hectares (ha) (26.6 million of which are coastal) compares to a state land area of only 30 million ha.[187] The World Bank classified 85 percent of the Philippine population as 'coastal' in 2005 and predictably much of this population depends upon resources from the sea.[188] The most direct of these dependencies is the role of fish as a food source; which constitutes up to 70 percent of the total animal protein

[185] Corazon, et. al. (2008), op. cit., p. 4.
[186] Ibid., Corazon and colleagues also list as relevant the damages to resources resulting from conflict between the MILF and government forces.
[187] See: Briones, Roehlano M. (2007), "Eating for a Lifetime: Filling the Policy Gaps in Philippine Fisheries", *Asian Journal of Agriculture and Development,* 4(1), p. 25.; and Fernandez Jr., Pepito R.(2009), "The Sea Around the Philippines: Governance and Management for a Complex Ecosystem", *Environment,* May/June.
[188] World Bank (2005), *Philippines Environmental Monitor 2005: Coastal and Marine Resource Management,* Manila: World Bank Country Office Philippines.

intake of Philippine citizens.[189] In addition to meeting food needs, the fishery sector employs almost one million citizens, roughly 68 percent of whom engage in municipal or small-scale fishing.[190] The health and viability of coastal ecosystems such as reefs and mangroves are closely interrelated with the stability of fish populations, and also make multifarious contributions to the Philippine economy.[191]

To varying degrees throughout the archipelago, reefs and mangroves are degraded and fisheries are depleted. Expansions in commercial fishing during the latter half of the 20th Century have contributed to a contemporary scenario in which the demersal marine biomass in major fishing areas has declined by a range of 65 to 95 percent compared to baseline levels between the 1940s to the 1970s, and pelagic species have also endured substantial plunder.[192] In addition to overfishing, habitat destruction also poses a significant threat to contemporary aquatic resources. The World Resource Institute (WRI) rates 85 percent of the reefs in the

[189] Bureau of Fisheries and Aquatic Resources (2002), *Philippine Fisheries Profile 2002,* Manila: Department of Agriculture. Briones comments on fish as a source of food in the Philippines stating: Data from the FAO fishery statistics estimate a per capita fish consumption of 28.8 kilograms per year (kg/yr), much higher than the global per capita consumption of 15.1 kg/yr; figures also show that about 38 percent of animal protein intake is from fish. See: Briones (2007), op. cit., p. 27. However, Dey and colleagues, using primary data, argue that for some countries like the Philippines the FAO data are severely underestimated. Moreover, national averages conceal the importance of fish in the diet of the poor; data show that the lowest quartile's share of fish in animal protein intake is much higher than the top quartile's. Likewise, de Jesũs and colleagues find that a food consumption survey estimates per capita consumption of fish at about 36 kg/yr in 1993, compared to only 24 kg/yr estimated from fisheries statistics data. See: Dey, M., M. Rab, F. Paraguas, S. Piumsumbun, R. Bhatta, M. Alam, and M. Alam (2005) "Fish Consumption and Food Security: A Disaggregated Analysis by Types of Fish and Classes of Consumers in Selected Asian Countries", *Aquaculture Economics and Management*, 9(1-2): 89-111.; and De Jesũs, C., L. Bondoc, and M. Maghirang (1998), "Policy Reserach in the Fisheries Sector: Status, Direction, and Priorities", *Policy Paper Series* 98(06), Los Baños, Philippines: PCMARD.

[190] Fernandez (2009), op. cit.

[191] World Bank (2005), op. cit. The World Bank estimated that reefs contributed US$1.064 billion and mangroves at least US$83 million to the Philippine annually during the mid-2000s.

[192] In simple terms, demersel and pelagic fish refer to bottom and top dwelling species respectively. See: Silvestre, G., L. Garces, I. Stobutzki, M. Ahmed, R. Valmonte-Santos, C. Luna, and W. Zhou (2003), "South and Southeast Asian Coastal Fisheries: Their Status and Directions for Improved Management", in Silvestre, G., et. al., eds. (2003), *Assessment, Management and Future Directions for Coastal Fisheries in Asian Countries*, World Fish Center Conference Proceedings (67).; and Trinidad, A. (2003), "Socioeconomic and Bioeconomic Performance of Philippine Fisheries in the Recent Decades", in Silvestre, et. al., eds. (2003), op. cit.

Philippines to be at high risk, the largest percentage globally.[193] Human activities such as blast and poison fishing, coastal sedimentation and dive tourism all continue to degrade the Philippines' reefs.[194]

The contemporary condition of Philippine mangrove resources is similarly dire. Only 31 percent of the 450,000 ha of mangrove forests measured in the early 20th Century remain standing in the contemporary period, largely as a result of mangrove conversion to fishponds and the exploitation of mangrove forests for fuel wood.[195] Pollution from domestic and industrial wastes, perhaps most notably from mining activities, has further compounded the degradation of coastal resources in several strategically important bays.[196] The combined effect of coastal resource threats leads to what one study declares to be an "alarming deterioration in the country's aquatic resources" and compels another study to rank the Philippines as the "most highly threatened centre of endemism" within fish populations globally.[197]

Threats to vital coastal resources are particularly significant for the country's southern regions. Mindanao accounts for approximately 43 percent of the Philippines marine fish

[193] Bryant, Dirk, Luaretta Burke, John McManus and Mark Spalding (1998), *Reefs at Risk: A Map-Based Indicator of Threats to the World's Coastal Reefs,* Washington: World Resources Institute. Tun and colleagues use a different methodology and rank 40 percent of the Philippine reefs to be in poor condition. See: Tun, K., L. M. Chou, A. Cabanban, V. S. Tuan, T. Yeemin, Suharsono, K. Sour, and D. Lane (2004), "Status of Coral Reefs: Coral Reef Monitoring and Management in Southeast Asia", in Wilkinson, C. ed. (2004), *Status of Coral Reefs of the World: 2004*, Queensland: Australian Institute of Marine Science.
[194] Briones (2007), op. cit.
[195] White, A., and R. de Leon (2004), "Mangrove Resource Decline in the Philippines: Government and Community Look for New Solutions", in Bureau of Fisheries and Aquatic Resources (2004), *In Turbulent Seas: The Status of Philippine Marine Fisheries*, Cebu City: Department of Agriculture.
[196] McGlone, M., G. Jacinto, I. Velasquez, and D. Padayao (2004), "Status of Water Quality in Philippine Coastal and Marine Waters" in Bureau of Fisheries and Aquatic Resources (2004), op. cit.
[197] See: Briones (2007), op. cit.; and Carpenter, Kent E. and Victor G. Springer (2005), "The Center of the center of marine shore biodiversity: the Philippine Islands", *Environmental Biology of Fishes*, 72: 467-480.

production.[198] Over ten million people live in the ARMM, and Western, Southern and Central Mindanao in the vicinity of the Davao and Moro Gulfs, the Sarangani Bay, and the Sulawesi Sea and evidence reveals that a substantial portion of this population is directly dependent upon the coastal resources of these four maritime environments.[199] Threats to the fish species in the southern seas abound in the contemporary period, with modern fishing practices leading to the overexploitation of juvenile fish throughout the region.[200] Such overexploitation has led to declining catches in municipal waters close to the Mindanao coasts and an attendant threat to the livelihoods of small-scale and subsistence fisherfolk throughout the region.[201] Declining catches have then been shown to lead to a cycle of further overexploitation of juvenile fish species.[202] Threats to Mindanao's coral reefs exacerbate the stresses upon the region's fisheries. The ARMM alone, an area which suffers from "high environmental stress", is home to roughly 25 percent of the Philippines' remaining coral reef structures, and the declining status of these reefs compounds the region's vulnerability to further coastal resource insecurity.[203]

Threats to strategic resources in the Philippines, and in Mindanao more specifically, are largely the legacy of decades of unsustainable development practices.[204] Importantly, the Philippine government has taken many significant strides to reverse some these trends during

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[198] Bureau of Fisheries and Aquatic Resources (2007), *Philippine Fisheries Profile, 2007,* Manila: Department of Agriculture.

[199] Bureau of Fisheries and Aquatic Resources (2006), *Fisheries Statistics of the Philippines,* Manila: Department of Agriculture.; and Alcala, A. C., J. A. Ingles and A. A. Bucol (2008), "Review of the Biodiversity of Southern Philippine Seas", *Philippine Scientist* 45: 1-61.

[200] Alcala discusses such overexploitation for skipjack and yellowfin tuna, while Armada delineates eight non-tuna fish populations at risk in the Davao Gulf due to overexploitation of juvenile populations. See: Alcala, et. al. (2008), op. cit.; and Armada, N. B. (2004), "Fish resource assessment and management recommendations for Davao Gulf", in Bureau of Fisheries and Aquatic Resources (2004), op. cit.

[201] Chaves, Carmeli Marie (2009), "Those that Urbanization Left Behind: A Case Study of Spatial Disparities and Rising Dependence in Coastal Areas in Mindanao, the Philippines", *Journal of Social Issues in Southeast Asia*, 24(2), pp. 251-268.; Trinidad, A., A. White, M. Gleason and L. Pura (2002), "Philippine Fisheries in Crisis: A Prescription for Recovery", *Overseas*, 5(10), pp. 1-11.

[202] Chaves, et. al. (2009), op. cit.

[203] Corazon et. al. (2008), op. cit.

[204] These practices are explores in section 3.2 of chapter 5.

the contemporary period but, as this section has shown, the consequences of previous activities have created profound modern environmental security challenges for country. One dangerous environmental trend, however, is both more contemporary in nature and less the result of previous Philippine policies. This trend, which is the changing global climate, nonetheless has the potential to threaten the environmental security of the entire archipelago, with particularly acute ramifications for the Mindanao regions.

### 4.2 Emerging Threat: Mindanao's Vulnerability to Climate Change

A striking level of uniformity exists in contemporary literature regarding the character of states and communities that face the greatest risk of climate-driven resource insecurity.[205] Two key themes of such observations are: 1) that developing regions often have economic systems in which significant portions of the population rely directly on natural resources for livelihood and sustenance, and 2) that these same developing regions have relatively low capacities for responding and adapting to climate shifts (particularly if they occur abruptly). Elaborating upon susceptibility to resource alterations, the Intergovernmental Panel on Climate Change (IPCC) notes that the most vulnerable industries, settlements and societies are those "whose economies are closely linked with climate-sensitive resources" and explicitly denotes "[p]oor communities that depend on local food and water supplies" as being uniquely exposed.[206]

[205] See for instance: Campbell, K. M., J. Gulledge, J. R. McNeill, J. Podesta, P. Ogden, L. Fuerth, R. J. Woolsey, A. T. J. Lennon, J. Smith, R. Weitz & D. Mix (2007), "The Age of Consequences: The Foreign Policy and National Security Implications of Global Climate Change". *Center for New American Security* and *Center for Strategic & International Studies*, November.; Smith, D., & Vivekananda, J. (2007), "A Climate of Conflict: The links between climate change, peace and war". *International Alert,* November.; and Barnett, J. "Security and Climate Change". Tyndall Centre for Climate Change Research, Working Paper 7, 2001. Accessed 10 September via: < http://www.tyndall.ac.uk/publications/working_papers/working_papers.html>.
[206] Parry, et. al. (2007), op. cit., p. 12.

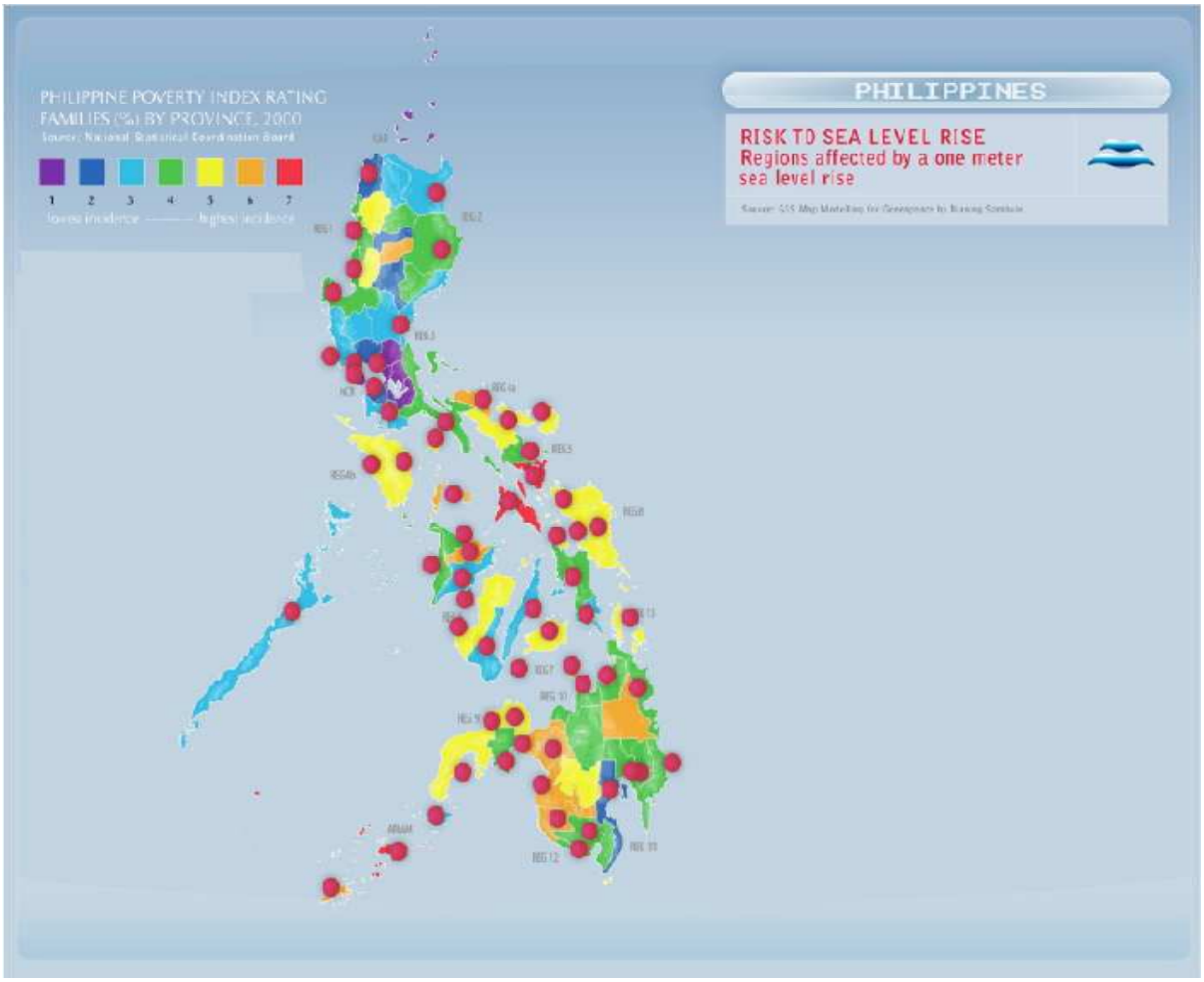
The predominantly Moro provinces of Mindanao exhibit important characteristics of an area at risk of climate-driven threats to strategic environmental resources. The dependence upon coastal resources explored in the previous section provides one example of the region's climate vulnerability. Escalating global temperatures are predicted to be accompanied by increases in extreme ocean weather events, coastal erosion, rising sea surface temperatures and an accelerated rise in global sea levels.[207] Increasing ocean temperatures can lead to increased coral bleaching and mortality, more frequent flooding in low-lying areas, and greater coastal wetland and mangrove degradation; all of which would pose particularly acute challenges for Mindanao.[208] Higher ocean temperatures also affect fish breeding patterns, aquatic plant cycles and may cause an increase in the frequency and power of coastal storms.[209] Rises in sea levels accompanying increased global temperatures are also particularly dangerous for Mindanao, as these rises can render low-lying coastal areas uninhabitable through inundation, saltwater intrusion into freshwater systems and untenable flood risks. Map 4.4 shows areas of vulnerability to sea-level rise in the Philippines:

[207] IPCC (2007), op. cit.

[208] Ibid., p. 50. The AR4 provides strong evidence that increasing global temperatures are leading to rising sea levels and ocean temperatures and warns that Southeast Asia is at particular risk to coastal flooding. See also: Parry, M. L., et. al. (2007), p. 12.

[209] Villarin, J. R. T., Loyzaga, A. Y. & La Viña, A. G. M (2008), *In the Eye of the Perfect Storm: What the Philippines Should Do About Climate Change*, Manila Observatory Working Paper, SJC Professorial Lecture, pp. 17-18. The Manila Observatory, in perhaps the most extensive study on climate change and the Philippines, theorises that increased Sea Surface Temperatures (SSTs) could lead to such changes in tropical storm frequency and magnitude, as well as changes in storm tracks and seasons. The report acknowledges, however, that current trends on this subject are inconclusive.

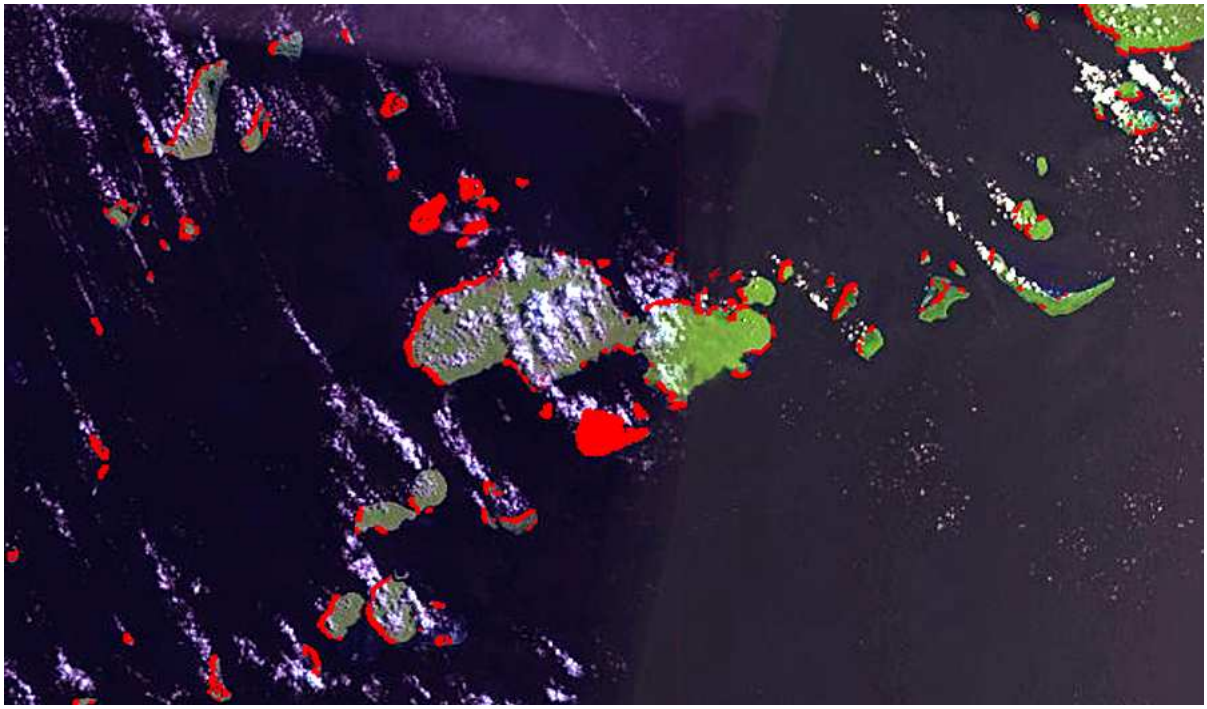
**Map 4.4: Areas of vulnerability to sea-level rise in the Philippines**




Source: Greenpeace (2007), *The Philippines: A Climate Hotspot, Climate Change Impacts and the Philippines*, Quezon City: Greenpeace Southeast Asia, Climate and Energy Campaign, p. 12.

The red dots on Map 4.4 indicate areas acutely threatened by an encroaching sea. As the map shows, the provinces of Western Mindanao and the ARMM have some of the highest risk indicators in the entire country. The Sulu island chain, which is situated in the southwest corner of the ARMM, is the most threatened area in all of the Philippines. Map 4.5 displays the areas of Sulu that are already under threat, which are shaded with red:

**Map 4.5: Sulu's vulnerability to sea-level rise**



Source: Greenpeace (2007), op. cit., p. 14.

In addition to strictly coastal concerns, the Mindanao regions face risks to freshwater availability and agriculture deriving from changing precipitation patterns. Increased precipitation, particularly in large-scale weather events, facilitates erosion and runoff. The IPCC predicts an increase in runoff of between 10 and 40 percent for wet tropical regions at mid-latitudes such as the Philippines, and predicts that the negative effects of such precipitation increases will outweigh the positive.[210] The Manila Observatory, which is a leading research institute for studying climate change in the Philippines, forecasts "dry days that are drier and wet days that are wetter" and asserts that climatic alterations in the timing and volume of rainfall will adversely affect crop production in many of the country's agricultural zones.[211] Natural weather fluctuations, such as the El Nino phenomenon, already

[210] IPCC (2007), op. cit., p. 49.
[211] Villarin, et. al. (2008), op. cit., p. 17.

contribute to droughts during the dry season and floods during the wet, and these effects are likely to become more acute in a changing climate.

The physical manifestations of atmospheric change that are threatening the Philippines can act in conjunction to create multiple stresses that are greater than the sum of their parts.[212] For example, precipitation changes coinciding with sea-level rise and greater storm intensity could result in hydrological changes that prove catastrophic for coastal ecosystems and the strategic resources present within them. The contemporary state of land and coastal degradation in Mindanao further increases the potential for climate change to exacerbate already present environmental security challenges, as these degraded conditions reduce the ecological resiliency of vital natural systems. Whether by affecting water quality or availability, degrading agricultural lands through drought, flooding or erosion, or rendering of entire lands unviable by an encroaching sea, atmospheric changes create risks for Mindanao. Climate change therefore presents a potentially wide-ranging environmental threat multiplier in the southern Philippines.

The environmental security threats facing populations in Mindanao are amplified by the economic character of the region. The primary social drivers of vulnerability to environmental insecurity are consistent with the trends outlined in the climate change literature: at-risk communities are heavily and directly reliant upon natural resources and possess low development levels that make it difficult to adapt to changes in resource conditions.[213] Exploring economic conditions in Mindanao, which represent security threats

[212] Parry, et. al. (2007), op. cit., p. 75.
[213] IPCC (2007), op. cit., p. 21. The IPCC defines "the ability of a system to adjust to climate change (including climate variability and extremes) to moderate potential damages, to take advantage of opportunities, or to cope with consequences" as the system's "adaptive capacity."

in and of themselves, is therefore important for understanding the final facet of insecurity in the region.

### 5.1 Economic Insecurity: Underdevelopment in Mindanao

Few economic challenges on local, national or international scales qualify as security threats. A majority of economic issues in relatively free market systems, contrarily to being a concern for security, are predicated upon *insecurity*.[214] The relatively free global market system, together with primary actors such as states, multinational corporations (MNCs), and international institutions, insists that economic dynamics are fluid and capable of fluctuation. With fluctuation comes success for some and demise or failure for others. As Buzan and colleagues state, "losers are part of the game" in the globalised economic system.[215] Therefore, the application of existential threat criteria to the economic sector is problematic, because a wide-ranging employment would render the basic machinations of both domestic and international markets as threats to economic security. As such an approach is analytically counterproductive, threats to referent objects such as private business interests and MNCs have little place in a comprehensive security framework.

States are foundationally different from private economic entities in that they have a greater permanence.[216] States, unlike privatised economic actors, do not frequently fail and their failure is not an endemic and natural part of economic processes. Therefore states are a

[214] See: Buzan (1994), op. cit., chapter 6.; Cable, Vincent (1995), "What is International Economic Security?", *International Affairs*, 71(2), pp. 305-324.; and Luciani, Giacomo (1989), "The Economic Content of Security", *Journal of Public Policy*, 8(2), pp. 151-173..

[215] Buzan, Wæver and de Wilde (1998), op. cit., p. 109. This thesis does not engage in the international political economy debate on the dynamics, advisability or fortitude of free market policies. For a brief analysis of such a debate from a comprehensive security perspective see: Buzan, Wæver and de Wilde (1998), op. cit., pp. 95-99. The primacy given to free market realities in this section reflects the role that liberal economics play in the contemporary international system.

[216] Buzan, Wæver and de Wilde (1998), op. cit., p. 104.

legitimate referent object for economic securitisation, but again the criteria of existential threat makes such an analysis difficult. While states can go bankrupt and have their sovereignty (political security) compromised through international interventions by other governments, the World Bank or the International Monetary Fund (IMF), it is not likely that this bankruptcy will lead to the disillusionment of the state. Buzan and colleagues contend therefore that economic security threats to state are relatively few and those that do exist relate to the risk of outside forces depriving the state access to necessary external resources.[217] However, 'normal' (and thus insecure) economic processes do have the capacity to threaten security calculations in other sectors, and have a pronounced ability to affect the security of individuals. In Mindanao, and particularly in the ARMM, it is the average individual that faces the nearly constant threats to his or her economic security.

The referent object of the individual is fundamentally different from either the state or private economic actors because individuals in poor areas such as the ARMM face existential economic security threats. For human beings, economic insecurity is altogether tangible and has ramifications that are not accepted as natural facets of economic systems. As Buzan and colleagues state, individuals are profoundly different from states and private interests when it comes to economic security because:

> [f]or individuals, economic security can be understood most clearly in terms of basic human needs. Individuals live or die (or, in the case of malnutrition in children, have their development as human beings compromised) according to the provision of the basic necessities for sustaining human life: adequate food, water, clothing, shelter, and education.[218]

In the case of Mindanao, the empirical data demonstrate that significant swathes of the region's citizenry face such existential economic security threats. While much of the Philippine archipelago faces daunting economic challenges, the regions of Mindanao and

[217] Ibid., p. 105.
[218] Ibid., pp. 104-105.

particularly the ARMM exhibit development levels that create acute challenges for maintaining the basic necessities for sustaining human life.

The regions of Mindanao with significant Moro populations exhibit the lowest development indicators in the entire Philippines.[219] The majority Moro provinces have some of the lowest per capita income levels and human development indexes in the country and are also failing to show improvements which have been realised in other parts of the archipelago. Table 4.1 shows the bottom ten provinces in contemporary real per capita income according to the 2005 United Nations Human Development Report (UNHDR).

**Table 4.1: Lowest real per capita income 2003 (1997 Pesos)**

| Bottom 10 Provinces | Real Per Capita GDP |
|---|---|
| Guimaras | 17,049 |
| Romblon | 16,712 |
| Marindugue | 15,938 |
| Sarangani | 15,014 |
| Masbate | 14,454 |
| Zamboanga del Norte | 14,218 |
| Maguindanao | 14,198 |
| Basilan | 13,265 |
| Tawi-Tawi | 10,780 |
| Sulu | 8,430 |

Source: UNDP (2005), op. cit.

As Table 4.1 shows, the bottom five provinces in real per capita GDP are all located in the ARMM or on the neighbouring Zamboanga Peninsula (see Map 4.2). Unsurprisingly, these provinces also fare poorly throughout other development metrics. The human development index aggregates factors regarding life expectancy, education and literacy and purchasing power per capita to measure and compare the quality of life of citizens in different locations. Applied to the Philippines, ARMM provinces of Basilan, Tawi-Tawi, Maguindanao and Sulu have the lowest human development ratings and the neighbouring provinces of Zamboanga

[219] The UNDP's 2005 Report on the human development in the Philippines provides a wealth of data in support of this statement. See: UNDP (2005), op. cit.

del Norte and Lanao del Sur are also in the bottom ten.[220] Table 4.2 shows that such low development levels in the ARMM correspond to the region's life expectancies, which are the lowest in the Philippines.

**Table 4.2: Life expectancy in years, 2003**

| Bottom 10 Provinces | Years |
|---|---|
| Antique | 62.6 |
| Kalinga | 62.5 |
| Apayao | 62.4 |
| Eastern Samar | 61.7 |
| Western Samar | 61.4 |
| Basilan | 60.6 |
| Lanao del Sur | 57.9 |
| Sulu | 52.8 |
| Maguindanao | 52.0 |
| Tawi- Tawi | 51.2 |

Source: UNDP Philippine Human Development Report 2005.

What positive development that does exist in Mindanao is scarcely realised in the Moro-majority regions. Together Northern Mindanao and the Davao Region account for over half of Mindanao's total economic output and generate over 70 percent of Mindanao's total exports.[221] They both have majority Christian Filipino populations. Table 4.3 shows poverty incidences among Mindanao's different regions in comparison to the national poverty average. It shows ARMM poverty levels that were twice the national level in 2000, and is significantly greater than the neighbouring regions in Mindanao.

[220] Ibid., p. 103. To provide an international reference point, these provinces possess human development indexes similar to Cambodia, Laos and Myanmar in Southeast Asia and the African countries of Sudan, Zimbabwe and Ghana.

[221] Concepcion, S., Digal, L., Guiam, R., de la Rosa, R. & Stankovitch, M. (2003), "Breaking the Links Between Economics and Conflict in Mindanao", London: International Alert: Business and Conflict Programme.

**Table 4.3: Poverty Incidence by Percentage of Families in Mindanao**

| | 1991 | 2000 |
|---|---|---|
| National Average | 39.9 | 33.7 |
| Region IX | 49.7 | 46.6 |
| Region X | 53.0 | 45.7 |
| Region XI | 46.2 | 40.0 |
| Region XII | 57.0 | 51.1 |
| ARMM | 50.7 | 66.0 |

Source: Concepcion, et. al. (2003), op. cit.

Taken together, the development data for largely Moro areas of Mindanao represent a condition of pervasive economic insecurity. The threats to human life that are reflected through these development figures, while significant on their own merits, are compounded by the direct dependence of Moro populations on access to natural resources for survival. Data reveal that majority-Moro provinces are disproportionately dependent on natural resources such as agriculture, fishing and forestry for their modest livelihoods. In the ARMM, agriculture, fishing and forestry accounted for 61 percent of the region's output and employed 71 percent of its workforce in 2005.[222] Fishing employs roughly 17 percent of ARMM's workforce; a figure that is more than triple the national average. Industry, adversely, makes up a paltry 11 percent of ARMM's economic output.[223]

The direct dependence on natural resources for their livelihoods and sustenance increases the vulnerability of Moro populations to economic insecurity. Without the capital needed to acquire the basic necessities of life, many Moros depend on crop yields and fish stocks as sources of daily sustenance; and these sources are subject to fluctuations beyond their control. The poverty levels and natural resource dependencies in Mindanao, and the ARMM more specifically, combine to place populations on the precipice of calamity. In sum, the

[222] UNDP (2005), op. cit.
[223] Ibid.

contemporary state of economic insecurity in the poorest, largely Moro, regions of Mindanao represent existential dangers to lives and welfare of significant portions of the Moro population.

**Conclusion**

The military, political, societal, environmental and economic dynamics explored in this chapter present a disaggregated analysis of the security challenges relating to the phenomenon of interest for this thesis. This phenomenon, which is the prevalent state of insecurity in Mindanao, is far more complex than the sum of its sectorally divided constituent parts. The following chapter shifts the focus of this thesis to understanding the historical roots of the contemporary conditions of insecurity outlined here. Retroductively moving from the contemporary to the historical is necessary to begin reconstituting the overall picture of insecurity in Mindanao and vital for drawing conclusions about the conditions that contribute to it. As Buzan and colleagues state, disaggregating security is:

> ...helpful in distilling distinctive patterns of vulnerabilities and threats, differences regarding referent objects and actors, and different relationships to territorialising and deterritorialising trends...cross-linkages [among sectors] however, stand as massive warnings against treating the sectors as closed systems."[224]

The forthcoming analyses heed these warnings, and ultimately reassemble the five sectors of CST for a more holistic accounting of insecurity in the southern Philippines.

[224] Buzan, Wæver and de Wilde (1998), op. cit., p. 167.

# Chapter 5

***Deep Roots: The Historical Underpinnings of Insecurity in Mindanao***

**Structure and Objectives**

This chapter explores the historical foundations of insecurity in the southern Philippines. The previous chapter delineated the character of contemporary security threats in Mindanao throughout the five sectors of CST. This chapter investigates the processes leading to these insecurities, placing special emphasis on the role of the environment.

The chapter proceeds in five sections. Section 1 extrapolates societal divisions underpinning conflict in Mindanao, section 2 addresses political dynamics among adversarial actors vying for control over the region, sections 3 and 4 explore the environmental and economic impetuses driving desire for political control and section 5 shows that the conditions in Mindanao have repeatedly culminated with violent confrontations. The timeframe for this chapter is expansive, and reflects the importance that historical factors have played in creating contemporary conditions. Each section proceeds chronologically and covers three primary stages: 1) the Spanish colonial era (1565-1898), 2) the US colonial administration (1898-1946) and 3) the post-independence period. This framework helps reveal the historical dynamics that have led to contemporary insecurity in Mindanao throughout the five sectors of CST.

## 1.1 Societal Insecurity in Mindanao: Conquest, Colonisation and Religion

### A. Spanish Crusaders

Centuries before Spain colonised much of the modern Philippine state, Muslim sultanates were already shaping the political and social order of Mindanao.[1] These sultanates sprang from well-established relationships among island tribes of Mindanao and already Islamised Southeast Asian territories to the south and west.[2] Such relationships were wide-ranging, and cultural and commercial relations between the growing Muslim empire and the Malay world (including the Philippines) were cemented during the Islamic expansions of the eighth, ninth and tenth centuries.[3] Religious expansions brought with them growing economic ties with newly converted territories on the periphery of the Islamic world and by the end of the 13th Century Arab traders are likely to have established settlements in Mindanao.[4] Unsurprisingly, the proximity of Mindanao to Islamic societies in contemporary Indonesia, Malaysia and Brunei contributed to the religion becoming a powerful spiritual and political force in the region. By the middle of the 15th Century, a Mecca-born Arab trader named Sayyid Abu Bakr had established a powerful Muslim sultanate on the islands of the Sulu archipelago and the process of forming Islamised political and social institutions began in

[1] The movement of Islam into the southern Philippines was a complex historical process that is examined here cursorily for its relevance to enduring societal divisions throughout the archipelago. The early ties between Muslim-dominated Borneo and the islands of the Sulu archipelago in western Mindanao were, according to the written genealogical accounts of Sulu and Maguindanao sultanates, solidified by the marriage of the Sumatran Prince Rajah Baguinda to the daughter of a local tribal chief (or 'datu'). These ties were consolidated when the daughter of Baguinda was married to Sayyid Abu Bakr, another Muslim leader from the Arab world. The extension of influence from western archipelagic Islamic communities led to Islam being accepted on the main island of Mindanao. See: Cortes, Rosario Mendoza, Celestina Puyal Boncan and Ricardo Trota Jose (2000), *The Filipino Saga: History as Social Change*, Quezon City: New Day Publishers, Chapters 1-3.

[2] The territories referred to here are parts of modern-day Indonesia, Malaysia and Brunei.

[3] Che Man, W. K. (1990), *Muslim Separatism: The Moros of Southern Philippines and the Malays of Southern Thailand*, New York: Oxford University Press.

