EDITED BY IAIN WATSON & CHANDRA LAL PANDEY

ENVIRONMENTAL SECURITY IN THE ASIA-PACIFIC

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Edited by
Iain Watson and Chandra Lal Pandey

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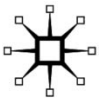

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Contents

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Figures and Tables

Figures

Tables

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Introduction: Environmental Security in the Asia-Pacific

Iain Watson and Chandra Lal Pandey

The outcome document from the Rio+20 Conference in 2012 acknowledged that climate change is a crosscutting crisis affecting all countries, but, in particular, developing countries.[1] At the same time, there was a recognition that the term "developing" did not and could not account for the sheer diversity among "developing" nations. Diversity was identified both in terms of the countries' different development levels and rates and in terms of how each country responded differently to climate change and its impact. One major assumption, therefore, is that this diversity necessarily provides a means through which to engender agenda and institutional "inclusion" as a response to climate change impact. A new geography of regional diversity or multipolarity has also been seen as representing the need for new conceptual tools to help explain and understand contemporary subregional and subnational patterns of poverty, development, and climate change impact. These impacts can often crosscut territorial boundaries. At the recent Group of 20 (G20) summit in Brisbane, a group that includes several Asia-Pacific rising powers, the term "trench warfare" was used to describe the politics behind including "climate change" in the final communiqué. The final communiqué stated,

> We support strong and effective action to address climate change. Consistent with the United Nations Framework Convention on Climate Change (UNFCCC) and its agreed outcomes, our actions will support sustainable development, economic growth, and certainty for business and investment. We will work together to adopt successfully a protocol, another legal instrument or an agreed outcome with legal force under the UNFCCC that is applicable to all parties at the 21st Conference of the Parties (COP21) in Paris in 2015. We encourage parties that are ready to communicate their intended nationally determined contributions well in advance of COP21 (by the first

> quarter of 2015 for those parties ready to do so). We reaffirm our support for mobilising finance for adaptation and mitigation, such as the Green Climate Fund.[2]

The G20 meeting followed a deal on future carbon emissions targets made between China and the United States. In one sense, and following disappointments at United Nations (UN) Climate Summits over the years, there seems to be a call for cooperation at a bilateral, regional, and exclusive organizational level from outside the UN framework. If the big powers are back in, then one suggestion might be that the deadlock has reached some kind of tipping point and the bigger states now realize the need to be involved in such Actions. This is because bigger states may begin to lose the agenda if the states are outside multilateralism and as a result, begin to lose credibility in the very institutions they might wish to use might lose legitimacy. Perhaps, this might be regarded as a new form of power that is not based on resources or assets per se, but based on knowing and controlling the time to resist the seduction of grandstanding or stalling. One result from this is that smaller or middle powers, often previously assumed to be green activists, might no longer be willing to be acting, or being seen to act, as good citizens but become increasingly desperate to either hold on to the green agenda with ambitious, but unsustainable, promises or generate aggressive economic growth, being concerned that if bigger powers are involved in climate target agreements, then this might make life difficult for middle-power long-term growth sustainability. It has been characteristic that climate agreements based on liberal cooperation have often been pursued by middle and smaller powers as a way to enmesh the larger powers but such countries might now become increasingly excluded from big power exclusive minilateralism and take up the mantle of business as usual growth, thus potentially losing their new agenda soft-power credibility. For instance, new middle-power countries such as Indonesia and Korea have often been able thus far to manage this tension by arguing that rapid (and continued) brown development has given Korea a particular experience of the impact of negative environmental costs and concerns and that as a new power Korea is, as a result, also justified in its rapid catch up and right to develop and its role as green growth advocate. Yet currently there is such a low baseline of measuring climate change response success in attempts at global cooperation that more ambitious targets, or just providing more finance and money for institutions such

as the Green Climate Fund (through a traditional narrative of helping the developing world) or raising awareness, are deemed a success.

Environmental security is often seen in two ways: first, as a response by states to the impacts of climate change and as a means to secure their environment, whether that is the economy, citizens, or institutions, from old or new security threats that are reinforced or caused directly or indirectly by climate change. Second, it is seen as a means and a strategy of securing the ownership of scarce natural resources that lie within their sovereign boundaries and either on or beneath a state's territory to avoid overuse and potential depletion of the resources. At the 2014 G20 and Asia-Pacific Economic Cooperation (APEC) summits, climate change was placed in an official narrative that through various practices of environmental security it would be possible to make societies resilient to both, at the same time, human-induced climate change as well as natural economic forces in the wake of the financial crisis. Both summits reinforced the tensions as to whether climate change and environmental security is to be approached as separate from traditional security issues (but addressed at the same time); or whether it is to be discussed after traditional issues of economic growth are addressed and resolved; or whether environmentalism is to be used as an umbrella concept/term within which these other issues are to be discussed; or as an issue that is being (or should be) implanted into different sectors and institutions, or to be treated as a separate green silo and wait for spillover. How state elites frame climate change and environmental security, the book argues, is often influenced by particular narratives on national identity as creating and representing a particular state role, and within which various contestations of these identities from a variety of actors are enacted, disrupted, constructed, and silenced.

There are familiar and traditional regional issues of climate change such as threats to low-lying island territories, water shortages, the impact of melting glaciers on land, and resultant climate refugee issues. These are noted in the case studies. Both developed and developing nations in the Asia-Pacific region have also tended to frame climate change and the environment as a sustainable development problem. In turn, issues of types of development that are suited to securing the environment are then recognized as a part of a wider issue of national security. In this respect, the term environmental security and its legitimacy, at certain points of history, is constantly being redefined by a myriad of actors, so as to determine whether impacts on the environment cause familiar or

unique security concerns. Developed nations, concerned about regional stability in the face of climate-related stresses, have also begun to frame climate change as a security problem. Indeed, the securitization of climate change has itself now become a matter of political and cultural contention. Western powers have argued that the potential negative effects of climate change, including the mass migrations of populations, have made it a crucial issue in terms of global peace and security. Russia and China have rejected the idea that the issue even belonged on the UN Security Council agenda. Russia and China stressed that discussions on climate change have to be carried out in other UN bodies and not in the Security Council because it includes all member states including developing and middle-income countries (MacFarquhar, 2011). One issue for the emerging powers is that these states are often regarded as both developing and developed within a myriad of connected pockets of and within their territory, and this can lead to domestic contestations over which countries and which environmental policies to align with.

In the Asia-Pacific there have been a variety of recent attempts at engendering binding agreements on carbon emissions. The launch of the Asia-Pacific Partnership on Clean Development and Climate (APP) in mid-2005 provided a partnership model at the 2005 Association of South East Asian Nations (ASEAN) ministerial meeting in Laos. Government ministers from the six original APP countries (China, India, Japan, Australia, Korea, and the United States) were also at the launch. The Asia-Pacific Network for Global Change Research (APN) is based in Kobe, Japan. The APN (2014) funds collaborative problem-driven research that can contribute to the development of policy options to respond to global change. These projects are both inclusive and responsive to regional needs. APN launched the Climate Adaptation Framework (CAF) in 2013 with a view to enhancing science-based adaptation activities of APN developing countries through needs-orientated data and a validation of regional climate models to assess impact and vulnerabilities created by climate change. APEC has also become engaged with knowledge production and policy for climate change. In 2007, APEC leaders issued the so-called Sydney Declaration, which recognized the need for a mitigation agreement under the UNFCCC and set forth various goals for mitigation and sequestration. It put forward an APEC Action Agenda that agreed to establish an Asia-Pacific Network for Energy Technology (APNet) and an Asia-Pacific Network for Sustainable Forest Management (APFNet). For APEC,

energy security and climate change have now emerged as two key and related challenges to maintaining regional economic growth and prosperity. The APEC Climate Center (APCC) is a Korean initiative that moves away from issues of mitigation per se and develops climate and weather models and provides stakeholders with long-term weather forecasts and projections of regional climate impacts on energy, agriculture, and environmental services. In this respect there are emerging tensions between those preferring carbon mitigation, those preferring carbon capture technology, and those proposing a new development model of low carbon green growth. These initiatives are not always mutually exclusive.

The Rationale of the Argument

The book, therefore, focuses on a variety of case studies within this context of policy formations and responses. The case studies aim to reflect the influence and role of new emerging nations, of small bridge countries, as well as countries in increasingly sensitive maritime areas in the Asia-Pacific region. The case studies are interconnected to wider issues of geopolitical relationships, regional environmental agendas, ASEAN's role in the region, as well as Taiwan and Japan's role in the environment debate particularly with regard to island vulnerability. However, the book also aims to move from conventional approaches of security to environmental security by focusing, first, on the role of emerging nations (China, India, Indonesia, and Korea) and, second, on the bridge/subregional space that is becoming increasingly vulnerable to shifting climate change impact (Nepal, New Zealand, and the South Pacific Island maritime space). The book, therefore, regards these subregions, and contestations over their boundaries, as themselves symptomatic of the real and perceived tensions in the Asia-Pacific between rapid development and climate change impact.

The book identifies reasons why the climate change debate and associated policies are being constructed in and through particular political and social narratives. The region combines perhaps a potent symbolism of the tensions imbued between rapid development and the environment. The region of the emerging powers where rapid development is taking place over the last few decades is also the region that witnessed the disappearance of the Millennium Island (Kiribati) and the snow-capped beauty of Mount Everest. These impacts are often tracked back to the

effects of climate change such as the rising seas and melting glaciers. Such geographical "revenges" are also impacting on the perceptions of what counts as the very boundaries of the region. Such changes are also problematizing the perhaps traditional distinctions made between continental and maritime Asia, and these physical geographical shifts are seemingly both a cause and an effect of the ongoing and wider issues of contestations over national sovereignty and claims over what counts as territory and national identity in the region. The language and politics to, in effect, describe the region as Asian, Indo-Pacific, Pacific Asia, Trans-Pacific, or Asia-Pacific (with or without the hyphen) must surely also be understood within such narrative contexts.

Yet the familiar mantra of negotiating the "trade-offs" between environmental protection and rapid economic development is being challenged in both developed and middle-income countries in the region by initiatives such as Korean-based "green growth." As Australian prime minister Tony Abbott, albeit standing up for coal, put it recently at the UN gathering following on from the 2014 Climate Summit, economic growth and resultant "green" technologies can actually be a solution both to acquiring protection from climate change and to eradicating global poverty by accelerating growth and development. The interrelationships between the actual *types* of growth, types of development, and types of poverty (and poverty reduction) and the role of the environment will be unpacked and questioned throughout the book through a myriad of case studies.

Delineating Security

According to Dokken (2001: 518), "there is no general agreement about a clear causal relationship between environmental deterioration or resource scarcity on the one hand and violent conflict on the other." However, environmental factors interact with traditional security issues as factors prompting intranational or international conflict. There are three areas that can be described as either reconfiguring the relationship between the environment and security or enabling rethinking of what is meant by the environment and security, and the interactions of these thereof. First, there is a notion that traditional security instruments (military) negatively impact the environment (conflict and nuclear waste). The second step involves the redefining of security approaches that focus on the threats of environmental devastation to the basics of life rather

than ideological facets of supporting national security or the myth of the state. Yet a focus on this biopolitics can often lead to a particular form of power/knowledge and particular exclusionary ethnic narratives of who is deemed worthy of being protected. Third, there is a synthesis of these two approaches, given that environmental issues concerning resource scarcity, water wars, and food scarcity (rather than breakdowns in the balance of power) can bring about interstate and civil conflicts. This in turn can lead to particular representations and perceptions of what counts as threat. In this sense environmental factors can be exploited by vested political interests as a means of obscuring their own specific impacts on the environment through narratives of we and us, as well as blaming other groups and states through politicized narratives of causal and inferred relationships.

In this regard, security may be regarded as a concept or a form of study or more critically as a way of speaking, practicing policy, or way of living. In this respect, security can be seen spatially (local-national-regional-global), as a type (urban everyday or rural everyday), or in terms of a temporal practice (preemption and prevention). Security can also be regarded as a concept or practice that responds to an objective threat or more critically to a threat that is securitized or constructed.

Yet this perception can also initiate particular constructions of social reality, which, as a result, largely tends to be internalized and politically articulated (Lantis, 2014). In this respect security also becomes part of a wider nexus of development and identity formation as a result of particular institutional norms, values, and cultures. Indeed, any discussion of security such as economic, political, cultural, environmental, or otherwise also opens a myriad of questions as to what counts as security, what (or who) is actually being secured, who or what is to be included in and excluded from a particular narrative of security, and who or what is deemed worthy of being secured.

The environmental security debate also generates questions as to whether environment can be attached to a generic concept of security or whether there is a specific view of security that can be attached to a generic concept of the environment and as to whether these relationships can themselves be seen as either universally measurable or in relative terms. For instance, should we feel we need to be insecure if everyone else is and does this mutual insecurity create particular forms of communities and solidarities of shared experiences? Is (in)security necessarily the same as, or the cause of, or the consequence of risk? Do particular

threats create their own forms of inclusive or exclusive communities of risk or, as David Held once put it, overlapping communities of fate. Security encompasses sets of understandings by particular power brokers and vested interests of state and non-state actors concerning how the world works and is imbued with cultural perceptions of what actually counts as risk, as prevention, as uncertainty, and indeterminacy. This means not only that uncertainty and indeterminacy are necessarily the same as risk and insecurity but also that their combinations may differ politically, culturally, and socially. There are also embedded specific cultural assumptions of what constitutes an acceptable level of safety or security and a myriad of cultural expectations determining what must be done or what must be seen to be done. In the Western epistemic communities there is a wider aim to control what is deemed as uncertainty, whether uncertainty necessarily means insecurity, and determine as to whether the controlling of uncertainty can be achieved, whether this is security or whether this creates its own types of insecurity. This need for the reassurance of big data calculability, often based on intuition, also means that there is probably a combination possibility out there that can be accessed given more data, more technocratic streamlining, routinizing, and bureaucratization (Amoore, 2014). In this respect security means the ability to prevent or to preempt a myriad of known and unknown scenarios by imagining past, present, and future correlations or causal relationships scientifically (or even aesthetically) as the grammar of science itself.

Environmental Security and Climate Change

The book discusses the relationship between environmental security and climate change. It attempts to determine whether they are in effect the same or whether they are in a mutual, although not necessarily a causal, relationship. The issue of environmental security engenders questions that determine who is at risk or most vulnerable. This can often lead to issues regarding the relationship between environmentalism and democracy in terms of impact and response. That is, whether democratic states are more likely to produce threats to the environment or whether authoritarian states are more likely to develop more responsive policies to environmental destruction or environmental insecurity, which can also be viewed as a variation of power leverage or of a reinforcing of state-led pastoral control through the monitoring and

surveillance of environmental victims. This further gives rise to the issues regarding the identification of (and the issue of who legitimately identifies and how) the cause and consequence of environmental insecurity or degradation and who are the ones most responsible, both spatially and temporally. Moreover, by placing these issues in a wider social context, then, there are issues regarding how detrimental environmental impacts are directly or indirectly imposed on certain groups in the form of what has been termed environmental racism. There are, therefore, many strategic varieties of environmentalism that reflect other theoretical approaches to responses to climate change such as ecocentrism, or deep green environmentalism (that emphasizes ecological fragility and the existence of a natural environment that is external to human influence), as well as technocentrism, or anthropocentric environmentalism (that accentuates the human experience of environmental change and human adaptation to any ecological limits). The United Nations Development Program (UNDP) approached environmental security in the context of its human security approach by explaining that

> Human beings rely on a healthy physical environment curiously assuming that whatever damage they inflict on the earth, it will eventually recover. This clearly is not the case, for intensive industrialization and rapid population growth have put the planet under intolerable strain. The environmental threats countries are facing are a combination of the degradation of local ecosystems and that of the global system. The threats to the global environment are discussed later. Here the focus is environmental threats within countries.
>
> (UNDP, 1994: 28)

Yet this agenda is in turn also a particular top-down reinforcing of anthropocentrism by its implicit distinguishing between human and natural security. The issue of human security or nontraditional security has often been a cornerstone of a definition of a genuine security that is individual rather than state based. In this sense the protection of the environment may conceptually reify or commodify the environment as something to be protected and, therefore, separate a more holistic relationship that may be required for not only some kind of philosophical soothing but also old-fashioned policy problem solving. A lot of discussion on climate change and environmental security focuses on issues of generating resilience or robustness, or the ability for and of states, economies, and societies to be able to bounce back from detrimental

impacts or, alternatively, to be able to absorb any such shocks. Such approaches, therefore, tend to assume that the climate has reached a tipping point era that might, in effect, flip into a new black swan climate era. This climate change age is also considered by some as a new anthropocentric age as posited in the manner of previous geologically defined millennia.

Thus, environmental security, a term that gradually emerges (along with sustainable development) from more popular mantras of green house gases, global warming, or the ozone effect in the 1980s and 1990s, initially focused on identifying the linkages between the planetary and local impacts. While debates on climate change now are seen to impact both traditional (realist) and nontraditional security approaches and generate threats, from civil society activists, the view was that environmental security as a concept was ostensibly playing down the traditional concepts of security based on the state, sovereignty, and territory. Instead a different set of practices and values were to be advanced so as to provide both a better empirical account of and a more normative dimension to explaining new typologies of vulnerability as well as the potential for conflict and violence with which these vulnerabilities could be associated. The term security, it was felt, might also reintroduce a zero-sum rationality to the environmental debate based on zero-sum winners and losers and undermine the institutional cooperative efforts that are required to effectively solve environmental problems. There was also a view that the Westphalian logic of security distracts attention from the question of identifying the practices associated with providing security and if these have been transformed by environmental concerns.

On climate change, and given the constant difficulties in engendering interstate cooperation on issues of free riding and first mover disadvantage on emissions and mitigation law, the UN secretary general has also pushed the view, a number of times, that cutting edge and thinking outside the box green technology and science can produce enough growth for creating social resilience, and as a result, the protection of the environment as a market asset. In other words the environmental issue can be solved through accelerating economic growth through the private sector and as a result by avoiding the institutional inertias and gridlocks caused by regarding the environment and development as a trade-off. In this respect there is some caution from civil society and nongovernmental organizations (NGOs) regarding this corporate and market signal approach to natural assets. Coming in the wake of the financial crisis of 2008, many public and private sector organizations

have seen the "green" market as a way to break economic stagnation, but for others, "business as usual" policies have in fact accelerated as a result of new extractive technologies and immense fossil fuels reserves, which can be used to outpace any international agreements on carbon mitigation. As Kevin Watkins of Oxfam points out,

> You can't help wondering what will happen when carbon prices are aligned with climate imperatives. We are now just two years away from the crucial 2015 UN climate negotiations. If successful, they will put a price on carbon, driving down returns on fossil-fuel investments by capping carbon emissions . . . Yet there is little evidence that institutional investors have recognised that they are sitting on a carbon asset timebomb . . . Carbon arithmetic points in only one direction. If governments are serious about reaching a 2015 multilateral agreement that avoids dangerous climate change, fossil fuel reserves need to be left where they are.
>
> (Watkins, 2013)

Ban Ki Moon also stated that the purpose of the 2014 Climate Summit was to raise "political momentum" to galvanize "transformative action" so as to "reduce emissions and build resilience" (Ban, 2014). Issues of environmental security can be placed within particular narratives of "blame/responsibility" national identity (Guldi and Armitage, 2014). Understanding how a state's "place in the world" is constructed, therefore, might provide insight into the underlying social and cultural concerns that often deadlock climate change agreements. In this respect, environmental issues do not just cross borders but begin the need for, perhaps, a further questioning of border legitimation itself.

Environmentalism and Governance

While the 2014 G20 communiqué has emphasized "certainty" for business and investment, the 2012 G20 final communiqué from Los Cabos emphasized "structural reform" and "climate friendly" economies:

> Climate change will continue to have a significant impact on the world economy, and costs will be higher to the extent we delay additional action. We reiterate our commitment to fight climate change and welcome the outcome of the 17th Conference of the Parties to the UN climate change conferences. We are committed to the full implementation of the outcomes of Cancun and Durban and will work with Qatar as the incoming Presidency towards achieving a successful and balanced outcome at COP18. We emphasize the need to structurally transform economies towards a climate-friendly path over the medium term. We welcome the creation of the G20 study

> group on climate finance, in order to consider ways to effectively mobilize resources taking into account the objectives, provisions and principles of the UNFCCC in line with the Cancun Agreement and ask to provide a progress report to Finance Ministers in November. We support the operationalization of the Green Climate Fund.[3]

Climate change skeptics such as Bjorn Lomborg have claimed that environmental approaches are essentially "liberal elite led" and ignore more pressing issues of poverty reduction. Often implied in this kind of argument is that it is "the poor" who are often more locally destructive of the environment ("slash and burn" is usually the example given) and that, as a result, these actions affect global climate patterns and in turn "all of us." Thus, poverty reduction or poverty eradication is seen as a solution to climate change and, therefore, can come about not through a "limits to growth" or even a sustainable development approach but instead by actually accelerating growth and, therefore, economic development. Indeed, both economic conservatives and neoliberals often claim that climate change has been caused by governments and states, and that climate change can be solved by liberating markets and by providing market incentives for cleaner low-carbon green technology. In other words, sustainable development, it is implied, keeps the world trapped in a carbon economy, which, if slowed down, will simply lead to greater poverty and more environmental destruction. Yet as the chapters on Korea, Nepal/India, and Indonesia point out, this abstract approach to "states" perhaps underestimates how in fact within low- and middle-income countries, issues of green technology, in determining the causes of different kinds of poverty (absolute/relative/extreme/middle income) and business as usual strategies, can occur simultaneously in and across specific zones of a state's spatial national territory.

Global Governance

At an international level, traditionally, climate change conferences and agreements have been criticized by realists (irrelevant), liberal rationalists (not effective unless legitimate institutions are enacted for sustained cooperation), and radicals (too much based on narrow power interests and vested interest rarefication). Indeed, often where there is action, this is merely "extra" monies or a "raised awareness" for the next summit, and so on. Such decisions are also often compromised by one of the Westphalian paradoxes at the heart of the UN. This is where the

universal respect of the sovereign equality of "different" states also provides an arena for a global cooperation to be based on a "universal global humanity" while "universalism" can morph into a way of neutralizing the differences in responsibility for climate change of different sovereign states under the mantra of "we" or "us." Often, however, even such climate change skeptics similarly generate tensions by conflating whether the issue is either too much industrialization and middle-class consumerism (carbon footprints/pollution) or not enough industrialization (resource scarcity). The all-encompassing climate change has sprung a variety of state practices of governability and techniques of "control" and exclusion, often legitimated by epistemic communities of "power/knowledge."

For the consensus science to achieve an ambitious global climate governance, the Intergovernmental Panel on Climate Change (IPCC), the most authoritative intergovernmental scientific body, notes that "climate change refers to a change in the state of the climate that can be identified (using statistical tests) by changes in the mean and/or variability of its properties, and persists for an extended period, typically decades or longer" (IPCC 2014: 5). The United Nations Framework Convention on Climate Change (UNFCCC) defines climate change as "a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods." (IPCC, 2014: 5). The UNFCCC includes climate change issues such as hazards, exposures, vulnerabilities and risks. Responses include adaptation, transformation and creating resilience. The IPCC (2013: 4) has cautioned with greater certainty than ever before that anthropogenic climate will warm the atmosphere, melt ice, and cause sea-level rise in a scale "unprecedented over decades to millennia." Yet, the efforts to negotiate a global governance to combat climate change and its impact falter, despite ever-rising concentration of greenhouse gases (GHGs) in the atmosphere.

The chronology of the COPs also suggests a trend toward diplomatic deadlock for ambitious climate governance, with many overlapping agreements reaching collective inertia, with no states (big, middle, or small) willing to break through for various fears of tying themselves into these "first mover" commitments, which will negatively impact on economic growth, and concerns with potential defectors and free riders. What emerged from Kyoto in 1997 were the predictable strategic

distinctions between developed and developing states, between the great and middle powers, and between land-based and small/island states. Climate change decision-making for domestic mitigation is something deferred to a later date, that is, until the science has achieved a consensus and agreed outcomes are seen to be loosely implemented. The first commitment period of the Kyoto Protocol was scheduled for four years from 2008 to 2012, and recent reports demonstrated that only few countries met the targets of reducing GHGs. Many developed countries declined to ratify the second commitment period, which, they argued, would dampen their economy and global demand for trading allowances and credits, while the least developed countries (LDCs) intended to preserve the future integrity of the Protocol by ensuring its continued existence by, for example, retaining its institutional arrangements (i.e. accounting, measurement, reporting, registries, and flexible mechanisms).

At the COP15 Copenhagen as the deadline closed in, no state was enthusiastic, at that time, to state its position explicitly before the structure of the post-Kyoto era was known for fear of defecting states. The contestations were about how to get cooperation for regime norms, rules, and expectations and intergenerational justice, and how to identify where the blockages are. First, whether a completely new international treaty or a universal treaty to be more aware of specific country needs will work. The United States wanted a treaty based on sovereign equality and therefore, what it saw as equality as fairness. This use of equal sovereignty of all of us is a specific use of the level playing fields narrative (similar to China's use of universal sovereign equality on this and other issues), which was seen by the developing world as an abrogation of responsibility for climate change from the biggest emitters and obscuring their negative role in climate change causal factors. Second, whether a COP agreement or a binding treaty, but with COP agreement option would work, or whether this route, lacking a sense of legitimacy given recent agreement failures or as watered down results, may ultimately compromise any alternative approaches that would then be squeezed out by a continuation of a diplomatic trajectory with increasingly limited norms, expectations, and political bottlenecks. There is a concern that raised ambitions and ubiquitous phrasings of "urgent" and "now is the time to act" creates a false sense of achievement. This means that any minor or specific success can be deemed a great and therefore concrete achievement in a diplomatic climate of increasingly contrived

and inflated abstract expectations which somehow, in a doublethink maneuver, manage to mean that even critiques of abstractions allow any minor efforts to be signs of progress. There are concerns that the integrity and prestige for the future climate change agenda and any future international treaty would be compromised with this limited and perhaps exclusive option. Third, albeit the extension of Kyoto that took place at COP18 in Doha, it would be risky to abandon the full and new treaty approach and objective even given this legacy. Fourth, other alternative platforms such as Global Green Growth Institute (GGGI) should be explored with strong leadership to supplement the UNFCCC. At the 2007 Bali conference, settings were then put in place to develop a structure for the verification of pledged climate change action and policies. However, developed countries were apprehensive that they would be penalized by any reporting system because LDCs would have difficulty in providing the information because of poor infrastructure and connectivity in their countries. Thus, any verification process delegated in this situation has to be undertaken by trusted and credible monitors, who could also provide technological assistance. At Rio+20 in 2012, the final agreement reiterated the urgency by linking eradicating poverty to climate change and delinking the causes of poverty from the causes of climate change, but while highlighting that the solution to eradicating poverty will positively affect climate change and sustainable development:

> Poverty eradication is the greatest global challenge facing the world today and an indispensable requirement for sustainable development. In this regard, we are committed to free humanity from poverty and hunger as a matter of urgency. We recognize that people's opportunities to influence their lives and future, participate in decision-making and voice their concerns are fundamental for sustainable development. We underscore that sustainable development requires concrete and urgent action. It can only be achieved with a broad alliance of people, governments, civil society and private sector, all working together to secure the future we want for present and future generations.
>
> (RIO+20, 2012: Articles 2 and13)

Rethinking the Environmentalism and Development Trade-Off?