[4] Majul, Cesar Adib (1973), *Muslims in the Philippines*, Quezon City: University of the Philippines Press, pp. 63-64.

earnest.[5] As the Sulu Sultanate extended to convert peoples in Basilan, Palawan southern Zamboanga and Borneo, a second Muslim sultanate began to take hold in on the main island of Mindanao.[6] The Maguindanao Sultanate began around the mouth of the Pulangi River in modern Maguindanao and, like its counterpart in Sulu, was influenced by Arab leadership.[7] From the Pulangi, Islam would spread further inland, converting significant territories throughout western and central Mindanao.

Throughout the following centuries, the Sulu and Maguindanao Sultanates became integral parts of the expanding Muslim community (Ummah) in Southeast Asia and helped foster societal cohesion in Mindanao. Ties to neighbouring Islamic societies became stronger and communities in the southern Philippines became increasingly indoctrinated by Islamic customs and social codes. As a result, the communities of Mindanao looked increasingly towards the neighbouring Islamic territories in contemporary Malaysia and Indonesia to build relationships based upon commerce, ideological affinity, family relations and power sharing accords. Given these connections, the political, economic, social and religious orbit of communities in the southern Philippines existed to the south and the west rather than to the north; where the spread of Islam was far less pronounced.[8] More locally, the sultanates of Mindanao cultivated a broadening sense of communal identity that, while not eliminating tribal divisions, led to greater social and political organisation among increasing numbers of people. During the years before colonisation, the galvanising effect of Islam in the southern Philippines had no clear parallel elsewhere in the archipelago, where social organisation and

[5] Saleeby, Najeeb M. (1913), *The Moro Problem*, Manila: Bureau of Printing.
[6] May, Ron J. (1981), "The Philippines" in Ayoob, Mohammed, ed. (1981), *The Politics of Islamic Reassertion*, London: Croom Helm.
[7] The man credited with founding the Maguindanao Sultanate was a Muslim preacher of mixed Arab-Malay heritage named Sharif Mohammed Kabungsuwan. See: Che Man (1990), op. cit.
[8] For a substantive account of the arrival of Islam in Southeast Asia and the Philippines more specifically see: Hall, D. G. E. (1981), *A History of South-East Asia*, 4th Edition, London: Macmillan. For a more concise account see: Reid, Anthony (1993), *Southeast Asia in the Early Modern Era: Trade, Power, and Belief*, Ithaca, NY: Cornell University Press, chapters 1 and 6.

cultural connections remained largely decentralised.[9] It was into this organisational void in the central and northern Philippines that the Spanish colonisers stepped; forever altering the religious character of the archipelago.

Ferdinand Magellan made the initial European contact with the modern Philippine state during the early 16th Century, bringing evangelical Christianity along with him.[10] Spain moved quickly to demarcate the newly named Philippine archipelago as a colonial holding and sought, in addition to economic and otherwise strategic objectives, to convert local populations in the Philippines to Christianity. Christian conversions were quite successful among northern and central populations not yet under the banner of Islam. These efforts were bolstered further as Spain was able in relatively short order to dislodge the few Muslim communities that had taken hold outside of Mindanao.[11] In addition to serving what many Spanish occupiers saw as a moral obligation, evangelistic campaigns also proved to be a useful galvanising force for governing native populations throughout Luzon and the Visayas. As with Islam in Mindanao, Christianity created a common bond among peoples that had previously adhered to largely differentiated animist and nature-worshipping beliefs.[12] The Muslim communities of Mindanao, adversely, would resist the societal threats posed by Spain for the duration of its colonial administration.

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[9] See: Doeppers, Daniel F. (1972), "The Development of Philippine Cities Before 1900", *The Journal of Asian Studies*, 31(4), pp. 769-792.

[10] Magellan is recorded to have spotted the Samar mountains on 16 March 1521 and made landfall the following day on the small island now known as Hamonhon near the mouth of the Leyte Gulf. For a direct historical account of Magellan's arrival in the Philippine archipelago, see the journal of Antonio Pigafetta; a sailor who accompanied Magellan on his famous voyage in search of circumnavigation. Pigafetta, Antonio (translated by Paula Spurlin Paige) (1969), *The Voyage of Magellan: The Journal of Antonio Pigafetta*, Upper Saddle River, NJ: Prentice-Hall.

[11] The Muslims of the Philippines had a limited presence in Luzon and the Visayas prior to Spain's arrival and the sultanates in Mindanao, Sulu and Palawan were able to wield some influence in these northern regions. See: Abreu, Lualhati M. (2008), "Colonialism and Resistance: A Historical Perspective", in Tuazon, ed. (2008), op. cit., pp. 8-18.

[12] Hall (1981), op. cit.

Societal coalescence around Islam in Mindanao formed the basis for revolutionary activities against the Spanish colonialists.[13] The coherence of Islamic communities in Mindanao became stronger in the face of the Spanish threat, and religious identity provided the foundation from which the Muslims of Mindanao opposed the Christian colonisers.[14] With the Spanish unwilling to accept an Islamic community along its southern periphery, the a societal clash began in 16th Century that resulted in a series of large and small-scale conflicts that mired the following 300 years of Spain's colonial administration.[15] Societal divisions between Muslims and Christian Filipinos were solidified during the 'Moro Wars' of the Spanish colonial period, leading to levels of enmity between the two groups that continue to feed conflict dynamics.

Similarities in cultural and ethnic heritage that might otherwise have united people throughout the archipelago were overridden by the force of religious affiliations. The religious dividing line created a dichotomy between the Muslims and Christians that, by the end of the Spanish administration, was viewed by both sides as inextricable.[16] Feeding this dichotomy were deliberate Spanish activities demonising Muslims among newly converted Christians to the north, and a growing sense among the southern Muslims that Christianised Filipinos represented a different "race" of people.[17] This societal division was well-established by the time of Spain's expulsion from Philippines, and represents the European's most lasting legacy in Mindanao.

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[13] See: Al-Attas, Muhammad Naquib (1969), *A General Theory of the Islamization of the Malay-Indonesian Archipelago*, Kuala Lumpur: Dewan Bahasa dan Pustaka.

[14] See: Islam, Syed Serajul (1998), "The Islamic Independence Movements in Patani of Thailand and Mindanao of the Philippines", *Asian Survey*, 38(5), pp. 441-456.

[15] The military aspects of these conflicts are explored in section 5. Spanish evangelical aspirations throughout its new territory should be understood within the context of Spain's recent interactions with the Islamic world. The long and violent Iberian crusade against Muslims in Spain had racked the country from the eighth to 15th Centuries; creating overt anti-Islamic sentiments among many Spaniards.

[16] Che Man (1990), op. cit.

[17] See: Bentley, George C. (1982), "Law Disputing, and Ethnicity in Lanao, Philippine", University of Washington: Doctoral Dissertation, p. 62. Bentley writes that Christian Filipinos viewed Moros as a separate race "with all that term's connotations of elementality and primordiality".

**B. America's Colonial Foray**

The United States (US) defeated Spain in a series of military confrontations that led to the latter's capitulation in 1898. The ensuing Treaty of Paris in December 1898 granted the US control over Spanish foreign territories, including the Philippines. The Treaty included Mindanao in its entirety despite visible opposition from the Bangsamoro and Spain's failure to exert functional control over much of the southern reaches of the archipelago. For the Bangsamoro, the end of the Spanish regime represented a welcome change to the political status-quo and reignited ambitions that it be recognised as a separate state. To this end, the Moro tribal leaders redoubled efforts to solidify control throughout their specific spheres of influence. These efforts would quickly be problematised by the changing demographic conditions in Mindanao that accompanied America's arrival in the Philippines.

The US did not overtly frame the 'Moro problem' along religious lines, as had the Spanish, but rather took a secular view of the situation that emphasised the practical need for territorial integrity in its only major colonial holding.[18] Territorial integrity, along with an acceptable military security environment, was necessary for the US to exploit the strategic and economic value of its new acquisition. The US quickly established a working relationship with elite members the Christianised Filipinos society surrounding Manila and worked through these elites to pursue America's economic ambitions in the resource rich areas in Mindanao. As a part of this strategic relationship, the US administration encouraged an ongoing influx of Christianised Filipinos from the north into the Islamic regions of Mindanao. These

[18] In juxtaposition to the Spanish use of Christianity to promote social control in the Philippines, the US administrators favoured education as what has been called its "tool of conquest". US-established schools in Mindanao were attended by the children of Moro leaders, at least some of whom came to see the US as a marked improvement over their former Spanish overlords. Consequently, some Moro leaders would later resist amalgamation into a newly independent Philippine state and lobby for a status as a "permanent territory of the United States." See: Rodil, B. R. (1994), *The Minorisation of the Indigenous Communities of Mindanao and the Sulu Archipelago*, Davao City: Alternate Forum for Research in Mindanao (AFRIM), p. 54.

population movements, which would accelerate after Philippine independence, permanently altered the demographic character of Mindanao and had severe societal effects for the Bangsamoro.

**C. The Philippine State**

The Philippines gained independence shortly after the conclusion of World War II, leading the societal divisions between the Moros and Christian Filipinos again to the forefront. Mindanao's inclusion into the newly formed Philippine state in 1946 led the Bangsamoro to again vocally differentiate itself from the Filipino nation, and Moro leadership began extending its cultural linkages with the Islamic heartlands of the Middle East.[19] These linkages saw Moros receive scholarships to prestigious Middle Eastern institutions, such as Cairo's famous Al Azhar University, where they received religious education and direction concerning the tenets of Islam. Upon completing such studies, Moro students would return home to establish Quranic schools to spread their newly acquired knowledge of Islam in Mindanao.[20] Like the Arab traders that preceded them, these graduates from Middle Eastern universities developed great influence over the religious and social direction of the Bangsamoro. Middle Eastern theological doctrines gained greater salience in Mindanao through these connections and served to further solidify the Islamic foundations of Moro society.[21] While Islam has deep historical roots in the southern Philippines, the solidification of religion as a guiding social precept occurred to a great extent during the decades after Philippine independence. The religious awakening that accompanied contacts between Moro

[19] See: Lingga, Abhoud Syed M. (2008a), "Muslim Minority in the Philippines" in *Pieces for Peace: The MOA and the Mindanao Conflict* (2008), Manila: The Philippine Council for Islam and Democracy, pp. 6-16.
[20] Ibid.
[21] Section 5 reveals that theological connections to the Middle East influenced the leadership of Moro revolutionary movements in the post-independence period and Moro ties to the greater Ummah retain contemporary importance for explaining the military security challenges facing both the Bangsamoro and the Philippine state.

youths and Middle Eastern sponsors led to religious concepts gaining more primacy within the Bangsamoro struggle for self-determination, and has affected the perpetuation of an enduring Muslim-Christian societal divide.

### 1.2 Land of Promise: Migration to the Mindanao Frontier

While the societal dichotomy that emerged during the Spanish occupation stratified Christians and Muslim camps, it was the large-scale movement of Christians into established Muslim territories that created a situation ripe for hostilities. A progression of ruling bodies in Manila have encouraged the southern migration of Christian Filipinos as a method for amalgamating Mindanao into a coherent Philippine territory. Significant migration began under Spanish colonial oversight and gained momentum during subsequent American and Filipino national administrations. The societal ramifications of persistent migration have minorised the Bangsamoro in many of its traditional lands.

The Spanish regime began the minorisation process by encouraging Christianised Filipinos to migrate to areas of Mindanao outside of the Moro strongholds in Maguindanao and Sulu. To help facilitate such movement, Spain's colonial administrators deployed missionaries to central, northern and parts of western Mindanao; adding to growing friction with Islamised segments of the population.[22] Despite these demographic aspirations, the Spanish regime was unable to create conditions favourable to such migrations occurring on a large scale. Spain's failure did not result from a lack of ambition; colonial forces fought the Moros for centuries in attempt to solidify its southern foothold, but rather from its failure to achieve stable control

[22] See: Cortes, et. al. (2000), pp. 62-63.

in Mindanao.[23] Spanish migration policy did set a precedent however, and the movement of Christian Filipinos to Mindanao would increase drastically during the US colonial period.

During the more than four decades of US rule, the American colonial government actively encouraged and facilitated the large-scale migration of land-seeking northern Filipinos to Mindanao. Importantly from a societal perspective, the US-led migration efforts were not undertaken under a Christian banner; but rather reflected secular interests concerning the control of Mindanao's resources and economic potential. To this end, the US colonial administration passed a series of laws during its tenure that acted as a pull factor for Christian Filipinos from Luzon and the Visayas to migrate south to Mindanao. The shifting emphasis from evangelism to economic development did not mitigate the negative societal ramifications for the Bangsamoro. Rather, economic impetuses drove population movements to unprecedented levels and combined with cultural animosities bred during Spanish rule to create a situation rife for friction between Moros and non-Moro migrants.

US colonial policies encouraged migration to Mindanao by making southern lands easily available. To this end, the US quickly passed key transmigration policies known as the Land Registration Act (LRA) #496 in 1902 and the Public Land Act (PLA) #718 in 1903. The LRA and PLA both contributed mightily to the capacity for affluent Filipinos, along with

[23] Spain successfully set up the *encomienda* system throughout Luzon and the Visayas, which gave the colonial power control over land tenure agreements and led to Spanish colonisers becoming wealthy landowners. The Spanish were unable to functionally extend the *encomienda* system to Mindanao however, leaving many of the traditional Moro land-use policies intact. As a result of these failures, the Spanish administrations' most lasting societal legacy is its role in creating a lasting socioreligious dichotomy between Muslims and newly arriving Christians in Mindanao. Rufa Cagoco-Guiam notes the societal divisions that accompanied Spain's ruling period in the Philippines, along with its violent legacy, stating: "Aside from depriving the indigenous populations in the island [Mindanao] of their rights to their homeland, colonisation, especially by the Spaniards, also spawned deep-seated prejudices and animosities among the different ethnolinguistic groups. The twin phenomena of disenfranchisement of a people's homeland and deep-seated prejudices have contributed to Mindanao's bloody history of recurring and sporadic armed conflict." Cagoco-Guiam, Rufa (2005) "Internal Migration and Security Issues and Challenges Confronting Central and Southern Mindanao, Philippines", in Anwar, Dewi Fortuna ed. (2005), *Development, Migration and Security in East Asia: People's Movements and Non-Traditional Security Challenges in a Changing East Asia*, Jakarta: The Habibie Center, p. 167.

joint Filipino-American business interests, to easily acquire land in Mindanao. Both acts enabled land acquisitions that established discriminatory ownership patterns by preferencing the newly arrived Christian migrants. The LRA declared that all lands must be registered using a new land titling system.[24] It commoditised land and empowered the colonial leadership to issue legitimate claimants with tangible proof of title over a given piece of territory.[25] Such land policies ran counter to traditional Moro land ownership based on customary law, or "adat".[26] Few among the Bangsamoro were sufficiently literate in English to understand the "bureaucratic intricacies of land registration or its consequences" and as a result most of the traditional Moro lands went unregistered and became available to Filipino migrants from the north.[27] The subsequent PLA compounded the process set in motion by the LRA by nullifying existing land grants given by sultans or datus without official government authority. Together, these two early statutes provided the legal framework necessary for encouraging land acquisitions in Mindanao and the US colonial administration would expand these frameworks multiple times prior to Philippine independence. Notorious among these expansions were the creation of "agricultural colonies" in 1913 that granted

[24] This registration process relied on the 'Torrens System' of land titling. The Torrens system was modelled upon the land registration law in the US state of Massachusetts; which itself had been patterned after an Australian model named for Sir Richard Torrens.

[25] Cagoco-Guiam, Rufa (1996), "Retrospect and Prospects: Toward a Peaceful Mindanao", *KASAMA* 10(3).

[26] Aquino, Reynaldo M. (2009), "Land Ownership and Migration: Impact on the Muslim Secessionist Conflict in the Southern Philippines", Master's Thesis, Naval Postgraduate School, p. 37. Adat includes pre-Islamic traditions covering family relations, property rights, contracts, crimes and other penalties. The dominant brands of Islam that initially gained footholds in Southeast Asia facilitated a blending of adat with both pre-Islamic and Islamic traditions. See: Hilsdon, Anne Marie (2009), "Invisible Bodies: Gender, Conflict and Peace in Mindanao", *Asian Studies Review*, 33, p. 350.; and Kamlian, Jamail (2005), "Islam, women and gender justice: A discourse on the traditional Islamic practices among the Tausug in Southern Philippines", *Muslim World Journal of Human Rights* 2(1), Article 4, pp. 1–33.

[27] Some members of the Bangsamoro, primarily datus and chieftans, took advantage of the LRA and registered large swathes of land in their families' name. These individuals "became the ancestors of today's Bangsamoro landed elite." See: Cagoco-Guiam, Rufa (2005), op. cit., p. 171.

larger agricultural tracts to Christian Filipinos than it did to native Moros, and policies during the 1930s that labelled traditional Moro lands as "public domain".[28]

Unsurprisingly, the enabling policies of the US colonial administration led to a steady flow of Filipino migrants into Mindanao, as land acquisitions by wealthy Filipino and American business interests brought with them large worker populations from Luzon and the Visayas. Table 5.1 shows the profound demographic shift in Mindanao that accompanied the US colonial administration in the Philippines.

**Table 5.1: Demographic Shifts in Mindanao during the US colonial administration**

| | | Moro Population | | Non-Moro Population | |
|---|---|---|---|---|---|
| **Year** | **Mindanao Population** | **Number** | **Percentage of Mindanao Pop.** | **Number** | **Percentage of Mindanao Pop.** |
| 1903 | 327,741 | 250,000 | 76 | 77,741 | 24 |
| 1913 | 518,698 | 324,816 | 63 | 193,882 | 37 |
| 1918 | 723,655 | 358,968 | 50 | 364,687 | 50 |
| 1939 | 2,244,421 | 755,189 | 34 | 1,489,232 | 66 |
| 1948 | 2,943,324 | 933,101 | 32 | 2,010,223 | 68 |

Source: Adapted from Che Man, W. K. (1990), op. cit.

The figures in Table 1 demonstrate that, while the Moro population grew significantly during the first half of the 20th Century, the ratio of non-Moros to Moros reached parity in Mindanao by 1918 and continued to shift dramatically to the point where non-Moros more than doubled Moro numbers by 1948.

[28] Declaring lands to be "public domain" enabled government-sponsored resettlement programmes to expand in Mindanao. For analysis of these and other pieces of land legislation during the US administration see: Aquino (2009), op. cit., chapter 3.; and Abreu, Lualhati M. (2008), "Colonialism and Resistance: A Historical Perspective", in Tauzon, Bobby M., ed. (2008), op. cit.

Filipino migration southward served multiple purposes for the US administration. Migration represented a partial solution to overpopulation on the northern islands of Luzon and the Visayas, ensured that the resources of Mindanao would contribute to the colonial wealth of the Philippines, and the new Christian Filipino communities in Mindanao strengthened the southern regions' links with government institutions in Manila. Migration also helped address the challenge of Moro dissidence by altering the demographic realities of Mindanao.[29] For the Bangsamoro leadership however, US migration policies equated to "legalised land-grabbing" and proved catastrophic for the community's ties to its traditional lands.[30] The lasting legacy of US migration policies was a lasting change in the demographic character of Mindanao; a change that would become more pronounced in an independent Philippine state.

Migration trends that began under the colonists accelerated after the Philippines gained independence. Like the transition from Spanish to American rule at the previous turn of the century, the Bangsamoro were again unwittingly included into the new Philippine polity despite violent objections. Many Moros were strongly opposed to joining the majority Christian Philippine state and saw the government in Manila as an extension of colonial subjugation.[31] Moro declarations on national identity and historical ties to traditional lands became more prescient as migration from the north escalated. From 1948 to 1960, the population in Mindanao grew at a rate more than double the state average (which during that

[29] May (1981), op. cit.
[30] See, for example, the statements by high level MILF members on the land transitions that occurred during the US administration. Hashim, Salamat (2000), in Hashim, ed. (2001), op. cit., pp. 14-15.
[31] See: Jubair, Salah (1999), *Bangsamoro, A Nation Under Endless Tyranny*, 3rd edition, Kuala Lumpur: IQ Marin.; and Abreu (2008), op. cit.

period was among the highest state growth rates globally).[32] During periods of the early 1960s, reports indicate that over 3,000 migrants were arriving in Mindanao every week.[33] Over roughly the first 35 years of an independent Philippine state, Mindanao's overall population boomed from just fewer than three million to almost eleven million people.[34] Migrants accounted for a vast majority of this increase, with the percentage of Moros as a function of Mindanao's population decreasing to just over 20 percent by the late 1970s and early 1980s.[35] This ratio has largely remained stable into the contemporary period, while Mindanao's population has ballooned to approximately 16 million; meaning that from an aggregate perspective the number of Christian Filipinos in Mindanao has expanded to more than 12 million people.[36] These trends persist, as the Philippines' large and growing population represents a significant push factor that continues to fuel migration to Mindanao and compounds already difficult societal stresses.[37]

Political decisions made possible the societal fractures facing contemporary Mindanao. Historically, the evangelistic campaigns of the Spanish and the migration programmes of the US and Philippine governments each reflected the relative capacities of these actors to exert

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[32] Wernstedt, Frederick L. And Paul D. Simkins (1965), "Migrations and the Settlement of Mindanao", *The Journal of Asian Studies,* 25(1), pp. 83-103. See also: Republic of the Philippines, Department of Commerce and Industry (1951), *1948 Census of the Philippines: Population Classified by Province, by City, Municipality, and Municipal District, and by Barrio,* Manila: Bureau of the Census and Statistics.; and Republic of the Philippines (1962), *Census of the Philippines: 1960, Population and Housing, I, Report by Province-Abra to Zamboanga del Sur,* Manila: Bureau of Census and Statistics.

[33] George, Thayil Jacob Sony (1980), *Revolt in Mindanao: The Rise of Islam in Philippine Politics*, Kuala Lumpur: Oxford University Press, p. 115.

[34] Abbahil, Abdulsiddik A. (1983), "The 'Bangsa Moro': Their Self-Image and Inter-Group Ethnic Attitudes", Master's Thesis, Cebu City: University of San Carlos Department of Anthropology.

[35] Ibid. Rudy Rodil argues that another important push factor for government sponsored migration to Mindanao was the need to remove "troublemakers" from Luzon and the Visayas in order to defuse agrarian unrest. See: Rodil, Rudy (1994), *The Minoritization of the Indigenous Communities of Mindanao and the Sulu Archipelago* (Philippine Edition), Davao: Alternate Forum for Research in Mindanao, Inc.

[36] Aquino (2009), op. cit.

[37] The total Philippine population has now eclipsed 90 million persons and continues to grow at a rate near 2 percent annually. See: Republic of the Philippines (2010), "Philippines in Figures", Manila: National Statistics Office. Accessed 1 October, 2010 via: <http://www.census.gov.ph/>. See also: Republic of the Philippines (2006), "Philippine population growth expected to slow down to 1.95 percent in 2005-2010", Press Release, 9 May 2006, Manila: National Statistical Coordination Board (NSCB).

political control throughout the archipelago. Both colonial and independent governments made decisions from Manila that would drastically affect the Bangsamoro's national standing and political place in Mindanao. Among other things these decisions ensured that Christian Filipinos, by function of their increasing numbers, would play a growing role in governing large swathes of Mindanao as the 20th Century progressed. However, the historical point of contention has been whether Moro Mindanao actually belongs in the greater Philippine polity. To what degree, in other words, is the Bangsamoro subject to political decrees handed down from the northern capital? The contemporary security conundrum in Mindanao reveals the pervasiveness this basic question, and necessitates investigation into the political history of the Philippine state.

## 2.1 Politics and Control in Mindanao: Colonial Overtures

### A. Spain

The basic goal of political control, and all the attendant authorities that accompany it, has remained constantly present among all major actors on both sides of the conflict in Mindanao. The Spanish administration was no exception and tried for centuries to extend their political control throughout Mindanao. While Spain was not wholly successful in this endeavour, it did whittle away at the sovereignty enjoyed by the Moro leadership through a combination of bloody military operations, naval blockades, diplomacy and bribery. While the methods utilised in these disparate strategies differ dramatically, the goals in the case of Mindanao are similar in their coalescence around Spain's desire to extend its political writ southward. The most significant legacies of this first colonial period were the reduction of

relevance for Mindanao's Moro sultanates and the delineation of the Philippines' territorial boundaries.

Spain's desire to extend its political control to the south necessitated that it undermine the position of the Islamic sultanates, and the colonisers immediately set about on this task through a series of military incursions into the region. These incursions proved insufficient, however, and a series of successful military challenges to Spanish authority continue to be a source of pride for the Bangsamoro. MILF Chairman Salamat Hashim, for example, wrote in 2001 that, "[i]n spite of the relentless war and persistent attempt of Spain to conquer the Bangsamoro people, she ended in failure. She managed only to put up garrisons in some coastal areas. Generations after generations the Bangsamoro people continued to resist till Spain left in 1898."[38] Non-military operations by the Spanish administration would prove more successful; garnering greater political influence in Mindanao for the colonisers. Religion pervaded these non-military attempts to gain influence in Mindanao. Jesuit priests helped negotiate peace treaties to intermittently quell the pervasive 'Moro Wars' between Mindanao's Muslims and the Christian colonisers; including treaties allowing Jesuit evangelistic activities to extend into some traditional Moro territories.[39] In addition to theological reasons for pursuing conversions, Christianity represented a potential cultural inroad into Mindanao that, once established, would lead to greater influence in other more worldly arenas. After multiple failed attempts to force Christian conversions in Mindanao, the Spanish administrators shifted tactics during the early 18th Century, negotiating with the powerful Muslim sultanates to allow Christian missionaries into their territories in exchange

[38] Hashim, Salamat, (2001), "Foreword by Chairman Salamat Hashim", in Hashim, Salamat, ed. (2001), op. cit., p. i. Section 5 addresses the military sector, and discusses the strategic military posturing and violent eruptions of conflict that defined the Spanish experience in Mindanao.
[39] Specific treaties in 1645 and 1646 contained such stipulations.

for greater commercial relations and alliances.[40] These strategies did not lead to peace or political settlements for the Spanish, but they did represent early steps in Spain's engagement with the Moro leadership and set the groundwork for its subsequent cooption of Moro authority.

Spanish marginalisation of Moro sultanates gained momentum during latter half of the 19th Century. After a series of bloody encounters with the factions of the Sulu sultanate in 1851, Spain reached a peace accord with the group in which the Sulus promised to fly the Spanish flag, address piracy in the region, not enter into any agreements with foreign powers and allow a Spanish garrison and trading post in Jolo.[41] These terms reflect clearly Spain's secular ambitions in Mindanao. The Spanish reciprocated under the agreement by agreeing to pay salaries to Sulu leaders and protect Sulu shipping. The character of this treaty was interpreted differently by the two sides. As Cortes and colleagues point:

> ...the Sulus accepted a mild form of Spanish protectorate, but they did not regard the treaty to mean the acceptance of Spanish sovereignty. They actually considered the peace treaty as one of friendship. However, the Spaniards interpreted it to mean that the sultanate had been incorporated into the Spanish monarchy.[42]

These disparate interpretations of the 1851 peace treaty reveal the profoundly different lenses through which the two sides viewed one another. The Moro leaders looked upon the Spanish as being either a possible enemy or partner to the north, and pursued strategic decisions based upon this reality. The fact that the Spanish constituted a *separate* political and societal force was assumed by the Moros *a priori*. The Spanish meanwhile looked upon Mindanao as an integral part of their territory, and thus sought to eliminate barriers to its political control over the entire Philippine archipelago.

[40] Che Man (1990), op. cit.
[41] Ibid.
[42] Cortes et. al. (2005), op. cit., p. 65.

During subsequent years Spain made significant inroads into Basilan, and set its sights on the main island of Mindanao. Spanish military garrisons steadily encroached from the north and led to the capitulation of the Maguindanao sultan, who ceded lands and other concessions in return salaries and recognition as a lieutenant general of Spain.[43] As Spain's influence in Mindanao grew, the colonisers began to offer protection for favoured Moro leaders against their historical tribal rivals; using a divide and conquer strategy to increase its presence throughout growing territories.[44] The increased Spanish presence in Mindanao that resulted allowed the colonisers to set up districts that formed the foundation for contemporary political organisation in parts of Mindanao.

Spain's colonial tenure thus ended with the Spanish flag flying over Sulu settlements and Spanish garrisons and trading centres place strategically throughout areas of the main island. These successes were relative, as the Sulus and other Moro groups still enjoyed various levels of autonomy; carrying out international trade and freely practicing Islam. The greatest contemporary relevance of the Spanish-Moro struggle over political control in Mindanao was that the borders were taking shape for what would later become the Philippine state. Throughout much of the Spanish administration it was never a certainty that the Muslim populations in the southern reaches of the archipelago would ever be amalgamated into the future Philippine polity.[45] However, Spain's political presence in parts of Mindanao contributed to the southern regions' demarcation as part of the territories that would transfer to the US when it usurped Spain as the Philippines' colonial overlord.

[43] Ibid., p. 66. As part of this agreement, the Maguindanao sultan was given the title of "Feudal King of Tamontaka".
[44] See: Gowing, Peter G. (1979), *Muslim Filipinos: heritage and horizon*, Quezon City: New Day Publishers.
[45] Cortes et. al. (2000), op. cit.

**B. The United States**

The US colonial tenure in the Philippines saw the extension of non-Moro political control in Mindanao. Nationalist Filipinos rose up against their Spanish colonial overlords in 1896 with the help of the United States. The ultimate result of this formative event in Philippine history was the end of Spain's colonial reign, America's acquisition of political leadership over the archipelago, and the beginning of a process that would eventually lead to Philippine independence.[46] From a Moro perspective, however, both the US and the Filipino nationalists represented outsiders whose rule should not extend south into the traditional Moro territories of Mindanao. Moreover, the handover of sovereign control over Mindanao from the Spanish to the Americans was problematic for the Moros; as they argued that "you cannot sell something you do not possess" and that Spain never exercised levels of sovereignty worthy of transfer.[47] Unsurprisingly the many elements of the Bangsamoro refused to recognise the claims of authority by the new colonial administration and varying levels of guerrilla style conflict between the Americans and the Moros pervaded for much of the former's administration of the archipelago. Politically, this led to US military rule of Moro territories in Mindanao for roughly the first fifteen years of its administration.

Despite opposition to continuing colonialism from the north, the US administration fostered positive political relationships with some important elements of the Bangsamoro leadership. America's more secular colonial approach reduced tensions based upon real and perceived cultural invasions that had defined the centuries of Spanish rule. Rather than proselytising towards the Bangsamoro, the US attempted to infiltrate the community through providing

[46] For analysis of these complex years of political transition in the Philippines see: Corpuz, O. D. (1989), *The Roots of the Filipino Nation*, Quezon City: Aklahi Foundation.
[47] Lingga, Abu Sayed M. (2008b), "Understanding the Bangsamoro Right to Self-Determination", in Tuazon, ed. (2008), op. cit., p. 91. This argument remains part of the Bangsamoro justification for its rights to an independent polity.

education as a means for promoting economic and human development.[48] This strategy led the US to be viewed more favourable than its Spanish predecessors and helped it to advance its political ambitions in Mindanao.[49] Perhaps the most pronounced evidence of Bangsamoro affinity for the US regime was the fact that many Moro leaders preferred ties with the US over the prospect of Filipino rule. For its part, the US was satisfied to reap the economic rewards of colonialism while setting up a relationship that would ensure that such rewards continued after it granted independence to its administered territories. Therefore, the path towards Philippine independence began relatively early on during the US administration; with the goal being a unified Philippine polity covering the entire archipelago.

The Bangsamoro leadership wanted no part of it. In a petition to the US President Warren G. Harding in 1921, citizens of the Sulu archipelago stated that they would prefer to exist as a US territory rather than be included in an independent Philippine state. Bangsamoro leaders extended this position in 1924, proposing that the islands of Mindanao (including Sulu and Palawan) "be made an unorganised territory of the United States of America".[50] The Bangsamoro leaders further warned that if no provision were made by the US regarding its special status that they would declare an independent constitutional sultanate known as the Moro Nation.[51]

The overtures by the Bangsamoro leadership did little to slow the momentum towards independence for a single state within the contemporary Philippine borders. At the conclusion of the violent years of US military occupation in Mindanao, the Americans began

[48] Abreu (2008), op. cit.
[49] Some such Moro leaders, such as Datu Piang and Datu Balabaran Sinsuat, went so far as to justify the US annexation of Moro territories. See: McKenna, Thomas M. (1998), *Muslim Rulers and Rebels: Everyday Politics and Armed Separatism in Southern Philippines*, Manila: Anvil Publishing Inc.
[50] Lingga (2008b), op. cit., pp. 91-92. Over a decade later these sentiments remained and were conveyed to President Franklin D. Roosevelt in a 1935 letter signed by over 100 Moro leaders.
[51] Ibid.

to facilitate a shift towards Filipino governance throughout much of the Philippines' south. The military governor gave way to civilian leadership under the Department of Mindanao and Sulu and the largely Christian Filipino Bureau of Non-Christian Tribes gained official political control as the overt US presence waned.[52] This shift toward Filipino governance occurred symbiotically with the large-scale migration of Christian settlers to Mindanao that were encouraged and facilitated through US colonial policies. Together, these demographic and political changes in Mindanao set the stage for the region's inclusion into the subsequent Philippine state; thus creating conditions for continuing struggles over sovereignty in Mindanao.

### 2.2 The Philippine State and Sovereignty in Mindanao

Since Philippine independence in 1946, the Bangsamoro has consistent challenged Philippine sovereignty over Mindanao. A new group of Moro leaders emerged after World War II and reignited the community's push for self determination in the face of steady losses of political control during the colonial period. These new leaders successfully galvanised strong opposition to Philippine rule in response to the loss of traditional Muslim lands to corporate incursions and migration, the relative deprivation of the Bangsamoro compared to rest of the country, and the impediments faced by Moros seeking local government positions.[53] Tangibly, the confluence of Moro grievances, the emergence of a new generation of educated and capable Moro leaders, and an influx of international support for the plight of the

[52] May, Ron J. (1992), "Wild West in the South, A Recent Political History in Mindanao", in Turner, Mark, R. J. May and Lulu Respall Turner eds. (1992), *Mindanao: Land of Unfulfilled Promise*, Quezon City: New Day Publishers.
[53] Rivera, Temario C. (2006), "The Struggle of the Muslim People in the Southern Philippines: Independence or Autonomy", *Asian Cultural Studies*, 15, pp. 101-109.

Bangsamoro led to the creation of the MNLF in 1969 and the MILF in 1977.[54] The two movements used armed insurrection and diplomatic negotiation to attempt to alter the political status-quo of the Bangsamoro. These dichotomous approaches were often viewed as complementary, as the capabilities of the armed wings of the two organisations were able to prompt the Philippine government at various stages to the negotiating table.[55] However, attempts to reconcile differences between the GRP and Moro groups through force also consistently derailed non-military efforts to reach a political settlement. Intermittent periods of fighting and negotiating with the GRP thus defined the decades following the founding of the MNLF and MILF, and have continued into the contemporary period.

Moro resistance against the Philippine state has consistently been aided by an international network of powerful actors supporting the Moro cause.[56] MNLF Chairman Nur Misuari worked successfully to gain special observer status for the MNLF in the Organisation of Islamic Conference (OIC) in 1977; which is the largest organisation of majority Muslim states in the world. Misuari's success with the OIC reflects the growing societal solidarity that gained momentum among Islamic states during the decades following World War II.[57] The strengthening of relationships between the MNLF and OIC members unsurprisingly had positive ramifications for the Bangsamoro quest for political self determination, as OIC members such as Libya and Malaysia became instrumental interlocutors between the Moros

[54] The MNLF and MILF founders Nur Misuari and Salamat Hashim were educated at the University of the Philippines and Al-Azhar University respectfully. Their university-level education came in contrast to previous generations of Moro leaders, who typically reached leadership posts through family and political connections. Moreover, the differences in the educational backgrounds of these two leaders help explain the more secular-nationalist character of the MNLF as compared to the theologically-driven MILF.

[55] As the Moro leader Salah Jubair wrote in 1999, "[i]f war uses the force of arms to achieve both military and political objectives, negotiation pursues the same goals through the skilful use of language and diplomacy...negotiation is war in another form." See: Jubair (1999), op. cit., p. 172. Jubair was writing in 1999 as a Central Committee member of the MILF and has for decades been an influential member of the primary rebellious Moro movements.

[56] Ibid.

[57] For a valuable collection of work on political Islam during the latter half of the twentieth century see: Arjomand, Said Amir and Ernest Gellner, Eds. (1984), *From Nationalism to Revolutionary Islam*, Albany: SUNY Press.

and the GRP. Salamat Hashim's educational background in Egypt similarly helped the MILF founder to cultivate ties with influential Muslim leaders in Islam's theological heartland. These personal relationships had lasting importance in both the military and political spheres, as the ties bolstered the credentials of Moro leaders and helped their organisations gain greater diplomatic and military capabilities. For the central Philippine government, the evolution of Moro groups had to be taken seriously and with international actors exerting pressure the government intermittently sought negotiations as a path for addressing Moro grievances.

Substantial negotiations over the terms of governance in Mindanao began in earnest during the 1970s. These negotiations were undertaken in an environment of deteriorating relations between GRP and the MNLF; which at the time remained the sole prominent voice of the Bangsamoro. During the years immediately preceding diplomatic engagement, President Marcos had cited Moro separatism to justify his controversial imposition of martial law, and the ensuing unrest had rendered the political situation in Mindanao at arguably an all-time low. The MNLF had, in 1974, issued a manifesto condemning "Filipino colonialism", renouncing the Philippine government and declaring the birth of the "Bangsamoro Republik" encompassing the main islands of Mindanao along with Basilan, Sulu, and Palawan.[58] In the face of the overt challenges to Philippine sovereignty, the MNLF and GRP negotiated the Tripoli Agreement; which the two parties signed in December 1976.[59] The OIC, along with Libyan leader Muammar Qadaffi, was instrumental in bringing the warring parties together and provided the MNLF with greater credibility in the diplomatic arena. The Tripoli Agreement led to a cessation of hostilities and established autonomy for Muslims in thirteen

[58] Moro National Liberation Front (1974), "Manifesto on the Establishment of the Bangsamoro Republik", cited in Majul, *The Contemporary Muslim Movement in the Philippines*, Berkley, CA: Mizan Press, pp. 117-119.
[59] The terms of the Tripoli agreement continue to have contemporary relevance for discussions between Moro groups and the GRP. For the full text of the 1976 Tripoli Agreement see: Appendix A.

provinces and nine cities of Mindanao.[60] These terms assuaged MNLF concerns to the point that the group abandoned its secessionist agenda in favour of autonomous self-rule. Despite this successful dialogue, The Tripoli Agreement failed in the implementation phase. President Marcos unilaterally created two autonomous provinces comprising only three of the thirteen provinces dictated by the terms of the Agreement while also seeking to hold a referendum on the future of the autonomous zone on the government's terms.[61] The MNLF and OIC both responded virulently to Marcos' implementation power play, with the former reasserting its secessionist stance and the latter officially recognising the MNLF as the "legitimate representative of the Muslim movement" in the Philippines.[62] The breakdown of the Tripoli Agreement signalled the beginning of the end for diplomatic advances during the Marcos regime, and contributed to ensuing fractures in the Moro leadership.

Marcos was ousted in 1986 and the new administration of Corazon Aquino quickly pursued a rapprochement with the MNLF. These efforts were problematised by the fact that the MNLF no longer represented the unopposed voice of the Bangsamoro, but was rather forced to compete with the breakaway MILF organisation.[63] Despite disunity in the Bangsamoro leadership, and the growing influence of the MILF in both Mindanao and among the Moro benefactors in the Middle East, the Aquino government elected to negotiate with the MNLF in a process that culminated with the Jeddah Accord of 1987. The Jeddah Accord contained little beyond commitments by both sides to continue talks on autonomy, and the potentially positive effects of its signing were mitigated by continuing military activities by the

[60] See: Appendix A.
[61] Rivera (2006), op. cit.; and International Crisis Group (ICG) (2004), op. cit. Marcos had insisted upon a final clause in the Tripoli Agreement stating that "the Philippine government shall take all necessary constitutional processes for the implementation of the entire agreement." This seemingly innocuous point provided the window for Marcos's subsequent steps to mitigate the MNLF's political reach during the implementation phase of the agreement.
[62] Rivera (2006), op. cit., p. 105.
[63] For interviews with MNLF and MILF chairmen see: Bauzon (2008), op. cit.; and "Moro Jihad, Interview with Sheikh Salamat Hashim" (1998), in Tauzon, ed. (2008), op. cit., pp. 238-247.

unconsulted MILF.[64] The negotiation process took an additional step backwards when the GRP, sensing disunity among the Moro leadership, approved of a new national constitution that unilaterally addressed the autonomy situation for the Bangsamoro. The constitutional dictates handed down by Manila, which came in the face of objections from both the MNLF and MILF, culminated with the creation of the ARMM in 1989.[65] The GRP called for a plebiscite on autonomy throughout potential provinces of the ARMM and, with the MNLF and MILF calling for boycotts to the exercise, only the four provinces of Lanao del Sur, Maguindanao, Sulu and Tawi-Tawi opted for autonomy. These events during the late 1980s remain quite significant for the political demarcation of Mindanao, but the arrangements reached during these years proved unable to quell pervasive unrest. Intermittent fighting and negotiating continued, prompting the newly elected Philippine President Fidel Ramos to revisit the terms of previous autonomy arrangements and reopen dialogue with the Moro leadership.

Diplomatic activities during the mid to late 1990s set the stage for contemporary political conditions in Mindanao. Talks between the MNLF and GRP to reach an acceptable political arrangement in Mindanao culminated with the signing of The Final Peace Agreement (FPA) in September of 1996. As a result, the MNLF moved into the legitimate political arena and the MILF became the primary standard-bearer for continuing Moro dissatisfaction. For the GRP, the signing of the FPA equated to success on one front and increasing challenges on another. While the placation of MNLF leader Nur Misuari was evidenced with his election as governor of the ARMM, the GRP was immediately compelled to open up diplomatic

[64] The violence led to ceasefire talks between the MNLF and GRP panel chair Auilino Pimental, at which the MILF was conspicuously absent.
[65] The Republic Act 6734 was created through legislative consultation between both Houses of the Philippine Congress.

dialogues with the militarily-active MILF.[66] The MILF distanced itself from the FPA and, at a large assembly near Cotabato City in late 1996, reaffirmed its commitment to an independent Moro state. The MNLF, having sought accommodation with the government, saw the political tide turn against it and local elections during the late 1990s led to significant gains by anti-FPA politicians.[67] The contemporary period was thus ushered in by disagreements over the make-up and future of the ARMM, a movement in popular support in the Bangsamoro away from the MNLF, and the perpetuation of violent struggle by the MILF against the Philippine state.

Although political wrangling between the GRP and Moro leadership failed to quell unrest in Mindanao by the turn of 21st Century, it did provide the foundations of contemporary discourse on control in Moro Mindanao. For example, the unfinished legacy of the creation of the ARMM is at the centre of modern Moro-GRP diplomatic activities, and questions about just what lands will be included in an autonomous Moro territory continue to be the subject of proposed future agreements and plebiscites. The skirmish lines on such territorial questions are clear: the GRP wishes to mitigate any reductions in its political control through keeping the autonomous territories small, while the Moros still take a broader view of what constitutes their ancestral lands and seek conditions that can expand the territories included in their autonomous region.

The history of strong and protracted actions on behalf of colonial occupiers, the GRP and the Bangsamoro leadership reveal the importance that each of these groups placed on political

[66] Misuari frames differences between the MNLF and MILF in terms of both goals and tactics, stating that the MNLF has been persuaded through years of negotiations with the GPR and prompting by members of the OIC to accept autonomy as a goal while the MILF continued into the 2000s to seek independence. Regarding tactics, the MNLF officially eschewed violent insurrection as a means to pursue its political objectives while the MILF continues to maintain its rights to armed struggle. See Kenneth E. Bauzon's interview with Misuari: Bauzon (2008), op. cit.
[67] In local elections in 1998, only one MNLF leader won a bid for local political leadership.

control over Mindanao. Societal dynamics present in the region partially explain these actions, as colonisers, Filipinos and Moros all endeavoured to gain political leadership for those with whom they shared some level of societal affinity. The unique cultural and historical traditions of these two groups do much to explain the sources of societal fractures and the feelings on both sides of the struggle of a 'separateness' from their foes. Moreover, the societal and political conditions affecting Mindanao have at times been complementary and reinforcing; with political decisions altering the societal character of Mindanao and societal conditions informing the political decision making process.[68]

These societal divisions are insufficient, however, for explaining why the actual territories of Mindanao have been so aggressively sought after. The region's resource wealth and attendant economic potential must also be taken into account when explaining the fervency with which competing groups have vied over control of Mindanao. With the power to govern comes the power to exploit natural endowments, and, in the case of Mindanao, the process of resource exploitation has had a myriad of pronounced environmental and social effects.

### 3.1 Frontier Fever: The Drive for Strategic Environmental Resources in Mindanao

Mindanao has historically evoked images of expansive natural wealth. Sitting south of the typhoon belt, Mindanao has agricultural potential that has long been the envy of its neighbouring regions to the north. Mindanao's natural bounty, however, has not translated into prosperity for its citizens. Unsustainable resource development practices and unequal distribution of resource rents have lastingly altered Mindanao's resource worth and

[68] The population movements from Luzon and the Visayas into Mindanao provide a strong example of such a reinforcing dynamic. Political control in Manila allowed successive colonial and Filipino administrations to institute policies encouraging societal changes in Mindanao. These societal changes then had the corollary effect of altering political calculations in Mindanao, and ultimately leading to greater political power for growing Christian populations in the region.

perpetuated poverty and underdevelopment for its people. Mark and Lulu Respall Turner address this troubled situation by painting Mindanao as:

> ...the place where the dreams of the poor settler can be fulfilled. There is an abundance of natural wealth – vast agricultural lands, huge mineral deposits, extensive forests and teeming fisheries. But the vision of potential has frequently been overlaid with the image of exploitation. Resources are monopolised by the few and squandered for short-term gain [and] Mindanao's indigenous inhabitants...have seen their birthrights usurped and their traditions assaulted in the name of development.[69]

This section explores the history of development processes in Mindanao and illuminates underlying causes of resource competition and environmental degradation in the region.

### A. Colonial Resource Ambitions into Mindanao

Spain's primary influence on the Mindanao environment was its imposition of the Regalian doctrine, which made the Spanish colonists the sole owners of the 'state domain' of lands, forests, bodies of water and natural resources.[70] The Regalian doctrine began a process of profound change for the land ownership arrangements of Bangsamoro. As Tuminez states:

> The Regalian doctrine contradicted and nullified the Moro tradition of communal land ownership, under which clan chiefs, or datus, ruled over and disposed of land considered under their jurisdiction. It removed free communal access to water, forests, land and other natural resources that were sources of local peoples' daily sustenance. It nullified the domain of the sultanates and invalidated the prior occupancy rights of the Moros and other indigenous people.[71]

Spain's objectives in the Bangsamoro territories were therefore not simply evangelistic; converting Moros to Christianity was arguably mitigated as a goal after initial periods of fierce resistance, but rather focused upon incorporating Moro lands into Spain's political and

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[69] Turner Mark and Lulu Respall Turner (1992), "Introduction: Images of Mindanao", in Turner, May and Turner, eds. (1992), op. cit., p. 1.

[70] Tuminez, Astrid S. (2007), "This Land is Our Land: Moro Ancestral Domain and Its Implications for Peace and Development in the Southern Philippines", *SAIS Review*, 27(2), pp. 77-80. The basic principles of the Regalian Doctrine were upheld by the United States and later enshrined into the Philippine constitution in 1987. During the Spanish period, land grants, or *encomiendas*, were awarded by Spain to colonists seeking to control lands in Mindanao and elsewhere throughout the archipelago. Where implemented successfully, these *encomiendas* led to the forcible removal of indigenous populations. See also: Cabellero (2002), op. cit.

[71] Tuminez (2007), op. cit., pp. 78-79.

economic orbit.[72] The Regalian doctrine demonstrated Spain's worldly ambitions in Mindanao, and created a conceptual basis for land ownership that subsequent administrators of the archipelago would extend.

The Spanish colonial administrations never established a strong enough presence in Mindanao to significantly exploit the region's resource wealth. As a result of this failure, the Spanish regime made the strategic decision during its first century of occupation to concentrate its resource extraction efforts in Luzon and the Visayas; which had populations more receptive to Spain's evangelistic tenor.[73] While Spain made incremental inroads into Mindanao over the course of its administration, these did not translate into significant alterations to the Mindanao natural endowments. As Wenrstedt and Simkins state in their useful and succinct discussion of Spanish activities in Mindanao:

> Although Spain's control over the Philippines lasted for more than 300 years (1565-1898), Mindanao remained isolated from the principal centres of Spanish activities and the island failed to participate to any significant degree in the economic or political development of the Philippines... The remoteness of Mindanao from the centre of Spanish interests and the determined and sustained opposition of the Mindanao Muslims toward all attempts at Hispanization constituted the chief obstacles to effective colonization and utilization of the Island-obstacles which the Spanish were either unwilling or unable to over-come... Thus, at the end of Spanish tenure in 1898, neither the Spanish nor the Filipinos under their control had made any effective use of the principal land resources of Mindanao.[74]

The subsequent US colonial administration would prove much more successful at converting the natural potential of Mindanao into profitable enterprises, and US resource development strategies in region would lastingly alter its natural environment.

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[72] Jubair (1999), op. cit., p. 40. Jubair argues that the Spanish did not prioritise converting Moros to Christianity because they understood that "Moros would prefer death to conversion."

[73] For a substantive account of Spain's objectives in Mindanao and their contemporary legacies see: Phelan, John L. (1959), *The Hispanization of the Philippines: Spanish Aims and Filipino Responses 1563-1700*, Madison WI: University of Wisconsin. Wernstedt and Simkins cite census figures conducted during the early years of the US administration that reveal (based on linguistic surveys) the small numbers of migrants from Luzon and the Visayas in Mindanao and the relatively small presence of former Visayans that had made the short migration to northern Mindanao. See: Wernstedt and Simkins (1965), op. cit.; and United States Bureau of the Census (1905), "Census of the Philippine Islands, 1903", Washington: *Geography, History, and Population*, p. 452.

[74] Wernstedt and Simkins (1965), op. cit., pp. 84-86.

In the early 20th Century, elements of US leadership saw strategic opportunities abounding from the valuable resources of its newly-acquired Philippine territory. With a growing need for raw materials and access to new export markets to fuel economic growth, influential American policy makers saw the US colonial presence in Southeast Asia as a natural extension of America's growing global influence. These same policy makers looked upon the Philippines as a long-term source of agricultural potential and strategic positioning. As US Senator Albert Beveridge declared in 1900:

> The Philippines are ours forever...And just beyond the Philippines are China's illimitable markets. We will not retreat from either...Rice and coffee, sugar and coconuts, hemp and tobacco, and many products of the temperate as well as the tropic zone grow in various sections of the archipelago."[75]

Rationales such as Beveridge's led to nearly five decades of US control over the Philippine; a period that would witness large-scale alterations to landscapes throughout much of Mindanao.[76]

During the decades of American colonial rule, the US administration facilitated the dispossession of the Bangsamoro and indigenous groups in Mindanao of profitable lands in favour of Filipino migrants from the north and US multinational corporations.[77] The US passed legislation in the Philippines that, similarly to laws which encouraged migrant families to settle and acquire lands in Mindanao, legitimated significant corporate acquisitions throughout the Philippines' southern 'frontier'. The previously discussed Public

[75] Beveridge in Cortes, et. al. (2000), op. cit., pp. 237-238.

[76] US actions reflect an interest, from the early stages its administration of the Philippines, to place the archipelago on the path towards self-governance. President McKinley spoke of the need for moves towards civilian governance during the first years of the US occupation and multiple commissions were formed to encourage a "just and effective government" in the Philippines. However, a political debate soon emerged between America's Democrats and Republicans as to what powers the US President should wield in this process. Fractures emerged over the Spooner bill (named for Republican Senator John Spooner), with Democrats arguing that executive control over governance in the Philippines would lead to economic exploitation of the territories without proper regard for the welfare of local populations. Republicans countered with historical precedents in which the executive filled such a role. While some compromise was reached, the outcome of this debate was favourable to the Republican position.

[77] Cagoco-Guiam, (2005), op. cit., pp. 170-4. For Moro perspectives on both overt colonialism and neo-colonial legacies see: Abreu (2008), op. cit.; and Wadi, Julkipli (2008), "Multiple Colonialism in Moroland", in Tuazon, ed. (2008), op. cit., pp. 19-28.

Land Act (PLA) of 1903 immediately began the process of fundamentally altering the relationship between individuals and land in Mindanao. The PLA, in addition to making land readily available to settlers from the north, declared large swathes of Mindanao as 'public' lands; which were then made available for corporate tracts of up to 1,024 ha.[78] Foreign business interests, in collusion with Filipino elites from the north, created agricultural empires in Mindanao that quickly accrued substantial benefits from the region's natural productivity. By 1912 there were 159 major plantations in Mindanao; 40 percent of which were owned by US corporations, 25 percent by predominantly northern Filipinos, and European and Chinese interests each controlling roughly 17 percent.[79] As a result, in less than a decade Mindanao had come to house large scale corporate activities to which the Bangsamoro were primarily observers.

Further legislation during the US administration compounded the land conversion trends already well underway during the early 20th Century. The US administration passed Public Land Acts in 1913, 1919 and 1925 to open vast tracts of land in Mindanao, much of which was deemed unoccupied, for corporate acquisition.[80] The classification of land as unoccupied was somewhat dubious, as significant territories ultimately converted into corporate holdings had been integral parts of Moro and other indigenous communities in Mindanao for centuries. Compounding the plight of the Bangsamoro was the infamous 1936 passage of Commonwealth Act no. 141, which declared unregistered lands in Mindanao to be public and perpetuated an eligibility gap between Moros and Filipinos for acquiring new lands.[81]

[78] See: Tuminez (2007), op. cit., p. 79. The 1903 PLA declared that homesteads for individuals, regardless of their societal classification, would be limited to 16 ha. This stipulation was notoriously altered however in 1919 to allow Christian homesteads up to 24 ha and Moros only 10 ha.
[79] Cagoco-Guiam (2005), op. cit., p. 172.
[80] Abreu (2008), op. cit.
[81] Ibid. See also: Tuminez (2007), op. cit.

Reynaldo M. Aquino describes the 1936 Act and its considerable ramifications for the Bangsamoro, stating:

> With a simple piece of legislation, Muslims were effectively deprived of their ancestral holding and were made landless. This law allowed Muslims to apply for only up to four hectares of land while Christians were allowed up to 24 hectares, and corporations were entitled to 1,024 hectares.[82]

The results of the 1936 Act were immediate and acute. US legislation allowed corporate actors such Goodrich, Firestone and Goodyear to take advantage of rubber production capabilities in Mindanao, conglomerates such as the US-based fruit corporations Del Monte and Dole working together with Philippine subsidiaries such as the Philippine Packing Company (PPC or PHILPAK) to develop vast pineapple, coconut and banana plantations, and other foreign and Filipino corporate interests to exploit bourgeoning business possibilities in the sugar, abaca, coffee and other agricultural sectors.[83] The Philippines was living up to the resource potential envisioned by US policy makers, with Mindanao playing a pivotal role.

The US solidified its economic presence in Mindanao during the final decade of its colonial presence in the Philippines, and by the time of Philippine independence in 1946 land conversions had fundamentally altered Mindanao's natural and economic environments. Modernisation was coming to Mindanao, and with it came foundational shifts in the ways that Mindanao's strategic natural resources would be exploited during the remainder of the 20th Century. The region's longstanding approaches of land ownership and resource exploitation that sultans and datus had overseen for centuries had largely been marginalised, and the influx of foreign and Filipino business interests created the framework for post-independence resource development in Mindanao. These shifting resource development dynamics created monetary rewards for well-placed actors, which in turn perpetuated environmental changes that would have lasting ramifications for the region.

[82] Aquino (2009), op. cit., p. 45. See also Jubair (1997), op. cit., p. 83.
[83] May (1992), op. cit., p. 126.

**B. Land Conversions in an Independent Philippines**

The conversion of land in Mindanao for profitable enterprises accelerated after Philippine independence. The region's wealth of timber, minerals and agriculturally promising land garnered the attention wealthy Filipino business interests just as it had the American colonisers. The southward movement of Filipino business interests was accompanied by the rapid migration of Filipinos into traditional Moro lands. The symbiotic combination of corporate growth in Mindanao and influxes of internal migrants from the north came at the expense of Moro control over Mindanao's most strategic natural resources. Rufa Cagoca-Guiam describes the confluence of migration and corporate land acquisitions in Mindanao, stating:

> Through central government-sponsored migration, land-seeking Christianised Filipinos from Luzon and the Visayas came to Mindanao in droves. Settlers took over Mindanao's most productive agricultural lands and were successful in growing staple crops like rice, corn and coconuts. Transnational corporations were granted huge landholdings for pineapple, banana and rubber plantations. Wealthy loggers from both Luzon and Visayas grabbed giant forest concessions.[84]

These complementary land conversion trends occurred quickly, proving detrimental for the lasting viability Mindanao's environmental systems. In 1965, Frederick L. Wernstedt and Paul D. Simkins presciently wrote that post-independence demographic trends posed potentially serious challenges to the environmental health and economic and social viability of Mindanao. Drawing upon contemporary population figures, the authors stated that, "[t]he magnitude of the post-war population influx to Mindanao raises serious doubts concerning the ability of the island to maintain its function as a safety valve for continued population growth in the areas of dense agricultural settlement."[85] The trends that Wernstedt and Simkins

[84] Cagoco-Guiam (2005), op. cit., p. 169. See also: Cagoco-Guiam, Rufa (2002), *Child Soldiers in Central and Western Mindanao: A Rapid Assessment*, Geneva: International Labour Office.
[85] Wernstedt and Simkins (1965), op. cit., p. 84. See also: Huke, Robert E. (1963), "Mindanao: Pioneer Frontier?", *The Philippine Geographical Journal*, 7, pp. 74-83.

saw in 1965 reveal the then pervasive notion that Mindanao represented a 'frontier' to which citizens of increasingly crowded areas of Luzon and the Visayas could flock for a new beginning. As Frederico V. Magdalena would later write that the promise of land "lured adventurous entrepreneurs" to Mindanao in a process that fundamentally reshaped the process of developing the region's resources.[86] Nowhere were the ramifications of this reshaping process more pronounced than in Mindanao's forests.

**C. Felling the Forests in Mindanao**

The 1875 reports of Spanish forestry engineer Sebastián Vidal y Soler tell of an "immense forests of incomparable richness" covering the majority of Mindanao.[87] By the 1950s however, the availability of fertile lowlands was being stretched throughout the Mindanao 'frontier' and forests began disappearing both for harvesting profits and to make way for expanding agriculture.[88] During the first decades of Philippine independence, greater technological logging capacity and economic opportunism would combine to cause

[86] Magdalena, Frederic (1996), "Population Growth and the Changing Ecosystem in Mindanao", *Sojourn* 11(1), p. 108.
[87] Soler, Vidal y, *Memoria de la Colección de Productos Ferestales*, in Pastells, P. (1994), *Mission to Mindanao 1959-1900*, Vol. 1, Cebu City: San Carlos Publications.
[88] See: Saastamoinen, Olli (1996), "Change and Continuity in the Philippine forest policy", in Palo, M. and G. Mery, eds. (1996), *Sustainable Forestry Challenges for Developing Countries*, Dordrecht, The Netherlands: Kluwer Academic Publishers, pp. 121-140.; and Segura, M., A.V. Revilla, and M. Bonita (1977), "A historical perspective of Philippine forest Resources", in *Population Resources, Environment, and the Philippine Future* (PREPF), 2, Manila: Development Academy of the Philippines.

unparalleled deforestation throughout the archipelago.[89] These effects were particularly pronounced in the previously underdeveloped forests of Mindanao.

Post-independence forest conversion in Mindanao should be viewed within the wider context of expanding logging enterprises throughout the archipelago. The Philippines built a logging empire during its first three decades of independence, leading a Southeast Asian timber export movement that also included Indonesia and Malaysia. At its zenith in 1974, forest products accounted for 24 percent of all Philippine exports and made the country famous for its valued timber resources.[90] The central government adopted many approaches set forth by previous US legislative mechanisms to facilitate the logging boom. The state maintained the rights to all lands and forest within the 'public domain' and allocated concessions to large companies capable of generating maximum revenue for valuable timber resources.[91] This approach was a continuation of US colonial policies that had centralised control over forestland that granted to the state the right to access, use and manage timber at local levels throughout the country in order to attain the Maximum Sustained Yields (MSY) across the

[89] It should be noted that significant forest harvesting occurred throughout the Philippines during the colonial period. After surveying multiple data sets on deforestation in the Philippines prior to 1946, Greg Bankoff concludes that forests covered approximately 92 percent of the archipelago at the time of Spanish contact and that this figure reduced significantly during the ensuing centuries of colonial exploitation. Bankoff estimates that by independence Philippine forest cover had reduced by between 40 and 50 percent, primarily as a result of colonial land clearing and timber harvesting (which accelerated during the US administration) and the destruction of forests during the Philippines' tumultuous World War II experience. While a majority of colonial era deforestation occurred in Luzon and the Visayas, it is relevant for the history of forest conversions in Mindanao because reduced forests in the northern regions created an impetus for state-supported private enterprises to move southward in search of untapped forest resources. See: Bankoff, Greg (2007), "One Island too many: reappraising the extent of deforestation in the Philippines prior to 1946 *Journal of Historical Geography*, 33, pp. 314-334. See also Roth, D. (1983), "Philippine forests and forestry: 1565-1920", in Tucker R. and Richards J., eds. (1983), *Global Deforestation and the Nineteenth-century World Economy*, Durham, NC: Duke University Press.

[90] Saastamoinen (1996), op. cit.

[91] See: Pulhin, Juan M. and Wolfram H. Dressler (2009), "People, power and timber: The politics of community-based forest management", *Journal of Environmental Management*, 91, pp. 206-214.

archipelago.[92] The result was a period of timber harvest on a scale never before seen in the Philippines.

Aggregate Philippine logging levels averaged 10 million cubic metres annually from 1965 to 1973; a period which continues to be remembered as the halcyon days of the timber industry under authoritarian leader President Marcos (1965-1986).[93] Peaking at 11.6 million cubic metres in 1968, large-scale timber extraction under Marcos brought windfall profits large business interests, often aligned with the government, and the state itself. Relationships between private companies and the upper echelons of the Philippine government formed the foundation of the post-war logging boom. The state provided access to the Philippine forests and economic actors proved highly capable of taking advantage the highly valuable forest resources. The results of this symbiotic arrangement brought impressive profits to both the state and the economic actors, but also irreparably changed the environmental character of the Philippines. Mindanao, as the territory with the lowest levels of previous resource exploitation, experienced the most pronounced environmental changes.

### 3.2 Environmental Change: The Effects of 20th Century Land Alteration in Mindanao

#### A. Logging Bust: Deforestation, Erosion and alterations to Inland Resource Systems

In combination, the large-scale land conversion and resource exploitation in 20th Century Mindanao had dire ramifications for the status of some of the region's most strategic environmental endowments. Deforestation provides a primary example of such

[92] Dressler, Wolfram H. (2006), "Co-opting conservation: migrant resource control and access to national park management in the Philippine uplands", *Development and Change*, 37(2), pp. 401-426.
[93] Dauvergne, Peter (1998), "Environmental Insecurity, Forest Management, and State Responses in Southeast Asia", Department of International Relations, Australia National University, Working Paper No. 1998/2.

ramifications, as three decades of extensive logging had pronounced affects on a range of ecological systems in Mindanao. David M. Kummer has extensively detailed changes to the country's forest resources, and the results are telling. Table 5.2 shows the changes in forest cover experienced in the Philippines between 1950 and 1987, Table 5.3 lists the state-wide deforestation rates for that same period, and Table 5.4 provides comparative data for Luzon, the Visayas and Mindanao.

**Table 5.2: Changes in the Philippine's Forest Cover from 1950-1987**

| Year | Percentage of Philippine Land with Forest Cover |
|---|---|
| 1950 | 49.1 |
| 1957 | 44.3 |
| 1969 | 33.5 |
| 1976 | 30 |
| 1980 | 25.9 |
| 1987 | 22.2 |

Source: Adapted from Kummer, David M. (1992), *Deforestation in the Postwar Philippines*, Chicago: University of Chicago Press, p. 56.

**Table 5.3: Philippine Deforestation Rates from 1950-1987**

| Period | Average Annual Hectares (ha)[94] | Percentage |
|---|---|---|
| 1950-57 | 221,000 | 1.58 |
| 1957-69 | 226,200 | 1.91 |
| 1969-76 | 208,100 | 2.14 |
| 1976-80 | 304,800 | 3.64 |
| 1980-87 | 157,000 | 2.17 |

Source: Adapted from Kummer (1992), op. cit., p. 57.

[94] Square kilometres have here been converted to hectares in Tables 5.3 and 5.4 to maintain continuity with other sections of this thesis.

**Table 5.4: Regional Philippine Deforestation Rates from 1950-1987**

| | Annual Deforestation Rates in Hectares and Percentage | | |
|---|---|---|---|
| **Year** | **Mindanao** | **Visayas** | **Luzon** |
| 1950-69 | 100,700 (1.9) | 35,000 (2.4) | 83,900 (1.7) |
| 1969-80 | 124,600 (3.5) | 43,500 (4.8) | 56,700 (1.5) |
| 1980-87 | 44,800 (1.7) | 18,700 (3.1) | 78,100 (2.5) |
| Total Hectares Lost (1950-87) | 3,597,900 | 274,300 | 2,765,200 |
| Total Percentage Lost (1950-87) | 44.71 | 15.84 | 34.36 |

Source: Adapted from Kummer (1992), op. cit., p. 58. Statistics on Palawan not included.

Tables 5.2 and 5.3 reflect a scenario in which opportunistic logging enterprises led to progressively higher deforestation rates throughout the 1950s, 1960s and 1970s. Within these broad figures lie further disconcerting data on the *types* of forest forests being targeted by loggers. During the period represented in Tables 5.2 and 5.3 the unrecoverable old growth dipterocarp forests, which supplied the high demand for 'Philippine mahogany', declined by 90 percent. The forests that survived the logging boom were at high elevations, difficult to extract and contained little commercial value.[95] The data in Table 5.4 reflect significant quantitative changes to Mindanao's forest over a relatively short period of time. Critically high deforestation rates during the 1970s significantly reduced the region's forest cover, to the point that when annual deforestation rates fell during the 1980s the logging industry was

[95] Kahl (2006), op. cit., p. 83. See also: Poffenberger, Mark and Betsy McGean (1993), "Upland Philipine Communities: Guardians of the Final Forest Frontiers", University of California, Southeast Asia Sustainable Forest Management Network Research Network Report No. 4. Dipterocarps grow to be large trees with crowns as high as 30 to 50 metres and diameters of up to two metres. These characteristics make dipterocarps highly desirable for lumber. These same characteristics create vulnerability among dipterocarps, as they often take up to 40 years to produce seeds and 100 years to reach timber size. The destruction of dipterocarps in the Philippines therefore has lasting, and perhaps permanent, ramifications

working with from significantly smaller resource base.[96] Such rapid deforestation created a myriad of environmental challenges for Mindanao.

Intense commercial logging changed the ecological character of former forestlands beyond the point of prospective return. As was discussed in chapter two, the relative 'renewability' of natural resources does not lend itself to straightforward classifications.[97] Forest resources show the limitations inherent in declaring many resources to be renewable, even when such resources have the inherent capacity to be renewed through natural processes. Deforestation and subsequent land conversions in the Philippines pushed country's forest resources towards what James K. Boyce calls the "non-renewable pole of the resource continuum."[98] Boyce elaborates upon this position by describing roughly the process by which the Philippines' post-war approach to logging has led to multifarious environmental effects:

> The typical pattern begins with intensive logging, in which immediately profitable trees are extracted with no concern for surrounding vegetation...Logged-over areas are slashed and burnt to clear the land for agricultural use. Initially, rice, corn and other annual crops are grown. But the fertility of upland soils is rapidly depleted once the forest cover is removed due to soil erosion, the loss of organic matter, and the leaching of nutrients. Within as little as four years, the land becomes unable to support annual cropping, and the settlers either mover to newly cleared lands or switch to less demanding tree crops. The abandoned land is often overgrown by course grasses. This in turn attracts cattle ranchers, who periodically burn the grass to provide tender shoots for grazing. The fires further reduce the humus content of the soil, and kill any tree seedlings which might have sprouted. Finally, the land becomes too poor for even cattle.[99]

[96] Comparing the data on deforestation in Mindanao from 1950-1969 to that from 1980-1987 (Table 5.4) is particularly telling on this point. During these two periods deforestation *rates* were comparable (1.9 and 1.7 percent), but the aggregate annual *yields* during the 1980-1987 period were less than half that of the years between 1950-1969.

[97] See: Mathews (1989), op. cit., pp. 167-168.

[98] Boyce (1993), op. cit., p. 228.

[99] Boyce cites the Asian Development Bank (ADB), which claims that the extracted timber during unsustainable logging operations may account for "only 20 to 40 percent of the total volume by which the growing stock is reduced in the logging operation." Boyce (1993), op. cit., p. 228. See also: Asian Development Bank (1987), *A Review of Forestry and Forest Industries in the Asia Pacific Region,* Manila: ADB, Agriculture Department, p. 117.; and World Bank (1989b), *Philippines: Forestry, Fisheries, and Agricultural Resource Management Study*, Report No. 7388-PH, 17 January.

The land degradation described here by Boyce remains widespread in the Philippines and Mindanao specifically.[100] Flow-on effects of deforestation extend even further however, affecting hydrological cycles and land quality beyond the logging sites.