The Brundlandt Report (1987) has, in effect, been the baseline or pivot for subsequent debates on climate change and environmental security in

terms of sustainable development and intergenerational responsibility. This Eurocentric premise that the environment does not exist as a sphere separate from human actions, ambitions, and needs, and the attempts to defend it in isolation from human concerns have given the very word environment a connotation of naivety in some political circles. The word development, it stated, has also been narrowed by some into a very limited focus, along the lines of what poor nations should do to become richer. The report argued that getting richer ignored the environmental externality costs of getting richer. This laid the foundation for, in effect, subsequent divisions between developed world responsibility for climate change and the developing world's right to develop. In its paragraph eight, the report also suggested that there has been a growing realization that it is impossible to separate economic development issues from environment issues and that "Poverty is a major cause and effect of global environmental problems. It is therefore futile to attempt to deal with environmental problems without a broader perspective that encompasses the factors underlying world poverty and international inequality" (Brundlandt, 1987: 12). However, according to the aforementioned 1994 UNDP Report, "there need not be any tension between economic growth and environmental protection and regeneration. Economic growth, because it provides more options, is vital for poor societies, since much of their environmental degradation arises out of poverty and limited human choices. But the character of their growth and consumption is important. Poor nations cannot and should not imitate the production and consumption patterns of rich nations" (UNDP, 1994: 18).

Such a statement would at first glance seem to suggest that the poor (and poor nations) are responsible climate change and environmental insecurity and that developing nations should not have access to development but can, in effect, find an alternative trajectory or "type." Paradoxically, this approach has perhaps been turned around and, coming from the "pre-emerging power" era, seems remarkably quaint. Emerging powers such as Brazil, Russia, India, China, South Africa (BRICS), and next-11 states such as Korea and Indonesia are indeed promoting the alternative development strategies that are, ironically perhaps, now outpacing what these states now regard as the antiquated and restrictive Western development models from "rich nations," particularly given the recent impact of the global financial crisis. Indeed the very notion of, and distinguishing between, a "poor" or "rich" nation

is now increasingly problematic as outlined by the "new geography of aid."

The World Bank (2009) has now stepped into this debate and has promoted its "connectivity to compete" approach. This is the neoliberal argument that increasing connectivity and subsequent integration into the global market creates more growth and more poverty reduction and, therefore, creates incentives for low-carbon technology. The contrary view is, of course, that increasing connectivity simply reinforces more exploitation and that "green" connectivity generates subregional and subnational "green silos," leading to more exclusion. The World Bank regards those states that are still poor as temporal "laggards" by not integrating into the global economy. The term "laggard" also implies that governance and policies in one state are responsible for the lack of development or greenism in the neighboring states. This discreet shift in neoliberal narrative now not only means that developing nations are being provided by "rich nations" with the means to "be responsible" (and, therefore, that any problems encountered are recipient governments' responsibility for not listening to the West) but that recipient countries are now also responsible for other countries' development and environmentalism, indicating that the burden of responsibility also seems to have been quietly shifted from North to South. This debate on development, however, also forms a core issue as to explaining the link between development (and type of development model) and the emergence of environmentalism as a key development and security nexus issue at government, regional, and civil society levels. This distinction is also crucial in the sense, as often in the region, environmentalism has proved to be a thorn in the side of authoritarian governments because it is regarded as an ideology that is "anti-development" or a threat to national security.

Given the rise of emerging powers, a correlation is often made between the rising new middle classes and the values of postmaterial versions of environmentalism, and it is often the economically vulnerable and poor who are regarded as being "ungreen" because of their outdated community practices (often celebrated as cultural diversity), but in fact these are the groups most vulnerable to the wider climate change shocks because of excess carbon emissions by increasingly consumer-based societies. Tensions and contradictions between rapid development and protecting or conserving the environment (and for what purpose) are shown as splits between middle-income state governments and civil society, as

well as reflecting the interests of the growing but still economically vulnerable middle classes in new middle-income countries.[4] The issue is to push through cooperation but with uneven national development.

At the 2005 World Summit, leaders from the UN Economic and Social Council (ECOSOC) had consensually agreed to identify the key trends, patterns, and gaps in aid distribution for the post-2015 era. Emphasis was to be placed on institutional capacity building through project and program aid pooling or sector wide, now sector-wide innovation (Sumner and Mallett, 2012: 16–17). A post 2015 development agenda should take into consideration the new capabilities of emerging donors and the increasingly important role of non-executive stakeholders in development cooperation. The recent Mexico 2014 communiqué on "Development Cooperation Effectiveness" stated that global development "is at a critical juncture. Despite progress on the MDGs, poverty and inequality in their multiple dimensions and across all regions, remain the central challenges." It also suggested that there is a need for

> Implementing a paradigm shift from aid effectiveness to effective development cooperation, sustained by the contribution and catalysing effect of ODA, as the main source of international development assistance, in order to better support the long term and broad developmental impact of a strengthened mobilisation of domestic resources and the convergence of efforts of all public and private development stakeholders at all levels.
>
> (Global Partnership for Effective Cooperation, 2014: Article 4)

As the IPCC's fifth assessment reports published in late 2013 and mid-2014 arguably note, "Human influence on the climate system is clear. This is evident from the increasing greenhouse gas concentrations in the atmosphere, positive radioactive forcing, observed warming, and understanding of the climate system" IPCC (2013: 15). The World Bank report (2012) "Turn Down the Heat: Why a 4°C Warmer World Must Be Avoided" explains the dangers of climate change, especially to developing countries, and suggests cooperative international actions to mitigate its impact and help countries adapt to it. The bank is currently working with 130 countries to take action on climate change—helping cities to adopt green growth strategies and develop resilience to climate change, developing climate-smart agricultural practices, finding innovative ways to improve both energy efficiency and the performance of renewable energies, and assisting governments to reduce fossil fuel subsidies and put in place policies that will eventually lead to a stable price

on carbon. In 2013, the bank loaned $4.1 billion for the mitigation of climate change and $2.9 billion for adaptation. The World Bank's Green Bonds, which support the financing of these activities, have also been recognized as a catalyst for the emergence of a green bond market that helps mobilize funds from the private sector for climate finance. The bank also supports climate-smart agriculture, which can provide a triple win—for agriculture, climate, and food security. Climate-smart farming techniques, for instance, increase farm productivity and incomes and aim to make agriculture more resilient to climate change, while contributing to mitigation as well.

The recent World Bank (2014) report also stated that

> It is very important for all relevant government or zone departments and agencies to buy into the low-carbon zone initiative, and they should be made aware of related guidelines and invited to participate in capacity-building workshops. All private sector stakeholders, including investors, suppliers, and NGOs, should also be consistently made aware of the LCZ messages.
>
> (World Bank, 2014: 57)

The UNEP and World Bank now accept that talks are being held with their different funders and stakeholders and interests. However, in this respect there is, as yet, no consensus as to whether green growth is a form of strategy to create a green economy, or a sustainable economy, or a wider and more inclusive sustainable development and green growth. Marianne Fay of the World Bank has also stated that the pathway to "inclusive" green growth is clearly "necessary" for sustainable, efficient, and affordable development. This means that investment profiles with money to be put "up front" also require a new business culture and new form of corporate behavior.

Environmentalism and Security in the Asia-Pacific

Turning resource constraints and the climate crisis into opportunities for economic growth and poverty reduction, Asia-Pacific countries have adopted pioneering strategies to promote green growth and environmentally sustainable approaches, while strengthening regional integration and cooperation to address risks and vulnerabilities, which include disasters, climate change, and resource constraints, alongside improving trade, finance, and investments, as well as physical infrastructure connectivity. China has affirmed its aim to reduce carbon emissions per

unit of gross domestic product (GDP) by 45 percent compared to 2005. Fiji spoke of their green growth strategy, already in place, and their ambition to generate all electricity from renewable resources by 2030. Malaysia and Indonesia are reforming fossil fuel subsidies to encourage a shift to cleaner energy. Mongolia plans to reach 20–25 percent of total energy production from renewables by 2020. According to the Asian Development Bank (ADB, 2013: 14), growth in the Asia-Pacific is to be "accompanied by the conservation of ecosystem services and greater social coherence" as the "necessary conditions for the Asian renaissance to be transformed into the Asian century" (ADB, 2013: 41). Yet, it is perhaps poignant that the first land (Kiribati) of the world to witness the new millennium is now the country most under threat from the impact of climate change. The president of Kiribati recently expressed his fatalistic concern:

> Let me make the point that whatever is agreed within the United States today, with China, it will not have a bearing on our future, because already, it's too late for us. And so we are that canary. But hopefully, that experience will send a very strong message that we might be on the front line today, but others will be on the front line next—and the next and the next.[5]

The Asian Development Bank (2013) has pointed out that rising inequality among the regions' rural poor can potentially be solved by "unlocking" the opportunities of green growth as a means to foster economic growth and development and poverty reduction while ensuring that natural assets continue to provide the resources and environmental services "on which our well-being relies." Yet, there are also concerns that elite-led green growth may actually undermine "people centered or inclusive" development. Many developed and emerging states in the region have recently been encouraging more regional cooperation responses to the impact of climate change through providing humanitarian aid and effective infrastructural recovery. Often environmental disasters in the region have occurred in their nuclear industries, which were originally set up as the key alternative to carbon-based development and for resource-scarce countries. The 2011 Fukushima disaster had repercussions throughout the region, and environmental groups were split as to whether nuclear energy was "clean" or not. Such issues have also raised a myriad of questions over issues of calculating risk and the relationships between adaptation strategies, prevention strategies, and preemption of climate change impacts on urban and rural

areas. Such environmental issues have also raised questions about the site and nature of national and regional security. The 2004 Asian Tsunami also raised further key questions over the impact of the rising sea levels and the future of small state territorial integrity in the region. Yet, the tsunami also generated pockets of Asian solidarity and an opportunity for maritime countries such as Japan to share this experience and their technology with vulnerable nations such as East Africa, Indian Ocean states, and India. There are also spates of increasing territorial conflicts over the sovereignty of islands in the maritime regions as outcrops of territory and rock formations. This concerns determining what lies underneath the sea and impacts sovereignty claims (and determining the criteria of what counts as territory or sovereignty) in terms of delineating boundaries between continental and maritime Asia.

Thus, the latest IPCC report regards the Asia-Pacific region as the region most vulnerable to climate change (IPCC, 2014) and the region "most impacted by climate change" (ADB, 2012: 19). The territories negatively impacted by direct and indirect results of climate change are the strategic Indian Ocean and Pacific Ocean islands. The ADB report considers these island territories as the "Canaries in the coal mine"—the first witnesses of climate change, alerting the rest of the world to the humanitarian catastrophe to come. Such portrayals, however, can often confuse climate change "exposure" with "vulnerability." The Asian Development Bank recently stated that

> With more than half the world's population and two-thirds of its poor, the Asia and Pacific region has seen remarkable economic expansion over the past decades. But progress has come at a high cost to the environment and, as a consequence, to human development. Having become a main driver of the climate change crisis, the region jeopardizes its own development. If future production and consumption patterns remain carbon intensive . . . Asia's developing countries will account for more than 40 percent of global greenhouse gas emissions in the next decade.
>
> (ADB, 2014)

The differentiated part of responsibilities "implies that absolute emission reductions should come from developed economies, while the decoupling of economic growth and emissions is a viable strategy for developing Asia" given that the "experience from the industrialized economies of Japan, the Republic of Korea, and Singapore suggests that development efforts that facilitate environmentally sustainable growth

and poverty alleviation are possible. As World Bank president Kim (2013) stated,

> Climate change in our lifetime threatens to roll back so many of the gains that we have made over the years. We have all invested enormously in the economic development that we see—especially in the developing countries and the middle income countries—those will be rolled back. And we are convinced that there is no way that we will be able to end poverty in our lifetime—end poverty by 2030, which is our goal—without tackling climate change in the most serious manner.

Although Asian emerging economies—China and India—do not appear to shoulder the international responsibility of sharing the burden of risk associated with climate change by assuming quantified GHG emissions targets, they are carrying out many efforts domestically to fight climate change as they are aware of the magnitude of potential negative impacts of changing climate. Also, in strategic security front, the rise of China is represented by Beijing's consolidation of its continental and maritime alliances through promoting infrastructure "connectivity" to strategic recipients and "outpost" alliances. Beijing is apparently aiming to "push back" the United States into the Pacific threshold. It is also increasingly aware of potentially losing its leverage over its more traditional "continental" allies of Vietnam, Myanmar, and North Korea. Thus, the book considers the interrelationships between policy responses to climate change, the narratives of climate change, and environmental security in a regional context through the following three themes, which will run through each chapter. There themes are regional geopolitics, development strategies and new initiatives, and, finally, national green identity formations.

Regional Geopolitics

The first broad theme of the book focuses on identification of the geopolitical causes and impacts of climate change and also the responses to it, and how environmental security is framed as both a concept and a policy practice in different countries. One point that is raised throughout the book considers whether environmental security issues are particularly suited to responses from middle powers or low- and middle-income countries. There is also the issue as to whether climate change and environmental security supplements, reinforces, or strengthens the ongoing regional geopolitical dynamics of convergence/divergence and

the associated effectiveness of current and new regional institutions with regard to environmental security. In this respect, an emphasis in all chapters is placed on identifying the strategic positioning and issues of power leverage regionally and in the multilateral organizations of states responding to regional issues of environmental security. Indeed, the international community has been grappling for international cooperation to forge a climate agreement—"legally agreed outcome"—in the 21st COP meeting in Paris in 2015, but analyzing the national positions of the major emitters, the prospects of achieving an ambitious and effective agreement seem slim. Regional cooperation from various regional institutions is also being explored and established to combat the negative impacts of climate change.

Development Strategies and New Initiatives

The second theme of the book focuses on the direction and impact of previously successful development strategies in the region and how these models are now responding to climate change and environmental security issues. The theme considers how and why specific forms and strategies of development in both the mature and emerging states are generating a myriad of environmental costs and opportunities for changing domestic development directions or approach. These are particular tensions for emerging powers that have relied on the "low hanging fruit" development, and it is to be seen whether a change in development might undermine both previous success and credibility of development up to this point. This issue also revolves around the different impacts of climate change on vulnerability in different territorial zones within states. The theme considers proaction with regard to initiatives such as regional "green" official development assistance (ODA) distribution and assistance, and, moreover, how this assistance itself is a part of state branding and national identity as "responsibility." Emphasis here is also placed on the impact and implications of climate change on the future of the so-called Asian "drivers" and development state. In particular, case studies, particularly from China and Korea, focus on green technology as "solutions" to climate change and protecting environmental security. New development paradigms such as green growth and low-carbon technology link to more Western approaches to "ecological modernization" but also enable wider questions as to the legitimacy and framing of what counts as technology and determining what is the status of technology and science as representing issues of identity and government legitimacy.

Many Asia-Pacific countries are going through domestic debates as to the usage of, and import of, Western "green" technology and low-carbon ecological concepts while simultaneously promoting the "exporting" of their green technologies and development model to other key regions as an exported model of "south-south" solidarity. The UNEP (2012) has also pointed out that Green Growth seeks to fuse the sustainable development's economic and environmental pillars into a single intellectual and policy-planning process. This means recasting the very essence of the development model so that it is capable of producing strong and sustainable growth simultaneously.

National "Green" Identity

The final general theme considers how, why, and whether climate change responses and environmental security are now generating particular social and political constructions of national identity and how these constructions are impacting both domestic governance issues and interstate regional relations on environmental security issues. The theme focuses on how environmental security is placed as an aspect of national identity formation and "green nationalism." Identity questions are also connected to how countries are framing other countries as threats or "shared partners" with regard to climate change and how climate change threats to environmental security are being used in popular media technologies and narratives. The case studies identify reasons why government responses are often projected and legitimated through various nationalism narratives such as protecting "the homeland" or "the people" from "foreign" climate change. This constructivist and "securitising" theme on climate change is placed in a non-Western context to understand why and how regional governments are securitizing climate change and the environment as "security risk" in particular ways. The chapters also focus on more critical responses from across civil society to state-led policies and how many NGOs are themselves projecting their own particular contested narratives of what counts and should count as environmental security.

Overview of Case Studies

In Chapter1, Heidi Wang-Keiding considers the role of China, as a BRIC nation, and discusses the specific issues impacting Chinese

environmentalism policy for environmental protection. Heidi focuses on the issue of environmentalism through identifying different ideological approaches and through particular constructions and narratives of what counts as Chinese modernization or modernization "with Chinese characteristics." Heidi argues that the importing of "green ideas" from the West has a long history in modern China, but that calls for "localizing" ecological modernization and environmentalist approaches are now emerging. This opens a space for further discussions, which are signposted and highlighted by Heidi, regarding the impact of the new variants of eco-socialism and the reemergence of the more traditional belief systems, once used to legitimate government but now being placed in more critical narratives of environmentalism due to China's unprecedented economic growth as a BRIC nation. While these processes may be making local cadres more accountable, there are also issues of concern such as growing institutional fragmentation and issues of trust in actual government motivation for engendering environmentalism in recent White Papers and in the Five Year Plans. These issues can, the chapter argues, be placed into the much wider context of the tense articulation between changing domestic politics in China (as a result of the emergence of new middle classes) and issues of China's official self-perception and "place in the world."

In Chapter2, Will Hickey focuses on the issue of fuel subsidies in Southeast Asia, particularly Indonesia. Hickey draws out the key relationship between fuel subsidy and "economic rights," identifying tensions and paradoxes of environmental security and poverty eradication. The chapter addresses questions of environmental security in terms of ownership and local content. These questions are further addressed in terms of a set of national rights to exploit resources while contestations emerge as to which resources are to be owned and by whom. Tensions emerge, therefore, as to which narrative of national ownership is "legitimized" and how this is inclusively framed as "ours." Indonesia is now regarded as a second-generation next-11 state but it faces major environmental issues such as natural resource and forest depletion. Therefore, the chapter considers environmental and economic policy further regarding resource extraction and fuel subsidies. From a human resource management position, Hickey argues that new extractive technologies now impact the direction of environmental policy itself. He also considers how the Indonesian government regards "green growth" as a way to "catch up" business as usual and generates issues of resource

ownership and how "ownership" is locally defined under "the shadow" of the resource curse. Hickey argues that in Indonesia, fuel subsidy is the only tangible ownership claim that most citizens have. The chapter specifically considers the paradoxical roles of economic and taxation studies that call to remove the fuel subsidy and argue from a policy position that the government has failed to consider the societal ownership factor of natural resources as a genuine commitment to public interest, well-being, and, therefore, "genuine" environmental security.

In Chapter 3, Chandra Lal Pandey argues that Nepal as a lesser-developed state is at the crossroads of key environmental issues and as a buffer or bridge state between China and India. Like Korea, Nepal has historically found itself geographically caught between bigger powers, but this gives the nation the opportunity to act as a bridge nation. Domestically development and political situation have been impacted upon by intervention pro India or pro-China. According to the IPCC the negative impacts of climate change are mostly encountered by the world's poor. However the question of poverty also becomes more complex in terms of the distribution of wealth in emerging low- and middle-income countries. These countries have also both witnessed an increased GDP but rising forms of absolute and "middle class" poverty, as well as issues of "fragility." This issue has also raised the relationship between social and political fragility and rising inequality. These issues have in turn affected both developed and developing worlds. For this reason, an increasingly accepted narrative has now emerged, linking practices of state resilience to climate change with the need for economic growth and economic sustainability. Therefore, regional environmental policies, specifically from India and China, have implications for Nepal, as it is one of the countries in the world most vulnerable to climate change. This landlocked country is home to the largest concentration of glaciers after the polar region but scientific reports warn that Himalayan glaciers could lose between half and two-thirds of their mass by 2100. This would not only deprive millions of people of a reliable water source but climate change as a threat multiplier has the ability to devastate homes, land, and infrastructure and will exacerbate water scarcity and lead to food shortage, thus resulting in sharp increases in food costs in the region. Pandey investigates major emerging challenges, ongoing initiatives, and future prospects in terms of addressing climate change in Nepal and how the state has framed its domestic policy regarding climate change and development for greater regional cooperation in

South Asia. The chapter considers China's and India's international climate change positions and brown economy and their combined impacts on a lesser-developed country like Nepal. This research contextualizes the regional environmental dynamics and interactions through the South Asian Association for Regional Cooperation and the possibilities for Nepal to generate its own "green growth" strategy amidst such geopolitical restrictions.

In Chapter 4, Iain Watson argues that as a new middle power Korea is promoting new forms of public diplomacy as a "bridge" nation. Japan and Korea have also been proactive in exporting the global green growth agenda. Distinctions have been made between green growth and green economy, which leads to further issues of whether green growth means more business as usual (BAU) in other sectors or subregions, whether it allows for a "leapfrog" approach, or whether it is used to fill the gaps in business as usual development, or a new development paradigm in itself. The way these questions themselves are being asked and framed with particular assumptions and expectations, Watson argues, is indicative of wider questions and contestations of particular elite-led narratives (in government and civil society) of national identity. The chapter considers the geopolitical context of green growth and discusses some of the economic and geopolitical tensions from this. The chapter notes Korea's "competition" with Japan in its framing and capturing of particular development and security agendas with regard to green technology with prioritized ASEAN states. Watson focuses on Korea's green ODA, its growing emphasis on green connectivity corridors, and the role of the Korean-created GGGI. Watson concludes that green growth, despite its limitations, represents a new proaction from middle powers such as Korea. This is challenging expectations of green agenda from the South.

In Chapter5, Jeanette Wright, Patrick Barrett, and Priya Kurian argue that, historically recognized as a dominant economy and middle power in the Asia-Pacific region, New Zealand remains a small export-dependent economy that is founded particularly on agriculture. Internal politics around environmental policy are framed around the negotiation of tensions between ecological sustainability and the need for intensive development of the primary industry sector. A fragile national identity informed partly by the need to maintain its First World status and bolstered by bids to join the big powers on the United Nations Security Council has seen New Zealand sacrifice all but rhetoric on environmental sustainability and, specifically, on climate change mitigation.

This chapter will trace how the contradictory politics of economic growth and environmental sustainability inform New Zealand's (changing) positions on climate change policy and the implications of this for its relationship with Pacific Island nations, particularly those with historical ties, such as the Cook Islands, Niue, and the Tokelau Islands, that date from the colonial era. The chapter explores how New Zealand has responded to the imperative of climate change in ways that are, at least symbolically, informed by the needs of surrounding Pacific nations. While these regional dynamics are important, it is New Zealand's relationship with the wider Asia-Pacific region, and its aspirations to remain a dominant economy within the region by developing trading relationships with emerging economies, that drives its response to questions of environmental security.

Overall, the book will, therefore, aim to fill three main gaps. First, it attempts to place both orthodox and critical approaches to understanding and explaining environmental security into a non-Western and a specific regional context. Second, the book aims to place the environmental security issue into wider issues of, and debates on, regional development, particularly with respect to identifying the type and direction of relations between developed and emerging nations in the regional context. Its third aim is to consider these various dynamics through a set of specific and representative case studies in order to identify any patterns of behavior and to assess what these behaviors might mean for the future direction of the climate change and environmental security debate in the Asia-Pacific and a reflection on where such choices themselves both come from and are now being debated and represented.

Notes

1. http://www.un.org/disabilities/documents/rio20_outcome_document_complete.pdf.
2. "G20 2014, Final Communique, paragraph 19" https://www.g20.org/sites/default/files/g20_resources/library/brisbane_g20_leaders_summit_communique.pdf.
3. "2012 G20 Summit Communique Paragraph 71," http://www.telegraph.co.uk/finance/g20-summit/9343250/G20-Summit-communique-full-text.html.
4. "Green Growth," *The Economist*, http://www.economist.com/node/21529015.
5. "Drowning Kiribati" http://www.businessweek.com/articles/2013-11-21/kiribati-climate-change-destroys-pacific-island-nation; http://cnnpressroom.blogs.cnn.com/2014/06/08/president-of-kiribati-anote-tong-on-climate-change-its-too-late-for-us-on-cnns-fareed-zakaria-gps/; China and Korea promote "south-south"

relations but with Beijing more bi-laterally and Korea as more of a "bridge." Japan in 2009 "sold" itself to the Pacific Island Forum as sharing "island solidarity." Korea's relationship with Kiribati has been fraught with South Korean fishing rights. Kiribati's 2012 accession to Korea's Global Green Growth Institute had allowed the institute to transform from an NGO into a fully fledged organization based at Songdo, Korea.

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CHAPTER 1

Fragmented Environmental Discourse in People's Republic of China: Identity, Legitimacy, and Local Agents

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Introduction

It becomes impossible to address global climate change and environmental security without engaging China in global cutbacks in greenhouse gas (GHG) emission (Harris, 2011). China is the largest national source of the GHG pollution. It also became the world's largest energy user in 2009, overtaking the United States (IEA, 2010). Efforts to address global climate change need China's cooperation, as much as China needs the issue of climate change cooperation both regionally and globally. Yet responses to climate change are also based on particular perceptions and narratives of environmental security. China's engagement in climate change results not only from ongoing international pressure but also from the relations between Beijing's own diplomatic and domestic concerns with traditional geopolitics and the impacts of climate change on its environmental security. The Chinese government often utilizes the climate change issue to resume domestic dialogue and claim domestic and international legitimacy as an emerging BRIC nation (Zhang Haibin, 1998). Since the 1990s, a set of climate change principles has also been formulated to guide domestic policy implementation and international environmental negotiation. The National Development and Reform Committee (NDRC) outlines six principles

Table 1.1 Climate change principles and concerns

Principles (adapted from NDRC, 2007: 24–25)	*Concerns (adapted from Harris, 2011: 9–10)*
Addressing climate change within the broader framework of the country's "national sustainable development strategy"	Sovereignty and non-interference in internal affairs
Adhering to the principle of common but differentiated responsibility (CBDR)	Social stability and regime vitality
Addressing both climate change mitigation and adaptation	Propaganda and support for the party and the government
Integrating climate change-related policies with programs for "national and social economic development"	Demonstrating leadership among developing countries and challenging the international authority of the US
Relying on technological advancement for effectively mitigating and adapting to climate change	Environmentally sustainable development as a medium-and long-term objective
Actively and extensively participating in international cooperation for climate change	Obtaining aid and technology from developed countries

for climate change governance that are often constrained by a myriad of national concerns (Table 1.1).

The juxtaposition of principles and domestic concerns depicts the paradoxical mentality of the Chinese political actors in dealing with climate change. On the one hand, they are eager to get involved and recognized in the international community, and on the other hand, they are reluctant to commit commensurate responsibilities. National concerns are fetters that climate change delegates "dance with" on the global stage.

Whereas climate change and its effect on the environment is claimed to be "the ultimate expression of unsustainable patterns of growth," it is also fundamentally an issue of discourse, perceptions, and identities (Bina, 2011: 48). China often refuses having a bigger responsibility in climate change but claims a moral high ground by emphasizing the progress it has achieved and the contribution it has made in cutting emissions while being "able to maintain economic growth" (Bina, 2011: 52). This has recently been manifested with the pre-G20 target agreement with the United States. The way in which the term "security" is framed determines the amount of resources (whether more or less) to be committed to the battle against global warming. The puzzle of China's climate change policy is between the ambitious moral

claims it makes in international negotiations and the standstill situation in domestic commitments and domestic implementations. This can lead to "credibility" gaps in "soft power," and while the recent US–China pre-G20 agreement on climate change indicates increasing China's "responsibility," there are still issues regarding the "narrative" of Chinese "victimhood" implied as a lack of responsibility for decades of emissions by the "first world", as well as the issue of establishing concrete results and even whether this deal is merely "pushing the problem further into the future."