Forests play a major role in the hydrological cycle. They catch and retain water through absorption when rainfall is plentiful and they release water back into the atmosphere during dry periods. By holding significant portions of water in abeyance during heavy rains, forest vegetation prevents the swelling of rivers and other freshwater bodies and ensures that water can be returned to the hydrological cycle in a more gradual process than would otherwise exist. In tropical locations, where heavy rainfall and prolonged periods of dry weather are seasonally concentrated, the role of forests in maintaining stable hydrological cycles is particularly important. The Philippines is especially vulnerable to disruptions in such cycles because its much of its natural ecology before human-induced changes was dominated by forests, and the country regularly experiences heavy rainfall events and periods of dry weather. The destruction of forests has significantly disrupted the natural cycles of water management and led to heavy water flows and flooding during wet seasons and more acute threats from drought during periods of dry weather.[101]

Mindanao is predictably no exception to these negative hydrological consequences of deforestation. The regions vulnerabilities became particularly evident in 1981, during the waning years of the logging boom, when floods in northern Mindanao killed 283 people, injured over 14,000 and left tens of thousands homeless.[102] Water flows previously regulated

[100] The FAO has mapped the status of soils in the Philippines and found a majority of Mindanao to suffer from 'severe' soil degradation. See: FAO (2005b), op. cit.
[101] Factoran Jr., Fulgencio S. (1989), *Population, Resources, and the Philippines Future: An Ecological Perspective*, Quezon City: DENR, p. 7.
[102] Tadem, E. C., J. Reyes, and L. S. Mango (1984), *Showcases of Underdevelopment: Fishes, Forests, and Fruits*. Davao City: Alternate Resource Center, p. 4.

by forests ran unabated throughout deforested lands in this and other flooding events. These flows not only have the capacity to exact calamitous human tolls, they also lead to the quieter yet still dangerous degradation of topsoil.

The Philippines is particularly vulnerable to soil erosion due to its pronounced slope gradients (which are particularly steep in Mindanao) and its natural soil characteristics.[103] Maintaining valuable topsoil in lands such as those that dominate the Philippine archipelago necessitates preserving enough forestland to hold soils in place and maintain a graduated hydrological cycle. In lieu of these necessities, soil erosion in the Philippines has been acute. During the 1980s, in the immediate wake of large-scale deforestation, the Philippines was losing an average of 1 billion cubic metres of agricultural topsoil annually; the equivalent to 100,000 ha of land one metre deep.[104] These loses reduced the agricultural potential of lands which became eroded, leading in some cases to the conversion of new forestlands for agriculture in a reinforcing cycle of environmental degradation.[105] Much of the topsoil which was lost flowed, along with its nutrients, into rivers and tributaries and ultimately into estuaries and the nearby oceans. These flows led to the siltation of rivers and other freshwater bodies at levels that had negative consequences for both irrigation and hydropower production.[106] Additionally, in another reinforcing environmental dynamic, the siltation of waterways made rivers more likely to flood during periods of heavy rain, further compounding the social challenges resulting from altered hydrological cycles. These multifarious and reinforcing dynamics led the World Bank to declare in the mid-1980s that

[103] Kahl (2006), op. cit.
[104] DENR (1990), *The Philippine Environment in the Eighties*, Quezon City: Republic of the Philippines, DENR.
[105] United States Agency for International Development (1989), *Sustainable Natural Resources Assessment – Philippines*, Washington D.C.: USAID.
[106] Kahl (2006), op. cit. Hydropower is exceedingly important for power generation in Mindanao, where it continues to be the greatest source of electricity by substantial margins. For a breakdown of Philippine power generation sectors by region, see: Philippine Department of Energy (DOE) (2010), "Power Statistics". Accessed 1 June via: < http://www.doe.gov.ph/EP/Powerstat.htm>

soil erosion was so wide-spread that it represented the "most serious environmental problem in the Philippines", and its prevalence in Mindanao is particularly disconcerting.[107]

Significant conversions of marginal lands for agriculture exacerbated soil erosion problems in Mindanao. Much of the marginal land in the Philippines has limited agricultural potential due to heavily sloped gradients (typically distinguished as being greater than 18 degrees).[108] However, as the fertile lowlands became increasingly scarce due to corporate expansions and a growing farming population in Mindanao, these marginal lands were cultivated at increasing rates.[109] The newly converted lands are highly susceptible to soil erosion, which in turn reduces soil fertility and can subsequently be maintained only through increasing agricultural inputs (such as fertilizer and additional labour).[110] As a result, while the Philippine agricultural sector was able to increase outputs during the decades following independence through expanding the amount of acreage under cultivation, these increased outputs were based upon unsustainable practices that led to both upland and offsite environmental degradation.

In combination, scarcities in agricultural land combined with the logging boom and population growth to create a linear land conversion dynamic in Mindanao. Loggers cleared primary forests, enabling farming families that had been forced out of the more arable

[107] World Bank (1989a), "Philippines: Environment and Natural Resource Management Survey", Washington D.C.: World Bank.

[108] The Philippine government defined "upland" in the early 1980s as: "1) marginal lands with slopes 18 percent or greater, 2) lands within identified mountain zones including table lands and plateaus lying at high elevations, and 3) lands within terrain classified as hilly and mountainous." See: Cruz, Maria Conception, Carrie A. Neyer, and Robert Repetto (1992), *Population Growth, Poverty and Environmental Stress: Frontier Migration in the Philippines and Costa Rica*, Washington D.C.: World Resources Institute, p. 17.; and Bureau of Forestry Development (1982), *Annual Report,* Republic of the Philippines: Bureau of Forest Development.

[109] Logging programmes proved complementary to agricultural development in the uplands, as they cleared lands previous impervious to farming.

[110] Cruz and Repetto (1992), *The Environmental Effects of Stabilization and Structural Adjustment Programs: The Philippines Case*, Washington D.C.: World Resources Institute, p. 37. Fertiliser, which is expensive and carries its own set of negative environmental consequences, is notable among the inputs referred to here.

lowlands to convert the newly cleared uplands for subsistence agriculture.[111] This dynamic solidified the conversion of upland forests into small-scale agricultural zones, with all of the attendant ecological risks that such conversion entails. Wilfredo Cruz and Robert Repetto, writing for the World Resources Institute, note that population growth fuelled movements into Philippine uplands on the heels of logging efforts. Drawing upon data from national censuses, Cruz and Repetto compile a picture of the changing relationship between people and land in the Philippines during the 1960s, 70s and 80s. Their findings are reproduced in Table 5.5:

**Table 5.5: Changes in Population Density and Arable Land from 1960 to 1990**

| Year | Population | Growth Rate | Density Persons/km$^2$ | ha of Land/ Person Employed in Agriculture |
|---|---|---|---|---|
| 1960 | 27,088,000 | 3.06 | 90.30 | 0.94 |
| 1970 | 36,684,000 | 3.01 | 122.30 | 0.72 |
| 1980 | 48,098,000 | 2.71 | 160.30 | 0.53 |
| 1990 | 62,400,000 | 2.48 | 208.00 | n.a. |

Source: Adapted from Cruz and Repetto (1992), op. cit., p. 39.

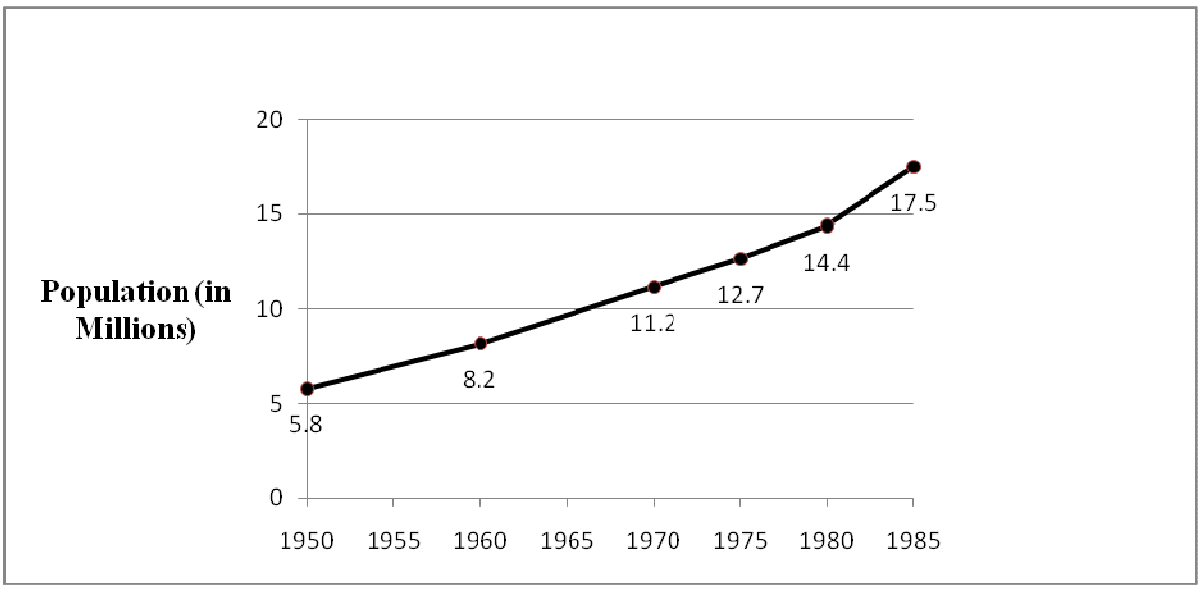
The data reflect acute land pressures that accompanied rapid net population growth in the Philippines during the decades from 1960 to 1990.[112] During these three decades, the Philippines' population more than doubled and the agricultural land per person was roughly halved. These reductions in the available agricultural land per person fuelled migration into the uplands, where population density by 1980 was almost double the density found at the

[111] Kahl (2006), op. cit., p. 87. Section 4 explores some of the ways in which logging interests encouraged migrant settlements to follow on the heels of their initial forest cutting. Maria Conception Cruz and colleagues estimated that in 1980, upland forest farmers were clearing "at the very least 500,000 ha of forest each year" and predicted that this trend would accelerate. See: Cruz, et. al. (1992), op. cit., pp. 17-28.

[112] While population growth *rates* reduced over this period, the aggregate figures reveal that these rates remained high enough to lead to significant population growth.

point of Philippine independence.[113] Figure 5.1 provides a visual representation of the growth in the Philippines' upland populations during the years from 1950-1985.

**Figure 5.1: Upland Population Growth, 1950-1985**




Source: Adapted from Cruz, Maria Conception, Carrie A. Neyer, and Robert Repetto (1992), *Population Growth, Poverty and Environmental Stress: Frontier Migration in the Philippines and Costa Rica*, Washington D.C.: World Resources Institute, p. 20.

While these figures are aggregated for the entire country, the population rush to the Mindanao 'frontier' ensured that the region experienced these demographic pressures at a rate exceeding the national average.[114]

[113] Cruz et. al. (1992), op. cit., p. 22. Cruz and colleagues find that upland population density in the Philippines increased from 39 persons per $km^2$ in 1948 to 74 persons per $km^2$ in 1980, with the period of most acute growth coming during the 1960s when upland populations grew at 3.09 percent. Regions in Mindanao unsurprisingly experienced significant upland population growth during this period.

[114] A 1988 study by Cruz and colleagues measured the upland population figures for the twelve primary regions of the Philippines in 1980 (the ARMM had not yet been formed). The study finds that 30 percent of the total Philippine population inhabited uplands, with Southern Mindanao (Region XI) having the second highest total upland population nationally at over 1.8 million residents. The authors provide evidence of pronounced migration patterns to upland areas of Mindanao from 1975-1980 and predict that, based on the trends of past decades, upland populations would double during the 25 years following 1980. See: Cruz, Ma. Concepcion J., Imelda Zosa-Feranil, and Cristela L. Goce (1988), "Population Pressure and Migration: Implications for Upland Development in the Philippines", *Journal of Philippine Development,* 26(15), p. 17. In a more contemporary account, Magdalena cites a 1991 report estimating that upland populations in Mindanao would grow 2.55 percent annually and that local authorities attributed this growth to a "lack of economic opportunity in the lowlands". Magdalena (1996), op. cit., p. 114.

Taken together, deforestation, land conversion and attendant effects on hydrology, soil and freshwater systems have played a fundamental role in creating contemporary environmental conditions in Mindanao and throughout the archipelago.[115] No region has escaped these environmental changes; however those occurring in Mindanao have been unique in their abruptness.[116] The practices leading to environmental plunder have been reassessed since the logging boom and upland conversions of the post-war decades, with actions being taken both within and outside government that aim to reverse troubling environmental trends. The success of these efforts has been mixed, and deforestation and upland degradation since 1987 continue to cause significant concern.[117]

The inland effects of deforestation in Mindanao are not alone, however, in presenting acute environmental challenges to the region. Coastal resources, which have enormous importance for the Bangsamoro, were also significantly affected as the southern regions welcomed millions of new inhabitants and became the site of corporate resource extractions. In a

[115] While this thesis focuses upon the primary challenges resulting from the destruction of Philippine forests, namely the loss of timber resources and the alteration of ecological relationships in which forests play an integral part, the effects of deforestation are more expansive. Primary among secondary effects of deforestation is the loss, at times permanently, of biodiversity. Irreversible losses in biodiversity are often criticised *a priori* because they can potentially rob future generations of exposure to contemporary plant and animal species. See: Ehrenfeld, David (1988), "Why Put a Value on Biodiversity", in Wilson, Edward O. and Frances M. Peter, eds. (1988), *Biodiversity,* Volume 1, 11th Edition, Washington D.C.: National Academies Press, pp. 212-224. In addition to these somewhat ethically-driven arguments, however, are positions that point out the strategic value of biodiversity for humankind. Boyce, for example, addresses the destruction of biodiversity resulting from forest losses in the Philippines and points to the potential for these forest resources to have multiple human utilities. These resources include chemical compounds that can be used across industries, seeds containing genes that can be used to produce virus-resistant crops, and pharmaceuticals; many of which are currently derived from flora and fauna found in tropical forests. These strategic values lead Boyce to conclude that natural forest systems should be exploited in ways that allow them to maintain their biologically diverse character. See: Boyce (1993), op. cit., pp. 231-33. Potential biodiversity valuation has been explored by the Organisation for Economic Cooperation and Development (OECD). See: OECD (2002), *Handbook on biodiversity valuation: a guide for policy makers*, Paris: OECD Publishing.

[116] The abruptness referred to here is a function of the relative underdevelopment of much of Mindanao compared to the rest of the archipelago prior to the post-independence period.

[117] A study by the USAID demonstrates that deforestation in Mindanao has continued at significant rates since the late 1980s. The USAID study states: "forest quality has continued to decline over the years [1988-2004] with the loss of natural forests. In Mindanao using Landsat [satellite] imagery, there had been a decline in natural forest cover by at least 40,000 ha per year and an increase in tree plantation cover by an average of 70,000 ha/year..." The study provides maps and additional figures supporting this assertion. See: USAID (2008), "Conservation of Tropical Forests and Biological Diversity in the Philippines", USAID, FAA 118/119 Report, pp. 19-25.

process that in some ways mirrored inland environmental changes, coastal degradation created a new set of pronounced challenges for the Mindanao.

**B. Coastal Resources**

Several of the challenges posed by coastal resource degradation relate to the environmental dynamics occurring inland. Deforestation and resultant soil erosion and the siltation of inland waterways provide significant parts of the causal explanation for degraded coastal ecosystems.[118] Ecological destruction in Mindanao's upland areas during the periods of major deforestation led to increased turbidity in the fresh water bodies emptying into nearby seas. Altered turbidity reduced light penetration into the water and, when these heavily silted waters reached the coast, damaged and in many cases destroyed the offshore seagrass beds and coral reefs that are essential fish habitats.[119] Such habitat destruction has the corollary potential to alter the breeding patterns and lifecycles of aquatic fauna, leading to pronounced and lasting shifts in coastal ecosystems.

Environmental changes to Mindanao's coastal regions are not, however, solely the result of inland deforestation and land conversions. Similarly to inland agricultural growth, the post-independence period witnessed substantial growth in commercial fishing operations in the seas surrounding Mindanao. These operations significantly altered regional fish stocks and reduced yields for many small-scale municipal fishermen. Coastal environmental changes

[118] In 1980, E. D. Gomez declared that most of the damage to imperilled Philippine coral reefs resulted from soil erosion and siltation. See: Gomez, E.D. (1980), "Status Report on Research and Degradation Problems of the Coral Reefs of the East Asian Seas", South China Seas Fisheries Development and Coordinating Programme, Food and Agriculture Organisation (FAO), UNEP/WG, 41/INF. 15.

[119] Porter, Gareth and Delfin J. Ganapin Jr. (1988), *Resources, Population, and the Philippines' Future: A Case Study*, Washington D.C.: World Resource Institute, Centre for Policy Research, p. 39.; and Broad, Robin and John Cavanagh (1993), *Plundering Paradise: The Struggle for the Environment in the Philippines*, Los Angeles: University of California Press, pp. 37-44.

also reflect population pressures and unsustainable coastal resource exploitation methods that were the norm during the decades following Philippine independence. A World Bank Report in 1989 described the Philippine destruction of coastal resources as a vicious cycle in which poor communities were compelled by increasing numbers to degrade coastal environments while seeking the necessities of life, which in turn further degraded coastal ecosystems and perpetuated the communities' impoverished plight.[120]

The destruction of the Philippines' mangrove forests provides a primary example of the ways in which post-independence population pressures came to affect the archipelago's coastal regions. Mangroves have strategic value for, among other things, protecting coastlines from destructive weather events, reducing coastal erosion, providing habitat to fish, bivalves, and crustaceans, creating breeding grounds for offshore fish species, producing goods such as alcohol, tannin and rope fibres, and creating aquaculture ponds. While all of these uses (particularly those relating to aquaculture) have encouraged substantial mangrove exploitation, it has been the use of mangroves for wood for housing and fuelwood that constitute the greatest threats to mangrove resources.[121] These threats correlate directly to the Philippines' rapid post-independence population growth in Mindanao, and the aggregate effects on the region's mangroves have been pronounced. While estimates of national mangrove acreage vary, a 2005 FAO report cites multiple data sources to estimate mangrove resources of roughly 500,000 ha in 1918 which were reduced to less than 419,000 ha by 1967, 225,000 ha by 1978, and had fallen under 140,000 ha by the turn of the 21st Century.[122]

[120] World Bank (1989c), "Philippines: Toward Sustaining the Economic Recovery: Country Economic Memorandum", Report No. 7438-PH, Washington DC: World Bank, pp. 75-76.
[121] FAO (2005a), "Global Resources Assessment 2005, Thematic Study on Mangroves: Philippines Country Profile", Rome: Forestry Department.
[122] Ibid.

In addition to mangrove destruction, data on annual fish catches during the four decades following independence reflect aggregate country-wide changes in fish stocks. Fishing efforts expanded rapidly during this period, leading to greater fish harvests and attendant stresses to fish populations. Growing annual fish catches during the decades following Philippine independence seem to suggest abundance upon initial exploration. However, closer analyses of fishing data reveal steady reductions in catches per fishing operation. Such reductions are emblematic of fish populations in decline. Table 5.6 provides the annual catch figures, along with data on fishing operations, for this period.

**Table 5.6: The Philippines' Annual Fish Catch and Fleet Effort from 1946 to 1984**

| Year | Demersal Catch (metric tonnes) | Fleet Effort (trawler HP) | Catch per Unit of Effort (metric tonnes/trawler HP) |
|---|---|---|---|
| 1946-49 | 58,198 | 43,127 | 1.35 |
| 1950-54 | 97,337 | 103,561 | 0.94 |
| 1955-59 | 138,980 | 90,566 | 1.53 |
| 1960-64 | 165,809 | 201,406 | 0.82 |
| 1965-69 | 249,444 | 283,497 | 0.88 |
| 1970-74 | 311,394 | 606,612 | 0.51 |
| 1975-79 | 373,895 | 550,952 | 0.68 |
| 1980-84 | 374,241 | 810,767 | 0.46 |

Source: Cruz and Repetto (1992), op. cit., p. 24. See also: Silvestre, Geronimo and Daniel Pauly (1987), "Estimate of Yield and Economic Rent from Philippine Demersal Stocks (1946-1984): Using Vessel Horsepower as an Index of Fishing Effort", *U.P.V. Fisheries Journal*, 3(1-2), pp. 11-24.

The trend represented in Table 5.6 is clear: fishing returns per unit of effort steadily reduced from the mid-1940s to the mid-1980s. Geronimo Silvestre and Daniel Pauly, the authors who first compiled these comparative data, further estimate that during this same period the overall demersal biomass in Philippine waters fell from 930,000 to 285,000 metric tonnes.[123] Danilo C. Israel and Cesar P. Banzon come to similar findings, and expand their analysis to

[123] Silvestre and Pauly (1987), op. cit.

also include small pelagic fish species. The authors find that in combination the catch per unit of effort (CPUE) in 1984 was only half what is was in 1965 and conclude that, by the contemporary period, both municipal and commercial fisheries were overfished and that reductions in fishing *effort* is necessary to reach sustainable levels in marine fisheries in the Philippines.[124]

While these data reflect aggregated state-wide challenges, Mindanao certainly provides no exception. Many communities in Moro-dominated areas of Mindanao no longer view fishing as a reliable source of income.[125] Numerous fishermen in these communities rely upon increasingly scarce municipal fish stocks (those close to shore), as they are unable to access fish found further out at sea.[126] Such small-scale fishing activities are affected by the reductions to municipal fish stocks that result from these large-scale offshore operations. Additionally, "population growth, migration to coastal areas, and the use of more efficient gear" has led to an increased capacity for municipal fishermen to substantially deplete fish stocks in Mindanao and elsewhere throughout the archipelago.[127] The marked changes in population that took place during the latter half of the 20th Century ensured that these pressures are particularly applicable in the Mindanao's coastal regions.

### 3.3 The Foundational Role of the Environment

In the underdeveloped regions of Mindanao, the importance of natural resources for human activities can scarcely be overstated. As the previous chapter discussed, large percentages of

[124] Israel, Danilo C. and Cesar P. Banzon (1998), "Overfishing in the Philippine Marine Sector", Economy and Environment Program for Southeast Asia: Research Report.
[125] Chaves, Carmeli Marie (2009), "Those that Urbanization Left Behind: A Case Study of Spatial Disparities and Rising Dependency in Coastal Areas of Mindanao, The Philippines", *Sojourn: Journal of Social Issues in Southeast Asia*, 24(2), p. 263.
[126] Ibid.
[127] Trinidad et. al. (2002), op. cit., p. 7.

the Bangsamoro continue to rely directly upon natural resources for their livelihoods and sustenance. Such direct dependence was even more prevalent among Moros during the historical periods of large-scale migration and land conversions, when the large majority of the Bangsamoro looked to traditional means of livelihood such as farming, fishing and low-volume trade.[128] As a result, the population pressures, land conversions, movements into the uplands, and the attendant environmental degradation that these dynamics caused all affected the Bangsamoro with disproportionate severity. Additionally, and for a myriad of reasons, the majority of rents gained from exploiting strategic resources in Mindanao did not accrue to the Bangsamoro. The legacy of these dynamics is the ongoing extreme and prevalent levels of poverty and underdevelopment in the ARMM and among Moro communities elsewhere in Mindanao.

The environmental history of Mindanao, along with its contemporary ramifications, therefore provides valuable insights into the foundational role that the environment plays in human activities; particularly in areas in which the population is heavily dependent upon the viability of local strategic resources. When strategic resources are manipulated in ways that fail to respect ecological limitations, significant environmental changes result. Such manipulations were on nearly constant display during the latter half of the 20th Century in the southern Philippines. Figure 5.2 provides a visual representation of the ramifications of such problematic manipulations and demonstrates the elemental role that strategic resources have for explaining the history of environmental change in Mindanao.

[128] Che Man (1990), op. cit.

**Figure 5.2: Resource Exploitation and Environmental Change**[129]

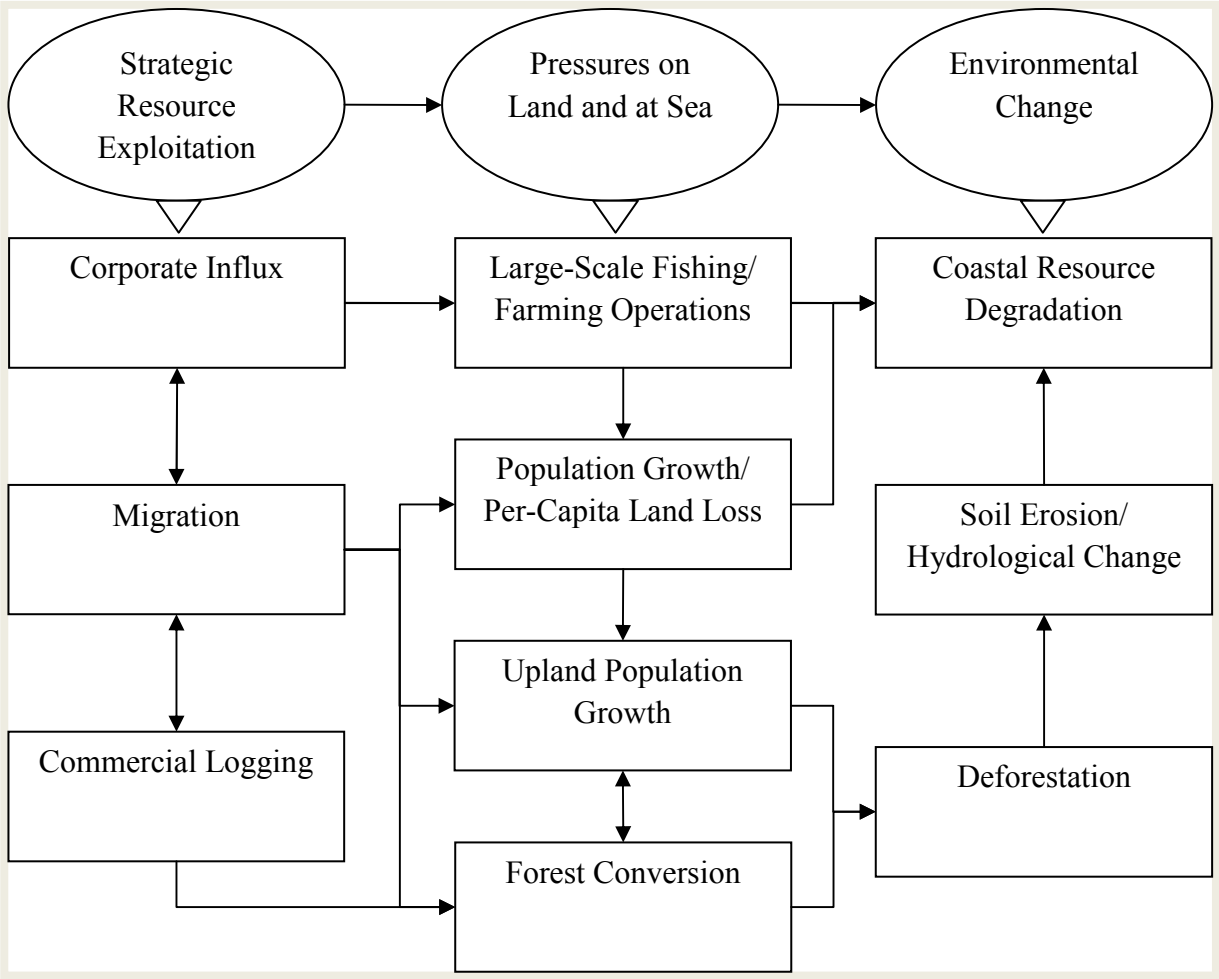



Figure 5.2 reveals progressive connections among 1) the dynamics characterising efforts to exploit Mindanao's strategic resources on a large scale, 2) the pressure that these efforts placed upon the environment in Mindanao's, and 3) the environmental ramifications of this pressure. As Figure 5.2 presents, these connections are complex and multidirectional. Corporate agricultural and logging efforts both encouraged migration to the Mindanao 'frontier' and utilised the labour of these migrant populations. The corporate agricultural influx, logging and migration acted both independently and in conjunction to convert Mindanao's forests, develop large-scale agriculture in the lowlands, place population pressure on the uplands and reduce the land availability for Mindanao's citizens. These pressures

[129] The top three ovals in this figure represent categories into which the rectangular dynamics below them fall.

altered Mindanao's environment in a myriad of ways, the most significant of which include extensive deforestation, acute soil erosion and hydrological challenges, and the degradation of Mindanao's coastal resources. These processes represent rapid and pronounced changes to Mindanao's environment over a relatively short period of time and explain the imperilled contemporary state of many of the region's most strategically valuable resources.

Economic ambition was a clear driver of environmental change in Mindanao throughout the 20th Century. The following section addresses the economic drivers and ramifications of resource exploitation in Mindanao in greater detail, and explores the degree to which economic progress can be predicated upon viable strategic resource stocks along with the ways that mismanagement of these strategic resources can lead to fundamental economic shifts. These multidirectional dynamics in the environmental and economic sectors, which have roots in the colonial period, provide insights into some foundational causes of the pervasive conditions of insecurity in the southern Philippines.

### 4.1 "Land of Promise": Mindanao as a Source of Wealth

#### A. The Business of Colonialism

Colonial administrations in the Philippines consistently viewed Mindanao as a source of economic potential. Attempts to take advantage of this potential enjoyed relative degrees of success, and corresponded roughly to the levels of political control that given administrations were able to exert over Mindanao. For their part, the Spanish colonisers were never able to functionally extend their political writ beyond Mindanao's northern shores and as a result played only a peripheral role in Mindanao's economic history. This reality led to the

distinction of the region as a southern frontier territory ripe with economic potential at the point of the US's colonial usurpation of Spain. US colonial ambitions in the Philippines centred squarely upon the potential economic benefits that the bountiful archipelago could provide, and Mindanao was no exception.

The US colonial administrations were pragmatic, and made no secret about the economic reasons behind their presence in Philippines. In his previously-discusses speech to the US Congress in 1900, Senator Albert Beveridge represented the sentiments of many US leaders when he described the economic reasons for retaining the Philippines as a colonial holding. Beveridge stated:

> [T]he Philippines are so valuable in themselves that we should hold them...The wood of the Philippines can supply the furniture of the world for a century to come...[a]nd the wood, hemp copra, and other products of the Philippines supply what we need and cannot ourselves produce. And the markets they will themselves afford will be immense.[130]

Senator Beveridge's arguments aligned with the victorious side of an American congressional debate over its future role as a colonial power, and subsequent US administrations consistently viewed the Philippines through an economic lens.[131] When applied to Mindanao, the US economic outlook led to profit-driven strategies for developing Mindanao's "greatest untapped capital asset"; arable land.[132]

Datu Michael O. Mastura succinctly describes US economic objectives in Mindanao as efforts to "hasten the development and cultivation of large tracts of fertile agricultural land in Mindanao, thereby making the region contribute to national development through economic production."[133] In search of such contributions, US and northern Philippine business interests

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[130] Beveridge in Cortes et. al. (2000), p. 238. Beveridge elaborates upon these "immense" markets stating: "Spain's export and import trade with the islands undeveloped was $11,534,731 (USD). Ultimately our trade, when the islands shall be developed, will be $125,000,000 (USD) annually."
[131] See footnote 76 on page 243 for a brief annotated account of this debate in the US Congress.
[132] Magdalena (1996), op. cit., p. 108.
[133] Mastura, Datu Michael O. (1984), *Muslim Filipino Experience*, Manila: Ministry of Muslim Affairs, p. 243.

sought potentially valuable lands in Mindanao for the production of exportable goods. As the colonial administrator, America became the primary destination for agricultural exports from the Philippine territories. Data on Philippine exports during the first decade of colonial rule reflect the success of this facet of the US strategy, and form a compelling picture of the economic benefits that America was quickly able to draw from the archipelago. Tables 5.7 shows the growing dominance of the US as a market for Philippine goods from 1899-1925 and Table 5.8 demonstrates how this dominance translated to increasing trade volumes:

**Table 5.7: Philippine Trading Partners (1899-1925)**

| Country | Percentage of Trade (1899-1908) | Percentage of Trade (1916-1925) |
|---|---|---|
| United States | 23.7 | 71.4 |
| Great Britain | 23.5 | 6.9 |
| China | 12.0 | 4.4 |
| French East Indies | 8.2 | 2.7 |
| France | 6.0 | 1.5 |
| Spain | 5.9 | 2.1 |
| British East Indies | 4.5 | 1.4 |
| Germany | 3.4 | 1.1 |
| Japan | 2.9 | NA |
| Australia | 2.8 | 1.7 |

Source: Adapted from Miranda, Evelyn Ansay (1986), "Early American Imperialism and the Development of the Philippine Oligarchy: The Case of the Philippine Commission and the Filipino Legislative Elite, 1899-1916", Unpublished Doctoral Dissertation, Manila: University of the Philippines.

**Table 5.8: Philippine Exports to the US (1906-1915)**

| Year | Trade Volume to the US (USD) | Total Trade Volume (USD) |
|---|---|---|
| 1906 | 11,869,289 | 32,642,802 |
| 1907 | 10,329,387 | 33,097,867 |
| 1908 | 10,450,755 | 32,601,072 |
| 1909 | 14,726,513 | 34,924,337 |
| 1910 | 17,241,725 | 40,628,463 |
| 1911 | 19,827,030 | 44,587,291 |
| 1912 | 22,814,238 | 54,784,738 |
| 1913 | 16,434,018 | 47,772,956 |
| 1914 | 24,261,924 | 48,689,634 |
| 1915 | 50,034,560 | 53,863,604 |

Source: Adapted from Miranda (1986), op. cit.

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While it is unsurprising that US ties with the Philippines grew as a result of their colonial relationship, the degree and abruptness of the shifting trade volumes is staggering.[134] At the turn of the 20th Century, the distribution of Philippine goods, while not even, showed diversification and included multiple relevant trading partners.[135] The picture during the second and third decades of the twentieth century was markedly different, with the US holding a dominant position as the primary destination for Philippine goods. Cortes and colleagues write that this situation was problematic for the Philippines for two important reasons. First, exhaustive trade relations with the US diverted Philippine agricultural products such as sugar and tobacco from their natural nearby destinations in Asia.[136] Secondly, the trade benefits enjoyed by the US could delay the process of granting the

[134] Such trade volumes were further enabled by US legislation creating free trade arrangements with its colonial holding. The Payne-Aldrich Tariff Act of 1909 and the Underwood-Simmons Act of 1913 provided the primary legislative mechanisms through which these arrangements were constructed.
[135] Cortes et. al. (2000), op. cit. p. 293.
[136] Ibid.

Philippines independence; as doing so could jeopardise America's special relationship with the colony.[137]

In addition to these two well-founded Filipino fears, the special economic relationship between the US and its colonial territory created a Philippine economy that was light on industry and based largely upon agricultural exports. Nationwide figures from 1930 reflect the dominance of agriculture in the Philippine workforce, with 2.6 million of 3 million registered labourers involved in agriculture and roughly another 100,000 working in agrarian-related production such as fishing, forestry and mining.[138] Maintaining the exports produced by this agrarian economy necessitated increasing land cultivation and dedicating growing levels of agricultural production and human resources to the export market. In Mindanao, where agricultural opportunities during the US administration were manifold, the desire for agricultural exports corresponded with the influx of corporate agribusiness. As a result, 46 US firms were established in the Zamboanga and Sulu territories during the first two decades of US colonial occupation.[139] In 1908, 25 agribusiness economic actors "pioneered agricultural development in Mindanao" and established plantations of up to 1,000 ha.[140] By 1930, US agricultural plantations had spread throughout much of Mindanao and enjoyed a presence in Cotabato, Davao, Zamboanga, Sulu, Agusan and Lanao.[141] This bourgeoning US corporate presence was quickly changing the economic character of Mindanao.