I argue in this chapter that the domestic/international paradox results from a fragmented understanding of, and mismatch between, the transnational norm of environmentalism and the relevance of climate change to the sociocultural perspective of changing contemporary Chinese society. To show this paradox and to understand its trajectory and potential resolution, I will first map out the "green discourse" in China since the Communist revolution of 1949 and identify the changes of perceptions of environmentalism from various state-led official points of view. I will then discuss why in some instances the Chinese government tends to change its "green" discourse and location of this question by using various perspectives of mainstream and critical International Relations (IR) theories. After analyzing the strengths and weaknesses of the conventional IR theories, this chapter will then proceed to apply an alternative theory or "Localization theory," through which we provide an alternative approach to understand this "change" question and offer an alternative explanation as to the direction, limits, and opportunities that are emerging in China for addressing issues of environmental security that have regional impact.

Framing Green Discourse in China

Environmentalism in China is highly institutionally fragmented and localized, usually characterized by broad definitions with a preference toward a more "non-confrontational approach" (Ho, 2001: 898). Across "the rise of the rest" countries in the Asia-Pacific, there has been an assumption that a rising middle class will eventually lead to more democracy and to a greater interest in environmental issues or "post-material" issues. Yet often this approach has perhaps underestimated how in the so-called middle-income countries, distinctive territorial pockets with often unequal and different levels and rates of development

(as well as tensions between local urban and local rural areas) undermine "national" response strategies. Yet there are also emerging issues regarding how the new Chinese middle class may not want to question the very economic and political system that has given them such leverage and wealth opportunities.

Yet, localizing environmentalism also has an international purpose and the Chinese government has viewed the environmental issue as a platform to rewrite the "Western" geopolitical and Westphalian international order and redefine international discourse as a non-Western "Chinese" approach to hierarchical sovereignty (while Beijing simultaneously upholds the UN principles of sovereign equality). Li Xue, the then deputy director of the Environmental Protection Commission in 1991, viewed the 1992 Earth Summit in Rio de Janeiro as an opportunity "leading to changes in the present state of international relations" (Economy, 1997: 33). Through its involvement in the international environment negotiation, China hopes to at some point establish a "new and equitable international economic order" (Beijing Ministerial Declaration on Environment and Development, 1991: 54).

Zhang Haibin also observes that in the 1970s and early 1980s environmental discourse was at its embryonic state as then there was not enough attention from the state and coherent principles were not yet formulated. The late 1980s also witnesses the beginning of a professionalization and proliferation of green words, such as "sustainable development," "green GDP," and "circular economy." However, it is not enough for the Chinese government to imitate the West if it holds the ambition to change the current international order. In the twenty-first century, the Chinese government has proposed the "made in China" green discourse such as implementation of Scientific Outlook on Development and eventually ecological civilization. Table 1.2 demonstrates a changing vocabulary of party leaders when addressing environmental problems. Domestic developments on environmental governance in China are located in the international context, marked by monumental events in the global environmental governance.

A History of Localizing Environmentalism

The process of localizing environmentalism has been through a diversification of green words and then an adoption of a unified and overarching concept. The discourse has mushroomed between 1972

Table 1.2 Green discourse evolution in China

Period	*International context*	*Party line rhetoric*	*Policy*
1949–1972	Global modern environmental movement	People will conquer nature (*rending shengtian*) 人定胜天 *Yu Gong Yi Shan*; 愚公移山	Great Leap Forward Cultural Revolution
1972–1990	United Nations Conference on the Human Environment	Overall and rational planning, reduction of harm, reliance on "the masses," and both the protection of the environment and the enriching of the people (1973 全面规划, 合理布局, 综合利用, 化害为利, 依靠群众, 大家动手, 保护环境, 造福人民) "Making the cause of pollution responsible for treating it" (谁污染谁治理)	1972 China participates in the United Nations Conference on the Human Environment in Stockholm; 1973 First National Conference on Environmental Protection 1989 Environmental Protection Law
1990–2003	Earth Summit in Rio and Rio Declaration 1997 Kyoto Protocol 2001 China entry in WTO 2002 Johannesburg Summit and Johannesburg Declaration on Sustainable Development	Sustainable development (可持续发展); The word "environment" appeared in the 15th National Congress Report in 1997 in the context of "huge environmental and resource pressures caused by population growth and economic development was listed as a major difficulty for the nation's future" (Meng Si, 2012.11.15);	1992 China sends a delegation to the Earth Summit; 1994 adoption of Agenda 21; Ninth Five-Year Plan: sustainable development as a national development strategy; 1997 publication of the National Sustainable Development Report; Public protests over environmental issues increased 29% annually since 1996 (Meng Si, 2012)

Table 1.2 (Continued)

Period	*International context*	*Party line rhetoric*	*Policy*
2003–2007	2009 the UN Climate Summit in Copenhagen 2010 Cancun COP-16	Jiang Zemin (16th Party Congress, 2003): "circular economy" (循环经济);	2005 first batch of circular economy trials in ten provinces
		Hu Jintao, 2003: scientific outlook on development (科学发展观)	2008 Circular Economy Promotion Law
		Green GDP (绿色 GDP)	2006 government sets targets for energy intensity and emissions of pollutant
		Wen Jiabao, 2005 the "two oriented society" resources-efficient and environmentally friendly (两型社会)	
		Power-saving and emissions-reduction popular in an industrializing China (节能减排)	
2007–present	2012 UNCSD in Rio de Janeiro	Hu Jintao, 2007: ecological civilization (生态文明)	2012
			53 trial projects of ecological civilization

and 2007, converging toward a "grand discourse" of ecological civilization. Table 1.2 documents the processes of the evolving green discourse, which has been transformed from inward to outward orientated, from passive to active orientated, and from instrumentally modeling on the West to inventing new non-Western approaches and terms. Discourse before the transnational norm of environmentalism was "imported" in 1972 relied upon various local myths and folklores to depict the overwhelming power of human beings vis-à-vis nature. *Yu Gong Yi Shan* (or "foolish" old folk moving mountains) was taught at schools and widely circulated in the society. Indeed, Cai and Voigts (1993) observe that the hidden agenda of China's debut in the UN Conference on Human Environment in 1972 is to promote socialism rather than environmental protection. Therefore, the environmental issue was seen as an entry ticket for China to the global arena. It is a story about the determination of a senior citizen to rid the giant mountains for the convenience of his family. His determination impressed the Heaven and the mountains were, therefore, moved with the assistance of the heavenly guardians. This kind of folklore is often used by the Communist Party to mobilize the people into the processes of rapid industrialization, often at the cost of the environment. This kind of folklore is so culturally specific that it is often not understood by people outside of China, but it is clearly effective for domestic political mobilization and local government legitimacy.

From 1972 onwards, the language regarding the relationship between human beings and the environment has been increasingly green and international. The concept of environmental protection was then brought back to China by the Chinese delegates at the UN Conference on Human Development (Xia Hongbao, 2009). Transnational norms of environmental protection then started to be localized in the form of institutions (e.g., National Conferences on Environmental Protection) and laws (e.g., Environmental Protection Law, 1989). Sustainable development, introduced by the Club of Rome in 1972 and redefined in the seminal Brundtland Report in 1987, also became a borrowed national Chinese development strategy. Moreover, the "circular economy," a concept developed by Walter Stahel and Genevieve Reday, and presented to the European Commission in 1976, was identified and inserted in as a national policy in the 11th Five Year Plan in 2006.

With the increasing attention of the government on environmental issues and the deterioration of environmental damage, public

environmental protests have increased 29percent each year since 1996 (Meng Si, 2012). The Chinese government is seemingly pressurized by "the people," particularly new middle classes, to solve environmental problems, and, by the international community, to make more commitments to fight against the adverse effects of climate change. Western concepts were being localized by the 2000s with the introduction of scientific and diagnostic outlooks on development. However, these terms are vaguely linked to environmental protection and are not institutionalized and implemented. The most recent and comprehensive concept is ecological civilization, used as a replacement of Scientific Outlook on Development because it directly links environmental concerns with the Chinese civilization.[1] The purpose of this term is to complement the technological fix and to transcend bureaucracy and leadership transition, and to institutionalize society. It indicates that China has the historical chromosome and cultural superiority for environmental governance, whereby it can lead the world to a new era of sustainable development.

Indeed, the table surveys this evolving of green discourse, and yet there is no consensus among policy-makers and society regarding what environmentalism is and to what extent this "foreign norm" is and can be localized in China. The prevalent opinions can be divided into three groups of logic: ecological modernization, eco-socialism, and ecological civilization. These three streams are interlocked and also contradictory, thus constituting a fragmented cognition of environmental issues within the sociocultural dimensions, which makes it difficult for the Chinese government to generate a unified voice to negotiate in international environmental cooperation. The following section will, therefore, examine different logics behind the localized environmentalism and how political actors in China make use of them.

Fragmented Perceptions of Environmental Issues

What is required is an attempt to solve the problem that the perceptions of environmentalism are, as a result, too fragmented to reach a consensus within the government and between the government and social organizations. Perceptions of environmental issues and expectations of environmental governance can result from different ways of solving environmental problems. Advocates of ecological modernization theory, including writers such as Arthur Mol, rely on technology and science as their panacea for the "disease" of environmental pollution, but without challenging the capitalist or state system. Eco-socialists contend that the root of the environmental problems is the capitalist system

itself and, therefore, the change of the economic and social structure of capitalism is the answer to environmental problems. Proponents of ecological civilization seek a "spiritual therapy" from Chinese tradition, history, and culture, and try to institutionalize the traditional wisdom into governance. A mixture and juxtaposition of science, social structure, and tradition encompass the green discourses that are displayed in the above-mentioned table, which represents the fragmented perceptions of environmental issues in China, thus affording an understanding of the Chinese government's stance on climate change.

Ecological Modernization: Adapting to the Market Logic?

Ecological modernization (EM) reconciles economic development and environmental protection, focusing on how to include rising environmental awareness into a reorganized societal structure established for future economic growth. The school of EM, particularly from Northwest Europe, is a broad church roughly divided into four streams (Murphy, 2000). The first phase is represented by the work of Joseph Huber, the founding father of the EM school. His 1985 signature theory proclaimed that the advancement of *science and technology* can solve environmental problems so that "the dirty and ugly industrial caterpillar will transform into an ecological butterfly" (cited in Mol, 1995: 37). The second branch shifts away from technological determinism and emphasizes the *macroeconomy structure*. Scholars in this branch suggest a restructuring of national economies (Janicke, 1985; Simonis, 1989), from resource-intensive to knowledge-intensive industries (Gouldson and Murphy, 1997: 75). The third division factors in *institutional capacity building* as an improvement of environmental governance (Spaargaren and Mol, 1992). The last branch dilutes the technological determinism and considers EM as *a political strategy and social construct*, instead of a "grand solution" (Boehmer-Christiansen and Weidner, 1995; Gouldson and Murphy, 1996; Weale, 1992).

Modernization is a familiar concept in the experiences of the Chinese people. The idea of modernization was introduced in the self-strengthening movement in the mid-nineteenth century. Modernization has been intensified and made tangible since the foundation of the People's Republic. The first premier Zhou Enlai iterated the goals of Four Modernizations in 1963, targeted at the domains of agriculture, industry, national defense, and science and technology. Concrete enactments took place after Deng Xiaoping assumed power

and launched the Open-Door and Reform Policy in 1978. An updated interpretation of the "Four Modernization" approach was introduced in the 1990s, shifting the focus toward the economy, society, politics, and culture. Environmental concern is for the first time, here, included in the official definition of modernization by the late 2000s. A watershed document is the China Modernization Report 2007, instigating a European-constructed concept of ecological modernization to the context of China. This lexical change indicates "an urgent and timely effort to insert ecological rationality into the modernization discourse, policy-making, and practice in China" (Zhang et al., 2007: 662).

The element of science and technology stands out when EM as an interpretation of environmentalism is localized in China. The 2007 official Modernization Report only refers to Joseph Huber and his technological deterministic view. Zhang et al. (2007) interpret this selection as the ecological modernization "with Chinese characteristics" summarized as (a) the overwhelming role of science and technology and (b) the absence of the discussion on equity, equality, and citizen empowerment, as in Western societies (Zhang et al., 2007: 664). The first feature has an international purpose. It justifies the demand for "technology transfer," a watchword of the Chinese delegations to the international environmental negotiation. Economy (1997: 39) regards this as taking advantage of Western science and technology but without necessarily being liberal or leading to a liberal society. The second character is explained by a weak society and an ultra-strong state, as Vic Li and Graeme Lang (2010) depict the national condition in the one-party state. The other three divisions are, however, criticized or proved inapplicable in the wider research community in China.

First, power restructure suggested in the EM literature is refuted. For instance, decentralization may smooth out the road to ecological modernization, and empowerment of local officials may benefit the implementation of environmentally friendly policies. However, academics in China contend otherwise. Decentralization and a weakened central government cannot promote environmental protection on this vast territory, as Hong Dayong (2012: 96) asserts. Indeed, uneven regional development and the pursuit of economic interests by local authorities prevent local cadres from prioritizing environmental protection, or taking responsibility, unless the national government instructs them to. The promotion or demotion of provincial and lower-level leaders in China depends on the economic performance of their domains (Cai

and Treisman, 2006), instead of their capabilities of environmental governance. In order to achieve economic success, local authorities logroll with interest groups, such as industrialists, and speak on their behalf (Steinberg and Shih, 2012). As a result, local governors have little incentives in environmental protection. Therefore, a centralized system is viewed as the most effective approach in China to implement environmental policies.

Second, the importance of another element, objective science, emphasized in EM, is diluted, as environmental issues are seen to be increasingly politicized for vested interests, and scientists are sidelined. This aspect of EM is a remit of the work of Ulrich Beck "risk society" and fits into more Habermasian German critical theory. In this respect, there are also questions as to whether ecological modernization is suited mainly in the developed country of origin and cannot be exported to middle-income countries or used as a means of "accelerating development." Climate change, which was a scientific issue in the 1980s, transformed to a developmental and politicized issue in the 1990s(Lewis and Gallagher, 2011: 269). Scientists are expected to be "the fifth branch" of policy-makers (Jasanoff, 1990) with the potential and power to rewrite social order (Jasanoff, 2004). Indeed in the heyday of environmental diplomacy in the 1980s and 1990s (Falkner, 2013), scientific discussion and research offered inputs on China's International Environmental negotiations. For instance, four years before the Earth Summit in 1992, the national government summoned the State Science and Technology Commission and the State Meteorological Administration, to cooperate with the National Environmental Protection Agency and the Ministry of Foreign Affairs. Their shared goal is to offer a solid scientific understanding to evaluate the adverse effects of climate change on China and to make sensible recommendations regarding China's diplomatic position in global environmental negotiations. However, the role of scientists has been, and is still, much restricted. For instance, Elizabeth Economy observes that the State Science and Technology Commission remain insignificant in the final domestic scientific discussion because the policy making on climate change depends on social issues not science (source cited in Economy, 1997: 27). Besides, the close link between the scientific community and the "West" makes the national government suspect the loyalty of the scientists. Science and technology, highlighted by EM theory, subjugates its authority to the political elites in the Chinese political culture.[2]

Third, the role of the institutional establishment and of capacity building is not always given proper attention. For instance, as Economy observes (1997: 30), "while foreign experts enhanced the capacity of Chinese actors to explore new ideas and utilize new technologies . . . bureaucratic and institutional constraints often prevented the effective transmission of these ideas to the key decision-makers." Pan Yue, the vice minister of Environmental Protection, sides with Mol's particular approach to ecological modernization, which emphasizes the role of institutions and capacity enhancement. Pan (2007) argues that the well-known Chinese pollution problem, for instance, does not result from backward technology and insufficient funds, but is a problem of deficient institutions. The mushrooming of green words and phrases (such as "green GDP," "green credit," and "sustainable development") can only, in this approach, survive and thrive on the basis of stable and functioning institutions. As one step of institutionalizing environmental protection, Pan (2007) proposes to include green GDP in the cadre evaluation system to assess the performance and environmental accountability so that local officials have more motivations to take responsibility for the environment. Although high-profile, the role of measuring green GDP is ostensibly short-lived because green GDP is increasingly "green wash" politicized and exploited as part of a struggle for political power (Li and Lang, 2010) and discounts the vested interest of local government officials. The failure of the green GDP experiment indicates a lack of institutional support to substantiate environmentalist ideas into policy implementation.

The logic of ecological modernization has readjusted, however, in a limited manner, to the changing societal structure in China. Institutions are under construction, but promoted by a less powerful ministry. Ecological modernization theory functions as a sociological perspective but the impact in China has been restrained by the "strong state, weak society" scenario. EM is utilized to, in essence, embed "green discourse" into the growing market economy and as a result "naturalizes" the relationship between official and state-led "no questions asked" economic development and environmental protection or security for "the people."

Eco-socialism to Defend Ideology?

Ecological modernists in China endeavor to embed environmentalism into the market logic and view the modernization resulting from this as an opportunity to solve environmental problems. Eco-socialists contend

that modernization coming from, and within, the global market capitalist system is the root of the problem. An eco-socialist manifesto avers that the crisis of ecology derives from rampant industrialization that overwhelms the Earth's capacity to buffer and to contain any ecological destabilization (Kovel and Lowy, 2001). Emerged in the 1970s and developed in the 1980s and 1990s (Gorz, 1994; Grundmann, 1991; Pepper, 1993), eco-socialism results from the mutual influences of both green movements and particular grassroots forms of democratic socialism in the capitalist societies. O'Connor describes the capitalist debacle as a "marriage broker between socialism and ecology" and as the failure of the world capitalist system which leaves a political space for the ecological socialist movement (O'Connor, 1993: 21).

Eco-socialism discards the notion of technological determinism that remains prevalent in the theory of ecological modernization, because the "Environmental crisis was to be seen not as the result of industry or population but as a consequence of the specifically capitalist form of organisation of economic life" (Benton, 1996: 7). Science and technology, according to the ends they serve, can be categorized in capitalist and socialist forms (Gorz, 1994). Thus, the ecological crisis does not result from technology per se but from different economic and social contexts. In a similar vein, it is perhaps rather fallacious to assume that science and technology automatically solve environmental deterioration and enable environmental security. Yet for socialists it is the particular capitalist application and ownership of science and technology, which is based on the exploitation of both nature and labor, that accounts for the ecological crisis.

Chinese scholars undoubtedly favor this idea because science and technology derived from Western capitalism can never be completely relied on or trusted. As well as an ideological and class mantra, this is also regarded, perhaps paradoxically, as a xenophobic "instinct" that is prevalent in nationalistic and patriotic discourse. In this respect the environment itself, as in other Asian states such as Korea and Japan, can often imply undertones and overtones of protecting "the homeland" and "ethnic majority." Therefore, the Communists often explore a way to socialize science and technology and utilize it to serve the Chinese socialist purpose. In the current global capitalist system, it reasoned that Chinese foreign aid and technical assistance cannot achieve substantive social development because it reproduces the capitalist logic as an endless pursuit of profit at the cost of nature. Human intervention is not only necessary but also vital to oversee the implementation of the scientific

model and technological transfers. It is now crucial for the party to train "politically-correct" scientists to ensure that technology, in effect, serves the socialist purpose, and it is this that benefits the environment. Eco-socialists in China also use socialism as a yardstick of the "loyalty" of Western science and technology to the generic "socialism with Chinese characteristics."

Advocates of eco-socialism in China tend to be hard-line leftist politicians and scholars. Eco-socialism justifies the conspiracy theories and suspicions of Western technology and science. In the frame of eco-socialism, ideological conflicts are put in the form of conspiracy theories and have been given "soil to thrive." Gou Hongyang (2010), the author of the best-selling book *Low Carbon Plot*, goes further, by accusing the global agenda of climate change as clearly maintaining the unequal international economic and geopolitical structures that are biased in favor of the interests of the United States and Europe. Eco-socialism is used as a geopolitical technique in international negotiations to demonstrate a distrust of proposals advocated by the capitalist countries. A criticism of the global capitalist system makes it easy for Chinese elites to continue to portray China as a "victim" and, therefore, as a victim of "foreign" created environmental problems, and hence, the responsibility for global climate is placed on the developed capitalist countries. This nationalistic approach glosses over the impact of the growing capitalist-based society within BRIC China and evades any corresponding responsibility of China for global climate change. This means any shift toward climate change responsibility is promoted as particularly impressive, given the need for China to "catch-up," which is again put into a nationalist narrative. As the chapter on Korea points out, there are similarities with the Korean approach to "victimhood" and "foreign" climate change. Such an approach may inhibit China's growing status as an emerging power with global responsibilities. However, this can also be seen as a tactic that might work in the short term, but not a strategy that serves the purpose of a longer-term international environmental cooperation, given the different rates of development within and between major and emerging BRIC powers.

Ecological Civilization

Ecological modernization and eco-socialism, imported from the West, create "signals" and "noises" and generate a fragmentation

of understanding of environmentalism. A long-term strategy of the Chinese government is to tie environmental concerns with the tradition and culture of China, and, more ambitiously, to go beyond mainstream Western discourse and devise new notions. Ecological civilization is regarded as an inclusive concept to absorb the "essence" of foreign concept and retain the "spirit" of Chinese traditional culture. The discourse of ecological civilization emerges as a new mantra China contributes to the international green vocabulary. Chinese tradition is interpreted and highlighted as a green philosophy. Chinese tradition is viewed as a normative reservoir of "green governance." Intellectuals and technocrats as epistemic communities theorize ecological civilization for the domestic audience because its predecessor, the Scientific Outlook on Development, only had a vague and implicit linkage to environmental security. Ecological civilization literally connects environmental concerns to the sociocultural dimension of Chinese society. Sublimating ecological thoughts to the level of civilization is intended to comprehensively institutionalize environmental protection, a mission unaccomplished by the ecological modernists and eco-socialists.

Ecological civilization (*shengtaiwenming*) was presented by President Hu Jintao in the 17th National Congress of the Communist Party of China in 2007. Five years later, this new notion became enshrined in the Constitution of the Communist Party of China. Ecological civilization in this respect has two purposes. Domestically it reassures the masses that the government has the determination to solve environmental problems. Internationally, it is Beijing's effort to build the image of a normative and discursive power, capable to contribute new words to the global dictionary. Therefore, what might be termed an infrastructure of ecological civilization is under construction. The discursive innovation is accompanied by an institution building of ecological civilization. China's Ecological Civilization Research and Promotion Association was established in 2011, empowered by the State Council, and blessed by the then vice president Xi Jinping. Apart from the approval from the top national leaders, the concept of ecological civilization attracts global attention. This concept has been transmitted from the central government to the locals. The limelight of ecological civilization is on Guiyang, an economically backward place, which integrates ecological civilization into its local governance.

After explaining why this new term merits attention in China, it is also necessary to investigate *how this term is used or how Chinese*

tradition and culture is used to frame a new "made-in-China" green discourse. One pillar of ecological civilization is the principle of *tianrenheyi*, or the harmony between human beings and nature. This tenet describes the "equilibrium between human beings and their environment" in which human beings actively adapt to the "rhythms of nature" and passively obey the Heaven, which "dictates the terms of human destiny" (Wang, 1996: 100). This principle is interpreted by the officials as an automatic linkage between the Chinese culture and green philosophy, portraying China as a "green power" since ancient times. Yet, from a political perspective, the principle of *tianrenheyi* drives China away from the modern environmentalism, argued Liu Xiaobo, the Nobel Prize Laureate. Liu (1989: 229) refutes that *tianrenheyi* is not associated with environmental protection, but is an endorsement of feudal society. Thus, *Tianrenheyi* requires an absolute obedience to nature and generates an overreliance of the Chinese subjects on emperors. In stark contrast, modern environmentalism sees active individual citizens as the hope of solving environmental problems. *Tianrenheyi* is the opposite of the transnational norm of environmentalism as it cultivates the idea of a passive Chinese incapable of facing the challenges from nature. This idea is a far cry from the active citizens in the environmental movement in the West.

The cultural versus political debate on one traditional Chinese concept or wisdom represents a lack of consensus regarding the "naturalness" of green thinking within Chinese history, culture, and tradition. The party-line rhetoric is purposed to reproduce the social order between state and society via the environmental issues. What Liu Xiaobo proposes is a restructure or reconstruction of the relationship between state and society, and a transforming of subjects to the emperor into citizens of the modern nation-state. Despite the incomplete theorization of ecological civilization, more than 50 trial projects of ecological civilization have been tested since 2012 and an international forum has been institutionalized in Guiyang, for example, the Guiyang Global Eco Forum. It is clear that the Chinese government and intellectuals are treasure hunting the wisdoms of environmental thinking from their own traditions and use "greenism" as a cultural term. Having introduced the three logics to facilitate the localization of a transnational norm of environmentalism and the trend of Chinese environmentalist thinking, we can see a clear fragmentation of environmentalism in China and the attempt to unify plurality into one comprehensive umbrella.

The theoretical question is ascertaining why the Chinese government changes its discourse at particular moments and what it implies for domestic climate change policy and international commitments.

From Conventional IR Theory to the Theory of Localization

Different International Relations theories disagree with each other both ontologically and epistemologically about who should respond, and how and why to respond to the global environmental challenges (O'Neill, 2009). Few researchers trace the localizations of a particular transnational norm and explain the resulting changes. Realists reinforce their position that state has little incentive to cooperate in the self-help Westphalian system. The environmental degradation narrative in this respect is an experience that functions as a backdrop against which states pursue their relative power gains and compete for natural resources as a security issue. Realists in China equate environmental negotiation with a debate about energy and natural resources (Economy, 1997). Realism might shed light on why ecological modernization theory is well received in China. However, it is weak in explaining why culture matters and impacts and in determining why ecological civilization is viewed as an alternative to EM.

Liberals consider that the global ecological challenges make nation-states increasingly interdependent, thus facilitating cooperation and the formation of international regimes to bolster national interests and constrain the leverage of other states (Keohane and Victor, 2011; Susskind, 1994). This interdependency and transmission of information builds upon and then extends realism by facilitating the value effectiveness and localization of transnational norms and legitimacy. Institutions are regarded in the liberalism literature as the remedy for environmental problems. Even though the environmental negotiation process is faced with ongoing crisis as outlined in this book's introduction, nonetheless, liberals often respond with the suggestions to reform the processes and institutions of environmental multilateralism and engage more actors in global governance (Falkner, 2013). Therefore, liberals in China see environmental issue as a catalyst for institution building and domestic political reform to substantiate the idea of environmental security. The shortcoming of liberalism is that it perhaps tends to overexaggerate the strength of institutions and overlooks the very reasons why institutions exist in the first place.

The "school" of constructivism jettisons the assumptions of realists and liberals that the preferences and interests of state are fixed and dictated by powerful states. Constructivists argue that ideas and norms shape international cooperation (Finnemore and Sikkink, 1998). Constructivists in China tend to be in favor of political reform and see environmental issues as an opportunity to localize the transnational norm. The shortcoming of constructivism is its Euro-centric assumptions: "Good" global norms (usually from the West) are juxtaposed with "bad" local beliefs. It overestimates the role of transnational moral entrepreneurs and overlooks the localization process of foreign norms in non-Western context (Acharya, 2004). The local norms are important because local beliefs are themselves part of a legitimate normative order, which conditions the acceptance of foreign norms. The constructivist school treats norms as universal and non-Western society as a passive recipient. However, China is more an "active borrower and localizer" than a "passive recipient" of foreign ideas (Wolters, 1982, 1999). Beeson (2010) criticizes dominant IR, stating that the universal claims, abstractions, and assumptions of much Western IR theory make little sense of the very different historical experience of the states in a region as diverse as East Asia. Conventional IR theory is argued to be inadequate to explain the "unique" Asian experience. So given this, it might be asked, why does the Chinese government even bother to change its discourse?

An Alternative Localization?

For instance, Acharya's (2004) specific localization theory, for instance, takes into account the discursive and institutional capacity of local agents to facilitate the internalization of transnational norm in the recipient country. Localization, as Acharya (2004) notes, is a complex process and outcomes by which norm-takers might build a congruence between transnational and local beliefs and practices. The reason why localization can take place is explained as catalysts for localization include "a major security or economic crisis," a "systematic change," "domestic political change," and have an "international or regional demonstration effect" (Acharya, 2004: 247). Whether foreign ideas can survive and thrive in a new context depends on several factors. First, localization is likely if the legitimacy and authority of the extant institutions and practices of the recipient country are reinforced. Second, the strength of the local norm makes it more possible to localize a new foreign idea not only

because norm-takers are confident but also because local norm has the capacity to integrate new element. Third, credible local actors or articulators who are able to outperform transnational norm are critical in the process of localization. Lastly, the sense of identity of norm-taker sets the frame of the degree of localization (Acharya, 2004: 248–249). The strength of this theory, compared to other aforementioned IR theories, is that it gives voices to local actors and reveals the dynamic process of digesting foreign ideas and internalizing them. It decouples the linkage between liberalism and constructivism as the local norm-taker might internalize a norm out of realist concern. I will use this theory to explain why Chinese government changes its discourse and why the discourse is fragmented.

Applying Alternative Localization Theory: Defending Existing Legitimacy

The first factor of localization is that it reinforces existing political legitimacy. The relationship between the ruler and nature in China's political culture is a question of fundamental political legitimacy, thus facilitating the localization of environmentalism. One of the core of political legitimacy in Chinese traditional political culture is the Mandate of Heaven (*tianming*) 天命 (Guo, 2003). Nature is closely tied with Heaven and the heavenly will. The Mandate of Heaven enthroned the Chinese emperors. Since the West Zhou Dynasty (ca. 1045–1771 BCE), Chinese emperors legitimized their powers by the Will of Heaven. The ritual of the worship of Heaven, or the sacrifice to Heaven (*jitian*) conducted by the emperors, was to get blessed by Heaven (Chen Lie, 2000). Through this ritual, the emperor confirmed his role as Son of Heaven (*tianzi*).

The responsibility of the emperor was to "insure that society expressed its natural order which was an aspect of the cosmic order of humanity, heaven, and earth" (cited in Cohen, 1992). The following of natural orders is crucial to legitimate governance. For instance, a good governance of agriculture establishes the material base of political legitimacy of the Chinese emperors. Mandate of Heaven, therefore, has the potential to both legitimize and delegitimize the rulers. Disturbances in the natural order deprive the Heavenly Mandate from emperors. The Heavenly Mandate not only justifies the authority but also grants rebellion against despotic and incapable emperors (Zhao, 2009). The people receive messages, or omens from Heaven, via natural signals and when

the ruler has lost the Heavenly mandate, there will be, it is reasoned, natural disasters such as drought, flood, earthquakes, and epidemics.

The ancient source of political legitimacy is salient on a more rhetorical level nowadays, usually revolving around whether the Communist Party of China is still in possession of the Heavenly Mandate. During Tiananmen Student Protest in 1989, the protesters argued that the Communist Party had lost the Heavenly Mandate and hence justifies their "rebellion" (Perry, 2001). Falungong, a dissenting religious group in China, had contended that the natural disaster of flood in 1998 was an omen from Heaven, depriving its mandate from the current regime. Chinese orthodox scholars try to argue the opposite. Cao and Ma (2013) contend that the Communist Party has sustained the Heavenly Mandate via the rapid economic growth. The challenge, though, is to ensure sustainable development without upsetting the balance of nature or by pressurizing the Chinese government into enmeshments of "foreign" environmental governance.

To defend its political legitimacy, the Communist Party does have motivation to localize the concept of environmentalism to China. It is also a way to educate local cadres "and the masses." Linking natural disasters with the improvement of environmental governance might avoid the traditional reaction that natural disasters are a symbol of a loss of a mandate of the ruling class. Fear of losing legitimacy facilitates the localization of a foreign norm. For instance, the Zhejiang provincial government uses the Mandate of Heaven to guide its policies such as a 20percent decrease in the emission of sulfur dioxide and the establishment of ecological counties and exemplar regions during the 11th Five year plan (Chen, 2014). Zhejiang has been struck by natural disaster such as typhoon Saomai in 2006. Natural disasters, no matter whether it is caused by human beings' activities or not, will be a warning signal for local and national leaders in China. The discussion of environmentalism is nonconfrontational and is framed as to improve governance in general, defending the authority of the ruling class.

Local Agents and Local Norms

So who are the local agents to localize this new norms? Yang Guobin (2005) identifies several types of local agents. The first type refers to those leaders with cultural prestige and political capital. Liang Congjie would be a perfect example to represent this group. Liang Congjie, a

reputed historian and the grandson of Chinese political philosopher Liang Qichao, launched the first environmental NGO, Friends of Earth, and employed his own resources to attract global attention on China's environmental protection efforts. The second type is hallmarked by professionalism and good networking with the international community. Liao Xiaoyi, a US-educated environmental activist, founded the Global Village of Beijing. She is on good terms with the outside world, so to speak, and has grasped the art of securing funding from the United States. The third type is business groups, providing an entrepreneurial approach to this new norm.

Political actors in China have tried to seek resonance of environmentalism from local beliefs, referring to Confucianism, Taoism, Legalism, and Buddhism. Robert Weller (2006) observes that historical Chinese views of the environment are "anthropocosmic," which means that human beings are always in the cosmos and can use the environment in ways that resonate with cosmic harmony. Confucianism teaches people to actively adapt to the "rhythms of nature" and passively obey and follow the Heaven, which "dictates the terms of human destiny" (Wang, 1996). Taoism emphasizes that natural resources are listed and hence advocates a more restrained lifestyle. Buddhism is reputed for promoting the equality among all living beings, including plants, animals, and human beings. These local beliefs, deeply rooted in the Chinese society, clearly provide a large local normative "reservoir" and plenty of resources for an elite-led (government and civil society) use of cultural traditions and norms for their agendas. It also facilitates Chinese political actors to link what is seen as the "foreign" norm of environmentalism with the ancient political ethics. Indeed environmental activists refer to tradition and political philosophy to raise environmental awareness in China. Liang Congjie's "Friends of Nature," the first ever environmental NGO in China, is affiliated to China Culture College (*zhongguo wenhua shuyuan*), an institution to promote Chinese traditional cultural assets and modernize Chinese culture. Liao Xiaoyi, the second type of local agents, claims that the environmental problems in China are fundamentally a cultural problem caused by people in modern China forgetting their cultural root and traditional morality (Feng, 2011). Business groups get involved in environmental protection projects as a way of redemption, a Buddhist way to bring good "karma." For instance, the biggest entrepreneurial environmental organization, SEE (society, entrepreneur, and ecology), is founded

because successful businesspersons might feel guilty for polluting the environment and will presumably want to be forgiven by Heaven (Feng, 2011).

Identity of Local Agents

The identity of local actors sets the frame of localization of norms. Local agents in China are nationalists with an international outlook. Experts of environmental protection in China perceive environmental protection as a mission to restore the "beautiful mountains and waters" for the motherland and to pass on a green future to the next generation. Environmental activists, no matter whether they take moderate or "radical" way, emphasize their Chinese identity in introducing the norm of environmentalism in China. This is largely in line with the official propaganda, which frames environmental protection as an "act" of patriotism. The description of nation in the patriotic dictionary includes that "the beautiful and rich soil on the vast territory of China nurtures great qualities of the Chinese people" (Lu et.al., 1991). The sense of a "return to nature" stimulates the national sentiment, as it occurs in the Romantic movements of the nineteenth-century Britain and France (Smith, 2013). This heritage is a romanticism of both "left wing" anticapitalists and anti-industrialists, as well as a right-wing ethnic and often pastoral nationalism protecting the "homeland" from foreign "anarchist" ideas and new technologies.

A strong nationalist and patriotic identity, combined with an international outlook, is generating, at the very least, a sense of mission to protect the environment in China. Tang Xiyang has introduced the idea of environmental protection and environmental governance to China since the 1980s. Tang and his American wife spent seven months visiting eight countries[3] to learn environmental protection experiences. The book *A Green World Tour* (*huanqiu luse xing*) is regarded as the "Bible" of environmental protection and many Chinese understand the concept of environmental protection from his work and observation (He and Meng, 2010). One prevalent and dominating theme in his work is a sense of urgency and crisis to save the motherland. He emphasized throughout his book the fact that China is blessed with the most amazing natural landscape and biodiversity, unmatched by any other country he has visited. However, industrial pollution and lack of environmental awareness in the government are destroying the beauty of China. This

aesthetic appreciation of the natural landscape and the fear of losing this beauty generate a sense of mission for the patriots to protect the environment. Tang proposes both bottom–up and top–down approaches to localize the idea of environmental protection by linking the norm of environmentalism to the much cherished landscape of China.

However, nationalism and patriotism provide safe façades for local agents to disseminate these contested concepts in China. Liao Xiaoyi, the founder of Global Village of Beijing, gave up the offer of green card from the American government so as to "stay in China to do something about environmental protection."[4] Liao (2009) has extensive international environmental protection experience in the 1990s when she studied in the United States. The nationalist underpinning is explicit in her views toward global warming. Liao argues that the American consumerist lifestyle should be held accountable to climate change.[5] She contends that technology is not the solution to climate change, but the wisdom of Chinese tradition such as the harmony between human beings and nature. Since 2004, her focus is shifted toward native culture in China (*xiangtu wenhua*). She has interviewed the local "literatti," artists, and grassroots representatives to find the fertile soil to plant environmentalism in rural areas. Her ideas are materialized by the establishment of LOHAS Family (Lifestyles of Health and Sustainability). The name of this project itself is a combination of Western idea and a Taoist attachment interpreted by Liao. Such issues raise the tension as to who has the "control" over such "traditional" narratives as forces for conservativism, for state-led change, or for radical civil society change.

Moderate environmental activists use nationalism to justify their efforts to protect the environment, and so are "radical" activists. In 2011 over 10,000 people participated in a protest against a chemical project (PX), the biggest demonstration since the Student Movement in 1989. Protesters waved the national flag, emotionally sang the national anthem, and showed placard on which it was written, "I love my country, and I love Dalian." Some protesters even shouted, "long live the Communist Party." The nationalist identity is used to differentiate environmental movement from other kinds of movement, such as labor movement and human rights. Collective civic action is framed as a performance to reinforce the political structure, not to topple it. It indicates that even "radical" activists support the central government, and the purpose of "radical" protesters is to expel the polluted industry, but not to call for political reform. This is in stark contrast with the localization of

environmentalism in Taiwan. Environmental movement in the 1980s is in tandem with democratization in Taiwan, and environmental problems are framed as a legitimate reason to challenge the authority and ask for a different political system.

Nationalism and patriotism, therefore, facilitate the localization of environmentalism in China. It provides fertile soil in which the seed of environmental protection can be planted and nurtured to generate a sense of urgency to call the people into action. However, this identity works on an abstract level. It relates to either traditional political philosophy or an aesthetic appreciation of the natural beauty of China landscapes. Nationalism, however, seems to limit the discussion of genuine political reform regarding environmental protection and the adjustment of the relationship between government and nongovernmental actors. Whereas there is a clear connection between ethnocultural nationalism and the localization of environmental protection, the tie between civic nationalism and environmentalism is remarkably loose. The weak connection between civic nationalism and environmentalism makes it difficult to involve local agents in the political decision making in China. Local agents are used by the government to educate people and raise the environmental awareness, but hardly to voice their opinions on the institution building and political structure in the policy-making processes.

So why does the Chinese government continually change and temper its discourse on environmentalism and endeavor to devise a new concept of ecological civilization? What is it reacting to and why? Local agents have brought different interpretations of environmentalism, largely in line with ecological modernization and less so with eco-socialism. Local beliefs have resonance with the foreign norm of environmentalism in a variety of ways. However, the notion of unified national identity so crucial to economic development also restrains this plurality. The Chinese government is faced with a key puzzle: on the one hand, it needs local agents to raise environmental awareness among the Chinese people; on the other hand, the diverse ideas of local environmentalism make it increasingly problematic for the government to control. This is particularly the case in Taiwan, where environmentalism is closely tied with democratization, and in Eastern Europe, where the environmental movement is often seen as a harbinger of the collapse of the undemocratic Soviet Union (Ziegler, 1992). The tension between diversity and unity incentivizes the Chinese government to trial different concepts to

facilitate its environmental governance. Ecological modernization is a beginning for the government to reconcile economic development and environmental protection and defend its legitimacy based on economic performance. Eco-socialism ensues as a "watchdog" for the Communist Party to guarantee that modernization will not be derailed from a "socialism with Chinese characteristics" (at least at a discursive level) and is an attempt to defend political legitimacy that has to be based on ideological consistency (hence the variations on a theme of "modernization" or "capitalism" with Chinese characteristics). Eco-civilization, as a latecomer in the official "lingo," is trying to encompass the two Western concepts and repackage them into a "made-in-China" brand. It indicates a new phase of localization of foreign norm as the cognitive resonance has been established and a foreign norm has a twin concept in China. This pathway to localizing environmentalism demonstrates the increasing confidence of local agents in Chinese traditional beliefs and engages a line-up of government officials in environmental governance.

Climate Change as an Ecological Modernization Issue: So What Is to Be Next?

So, given this, then what is the principle implication of a localized environmentalism on wider regional and global climate change policy and for China? I here select the most recent White Paper outlining China's Policies and Actions for Addressing Climate Change in 2013 to examine who are involved and which discourses are referred to. This report was prepared under the auspices of the National Development and Reform Commission. The report is divided into nine sections, including "status in addressing climate change," "improving top-level planning, systems and mechanisms," "mitigating climate change," "adapting to climate change," "developing low-carbon pilot projects," "strengthening foundational capacity building," "participation of the whole society," "playing a constructive role in international negotiations," and "enhancing international exchanges and cooperation." The policy implementation of climate change involves many levels of governmental agencies. Figure 1.1 maps out who are involved and how many times they are mentioned in the report, as an indicator of the degree of involvement in the climate change governance.

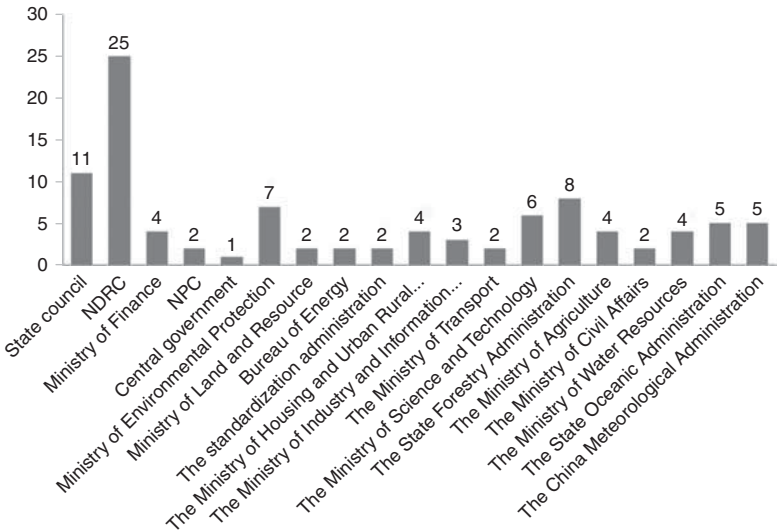

Figure 1.1 Content Analysis of Who is involved in the Climate Change Report and to what Degree

This report is a vivid illustration of the localization of ecological modernization in China. First of all, the most important actor is the National Development and Reform Commission (NDRC), the main body to "formulate and implement strategies of national economic and social development."[6] The NDRC has been actively (and maybe unconsciously) applying ecological modernization by conducting scientific research, establishing top-level institutions to execute climate change policies, supporting clean technology industries, adjusting energy structure, improving energy efficiency, carrying out capacity building, and engaging in international climate change negotiation and bilateral cooperation. Second, science and technology remains to be the dominant theme in China's stance on climate change negotiation. As indicated in the figure, the Ministry of Industry and Information Technology as well as the Ministry of Science and Technology are actively involved. Other governmental organs have research team to conduct scientific research, such as the State Forestry Administration, the Ministry of Water Resources, and the China Meteorological Administration. Moreover, China states the basic position at the Warsaw 2013 UN Climate Change Conference, suggesting that "developing countries will implement their proposed targets for emission-cutting action after they receive

funding, technology and capacity-building support from developed countries" (Warsaw, 2013).

The eco-socialist argument is perhaps less explicit. The socialist versus capitalist dichotomy is absent in the report as the climate change policies inherit largely from ecological modernization, the assumption of which is that capitalist society is not the "root of evil." The binary rhetoric of developed and developing countries remains salient. China potentially represents the interests of developing countries and "continues to strengthen consultation mechanism among the BASIC countries and developing countries with similar positions." It will cooperate with other developing countries to "actively safeguard the interests of developing countries."[7] Many ministries are involved in such "South-South" cooperation, including the Ministry of Science and Technology, the State Oceanic Administration, China's State Forestry Administration, and China's Meteorological Administration. The tension between socialist and capitalist countries is muted by cooperation and an emphasis on "national sovereignty" and it seems that South–South cooperation is given a priority in the report.[8]

The ecological civilization concept appears only in the preface as a general policy orientation guiding climate change governance. One reason why this local concept is not elaborated is because this idea is too new to generate consensus among different bureaucracies.[9] This report mentions the Guiyang Ecological Civilization Global Forum, in which "a broad consensus was formed." But this text is in the section of "enhancing government guidance," revealing that ecological civilization is a top–down concept that needs to be constructed and enhanced. Therefore, ecological civilization cannot yet function as a solution to the fragmentation of perceptions. A sense of crisis in political legitimacy and a need to unite as one is pronounced in the report. The beginning of this report illustrates the context in which climate change policies are proposed, that "China's climate is complex and its ecological environment is fragile, which makes it very vulnerable to the adverse impacts of climate change."[10] Natural disasters such as floods, landslides, typhoons, storms, and drought, traditionally the omen of bad governance and the ruling elites' loss of Mandate of Heaven, are now considered a consequence of the extreme weather conditions brought by climate change. In this respect, China is vulnerable to climate change, as much as the Chinese government is vulnerable to a challenged political legitimacy. Hence the framing of climate change as "foreign" as many see China becoming

increasingly nationalistic and climate change is an instrument of this particular narrative of national construction. That is also a potential reason why the Chinese government mobilizes different levels of governance to tackle the issue of climate change in order to "keep aloof" and thus "keep legitimacy" while the local and regional institutions are deemed responsible.

If the sense of crisis in political legitimacy mobilizes different political actors to act, then the shared identity suggests them to act as one. It is a vivid depiction of how different governmental apparatuses contribute to climate change issues and policies. The Ministry of Civil Affairs, for instance, is engaged in disaster mitigation to integrate ecological development with social progress. The media is mentioned in the report to translate the "high politics" of climate change into a low-carbon lifestyle and part of the Chinese culture. The unifying factor is not necessarily "socialism," but it is definitely a particular narrative of "Chinese"-ness.

This Chinese-ness is firstly represented in the top–down approach of climate change governance: NDRC as the leader and all other relevant departments as followers. NDRC is responsible for centralized administration and its role penetrates diverse aspects of climate change governance ranging from energy structure adjustment to participation of the whole society in low-carbon lifestyle. NDRC is a materialization of what is decided to be the current "national interest" and possesses the unchallenged version of Chinese national "green" identity. The second presentation of Chinese-ness can be seen from the change of wording from "domestic governance" to "international negotiations." The report has name-called all relevant departments in terms of domestic climate change implementation. When it proceeds to international negotiation, the subject becomes "China," "Chinese delegate," and "Chinese President." Although it remains to be seen how unified the voice really is, at least "China" is a façade behind which are diverse interests and diverse understanding of environmentalism and climate change governance.

Localization theory is beneficial for this research in order to understand why the Chinese government changes its green discourse overtime. The change of discourse mirrors the process in which local agents link the foreign norm with local beliefs, try to defend for the current political order, and reinforce the national identity. It is less about pure national interest as realism stresses. The causal chain between liberal values and the change of green discourse in China is tenuous in that China tries to promote an "environmental authoritarian" (Gilley,

2012) model to bypass the liberal assumptions. Localization theory is a connection between transnational norms and domestic political actors, allowing researchers to give more space for theoretical discussion. The credibility of local agents, the strength of local beliefs and identities, as well as legitimacy shed light on the question of why China has a proliferation green discourse and is now constructing a unified and overarching concept. The creativity and plurality of local agents lead to different interpretations of environmentalism, such as ecological modernization and eco-socialism, resulting in a fragmentation of cognition of this transnational norm. Yet the shared national identity and the challenged political legitimacy provide impetus to a comprehensive and total understanding, glued by Chinese traditional culture. The question derived is, how to make sense of the interaction between the factors of local agents, identity, and legitimacy? In fact while local agents might cause fragmentation, local identity and legitimacy might do the very opposite.

Conclusion

This chapter has applied the theory of localization to explain the paradoxes between the moral high land and little responsibility of the Chinese government vis-à-vis climate change governance. Localization theory jettisons the Western-centric bias and highlights the significance of local agents, beliefs, and identity in the process of localizing a transnational norm. I treat climate change as an environmental issue and, therefore, trace the localization of environmentalism in China before talking about climate change. Localized environmentalism can be categorized into ecological modernization, eco-socialism, and an invention of ecological civilization. I have argued that insufficient international commitment and domestic implementation are contingent on a fragmented understanding of environmentalism. Local agents interpret environmentalism differently: ecological modernization advocates embed environmental solution into the market logic and rely on science and technology; eco-socialism treats environmental issue as a way to rejuvenate socialism and challenge the global capital order. The invention of ecological civilization results from the concern that a fragmented cognition of environmentalism hinders the unity of different political actors and makes it difficult for China to present its voice as one. The comprehensive concept of ecological civilization incorporates ideas from

using market to solve problems and establishing an alternative economic order different from the capitalist system. Moreover, it plays "cultural card" to demonstrate the morality of China as a state and that Chinese culture advocates a constraint life, a far cry from the American society "plagued" by consumerism. Localization theory allows researchers to capture the tension among local agents during the process of localization. China as a self-claimed unitary state may not afford a plural and fragmented interpretation of environmentalism and climate change. Therefore efforts are attempted to unify the voice and the minds. The glue is a shared national identity and a sense of defending the political legitimacy of the current political system. Environmentalism in China tends to be non-confrontational and political actors work within the frame set by the government to "make a real difference." The empirical evidence in this article demonstrates that the three conditions of localization create different effects through the lens of fragmented versus unified cognition. The credibility of local agents diversifies the understanding of environmentalism in China, so that everyone can link their own life to environmental protection. However, the plurality and diversity of green lingo create difficulty for the government to formulate a coherent and cohesive argument for international negotiation and transnational cooperation. Therefore, the government uses its top–down level to mold the fragmented understanding into a term "with Chinese characteristics" by emphasizing shared and monolithic Chinese national identity. As "ecological civilization" is still very much under construction and many government officials are themselves confused with this grand concept, it remains to be seen how effective this term is to coalesce pieces of interpretation of environmentalism. Yet, it is sure that critical and contested spaces opened by the effectiveness of this concept now depend on the interaction between identity, political legitimacy, and the strength of local belief, a gap left unaddressed in "top down" localization theory.

Notes

1. Author interview with Huan Qingzhi.
2. The hierarchy of science and politics in the Chinese political landscape was constructed during the Self-Strengthening Movement (*yangwu yundong*) 洋务运动[ca. 1861–1895] in the end of Qing Dynasty. Intelligentsia tried to synthesize the Chinese traditional culture, institutions, and thoughts with the advanced science and technology imported from the West. The agreed formula

is the dichotomy of function (*yong*) versus essence (*ti*) or *zhongxue weiti*, *xixue weiyong* 中学为体西学为用. Western technology is hence seen as a function or instrument to serve Chinese orthodox essence. Christopher Hughes (2006) points out the legacy of this formula for a China that is experiencing globalization and massive influence from the West. The Chinese government strikes a balance between preserving patriotic ideology (to maintain political legitimacy) and justifying its reliance on the West for its scientific and technological input. This strategy of Western function versus Chinese essence has been contested. The Nobel Peace Prize Laureate, Liu Xiaobo, contends that science and technology from the West can only work when coupled with political values such as liberty, freedom, creativity, and democracy (1989). To avoid the association between Western science and Western values, the national leaders now coin a new phrase to claim ownership of science. Under Hu Jintao's leadership, science was included in the official lexicon through the theory of the scientific outlook on development (*kexue fazhan guan*) 科学发展观. The coupling of harmonious society and this scientific outlook is a new language, connecting Confucian tradition with various modernization missions. Even though Hu's original intention for this term was to establish his image as a leader caring for the backward and interior regions in China, this concept also invoked nationwide discussion and action (see more in Fewsmith, 2004). The way science assists environmental governance is explicitly outlined in the Decision of the State Council on Implementing the Scientific View of Development and Strengthening Environmental Protection (No.39 [2005]). This decision puts science and technology to the fore and counts on technological innovation as being a key solution to China's environmental problems (and the regions).

3. He and his wife visited the former Soviet Union, Germany, Switzerland, France, Britain, America, Canada and Hong Kong, including more than 50 national parks and natural reserves.
4. This act echoes much with the party-line patriotic scientists rhetoric and Liao was invited by the Beijing Organizing Committee for the 2008 Olympic Games as an environmental adviser.
5. Liao, Xiaoyi (2009) "Green Life and Youth Starting Enterprises," (lvse shenghuo yu qingnianren chuangye), http://www.tedtochina.com/2009/09/26/sheri-liao-tedx-speech/.
6. "Main Functions of the NDRC," *National Development and Reform Commission*, People's Republic of China, http://en.ndrc.gov.cn/mfndrc/.
7. "Main Functions of the NDRC," National Development and Reform Commission, People's Republic of China, http://en.ndrc.gov.cn/mfndrc/.
8. National Development and Reform Commission (2013) "China's Policies and Actions for Addressing Climate Change," http://qhs.ndrc.gov.cn/zcfg/201311/W020131107533601343247.pdf.
9. Author interview with Huan Qingzhi.
10. National Development and Reform Commission (2013) "China's Policies and Actions for Addressing Climate Change," http://qhs.ndrc.gov.cn/zcfg/201311/W020131107533601343247.pdf.

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CHAPTER 2

Considering Fuel Subsidies as a Threshold Input for Social Capital Development: Conceptualizing Ownership Rights in Resource Rich Asian Economies

Will Hickey

Introduction

Fuel subsidies have been underpinning much of Asia's roaring economic growth the past 20 years. Subsidies are attractive not only to new middle-class car owning consumers, but also to oil companies, manifested through production incentives. These subsidies have undoubtedly created an expectation that gas and oil are cheap and plentiful, with fuel subsidies available on demand now and into the future. At the 2009 G20 Pittsburgh Summit, leaders identified and pledged to phase out and wasteful and inefficient fossil fuel subsidies. Nonetheless, such subsidies also aid those still living on relatively low wages and incomes. In this respect fuel subsidies are not just considered an economic benefit but have also been placed in, and represent, an "ownership" and "nationalist" narrative. That is, fossil fuel natural resources and subsidies are for "the people." Yet fossil fuel subsidies are also creating negative impacts on environmental security, both in terms, as the introduction to this book pointed out, of climate change impact and resource scarcity. Environmental "insecurity" has, therefore, led to a debate on "phasing out" such reliance, and yet such phasing out is also recognized

as potentially damaging both to the economy and for poverty eradication. In a wider context, fuel subsidies give rise to these questions: what is the most effective way for governments to use their income, and whether fuel subsidies merely reinforce "business as usual" development that is not to the genuine benefit of "everyone"? These issues become a continual source of tension between government and nongovernmental organizations (NGOs). Here, a particular version of "inclusive" environmental security promoted by NGOs as reducing fossil fuel usage and carbon emissions would logically be seen as undermining the democratic sovereign rights of "the people" and, as a result, generating more hardship for Indonesia's poor. This, in turn, might also open the issue as to the "type of ownership" and as to "who are the people and what are their sovereign rights?" Environmental security of resources *and* for citizens is potentially found in local stewardship, and not mandates from federal or provincial governments who seem far more interested in placating foreign investors. For China, the central/local governance tension seems fundamental not only to the issues of political power but also to the construction of particular interest-based narratives of national identity. From this, terms such as "stewardship" mean giving a right to those that are most affected by resources (and their extraction) but only if they are given a meaningful stake in their ownership and dissemination of these resources. This clearly implies, as one of the themes of this book points out, that given "fair" ownership (not abstract or legal ownership through elite-led narratives of national sovereignty) locals can be truly empowered to protect their resources, and by immediate extension, their environmental and economic well-being.