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[137] Ibid. Cortes and colleagues also mention a third problematic factor from the Philippine perspective, which was that free trade made it difficult to generate tax revenue that would have existed in more normal economic circumstances.
[138] Ibid., p. 300-301.
[139] Tan, Samuel K. (1995), "The Socioeconomic Dimension of Moro Secessionism", *Mindanao Studies Reports*, No. 1, Quezon City: The University of the Philippines Press and Centre for Integrative and Development Studies.
[140] Goodrich, Firestone and Goodyear all established rubber plantations in Basilan, Cotabato and Zamboanga between 1919 and 1929, Del Monte and the affiliated Philippine Packing Company (PPC or PHILPAK) began developing pineapple plantations in Bukidnon in 1926, and the operations of US fruit corporations such as Dole and Del Monte, along with their Filipino subsidiaries, led to the production of coconuts as Mindanao's largest colonial export. See: May (1992), op. cit., p. 127-128.
[141] Tan (1995), op. cit.

The American corporate influx was the linchpin of a US strategy to create a lasting and special economic relationship with the Philippines. As the archipelago moved deliberately towards political self rule in the 1930s and 1940s, the US focused on developing economic connections that would outlive its colonial authority. In Mindanao, this goal led the US to cultivate economic ties with the territory's bourgeoning socioeconomic and political elite. While a small Moro elite class did survive the hundreds of years of colonialism and decades of migration, the US gravitated towards Filipino elites who were already beginning to exert themselves economically in Mindanao. As hoped, these ties between the US and the Filipino elite transcended the shift to independence and create the foundations for continuing exploitation of Mindanao's economic potential by actors from outside of the region.[142]

Collusion between US colonisers and elite Filipino business interests ensured that the rents taken from Mindanao's resources accrued increasingly to non-Moro actors.[143] Such distribution dynamics extended to the benefits of basic labour, where the migratory influx of Christians from the north meant that there were ample non-Moro citizens to fill the majority of job opportunities created by Mindanao's economic development. These economic machinations disrupted the traditional Moro economic order, which was based upon subsistence production and communal distribution, and had dire consequences for development throughout the Bangsamoro.[144] W. K. Che Man astutely describes the ways in which these economic shifts failed to result in Moro progress, stating:

> The shift from subsistence agriculture to industrial or agricultural wage employment should have been accompanied by a rise in the standard of living for the population in general. But it did not occur for the Moros...The influx of Christians from the north provided an ample labour force for the industries. The colonial entrepreneurs already had a long-standing relationship with the Christians from the north and thus preferred them to the Moros...[S]ince the corporations are export-oriented, their products are

[142] For a useful account of the history of the Filipino socioeconomic and political elite see: Simbulan, Dante C. (2005), *The Modern Principalia: The Historical Evolution of the Philippine Ruling Oligarchy*, Quezon City: The University of the Philippines Press.
[143] See: Riedinger, Jeffrey M. (1995), *Agrarian Reforms in the Philippines: Democratic Transitions and Redistributive Reform*, Stanford: Stanford University Press.
[144] Che Man (1990), op. cit.

> not made for local consumption, [and] [c]onsequently, the industries are not concerned with the level of income of the local population.[145]

The economic dynamics discussed here by Che Man transcended political control in the Philippines and, as a result, the handover of power from US to Philippine governments did little to change the state of underdevelopment that existed throughout the Bangsamoro.

**B. More of the Same: Post-Colonial Economic Exploitation in Mindanao**

The Filipino elite were well-placed to continue benefiting economically from Mindanao's potential after independence. The previous US land policies had facilitated the purchase of large swathes of land throughout Mindanao by the elite Filipino families, and these elites unsurprisingly consolidated their economic positions during subsequent years while preserving profitable relationships with the US.[146] As a result, US corporations in with Filipino partners expanded their land holdings in Mindanao during the 1950s and 1960s, with Firestone and Dole Philippines purchasing additional lands in Cotabato during the late 1950s and Boise-Cascade gaining logging concessions in Basilan.[147] For much of the Bangsamoro, however, the post-independence period represented an extension of the status-quo by other means. Colonialism seemed alive and well from an economic perspective, and the Bangsamoro continued to witness its traditional lands converted to profit producing enterprises by external forces. Julkipli Wadi addressed post-independence sentiments among the Moros by stating that "...while Filipinos were recipients of Independence in 1946...the

[145] Ibid., p. 27. Che Man's shift to the present tense demonstrates that, at the time of his writing in 1990, the uneven distribution of benefits taken from Mindanao's resources remained the prevailing dynamic.
[146] See: Fuwa, Nobuhiko (2000), "Politics and Economics of Land Reform in the Philippines: a survey", Background paper prepared to a World Bank Study: *Dynamism of Rural Sector Growth: Policy Lessons from East Asian Countries.;* and Hayami, Yujiro and Keijiro Otsuka (1993). *The Economics of Contract Choice: An Agrarian Perspective*, Oxford: Oxford University Press.
[147] See: Jubair (1999), op. cit. More specifically, the Firestone Tire and Rubber Company took lease of 1,000 ha in Makilala, Cotabato in 1957. Dole Philippines gained lands in Tupi and Polomok, South Cotabato in 1963 and the Weyerheuser Corporation took a logging concession of 72,000 ha; also in Cotabato. Cotabato, in central Mindanao, experienced a pronounced demographic shift during the decades of migration into Mindanao and represents one of the most pronounced locations of Moro displacement.

Moros remained perpetual victims of colonisation without closure, a colonialism that has become [contemporarily] increasingly intensified, compounded and multi-headed..."[148] As non-Moro actors increased their control over the Mindanao economy, more of the region's economic potential was dedicated to national food production and growing foreign exports.

By the 1970s Mindanao had become a major producer of some of the Philippines most important agricultural goods. By 1972, estimates record that Mindanao accounted for 56 percent of the country's corn production, approximately half of its fish and coconut supplies, substantial levels of rice, rubber and fruit, and 40 percent of its pasture land which supported two-fifths of all cattle and one-fourth of all pigs respectively.[149] The agricultural advances in Mindanao led to it taking greater primacy in the Philippine export driven economy. By 1977, half of the cropland in Mindanao was dedicated to exports and the heretofore greatly underdeveloped region accounted for a quarter of the entire export value of the Philippines.[150] This increasing wealth production masked the reality that progress for Mindanao's original inhabitants was not accompanying the region's otherwise impressive economic development.

Despite its growing relevance for the state economy, human development throughout Mindanao continued to lag behind the rest of the archipelago; particularly in the Bangsamoro. Development indicators for the Mindanao's Moros during the 1970s show trends eerily similar to their contemporary plight. When compared to the overall averages for Mindanao, Moro communities consistently lagged behind. Government figures from 1973 indicate that there were just over 20 kilometres (km) of roads per 100,000 people in Muslim Mindanao,

[148] Wadi (2008), op. cit., p. 21.
[149] George (1982), op. cit., p. 221. George writes in 1980 that "[t]he soil is so rich that the vast valleys of Cotabato and Davao have turned into nationally cherished food production zones."
[150] AFRIM Resource Center (1980), *Mindanao Report: A Preliminary Study on the Economic Origins of Social Unrest,* Davao City: AFRIM Resource Center.

compared to 397 km per 100,000 persons throughout the rest of the region.[151] Only 12 percent of households in Muslim Mindanao had electricity compared to a regional average of almost 18 percent, municipal water access compared unfavourable at 20 percent to 25 percent of households, and the ratio of doctors per number of population was approximately half in Moro areas what it was elsewhere in the region.[152] Taking into account that non-Moro areas of Mindanao accounted for some of the lowest development levels nation-wide, these figures become even more extreme.[153]

Uneven development in Mindanao reflects the region's status, in the eyes of the state and Filipino business interests, as a *source* of potential wealth. As the Philippines matured as an independent state, wealth attained from throughout the country accrued to increasingly small numbers of this elite class.[154] In Mindanao, these dynamics left a legacy of widely disparate income and development levels that continue to define the region. In addition to leading to pronounced development gaps, the prevailing post-independence economic activities in Mindanao also encouraged unsustainable resource development. Because Mindanao was viewed by powerful economic actors as primarily as a source of wealth, as opposed to an area in which local inhabitants depended upon the future viability of strategic resources, policies often encouraged short-term financial gains at the expense of the region's environmental future. These economic processes ultimately undermined many of the natural resource bases that had made Mindanao so economically attractive.

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[151] George (1982), op. cit., p. 224.
[152] Ibid.
[153] Ibid. For example, in 1973 28 percent of households in the Philippines had electricity and the national average for doctors per number of citizens was roughly three times that of the Bangsamoro.
[154] A detailed examination of the Marcos regime's economic policies is beyond the scope of this thesis. See Aquino, Belinda A. (1999), *Politics of Plunder*: *The Philippines Under Marcos*, 2nd Ed., Quezon City: Kadena Press.

## 4.2 The Economics of Environmental Change

### A. Cronyism and Cutting: The Destruction of Philippine Forests

Specific policies encouraged principal economic actors to exploit Mindanao's resources at unsustainable rates. While forward thinking sustainable resource development practices were certainly not an earmark of the colonial regimes, the most rapid and pronounced plunder of resources in Mindanao occurred during 24 year reign of President Marcos (1962-1986). The resource plunder was carried out by opportunistic members of the Philippine elite, and ties to the president became an essential component for achieving economic success. The ramifications of these structural elements of the Philippine political economy under Marcos unsurprisingly compounded uneven distribution dynamics in Mindanao and elsewhere. Additionally, however, these cronyistic arrangements incentivised rapid resource exploitation for short-term economic gains; with dire consequences for Mindanao's environment.

The Philippine economy during the 1960s and 1970s depended upon export capital gained through the exploitation of the country's natural resources. To finance the development of these natural resources for export, the Philippine governments sought large external loans. In combination, these two dynamics led to a Philippine economy that needed perpetually increasing export capital to meet the demands of growing debts. The most valuable natural resources on the archipelago were rapidly sought after and exploited to bring financial reward to Filipino and international business interests and ensure that the country retained access to external loan capital. Much of the loan capital was then spent on financing the debt of corporations affiliated with the government as well as developing infrastructure that catered to the largesse of the Philippine elite. The problem with this system is that even the

Philippines' bountiful supplies of renewable resources had finite output capacities. Vital resources such as forests and fisheries were depleted to the point at which they could no longer match the output levels from previous years, compromising the system of loans and exports underlying the larger economy.[155] This breakdown had dire consequences for the Philippine environment and much of the country's population that depend directly upon it.

Logging efforts under President Marcos provide a clear example of the ecological dangers of incentivising short-sighted resource exploitation. A confluence of interests existed between the members of the upper echelon of the Philippine government and the elite business class, as both groups wished to maximise profits in through resource exploitation. Gareth Porter and Delfin J. Ganapin Jr. argue that the subsequent plunder of Philippine forests during the 1960s and 1970s came as a consequence of pervasive desires for these immediate financial gains. The two authors state:

> The fate of the Philippines' once magnificent forests is the best illustration of the tendencies within Philippine society toward exploiting resources for short-term economic gain rather than maintaining the original "principal" of those resources intact. The government has offered little incentive for responsible logging and few loggers have felt an obligation to consider the broader social impact of cutting down forests without adequate reforestation. Political elites have been motivated mainly by personal gain. Governments have sought to increase foreign exchange earnings through log export.[156]

The acquisitive motivations discussed by Porter and Ganapin were supported by structural arrangements and government policies that encouraged forest destruction.

Frequent manipulations of forest concessions by the Philippine political and socioeconomic elite were first among the structural arrangements leading to deforestation. Since Philippine forests are almost exclusively viewed as a public good, the government enjoyed control over the processes by which forest resources could be developed. This control came in the form of logging concessions, known as timber license agreements (TLA), which the government

[155] Porter and Ganapin (1988), op. cit.
[156] Ibid., p. 23.

allocated to private companies and/or individuals who then logged, transported and sold the timber. These private entities were expected to live up to state regulations governing forest cutting. The system proved vulnerable to cronyistic manipulation, however, as the elite-dominated Philippine government officials allocated increasingly large tracts of forest to members their own inner circles. This trend was most pronounced under the Marcos administration.[157] Marcos concentrated power in the hands of a relative few elite Filipino families which his regime then granted large timber concessions. Olli Saastamoinen provides figures and analysis that describe these dynamics, stating that:

> A typical concession covered 40,000 to 60,000 hectares, but the friends and family members favoured by Marcos would receive more than 100,000 hectares. One of Marcos' steadfast supporters presided over logging operations in over 600,000 hectares...Marcos also issued short-term "special permits" to cut trees. Since forest charges were absurdly low, the profits of concessionaries were extremely high.[158]

These political arrangements offered exorbitant amounts of economic power to a privileged group of stakeholders, and with this power came the capacity to significantly alter environments throughout the Philippine archipelago.

Once concessionaries had received TLAs from the government, there was little incentive to pursue sustainable logging with long-term outlooks. Conversely, the logical approach for these private business entities was to maximise profits early, or as Saastamoinen states to "cut quick and go".[159] Rapid forest extraction was logical for a number of reasons during the 1960s and 1970s. Demand for Philippine timber exports was high, particularly in Japan, and export profits could thus be quickly realised.[160] More important however, was the combination of short logging concessions with uncertainty surrounding their renewal. Often

[157] Prior to Marcos' institution of martial law in 1972, for example, the Philippines' political economy was said to be largely controlled by roughly 400 families; by the late 1970s this number had reduced to a mere 60 families. See: Timberman, D. G. (1991), *A Changeless Land: Continuity and Change in Philippine Politics*, Singapore: Institute of Southeast Asian Studies.
[158] Saastamoinen (1996), op. cit., p. 127.
[159] Ibid. See also: Porter and Ganapin (1988), op. cit. and Boyce (1993), op. cit.
[160] See: Dauvergne, Peter (1997), "Globalisation and Deforestation in the Asia-Pacific", Australia National University, Working Paper No. 1997/7.

permits would allow logging in a given area for between one and ten years, and the fierceness of competition for these permits along with the ease with which the government could change their allocation encouraged loggers to gain the greatest rewards possible during the period at which they were certain to have a concession.[161] As Porter and Ganapin point out, this was problematic for sustainable logging because it discouraged concessionaries from looking at their investment long-term. The authors state:

> Enormous profits could be earned in the first cut, but most companies had no incentive to use sustained yield methods of logging, since they would have to wait at least 25 years for the next cut. Besides, they had no assurance that their lease would be renewed for another year, let alone that they would still be in the logging business many years hence. So most companies simply maximised their revenues... [162]

In addition to the widespread environmental ramifications of felling the Philippine forests, these unsustainable logging practices were also problematic economically; as resource exhaustion ultimately undermined the yields enjoyed during the logging heyday.

Data on Philippine timber exports reveal the arc of large-scale forest exploitation along with its ultimate demise. During the fiscal year from 1960-61 the Philippines was producing just over 6.5 million cubic metres of timber, roughly half of which was exported.[163] By 1965-66 production levels had eclipsed 8 million cubic metres and the export rate had climbed to nearly 70 percent.[164] The zenith of Philippine log production came in 1968-69 at over 11.5 million cubic metres at which point it began a slow but steady decline while export levels hovered around 80 percent.[165] Log production in the Philippines would never again approach the levels of the late 1960s and early 1970s; a reality that was not a function of reduced

[161] See: Boyce (1993), op. cit., pp. 225-236.
[162] Porter and Ganapin (1988), op. cit., p. 26.
[163] National Environmental Protection Council (1983), *The Philippine Environment 1982*, Quezon City: NEPC.
[164] Ibid.
[165] Ibid.

efforts but rather of fewer forest resources.[166] For an economy that depended heavily upon capital generated from forests and other natural resource exports, such declining production had profound effects. The Philippines depended upon export capital to provide a foundation for growth in other sectors, including the country's ambitions for greater industrialisation. Resource exhaustion in the logging sector played a role in undermining this strategy, and contributed to the Philippines' mounting external debt. The Philippines overall terms of trade declined by roughly 50 percent from the late 1960s to the mid 1980s, with macroeconomic factors combining with the export driven vulnerabilities to create to a debt crisis in the Philippines.[167] The steady reduction of timber resources contributed mightily to the country's economic woes during latter half of the Marcos administration, while also saddling subsequent Philippine governments with widely degraded forest resources.

The lasting economic legacy of the timber boom was the reduction in value of one of the Philippines' most strategic natural assets. Cruz and Repetto estimate the value timber depreciation between 1970 and 1987 averaged 3.3 percent annually, exceeding the more broadly recognised increases in external indebtedness over the same period.[168] Given the environmental fragility of forest systems, these value losses remain relevant during the contemporary period.

Mindanao, as the location of the greatest logging expansions during the timber heyday, was an important source of logging revenue and also a location that suffered profound reductions

[166] Interestingly, the pronounced reductions in logging production that occurred during the mid to late-1970s ran counter to economic trends that encouraged greater Philippine timber exports. These trends include the Philippine currency devaluation, greater structural incentives for export industries and growing international timber prices. The fact that Philippine timber exports *reduced* during this period evidences the reality that there was simply not enough of the resource remaining. See: Cruz and Repetto (1992), op. cit., pp. 14-15.
[167] Cruz and Repetto (1992), op. cit., pp. 11-14. The international oil shocks of the 1970s, to which the Philippines was particularly vulnerable, were primary among the macroeconomic challenges faced by the Philippines during this period.
[168] Ibid., p. 18. The values of these net losses ranged from $182 million to over $1.6 billion USD annually.

in its forest resource value. The economic incentives encouraging unsustainable logging, and the political apparatuses underlying them, represent the most pronounced push factors in the destruction of forests in Mindanao and elsewhere in the archipelago. As Boyce accurately concludes, Philippine forestry during the logging boom:

> ...provides a case study in the political economy of environmental degradation. A natural inheritance has been squandered, as future income opportunities are sacrificed for short term gains. At the same time, the social costs of soil erosion, floods, droughts, and lost biological diversity have been imposed on current and future generations.[169]

Logging, however, was not the only industry to leave such an ignominious legacy.

**B. The Wider Net: Soil, Watershed and Coastal Resource Depreciation**

Given the vital environmental niche played by forests, particularly in tropical regions, it is unsurprising that the deforestation brought with it corollary reductions in other resource values. Primary among these reductions is the depreciation of soil value. Cruz and Repetto estimate that soil depreciation losses ranged from 139 to 346 million pesos annually from 1970 until 1987, largely as a result of upland deforestation.[170] Reductions in soil quality have resulted in untold reductions in crop yields and necessitated substantial increases in fertilizer costs throughout previously fertile lands.[171] Erosion also compromised watersheds to the detriment of hydropower and irrigation efforts. National and regional irrigation projects depend upon dams and reservoir systems that have been damaged by sedimentation and water flow variability problems.[172] As a combined result of these soil erosion dynamics, the

[169] Boyce (1993), op. cit., p. 240. Boyce confines his analysis to the years of the Marcos administration.
[170] Cruz and Repetto (1992), op. cit., p. 19. The figures average out to an annual loss of 242 million pesos in 1972 values.
[171] Cruz et. al. (1988).
[172] See: David, Wilfredo P. (1988), "Soil and Water Conservation Planning: Policy Issues and Recommendations", *Journal of Philippine* Development, 15(1), pp. 47-84.; and National Statistical Coordination Board (NSCB), (1990), *Philippines Statistical Yearbook* 1989, Manila: NSCB.

economic output for staple crops in Mindanao such as corn, rice and coconuts has been detrimentally affected.[173]

The degradation and depletion of coastal resources also had significant economic costs. The historical causes of fishery degradation and depletion in the Philippines are similar to those that led to deforestation. The government made strategic decisions to encourage export-oriented fishing policies that came at the expense of future national resource supplies. The Marcos regime specifically released large coastal and inland waterways for aquaculture projects, which it granted to a small cadre of concessionaries who enjoyed political influence. These policies degraded mangroves, lastingly altered coastal ecosystems and crowded municipal fishermen out of their traditional harvesting areas.[174] Commercial fishing operations grew and took increasing yields from fisheries beyond the immediate coastal regions. These commercial operations are capital intensive and, when compared to municipal operations throughout the archipelago, have employed a relatively small number of people throughout the years of heavy fishing exports.[175] Growth in commercial fishing during the 1970s and 1980s brought with it new technologies that could increase the yields taken by relatively few large trawlers. The government encouraged these technological advances by providing capital to the commercial fishing sector on a level that was drastically disproportionate to that allocated for municipal fishermen.[176] These high tech fishing methods had little regard for the sustainability of Philippine fisheries, and included operations that took virtually all fish contacted (regardless of their economic potential) at any stage of

[173] Cruz and Repetto (1992), op. cit., pp. 19-23. Cruz and Repetto conduct a comparative analysis with soil erosion costs in Indonesia, providing a great deal of additional data that is not presented here.
[174] Porter and Ganapin (1988), op. cit.; and FAO (2005a), op. cit.
[175] Porter and Ganapin (1988), op. cit., p. 36. Porter and Ganapin claim that at the time of their writing in 1988 there were 45,000 commercial fishermen compared to over 570,000 in the municipal sector.
[176] Ibid., p. 38. Porter and Ganapin cite figures from 1980-1981 in which the Philippines allocated a paltry $500,000 USD in loans to the municipal sector compared to $17.6 million USD for commercial operations.

development.[177] As with the forestry sector, the growing relevance of offshore commercial fishing and commercial aquaculture operations during the 1970s and 1980s reflected the centralisation trends that defined the post-independence Philippine economy. The result, also like forestry, was the depreciation in value of strategic natural resources.

Fishery rents dropped precipitously during the 1970s and 1980s from their maximum levels at the close of the 1960s. In the extensive study by Geronimo Silvestre and Daniel Pauly, the authors estimate the 1970 maximum economic rent (MER) of Philippine fisheries at approximately 273 million pesos.[178] The authors find that this MER dropped precipitously in a linear pattern throughout the 1970s and into the mid-1980s as a result of environmental changes.[179] The years of fishery depreciation affected the future profitability of the industry for the Philippine state while also having negative economic impacts for municipal fishermen. For many municipal fishermen, particularly in impoverished coastal communities such as those prevalent throughout the Bangsamoro, reductions in fishery production equate directly to losses in income and food.[180] While the numbers of people affected by fishery depletions are substantially less than those affected by the degradation of land, the ramifications of these environmental changes remain important; particularly in Mindanao. As Porter and Ganapin concluded in 1992:

> While this group [struggling municipal fishermen] is small nationwide relative to landless and upland peasants and agricultural workers, it is a politically important group in parts of Mindanao and one whose political alienation from the government is very likely. More broadly, less fish is available for domestic consumption, and the poorest of the poor have therefore suffered worse malnutrition. In the context of the Philippines' subsistence crisis, the mismanagement of fishery resources and marine

[177] An example of such operations in Mindanao include the trawlers in Panguil Bay, which used nets to take virtually all living organisms, including larvae, from the sea. See: Gonzales, R.B., F. Vande Vusse and A.C. Alcala (1995), "Coastal Biological Resources: Problems and Prospects", Natural Resources Management Center, Ministry of Natural Resources, p. 185.

[178] Silvestre and Pauly (1987), op. cit. This figure represents the median point between the estimated MER range of 210-336 million pesos.

[179] Ibid. Silvestre and Pauly estimate a capital value of 2.73 billion pesos for fisheries in 1970, which then suffered declining annual rents at a rate of 195 million pesos annually until 1986.

[180] Porter and Ganapin (1988), op. cit.

> environments heightens tensions between the new dispossessed class and the existing economic and political order.[181]

Porter and Ganapin's statement effectively demonstrates the corollary effects that environmental degradation has had for other sectors in Mindanao. These effects extend, both directly and indirectly, to the region's history of military insecurity.

### 5.1 Military Insecurity: Spain's "Moro Wars" in Mindanao

Violent means have been used for centuries to affect societal, political, environmental and economic conditions in Mindanao. Colonial, Philippine and Moro protagonists have each deemed the stakes in Mindanao high enough to warrant committing significant military, economic and human resources to fight for their respective interests in the region. For the Bangsamoro, conflict came to their traditional homelands in multiple waves of external forces; bent on establishing a level of control in Mindanao that would allow them to take advantage of the region's strategic value. Moros fought these external forces to maintain their societal character, preserve influence over political decision, retain control over the resources in their traditional lands, and promote economic opportunities throughout the Bangsamoro. For colonial and Philippine actors, Bangsamoro resistance represented a force that must be overcome for political consolidation to extend throughout the archipelago. These colonial and Philippine actors fought first to gain and later to preserve political control in Mindanao, and were compelled towards protracted conflict by the natural resource and economic benefits that such control could facilitate. The ramifications of this protracted conflict have been pronounced; as the region has witnessed acute levels of destruction, displacement and death during periods of intense fighting since colonial contact. The first of

[181] Ibid., p. 44.

these violent intervals were the so-called 'Moro Wars' between the Spanish colonial occupiers and vestiges of still powerful Moro Sultanates.

The Moro Wars began almost immediately upon Spain's arrival in the Philippine archipelago.[182] The first century of Spanish colonialism saw the occupiers rapidly consolidate political control over much of the archipelago, and successfully convert much of the native population to Christianity.[183] Mindanao proved the regional exception. Spain saw the Moro's as an extension of their traditional Muslim enemies from the European conflict theatre, and they set about trying to convert Moros to Christianity, marginalise the power of Moro sultanates, impede ties between the Bangsamoro and their Muslim neighbours, erode Moro land ownership regimes, and forcibly bring Mindanao into a unified colonial Philippine polity.[184] Early battles in the 1560s saw the still-powerful Sulu Sultanate ally with its Bornean neighbours, with whose leaders the Sulus had strong family ties, in an effort to expel the Spanish forces. Spain achieved a partial victory in this initial contact, as it defeated the Bornean forces in a naval battle at the mouth of the Brunei River and thus marginalised regional support previously enjoyed by the Bangsamoro.[185] Spain then concentrated its military efforts more fully towards the sultanates in Sulu and Maguindanao during the 1570s,

[182] Cesar A. Majul writes a definitive work on the history of conflict in Mindanao and divides the Moro Wars into six phases of acute violence over the period of Spanish colonialism. Majul claims that the Spanish-Moro conflict was marked by different political conditions and motives that shifted throughout these six phases. See: Majul, Cesar A. (1973), *Muslims in the Philippines*, Quezon City: University of the Philippines Press. Cortes and colleagues, meanwhile, point out that some Spanish historians (notably Vicente Barrantes and Jose Montero y Vidal) claim that Spain's military actions were undertaken to defend legitimate Spanish territories against threats from Moro piracy. See: Cortes et. al. (2004), op. cit.

[183] The Spanish consolidation of political control included military engagement with Moro elements outside of Mindanao. Jubair writes that Spain began its battles against Muslims in the Philippines not in Mindanao but rather in Manila during the 1570s. See: Jubair (1999), op. cit.

[184] Cortez and colleagues state that Spain saw the Moros as "ancient enemies" due to the history of Spanish-Muslim conflict. Jubair expands upon this sentiment, stating that "[f]or the first time after the fall of Granada in 1492, the Spaniards and the Moros, nay Muslims, came face-to-face, each circling half the earth in opposite directions. Each was already seething with anger for the other. See: Cortes, et. al. (2004), op. cit., p. 58.; and Jubair (1999), op. cit., p. 37.

[185] See: Corpuz, Onofre D. (1989), *The Roots of the Filipino Nation,* Quezon City: Aklahi Foundation, pp. 135-136.

but proved unable to do more than remove Moro influence from the main central and northern regions of the Visayas and Luzon and establish a small presence of Christian missionaries in northeastern Mindanao.[186]

The 17th Century saw the Moro sultanates go on the offensive, and from 1599 to 1635 the Maguindanaos fought Spain not only for control in their traditional lands but also over the collection of tributes coming from the Visayas.[187] Spain responded aggressively to the Maguindanao offensive and sent enough forces south to establish a fortress in Zamboanga. Subsequent Spanish victories in Maguindanao and Sulu during the late 1630s allowed the colonisers to consolidate power in parts of Mindanao and establish Christian missions. The following decades saw conflict trends escalate with rising Moro anger against the growing Spanish presence and an increasingly aggressive Spanish strategy to take control over all of Mindanao.[188] Moro resistance impeded Spanish evangelistic campaigns and, when Spain became distracted by a Chinese threat upon Manila, Moro counteroffensives intensified.[189] Spanish retreats from Mindanao saw an escalation of violence between the Bangsamoro and Christianised Filipinos, with Moro raids against Christian villages in northern Mindanao and the southern Visayas leading to devastating losses.[190] The influential Maguindanaon leader Sultan Kudurat was able to consolidate power throughout Mindanao and the remainder of the 17th Century would see powerful Moro forces solidify through warfare their national

[186] Abreu (2008), op. cit

[187] Majul (1973), op. cit. The presence of Dutch colonisers in neighbouring parts of the region also affected conflict dynamics between Spain and the Bangsamoro. The Dutch were in commercial competition with Spain and were thus viewed as a potential ally by Moro forces. While strong Moro-Dutch alliances did not come to fruition, the presence of Dutch forces in the region served to divert Spanish forces to locations from which they could prevent Dutch incursions into Spain's colonial orbit.

[188] Cortez, et. al. (2004), op. cit. Spanish strategies for consolidating power in Mindanao included depopulating Muslim settlements and destroying Moro farms and plantations.

[189] In 1662, the Chinese explorer Koxinga took over the island now known as Taiwan and sent an envoy to Manila to demand tribute from Spain. The Spanish responded by abandoning forts in Mindanao and redeploying forces to defend Manila. Majul (1973), op. cit.

[190] Ibid.

separation from Christianised Filipinos.[191] The following century would see separations between these national identities become more pronounced as Spain recommitted itself to seizing control over traditional Moro territories.

The 18th Century was the bloodiest period of the Moro Wars and saw Spain turn increasingly to native mercenaries in pursuit of control in Mindanao. Spain sought to reassert itself in the region after abandoning its Mindanao fortifications a century earlier and enlisted increasing numbers of Christianised Filipinos to bolster its ranks.[192] Spain encouraged Filipinos to join the fight in Mindanao by declaring a "Privateer System" in 1751.[193] The Privateer System encouraged individuals to organise military operations against the Bangsamoro, with Spanish support, in which the fighters would be rewarded with tax exemptions, unconditional pardons for their actions, and four-fifths of any spoils of war.[194] Abreu writes that this Spanish policy led to mostly criminally Filipino elements fighting for the "extermination of the Moros" and the societal divisions between Moro and Filipino nations became all the more pronounced.[195] The Moros responded by keeping pressure on Spanish-held communities in the Visayas and Luzon, razing many to the ground and taking tens of thousands of slaves.[196] As Jubair writes, this period saw Moro forces cease distinguishing between the colonisers and the Christianised Filipinos who fought alongside them and vulnerable Filipino communities live in constant

[191] Sultan Kudurat remains the most well known Moro leader from the Spanish occupation period. Kudurat repeatedly rallied multiple Muslim groups, from both Mindanao and its neighbours, in opposition of Spain.
[192] Spain elected to refortify its main garrison in Zamboanga in 1718. Evelyn J. Caballero writes that the reestablishment of a Spanish presence in Zamboanga curbed trade that had flourished between Moro sultanates and China during the reign of Sultan Kudurat. See: Caballero, Evelyn J. (2002), "Basis of Conflict in ARMM in Relation to Land and Resources", Department of Environment and Natural Resources (DENR)/United States Agency for International Development (USAID), p. 7.
[193] See: Abreu (2008), op. cit., p. 12.
[194] Ibid.
[195] Ibid., p. 12.
[196] See: Jubair (1999), op. cit., p. 48. Jubair writes that coastal communities throughout the Philippine archipelago lived in fear of Moro raids, a dynamic which led to greater levels of vilification of the Bangsamoro than had previously existed.

fear of Moro raids.[197] No party gained a decisive victory during this violent 18th Century period, but animosity grew between Moro and Spain's Filipino proxies that would outlive the colonial occupation.

The final century of Spain's colonial presence in the Philippines saw the Europeans gain decisive military victories over the Moros but fail to realise their desire for effective control in Mindanao. Spain's war-making capabilities improved dramatically during 19th Century with the introduction of steamships and greater heavy artillery, and the Moro sultanates were finally coopted through a combination of military threats, diplomatic overtures and crises of succession.[198] Despite Spain's expanding fortifications in traditional Moro strongholds of Sulu, Basilan and Cotabato, however, the Spanish occupiers were never able to significantly subjugate the Moro population.[199] Low-scale conflict and political and economic instability would define Spain's presence in Mindanao until it was forced to administrative control of the Philippines to the United States in 1898. By its own defined objectives for Bangsamoro territories, Spain's centuries of military engagement were in large part a failure.

Spain's ambition to take political control over traditional Muslim-occupied lands provided the primary impetus for the military campaigns of the European colonisers and their Filipino partners. Moro resistance to these objectives led Spain to wage, along with its Filipino subjects, the protracted violent campaigns in Mindanao that would lastingly alter military relations between the Filipino and Moro nations. The Moro's relatively successful responses to Spanish military incursions into their traditional territories prevented Spain from gaining

[197] Ibid.
[198] Majul (1973), op. cit. For a Moro perspective on the convergence of Spain's introduction of steamships with colonial efforts to take advantage of Moro succession dilemmas see: Jubair (1999), op. cit., pp. 48-50.
[199] Abreu (2008), op. cit. Abreu points to Spain's fortification in Jolo, where Spanish forces could not travel freely outside of their bases, as an example of the incomplete nature of the Spanish military conquest.

the level of control in Mindanao which it sought. The military operations of the United States, however, would prove more successful.

### 5.2 The American Colonial Regime

The US's primary military objectives upon arriving in the Philippines existed outside of Mindanao. The American colonisers focused rather upon expelling the Spanish from its strongholds in Luzon and the Visayas and consolidating power over rebellious elements of the Filipino population.[200] US concerns regarding the Bangsamoro were confined to ensuring that the Moros remained neutral in America's fight to the north, and securing the recognition of US sovereignty over Mindanao from Moro leaders.[201] The first of these US concerns was easily met, as the Bangsamoro unsurprisingly showed no discernable compulsion to join a Filipino independence movement given the lack of cultural and political affinity between Moros and Filipinos. The US also enjoyed early success regarding its second concern, as American military might compelled the powerful Sulu Sultan Jamalul Kiram II to agree to recognise US sovereignty over his territories in exchange for pledges to respect the dignity of Moro leaders and not interfere in the internal affairs of the Bangsamoro.[202] After consolidating power to the north however, the US began to interject itself more actively in Mindanao and a complicated period of both military and non-military struggles for power began to take shape.