For citizens of some developing countries, consumer fuel subsidies are often the only tangible claim to ownership rights of the vast fossil fuel empires that lie beneath their feet and are often promoted by governments, which aim to keep the agenda away from human rights issues. However, without subsidies, and with a dilapidated infrastructure and poor educational and health facilities in these countries, living standards will deteriorate, not improve. Production sharing contracts (PSCs) or corporate energy subsidies that "spirit" wealth out of countries do not honor any development mandate. Although consumer fuel subsidies may be offensive to many because of their misguided policy that benefit the rich and the rising middle class, and increase traffic gridlock and CO_2 emissions, they do, in part, honor the ownership principle. These are not necessarily elite-led security narratives. Simply put,

the fuel subsidy allows the poorest of the poor to keep some economic subsistence to their livelihood, by making mobility, heating, and cooking affordable. The subsidy, if channeled through quality institutions (North, 1990), is necessary for creating social capital by way of these economic resources. Social capital occurs where common values and processes lead to lowered transaction costs, thus creating the building blocks for quality institutions. Increasing social capital can also flatten economic inequality and thus generate a new articulation of the "trade-off" between environmental security and economic growth. Indonesia has been particularly interested, for instance, in Korea's "Green Growth" approach. In this respect, the tensions between the use of resources as those being "owned," the impact of the use on poverty eradication, and the use of resources for environmental damage are outlined in this chapter. The key issue discussed here is determining the criteria of a balance as to whether a fairer ownership of local resources is a potential causal factor of a reduction in poverty, and if so, whether this reduction reinforces or undermines environmental security. This approach also underscores the view that continuing subsidies may simply reinforce the status quo as, the underlying structural inequalities in middle-income countries between the haves and have-nots continue. In this sense, fuel subsidies may simply become a form of political leverage and politicians' "promise" during election times, which merely reinforces and obscures the underlying segregations between the rural and the urban, and between different types of poverty and types of wealth in different territorial zones in middle-income countries such as Indonesia.

What Is a Subsidy?

A fuel or energy subsidy is any government action that artificially lowers the price of energy. There are consumption (consumer) subsidies and producer subsidies (economic development). The position taken in the chapter is that consumer energy subsidies, a contentious issue in the developing Asian world today, but important for economic growth and competitiveness (Hickey, 2013), should be maintained due to a paradigm of empowered resource ownership and if subsidy removed, it will leave citizens bereft of ownership.

The entire concept of "empowerment" in itself carries significant cross-disciplinary debate. For this issue we might consider and utilize Wilson's (1996: 4) definition of empowerment, which states

"individual[ized] change becomes a bridge to community connectedness and social change," in conjunction with that of the World Bank, which considers empowerment as the process of increasing the capacity of individuals or groups to enable them to make choices and to transform those choices into desired actions and outcomes (World Bank, 2013). In essence, development change and choice is put forward as a pretext for keeping the consumption fuel subsidy in a social policy context.

Fuel subsidies are a highly contentious issue in much of developing Asia (and Africa) today due to their perceived crimping of national budgets in times of rising world oil prices (Koplow et al., 2010). In the recent past, Indonesia and India have cut consumer fuel subsidies, with Malaysia seeking to do so further. The orthodox economic position is that subsidies inflict a heavy burden on government budgets (Koplow, 2009). This, in turn, diverts much-needed resources from more pressing needs, such as health and education. Yet the subsidies are the only tangible "stimulus" package that the most impoverished have against current neoliberal and technocratic economic investment models, especially those in resource-rich developing countries such as Indonesia, Malaysia, Vietnam, and India.

In Western countries fuel costs are generally passed on directly to the consumer, and considerable taxes are usually added to the costs, especially in places like the EU, United States, and Canada. These countries have higher GDPs than the developing world and thus can pass these costs along without disrupting their citizens' buying power. This is not the case in developing and middle-income countries such as Malaysia, Indonesia, and India, where most people live on less than $2 a day. Essentially, the fuel subsidies have prevented the most marginalized in society from becoming even more marginalized, which exacerbates, not solves, the rich–poor divide. It may be noted that people take to the streets when their subsidy (their only realized quotient of ownership in Indonesia's vast oil and mining resources as promised in Indonesia's Constitutional Article 33.3) is threatened.

With regard to the link between sovereignty and environmentalism, and contested narratives thereof (government or domestic/foreign NGOs), Indonesia is still too dependent on the fuel subsidy for economic activity to change tactics without a strategy that addresses deep structural problems. Without fuel subsidies many would be immobilized and, in some cases, unable to cook and heat their homes (Hickey, 2014). So in this respect, one issue might be that fuel subsidies

actually perpetuate the status quo but they do help to level the playing field. However, countries facing burgeoning youthful populations with leviathan unemployment, but sitting atop minerals or fossil fuels, simply cannot afford these status-quo economic models anymore. If money is fungible, resources and their ownership are fungible too. Therefore, the only ownership quotient in this utilization of, and access to, their own sovereign resources that most have is reflected in, for better or for worse, the fuel subsidy. Consumption fuel subsidies in the developing world were expected to be well over $400 billion by 2014, with a combined worldwide total of consumption (and production subsidies) of almost $800 billion (IEA, 2011), possibly much higher, considering pollution costs, political upheaval, and volatile price swings. Fuel subsidies (both production and consumption) are under considerable attack from organizations such as the World Bank, International Monetary Fund (IMF), Organization for Economic Cooperation and Development (OECD), and International Energy Agency (IEA) and various orthodox economists, such as Stephen Hanke at Johns Hopkins University, in that they distort economies in any case, promote inefficiency, waste, and pollution, and undermine environmental security. This is the classic liberal view now often framed in terms of "green growth" and "Cold War" narratives that argue that environmental insecurity is a result of too much central state interference and market bottlenecks, which leaves a wake of unaccountability and a bureaucratic "passing of the proverbial buck." However, these named entities focus more on reducing consumption subsidies, and not production subsidies. Production subsidies are essentially governments paying oil companies to produce and ensure supply. However, production subsidies, while critical, are not further addressed in this chapter.

First, let us consider the mechanism of what fuel subsidies are and what they do. Fuel subsidies involve the government buying energy at market prices and reselling it back to their people below the cost in order to "buy" (ensure) political stability. Fuel subsidies are generally only possible when a country has a windfall revenue in either resources (such as Malaysia) or in trade surpluses (such as China). Countries that have neither, such as Vietnam and Sri Lanka, run persistent budget deficits, reflected in consistently devalued currencies. China has successfully used fuel subsidies to keep its export machine humming and continues to do so for economic growth.

Second is the ownership of resources issue, where under contractual models for oil and mining, ownership is a de-facto given in PSCs in oil and "work contracts" in mining. These mechanisms work against a country's poverty alleviation mechanism and are essentially the core of the so-called resource curse, where countries, enormously resource rich in fossil fuels and minerals, are oddly doomed to poverty and low education levels. National wealth is squandered away by corruption, patronage, and inefficiency among local officials and leaders. Investors and the leaders hold the power to approve contracts.

The arguments articulated above and with many lacking faith in their governments to deliver on employment and growth (as we have seen in Nigeria), maintaining the subsidy is justified. Sudden removal, as many Western economists are branding as "shock therapy," would be a severe blow to the most impoverished and fragile. The concept then put forward here is that in countries with weak or no energy policies, broken promises to citizens, unfair contracts with foreign investors, and under the shadow of the resource curse the consumption fuel subsidy is the only tangible ownership claim that most citizens have on their natural resources. This book does not discuss whether the fuel subsidy (of mostly oil, but in some countries like Indonesia, subsidized electric) is right or wrong economically to some rather than others, or if some benefits also accrue to the wealthy (as is often the charge). This research also does not argue that fuel subsidies are inefficient economically, wasteful, and environmentally very destructive (Braithwaite et al., 2010). However, the focus is on resource allocation via ownership, namely in countries that have fossil fuel resources, oil, coal, liquefied natural gas (LNG), compressed natural gas (CNG), and palm oil and large economically deprived populations, as a "first step" in developing and sustaining social capital, a point that is often ignored among economists, financiers, and policy-makers. In other words, fuel subsidy is the only tangible ownership rights many, in developing Asia, have on their own resources. This right actually helps to promote competitiveness economically that is otherwise unseen (Porter, 1998).

Dictating the removal of *consumer* fuel subsidies then without a robust social policy in place to increase living standards and alleviate poverty is misguided. This is not idealism per se, as many developed countries have also insisted on using their resources in different forms to promote social ownership by linking their resources to policies such as employment and health care. This fosters a "North–South" mindset,

where the "South" is defined as countries with less than $7,000/year gross domestic product per capita as per the UN's Human Development Index (UNDP, 2005). A comparable to social capital building to the fuel subsidy is made via transparent societal ownership activities such as in the United Kingdom and Norway's North Sea oil fields, and the Alaska Permanent Fund (US state of Alaska), which gives a cash royalty to each citizen yearly irrespective of political orientations. With increasing world fossil fuel consumption in excess of $1.5 trillion yearly (IEA, 2011), only the energy and resources business can leverage the financial "economies of scale" necessary to address the crushing poverty that most of the developing world faces in the twenty-first century and provide the most neglected developing countries with an ownership claim to their resources in situ through promises of elite-led and abstract legal sovereignty.

Problematics?

A vital argument against fuel subsidies, however, is fossil fuels' supposed negative effect on global warming and the pollution created from fuel consumption in general (GTZ, 2009). Hence, it is considered that taking away fuel subsidies would result in increased fuel prices, subsequently leading to a reduction in fuel consumption. However, for many users, price elasticity on fuel is very small so that higher prices will not immediately translate into a decline in consumption. Fuel is an absolute necessity in today's economies and for poor people, the majority of their fuel consumption is a necessity they simply cannot spare on to survive. Yet, of course, the definition of "poor" now becomes more complex in middle-income countries with the emergence of high-income and middle-income population as well as pockets of poverty.

People living at a subsistence level in developing countries are living on $2 a day. About half of the world's more than seven billion people are in this category. Of this, more than one billion, mostly those in resource-rich Africa, live on less than $1.25 a day (Ravillion, 2013). For them a rise in petrol prices of, say, 50 cents would be a disaster. In Nigeria, for example, poor people spend on average 64 percent of their income for food, and 5 percent on transport monthly. Removal of the subsidy of fuel would have a multiplier effect of increasing food prices to 74 percent and transport to 10 percent of their incomes. Most large percentage fuel subsidies (>20 percent) are found in developing

countries with a per capita GDP of under $7,000/year and large Gini coefficients (>35).

For middle-income groups in middle-income states, such a rise is not necessarily a severe problem. They can to some extent afford it, but this may have political implications for the governing elite as the new middle classes will become increasingly activist. However, taking away subsidies will have a more amplified and direct effect on the poor in developing countries. It can be claimed that the same would be true for any subsidy, but subsidies are usually specific, targeting special groups in a society and for special matters. Also of note here is that people in these developing countries also pay taxes on the fuel they use, in some cases, even higher than US fuel tax rates.

An important question, then, is how to use and sustain the fuel subsidy as an ownership "first step" toward the formation of social capital? Social capital can increase gain-sharing in the society on a more legitimate and institutionalized level than fuel subsidies. Certain countries and places in the developed world (e.g., Alaska State, UK, Norway, etc.) with substantial oil/ gas/ mineral resources have already made this jump past fuel subsidies. Public ownership of the resources is not placed in fuel subsidies in these areas, but rather in consistent dividend payments, meaningful jobs training programs, and national health and pension schemes that citizens can appreciate and utilize. That is, the citizens own the resource in situ via these programs as a type of transparent "gain-sharing." In essence, they have moved beyond fuel subsidies, but the accessibility of all citizens (rich, poor, and middle class) is ensured. The Alaskan "Permanent Fund" generates a cash windfall each year that is divided among all its residents (in 2012, about $1,000 USD) yearly. This is money from the oil (and mineral) exports that is freely given to the citizens to improve their living standards. This did not come about easily and was a hard-fought victory over the oil companies in 1976. There are some conditions attached to this payout, such as residing in the state for at least one year, but overall, interference between people and payout is minimal. Alaska's population, while small, has an overall high living standard. It is not beyond notice that all three places are democratic with high levels of transparency. It should also be noted that in the case of the US state of Alaska and in the UK, in particular, oil investors originally fought hard against these reforms.

Consider the definition of mineral rights (including oil) according to West's Encyclopedia of Law (2008): "An interest in minerals in land,

with or without ownership of the surface of the land: A right to take minerals or a right to receive a royalty." Economic (IEA, 2011) and taxation studies (GSI, 2009) that call to remove the fuel subsidy (e.g., in Malaysia and Indonesia) have, therefore, failed to consider the societal ownership factor of a nation's resources as a genuine commitment to public interest and well-being when there is lack of transparency, robust policy, and quality institutions. As the Gesellschaft für Technische Zusammenarbeit study (GTZ, 2009: 1) puts it, "Higher fuel prices can be an important driving force to a low-carbon and energy efficient transport sector. Significant levels of fuel taxation [used] together with other policy instruments and investments in sustainable transport services and infrastructure . . . ." Nonetheless, GTZ in the same study admits that "the removal of subsidies—can have negative impacts on the poor. They may limit the choices for poor and disadvantaged people to participate in public life, to pursue job opportunities and to access medical and education services."

Approaches to Human and Social Capital

Human capital development (Becker, 1993; Fitz-enz, 2000) is the key to most countries getting out of poverty. A human resource "brainpower industry" is the comparative advantage (Thurow, 1999) because of the decline in manpower-based jobs in an age of automation (Rifkin, 2011). Many "aid" programs have failed, at times creating a long-term dependency on the institution themselves as opposed to any empowered development initiatives. Further, Ha-Joon Chang (2008) takes the more heterodox economic position that the institutional positions of groups such as World Bank, IMF, and World Trade Organisation (WTO) actually undermine self-determination (human capital building) efforts in the developing world due to austere economic intervention (Table 2.1).

Education

The building block of human capital development is education (namely, empowered education, where the market-oriented skills are acquired). This empowerment creates social capital development through an engaged population. It should be noted that development of social capital is most effective when educational changes are made to reflect the regional or ethnic realities of specific social groups (such as the

Table 2.1 Using the GTZ (*Gesellschaft für Technische Zusammenarbeit*, 2009) and IEA (2011) studies on developing nations with fuel subsidies

Country	*Primary resources location (o) = offshore (n) = onshore*	*Consumer fuel subsidy rate (IEA 2011)*	*Fuel taxes as compared to US petrol/diesel tax (GTZ, 2009)*	*Nominal GDP per capita in 2011 USD (IMF 2011)*	*GINI coefficient (World Bank)*
India	Coal (thermal)	13.5%	Higher/lower	$1,400	37
Russia	Oil and gas (n)	23%	Higher/higher	$13,000	42
Libya (prerevolt)	Oil (onshore)	71%	Lower/lower	$5,700	N/A
Nigeria	Oil (offshore)	28%	Higher/higher	$1,500	44
Indonesia	Gas and coal (o)	23%	Lower/lower	$3,500	37
Malaysia	Oil (offshore)	20%	Lower/lower	$9,700	46
Angola	Oil (offshore)	32%	Lower/lower	$5,100	59
Venezuela	Oil (offshore)	75%	Lower/lower	$10,600	39
Ecuador	Oil and gas (n)	49%	Lower/lower	$4,400	47
Saudi Arabia	Oil (onshore)	75%	Lower/lower	$20,500	N/A
Iran	Oil (onshore)	85%	Lower/lower	$6,400	45
Kazakhstan	Oil and gas (n)	30%	Higher/lower	$10,700	27 (from 2005)
Turkmenistan	Gas (onshore)	65%	Lower/lower	$4,700	41
Uzbekistan	Gas (onshore)	57%	Higher/lower	$1,600	37
South Africa	Coal and gold (n)	7%	Higher/higher	$8,100	65
Mexico	Oil (offshore)	13%	Higher/lower	$10,200	52
Canada (developed)	Oil (onshore)	0%	Higher/higher	$51,000	32

Source: Compilation of GTZ (2009), IMF, and IEA (2011) statistics regarding GDP and fuel subsidies.

Tamil community in Singapore), and not imposed by disconnected educational mandates at a national or federal level (such as Lyndon Johnson's "Great Society" program of the 1960s, or more harshly, Mao Zedong's "Great Leap Forward" in 1956, which began the Chinese Cultural Revolution) (Chang and Halliday, 2005).

Conversely, education that is too "individualistic" through privatization creates elite classes via commoditization, where education is bought and sold (Bousquet, 2008). This can lead to a friction between the haves and the have-nots, where "racing to the top" out-trumps working together (Yamada, 2010). Although the focus is on building social capital, the consumer-driven commoditization of public higher education put forward by the Bologna process seems to be at odds with the traditions of the academy whose mission is to serve the public good. Overall, either extreme individualism or nationalism can generate divisiveness, and not cohesion, as there is less trust in national politics and

elitism, and more on the familial/ethnic reality (Coleman, 1988) at hand. The root issue remains strategic education or, specifically, education that is tightly linked to the competitive economic advantages of a country (Porter, 1998) in order to form social capital. These economic advantages are formed by spatial "clusters" of specific economic activity, or so-called "knowledge societies" (World Bank, 2001).

Additionally, many educational ministries in developing countries have too much at stake from old methods (norms) in making radical market changes in updating or changing curricula. This is most notable in Commonwealth of Independent States (CIS) countries, where the titles had changed, but the underlying fabric remains. Many developing countries (including post-Soviet ones) also have strong educational systems already in place (Altbach and McGill-Peterson, 2007). It would seem a natural fit then that educated citizens should be doing the work of expatriates and other nonlocalized technicians in many cases. On closer inspection, however, this is misleading. Many are highly educated, but not educated in critical thinking processes, or decision making, but rather just on rote pedagogy and memorization of carefully selected "the textbook." One of the core positions for educational changes is either getting inflexible educational systems out of the way or having them integrate curricula that are in tune with market demands. The latter is a tall order, as most educational ministries will in fact fight hard against any real changes in their curricula. An example of the former ideal, though, is perhaps in India, where educational "massification," largely driven by young student populations hungry for work and mobility, is defining which institutions are reflective of societal and economic branding for their career development.

Corruption

Nonetheless, we cannot ignore the quandary of corruption defined by Bardhan (1997) as a misuse of public office for private gain, be it outright (demand for bribes) or rent-seeking activity using one's approval to get a more "reflective market rate" for any approval issue at hand (Ades and Di Tella, 1999). Corruption can be minimized when the society realizes overall gain-share that is transparent, such as in Scandinavian countries. A powerful study by Pinto and Zhu (2009: 35) draws an important conclusion where introduction of FDI "motivated by the opportunities for rent creation and extraction in countries whose leaders

are institutionally unconstrained and politically unchallenged. Investors of [this] type have the potential to worsen political and economic conditions in the host, particularly in backward and less democratic countries." In other words, exogenous investment in countries without strong and quality institutions (North) only worsens the difficult development decisions leaders must already make for gain-sharing. Corruption is strongly correlated with resource-rich developing countries (Pinto and Zhu, 2009) and has a high cost on any change effort that will move the status quo (Morrison, 2009). This high cost exacerbates information asymmetry (insider knowledge) that benefits elites and their clients (Mengistu and Adhikary, 2011) at the expense of the public at large.

Policy

Much has been written on the influence fuel prices have on fuel consumption. Other factors are just as important, for example, insulation of houses, new technology for more efficient engines, better infrastructure for mass transit, and so on. The World Bank in its pursuit of increasing renewable energy sources, and in removing fuel subsidies, has pointed out that the most successful policies for changing mind-sets are found in having three principles enshrined in the change effort's policy, but not necessarily in this order. The first principle is to have not just one policy, but multiple policies for influencing societal impact, or a "ring" of policies (Porter, 1998). Second, long-term planning is required for reducing energy footprints and wasteful/overconsumption. Third is to have all stakeholders on board for the policy process to thoroughly investigate and address concerns.

Analysis of Resource Rights, Social Capital, and Human Capital Building

While ambiguous, many countries (such as Malaysia, Kazakhstan, Argentina, and Bolivia) claim that their sovereign natural resources belong to "the people". In fact, some countries have enshrined this principle of "stewardship of resources" into their constitutions (i.e., Indonesia Constitution article 33 (3),; while the Mexican Constitution institutionalizes them through national oil companies, countries such as Norway and the US "Arctic" state of Alaska do it through national wealth funds.

Resource extraction is the paramount foreign investment destination in Indonesia. But if the Indonesian state's fuel subsidies are ever going to be decreased, it should be linked to an increase in education and training in these important sectors, and in a way that can be clearly demonstrated to the Indonesian people. In particular, as fuel subsidies go down, education must increase. There are many ways to do this, but it requires some cooperation with the Ministry of Education and local education offices, national and local legislatures (to enact mandates for skills transfers in investor contracts), and joint ventures with investment partners and state-owned companies (to demonstrate value-added capacity).

Despite Article 33 of Indonesia's Constitution, which states that all resources belong to its citizens, Indonesian investment contracts (PSCs, and CoWs) are still in effect written under nineteenth-century colonial investment terms for mining, gas, and oil extraction. Financial returns that reward investors are paramount, and social development and sustainability become add-on "clauses" and, while appearing strong on paper, they are rarely, if ever, enforced. Countries that do not husband and utilize their resources for knowledge empowerment will fall by the economic wayside. Investment contracts must reflect not only economic returns to investors (both foreign and domestic) but also social capital returns (education and relevant employment/gain-sharing and empowerment opportunities) for locals. China also subsidizes fuel, but as the country's living standards have increased due to skills development policies, these subsidies have decreased over time. This is a fair trade-off. The state capitalist system in China has created a new post-colonial system that balances social stability with economic returns.

Indonesia can do the same, but with the way in which its current investment contracts are written, it runs the risk of becoming a prisoner of its own past. Today's government cannot deliver the skills and necessary technology transfers needed to make Indonesia a long-run player in creating value-added resource extraction and bring the attendant jump to alternative energy development. Indonesia can learn something from China. The country has been the leader in economic development and foreign investment in Asia for the past 20 years. China gains real know-how under these arrangements and does not let investors hide behind "proprietary information" clauses. For example, colonial-era contracts in Indonesia ensure underemployment by enforcing "propriety information" clauses (i.e., competitive skills and methods). This method has paid big dividends in living standards in China, which is now at a stage

where it is looking beyond being a cheap labor hub for manufacturing (Indonesia and ASEAN nations may indeed become China's cheap labor hub now). China wants more value-added capacity and services. The Chinese model of economic investment was not built on nineteenth-century concession investment arrangements, but rather through joint ventures. Within Indonesia, Astra's joint venture with Honda is a good example of such an arrangement.

Skills help build a nation by providing jobs—and here I mean relevant skills. In today's world, it is not finance that is king, but rather human capital that creates value added capacity and services. Financial returns are fleeting and elusive, subject to the whims of the market and currency fluctuations, but investment in human capital is not. A credible plan (in absence of one) must be created and promulgated by Indonesia's Investment Coordinating Board (BKPM). The board's new chief, Chatib Basri, must work with the Ministry of Education to ensure the teaching of market-based skills. Specifically, he must insist on knowledge and skills transfer initiatives as part of the many investment contracts he signs. It should be noted that the BKPM does not control oil or mining deals, which are the "elephant in the room" of investments in Indonesia. Former Indonesian Trade Minister, Gita Wirjawan, stressed in previous interviews with CNBC and Bloomberg that he was a "HR" developer. This should not just be a good sound bite but a significant policy platform. The BKPM should use the issue of human resources, which is probably the most critical issue facing Indonesia today, to attempt to influence oil and mining investment into the country. The markets have recently shown that financial inflows can just as quickly flow out, with the Rupiah declining against the US dollar in less than three months due to, among other things, decreasing global energy demand following the 2008 financial crisis. For Indonesia to really excel and promote sustainable well-being and environmental security as resource ownership for all its citizens, it must focus on increasing market-driven skills through relevant education. This type of education is a proven long-term ingredient for success and stability. This is the real "line in the sand" to cross, but it will potentially get Indonesia past its "North–South" problems and onto sustainability and inclusive progress for all its people. It is time for change that will benefit all Indonesians on a sustainable and longer timeline. Education is key, and the educational system must be reformed before reducing fuel subsidies. Yet the reality of this "social contract" is quite different from the ideal, if

we consider that the neocolonial oil investment mechanism of the PSC is as an artifice of the twentieth-century concession-type agreement in developing countries. The PSC was invented in Indonesia in the 1960s as a way to guarantee foreign investors returns on oil exploration and production costs in unstable political environments (Machmud, 2000). Yet, this agreement has been far less than ideal and serves to enrich and reward elite insiders and rent-seeking officials as opposed to creating any resources for social capital building, and thereby extending human capital development. While PSCs are banned in developed countries, they, nonetheless, serve to reinforce the North–South divide in developing ones. In mining, "contracts of work" are also insular concession-type devices that allow the operator little or no accountability to the local population outside of nominal CSR (corporate social responsibility), taxes, and royalties paid back to a representative provincial or federal government. Again, the link then between societal ownership of the resources is weak and devoid of building any social capital foundations. Much of the "North–South" phenomenon is then rooted in resource ownership.

Potential Theoretical Framework

There are two core assumptions embedded in the pretext of an effective localization initiative. The first, human capital development or skills building in developing countries, is agreed to in letter, but is openly compromised in form. The second, increasing living standards via empowerment and jobs, is the only true mechanism that can lift the citizenry out of poverty based on the historical works of economists and educators (Sachs, 2005). Moreover, countries that export oil are found to be positively correlated with higher corruption, which might be explained by the opportunities for rent-seeking activities associated with the ownership and exploitation of natural resources (Treisman, 2000). The framework considers academic work in regard to human capital building. No one argues the value of human capital building. It was reflected as a mainstay of orthodox economics thought with the Nobel Prize–winning work of Gary Becker in 1964, at the Chicago School. Simply put, more skills gained equates to higher lifetime earnings (Becker, 1993). This concept is found to be true in developed countries with transparent ability-based systems. Nonetheless, there is a composite of missing "empowerment" in this theory that mostly impinges on

developing countries, especially those with the resources to actively pursue human capital development. This has been labeled the "resource curse" (Mikesell, 1997), whereby countries rich in resources, mostly oil or coal, have not developed or even regressed, and their economic development historically is stunted, when compared to non-resource-rich countries such as Japan, South Korea, and Switzerland.

Three socioeconomic paradigms are becoming more important in an energy-intensive and overpopulated world, and these are considered to help reduce conflict, reduce poverty, alleviate pollution, and create higher-paying jobs. All three are based on the concept of improving social capital and reducing financial transaction costs via increasing societal cohesion (i.e., social capital creation and sustenance). These socioeconomic theories are put forward in continuing the fuel subsidy as a "stepping stone" for societal burden-sharing until development of social capital leads to improvements over time. However, traditional financial models of supply and demand and orthodox economics cannot be sustained if they continue to ignore the most pressing problems in the developing world, namely, exploding population growth and subsistence poverty. First, the most important paradigm is that of 1990 economics Nobel laureate, Douglas North (1994. North (1994) hypothesized that neither theories of economics that take politics as exogenous nor theories of politics that take economics as exogenous are capable of explaining the process of modern social development. The key here is in understanding the transition from a limited- to open-access social order (only a handful of countries have managed to attain this transition since the Second World War). Specialization and division of labor are good for the dominant coalition, but tolerated only up until the point where the specialization and division of labor can erode the fundamental source of social stability and limit violence. Thus, the state in a limited-access order society is a coalition of powerful individuals and groups, as is demonstrated in many nondemocratic developing countries. This type of political economy arrangement is called a "natural state." It is characterized by personal (face-to-face) transactions, not impersonal (competitive-based) ones. Because "natural states" have internal forces built on exclusion, privilege, and rent creation, they foster stable orders and are, therefore, extremely difficult to transform. This leads to a proposition: that the origin of property rights and legal systems is the definition of elite rights only. Changing this, therefore, requires a transformation in society from a limited-access

to an open-access basis, and research has shown that making markets more competitive can reduce corruption and rent-seeking activities (Ades and Di Tella, 1999). Empowerment is then realized in ownership and societal support via competitive and impersonal transactions. The subsurface assets are owned by all the citizens via the state's stewardship. While enshrined in law (Table 2.2), it is not always considered such by the oil companies or their host governments. Much has been written about "ownership" of natural resources regarding the "letter of the law" (Taverne, 1996), but the spirit of these laws, however, is much

Table 2.2 Constitutional articles of five countries and US state of Alaska regarding natural resources

Indonesia (1945)	Constitutional Article 33.3
Pop: 252 million	The land, the waters, and the natural resources within shall be under the powers of the State and shall be used to the greatest benefit of the people.
Malaysia (1957)	Constitutional Article (Land Ordinance, Section 24(3), Cap. 68)
	As the resource owner, the state is therefore constitutionally entitled to collect royalties . . .
Mexico (1917)	Constitutional Article 27
Pop: 120 million	All natural resources in national territory are property of the nation, and private exploitation may only be carried out through concessions.
Nigeria (1960)	Constitutional Article 44
Pop: 179 million	The entire property in and control of all minerals, mineral oils and natural gas in, under, or upon any land in Nigeria . . .
Venezuela (1999) or "Fifth Republic" (Superseded the 1961 Venezuela Constitution)	Constitutional Article 12
Pop: 31 million	The mining deposits and of hydrocarbons, existing in the national territory, under the bed of the territorial sea, in the exclusive economic zone and the continental platform, belong to the Republic, are goods of the public dominion and, therefore, inalienable and imprescriptible . . . The seacoasts are public domain property.
Norway (1814)	Constitutional Section 19 [Administration of State Property]
Pop: 5 million	The King ensures that the properties and prerogatives of the State are utilized and administered in the manner determined by the Parliament [Storting] and in the best interests of the general public.
US state of Alaska	Constitutional Article 9.15
Pop: 735,000	All income from the permanent fund shall be deposited in the general fund unless otherwise provided by law.

different. It has been persuasively shown that corruption tends to be associated with opportunities for rent creation correlated with natural resource extraction. This gets to the kernel of the "resource curse": how to develop the citizen's human capital by utilization of the resources in situ? Political competition, then, has the potential to act as a check on corruption. "State," however, does not necessarily equal to "citizens" benefit (Luo, 2006). Further, according to North's theory on the "natural state," in a limited-access order, only elites possess the right to form contractual organizations whose internal arrangements are enforced by the state. The heart of an open-access order is fluidity and change in social arrangements, that is, the empowerment of all citizens with their attendant rights; in substance, all economic problems are then essentially political/social problems and vice versa. North (1993) puts great emphasis on institution building, where the quality of institutions is key for attaining development. Institution creation, as noted, is rooted in the formation and maintenance of social capital. Societies bereft of strong institutions simply cannot make the jump to sustaining social capital.

The second framework is Coleman's "boat." The "boat" portrays macro-micro-macro relations as a theoretical figure with causal relations descending from macro (e.g., institutions) to the conditions of individual actions, which then give rise to individual actions that, in turn, ascend up to macro-outcomes, that is, changing paradigms of the individual, which is, again, the source of empowerment according to Wilson's definition (1996). Thus,

1) Macro → Micro: Typically contextual conditions that enable/constrain individual action. That is, orthodox economists and economics institutions (IMF, WB) often stress that fuel subsidies must "go."
2) Micro → Micro: A direct-action correlate of the contextually constrained behavior in (1). That is, protests and social upheaval erupt in countries where subsidies are thus threatened.
3) Micro → Macro: An aggregation or interaction process that can account for the new global-level outcome. That is, leaders back off removing the subsidies due to public unrest in process.
4) The observed macro-level correlation is thus accounted for by actors capable of intent and action. That is, in the absence of quality (trusted) institutions, fuel subsidies are enshrined as a tangible economic capital benefit for all of the resources in situ.

Coleman (1990: 48) stated, "A major source of change in the functioning of social systems is innovation in the allocation of rights [and] it is conceptually correct and often useful to do so." Coleman (1990: 57) also points out that "the general effect of information in changing rights allocations by changing beliefs so as to create a NEW [capitalization in original] consensus on rights . . . ." Returning to the Coleman "boat model," essentially the contextual (Macro-level, 1) relates to a new worldview (information) on natural resources due to unprecedented world demand and rising living standards, which cascades down to the individuals response (Micro-level, 2), which in turn produces conflict (Micro-level 3) regarding previously held pre-suppositions on resource ownership. These, in turn, feed into a new allocation of rights outcome.

An extensive review of the "Coleman boat" is not the scope of this chapter, but in short, to get to effective institution building, social capital needs to be developed and nurtured. If it is agreed then that the fuel subsidy is a source of "capital" derived from citizen ownership of the resources, then it can embed (Krishna, 2000) the resource in the social structure to facilitate individual and collective action. Further, Bourdieu, and Wacquant (1992) take the position that the greatest engine of all types of capital development (social, human, and cultural) is economic capital whereby individual ownership becomes a policy vignette. This is a key aspect in support of the fuel subsidy ownership rights for building social capital.

The Organization for Economic Cooperation and Development acknowledges this position undertaken by resource-rich developing countries that subsidize fuel. In essence, "The basis for this view typically is that these countries are using their natural resources in a way that effectively promotes their general economic development, and that this approach more than offsets the notional loss of value by selling the resource internally at a price below the international price" (OECD, 2011). The neoliberal counterpoint to this position is that removing fuel subsidies will promote economic growth and efficiency.

Yet without the subsidy people may be actually set back economically and lose their rights due to higher inflation and job loss, albeit in the short term (<5 years). The actual level of expenditure on fossil fuels was estimated using IEA data for 2009 on average subsidy rates as a proportion of the full cost of supply. For these simulations, it was assumed that the subsidy would be removed gradually over a five-year horizon. It was further assumed that, on average, 60 percent of the value of the fuel subsidy would be recycled back into the economy through

government transfers, while the rest would be used to reduce budget imbalances. Furthermore, the negative GDP effect for Organization of Petroleum Exporting Countries (OPEC) in this scenario is primarily triggered by a significant increase in inflation, which negatively affects the competitiveness of the manufacturing sector as it lifts input prices for the nonoil sector and puts pressure on real income and consumption levels. The average consumer price index for OPEC Member Countries would potentially rise by 4.4 percentage points compared to the baseline assumptions, and employment would decline by 2.3 percentage points compared to the baseline assumptions. Yet, these are the same groups (IEA, OECD, and OPEC) that are aggressively calling for an end to consumption fuel subsides. Essentially, this position tends to ignore and de-legitimize social capital building as a "fuzzy" and nonempirical construct.

Thirdly and lastly, the new theoretical burden-sharing model by former Danish ambassador to Singapore/ANZ and EU politician Joergen Moeller (2010) is that societies that do not recognize resources as strategic economic drivers (i.e., Economic Nationalism) that need protection will be left behind. That is, making established inputs of finance, material, and manpower more resourceful to create efficient outputs. This knowledge is driven by social capital development. Moeller draws heavily off the "Singaporean" model. Moeller's ideal for social capital creation in Asia is via education that is neither nationalistic nor individualist, but rather focuses on the various ethnicities and cultures in a society (as stated earlier). This leads to burden-sharing. His focus is clearly on the education of family and ethnic identity among groups such as South Asian in Singapore and Malaysia, and the Chinese diaspora. This is promoted through localized educational initiatives, which contribute to burden-sharing and then further promote societal trust.

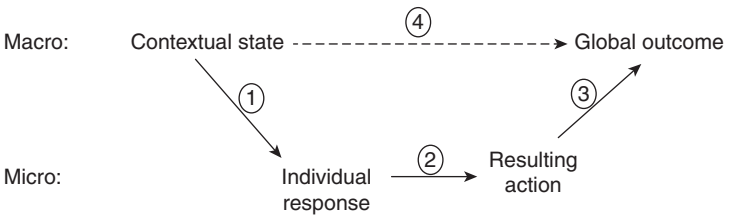

Figure 2.1 The Coleman Boat, conceptualized (Coleman, 1990)

Moeller's litmus for success in social capital is if frictionless (lowered barriers to) financial transactions occur. Moeller's ideal could be in part extension of Coleman's proxy on "rejecting the norm." Rejection of the legitimacy of the action (squandering natural resources for the benefit of a few) constitutes a rejection of the (economic) norm. As Merton (1968) wrote, effective norms are often a powerful mechanism of social capital in social systems, but deviancy against the norm may also stand to benefit a "greater good." Further consideration must be given to the cases of three developed countries that do not subsidize fuel consumption, but use their resources in other fashions for economic development (and not only human capital development). Reduction of the fuel subsidy (for whatever macro-economic necessity) without a transparent conversion to relevant institutions would seem to reinforce an outdated colonial-era economic model that serves the ownership interests of the few, not the population at large. These economic models are based on neocolonial and financial extractive methods activities that do not mirror current twenty-first century theories of wealth being created via human capital. Without the fuel subsidies, societal upheaval and conflict may continue at an even greater pace in some of the world's most impoverished countries due to widening inequality gaps, which are now emerging as a result of development. This means environmental security issues generate a number of paradoxes in the nexus with development. This also means that the question of "security" of what and for who is not just a conceptual issue but also a key policy issue. In the absence of a population having direct ownership rights in resources, fuel subsidies are really a qualitative issue about tangible empowerment through ownership, and not merely a quantitative issue about financial accounting, balancing countries domestic budgets, and reducing economic inefficiencies. Essentially, fuel subsidies are a "store of value" then for shadow resource ownership in many developing countries, where, without them, the unempowered and marginalized in society are essentially shut out of the world economic system, and they use their own resources. This store of value may also encompass other natural resources (fungibility) in situ in these countries: coal, nickel, iron ores, gold, and uranium. The point is that if money is fungible, resources in this new era are also fungible. Wealth derived from extensive coal mining abundance (Sabnavis, 2012), such as in India's Bihar state, could essentially be utilized to support the current ongoing fuel subsidy. This may be creating new forms of south–south networking and triangular diplomacy between

middle-income and low-middle-income states such as India, Nepal, and Indonesia.

Criticisms

The first and foremost criticism of fuel subsidies is that they are a "poor programme" as only 8 percent of the over $400 billion spent yearly reaches the poorest quintile (IEA, OPEC, OECD et al., 2010). Let us consider this value holistically, however, regarding the totality of the following statements. First, there is no alternative yet to offset abusive (namely, colonial-era) investment regimes where absence of the fuel subsidy would not empower any of the poorest at all if it were outright removed; in fact it would handicap them further. Second, there is no assurance that any savings from the discontinued subsidies will agglomerate spontaneously toward better projects or services (institution building) without robust policy action. Third, do these critics consider comparables of Alaska with cash payouts, the UK with job creation programs, or Norway with a national health insurance scheme that are shared equally, and not means tested, with all citizens in the country—rich, poor, and middle class—sharing equally or "pari passu" in the resources?

It seems there is a divergence of standards in regard to ownership rights in developing versus developed countries and their resources. That is, a first step or ladder approach to acknowledge that empowerment issues can only be brought forward by impersonalizing the transactions and that all economic problems are at their root nothing but political problems. Currently, as is the case, a small coterie of elites control oil and, consequently, financial flows, facilitating the flourishing of corruption. The absence of any positive spillover effect on local and national industry may again invoke disappointment and resentment among the population.

Summary

Fuel subsidies then that are economically and strategically reconnoitered with their populations on an empowered level become a new store of value that is needed in developing countries that are under the weight of poverty, unemployment, and burgeoning youth populaces. Without quality effective and functioning institutions and policies in

place to ensure legitimacy and accountability, the fuel subsidy is the only direct economic benefit most of the poor in the developing world have out of the many resources in their own country. The foundation for developing social capital may in part be reflected by the ownership of the resources of the country in situ. Social capital building creates empowerment by way of educating disparate groups about burden-sharing. Burden-sharing can create opportunities in the value-added skills chain of resource enhancement, sustainability, and responsibility. Simply dictating removal of the consumption fuel subsidies for purely economic motives, without a robust social and economic policy in place, is misguided.

Elite ownership of the resources and legal and contractual policies are, however, often rooted in colonial systems, and corporate intransigence on localization initiatives can dilute local empowerment. Instead of individuals competing for scarce resources, we need to condition gigantic populaces to work together for mutual societal benefits in today's shrinking, overpopulated, and polluted world. The energy sector needs reforming. Cutting the fuel subsidies will not solve the resource curse, and studies also have shown it to exacerbate poverty while increasing costs.

For the region to really excel, and promote sustainable well-being for all its citizens (not just middle class, or rich, or poor), the focus must be on increasing market-driven skills by relevant education. Education of this magnitude is the only proven long-term success ingredient that will create stability. If the fuel subsidy is going to be decreased, then there should be an increase in education and training in Indonesia's most important industries that can be clearly shown to its citizens. In these cases, resource extraction is the paramount foreign investment destination. That is, as fuel subsidies go down, education must increase. There are many methods how this can be done but it requires some cooperation with education ministries, legislatures (to enact the mandates for skills transfer into investors contracts), joint ventures with investing partners and state-owned companies (to demonstrate value-added capacity), and finally, as Malaysia and China have shown, sanctions on short-term investors for failing to deliver market-valued skills and encouraging capital flight, particularly in a low interest rate global economy coterminous with simultaneous debt and global austerity packages.

Empowered ownership (however anathema or contentious that may seem to orthodox economists) of a nation's resources creates economic

capital, which in turn leads to creation of social capital, which fosters human capital. Maintaining and developing social capital is the next developmental step past the fuel subsidy. In the absence of quality institutions and robust social policy, the citizens of these most impoverished of developing countries can maintain some dignity of entitlement to the resources they reside over by maintaining the fuel subsidy. The world currently has an estimated population of seven billion people, and is expected to grow to nine billion by 2030, more than half of these in extreme poverty. Investment regimes that facilitated nineteenth-century financial advantages will not help develop twenty-first-century human capital. The system needs an update.

In the twenty-first century, the stakes are simply too high in Asia and sub-Saharan Africa with large swaths of unemployment and swelling youth populations to not include the drivers of energy and natural resources in any human development initiatives. Terrorism, poverty, environmental destruction, and large displaced populations have taught us if anything it is now necessary to mitigate wealth disparities and create better social cohesion by inclusion, not exclusion. The world is addicted to fossil fuels and will still be for a long time coming. To that end, we have not even mentioned CO_2 reduction and the entire issue of global warming, which are caused by fossil fuels. The ideal would be that if people do have a right in their fossil fuel resources, they will consider long-term stewardship of them and sustainability of these "non-renewables" to a greater extent.

The world's fossil fuel addiction generates enormous revenues, which is an opportunity in creating many value-added jobs downstream and financing for poverty alleviation. To put this into perspective, one need only to witness the traffic jams in China and Indonesia, or intense thermal coal burning in India and South Africa for electricity generation, contrasted with the maximum output of oil production in Saudi Arabia, Canada's tars sand, and gigantic open-cut coalfields in Australia. That all these are heavily polluting also is noted. Any aid program (of private NGOs or major country initiatives such as UNDP, USAID, GTZ, or AusAID) that proposes selling T-shirts, increasing rice yields, making yogurt, providing beach services for foreign tourists, offering English training, and so on sorely misses the point. These cannot by their nature promote human development on a national level, as the economies of scale in these businesses are simply too tiny compared to the vastness and enormity of the revenues provided and utilized by energy, mostly

upstream (mining and oil drilling) but also downstream (value-added creation in polystyrenes, pharmaceuticals, and fuels) and in renewables, such as wind, solar, hydro (dams), and geothermal (hot springs) powers. Consider the market: 90 percent of all foreign direct investment (FDI) in Kazakhstan and Uzbekistan, for example, goes to oil and gas projects, and sub-Saharan countries, such as South Sudan and Angola, have an even higher proportion of FDI in oil alone. Investment in all sectors of energy reached over USD 1.5 trillion in 2010 alone (IEA, 2011), compared to the few millions invested in the above-mentioned retail industries.

Yet fuel subsidies should be maintained until effective government policy recognizes the need to change educational curricula and gain-sharing programs for the entire citizenry (Haysom and Kane, 2009). Professor Edward Glaeser at Harvard Business School affirms this position where countries with significant natural resources (iron ore in the United States, for example) have used their resources, first, to develop "brainpower" (2012). However, Glaeser's article is wrong in the sense that he also claims that mining does not provide many jobs in an age of automation. It could be argued, differently, that due to economic cluster development and attendant supply jobs, mining, oil, and gas extraction can provide considerable employment in the long run, which can provide both economic and environmental security in rising middle-income countries such as Indonesia and Malaysia.

Conclusion

In order to accomplish development and employment by integrating skills into the energy business and generating an alternative "ownership" approach to environmental security, a few steps must be considered in an era of burden-sharing, or a realization of the value of creating and sustaining social capital in any society, to alleviate hardship and poverty. First, abusive nineteenth-century colonial-era contracts that reward investors above all else and promote a "client driven model" need to be rewritten to consider a country's human capital development. This first step can promote social capital development. Second, policy must consider stewardship of nation's citizens over natural resources. Policy must have mechanisms in substance not merely in the use of ambiguous semantics where there actually is no empowered gain-sharing at all by most citizens in their countries resources.

Postscript

As this book goes to press it is worth noting that in the latter half of 2014, world oil prices collapsed. New leader elected in Indonesia, (Joko Widodo) and in India (Narendra Modi) took this chance to fulfill election promises and essentially abolish all consumer fossil fuel subsidies. Malaysia also followed suit. In a world of falling oil prices, this seemed a very smart move. Nonetheless, oil is an exhaustible resource, and fuel subsidies gave these countries an incipient advantage. Removing them in the short term may seem strategic, but when and if oil prices rebound, the citizens of these countries will have to compete on a more expensive playing field of higher costs. When that happens, removal of the subsidy, as echoed in this chapter, without serious structural social reforms, may have dire long term consequences on these countries competitiveness.

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CHAPTER 3

Climate Change in South Asia: Green Bridging between Nepal and India

Chandra Lal Pandey

Introduction

South Asia comprises eight countries, namely India, Nepal, Pakistan, Bangladesh, Sri Lanka, Bhutan, the Maldives, and Afghanistan. It is home to more than one-fifth of the total population of the world. It is not only known to be the most disaster-prone region but also the most densely populated geographical region in the world where the majority of world's poor and vulnerable are to be found (Lal et al., 2011; UNEP, 2003). According to the International Food Policy Research Institute (IFPRI, 2012), South Asia continues to have the highest levels of hunger. Approximately one billion people are undernourished worldwide, with more than 456 million in South Asia (FAO, 2009). A significant portion of the economically active population in South Asia, especially in the rural areas, is still involved in agriculture. Agriculture contributes a significant share to the gross domestic product (GDP) of the countries in South Asia. Given this, sustainable agriculture, in terms of establishing food security and rural employment as environmental security, environmentally sustainable technologies such as soil conservation, sustainable natural resource management, and biodiversity protection are essential for the holistic and inclusive development of the region.

Although many immense rivers flow from the Northern Himalayas to the South, water scarcity is a serious problem in South Asia (Immerzeel et al., 2010; Mirza and Ahmed, 2005). Increasing population growth, the need for irrigation for intensive agriculture, and preconditions for

industrial growth are the three main driving forces putting pressure on already inadequate supplies of water. Yet climate change impacts the region badly: it results in an increase in the frequency of droughts, extreme precipitation, floods, and other water-induced disasters affecting agriculture and hydroenergy systems. Changes in weather patterns and increased frequency of extreme weather events such as heavy precipitation, longer droughts, and intense tropical cyclones have all been observed since about 1950 (IPCC, 2013). Thus, the "Impacts of such climate-related extremes include alteration of ecosystems, disruption of food production and water supply, damage to infrastructure and settlements, morbidity and mortality, and consequences for mental health and human well-being" (IPCC, 2014: 6). Changing patterns of rainfall and melting snow and ice are altering freshwater systems and affecting the quantity and quality of water available in many regions, including South Asia. The issue of water access and water purity is also creating territorial and border tensions between Nepal and the surrounding powers (China and India). This in turn impacts geopolitical intentions and dynamics. Climate change will, therefore, have "widespread impacts on South Asian society and South Asians' interaction with the natural environment" (IPCC, 2014: 4).

"People" who are socially, economically, culturally, politically, and institutionally marginalized are especially vulnerable to climate change as they lack resources for taking appropriate steps through adaptation and mitigation. This environmental insecurity to climate-related hazards affects poor people's lives and their livelihoods directly, through reductions in crop yields and destruction of homes, and indirectly, through, for example, increased food prices and food insecurity. This heightened vulnerability is rarely caused by a single factor. Rather, it is the product of intersecting economic and social factors that result in inequalities in socioeconomic status and income resulting into disproportionate exposure to climate impacts. The social processes include discrimination on the basis of gender, class, ethnicity, age, and (dis)ability (IPCC, 2014). In this respect, marginalized groups are the ones affected by the impact, externalities, and experience of environmental insecurity. The climate literature points out clearly that climate change risks are, therefore, unevenly distributed and are generally greater for the more disadvantaged people and communities in the developing low-income and middle-income countries (IPCC, 2013; IPCC, 2014; Pandey, 2012). Due to its disproportionate and variable impacts caused by spatial and

temporal factors, impacts and/or risks will vary through time across regions and populations.

In 2007 the Intergovernmental Panel on Climate Change (IPCC) reported that climate change could decrease agricultural production by up to 30 percent in South Asia (IPCC, 2007). Past and present climate trends and variability in the region are evident in the increasing air temperatures that are more pronounced in winter than in summer. More and more extreme climate events and their increasing intensity and frequency are observed. The AR4 (IPCC's Assessment Report) and AR5 reported that the frequency of more intense rainfall events in many parts of South Asia has increased, causing severe floods, landslides, and water-prone disasters. The number of rainy days and total annual amount of precipitation has decreased, but intensive heavy precipitation has been concentrated in a few days (Sivakumar and Stefanski, 2011). In 2007 the United Nations Environment Program (UNEP) reported that the number of storms with more than 100 mm rainfall in a day had increased by 10 percent every decade. Thus, "The impacts of climate change on the critical infrastructure and territorial integrity of many states are expected to influence national security policies" (IPCC, 2014: 20). For example, land inundation due to sea-level rise poses risks to the territorial integrity of small island states and states with extensive coastlines. Some cross-national impacts of climate change, such as changes in sea ice, transboundary water resources, depleting fish stocks, food insecurity, and scarcity of water, have the potential to increase rivalry among states. Alternatively, these developments may well foster interstate cooperation.

Continuous population growth with high rates of poverty and food insecurity, and natural resource degradation makes South Asia one of the most vulnerable regions to the impacts of climate change (Lal et al., 2011). Lepers et al. (2005) noted that these drivers of change can operate either independently or in association with one another. Complex feedbacks and interactions occur on all scales—from local to global—to create negative impacts of climate change. Cassman et al. (2003) emphasize that climate change will add to the dual challenge of meeting food (cereal) demand and protecting natural resources and improving environmental quality in the region.

This chapter investigates how Nepal has framed its domestic policies regarding climate change in terms of enhancing greater regional cooperation in South Asia for environmental security policies. It considers the neighborhood of China and India's own geopolitical positions on

climate change–related issues in the region and the fossil fuel economy and their combined impacts upon a lesser-developed country like Nepal. The chapter will contextualize the regional environmental dynamics to examine whether climate change can be perhaps paradoxically used as an opportunity to Nepal by being a "bridging nation" and through the South Asian Association for Regional Cooperation (SAARC) for climate-resilient development in the region. The result of these initiatives may be to be used as a way to help reduce the wider regional geopolitical tensions between India and China that are being caused by growing environmental insecurity over climate change impacts and resources in this subregion.

Climate Change and Nepal

The total territorial area of sovereign Nepal is 147,181 square kilometers. Despite its relative smallness of size, Nepal's climatic conditions range from the alpine in the North to the tropical in the South. Nepal has three distinct climatological regions: the Terai (plains 17 percent), the Mid hills (68 percent), and the High mountains (15 percent). The vast majority of climate change projections to Nepal have been made using regional climate models, which indicate that temperature increases across Asia will accelerate (IPCC, 2007). The rate of warming in South Asia has been projected to be significantly more rapid than the global mean rate of warming. Although there are some levels of uncertainty in measuring and anticipating climate change, the models suggest that there will be rapid temperature increases in Nepal in particular. According to a report by the Nepalese Ministry of Environment (MoE, 2010), the temperature trends in Nepal for the period of 1971–1994 indicate continuous warming at an average annual rate of 0.06°C.

Over the last decades, more gradual year-on-year changes in temperature have been observed in Nepal, with a 0.04°C increase in the Terai, and higher increases in winter, and an increase of 0.08°C per year in the Himalayas. The pre-monsoon season (March–May) has showed the lowest warming rate of 0.03°C, while the post-monsoon season (October–November) has showed the highest one of 0.08°C (MoE, 2010). While summer rainfall is expected to increase for the whole country in the range of 15–20 percent, the level of winter rainfall is likely to decrease (Bhattarai, 2012). Extreme weather events such as prolonged but concentrated rainfall, resulting in floods and landslides,

and heat waves are likely to become more frequent. Attributing single events to climate change is difficult due to inherent climate variability and interlinkages with many other complex issues; however, scientific reports project that existing environmental problems such as drought, landslide, and water-induced disasters including floods will be magnified by climate change (IPCC, 2007).

In 1997 it was noted that climate change in the Brahmaputra and Ganga basins would change river flows, which, in turn, would affect low flows, drought, flood, and sedimentation processes (Mirza and Dixit, 1997). Shrestha et al. (1999) had reported that temperatures were increasing in Nepal and that rainfall was becoming more variable. Using the emissions scenarios from the IPCC's special report (2000), a modeling exercise conducted by a team of multinational experts found that the temperature would indeed increase in the mid-hills and that this region would likely become more arid in the non-monsoon seasons (NCVST, 2009). They also reported that precipitation was likely to be more uncertain and that storm intensity would increase. According to the World Bank (2013), Nepal now ranks as the fourth most insecure and vulnerable country in the world to climate change, as it is highly exposed to a range of water-related hazards such as floods, droughts, and landslides (Maplecroft, 2010). The government's Climate Change Policy of 2011 also projects that millions of marginalized and ethnic minority Nepalese are at risk from climate change (GoN, 2011a).