[200] For a useful account of the years of the Philippine Revolution after Spain's expulsion, during which time the US established itself as a lasting colonial sovereign, see: Agoncillo, Teodoro (1960), *Maloslos: Crisis of the Republic*, Quezon City: University of the Philippines Press.
[201] Luga, Alan R. (2002), "Muslim Insurgency in Mindanao, Philippines", Master's Thesis, U.S. Army Command and General Staff College.
[202] Ibid.

For the Bangsamoro, the US usurpation of Spain as the colonial power in the archipelago created new threats to its control over traditional territories. The most immediate such threat came from the growing US military and civilian presence in Mindanao. While the US came to the Philippines with the view that it was a benevolent power, its desire to govern Mindanao quickly outpaced its policy of non-interference and put the colonisers and Bangsamoro at odds. Alan R. Luga states that as US troops outlawed slavery, attempted to levy taxes, survey lands and regulate customs transactions in Mindanao, they "evoked Moro suspicion and fear about the security of their religion and way of life."[203] This fracture would lead to the US military occupation of what it deemed 'Moroland' from 1903 to 1913. The "separateness" of Mindanao from the rest of the Philippine archipelago was reflected in the US's civilian control of passive areas in Luzon and the Visayas and militaristic administrative approach to the southern regions.[204] The US Army's mandate allowed it to administer the 'Moro Province' differently than other areas of the colony, and the Army quickly established military rule in the "wild" and "ungovernable" territories of Moro Mindanao.[205] Elements of the Bangsamoro responded to the US military occupation with violent resistance.

Moro insurrection against the US colonisers was fierce during the years of military rule in Mindanao. Luga writes that the Moro leaders organised violent opposition to American rule on the grounds that US rule insulted the dignity of Moro sultans and datus, US laws and education systems ran counter to Moro traditions, and because the Moros resented paying taxes to a foreign government and seeing their traditional lands parcelled out to colonisers'

[203] Ibid., p. 22.
[204] May (1992), op. cit., p. 126.
[205] Abignales, Patricio (2004), "American Military Presence in the Southern Philippines: A Comparitive Historical Overview", East – West Center Working Paper, Politics and Security Studies. For a primary account of the US Army's early administration of Mindanao see: Wood, Leonard (1904), "Report of the Governor of the Moro Province", in US War Department, *Annual Report of the War Department*, Washington: General Printing Office.

Filipino allies.[206] Sporadic fighting between Moro and American forces became increasingly prevalent during the decade (1903-1913) of military occupation, as US Governors Leonard Wood and John J. Pershing pursued offensives against Moro tribes that refused to pay taxes, continued to keep slaves or acted in other ways counter to the US mandate.[207] For their part, the Moros employed offensive guerrilla warfare tactics to keep American soldiers on edge and would also defensively fortify themselves in strongholds and refuse to cooperate with US governing activities.[208] The first major encounter pitting the Moros against their new colonial foes took place in Bud Dajo, Sulu in 1906. The Battle of Bud Dajo saw 800 US troops armed with modern weaponry face off against roughly 1,000 Moros (including women and children) armed with traditional weapons and a few rifles.[209] The outcome was disastrous for the Moros, who after three days had suffered over 600 deaths while the Americans took only minor losses.[210] Bud Dajo sent a message to the Moros regarding US military might but it also created a heightened sense of animosity towards the colonisers throughout the Bangsamoro. As Charles Byler put it, "[Governor] Wood had ended the resistance, but at the cost of creating long-lasting Moro resentment."[211] A similar event would transpire seven years later when thousands of Moros fortified themselves in the former volcanic crater of Bud Bagsak in eastern Jolo to oppose the disarmament campaign of then-Governor John J.

[206] Luga (2002), op. cit. See also: Gowing, Peter G. and Robert D. McAmis (1974), *The Muslim Filipinos*, Manila: Solidaridad.
[207] See: Dumia, Mariano A. (1991), "The Moro National Liberation Front (MNLF) and the Organization of the Islamic Conference: Its Implications to National Security", Master's Thesis, National Defense College of the Philippines.
[208] Byler, Charles (2005), "Pacifying the Moros: American Military Government in the Southern Philippines, 1899-1913", *Military Review*, May-June, pp. 41-45.
[209] Luga (2002), op. cit. This altercation is sometimes referred to as the 'Massacre of Bud Dajo'.
[210] The US troops reported 21 deaths at the Battle of Bud Dajo, showing the truly one-sided nature of the altercation. Governor Wood was harshly criticised in the US for the slaughter at Bud Dajo, particularly the killing of women and children. Mark Twain, the famous American author and critic of American imperialism, wrote: "A tribe of Moros, dark skinned savages, had fortified themselves in the bowl of an extinct crater not many miles from Jolo; and as they were hostile, and bitter against us because we have been trying for eight years to take their liberties away from them, General Wood's order had been to 'kill or capture those savages'...and we abolished them utterly, leaving not even a baby alive to cry for his dead mother." See: Anderson, Frederick, ed. (1930), *A Pen Warmed-up in Hell: Mark Twain in Protest*, New York: Perennial Library, p. 97. Jubair writes that only six Moro defenders of Bud Dajo survived out of more than 1,000. See: Jubair (1999), op. cit.
[211] Byler (2005), op. cit., p. 43.

Pershing. Pershing succeeded in convincing many of these Moros to leave Bud Bagsak, but ultimately attacked the roughly 500 Moro fighters who refused to give in to American orders.[212] Few of these Moro fighters would live through the operation and again the US took only marginal losses.[213]

The Battle of Bud Bagsak was the last major altercation between Moro and American forces. The US began to take less militaristic approach to governing the region and withdrew a majority of their armed forces. The colonisers also begin to solidify the process by which the Philippines would become an independent state, and accelerated efforts to prepare Moro territories for coming under largely Filipino federal administration. During the decades following US military rule over Moroland, resistance by the Moros against the Americans waned as many Moro elements came to see the colonisers as the lesser of two enemies.

A more pronounced threat than any posed directly by the US was that Bangsamoro territories would included into a future Philippine polity.[214] US administrators realised early on during the colonial period that little affinity existed between the Moros in the south and the Filipinos in the central and north of the archipelago.[215] The threat of becoming part of a future independent state controlled by Filipinos represented the greatest danger from the perspective of many Moros and as such some Moro leaders attempted to ally themselves closely with the

[212] Ibid.
[213] Ibid. Jubair writes that virtually all of the 500 Moro defenders of Bud Bagsak were killed and states that other reports have claimed that "2,000 Moros were killed, including 196 women and 340 children". Jubair (1999), op. cit., p. 74.
[214] Abignales writes that "datus and sultans regarded Spaniards, Filipinos, and Americans alike as threats to their already waning power..." Abignales (2004), op. cit., p. 4.
[215] Moreover, the failure of Spain to establish a political mandate over Moro territories in Mindanao called into question whether these southern regions should be included in the lands transferred from the Spanish to the Americans. Many Moros still contend that this handover was unjust. See: Jubair (1999), op. cit., pp. 57-63.

US colonial sovereigns.[216] For their part, some US administrators of Mindanao recognised that Moro lands had little political, societal or historical connection to the rest of the Philippine territories and saw Filipino overtures about Mindanao's inclusion into a future Philippine state as being driven by a desire for the region's resource value. As Abignales points out, the waning of Moro insurrection against the US allowed the colonial administrators to learn about the Bangsamoro's history and culture and realise "how brittle were the ties between southern Mindanao and the Philippines".[217] In an environment of relative calm, the US officials in the Moroland began to recognise that "Filipino rhetoric" on the inclusion of Mindanao into the Philippines was being driven by a "desire to get hold of the island's rich natural resources at the expense of the Muslims".[218] This recognition by the US administrators led Moro leaders to court the colonisers as a means of protection from the future 'Filipinisation' of Mindanao.[219]

Such Filipinasation was to occur however, and the US administrative presence in Mindanao would steadily wane from the end of military rule in 1913 to Philippine independence in 1946. Relatively minor Moro insurrections against US-Filipino rule occurred intermittently throughout these years, but levels of protracted military opposition such as those witnessed during the Spanish reign never took place.[220] The decades following US military governance in Mindanao did witness however the roots of future military conflict between the Moros and

[216] Abignales offers an example of such attempts at alliance building, writing: "[w]hen the Sultan of Sulu agreed to 'recognize American sovereignty' he asked in exchange that his trading fleet be allowed to fly the American flag when it went to Singapore." The Americans denied this request, but Abignales claims that the incident offers a relevant case of how Moro rulers, who had seen their power decline significantly and were facing the threat of future emersion into Filipino-controlled governments, saw the US as a potentially useful "patron". See: Abignales (2004), op. cit., pp. 4-5.
[217] Ibid., p. 5.
[218] Ibid.
[219] See: Abignales (2004), op. cit.; and May (1992), op. cit.
[220] For a list of Moro "uprisings" against the US see: Abreu (2008), op. cit., p. 13. With the exception of the pronounced violence throughout the archipelago that accompanied Japan's World War II occupation, the remaining decades of US colonial sovereignty in Mindanao witnessed relative calm. A discussion of the Philippines' World War II experience is beyond the scope of this thesis. For such a discussion see: Hartendorp, A.V. H. (1967), *The Japanese Occupation of the Philippines*, Manila: Bookmark.

Filipinos firmly take hold. As Filipinos became more involved in governing Mindanao and settlers from Luzon and the Visayas came into Mindanao at an accelerating pace, these two nations became closer in proximity and entered competition more directly. The situation led US General Douglas MacArthur to remark in 1928 that:

> By the sword and by intrigue [Moro] leaders are seeking to protect themselves from the impact of an alien civilization [Filipino] which threatens to crowd them off of the land which for centuries they have called their own. The Moro question, the problem of an ethnic and religious minority, has thus become one of the most urgent of the...problems which Washington has been called upon to resolve.[221]

The US would not "resolve" the "Moro question" however, and the shifting power balances that accompanied Philippine independence created an environment in which military hostilities could again flourish.

### 5.3 Civil Conflict: Moros and Philippine State

Moro separatism did not pose an immediate military threat to the territorial integrity of the newly formed Philippine state. The political power of the Bangsamoro had waned significantly during the latter decades of US colonial rule and the Moro nation entered the independence period in little position to challenge the newly formed state.[222] While the Filipino and Moro nations unsurprisingly maintained significant animosity from centuries of competition and conflict in Mindanao, the Bangsamoro leadership was largely content during the 1940s and 1950s to explore what political opportunities would accompany Philippine statehood. Many early post-independence Moro leaders appeared resigned to a fate in which the Bangsamoro would exist within the auspices of a Philippine state dominated politically by

[221] MacArthur cited in: Ralston Hayden (1927-1928), "What Next for the Moros?" *Foreign Affairs* 6, p. 633.

[222] The US largely handed over political control in Mindanao to Filipinos before its official exit from the archipelago in 1946. Ralph Thomas characterises the state of Moro control in Mindanao during the latter years of US colonialism, the so-called Commonwealth period, stating: "[d]uring the Commonwealth period, Muslims were structurally integrated. In the political sphere, they participated as well as minority could; in the economic sphere, they were assuming a secondary and dependent status in their own territory. Political and economic changes have increased contacts between Muslim and Christian Filipinos. It remained for the future to decide whether those relationships would be mutually beneficial and whether Muslim Filipinos will be assimilated by the Christian Filipino majority." Cited in: Dumia (1991), op. cit., p. 66.

Filipinos. These Moro leaders focused not on independence or separation from the state, but rather sought to take advantage of prospects afforded by a political situation devoid of colonial patronage. As such, Moro leaders liaised with elite Filipino power brokers in attempts to gain greater levels of political control in Mindanao.[223] As Abignales states, the Moro leaders of the first years of independence "anchored their ambitions in political brokering between the suspicious, increasingly aggrieved Muslim minority and the determined national state associated with Christians."[224]

The political accommodation sought between elite Moro and Filipino leaders led to relative calm in Mindanao during the first two decades following Philippine independence. While violent altercations between Moros and Christian settlers over land rights occurred sporadically, there was no large-scale Moro opposition to the Philippine state or governing apparatuses in Mindanao from independence until the mid-1960s. However, opportunistic accommodation at upper levels of political leadership masked simmering tensions between Filipino and Moro populations and growing aggravation throughout the Bangsamoro on the political, economic and societal state of the community. By the late-1960s these tensions were increasingly being manifested in armed confrontations between private Filipino armies known as the *Ilaga* and Moro forces organised along largely tribal lines.[225] Moros accused the central and local state structures, such as the Armed Forces of the Philippines (AFP) and the Philippine Constabulary (PC), of arming and abetting the Ilaga forces and feelings of disenfranchisement and persecution accelerated throughout large swathes of the Bangsamoro.[226] In 1968, in what came to be known as the Jabidah Massacre, at least 28

[223] Abignales (2004), op. cit.
[224] Ibid., p. 8.
[225] May (1992), op. cit., p. 129. Ilaga translates to 'rats', and the Moro forces were known at this point as the 'Blackshirts' and 'Barracudas'; which were linked to Muslim politicians Udtong Matalam and Ali Dimaporo respectively.
[226] Dumia (1991), op. cit.; and Luga (2002), op. cit.

Moro recruits to the Philippine Army (PA) were killed by their Christian Filipino superiors for reportedly refusing to participate in an offensive against other Muslims in the neighbouring Sabah regions of Malaysia.[227] The Jabidah Massacre provoked outrage throughout the Bangsamoro and provided a rallying cry for those seeking to reassert Moro power and control in Mindanao. The situation was rife for increasing levels of violence as the region moved towards elections in 1971, when Christian Filipinos began for the first time to challenge traditional Muslim leaders in local contests throughout many parts of Mindanao.[228]

Political factionalism quickly translated into military skirmish lines as both Filipino and Moro candidates for office campaigned with the backing of standing armies. The situation ignited and over 1,500 people were killed (mostly Moros) and many more displaced in election related violence in 1971.[229] One observer of this violent period described it as a "virtual free-for-all" that saw "Muslims fighting Christians; government troops fighting Muslims; political private armies fighting Muslim or Christian farmers, private armies or hired goons fighting army men."[230] The spark had been lit, and the tension that had been simmering during decades of rising Filipino influence in Mindanao came to the fore. Moro military forces became increasingly organised under Nur Misuari's recently formed MNLF, and these forces prepared to pursue a violent campaign against the Philippine government throughout the traditional Moro homeland. The MNLF called for the removal of Philippine armed forces from Mindanao, a return of lands taken away from the Moros by encroaching Filipino settlers and corporate interests, and the autonomy to inject Islamic principles into the

[227] See: Uy, Jocelyn (2008), "Lone survivor recalls Jabidah Massacre", *Philippine Inquirer*, 18 March.
[228] May (1992), op. cit.
[229] Ibid., See also: Glang, A. C. (1972), "Why the Shooting Won't Stop", *Solidarity*, 7(4), pp. 6-8.
[230] Glang, (1972), op. cit.

region's governing structures.[231] The Marcos regime, then firmly entrenched in power in Manila, responded to the growing influence of the MNLF by citing violent clashes between Muslims and Christians in Mindanao to justify the declaration of martial law in 1972. What followed was the most pronounced period of violent conflict in Mindanao's history.

Both sides of the Moro struggle increased their fighting capabilities during the years surrounding the declaration of martial law. Marcos's government strengthened the presence of the AFP, PC and Integrated National Police (INP) in Mindanao and augmented these forces by sponsoring the various Christian Filipino paramilitary groups.[232] As a part of this strategy, the Marcos regime established a Local Self-Defense Force (LSDF) for Mindanao in 1973. The LSDF bolstered the government position while lending greater diffusion to conflict dynamics. One contemporary observer of the LSDF remarked "[t]housands of 'volunteers have been rearmed to form a second line of defence" and that these 'volunteers consisted "largely of Christian fanatics...who are trigger happy and eager to avenge friends and relatives."[233] For their part, the MNLF appealed to external sponsors in the Muslim world to improve the Moro capacity for insurrection.[234] Misuari cultivated ties with Middle Eastern leaders, most notably Muammar Qadaffi of Libya, and helped gain attention for the Moro cause in the OIC. A 1972 resolution by the OIC demonstrates the growing ties, and voices "serious concern for the plight of Muslims living in the Philippines."[235] These concerns led to assistance in the form of arms and other resources from some OIC states into

[231] Bertrand, Jacques (2000), "Peace and Conflict in the Southern Philippines: Why the 1996 Peace Agreement is Fragile", *Pacific Affairs*, 73(1), pp. 37-52.
[232] May (1992), op. cit.
[233] Ibid., p. 131.
[234] Wadi argues that Malaysia played a balancing act between helping their Muslim brethren in Mindanao and ensuring that the MNLF did not become powerful enough to undermine Malaysian interest in the region; including its claims to Sabah. See: Wadi, Julkipli M. (2003), "SEA Regional Security and Mindanao Conflict", in Rasul, Amina, ed. (2003), *The Road to Peace and Reconciliation: Muslim Perspective on the Mindanao Conflict*, Makati City: AIM Policy Center.
[235] UNDP (2005), op. cit., p. 72.

Mindanao.[236] The Moro's Muslim neighbours in Southeast Asia also provided assistance to the MNLF cause, helping the separatist group develop the ability to take on the both the Philippine state and its proxies in military competition.[237]

The growing impetuses and capabilities for waging war coalesced to make the 1970s the bloodiest decade in the history of conflict in Mindanao. Exactly one month after Marcos declared martial law, MNLF fighters (reportedly without the approval of the MNLF Central Committee) attacked GRP forces in Marawi City in Lanao del Sur.[238] This so-called 'Marawi Uprising' led shortly thereafter to Misauri's declaration of the official "Moro war of liberation"; which saw significant MNLF offensives on Jolo Island and in Cotabato.[239] The AFP launched a series of counteroffensives, such as Operation Sibalo and Operation Bagsik, and from 1972 to 1975 the Moro and government forces fought a series of positional battles that were the bloodiest the archipelago had seen since World War II.[240] The human costs were immense, with Inamullah Khan estimating that the Bangsamoro alone suffered roughly 60,000 deaths, 54,000 wounded and 350,000 displaced.[241] The period of full-scale war ended in a military stalemate that brought the two parties to the negotiating tables in 1976, but fighting would continue as diplomatic arrangements broke down repeatedly in implementation phases.

Full-scale war between the MNLF and the GRP ended in 1975, but a low intensity guerrilla style conflict would define the region during the following decades. Ceasefire periods accompanied a series of diplomatic initiatives, most notably from 1975-1977 under Marco,

[236] Wadi (2003), op. cit.
[237] Ibid.
[238] UNDP (2005), op. cit., p. 72.
[239] Ibid.
[240] Ibid.
[241] See: Che Man (1990), op. cit.

from 1986-1987 under President Aquino, and from 1992-1996 under President Ramos, but the years in between these peace efforts saw a scenario of "no war, no peace".[242] The emergence of the MILF as a formidable fighting force with connections to international terror groups further compounded conflict dynamics in Mindanao, and forced the Philippine government to face an increasingly complex military environment in the south during the years leading up to the contemporary period.[243] As the MNLF became more engaged with the government diplomatically, the MILF quickly assumed the role of the primary insurrection force in Mindanao.[244] Despite repeated military and diplomatic initiatives by both the GRP and the primary Moro leadership, the situation in Mindanao remained unstable from a military perspective into the contemporary period. The human, social and economic fallout from these decades of protracted violence have further stratified the belligerent groups and made conflict dynamics more intractable.

From 1970 until 1996 an estimated 100,000 to 120,000 people have met conflict-related deaths in Mindanao, while untold numbers have been wounded.[245] Over 2 million people

[242] UNDP (2005), op. cit.

[243] MILF ties to terror organisations are complex (as the previous chapter revealed), and are the result of decades-long connections between the MILF and groups with wider jihadist agendas. Maria Ressa explored the origins and characters of these ties at length. Ressa described part of her findings, stating: "[i]n several intelligence documents, I had seen lists of foreigners training in three MILF camps, including Camp Bushra. One named fourteen men – from Indonesia, Egypt, Afghanistan, Pakistan, Kuwait, Saudi Arabia, and Qatar...[T]housands of Islamic militants, Filipinos [Moros] and foreigners, have learned terrorist techniques in more than twenty-seen camps set up by the MILF in the southern Philippines. These training courses are not just patterned after the al-Qaeda camps in Afghanistan, they are run with al-Qaeda's support and leadership." See: Ressa (2003), op. cit., p. 9.

[244] An example of the MILF's response to MNLF collusion with the government was seen with the MILF's five-day tactical offensive soon after the MNLF and GRP reached the Jeddah Accord in 1986. These military activities compelled the Aquino administrations to reach a separate truce with the MILF and sent the message that it "was not a pushover organisation, but a power to be reckoned with." See: UNDP (2005), op. cit., p. 73.

[245] Tawagon, Manuel (2008), "Roots of Mindanao Conflict: An Analysis", *The Journal of History*, 54(1), pp. 109-110. See also: Schiavo-Campo, Salvatore and Mary Judd (2005), "The Mindanao Conflict in the Philippines: Roots, Costs, and Potential Peace Dividend", Social Development Papers, Conflict Prevention & Reconstruction, Paper No. 24.; and Concepciòn, Sylvia, Larry Digal, Rufa Guiam, and Romulo de la Rosa (2003), "Breaking the links between economics and conflict", International Alert, Discussion Paper. Manuel estimates that of these deaths, roughly 50 percent were Moro forces, 30 percent AFP and 20 percent civilians. According to Concepciòn and colleagues, there was an average of 18 conflict-related fatalities per day from 1970-1976.

have been internally displaced during this period due to both fighting and the erosion of the economic and social viability of conflict zones.[246] Conflict in Mindanao has disrupted agricultural production, destroyed social and economic infrastructure and deterred financial investment in the region from a multitude of sources.[247] The World Bank estimates the direct cost of the conflict to be between $2-3 billion USD from the early-1970s to the mid-1990s and suggests that these costs are "dwarfed" by the conflict's indirect impacts.[248] The most notable of these indirect costs are investment deflection, which has affected not only Mindanao but the entire country.[249] The intractable conflict has also negative impacted the access that affected persons have to public services such as hospitals and schools, and made the rule of law difficult to establish and maintain.[250] The costs of conflict also extend to areas that are less quantifiable. As Salvatore Schiavo-Campo and Mary Judd point out in their study of instability in Mindanao, "[c]ivil conflict always destroys much more physical plants and infrastructure. The core damage is done to the fabric of society, to the stock of social capital."[251]

In combination, the human, economic and social costs of conflict from the time of Marcos's declaration martial law to the inauguration of President Arroyo created an environment in which the future perpetuation of military conflict in Mindanao was to be expected. The failure of either Moro or government forces to achieve a decisive military victory during this period (1972-2001) left the belligerents to the conflict firmly divided at the outset of the

[246] Campo and Judd (2005), op. cit. In addition to the internally displaced persons (IDPs), Concepciòn and colleagues estimate that over 200,000 people fled to neighbouring Sabah, Malaysia to escape the fighting. Concepciòn, et. al. (2003), op. cit.
[247] Concepciòn, et. al. (2003), op. cit., pp. 24, 27. Concepciòn and colleagues state that these lost investment sources range "from the farmer in the war zone reluctant to invest in the next crop, to the professionals who invest their training and family savings to obtain a job abroad, to the corporate investors who look for safer places to put their money."
[248] Schiavo-Campo and Judd (2005), op. cit.
[249] Ibid.
[250] Concepciòn, et. al. (2003), op. cit.
[251] Schiavo-Campo and Judd (2005), op. cit., p. 9.

contemporary period. Moreover, since these conflict dynamics were an extension of the centuries-old struggle for control in Mindanao, the continuation of military insecurity into the 21st Century is unsurprising. Assessing *why* military actions featured so prominently in Mindanao's history, however, requires recombining the five sectors of security to assess the primary causes of protracted instability and conflict.

**Conclusion**

The historical underpinnings of the contemporary situation in Mindanao show that manifold dynamics over the past four centuries have created the conditions for pervasive military insecurity. Processes that are specific to each of the five security sectors of CST have constituted parts of INUS causal conditions leading to pervasive and multifarious forms of insecurity in Mindanao.[252] The following chapter reassembles the five security sectors of CST to gain a greater and more holistic understanding of these causal conditions. While factors in the societal, political, environmental, and economic sectors each create security challenges for their own respective referent objects, establishing the causal relevance that these factors, particularly those relating to the environmental, have for violent conflict remains an important objective for this thesis.

[252] The INUS condition is introduced in section 2.2 of chapter 3.

# Chapter Six

***Lessons from Mindanao and Ways Forward for Environmental Security***

**Structure and Objectives**

As the presented case study analyses suggest, environmental factors are causally relevant for explaining conflict in Mindanao. This concluding chapter explores the cross-sectoral linkages through which environmental dynamics have affected a wide-range of security calculations. A recombination of the five sectors of CST reveals that the desires of external actors to benefit from Mindanao's natural resource bounty, along with the unsustainable manner in which these natural resources have been developed, represent important drivers of protracted violence in the southern Philippines. After briefly exploring the nature of these conflict drivers, the first section concludes by presenting the lessons that can be taken from the Mindanao case study for the larger environmental security subfield.

The chapter then moves on to revisit the foundational philosophical underpinnings of environmental security. The aim is to offer insights into the fundamental enquiries put forth in the thesis introduction about the relationship between the environment and social activities. Enlightenment, romantic and Marxist traditions are reviewed for their explicit contributions to this thesis (and environmental security more generally), and then challenged on the grounds that progress in the environmental security subfield necessitates moving towards new theoretical foundations. The chapter then concludes by offering some ways forward for the environmental security subfield that are consistent with the analyses presented in this thesis. These pathways forward hinge upon the development of more *integrated* analytical approaches for exploring the intersection of social and natural systems.

## 1.1 Causal Conditions, the Environment, and Insecurity in Mindanao

This thesis pursues causality by seeking to illuminate the processes, or *causal mechanism(s)*, which combine to create the *condition(s)* that lead to the phenomenon of interest. The INUS condition, which is addressed at some length in chapter 3, provides the criteria for a process being a relevant part of such a causal. The INUS condition recognises that events have multiple causes, that these causes interact, and that attempts to understand causes in isolation risk minimising the importance of such interactions. The INUS condition emphasises the importance of interactions and provides a framework for assessing the relevance of potential causal factors by asking if they are an *insufficient* but *necessary* part of an *unnecessary* but *sufficient* condition leading to a phenomenon.[1] The five sectors of CST (military, political, societal, economic and environmental security) provide appropriate categorisations from which to seek out parts of the INUS condition, and explorations into the historical and contemporary security situation in Mindanao have revealed that environmental factors are relevant parts of the conditions leading to instability and violence.

Societal, political, environmental and economic dynamics have combined over time in Mindanao to create a situation in which protracted violent conflict became a likely outcome. Societal divisions provide the foundation of such conflict, as events throughout previous centuries stratified Moros and non-Moro Filipinos to create pronounced national divisions

[1] A given factor in question is *insufficient* because it will only produce an effect if it acts in conjunction with other causes, and *necessary* because the ultimate effect would not exist in its basic character were it not for the factor. The condition which the factor contributes to is an *unnecessary* cause, because it does not represent the only path for reaching a given phenomenon, but *sufficient* because the event of interest exists and has actually effectuated. J. L. Mackie position on the causes of a hypothetical fire helps illuminate the nature of the INUS condition. Mackie states, "If I say that [a] short circuit caused this fire, I am claiming only that the short circuit in conjunction with other factors which were actually present formed a sufficient condition for the fire's breaking out." Mackie acknowledges that a short circuit would only lead to the fire if other conducive factors are also in place and that a short circuit, and attendant other factors, do not represent the only potential causes of a fire. Thus it is the *conditions* leading to phenomena that provide an appropriately encompassing conception of causality. See: Mackie (1966), op. cit., p. 445.

within the Philippines. These national divisions, however, do not explain the contemporary levels of animosity and grievance that continue to perpetuate conflict in Mindanao. Rather, such conflict is the result of political, environmental and economic conditions that have continually placed the Bangsamoro at odds with both foreign and Filipino actors in Mindanao. Adversarial relationships between elements of the Bangsamoro and what they view as external forces in Mindanao have been consistently predicated upon control over region's environmental bounty, economic potential, and political organisation.

Societal differences between the Bangsamoro and colonial and Filipino stakeholders have consistently represented the skirmish line dividing parties competing for control in Mindanao. While protagonists to this competition have received assistance from beyond their societal group, the reality remains that the primary belligerents of conflict in Mindanao are organised along group identity lines.[2] Clearly, therefore, societal affiliations have largely dictated the constitution of conflicting parties in the Moro fight against external forces. As a result, societal divisions often frame the contemporary discourse on the GRP-Moro situation. While such framing is not inappropriate, it remains vital to recognise that the drivers of insecurity in Mindanao go far beyond social, cultural or theological differences. Such drivers rather include wholly tangible factors regarding the exploitation of resources in Mindanao along with the distribution of benefits derived from said resources.

[2] Both Spain and the United States employed Filipinos to aid their military efforts in Mindanao. The GRP, meanwhile, has enjoyed significant US support in its fight against separatist and terror elements in Mindanao since 2001. See: Reyes, Angelo T. (2004), "Mindanao as the Next Battlefront: Implications on Philippine Security & R. P. – U. S. Relations", in Ateneo Centre for Asian Studies (2004), *Before and After September 11, 2001: An Asian Perspective*, Quezon City: ACAS, pp. 43-50. For their part, Moro protagonists to the conflict have colluded opportunistically with factions of the left wing National Democratic Front (NDF) in their fight against government forces. An agreement of 'Unity and Cooperation against the Reactionary Enemy' was forged between the MILF and NDF in 1999. For the text of this agreement see: Tuazon, ed. (2008), op. cit., pp. 250-252.

Competition over strategic environmental resources has exacerbated societal fractures in the southern Philippines in multiple ways. Cross-cultural animosities have combined with economic expansions and population movements in Mindanao to illicit centuries of competition and conflict over land and resources. Colonial and Filipino actors seeking to profit from Mindanao's natural bounty have consistently found themselves at odds with the interests of the Bangsamoro. Land-ownership modalities in particular, which Tuminez rightly points out, are "at the root of the conflict in Mindanao," have for centuries created friction between Moro and non-Moro actors.[3] Such friction cannot be adequately explained by the differing value systems and cultural foundations of resource-seeking stakeholders in Mindanao. Rather, friction of land and natural resources in Mindanao reflects the desire for individuals and communities, regardless of their group identity, to enjoy the benefits that such resources provide. Where these desires drive actions that come at the expense of other individuals' and communities' capacity to reap benefits from natural resources, conflict has resulted along established lines of social organisation.[4] Illustrating this point, Amina Rasul argues that disagreements over access to resources have long had a galvanising effect on societal groups in Mindanao, and now contributes to the "radicalisation" of some Muslim communities.[5] The MILF, meanwhile, often frames the history of resource exploitation in Mindanao along societal lines. Salah Jubair of the MILF Central Committee writes, for example, that a driving factor solidifying Moro opposition to American and Filipino actors in Mindanao was that these outsiders' "main motivation was the immediate exploration and…exploitation of the vast natural resources of Moro country."[6]

[3] Tuminez (2007), op. cit., p. 78.
[4] For a list of Moro grievances relating to this point see: Lingga (2008b), op. cit., pp. 104-109. Jubair of the MILF Central Committee writes that colonial and Philippine control of Mindanao's resources has contributed to "economic backwardness [and] racial or ethnic conflict" in the region. Jubair (1999), op. cit., p. 250.
[5] Rasul, Amina (2006), "The Radicalization of Philippine Muslim Communities", PCID Report No. 7, p. 12.
[6] Jubair (1999), op. cit., p. 65.

Societal fractures thus make up the *initial categorisation* from which competition over strategic environmental resources has progressed. This competition, which in its most acute forms leads to violent conflict, then reinforces the sense of separateness between the Bangsamoro and non-Moro actors in Mindanao. Figure 6.1 provides a visual representation of this multidirectional process.

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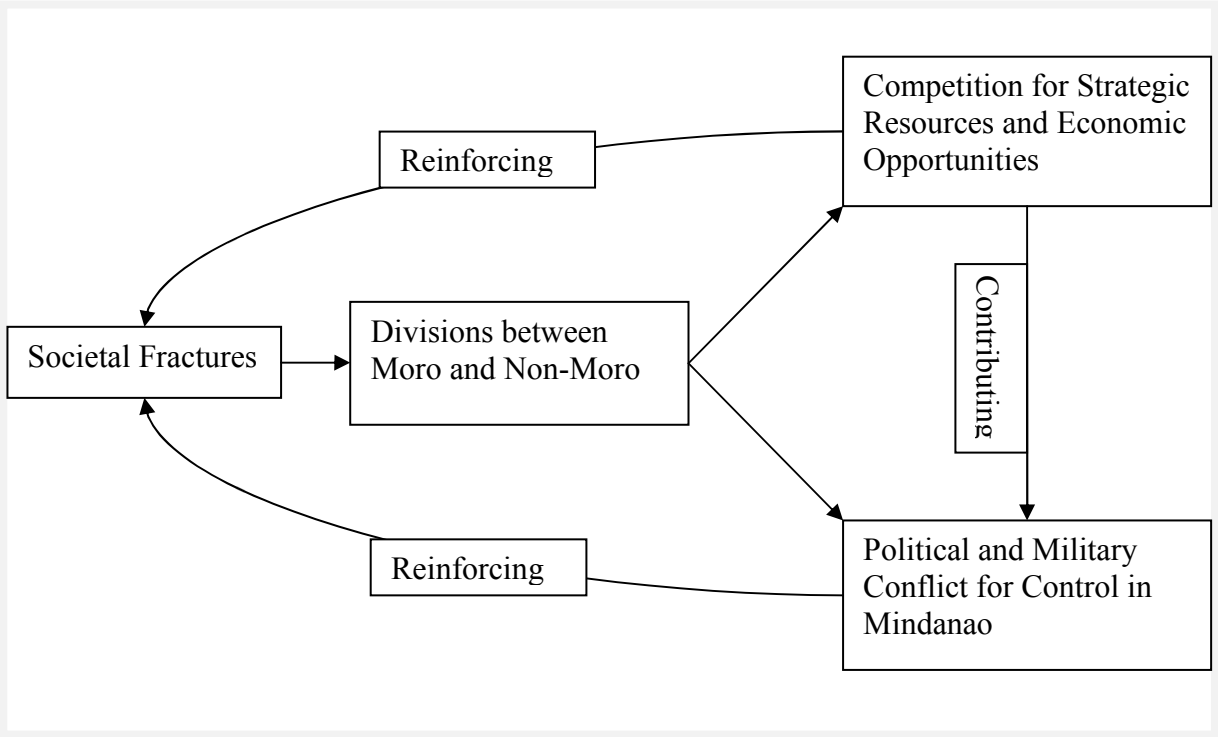
**Figure 6.1: Societal Divisions, Resources, and Conflict in Mindanao**

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Competition over control of Mindanao's strategic resources is driven by the sustenance and livelihoods that these resources can support. While societal considerations can explain the make-up of competing parties, they are not sufficient to reveal the *processes* by which the natural resource development patterns have exacerbated conflict dynamics in the southern Philippines. Explaining this connection necessitates revisiting relationships between economic policies and strategic resource exploitation in Mindanao

Unsustainable resource development and the failure of Moros to accrue the benefits of natural resource exploitation have contributed mightily to Mindanao's security conundrum. Mindanao is endowed with a wealth of natural resources, and economic actors with the capacity to develop these resources stand to gain significant profits as a result. The economic impetuses leading to the exploitation of Mindanao's resources are therefore unsurprising and, at their core, not problematic. However, Mindanao's people, and the Moros most acutely, face enduring challenges as a result of the region's 20th Century development legacy. These challenges do not stem simply from the logical decisions of capable actors to seek out opportunities in the southern Philippine archipelago. Rather, contemporary challenges are the result of development practices that came at the expense of Mindanao's environmental health and failed to distribute adequate rents taken from Mindanao's resource base to local populations. More specifically, the US colonial period and the first decades of independence, saw Manila look upon Mindanao as a source of valuable resources that could be extracted to create economic gains. The benefits of these economic gains accrued largely to foreign business interests and a growing elite class of Filipinos from outside the region. The economic rewards enjoyed within Mindanao were enjoyed primarily by the Christian migrant populations, with the Bangsamoro becoming increasingly economically marginalised. The effects of these processes remain prevalent, and have led to extreme levels of poverty and underdevelopment seen in contemporary Moro communities in Mindanao.[7] These impoverished conditions have fuelled Moro grievances and exacerbated conflict dynamics in the southern Philippines.[8]

Environmental degradation is the second legacy of economic development in Mindanao that is a vital part of the conditions leading to violent conflict. In Mindanao, sustainability was far

[7] For indicators of poverty throughout the Bangsamoro see: UNDP (2005), op. cit., pp. 18-25.
[8] Rasul (2003), op. cit.

from the thinking of successive economic actors that sought significant short-term returns on their investments with little regard for the future of Mindanao's strategic resources. Such short-sighted economic policies caused substantial changes to the Mindanao environment, and these changes have had pronounced carry-on effects for a myriad of social activities that depend on natural resources. Environmental changes have substantially reduced the value of natural resources and significantly diminished the economic vitality of affected areas. The heavy reliance of the Bangsamoro on natural resources for both sustenance and livelihoods has ensured that the community suffers from environmental degradation with disproportionate severity.[9] The economic effects and lasting legacy of these environmental changes demonstrates the potential long-term ramifications of unsustainable development.

Taken together, unequal distributions of resource rents and unsustainable approaches to strategic resource exploitation make up a central part of the Mindanao's overall security conditions. The processes driving contemporary economic struggles in the Bangsamoro are highly connected to the manipulation environmental systems in Mindanao, and are also relevant for understanding the sources of discord in the political and military spheres. Influential elements of the Bangsamoro view the twentieth century as one in which their rights to land and resource development were contravened on an unprecedented level.[10] Anger is also pervasive among Bangsamoro leaders regarding the degradation of Mindanao's environment. The statement by MNLF leader Nur Misuari on logging the ARMM provides a strong example of such anger. Misuari states that:

> I have issued orders time and again in urgent attempts to stop logging activities. As you know, if you go to Mindanao, you can see the deleterious effects that these have wrought upon our people. All crops had been destroyed. This is due largely to the overflowing to the banks of the Pulangi River and its tributaries. Unfortunately, the government officials in Manila as well as the owners of many of these

[9] For indicators on the disproportionately high dependence upon natural resources among citizens of the Bangsamoro see: UNDP (2005), op. cit., pp. 20-25.
[10] See: Jubair (1999), op. cit.; and Lingga (2008b), op. cit.

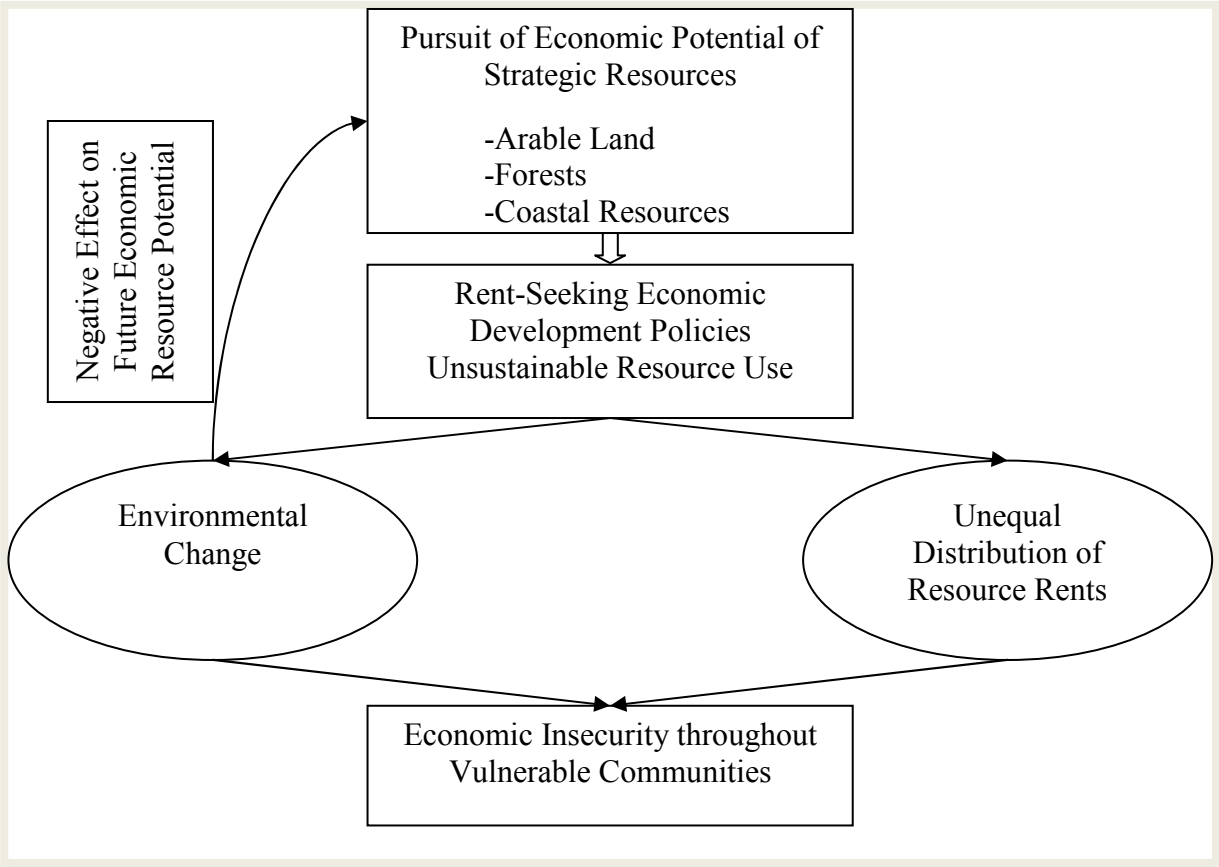
> logging companies are ignorant about the hardships in the autonomous region. I categorize their crime as a crime against humanity.[11]

In a like-minded statement, the late MILF founding leader Salamat Hashim proclaimed that a primary motive behind Moro uprisings was to redress the Philippine government's wanton exploitation of "the natural resources of the Bangsamoro homeland" in ways that deprived Moros of their "natural and God-given wealth."[12] Such perceived injustices continue to fuel conflict dynamics, and contribute to the security threats that emanate from the Bangsamoro's at times violent struggle for self determination.

Economic factors thus have both causal and reactionary relationships with changes to the Mindanao environment. Causal relationships stem from the economic push factors leading to environmental degradation and the depletion and/or marginalisation of strategic resources. These push factors reflect economic policies that encourage short-term gains at the expense of the lasting viability of resources that is necessary for the perpetuation of positive economic returns in the future. A dynamic thus emerges in which profit-seeking policies undermine future economic possibilities through the conduit of the environment, as the relative strength of environmental resources is of paramount importance as a foundation of economic activity. Figure 6.2 provides a visual representation of these dynamics.

[11] Bauzon (2008a), op. cit., p. 122.
[12] Hashim quoted in: Tauzon, ed. (2008), op. cit., p. 242.

**Figure 6.2: The Environment and Economic Insecurity in Mindanao**

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Insecurities arising from the combination of symbiotic environmental and economic dynamics are challenges in and of themselves. The contemporary economic plight of the Philippine poor, which is most acute in the ARMM, has foundations in problematic resource development and distribution policies pursued to various degrees throughout the twentieth century.[13] These policies have had severe ramifications for the quality of life of members of the Bangsamoro, and the community remains plagued with dangerously low human development levels.[14] Additionally, however, the complementary processes of valuable land acquisitions by the Filipino elite, the failure of the benefits of resource exploitation to accrue to local populations, and unsustainable resource exploitation practices that undermine future

[13] See: Rasul, Amina (2003), "Poverty and Armed Conflict in Mindanao", in Rasul, ed. (2003), op. cit.; and UNDP (2005), op. cit. pp. 18-25, 59-61.
[14] Ibid.

social activities all contribute mightily to the failures of political and military security in Mindanao.

Political control in Mindanao has been the primary goal driving the actions of colonial, Moro and Philippine actors alike. Groups that have successfully acquired political control have been able to pursue policies on resource exploitation and economic development in the southern Philippines. Migrant and corporate influxes into Mindanao, for example, along with the subsequent large-scale exploitations of arable land, forests and coastal resources, all necessitated politically dictated policies.[15] The Spanish colonial period demonstrated the necessity of political control for enjoying a regions' economic potential, as the Spanish failure to achieve the former correlated to its inability to pursue the latter; at least on a large scale. Subsequent US and Philippine political actors had greater success in Mindanao and, while neither was able to bring all rebellious elements of the Bangsamoro to heel, both US and Philippine administrations infiltrated the region effectively enough to gain strategic benefits. The ways in which external forces have pursued political control and strategic benefits, however, have consistently contributed to instability in Mindanao.

The Bangsamoro has actively opposed political disenfranchisement in Mindanao since Philippine independence. During the colonial tenures of Spain and the US, the Bangsamoro sought to reach political arrangements with the foreign occupiers independently of the Filipino governing structures in Manila. Since independence however, the Bangsamoro leadership has perpetually endeavoured, through both peaceful and violent means, to ensure that the community maintains the right to political autonomy and resource development in its native territories. A primary reason for these endeavours is a pervasive dissatisfaction

[15] Such necessities are unsurprising for, as Buzan and colleagues point out, the political sector permeates all others and its machinations defy variable isolation. Buzan, et. al. (1999), op. cit.

throughout much of the Bangsamoro with GRP efforts to establish effective governance and development in the predominantly Moro regions of Mindanao.

As Nathan Gilbert Quimpo states, "[o]ver the past half-century, the Muslims in Mindanao have felt greatly disaffected by the inability of the government to adequately meet the basic needs of their community or at least bring them to the same level of socioeconomic development as the Christian majority."[16] The GRP, despite its poor governing track record in the Bangsamoro, has been hesitant to grant earnest levels of political control to the Moro leaders of the ARMM.[17] For their part, meanwhile, Moro leaders have often proven more effective as revolutionaries than political administrators when opportunities for limited self-governance have arisen.[18] These shortcomings on behalf of both GRP and Moro administrators have led to a pronounced governance deficit in Bangsamoro territories, which continue to suffer lawlessness, political corruption and the lowest development levels in the country.

A key reason for the failure of governance in the Bangsamoro is that Mindanao has traditionally been looked upon from Manila primarily as a source of resource wealth, as opposed to a place at which long term political and social development should be a priority.

[16] Quimpo, Nathan Gilbert (2001), "Options in the Pursuit of a Just, Comprehensive, and Stable Peace in the Southern Philippines", *Asian Survey*, 41(2), pp. 274-275.

[17] The GRP limits the autonomy of the ARMM. For example, the Philippine Congress amended the Organic Act that formed the ARMM without consulting the region's leaders. The amendment (Republican Act 9054) stipulated that the ARMM would be represented "as far as practicable" in "departments, offices, commissions, agencies and bureaus of the central government or national government in the region". Provisions for Moro representation in federal courts were also left vague and would be implemented "whenever feasible". The ARMM is also fiscally dependent upon the GRP. Tuminez writes that, despite overtures on Moro rights to taxation and revenue sharing agreements between the ARMM and GRP, the ARMM remains "almost completely dependent on block grants and subsidies from the central government. These handouts – unpredictable in amount and timing – have, over time, reinforced Moro dependence and mendicancy." Tuminez (2007), op. cit., p. 82.

[18] Ibid., p. 83. Tuminez writes that Moro leaders have at times "lacked a unified vision, fought one another for the patronage spoils from Manila, and appeared more interested in their own self-enrichment than the development of their people." See also: Bacani, Benedicto (2005), "The ARMM: A Mechanism for Self Determination or Co-Optation", *Autonomy and Peace Review*, 1(1), pp. 7-16.

Successive colonial and Philippine administrative actors have employed a myriad of strategies to gain the political control necessary to enjoy the strategic benefits that Mindanao offers. Military offensives and evangelism defined the strategies of Spanish administration, and were largely unsuccessful. The US and Philippine governments, conversely, more successfully usurped Moro political authority throughout much of Mindanao by altering the demographic, economic and environmental character of the region. The minorisation of the Bangsamoro in Mindanao allowed the US and successive Philippine governments to pursue economic opportunities while pushing the 'Moro problem' to the regional margins. For their part, the removal of the Bangsamoro from much of their traditional land and lack of effective governance has strengthened Moro calls for political self-determination. In pursuit of such self-determination, Moro leadership has intermittently challenged the GRP militarily and through the negotiation process. As effective governance has not been actuated by either of the protagonists of the Mindanao conflict, the citizens of the Bangsamoro have continued to suffer.

The failures of governance in Moro-majority areas of Mindanao have had significant ramifications for the broader security dynamics of the region. Governance deficits have negatively affected both the will and capacity of state and local actors to enforce environmental regulations in Mindanao, contributing to lasting and significant changes to regional ecosystems.[19] The Mindanao economy has also suffered acute failures as a result of poor governance in the region; with graft, corruption, cronyism, and shortcomings in the rule of law all fundamentally affecting the development patterns of the southern Philippines.

[19] The MNLF leader Nur Misuari addressed the issue of enforcement of environmental regulations in Mindanao, and specifically the ARMM, in an interview with Kenneth A. Bauzon. Misuari stated that: "I was the first one to declare total log ban [in the ARMM]...But what happened was, there were some big loggers who had previously secured their franchise from Congress. I even expressed to former President Fidel Ramos my belief that the Government must put a stop to this. We tried on our own to stop loggers from cutting down the trees. For the most part we succeeded. But there were a few we could not stop because they were owned by influential people and had their own respective private armies." See: Bauzon (2008a), op. cit., pp. 122-123.

Finally, the lack of effective governance in the Bangsamoro has driven both violent and non-violent efforts to alter the political status-quo throughout territories with a Moro majority.[20] These efforts are longstanding and ongoing; and contribute to a political environment in which improving institutional governing capacities is profoundly difficult.[21] The overall result is a vicious cycle scenario in which poor governance enables environmental degradation, erodes regional economic potential, and exacerbates political and military instability; which in turn compound the challenges of establishing effective governance.

Each of the five security sectors explored in the Mindanao case study contains necessary parts of the conditions leading to instability and conflict. Moreover, relevant dynamics within each sector have been shown to interact with each other in complex and multi-direction ways. A basic recombination of the five security sectors reveals that *societal* divisions represent the fractured foundations from which *political* and *military* competition over *environmental* and *economic* resources have progressed in Mindanao. Elements within each sector are profoundly important, and it is their combination that has fomented intractable conflict.

Satisfactorily resolving Mindanao's longstanding security conundrum requires addressing the multiple causes of insecurity in the region. As Tuminez states, the "persistent conflict in Mindanao is irrevocably linked to land, resources, and governance" and that improving the Mindanao security calculus demands recognising the "historical and legitimate foundations of Moro grievances" throughout these three issue areas.[22] The most recent diplomatic efforts of the GRP and MILF reflect the need for comprehensive approaches and represent a promising

[20] See: Rivera, Temario C. (2008), "The Struggle of the Muslim People in the Southern Philippines: Independence or Autonomy?", in Tuazon, ed. (2008), op. cit., pp. 49-50.
[21] For analyses on the ways in which conflict has made the establishment of good governance more difficult in the southern Philippines see: Schiavo-Campo and Judd (2005), op. cit., pp. 6-7.
[22] Tuminez (2007), op. cit., p. 86.

starting point for future peace efforts.[23] The success of future negotiations will hinge to a great deal, however, on the GRP's shift away from the oft-held tacit position that the traditional territories and natural resources of the Bangsamoro should be subject to impunitive development strategies that accrue wealth for external elements and leave local environments in disrepair. Rather, sustainable peace in Mindanao requires that the Bangsamoro take over control over the "forests, land, rivers, and seas" of its "ancestral domain" and is thus able to create a vibrant economy free that does not depend upon Manila's patronage.[24]

### 1.2 Environmental Security Theory: Lessons from Mindanao

#### A. Tendencies

The security situation in Mindanao is unique. The specifics of group-identity divisions among different stakeholders, the historical processes of colonial, state and elite resource exploitation and economic development, and the dynamic and often violent competition for control over territory in Mindanao are all particular to the region. Points of comparison to similar situations elsewhere are certainly possible, but should be mitigated in recognition of the individuality of all complex security scenarios. The relevance the Mindanao case for environmental security does not stem, therefore, from contributions about uniform or frequently observed relationships between environmental and social variables. Rather, the Mindanao case study contributes analyses on the *capacity* for environmental factors to contribute a wide range of security challenges. The history and contemporary story of

[23] The terms of the MOA-AD, which was the product of the latest diplomatic efforts, are discussed in the section on political security in chapter 4. These terms are promising in their comprehensiveness, as they encompass resources, land and governance. See: Appendix D for the full text of the MOA-AD.
[24] Tuminez (2007), op. cit., p. 84.

insecurity in Mindanao reveals the essentiality of access to strategic natural resources for the progress of communities. When such access falters as a result of shifting territorial controls and unsustainable natural resource exploitation, aggrieved parties may view violent conflict as an acceptable way to redress perceived injustices and pursue progress for their communities. Many other factors must also coalesce for violence to occur.[25] However, connections between the denial of access to vital natural resources and the fomentation of violent conflict do represent *tendencies* that are relevant to other security situations throughout the international system.[26]

Tendencies revealed in the Mindanao case study that are particularly relevant for the environmental security subfield are those concerning inextricable connections between economic and environmental systems. A primary fracture point within environmental security concerns whether economic or environmental concerns should take primacy as explainers of social, and by extension security, phenomena. This fracture has taken many forms; from the disagreements between Malthus and Condorcet on the earth's carrying capacity, to more contemporary debates separating economic optimists and neo-Malthusians, and finally to disagreements over whether the presence of an abundance or a scarcity of

[25] For example, the aggrieved groups must have the significant numbers of potential soldiers, access to weaponry, and the financial capacity to pursue conflict. The IPs of Mindanao, for example, have similar grievances to the Moros regarding the capture of their traditional resource bases by external forces. These IPs, however, have a lower capacity than the Moros to challenge these external forces militarily. Homer-Dixon points out that groups affected by environmental stress and potential displacement typically require support to develop a "sufficient capacity to cause conflict." Without such support, these affected populations are "less likely to produce violence than silent misery and death, which is rarely destabilising." Homer-Dixon (1999), op. cit., p. 142.

[26] The concept of tendencies, which is an important part of critical realism's distinction between possibilities in natural versus social sciences, is discussed on pages 112-114 of chapter 3. Tendencies are important here as they relate to the individuality of social situations and the multiplicity of causes, both human and natural, that underlie social phenomena. As Peter Manicas states: "...concrete happenings require a multi-causal account. We need to have an understanding of social structures and their tendencies, to know how they are related to their effects; and we need to relate this sometimes to geography, sometimes to a natural event, such as the eruption of Pompeii of the consequences of a long drought. Finally, if we are to provide an explanation of the event in question, we need to relate the business to the acts of people working with and in response to these things." Manicas, Peter (1998), "A Realist Social Science", in Archer, et. al., eds. (1998), p. 324.

valuable natural resources in a given location is the stronger explainer of conflict.[27] The Mindanao case reveals that neither side of this ongoing and often polemic discourse properly appreciates the interplays between economic and environmental processes. In Mindanao, abundant valuable resources have driven, and to an extent continue to drive, violent conflict for territorial control. However, the unsustainable development of some naturally plentiful resources in Mindanao (such as forests and fisheries) has undermined abundance and created development challenges for communities that depend heavily upon the sustained viability of natural resource bases. Since the Bangsamoro contains many such dependent communities, and unsustainable development has threatened Moro access to economic opportunities and even sustenance, the degradation of resource bases in Mindanao has factored strongly in the Moro grievances that help drive conflict.[28] Abundance and scarcity are therefore not mutually exclusive but rather can be part of the same collusive processes by which environmental and economic factors combine to exacerbate conflict dynamics.[29]

**B. Method**

Employing the inclusive methods of critical realism and frameworks of comprehensive security has been essential for developing greater understandings of relationships along the causal chain leading to conflict in Mindanao. CST and critical realism have supplied the organisational and methodological tools necessary to explore interlinking processes among a

[27] The fracture between Malthusian and economic optimist ideas is discussed in chapter 1 on pages 37-38 and chapter 2 on pages 73-78.
[28] Bauzon frames the environmental degradation of Mindanao as the result of neoliberal economic strategies undertaken by colonialists and later the Philippine government. Bauzon states that the MILF faces threats to "its own people and resources" as a result of environmental degradation and attendant processes. See: Bauzon, Kenneth E. (2008b), "Ruminations on the Bangsamoro Struggle and Neoliberal Globalization", in Tuazon, ed. (2008), op. cit., p. 78.
[29] Kahl takes a similar position on abundance and scarcity being potentially complementary. See: Kahl (2006), op. cit., pp. 18-19.

myriad of sectors and timeframes in a way that retains analytical coherence.[30] Such integrated processes and cross-sectoral relationships are often missed by approaches that isolate and measure individual variables for causal relevance, and it is increasingly clear that searching for empirical regularities is a method that is not up the challenge assessing the role of the environment in security studies.[31] Practitioners of more inclusive environmental security research, meanwhile, have called for the development new methodological approaches that more effectively draw out causal processes linking the environment and security.[32] CST's sectoral divisions and principles of disaggregating and re-aggregating the constituent parts of a security situation are invaluable for this goal. Critical realism's focus on the importance of causal mechanisms and contributions of abstractive, retroductive, and abductive modes of inference have likewise proven constructive for addressing the complex phenomena at the centre of environmental security enquiry. Given the growing severity of human-induced environmental stress and complexity of contemporary non-traditional security threats, these methods will retain value for research seeking to develop more mature understandings of the wide-ranging ways that environmental realities and thresholds relate to security challenges.

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[30] Homer-Dixon speaks to this difficulty when recounting his experience with bringing environmental security factors to a State Failure Task Force study for the US government in the mid-1990s. Homer-Dixon writes, "...the task force failed, despite the extraordinary skills and resources at its command, to develop a theoretical or statistical approach that could cope with the complexity of human conflict. Civil violence is always the result of many interacting factors: friction between strong ethnic identities, widespread anger produced by falling standards of living, and the easy availability of weapons are often mentioned; but it's very hard to determine what contribution any one factor makes by itself, and few if any of these factors will be present in *all* incidents of civil violence." Homer-Dixon, Thomas (2002), *The Ingenuity Gap: Facing the Economic, Environmental, and other Challenges of an Increasingly Complex and Unpredictable World*, New York: Random House, pp. 300-301. Italics in original.

[31] Richard A. Matthew and Geoffrey D. Dabelko, for example, synopsised the findings of the Conference on environment, population and conflict research at the University of California Irvine on 19 March 2000 by stating that "[l]arge N quantitative and theory-driven studies may have reached points of diminishing returns." See: Matthew, Richard A. and Geoffrey D. Dabelko (2000), "Environment, Population, and Conflict: Suggesting a Few Steps Forward", *Environmental Change & Security Project*, 6(Summer), p. 100.

[32] Ibid., p. 100. Matthew and Dabelko state that "it is vital...that the next interdisciplinary wave of researchers move into the field to do fine grain analysis that is informed by and sensitive to local conditions. Such work is needed to better understand *interactions among environmental, political, economic, and social variables*." Italics added.

## 2.1 Revisiting Environmental Security's Philosophical Underpinnings

The social-environmental relationships emphasised in the previous section create the need to reassess the wider philosophical context in which environmental security questions exist. This context, introduced in chapter one, sees influential enlightenment, romantic, and Marxist theories present fundamentally differing positions regarding relationships between the environment and social activity. Enlightenment positions encouraged the commoditisation of natural resources; which could then be 'improved' through human agency.[33] The romantic tradition opposed such commoditisation by questioning its benefits for both humans and the environment, and called for deeper relationships between the social and natural worlds that transcend economic utility.[34] The Marxist tradition, meanwhile, represented a third path that spoke of symbiotic changes to natural environments and the 'natures' of persons who interacted with them.[35] Each of these theoretical schools has contributed to the underpinnings of this thesis; and environmental security more generally.

Enlightenment principles underwrite, if tacitly at times, the primacy that human activities and social constructs hold within environmental security discourse. Humans maintain primacy in the environmental security explorations by virtue of their deliberate alterations of the physical systems and capacity to recognise that these alterations can have a myriad of effects. This primacy is understood if not always explicitly stated. Suggestions about the need to protect and preserve the health of its natural systems, at least in environmental security, are actually referring to the need to maintain a world that is conducive to human life and progress. The physical earth is incognisant and therefore indifferent to environmental stress or the plight of

[33] See: Locke (1939) [1690], op. cit.
[34] See: Rousseau, and Singh, ed. (2006) [1754], op. cit.
[35] See: Marx (1970) [1867], op. cit.; and Engels (1969) [1883], op. cit.

humankind in relation to such stresses. This reality leads to the fundamental ascendency of humans within the human-environment discussion; which is reflected in both enlightenment and environmental security thinking. This thesis has focused on the environment only in so far as it is relevant for people and social systems, thus reflecting the innate human ascendancy in environmental enquiry.

Contributions from the romantic tradition, meanwhile, help explain the ties that indigenous groups and individuals feel towards their native lands. Romantic authors argue that the natural environment should not be consigned to simply supporting human economies, but rather has a broader role to play in the foundation of societies.[36] This broader role extends to the aesthetic senses of people and societies towards the environments with which they are traditionally familiar. The collective history and natural actualisation of the Bangsamoro provides a strong example of the ways in which relationships with particular lands help to define and solidify the identity of social groups.[37] The romantic philosophical school recognises the deep ties that can connect humans and their natural surroundings and as such presents a useful view of the environment that goes beyond strategic quantifiable valuation.

For their part, the social-environmental theories of Marx and Engels contribute to a foundation for explorations into interrelationships between human and natural variables. As Marx argues, persons do not strictly lord over environmental resources as wholly autonomous stewards, but rather are affected themselves through the processes by which they interact with

[36] Rousseau, and Singh, ed. (2006) [1754], op. cit.

[37] Moro leaders and commentators repeatedly speak of the importance of native lands to the Bangsamoro. MNLF leader Nur Misuari, for example, referred to Moro land grievances by stating that "only the indigenous inhabitants [of Mindanao] have the right to decide the destiny of their land." See: Bauzon (2008a), op. cit., p. 122. In addition to ties based upon indigenous traditions, the Bangsamoro has a particularly close relationship with its native lands and local environments due to the large proportion of Moros who depend directly on natural resources for their livelihood. This dependency is discussed on pages x-x.

their natural settings.[38] Conceptualising such a multidirectional relationship between people and the environments which they inhabit and manipulate is conducive to seeking out the ways in which these multidirectional relationships affect security calculations. Additionally, the cautionary principles put forth by Engels on the limits to human capacities to harness the environment are also quite prescient for environmental security questions; as these questions often deal with the ways in which environmental stress has led to unexpected and/or unprepared for social consequences.[39]

Despite these invaluable contributions, elements of each of these three philosophical schools are at odds with the positions of this thesis. Lockean ideas on 'improving' natural environments to make them more useful for human activities are now at least partially problematic, as contemporary anthropocenic potential to induce problematic environmental changes can lead to the crossing of natural thresholds and undermining of the natural foundations of future social activities. The era of seemingly limitless environmental potential is over. Romantic traditions suffer related (if somewhat contrary) shortcomings in the contemporary setting; with the needs of a large and growing global population, much of which suffers from relative underdevelopment, ensures that large-scale manipulations of the environment will occur out of necessity. This reality is abhorrent from a romantic perspective, but will almost surely become more pronounced as populations grow and development accelerates. Recognising development requirements and the inevitability of continuing environmental change thus requires discounting some romantic principles. Marxist theories on humans and the environment, meanwhile, oppose the foundations of property ownership that feature prominently in the contemporary global economic setting. The school's critiques of capitalism and the capitalist labour distribution, regardless of

[38] Marx (1970) [1867], op. cit.
[39] Engels (1969) [1883], op. cit.

perceived value of such critiques, limit the capacity of the Marxist tradition to inform environmental security explorations that occur in settings where capitalism will likely continue to pervade. In other words, while Marxist schools can offer strong and potentially valuable critiques of the economic processes underlying environmental degradation, they are less well-suited for objectively exploring *specific* processes linking these environmental dynamics to conflict in largely capitalist economic settings.

**Conclusion**

The theoretical and methodological underpinnings of environmental security need to be extended. Environmental security research will continue to produce differing positions based upon the philosophical and methodological traditions upon which individual research projects are based. For example, the positivist research tradition has underwritten EI methods in environmental security, classical and neo-classical economic optimism has provided the foundations for contributions placing primacy on the importance of market processes and economic innovation, Marxist theories have provided a precursor for research emphasising distribution and access to resources, and Malthusian theories enable environmental security studies focusing upon degradation and resource scarcity as conflict drivers. All of these approaches suffer shortcomings when pursued polemically, and gain greater value when recognising of the value of multiple analytical angles in the environmental security discourse.

The findings of this thesis suggest that a conceptual convergence of environmental and social variables is needed to address many of the most acute challenges of the 21st Century; including those in the security sector. Many analytical barriers separating environmental and social considerations need to be reduced for such a conceptual convergence to take place.

Breaking down such conceptual barriers can entail "bringing nature back in" to social scientific discourse, as Daniel Deudney suggests, or constructing new theories that place social-environmental connections in a new light.[40] The inherent challenge of separating such barriers is to find ways to effectively synthesise social and environmental research agendas. This thesis has developed an approach for exploring linkages between environmental and security enquiry based upon critical realism and comprehensive security theory, and, in doing so, made a modest contribution to such syntheses in the subfield of environmental security.

More broadly, however, paying greater scholarly credence to the foundational role that natural environments play in human activities will go far towards the development of more accurate and useful social theories. The physical systems of the earth underpin human agency in ways that can easily be underestimated in the quest to explain complex social phenomena. Such underestimation should be guarded against, however, as a lack of attention to humankind's natural foundations enables activities which compromise the very environmental resources upon which human activities depend. The contemporary globally degraded state of important environmental systems reflects such lackadaisical attention, and serves as a warning against too rigidly dividing questions addressing social and natural processes. This thesis has demonstrated, through amalgamating environmental considerations into a social scientific exploration, that paying scant attention to natural

[40] See: Deudney (1999), op. cit., p. 26. Another theoretical conceptualisation of social-environmental relationships that is potentially promising for future environmental security research is "ecological communication". Proffered by Niklas Luhmann, ecological communication refers to the manner in which societies and social systems perceive and communicate about differences between themselves and the natural world. Theories of ecological communication recognise the propensity for social systems to be concerned with internal processes rather than recognise the environmental disturbances that these processes can create. Through such recognition, ecological communication provides a precursor for future contributions seeking to develop social theories and practices that take a more integrated approach to the links between humankind and the natural environment. See: Luhmann, Niklas (1989), *Ecological Communication*, Chicago: University of Chicago Press.

realities can lead to the erosion of the most essential conditions for human progress; those of peace and security.

# Appendix A

## The 1976 Tripoli Agreement

In the Name of God, the Omnipotent, the Merciful.

Agreement Between the Government of the Republic of the Philippines and Moro National Liberation Front with the Participation of the Quadripartite Ministerial Commission Members of the Islamic Conference and the Secretary General of the organization of Islamic Conference.

In accordance with the Resolution No. 4 Para. 5 adopted by the Council of Ministers of the Islamic conference in its Fourth Session held in Benghazi, Libyan Arab Republic during the month of Safar 1393 H. corresponding to March 1973, calling for the formation of Quadripartite Ministerial Commission representing the Libyan Arab Republic, the Kingdom of Saudi Arabia, the Republic of Senegal and the Republic of Somalia, to enter into discussions with the Government of the Republic of the Philippines concerning the situation of the Muslims in the South of the Philippines.

And in accordance with the Resolution No. (18) adopted by the Islamic conference held in Kuala Lumpur, Malaysia in Jumada Alakhir 1393 H. corresponding to June 1974 A.D. which recommends the searching for a just and peaceful political solution to the problem of the Muslims in the South of the Philippines through the negotiations.

And in accordance with the Resolution No. 12/7/S adopted by the Islamic conference held in Istanbul in Jumada El-Ula 1396 H. corresponding to May 1976 A.D. empowering the Quadripartite Ministerial Commission and the Secretary General of the Islamic Conference to take the necessary steps for the resumption of negotiations.

And following the task undertaken by the Quadripartite Ministerial Commission and the Secretary General of the Islamic Conference and the discussions held with H.E. President Marcos, President of the Republic of the Philippines.

And in realization of the contents of Para. 6 of the Joint Communiqué issued in Tripoli on the 25th Zulgeda 1396 H. corresponding to 17th November 1976 A.D. following the official visit paid by the delegation of the Government of the Philippines headed by the First Lady of the Philippines, Mrs. Imelda R. Marcos, to the Libyan Arab Republic and which calls for the resumption of negotiations between the two parties concerned in Tripoli on the 15th of December 1976 A.D.

Negotiations were held in the City of Tripoli during the period between 24th Zulhija 1396 H. to Second to Moharram 1397 H. corresponding to the period from 15th to 23rd December 1976 A.D. at the Ministry of Foreign Affairs presided over by Dr. Ali Abdussalam Treki, Minister of State for Foreign Affairs of the Libyan Arab Republic, and comprising of the Delegations of:

1. Government of the Republic of the Philippines, led by Honorable Carmelo Z. Barbero, Undersecretary of National Defense for Civilian Relations.

2. Moro National Liberation Front, led by Mr. Nur Misuari Chief of the Front.

And with the participation of the representatives of the Quadripartite Ministerial Commission:

The Libyan Arab Republic - represented by Dr. Ali Abdussalam Treki, Minister of State for Foreign Affairs.

The Kingdom of Saudi Arabia - H.E. Salah Abdalla El-Fadl, Ambassador of the Kingdom of Saudi Arabia, Libyan Arab Republic.

The Republic of Senegal - Mr. Abubakar Othman Si, Representative of the Republic of Senegal and Charge d'Affairs of Senegal in Cairo.