Current projections predict increased climate variability and increased frequency and higher intensity of extreme events. Due to the diverse topography and a varied range of ecological zones, the overall impact of climate change is likely to vary depending on spatial and temporal locations. For instance, any rise in temperature in the High mountain region would result in rapid glacial melting, resulting into a surge in the flow of snow-fed rivers, thus causing river-bank erosion in the Mid-hill region and flooding and water-induced disasters in Terai and beyond the sovereignty and territorial integrity of Nepal. Increased flows of melt water and intensely concentrated rainfalls induce disasters such as floods, landslides, and droughts that have already killed more than 4,000 people in Nepal over the last ten years.

Water-induced disasters such as floods and landslides not only take lives and injure people but also pollute drinking water sources, thus creating a favorable situation for the spread of vector-borne diseases. These hazards pose enormous costs to Nepal's economy, and an estimated

more than 1 percent of the country's GDP is lost to natural disasters consisting of frequent events such as floods and landslides every year (World Bank, 2013). In June 2013, the Mahakali floods in Darchula and in August 2014 the massive landslide in Mankha village forced the country to declare an emergency in these regions. Poor and rural populations are the most vulnerable to such risks; however, the landslide in Mankha took the lives of all the villagers and their livestock without discrimination while villagers were in deep sleep at night. Likewise in August 2014, the government of Nepal was also compelled to declare a state of emergency in the 24 districts that were hard hit by floods (*The Kathmandu Post*, 2014d). The constitution writing process of the Constituent Assembly (CA) was adjourned for a week to send the CA members of 24 districts that suffered "monsoon mayhem"—climate-induced disasters—resulting in the displacement of 20,239 families.

Impacts on Environmental Security with regard to Nepalese Agriculture

Celine (2008) predicts that as a result of global warming and climate change, global agricultural productivity will decline from 3 to 16 percent by 2080. The IPCC (2007) estimated that the agricultural productivity of sub-Saharan Africa could decline between 30 and 50 percent if global temperature increases by 2°C. In the same line, the IPCC (2007) projected that South Asian countries could also be facing about 30 percent reductions in the agricultural output due to changes in monsoon and constraints on irrigation by the mid- twenty-first century. The primary concern of researchers and politicians is with the retreating mountain glaciers, since the Himalayas constitute the "water tower" of 1.4 billion people living in Asia. In Nepal, agriculture contributes 35 percent of the total GDP. Nepal has one of the highest level of absolute poverty in Asia, and it has witnessed an increase in the percentage of people living below poverty line from 33 percent in 1977 to 42 percent in 1995/1996 (ODI, 2003). However, this trend seems to be declining in recent years due to the increasing inflow of foreign remittances, especially due to youth exodus for foreign employment providing cheap labor in the countries of the Middle East (CBS, 2010).

In 2004 the Initial National Communication of Nepal to the United Nations Framework Convention on Climate Change (UNFCCC)

together with a range of recent studies have shown that Nepal is highly vulnerable to the potential negative impacts of climate change (GoN, 2011a; Regmi and Paudyal, 2009). Climate change scenarios estimate that the temperature of South Asia including Nepal is highly likely to accelerate, resulting in a considerable retreat of the glaciers, the overflowing of rivers for a certain period of time, and a gradual shortage of clean water supplies. Floods and landslides, from erratic precipitation, have been significant causes of loss of life, and fertile land has been lost due to changes in topographical geographic structures (Lal et al., 2011; Pandey, 2012). The delay in the monsoon season due to changes in global weather patterns has led to a lack of adequate water supply, which made thousands of hectares of farmland fallow and reduced agricultural production (Regmi and Adhikari, 2007). Nepal's food production is being threatened by climate change affecting food security at national, local, household, and individual levels (Pant, 2012).

Climate change is posing complex challenges in achieving sustainable food security and millennium development goals (MDGs) in Nepal. Climate change not only is an environmental problem but is also connected to changing disease patterns: overpopulation and urban pollution are also influential in the spread of infectious diseases ranging from childhood asthma to skin cancer (McCally, 2002). Scholars argued that the entire belts of arable land are likely to shift as climate patterns change permanently (O'Neill, 2009: 45). Worsening environmental scarcities interact with the political structures and may trigger processes that heighten ethnic, communal, and class-based rivalries (Homer-Dixon and Blitt, 1998). In human terms, this could mean famine, competition over remaining resources, and mass migration, either within countries or across national borders. It is also a major threat to food security, because, at some point, the spread of genetically modified seeds and biotechnologies will be a threat to farmers' livelihoods, and the food security of the population dependent upon genetically modified food (Shiva, 1993).

One of the major challenges of genetically modified seeds and biotechnologies is market monopolization by the corporation as currently done by Monsanto, the US-based company. Experiences drawn from India on maize and cotton crops strongly suffice to be extremely wary of the use of any hybrid or genetically modified seeds in Nepal. Indian farmers had to live with miseries as India, unlike many other countries in the West, does not have any explicitly expressive statutory regulatory regime governing the regulation of transgenic organisms, and

it is unlikely that Nepal will not be facing the same concerns. Therefore, the first task is to educate the farmers and civil society about the know-how characters of the genetically modified seeds and the second most important task is establishing regulatory bodies that can uphold independence, scientific impartiality, and general credibility to create appropriate laws on it and that are capable enough to implement them effectively. The blanket dismissal of the potential use of genetically modified seeds and/or biotechnologies to develop climate resistant seeds in climate-eclipsed era is not affordable. Instead the regulation must cover the authorization procedures of the use of genetically modified seeds for food and feed, industrial and cultivation purposes, and their derived products for food and feed uses. The regulation must also aim to avoid adverse effects of biotechnologies on human and animal health as well as environment. And ultimately, the consumers may decide whether they want to consume hybrid food produced with the help of biotechnologies or seek other possibilities to avoid the impact of climate change on food insecurity.

The FAO (2006) reports that climate change will affect all four dimensions of food security: food availability, access to food, stability of food supplies, and food utilization. The link between climate change, agriculture, and food security has become more and more serious in terms of the local dynamics such as societal relations and local politics in Nepal. As agriculture is the mainstay of the Nepalese economy, which continues to be dependent upon monsoon rainfall due to the lack of sufficient irrigation facilities, the changing weather patterns will further damage the agricultural capacity (Bhujel and Ghimire, 2006). Nearly 65 percent of the country's agriculture is rain-fed and any changes in rainfall patterns will definitely impact agriculture seriously (Bhattarai, 2012). According to the Ministry of Agricultural Development, "In 2009–2010, there were 43 food deficit districts, most of them in the hills and mountains. The number had dropped to 27 in 2011–2012, when the country recorded bumper cereal harvest" (cited in *The Kathmandu Post*, 2014a). According to Ministry of Agricultural Development (MoAD) paddy transplantation was limited to only 73 percent of 1.06 million hectares of arable land in 2014 due to insufficient monsoon (*The Kathmandu Post*, 2014c). With poor monsoon, the government's target of 6 percent economic growth seems ambitious. Although the actual level of the impacts of climate change is still uncertain, inaction is not a viable option. Nepalese farmers must act to adapt

to sustainable agriculture practices by utilizing climate-resilient methods and technologies, and mitigate global emissions to avoid the speedy rate of widespread flooding from snowmelt to changes in weather patterns (Pandey, 2012).

Adapting to Climate Change in Nepal

The Government of Nepal (GoN) has made some efforts in the recent past, primarily through the Ministry of Environment, Science and Technology (MoEST) (formerly known as Ministry of Environment), to set up an appropriate policy regime to facilitate the process and implementation of plans and programs related to climate change in Nepal (Devkota, 2011). The central and official channel of actions relating to climate change has been the MoEST for GoN. In 2009 the GoN established the Climate Change Council (CCC), a high-level coordinating body, chaired by the prime minister to provide overall guidance to national efforts in addressing climate change. The council includes agencies such as the National Planning Commission (NPC) and government-nominated independent experts with the MoEST functioning as the Secretariat. A Multi-stakeholder Climate Change Initiatives Coordination Committee (MCCICC) was formed in mid-2010 under the chairmanship of the secretary of MoEST with representations from government institutions, local government associations, academia, nongovernmental organizations, and development partners to promote functional-level coordination among the stakeholders and streamline activities to address the impacts of climate change.

The GoN has also established a Climate Change Management Division (CCMD) in the MoEST in 2010 with three sections: Climate Change Section, Climate Change Council Secretariat Section, and Clean Development Mechanism Section. Similarly, the Ministry of Forests and Soil Conservation has created REDD (Reducing Emissions from Deforestation and Forest Degradation) and Climate Change Cell to promote climate change-related activities (MoE, 2011). A Climate Change Coordination Committee was established in 2011 under the chairmanship of the MoEST to ensure coordination of activities, particularly those related to the Pilot Programme for Climate Resilience. In January 2011, the GoN issued the Climate Change Policy 2011, based on a vision of a country spared from the adverse impacts of climate change, by considering climate justice, through the pursuit

of environmental conservation, human development, and sustainable development—all contributing toward a prosperous society. The main goal of this policy is to improve livelihoods by mitigating and adapting to the adverse impacts of climate change, adopting a low-carbon emissions socioeconomic development path, and supporting and collaborating in the spirits of the country's commitments to national and international agreements related to climate change. The policy envisages that at least 80 percent of the total funds allocated for climate change should reach local communities for conducting activities at the grass-roots level (GoN, 2011a). The policy paper also indicates the constraints and limitations facing Nepal. It notes that only a few studies have been conducted so far to understand the actual effects and likely impacts of climate change. The detailed impacts from climate change on agriculture, water resources, forests, and biodiversity, public health, disaster incidence, tourism, and other related sectors have yet to be assessed. Similarly, programs for avoiding, minimizing, or adapting to the changing climate by developing appropriate technologies for risk reduction and disaster preparedness have also yet to be implemented (GoN, 2011a).

Between 2007 and 2009, in the process of implementing the UNFCCC, Nepal has carried out a number of tasks, including preparation of the action plan related to capacity building under the National Capacity Needs Self-Assessment Project for the implementation of the Rio Conventions (Climate Change, Desertification, and Biological Diversity), issuance of CDM project-approval processes and procedures to benefit from the provisions of the Kyoto Protocol, preparing of the National Adaptation Programme of Action (NAPA), preparing of the Second National Communication (SNC), and implementation of a project on strengthening capacity for managing climate change and the environment. The MoEST worked with UNFCCC and developed the National Adaptation Programme of Action (NAPA) for adapting to extreme climate events and variability through extensive country-driven consultations. In line with Nepal's Climate Change Policy—2011, and as a means of implementing NAPA and integrating adaptation options into development policy and planning processes, Nepal has recently prepared and approved the Local Adaptation Programme for Action (LAPA) process (GoN/MoE, 2014). The Ministry of Agriculture has also been active in research and the attempts to adapt the farming system

to increasing temperatures. From 1995, Nepal has been implementing the 20-year long Agricultural Perspective Plan (APP, 1995–2015) to address the problems of food security and poverty. The strategy was to achieve broad-based economic development and poverty reduction through accelerated growth of agriculture and nonagriculture sector. However, low productivity in agriculture has still been a major contributor to poverty and food insecurity and economic activities in nonagricultural sectors are meager, forcing about 1,500 youths to leave the country every day in search of foreign employment.

NAPA, which focuses specifically on climate adaptation, enables the country to identify priority activities that must be implemented in the immediate future in order to address urgent national climate change adaptation needs. The NAPA Project to Climate Change in Nepal was signed on November 14, 2008, between the MoE and United Nations Development Programme (UNDP) Nepal Country Office, responsible for implementing the NAPA project, with further support from the Danish International Development Agency, the Global Environment Fund, and the UK Department of International Development. The goal of the project is to enable Nepal to respond strategically to the challenges and opportunities posed by climate change. The NAPA project has three components: (1) preparation of a National Adaptation Programme of Action, (2) development and maintenance of a learning and knowledge platform to act as a clearing platform for climate change, and (3) development of a multistakeholder framework of action on climate change. UNFCCC has created nine projects to be responded to through NAPA Nepal.

The priorities of the nine projects are as follows: (1) promoting community-based adaptation through integrated management of agriculture, water, forest, and biodiversity sector; (2) building and enhancing adaptive capacity of vulnerable communities through improved system and access to services related to agricultural development; (3) community-based disaster management for facilitating climate adaptation; (4) glacial lake outburst flood (GLOF) monitoring and disaster risk reduction; (5) forest and ecosystem management for supporting climate-led adaptation innovations; (6) adapting to climate challenges in public health; (7) ecosystem management for climate adaptation; (8) empowering vulnerable communities through sustainable management of water resources and clean energy supply; and (9) promoting

climate smart urban settlement. To ensure an effective and inclusive adaptation response, NAPA formed six thematic working groups (TWG), each led by the ministry concerned. The six TWG are: (1) agriculture and food security under the coordination of the Ministry of Agriculture and Cooperatives (MOAC); (2) forests and biodiversity under the coordination of the Ministry of Forests and Soil Conservation (MOFSC); (3) water resources and energy under the coordination of the Ministry of Energy (MOE); (4) climate induced disasters under the coordination of the Ministry of Home Affairs (MOA); (5) public health under the coordination of the Ministry of Health and Population (MOHP); and (6) urban settlements and infrastructure under the Department of Urban Development and Building Construction.

To implement Nepal's Climate Change Policy 2011, and especially NAPA and the integration of adaptation options into development policy and planning processes, GoN approved the National Framework on LAPA in November 2011 (GoN, 2011b). The LAPA framework ensures that the process of integrating climate change resilience from local to national planning is bottom–up, inclusive, responsive, and flexible. It aims to enable communities to understand the uncertain future of climatic conditions and engage them effectively in the process of developing adaptation priorities, promote the implementation of the adaptation and climate-resilient plans that are flexible enough for responding to changing and uncertain climactic conditions, and inform sectorial programs and be a catalyst for integrated approaches between various sectors and subsectors (GoN, 2011b). The GoN also endorsed the Mountain Initiative in May 2010 and organized the International Conference of Mountain Countries on Climate Change in Kathmandu in April 2012 (MoEST, 2012). The conference endorsed the Kathmandu "Call for Action" on the mountains and climate change, which provides opportunities for mountainous countries to develop and implement action plans at the country level. "Call for Action" also promotes the development of the program of work and influence of international negotiations including on UNFCCC to focus on and give due recognition to the climate change in the mountains (MoEST, 2012). There are a limited number of clean development mechanism projects of the flexible mechanisms within the Kyoto Protocol and REDD+ piloting strategies have also been in progress in Nepal, as will be discussed in the next section.

International Climate Cooperation and Nepal

The increasing threats of climate change have been well recognized by the global community with the adoption of the UNFCCC at the original Rio Earth Summit in June 1992 and other related follow-up protocol and agreements. In Copenhagen 2009, governments agreed to work to limit global temperature rise below 2°C relative to the preindustrial era. The participating member states, also known as Conferences of Parties (COPs) of UNFCCC, are involved with both the developed and developing countries that are committed to efforts to formulate and implement programs containing measures to reduce anthropogenic emissions and to enhance removal by sinks of all greenhouse gases (GHGs) and measures to facilitate adequate adaptation to climate change. Nepal, as a party to the UNFCCC, has realized the obligation and is taking efforts such as implementing refining environmental policies and environmental management programs and involving in activities toward reducing emissions. The publishing of the national communication document of 2004 was its first effort to comply with the UNFCCC obligations of Nepal in addressing climate change and its impacts in the country.

Nepal joined the Kyoto Protocol on September 16, 2005. The protocol sets binding emissions targets for developed countries to reduce emissions on average 5.2 percent below the 1990 levels by the year 2012. In order to help the developed countries to reduce the cost of meeting their emissions reduction targets, the Kyoto Protocol developed three market-based flexible mechanisms, including the emissions trading mechanism (ETM), the joint implementation (JI), and the clean development mechanism (CDM). The ETM or "cap and trade" is a market-based approach used for achieving reductions in the emissions of GHGs by providing economic incentives. Under JI industrialized countries may run low-carbon projects such as replacing a coal-fired power plant with a more efficient combined heat and power plant in economies in transitions (EITs), where the costs of running such projects are cheaper.

The CDM is project based, designed to promote sustainable development in developing countries and assist industrialized countries in meeting their commitments of reducing GHG emissions. The CDM commenced comparatively earlier than the JI. By mid-2007 around 700 CDM projects had been approved to be funded mostly in the major developing country emitters such as China, India, Brazil, and

Mexico (Henson, 2008). Nepal has a high potential for CDM in terms of availability of untapped renewable energy such as hydropower and solar power, and the high availability of biomass to be used as fuel. By July 2012, only five projects had been registered by Nepal with the Executive Board of the CDM and were related with microhydro and biogas projects. There remain several untapped opportunities for utilizing CDM projects, such as switching from fossil fuel-based generation to renewable energy, based on mechanical or electrical power, and fossil fuels to biomass-based power generation or heat generation like use of biomass gasifiers. The solid waste management and wastewater treatment for methane avoidance have also been other potential areas (Nandanpawar, 2011).

Yet, almost 80 percent of CDM projects have been concentrated in the four large emerging economies (China, India, Brazil, and Mexico), while LDCs like Nepal have very few projects. The introduction of these flexible mechanisms was intended to reduce GHG emissions but, as Victor (2011: 97) and Giddens (2009) noted, they carried "deep flaws that are hard to fix." They provided easy access to the investors to move to developing countries, where there were no quantified targets, from industrialized countries to pay and pollute there and did not contribute much to the goal of building sustainable and climate-resilient development pathways for the poorest and most vulnerable countries. Thus, "Nepal is of the opinion that CDM needs to be fundamentally restructured for better serving the sustainable development needs of the host country. Project-based activities should be limited to Least Developed Countries and other developing countries with minimal capacity to access benefits from CDM" (Joshi, 2012: 54). Although the first commitment period of the Kyoto technically expired in 2012, the second commitment period of it keeps these mechanisms in effect until another replacement of the Kyoto is agreed upon.

Although governments of the world have not adopted any notable measures in terms of mitigating GHGs domestically, the creation of REDD+[1] provision through UNFCCC offers a strategy that links climate change with forests and their capacity to be a GHG emissions "sink." Forests, and in particular tropical forests, play an important role in the global carbon budget because they can be either sources or sinks of atmospheric carbon. Annual emissions from land-use change (mainly through deforestation and degradation in tropical developing countries) account for approximately 20–25 percent of the total anthropogenic

emissions of GHGs (UNFCCC, 2006). Halting deforestation and forest degradation is important in mitigating emissions of GHGs at a time when climate change negotiations have reached an impasse on other ways of arresting climate change.

In Nepal, forest cover change between 1978 and 1994 shows that shrub land has increased by 5.6 percent per year and forest area has decreased by 1.7 percent per year (Acharya et al., 2009). Recognizing the salience of REDD+ and intending to implement its initiatives in Nepal, the Ministry of Forests and Soil Conservation (MoFSC) formed a three-tier organizational setup: Apex body, REDD Working Group, and REDD Cell. The REDD+ readiness process started with the preparation and submission of the Readiness Plan Idea Note (R-PIN) in 2008. Many NGOs and community-based organizations (CBOs), in cooperation with donors and GoN, are implementing various REDD+ pilot strategies in Nepal. However, analysts have commented that there are several issues and challenges (such as weak governance, knowledge gap, the lack of technical means to identify forest fire quickly, data gaps, weak cross-sector institutional coordination, unplanned and unpredictable deforestation, and complexity in benefit-sharing among others) for the successful implementation of the REDD+ in Nepal (Dangi, 2012).

"Loss and Damage" was also a key element agreed in the Doha climate conference in 2012: the states decided to establish "an institutional mechanism to address loss and damage in developing countries that are particularly vulnerable to the adverse effects of climate change" (IISD, 2013: 2). Nepal can receive financial, educational, and technological know-how to reduce climate-induced disasters for adaptation through the loss-and-damage framework. As most of the climate-related disasters in the country are connected with water-induced disasters and as Nepal emits small amount of GHGs, it needs to now concentrate on the possible approaches of climate adaptation rather than mitigation. National development policies need to reflect on the potential impacts of climate change and accordingly form inclusive climate-resilient policies for sustainable development that turn a disadvantage into leverage.

Regional Geopolitical Cooperation and Implications

The SAARC is a regional cooperation instrument for the countries in South Asia. China, among eight others, has had the status of observer since 2005. According to Sheel Kant Sharma, secretary general of the

SAARC, "Preservation and protection of the environment remains a high priority on the agenda of cooperation being pursued by the Member States of SAARC. The imperative of environmental conservation and management has been recognized and underscored by the Leaders of SAARC at successive Summits" (SAARC/UNEP, 2009: v). Some of the examples of environmental cooperation include the 1997 SAARC Plan of Action on Environment and the 2008 Dhaka Declaration and Action Plan on Climate Change and the Kathmandu Agreed Vision for South Asia for Climate Change 2009. Furthermore, the ministerial meetings on the environment and the technical committee on the environment and forestry periodically review progress and guide and steer collaborative endeavors at the regional level. The establishment of a number of regional centers such as the SAARC Meteorological Research Centre in Bangladesh, the SAARC Coastal Zone Management Centre in the Maldives, the SAARC Disaster Management Centre in India, and the SAARC Forestry Centre in Bhutan constitute a framework of SAARC institutions that addresses diverse aspects of the environment. These initiatives and mechanisms demonstrate the high priority attached to environmental conservation and sustainable development by the member states of SAARC (SAARC/UNEP, 2009).

The publication *South Asia Environmental Outlook 2009* (SAEO) provides a useful account of the state of the environment in South Asia and the challenges faced as well as the various initiatives being pursued to protect, preserve, and manage the diverse and fragile ecosystems of the region. The SAEO 2009 covers the state and trends of the environment emphasizing five key issues: climate change, food security, water security, energy security, and managing urbanization. The report highlights that South Asia is very vulnerable to climate change and that the impacts of climate change have been observed in the form of glacier retreat in the Himalayan region. These glaciers form a unique reservoir that supports rivers including the Indus, Ganges, and Brahmaputra, which, in turn, are the lifeline of millions of people in South Asian countries, and climate change resulting in the glacier retreat exacerbates the challenges of poverty reduction, irrigation, food security, access to safe drinking water, and environmental sustainability, which are highly relevant to the MDGs and economic performances of South Asian countries and the lives of millions of the poor.

The SAARC countries have also tabled a common climate change international policy position on international forums such as the

UNFCCC. At Copenhagen 2009, the SAARC tabled its common position that "in view of the historically high levels of GHG emissions, to which South Asia made insignificant contribution, adherence to the principle of common but differentiated responsibilities is critical in combating climate change in accordance with the principles and provisions of the Convention and its Kyoto protocol" (SAARC, 2009: 1). Given the vulnerabilities and limited capacities facing the region, there is an urgent need to ensure rapid social and economic development to make the SAARC region more resilient to climate change. The SAARC (2010: 1) reiterated and emphasized "the importance of the principles of equity, and common but differentiated responsibilities and respective capabilities in the global negotiations on climate change." The statement also noted that the UNFCCC's negotiations are to be conducted in an open, transparent, and inclusive manner so that the outcome enjoys the support and ownership of the international community, particularly those that are most affected by climate change.

The SAARC encounters formidable environmental and socioeconomic challenges in its effort to protect valuable national and regional natural resources. Although the SAARC, as an observer to UNFCCC, has started to intervene in the UN climate change negotiations, maintaining a common voice is a difficult task with member states at different levels of development. All SAARC countries are members of the largest negotiating group of G-77/China but India, Sri Lanka, and Pakistan are developing countries, and Afghanistan, Bangladesh, Bhutan, Maldives, and Nepal are least developed countries with a different set of interests in the negotiations.

At the Warsaw Climate Conference 2013, the division among SAARC countries, the G-77, and China was evident, primarily based on different development rates and geopolitical fears. India, as a member of BASIC (Brazil, South Africa, India, and China) or the so-called major emitters, Pakistan, as a member of "Like Minded Group," and Nepal and Bangladesh, as members of LDCs, negotiated their own interests yet failed to devise a common position on upcoming agreements. Such divisions and exclusions, however, might provide an opportunity for a more productive "minilateral" approach based on a "commonality with differentiation." The SAARC regional efforts in addressing climate change have been more rhetorical than practical. While the dangers posed by the climate change to biota are well recognized, the very limited actions taken by the rich and powerful states globally and regionally do not

inspire confidence in their ability to change course. India, with the third largest technical and scientific resource in the world, can initiate solid regional initiatives for practical actions to fight against this major challenge in the region.

Nepal's Immediate Neighbors—China and India

China is the world's most populous and third largest country in land area. Its economy is growing at an aggregate of 9 percent per year, represented by its GDP (purchasing power parity) of US $12.61 trillion in 2012.[2] It is one of the members of BRICS (Brazil, Russia, India, China, and South Africa) and BASIC. China's environmental problems are among the most severe of any major country and have become major concerns for the Chinese people and government. China's GHG emissions have already overtaken those of the United States, as economic growth has stimulated the rapid expansion of coal, the dirtiest form of fossil fuels (Yi-chong, 2010). China's large population, economy, and size mean that its environmental problems are spilling over to the rest of the world. China is well aware of its environmental problems resulting from the emissions of GHG and is working toward a number of low-carbon initiatives including the exploitation of its massive renewable energy resources and the expansion of nuclear power (Yi-chong, 2010).

China has been able to lift over 500 million people from absolute poverty after three decades of a near double-digit annual growth. In this way China has created a developed country within its status of developing country, yet a majority of the Chinese population still live as if in a developing country. To take such numbers of people to the level of the developed world, China needs to continue its economic growth by using huge amounts of energy. Chinese companies have actively been investing offshore to achieve fossil fuel energy security it needs to support its growth.

India, the world's second most populous country, is 45 times bigger in population and 22 times bigger in area than Nepal. The Indian economy is currently growing at an average of 7 percent per year, and its GDP purchasing power parity is US $4.735 trillion compared to Nepal's US $40.49 billion in 2012.[3] India's share in world GDP is about 5.46 percent against Nepal's 0.049 percent in 2013.[4] It is also a member of BRICS and BASIC, a group of major emitters and emerging

economies. In 2011 India was the fourth-largest energy consumer in the world after China, the United States, and Russia, and its need for energy continues to climb as a result of the country's dynamic economic growth and modernization over the past several years (EIA, 2014). Its rapidly accelerating fossil-fuel based economy is business as usual with its immense environmental costs. Like China, India's environmental problems are global in magnitude. The Bharatiya Janta Party has received an absolute majority in the lower house (Lok Sava) in the elections of May 2014, and the party-led government has a mandate to govern India for five years. The government faces several challenges to meet the country's growing energy demand: it has to secure affordable energy supplies and attract investments for infrastructure development to continue its rapid economic growth. As immediate neighbors of Nepal, both China and India's energy requirements are surging rapidly at the expense of the local, regional, and global environment for continuing their agendas of development and economic growth.

In contrast, Nepal is among the poorest and the least developed countries in the world, with about one-quarter of its population living below the abject poverty line. Under the decade-long (February 1996–May 2006) Maoist insurgency, many industrial plants were put out of service because of the lack of energy, a situation which continues to the present. As discussed above, China and India are emerging large economies in the world, and there are remarkable differences between these three countries (Nepal, India, and China) in politico-economic and developmental arena. Yet when it comes to climate change, all three countries are categorized under one umbrella term, "Non-Annex I," under Kyoto Protocol.[5] Even South Korea and Mexico, which have long been members of the Organization for Economic Cooperation and Development, are still listed as Non-Annex I countries. These kinds of categorizations, meaningful some 20 years ago, are irrelevant today, as the economic circumstances and development stages of some of the developing countries including China and India are rapidly changing. In 2011 China's per capita CO_2 emissions were 7.20 tons and India's emissions were 1.60 tons, whereas Nepal's were just 0.13 tons (EU:JRC/PBL, 2011). China and India are developing countries, whereas Nepal is a least developed country and by no measures are they comparable in terms of development stages. This blanket black-and-white (developed and developing) categorization is intricately connected with the UNFCCC's principles of equity, common but differentiated responsibilities (CBDR), and historic

responsibility (HR), with the politics of and within North and South, and built on the foundation of state-centric negotiation frameworks where countries articulate their national interests over the common interest of addressing climate change.