Democratic Republic of Somalia, Libyan Arab Republic.

With the aid of H.E. Dr. Amadou Karim Gaye, Secretary General of the organization of Islamic Conference, and a delegation from the Secretariat General of the Conference composed of Mr. Qasim Zuheri, Assistant Secretary General, and Mr. Aref Ben Musa, Director of Political Department.

During these negotiations which were marked by a spirit of conciliation and understanding, it has been agreed on the following:

**FIRST**: The establishment of Autonomy in the Southern Philippines within the realm of the sovereignty and territorial integrity of the Republic of the Philippines.

**SECOND**: The areas of the autonomy for the Muslims in the Southern Philippines shall comprise the following:

1. Basilan

2. Sulu

3. Tawi-tawi

4. Zamboanga del Sur

5. Zamboanga del Norte

6. North Cotabato

7. Maguindanao

8. Sultan Kudarat

9. Lanao del Norte

10. Lanao del Sur

11. Davao del Sur

12. South Cotabato

13. Palawan

**THIRD**:

1. Foreign Policy shall be of the competence of the Central Government of the Philippines.

2. The National Defense Affairs shall be the concern of the Central Authority provided that the arrangements for the joining of the forces of the Moro National Liberation Front with the Philippine Armed Forces be discussed later.

3. In the areas of the autonomy, the Muslims shall have the right to set up their own Courts which implement the Islamic Shari'ah laws. The Muslims shall be represented in all Courts including the Supreme Court. The representation of the Muslims in the Supreme Court shall be upon the recommendation from the authorities of the Autonomy and the Supreme Court. Decrees will be issued by the President of the Republic of their appointments taking into consideration all necessary qualifications of the candidates.

4. Authorities of the autonomy in the South of the Philippines shall have the right to set up schools, colleges and universities, provided that matters pertaining to the relationship between these educational and scientific organs and the general education system in the state shall be subject of discussion later on.

5. The Muslims shall have their own administrative system in compliance with the objectives of the autonomy and its institutions. The relationship between this administrative system and the Central administrative system to be discussed later.

6. The authorities of the autonomy in the South of the Philippines shall have their own economic and financial system. The relationship between this system and the Central economic and financial system of the State shall be discussed later.

7. The authorities of the autonomy in the South of the Philippines shall enjoy the right of representation and participation in the Central Government and in all other organs of the State. The number of representatives and ways of participation shall be fixed later.

8. Special Regional Security Forces are to be set up in the area of the Autonomy for the Muslims in the South of the Philippines. The relationship between these forces and the Central security forces shall be fixed later.

9. A Legislative Assembly and an Executive Council shall be formed in the areas of the Autonomy for the Muslims. The setting up of the Legislative Assembly shall be

constituted through a direct election, and the formation of the Executive Council shall take place through appointments by the Legislative Assembly. A decree for their formation shall be enacted by the President of the Republic respectively. The number of members of each assembly shall be determined later on.

10. Mines and mineral resources fall within the competence of the Central Government, and a reasonable percentage deriving from the revenues of the mines and minerals be fixed for the benefit of the areas of the autonomy.

11. A Mixed Committee shall be composed of representatives of the Central Government of the Republic of the Philippines and the representatives of the Moro National Liberation Front. The Mixed Committee shall meet in Tripoli during the period from the Fifth of February to a date not later than the Third of March 1977. The task of said Committee shall be charged to study in detail the points left for discussion in order to reach a solution thereof in conformity with the provisions of this agreement.

12. ceasefire shall be declared immediately after the signature of this agreement, provided that its coming into effect should not exceed the 20th January 1977. A Joint Committee shall be composed of the two parties with the help of the organization of the Islamic Conference represented by the Quadripartite Ministerial Commission to supervise the implementation of the ceasefire. The said Joint Committee shall also be charged with supervising the following:

a. A complete amnesty in the areas of the autonomy and the renunciation of all legal claims and codes resulting from events which took place in the South of the Philippines.

b. The release of all the political prisoners who had relations with the events in the South of the Philippines.

c. The return of all refugees who have abandoned their areas in the South of the Philippines.

d. To guarantee the freedom of movements and meetings.

13. A joint meeting be held in Jeddah during the first week of the month of March 1977 to initial what has been concluded by the Committee referred to in Para. 11.

14. The final agreement concerning the setting up of the autonomy referred to in the first and second paragraphs shall be signed in the City of Manila, Republic of the Philippines, between the Government of the Philippines and Moro National Liberation Front, and the Islamic Conference represented by the Quadripartite Ministerial Commission and the Secretary General of the organization of Islamic Conference.

15. Immediately after the signature of the Agreement in Manila, a Provisional Government shall be established in the areas of the autonomy to be appointed by the

President of the Philippines; and be charged with the task of preparing for the elections of the Legislative Assembly in the territories of the Autonomy; and administer the areas in accordance with the provisions of this agreement until a Government is formed by the elected Legislative Assembly.

16. The Government of the Philippines shall take all necessary constitutional processes for the implementation of the entire Agreement.

**FOURTH**: This Agreement shall come into force with effect from the date of its signature.

Done in the City of Tripoli on 2nd Muharram 1397 H. corresponding to 23rd December 1976 A.D. in three original copies in Arabic, English, French languages, all equal in legal power.

For the Government of the Republic of the Philippines:

Hon. Carmelo Z. Barbero Undersecretary of National Defense for Civilian Relations

For the Moro National Liberation Front:

Professor Nur Misuari Chairman of the Front

Dr. Ali Abdusaalam Treki Minister of State for Foreign Affairs, Libyan Arab Republic and Chairman of the Negotiations

Dr. Amadou Karim Gaye Secretary General of the organization of the Islamic Conference

# Appendix B

## 1987 Jeddah Accord

Joint Statements of the Philippine Government and the MNLF Panels

The two panels agreed to continue discussion of the proposal for the grant of full autonomy to Mindanao, Basilan, Sulu, Tawi-Tawi and Palawan subject to democratic processes. In the meantime, the MNLF panel proposes that President Corazon C. Aquino will issue an executive order suspending pertinent provisions of the draft constitution on the grant of autonomy to Muslim Mindanao in the scheduled plebiscite on February 2, 1987, to allow the MNLF to undertake democratic consultations with the people of Mindanao and its islands, and that the Philippine Government panel shall present this proposal to President Aquino for her approval.

| MNLF Panel | Philippine Government Panel |
|---|---|
| Nur Misuari | Aquilino Pimentel Jr. |
| Chairman | Chairman |

Witnessed by:

S. S. Pirzada

Secretary General of the Organization of the Islamic Conference
OIC Headquarters, Jeddah, Kingdom of Saudi Arabia, January 3, 1987

Summary of the points taken up in the meeting between the Philippine and the MNLF Panels held at the Organization of the Islamic Conference Headquarters, Jeddah, Kingdom of Saudi Arabia on January 3, 1987

The two panels have taken up the following points:

1. The substantive part of the talks will be held in Manila,
Zamboanga or any other place in the Philippines mutually acceptable to both parties. For this purpose, a joint commission composed of three members from each side shall be created to discuss and draft the mechanics and details of the proposal to grant full autonomy to Mindanao, Basilan, Sulu, Tawi-Tawi and Palawan. The Joint Commission is tasked to do everything possible to complete its work within ninety (90) days from February 9, 1987.

2. The provincial committees shall be created to monitor and implement the observance of the agreement on the cessation of hostilities between the Philippine Government and the MNLF.

3. The MNLF proposed some form of reorganization involving certain political and governmental institutions to enhance a conducive atmosphere for further talks. The MNLF proposed that an Executive Order be immediately issued for this purpose.

4. The Philippine and the MNLF Panels agreed to propose the immediate formulation and implementation of a comprehensive economic and social development program in priority areas mutually agreed upon.

5. Both panels agreed to jointly pursue the dissemination of accurate and comprehensive information regarding the Bangsamoro issue as part of the vital pursuit of democratic processes in arriving at a just and lasting solution to the Bangsamoro problem.

6. The Philippine panel agreed to exercise its best efforts to provide a secure and peaceful atmosphere to enable the MNLF to undertake consultations with the component peoples in the proposed area of autonomy.

7. The Philippine panel likewise agreed to propose to the authorities of the Republic of the Philippines to provide security to the three-man representative of the MNLF Panel to the Joint Commission referred to in Paragraph 1, above, and to their staff in the discharge of their duties as members of the Joint Commission.

Jeddah, Kingdom of Saudi Arabia, January 3, 1987.

| | |
|---|---|
| MNLF Panel | Philippine Government Panel |
| By: | By: |
| Nur Misuari | Aquilino Pimentel Jr. |
| Chairman | Chairman |
| Joseph B. Banghulot | Agapito A. Aquino |
| Member | Member |

Joint Statement of the MNLF and the Philippine Government Panels

The two panels met in the evening of January 3, 1987 at the Headquarters of the Organization of Islamic Conference in Jeddah, Kingdom of Saudi Arabia, and agreed to:

1. create a Joint Commission which will discuss and draft the mechanism and details of the proposal for the grant of full autonomy to Mindanao, Basilan, Sulu, Tawi-Tawi and Palawan subject to democratic processes. The Joint Commission shall be composed of three members from each panel and shall initially meet in Manila on February 9, 1987. It shall endeavor to complete its work within 90 days from said date;

2. create provincial committees to monitor and implement the observance of the agreement on the cessation of hostilities between the Philippine government and the MNLF; and

3. propose the immediate formulation and implementation of a comprehensive economic and social development program in priority areas mutually agreed upon.
Both panels express their sincere gratitude and appreciation to King Fahd Ibn Abdul Aziz, Custodian of the Two Holy Mosques, for graciously allowing this meeting to be held in Jeddah, Kingdom of Saudi Arabia. The MNLF Panel hereby conveys its heartfelt gratitude to

Her Excellency, President Corazon C. Aquino of the Republic of the Philippines, for sincerely addressing the aspirations of the Bangsamoro people and for sending a Philippine panel most suitable for this delicate negotiations. The panels also wish to thank the Organization of Islamic Conference, thru its Secretary-General H.E. Syed Shariffuddin Pirzada, for continuing to provide its good offices in assisting the parties in their efforts to achieve a peaceful and lasting solution to the Bangsamoro problem.

Jeddah, Kingdom of Saudi Arabia, January 4, 1987.

| | |
|---|---|
| MNLF Panel Philippine | Government Panel |
| Nur Misuari | Aquilino Pimentel Jr. |
| Chairman | Chairman |

# Appendix C

## 2001 Tripoli Agreement of Peace

Agreement on peace between the government of the Republic of the Philippines and the Moro Islamic Liberation Front.

The Government of the Republic of the Philippines and the Moro Islamic Liberation Front herein referred to as the "Parties" to this Agreement;

Determined to establish a peaceful environment and a normal condition of life in the Bangsamoro homeland;

Reaffirming the General Cessation of Hostilities dated 18 July 1997 and the General Framework of the Agreement of intent signed between the Parties on 27 August 1998, and committing to reach a negotiated political settlement of the Bangsamoro problem, and enduring peace and stability in Mindanao;

Recalling the Tripoli Agreement of 1976 and the Jakarta Accord of 1996 between the Government of the Republic of the Philippines (GRP) and the Moro National Liberation Front (MNLF), and the OIC Resolution No. 56/9-P (IS) on 12 November 2000 of the Ninth Session of the Islamic Summit Conference in Doha, State of Qatar, urging the GRP and the MILF " to promptly put an end to armed hostilities and to pursue peace talks towards finding a peaceful resolution to the existing problem in Mindanao;"

Noting that the basic elements/principles for the resumption of peace talks between the MILF and the GRP panels have been facilitated by the Government of Malaysia, as set forth in the Agreement on the General Framework for the Resumption of Peace Talks between the Government of the Republic of the Philippines and the Moro Islamic Liberation Front signed on March 24, 2001 in Kuala Lumpur Malaysia;

Further recalling Article VI of the said Agreement on General Framework for the Resumption of the Peace Talks between the GRP and the MILF signed in Kuala Lumpur, Malaysia in which Parties agreed to undertake relief and rehabilitation measures for evacuees, and joint development projects in the conflict affected areas; and Recognizing that peace negotiations between the GRP and the MILF is for the advancement of the general interest of the Bangsamoro people and other indigenous people; and, recognizing further the need for a comprehensive, just and lasting political settlement of the conflict in Mindanao, the Parties welcome the resumption of the peace talks and, consequently, Have agreed as follows:

## A. SECURITY ASPECT

In accordance with the incremental characteristic of the peace process and agreement on the General Framework for the Resumption of the Peace Talks, the Parties, as represented by their respective Peace Panels, consider that normalization in conflict affected areas can be achieved if certain principles and guidelines of conduct and action are adhered to by the Parties. That among these are:

1. All past agreements of the Parties shall be implemented in accordance with the Agreement on the General Framework for the Resumption of the Peace Talks signed in Kuala Lumpur, Malaysia on 24 March 2001 for the progressive resolution of the Bangsamoro problem with honor, justice, and integrity for all sectors of society.

2. The negotiation and peaceful resolution of the conflict must involve consultations with the Bangsamoro people free of any imposition in order to provide chances of success and open new formulas that permanently respond to the aspirations of the Bangsamoro people for freedom.

3. The Parties agree to invite representatives of the organization of Islamic Conference (OIC) to observe and monitor the implementation of all GRP-MILF Agreements. The Parties further agree to strengthen the GRP-MILF Agreement on the General Cessation of Hostilities dated 18 July 1997. Upon signing this Agreement, a Monitoring Team shall be constituted with representatives from the OIC.

## B. REHABILITATION ASPECT

1. The observance of international humanitarian law and respect for internationally recognized human rights instruments and the protection of evacuees and displaced persons in the conduct of their relations reinforce the Bangsamoro people's fundamental right to determine their own future and political status.

2. The MILF shall determine, lead and manage rehabilitation and development projects in conflict affected areas, except when public funds are involved, in which case Government procedures and rules will be observed.

3. The Parties shall safely return evacuees to their place of origin; provide all the necessary financial/material and technical assistance to start a new life, as well as allow them to be awarded reparations for their properties lost or destroyed by reason of the conflict.

4. In order to pave the way for relief and rehabilitation of evacuees and implementation of development projects in the areas affected by conflict, the Parties agree to implement the GRP-MILF Agreement on the General Cessation of Hostilities dated July 18, 1997.

**C. ANCESTRAL DOMAIN ASPECT**

On the aspect of ancestral domain, the Parties, in order to address the humanitarian and economic needs of the Bangsamoro people and preserve their social and cultural heritage and inherent rights over their ancestral domain, agree that the same be discussed further by the Parties in their next meeting.

**D. ACTIVATION OF COMMITTEES**

Immediately upon signing of this Agreement, the Parties hereby agree to activate working committees for the purpose of discharging their mandates, particularly the implementation of all agreements between the Parties.

**E. ACKNOWLEDGEMENT**

The Parties acknowledge the leadership of President Gloria Macapagal-Arroyo in pursuing an all-out peace policy in Mindanao. The Parties express their collective appreciation and gratitude to the Great Leader of the Great Socialist People's Libyan Arab Jamahiriya, Colonel Muammar Gaddafi, and to the Chairman of the Gaddafi International Foundation for Charitable Associations, Saif Al Islam Gaddafi, for hosting the Formal Opening of the Resumption of the GRP-MILF Peace Talks in Tripoli, Libya; to His Excellency Dato Seri Dr. Mahathir Mohammad, Prime Minister of Malaysia and His Excellency Abdurrahman Wahid, President of the Republic of Indonesia, for their full and continuing support.

Done on this 22nd day of June 2001 corresponding to 30 Rabi' ul Aw'al 1422 in the presence of the representatives of the Gaddafi International Foundation for Charitable Associations, the Government of Malaysia and the Government of the Republic of Indonesia. For the GRP:

Jesus G. Dureza Chairman, GRP Peace Panel for the MILF:

Al Haj Murad Ebrahim Chairman, MILF Peace Panel

Witnessed by:

Saif Al Islam Gaddafi Chairman of the Gaddafi International Foundation for Charitable Associations

# Appendix D

## 2008 Memorandum of Agreement on Ancestral Domain (MOA-AD)

In the name of God the beneficent, the merciful.

Memorandum of Agreement on the Ancestral Domain Aspect of the GRP-MILF Tripoli Agreement of Peace of 2001.

The Government of the Republic of the Philippines (GRP) and the Moro Islamic Liberation Front (MILF) herein referred to as the "Parties" to this Agreement,

**CONCEPTS AND PRINCIPLES**

1. It is the birthright of all Moros and all Indigenous peoples of Mindanao to identify themselves and be accepted as "Bangsamoros" . The Bangsamoro people refers to those who are natives or original inhabitants of Mindanao and its adjacent islands including Palawan and the Sulu archipelago at the time of conquest or colonization of its descendants whether mixed or of full blood. Spouses and their descendants are classified as Bangsamoro. The freedom of choice of the Indigenous people shall be respected.

2. It is essential to lay the foundation of the Bangsamoro homeland in order to address the Bangsamoro people's humanitarian and economic needs as well as their political aspirations. Such territorial jurisdictions and geographic areas being the natural wealth and patrimony represent the social, cultural and political identity and pride of all the Bangsamoro people. Ownership of the homeland is vested exclusively in them by virtue of their prior rights of occupation that had inhered in them as sizeable bodies of people, delimited by their ancestors since time immemorial, and being the first politically organized dominant occupants.

3. Both Parties acknowledge that ancestral domain does not form part of the public domain but encompasses ancestral, communal, and customary lands, maritime, fluvial and alluvial domains as well all natural resources therein that have inured or vested ancestral rights on the basis of native title. Ancestral domain and ancestral land refer to those held under claim of ownership, occupied or possessed, by themselves or through the ancestors of the Bangsamoro people, communally or individually since time immemorial continuously to the present, except when prevented by war, civil disturbance, force majeure, or other forms of possible usurpation or displacement by force, deceit, stealth, or as a consequence of government project or any other voluntary dealings entered into by the government and private individuals, corporate entities or institutions.

4. Both Parties acknowledge that the right to self-governance of the Bangsamoro people is rooted on ancestral territoriality exercised originally under the suzerain authority of their sultanates and the Pat a Pangampong ku Ranaw. The Moro sultanates were states or karajaan/kadatuan resembling a body politic endowed with all the elements of nation-state in the modern sense. As a domestic community distinct from the rest of the national

communities, they have a definite historic homeland. They are the "First Nation" with defined territory and with a system of government having entered into treaties of amity and commerce with foreign nations.

The Parties concede that the ultimate objective of entrenching the Bangsamoro homeland as a territorial space is to secure their identity and posterity, to protect their property rights and resources as well as to establish a system of governance suitable and acceptable to them as distinct dominant people.

5. Both Parties affirm their commitment to mutually respect the right to one's identity and the parity of esteem of everyone in the political community. The protection of civil rights and religious liberties of individuals underlie the basis of peace and justice of their totality of relationships.

6. Both Parties agree that the Bangsamoro Juridical Entity (BJE) shall have the authority and jurisdiction over the Ancestral Domain and Ancestral lands, including both alienable and non-alienable lands encompassed within their homeland and ancestral history, as well as the delineation of ancestral domain/lands of the Bangsamoro people located therein.

7. Vested property rights upon the entrenchment of the BJE shall be recognized and respected subject to paragraph 9 of the strand on Resources.

**TERRITORY**

1. The Bangsamoro homeland and historic territory refer to the land mass as well as the maritime, terrestrial, fluvial and alluvial domains, and the aerial domain, the atmospheric space above it, embracing the Mindanao-Sulu- Palawan geographic region. However, delimitations are contained in the agreed Schedules (Categories)

2. Toward this end, the Parties entered into the following stipulations:

a. The Government of the Republic of the Philippines (GRP) and the Moro Islamic Liberation Front (MILF) as the Parties to this Agreement commit themselves to the full and mutual implementation of this framework agreement on territory with the aim of resolving outstanding issues that emanate from the consensus points on Ancestral Domain.

b. The Parties confirm their understanding that the mutual goal of reaching an agreement on Bangsamoro territory specific to mapping the outlying borders and the boundaries affecting local government units will lead to consolidation of the agreed texts on the Ancestral Domain Strands.

c. The Parties affirm that the core of the BJE shall constitute the present geographic area of the ARMM, including the municipalities of Baloi, Munai, Nunungan, Pantar, Tagoloan and Tangkal in the province of Lanao del Norte that voted for inclusion in the ARMM during the 2001 plebiscite;

d. Without derogating from the requirements of prior agreements, the government stipulates to conduct and deliver, within six (6) months following the signing of the Memorandum of Agreement on Ancestral Domain, a plebiscite covering the areas as enumerated in the list and depicted in the map as Category A attached herein (the "Annex"). The Annex constitutes an integral part of this framework agreement.

e. The areas covered by Category B has already been reflected on a map and officially agreed by both Parties.

f. Internal Waters:

The Bangsamoro Juridical Entity (BJE) shall have jurisdiction over the management, conservation, development, protection, utilization and disposition of all natural resources, living and non-living, within its internal waters extending fifteen (15) kilometers from the coastline of the BJE area.

g. Territorial Waters:

(1) The territorial waters of the BJE shall stretch beyond the BJE internal waters up to the Republic of the Philippines (RP) baselines south east and south west of mainland Mindanao. Beyond the fifteen (15) kilometers internal waters, the Central Government and the BJE shall exercise joint jurisdiction, authority and management over areas and [of] all natural resources, living and non-living contained therein. The details of such management of the Territorial Waters shall be provided in an agreement to be entered into by the Parties.

(2) The boundaries of the territorial waters shall stretch beyond the 15-km BJE internal waters up to the Central government's baselines under existing laws. In the southern and eastern part of the BJE, it shall be demarcated by a line drawn from the Maguling Point, Palimbang, Province of Sultan Kudarat up to the straight baselines of the Philippines. On the northwestern part, it shall be demarcated by a line drawn from Little Sta. Cruz Island, Zamboanga City, up to Naris Point, Bataraza, Palawan. On the western part of Palawan, it shall be demarcated by a line drawn from the boundary of Bataraza and Rizal up to the straight baselines of the Philippines.

The final demarcation shall be determined by a joint technical body composed of duly-designated representatives of both Parties, in coordination with the appropriate Central Government agency in accordance with the above guidelines.

h. Sharing of Minerals on Territorial Waters:

Consistent with paragraphs 5 and 6 of the provisions on Resources, all potential sources of energy, petroleum in situ, hydrocarbon, natural gas and other minerals, including deposits or fields found within the territorial waters, shall be shared between the Central Government and the BJE in favor of the latter through production sharing agreement or economic cooperative agreement.

i. Activities Allowed on Territorial Waters:

(1) The Parties shall have authority to carry out the following activities within the territorial waters:

(a) Exploration and utilization of the natural resources, whether living or non-living within the territorial waters;

(b) Establishments and use of artificial islands, installations and structures;

(c) Marine scientific research;

(d) Protection and the preservation of the marine environment;

(e) Conservation of living resources;

(f) Regulation of shipping and fishing activities;

(g) Enforcement of police and safety measures, including interdiction of the entry and use of the waters by criminal elements and hot pursuit of suspected criminal elements;

(h) Regulation and control of contraband and illegal entry of prohibited materials and substances, including smuggling; and

(i) Such other measures as the Parties may otherwise mutually agree.

(2) Activities relating to exploration and utilization of non-living resources, as well as paragraphs (c) and (d) of the Authorized Activities will be carried out on a joint basis agreed

by the Parties which may be in the form of production sharing agreements or joint development pacts.

j. Establishment of a Joint Commission:

(1) The Parties shall establish a Joint Commission, which shall elaborate the modalities for the implementation and the carrying out of the Authorized Activities and the measures adopted in cases of allegation of breach, and carry out any other functions which may be assigned to it by the Parties for the purpose of implementing the joint management of resources.

(2) The Joint Commission shall consist of one representative from each Party, who are assisted by advisers as may be needed. The conclusions of the Joint Commission shall be adopted by consensus and shall only be recommendatory in nature. Only when the conclusions of the Joint Commission are adopted by the Parties do they become binding on the Parties.

k. Demarcation and Status of Territorial Waters:

The demarcation and status of the BJE territorial waters shall be finally determined together with the demarcation and final status of Category B of the BJE.

3. From and after entrenchment of compact rights over the Bangsamoro homeland and the territorial jurisdictions for associative governance shall likewise embrace those under proclamation for agricultural and human settlements intended for the Bangsamoro people, all alienable and disposable land, pasture lands, timberlands together with all existing civil and military reservations, parks, old growth or natural forests declared as forest reserves, watersheds, mangroves, fishponds, wetlands, marshes, inland bodies of water and all bays, straits and channels found within the BJE.

4. All territorial and geographic areas in Mindanao and its adjacent islands including Palawan, and the Sulu archipelago that have been recognized, and/or delineated as ancestral domain and ancestral land of the Bangsamoro people as their geographic areas, inclusive of settlements and reservations, may be formed or constituted into political subdivisions of the Bangsamoro territorial jurisdictions subject to the principles of equality of peoples and mutual respect and to the protection of civil, political, economic, and cultural rights in their respective jurisdictions.

5. For purposes of territorial delimitation, the Parties have agreed to the joint determination of geographic areas encompassed within the territorial borders of the Bangsamoro homeland and territory based on the technical maps and data submitted by both sides as provided above.

**RESOURCES**

1. The Bangsamoro juridical entity is empowered with authority and responsibility for the land use, development, conservation and disposition of the natural resources within the homeland. Upon entrenchment of the Bangsamoro juridical entity, the land tenure and use of such resources and wealth must reinforce their economic self-sufficiency. Among the purposes or measures to make progress more rapid are:

a. Entry into joint development, utilization, and exploitation of natural resources designed as commons or shared resources, which is tied up to the full setting of appropriate institution, particularly affecting strategic minerals.

b. Stimulation of local economy by a range of mechanism, in particular the need to address unemployment and improvement of living conditions for the population in the Bangsamoro juridical entity;

c. Intensification of measures needed to uproot the cause of poverty in the Bangsamoro juridical entity through responsible harnessing and development of its natural resources; and

d. Undertaking program review of public services, industrial or trade-related and agrarian-related issues in situations of different sectors of the society in the Bangsamoro juridical entity, which acquire communal character deriving from the special nature of their industry.

2. The Bangsamoro People through their appropriate juridical entity shall, among others, exercise power or authority over the natural resources within its territorial jurisdiction:

a. To explore, exploit, use or utilize and develop their ancestral domain and ancestral lands within their territorial jurisdiction, inclusive of their right of occupation, possession, conservation, and exploitation of all natural resources found therein;

b. To conserve and protect the human and natural environment for their sustainable and beneficial enjoyment and their posterity;

c. To utilize, develop, and exploit its natural resources found in their ancestral domain or may enter into a joint development, utilization, and exploitation of natural resources, specifically on strategic minerals, designed as commons or shared resources, which is tied up to the final setting of appropriate institution.

d. To revoke or grant forest concessions, timber license, contracts or agreements in the

utilization and exploitation of natural resources designated as commons or shared resources, mechanisms for economic cooperation with respect to strategic minerals, falling within the territorial jurisdiction of the Bangsamoro juridical entity;

e. To enact agrarian laws and programs suitable to the special circumstances of the Bangsamoro people prevailing in their ancestral lands within the established territorial boundaries of the Bangsamoro homeland and ancestral territory is within the competence of the Bangsamoro juridical entity; and

f. To use such natural resources and wealth to reinforce their economic self-sufficiency.

3. The Bangsamoro Juridical Entity, and the Central Government agree on wealth-sharing based on a mutually agreed percentage ratio in favor of the Bangsamoro juridical entity through an economic cooperation agreement or arrangement over the income and revenues that are derived from the exploration, exploitation, use and development of any resources for the benefit of the Bangsamoro people.

4. The Bangsamoro juridical entity is free to enter into any economic cooperation and trade relations with foreign countries: provided, however, that such relationships and understandings do not include aggression against the Government of the Republic of the Philippines; provided, further that it shall remain the duty and obligation of the Central Government to take charge of external defense. Without prejudice to the right of the Bangsamoro juridical entity to enter into agreement and environmental cooperation with any friendly country affecting its jurisdiction, it shall include:

a. the option to establish and open Bangsamoro trade missions in foreign countries with which it has economic cooperation agreements; and

b. the elements bearing in mind the mutual benefits derived from Philippine archipelagic status and security.

And, in furtherance thereto, the Central Government shall take necessary steps to ensure the Bangsamoro juridical entity's participation in international meetings and events, e.g. ASEAN meetings and other specialized agencies of the United Nations. This shall entitle the said juridical entity participation in Philippine official missions and delegations that are engaged in the negotiation of border agreements or protocols for environmental protection, equitable sharing of incomes and revenues, in the areas of sea, seabed and inland seas or bodies of water adjacent to or between islands forming part of the ancestral domain, in addition to those of fishing rights.

5. Jurisdiction and control over, and the right of exploring for, exploiting, producing and obtaining all potential sources of energy, petroleum, in situ, fossil fuel, mineral oil and

natural gas, whether onshore or offshore, is vested in the Bangsamoro juridical entity as the party having control within its territorial jurisdiction, provided that in times of national emergency, when public interest so requires, the Central Government may, during the emergency, for a fixed period and under reasonable terms as may be agreed by both Parties, temporarily assume or direct the operations of such strategic resources.

6. The Bangsamoro government-take or profit split from total production shall be shared with the Central Government on a percentage ratio of 75%/25% in favor of the Bangsamoro juridical entity. All royalties, bonuses, taxes, charges, custom duties or imposts on natural resources and mineral resources shall be shared by the Parties on a percentage ratio of 75%/25% in favor of the Bangsamoro juridical entity.

7. The legitimate grievances of the Bangsamoro people arising from any unjust dispossession of their territorial and propriety rights, customary land tenures, or their marginalization shall be acknowledged. Whenever restoration is no longer possible, the GRP shall take effective measures of adequate reparation collectively beneficial to the Bangsamoro people, in such quality, quantity and status to be determined mutually by both Parties.

8. All proclamations, issuances, policies, rules and guidelines declaring old growth or natural forests and all watersheds within the BJE as forest reserves shall continue to remain in force until otherwise modified, revised or superseded by subsequent policies, rules and regulations issued by the competent Bangsamoro authority or juridical entity.

9. Forest concessions, timber licenses, contracts or agreements, mining concessions, Mineral Production and Sharing Agreements (MPSA), Industrial Forest Management Agreements (IFMA), and other land tenure instruments of any kind or nature whatsoever granted by the Philippine Government including those issued by the present Autonomous Region in Muslim Mindanao (ARMM) shall continue to operate from the date of formal entrenchment of the Bangsamoro juridical entity unless otherwise expired, reviewed, modified and/or cancelled by the latter.

10. The Parties recognized an immediate need to establish a five-member Bangsamoro economic-expert mission (the "Mission") bearing in mind that the functioning of the economy and the operation of institutions involve financial and other resource management as well as parallel or complementary means, by which the Bangsamoro Development Agency will manage and administer resources acquired for the above purposes, especially in coordinating strategies and programs for cooperation in all fields.

11. The said Mission acts as a link in the conduct of Bangsamoro juridical entity's associative parallel relationships and shall cooperate fully with all organizations involved in implementation of the peace settlement. It shall launch a plan and joint international appeal for the repatriation and development of the conflict affected areas in Mindanao. Persons appointed thereto must be familiar with the specific economic, political and legal

characteristics in the Mindanao-Sulu-Palawan region and must possess recognized competence, integrity, and high moral standing.

12. Cognizant that the Bangsamoro economic-expert Mission will benefit from international expertise, both the Central Government and the BJE hereby join the Third Party facilitator in inviting international funding institutions or equivalent entities for reconstruction and development to appoint two members and to designate one as the Chairman. The BJE shall designate one member as Co-Chairman. The remaining two members shall each be designated by the Central Government and the BJE.

**GOVERNANCE**

1. The recognition and peaceful resolution of the conflict must involve consultations with the Bangsamoro people free of any imposition in order to provide chances of success and open new formulas that permanently respond to the aspirations of the Bangsamoro people.

2. The ultimate objective of entrenching the Bangsamoro homeland as a territorial space is to secure their identity and posterity, to protect their property rights and resources as well as to establish a system of governance suitable and acceptable to them as a distinct dominant people. The parties respect the freedom of choice of the indigenous peoples.

3. The Parties agree to invite a multinational third-party to observe and monitor the actual implementation of the comprehensive compact which will embody the details for the effective enforcement of this Agreement. The participation of the third-party shall not in any way affect the status of the relationship between the Central Government and the BJE.

4. The relationship between the Central Government and the Bangsamoro juridical entity shall be associative characterized by shared authority and responsibility with a structure of governance based on executive, legislative, judicial and administrative institutions with defined powers and functions in the comprehensive compact. A period of transition shall be established in a comprehensive peace compact specifying the relationship between the Central Government and the BJE.

5. The modalities for the governance intended to settle the outstanding negotiated political issues are deferred after the signing of the Memorandum of Agreement on Ancestral Domain.

The establishment of institutions for governance in a comprehensive peace compact, together with its modalities during the transition period, shall be fully entrenched and established in the basic law of the Bangsamoro juridical entity. The Parties shall faithfully comply with their commitment to the associative arrangements upon entry into force of a comprehensive compact between the MILF and GRP.

7. The Parties agree that the mechanisms and modalities for the actual implementation of this

MOA AD shall be spelt out in the comprehensive compact to mutually take such steps to enable it to occur effectively.

Any provisions of the MOA on Ancestral Domain requiring amendments to the existing legal framework shall come into force upon signing of a comprehensive compact and upon effecting the necessary changes to the legal framework with due regard to non derogation of prior agreements and within the stipulated timeframe to be contained in the comprehensive compact.

8. The parties agree that the BJE shall be empowered to build, develop and maintain its own institutions, inclusive of, civil service, electoral, financial and banking, education, legislation, legal, economic, and police and internal security force, judicial system and correctional institutions, necessary for developing a progressive Bangsamoro society the details of which shall be discussed in the negotiation of the comprehensive compact.

9. The Parties further agree to undertake activities which will enhance the capacity of the government institutions during the transition through technical assistance, information-sharing and human resource development.

10. Matters concerning the details of the agreed consensus points on Governance not covered under this Agreement shall be deferred to, and discussed during, the negotiations of the comprehensive compact.

**Done this 5th day of August, 2008 in Kuala Lumpur, Malaysia.**

For the GRP:
(SGD) Rodolfo C. Garcia
Chairman
GRP Peace Negotiating Panel
For the MILF:
(SGD) Mohagher Iqbal
Chairman
MILF Peace Negotiating Panel
Witnessed By:
(SGD) Datuk Othman bin Abd Razak
Special Adviser to the Prime Minister
In the presence of:
(SGD) Alberto G. Romulo
Secretary of Foreign Affairs
Republic of the Philippines
(SGD) Dato' Seri Utama Dr. Rais
Bin Yatim

Minister of Foreign Affairs
Malaysia
Initialed by:
Sec. Rodolfo Garcia
Mohagher Iqbal
Sec. Hermogenes Esperon
Witnessed by:
Datuk Othman bin Abd Razak

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