China and India have been number one and number three top emitters in the world (PBL/NEAA, 2013), respectively. They are the most prominent emitters within the BASIC countries and their actions, therefore, will have large implications in the fight against climate change. The BASIC group's primary goals at UNFCCC are to ensure that they have "equitable access to sustainable development" and "poverty-alleviation over emissions reductions." China and India require that developed countries, which assume greater historical responsibility for climate change and a greater capacity to act, should take the lead in addressing climate change. They argue for the principles of "equity," and CBDR, and respective capabilities to be upheld. In the international climate negotiations, the BASIC group often contends that it pushes for support for developing countries from the developed countries through climate finance, technology transfer, and capacity building along with more stringent mitigation targets for developed countries. However, they articulate more their own interests than the interests of LDCs like Nepal and small island nations.

The existing UNFCCC approach of the Kyoto Protocol with its firm commitments only from developed countries has not made and will not make much difference in the mission of stabilizing the global GHG emissions. Karl Hood, chairman of Alliance of Small Island States (AOSIS), criticized the roles of major emitters and, during the Durban negotiations in 2011, questioned, "Must we accept our annihilation? While they [emerging economies especially China and India] develop, we die. Why should we accept this?"[6] The argument is that major emitters from developing countries cannot be exempted from reducing emissions in the name of their development at the expense of other poor and vulnerable countries and the globally shared environment.

G77/China no longer speaks as a single voice in all matters, and other alliances of developing and developed countries are being formed around common interest issues such as the need to have a legally binding agreement with commitments for all. For example, the Cartagena Dialogue is a forum open to countries working toward an ambitious, comprehensive, and legally binding regime in the UNFCCC, and committed to becoming or remaining low-carbon economies. This group

consists of 30 developed and developing countries. The LDC negotiating bloc was the first bloc to call for a legally binding agreement applicable to all parties at Durban 2011. The bloc's rationale was that if the most vulnerable and least responsible commit to more ambitious targets, no country would morally and ethically abstain from shouldering commitments. As with other LDCs, Nepal's perspective is that it can do very little to mitigate global warming on its own. Its contribution to global GHG emission is a tiny 0.025 percent of global emissions, yet small developing countries like Nepal, with little financial and diplomatic clout, bear the brunt of climate change. At international forums, Nepal demands, "It is undoubtedly the responsibility of major greenhouse contributors like China, the US, the EU and India to cut down emissions, or at least compensate the countries that are suffering because of their actions" (*Republica*, 2014: 8). A more accommodating framework that sets priorities transparently for parties is required to address conflicting interests of the major emitters as well as LDCs.

As such an accommodating framework is lacking, India and China remain adamant that they are not willing to shoulder the binding responsibility for reducing GHG emissions and the UNFCCC climate negotiation talks have been paralyzed by China and India demanding that any reference to a new agreement on climate change says only that developed countries are required to make commitments to cut emissions. Although China has invested heavily in renewable sources, the country is reluctant to promise emissions cuts internationally because it still gets almost 70 percent of its energy from coal, which produces the highest emissions of all fuels (SSoEE, 2012). India has also made significant progress in wind, solar, and hydropower and grid transmission efficiency. Despite this progress made on reducing dependence on fossil fuels and improving energy efficiency, India continues to expand its fossil fuel base because "India's primary energy consumption is dominated by fossil-fuels-together coal, oil and natural gas account for 93% of consumption" (SSoEE, 2012: 15). India's national position in international climate negotiations appears to be guided by the BASIC group where its interests converge with others and it will continue to argue for equity and the historical responsibility of developed countries (Pandey, 2014).

Yet, India and China have huge local environmental insecurities from unprecedented levels of pollution to frequent high intensity floods. In China, over the last century the annual average air temperature has increased by 0.5–0.8°C, most of this change occurring in the last 50

years (Kan, 2011). China's rainfall patterns have been changing and these changes in rainfall distribution are exacerbating current trends of droughts in the north and flooding in the south (NDRC, 2007). Simply put, climate change will have serious negative effects on Chinese society, biodiversity, human health, and political economy in the long term. Likewise, India's annual mean temperatures are projected to rise by 1.7–2.0°C by the 2030s (INCCA, 2010). India's extensive coastline, stretching 7,517 km, is home to more than 40 million people who are vulnerable to sea-level rise and storm surges, which will impact the numerous ports and livelihoods of farmers and fishermen, as well as fragile ecosystems (SSoEE, 2012). Intensive droughts and floods are likely to become more frequent due to climate change, which will, in turn, impact water yields and food security.

India and China have broad national security reasons to minimize the risks to human health of water-induced disasters, food insecurity, and the looming energy crisis. Regional cooperation among countries of similar regions that share transboundary water systems and biodiversity can be effective in addressing and adapting to climate change. China, Nepal, and India share not only borders but also transboundary river systems. The Hindu-Kush region has high potential for regional cooperation for arresting climate change by appropriately exploiting the transboundary waters for mutual benefits and using a strategic approach for better aligning the opportunities for development interventions with dimensions of physical, social, and economical vulnerability of the Hindu-Kush region following the standard international practices and channels of diplomacy. Transboundary biodiversity initiative between China, India, and Nepal for the conservation of the Mount Kailash Sacred Himalayan Landscape seems to be making some progress. This initiative is an important South Asian enterprise between China, India, and Nepal in the field of biodiversity conservation and sustainable development in the Himalaya. The initiative naturally warranted a South–South cooperation approach as it related to an ecologically and culturally significant transboundary landscape (UNEP, Undated).

India and Nepal have had achieved some agreements over sharing the river systems, yet due to the lack of trust between both the parties, the agreements are limited in words and in papers. Modern-era governments of Nepal have been mindful that cooperation with India for investment and know-how is necessary to speed up its development. However, the history of Nepal–India cooperation in developing

Nepal's vast hydropower resources for mutual benefit has still been a legacy of lost opportunities from Nepal's perspective. Cooperation in the "Hydro Power Sector Agreement" would not only provide renewable energy but also contribute to reduce GHG emissions, the major culprit of climate change, and address the problems of water-induced disasters. But governments in Kathmandu and New Delhi have repeatedly failed to reach workable agreements in the hydropower sector, although some promises were made at the level of political leadership. Given the deeply entrenched perception that India has derived disproportionate benefits from the Koshi, Gandak, Mahakali water projects, and the Tanakpur agreement, the Nepali public is sensitive about any proposed power agreements with India (*The Kathmandu Post*, 2014b). Water agreements in the past usually took place in secrecy, resulting in heavy public criticism and the failure to get them effectively implemented. But Nepal and India have a lot to gain from hydropower cooperation. Nepal has a lot to offer and India has immense market. More transparent, deliberative, mutually beneficial, and meaningful hydropower cooperation would be welcomed by the people of the both countries.

The Climate Summit for a Living Himalayas, held in Bhutan in 2011, was a high-level meeting, organized by Nepal, India, Bhutan, and Bangladesh to work out agreement on four main themes: securing biodiversity and ensuring its sustainable use, ensuring food security and securing livelihoods, securing the natural freshwater systems of the Himalayas, and ensuring energy security and enhancing alternative technologies. It was a milestone toward regional cooperation (Bhutan Climate Summit, 2011). In 2014 China and Nepal also signed several memorandums of understanding (MoUs) in the framework of the Third Pole Environment program (TPE) in tackling climate change (*Global Times*, 2014). The TPE was launched by the Chinese Academy of Sciences (CAS) in 2009 to study the regions on the Tibetan Plateau, home to millions of people and thousands of glaciers. China aims to work together with Nepal for the scientific and the technological development that can be used for the benefits of both parties. Shared vision, collaborative efforts, and a transparent framework of cooperation from public and the private sectors could help adapt and mitigate the impact of climate change. Yet this positioning is also dependent on wider China–India relations. Nepal has to decide whether China–India relations are good or bad for Nepal's geopolitical and environmental benefit either on specific issues or in a wider context of cooperation or divergence. This also

highlights the understanding of the direction of the causal relationship between geopolitics and the environment as outlined in the introduction to this book.

Regional cooperation in the production and distribution of hydropower and other alternative renewable energy could transform South Asia from a situation of energy constraint to energy surplus in the region. The proactive roles of South Asian countries and national policy-makers in cooperation with the officials of the SAARC Secretariat at Kathmandu can chart collaborative action plans for addressing serious concerns of climate change in the region. Regional adaptation to extreme weather events and the impacts of climate change on endangered alpine species, water security, renewable energy, and adaptive agricultural practices are hallmarks of fighting climate change. The agreements made so far have been more rhetorical in substance; however, the recent changes of government leadership in China and India may change their loggerhead roles into international and regional leadership.

China and India have recognized their energy problem and are making big investments on renewable energy in their developmental policies. China's goal is to have 20 percent of its total energy demand sourced from renewable energy by 2020 and it has been the largest investor in wind, solar, and other renewable projects in the world (Forbes, 2014). India is also making large investment in wind, solar, biomass, and hydroenergy projects (EY, 2013). Nepal is commended for its exemplary success of community forest management and its "green identity." "Let's keep our environment clean," "don't use plastic bags," "cycling for health and clean air," and "raise our voice not sea level," "eco-tourism" are the commonly expressed "green identity" themes of Nepal. The Government of Nepal, in collaboration with major development partners and other regional and global stakeholders especially among Asian and Andean countries, has taken several climate initiatives to raise the concerns of climate change in order to draw global attention and respond to the problems effectively.

As a bridging nation between China and India, Nepal can cooperate with China and India to develop its own hydro and solar projects. Nepal can also cooperate with its immediate neighbors for climate-smart capacity-building activities such as rain-water harvesting, drip irrigation, ecological sanitation, low-carbon (green) technology, and

other climate-friendly technologies. Widespread poverty, various layers of violence, and other external influences such as degrading environment and increasing climate risks make South Asia a difficult region to govern to achieve sustainable peace and prosperity. Regional cooperation and connectivity is the key to deal with transboundary nature of problems. With geographical proximity, common historical and cultural experiences and symmetrical aspirations of the populace for lasting peace, security, democracy, and development, in addition to regional cooperation, the countries' need to boost intraregional efforts through connectivity for shared prosperity. A united regional voice and sustainable development framework accompanied with better human resources, development of science and technology, as well as consideration of evolutionary local knowledge of social practices can take South Asia to an elevated level of prosperity. As a bridging country, Nepal needs to put more focus on regional cooperation through entities such as SAARC, International Centre for Integrated Mountain Development (ICIMOD), International Union for Conservation of Nature (IUCN), World Wildlife Fund (WWF) regional offices, and UN system regional offices. Kathmandu is promoted as Nepalese neutral and, with its "development experience" as a bridge nation sandwiched between two rising regional powers, it can provide a venue for regional cooperation dialogues. Regional climate change work can be initiated by Nepal, and a safe and neutral location could be provided by Nepal.

Conclusion

The climate literature has vividly identified South Asia as one of the most disaster-prone and most climatically vulnerable regions in the world. The impacts of climate change differ from one climatological region to another, and countries at different levels of economic and development stages can tackle the insecurities of climate change disproportionately. Nepal is a LDC buffer country between two giant economies and top first and third CO_2 emitters of the world. Little symmetrical comparisons can be made about economic and developmental stages between these three countries, except that they are in the same geographical region and may also share similar climatic patterns. Historically, the developed world was responsible for GHG emissions identified as causing accelerated climate change. But the

fossil fuel-dependent Chinese and Indian developmental model has contributed to large-scale GHG emissions, making them belong to the top three global GHG emitters of the world. Although China and India still have millions of poor people to lift out of poverty, their emissions rank number one and number three in the world and in the eyes of several countries; this places much more climate responsibility on them than they have been willing to accept.

Regional cooperation at the SAARC level has the potential to provide an important element in the fight against climate change but the SAARC has achieved very little so far in the making and implementing of regional-level climate policies. Bilateral and trilateral transboundary rivers' hydropower development and water management agreements can make South Asia energy independent and reduce water-induced disasters. Although the international and regional climate positions of India and China are at loggerheads with those of the developed countries, they acknowledge their energy dependency and environmental problems such as air pollution, water pollution, floods, and other forms of water-induced disasters. With changes in their leadership in governments, they can further prioritize environmental concerns at global, regional, and local levels and change their loggerhead positions to leadership to address the climate and environmental challenges. Nepal can initiate regional climate change dialogues by providing a neutral venue not only to share their experiences in the Nepalese context to make its own polices in tandem with the two neighbors but also to affect climate policies in China and India and benefit as a bridge country.

Notes

1. Reducing Emissions by Environmental Degradation and Deforestation.
2. See CIA Factbook, "China," https://www.cia.gov/library/publications/the-world-factbook/geos/ch.html.
3. See CIA Factbook, "India," https://www.cia.gov/library/publications/the-world-factbook/geos/in.html.
4. See CIA Factbook, "Nepal," https://www.cia.gov/library/publications/the-world-factbook/geos/np.html.
5. In climate change negotiations Non-Annex-I category includes all developing countries irrespective of their size, economy, and changing status. All developed countries including economies in transition are included in Annex-I category. Annex II refers to developed countries excluding economies in transition.
6. See GCI, "COP-17-A Comment on the Outcome and the Perception on It," http://www.gci.org.uk/COP-17.html.

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CHAPTER 4

Green Growth and Asian Donors: From Japan to Korea

Iain Watson

Introduction

Japan and Korea emulate and compete in many areas. Korea regards each Group of Twenty (G20) state as having its own international issue niche (Kim 2013; OECD 2009). For 20 years Japan's has been the human security approach; for Korea, the recent niche has been green growth. Japan is not party to the Korean-based Global Green Growth Institute (GGGI). Japan is a nonbinding Kyoto party in the second period, while Korea is a nonbinding state for both first and second periods. This position for Korea is often regarded as an opportunity to engender a "me first" approach and to promote a "mitigation" that is voluntary and as a means to gain soft power gravitas. On the other hand, once soft power is gained then it also offers a temptation for continuing "business as usual" industrialization with heavy emissions while "being seen" to be green. In this case, any slight gesture to any voluntary commitment is always going to appear as being to Korea's advantage. However, Korea's increasing proaction in strategically using soft-power resources and positioning in this particular green growth issue sphere also requires a measure of state-led soft-power credibility. Yet with such credibility also emerge potential "tipping points" with matching domestic policy to the increasingly global role and responsibility that certain vested interests in Korea envisage on the "green" issue. Thus, any wider structural reform to "the green economy" to maintain this credibility may paradoxically undermine the very fabric of Korea's

economic business-as-usual (BAU) success that has allowed Korea this very positioning.

Korea's shift to a voluntary mitigation strategy is also perhaps an indirect strategy expected by a middle power that desires to be treated with First World, developed country status with global commitments and yet is aware of its vulnerabilities and, therefore, solidarity with developing nations (McKinsey 2013). From this, Korea has promoted its "bridge" role. In one respect, however, such protocol ratifications on binding mitigation targets also mean a potential for regarding mitigation as essentially being stuck in the old development model patterns and as a "limits to growth." From the global South, the "limits to growth" is often regarded as a form of "green colonialism." Yet through green growth, Korea, as a pivot Asian donor state, is triangulating its diplomacy and connecting "green" foreign aid programs with a number of non-Annex B aid recipient countries in the Asia-Pacific such as Indonesia, Cambodia, and Vietnam. These states are also not subject to Kyoto's binding commitments in both first and second periods, and, moreover, these states see potential in a "green" policy that can actually *accelerate* economic growth but in a "low carbon" environment that knows no limits, only human ingenuity (Ban 2012).

One issue often raised in the region, as the introduction to this book pointed out, is whether environmental concerns with regard to air pollution, land resources, and nuclear concerns can lead to more cooperation or more conflict between nations (ADB 2012, 2013). Between Korea and Japan there have been ongoing discussions as to the "cleanness" of nuclear technology. This is linked to a myriad of historical contestations and tensions regarding the fate of Koreans who died at Hiroshima in August 1945 and the attacks on imperial Japan that also brought an end to a period of Japanese colonialism over the Korean peninsula. There is also the ongoing issue of North Korea's nuclearization, and there are issues raised over the safety of "clean nuclear energy" following the Fukushima meltdown in Japan in March 2011. The causes of the 2011 disaster (earthquake and Tsunami) have often been framed in such a way by Korean environmental nationalists that "this cannot happen here" due to Korea's unique and "blessed" geographical positioning. There is also the view that "foreign" climate change and "foreign" induced industrialization/globalization are destroying the genuine Korean homeland and its biodiverse ecology. In some areas of Seoul, even in present times,

one can witness what is described as "foreign" flora and fauna, brought to Korea by the Japanese, being destroyed, despite their carbon-soaking role. In this sense Korea's rapid industrialization has also been seen by such groups as a way of destroying any remnants of the colonial period. Hence, various competing narratives exist within (South) Korea as to determining what counts as "legitimate" and "authentic" modernization given the competing timelines sanctioned by the state in North and South Korea as to what counts as the "true" and "undisrupted" Korean history, and natural and cultural heritage(s).

Now, as a high-middle-income country, Korea sells and exports its own development experience in the form of "green growth" by encouraging east development countries to generate social "adaptation" and economic resilience. One outcome of this approach has been to create a particular version of "south-south" solidarity with present and future strategic "resource" partners. Japan still prefers a more North–South approach, which will engender its own middle-power approach. Korea has shown a middle-power capacity to play a "bridging" role in a wide range of global and climate change governance issues within the G20 and between G8 countries and the BRICs (UNDP 2013). The chapter considers the question as to how and why Japan and Korea are developing and exporting domestic green growth models and regional "green connectivity corridors" for regional integration. Japan does not see itself as a "south-south" partner but instead prefers a more "Northern" approach, although Japan and Korea are signatories of the Bogota (2010) Declaration on "South-South" relations. The Bogota Declaration stated thus:

> We, representatives of partner countries, donors, multilateral and bilateral development organizations, parliaments and civil society, recognize that South-South cooperation (SSC) is an important instrument of effective and inclusive partnerships . . . SSC is a natural expression of collaboration and mutual interest between partner countries, at global, regional, and country levels. SSC is a historical process, with unique characteristics, which reflects solidarity, adapts to local contexts and capacities, and promotes mutual benefit and win-win outcomes and horizontal partnerships.

The evolution of donor–recipient "green" partnerships for Japan and Korea is often placed in terms of, in effect, a "green product" life cycle of "green" partnering projects that are based on a package of

initial appraisals, government commitments, and recipient country compliances (Kim, 2010). These packages can often come in various leverage forms of "green loan conditionalities" and may be viewed critically as a reinforcing of a bilateral power leverage in the donor–recipient relationship that is "greenwashed" or obscured by the more standard elite-led narratives of "south-south cooperation," "win-win," and "green solidarity." Moreover, these initiatives do not always acknowledge or attend, as a variety of political ecology approaches have pointed out, to the underlying structural inequalities of the global political economy (Kim, 2010). The chapter, therefore, considers the similarities and differences between Japan and Korea's green growth approaches and outlines emerging critiques of Japan and Korea's green growth approach. The chapter assesses its longer-term sustainability and implications for Korea's middle-power role in the region in responding to environmental security. This is then placed in the context of interests in how green growth represents a particular developed nation in understanding "south-south" relations given that "Efforts to promote green growth strategies across the global South vary in scope, focus and level of engagement in promoting pro-poor, climate-resilient and low-carbon outcomes" while "Global policy discussions have focused on building consensus around three key areas: climate change adaptation and mitigation, North–South investment flows and technology transfer" (Burkolter and Perch, 2014: 237). The green economy discourse has focused on solving environmental issues, but often a broader opportunity for delivering poverty alleviation and creating a social base with equality and inclusion has been neglected, outside of generalized positives for employment. As a result, green growth "can also generate needed economic innovation in heretofore monopolistic economies in the South (those heavily reliant on extractives for example) as well as further diversification in others like China and South Korea" (Burkolter and Perch, 2014: 257).

From Japan to Korea

Japan's diplomacy over climate change was shaped both by what other countries would accept and by what domestic constituencies would ratify and implement. Environmental politics is an arena where decision-makers need to choose how to reconcile domestic constraints and foreign pressures (Takao, 2012). Both Korea and Japan are Asian

developmentalism, and differ from Chinese developmentalism. The 2011 Fukushima nuclear crisis symbolized the key tension in both Asian and worldwide environmental policies as to whether nuclear energy is clean energy but a part of the "old developmentalism" or whether nuclear energy is not clean energy or whether it should be seen as part of a new green growth approach. There is also the issue as to whether green growth is defining those low-carbon societies which will therefore not need nuclear energy. Or, whether green growth, as either a concept or instrument of policy, that bypasses both BAU development and development that is based on nuclear technology. This issue itself opens up further questions as to what is meant by 'growth' and particularly for countries that are vulnerable to high resource costs and resource scarcity.

Why was Japan able to get environmental issues on the agenda and take legislative action only for a short period of time? Both Japan and Korea are exporting countries, so environmental standards are regarded as key for exports to the middle-class market of global consumers, while the domestic economy and industrial externalities to create these exports are also potentially affecting "green" credibility in the exports, given both countries' reputation as being technologically advanced. For Japan climate change has often been seen as a site for dialogue to tackle the North–South divide. Japan has provided technical training to people from developing countries to diffuse environment-friendly technologies, and official development assistance (ODA) loans in fields related to climate change. Attention was also drawn to financing green investment through the private sector.[1]

On May 29, 2012, the Japanese cabinet endorsed the "White Book" on the environment, which called for a greater investment and promotion of electricity power generation through renewable energy sources. This is based on the belief that the use of renewable energy will help achieve economic growth while reducing industrial-era greenhouse gas emissions, which cause global warming. The 2011 Asia-Pacific Economic Cooperation (APEC) meeting vowed to promote "green" economic growth to boost domestic energy efficiency and to reduce the "energy intensity" of each domestic economy by at least 45 percent by 2035. Energy intensity is a measure of energy consumption based on gross domestic product. The promotion of green growth was also a key part of APEC's agenda and, as an approach to "free trade," is also tied to both Japan and Korea's geopolitical decision over joining the US-led Trans-Pacific Partnership (TPP) at a time when both countries

are trading heavily with China. The APEC (2011) Leaders Declaration stated thus:

> We are committed to advancing our shared green growth objectives. We can and must address both the region's economic and environmental challenges by speeding the transition toward a global low-carbon economy in a way that enhances energy security and creates new sources of economic growth and employment. We have advanced these objectives significantly in 2011. In 2012, economies will work to develop an APEC list of environmental goods that directly and positively contribute to our green growth and sustainable development objectives . . .

According to Kim (2010), the greening of Japan's international cooperation during the 1990s must be understood in the context of its status as the world's largest donor and its efforts to become a global environmental leader during the 1990s when greening was prominent. The current Abe administration has tended to shift more to traditional security issues and alignments and, yet as in Korea, has promoted the issue of "green growth" more as a potential economic instrument to generate growth and investment. Prime Minister Abe has in effect begun to shift Japan away from its, what may be seen as a, more "traditional" human security agenda. In 2009 Japanese prime minister Hatoyama stated that Japan was prepared to provide more financial and technical assistance in accordance with the progress of the international negotiations. The so-called "Hatoyama Initiative" was announced by Japan at the 15th session of the Conference of the Parties to the UN Framework Convention on Climate Change (COP15). This initiative required Japan to provide increasing financial assistance of approximately $15 billion, including public and private finance, to Japanese-aid recipients that take measures to address climate change. These include issues of mitigation by those recipients that are vulnerable to the negative impacts of climate change (WEF 2013, 2014). This assistance was to be premised upon the establishment of a fair and effective international framework. In this sense, Japan would, therefore, serve as "a bridge" on green issues between the developed and developing countries and help contribute to a low-carbon society at a global level (Hatayoma, 2009). This initiative from Japan was promoted in September 2009 just before Copenhagen with the aim of in effect "me first" grabbing the agenda but with the risk, with the benefit of hindsight, of being too closely tied to a conference that, for many, did not live up to expectations.

In this respect, environmental resources, goods, and services are now being "traded" as a way of provoking economic growth in the post–financial crisis era of low global interest rates and the "perfect storm" of rising government debt and global austerity policies. Yet the creation of the so-called green economy is also seen to be an outlet for a welter of currently hoarded and hedged capital investment resources that are potentially worth several hundred billion US dollars a year globally. Advocates of this "market" approach to environmentalism do not see environmental management and opportunities "as just another" economic sector alongside conventional economic and business activity, but advocate the view that wider economic changes are now required both to simultaneously generate growth and to combat climate change. This version of "creative destruction" is regarded as an economy-wide transformation rather than just the expansion of the environmental goods and services sector. On November 19, 2014, Korea hosted the GGGI meeting entitled the "nexus" between the "creative economy and green growth." The hosting of the GGGI in Korea occurred amidst a domestic questioning over the sustainability of Korea's own Chaebol-based and "low hanging fruit" export-led development model. Labour groups have identified developmentalist limitations, and, with low national social safety nets and difficulties for women to get into full-time work due to child care limitations, it is more cost effective for the state to subsidize Chaebol's environmentally unfriendly construction and digging projects, "ghost towns and airports," novelty buildings (Lotte Tower) with low wages justified by "the peoples" Confucian work ethic and labor competition as "flexibility."

The term "creative economy" was first used by President Park Geunhye during her election campaign in 2012 seemed necessary to keep at least a show or semblance of "being seen to be interested" in green growth. Other phrases such as "green growth 2.0" have recently been used to indicate a criticism that the previous Conservative administration had focused too much on the word "growth" and that this was mostly based on the interests of the big family conglomerates (the Chaebols) as well as on top–down government planning, often spontaneous, and based on a prevailing view of "squeezing" out of any developmentalist bottlenecks and contradictions (over capacity and low consumption) through more "free trade" and keeping the Korean Won at competitive levels.

Ongoing regional geopolitical tensions between China, Japan, and Korea are often manifested in terms of responses to climate change and environmental security. Each country's relationship is also represented in terms of its "non-traditional" security agendas and promoting leverage overseas. For instance, according to Japan's Diplomatic Bluebook of 2004, the following are the central themes in its promotion of human security: (1) water; (2) global environmental issues—international rule-making and improving efficiency in tacking global environmental issues (e.g., coordination between international trade rules and environmental conventions); (3) climate change; (4) disaster prevention; (5) transnational organized crime and illicit drugs; and (6) human rights. The first three have a direct relationship with the so-called environmental security, while the connection of the last three with the environment may not be as direct. The 2011 Fukushima disaster in Japan also heralded a new narrative on nuclear safety and in Korea generated calls for the end of nuclear energy and a shift toward "business as usual" development with new technology being more geared toward "end of the pipe" and carbon capture from the existing development model. Part of this strategy has also been the cultivating of extensive Korean marshlands to soak up excess carbon emissions. Thus problems of transborder air pollution, such as yellow dust and sand, have been "securitized" by official narratives from China, Japan, and Korea.

At the 2014 Climate Summit UN secretary general Ban Ki-Moon again reiterated the need for "thinking outside the box" in green issues. Again asking for the so-called "bold" initiatives, the Climate Summit, without China and India, seemed to end with just more "financial" commitments from leading nations, all placed in a rather self-congratulatory narrative. There are increasing domestic criticisms that Korea's status is now heavily tied to Ban's own personal career at the UN and through the myriad of "shuttle" trips made by the UN secretary general to Korea, rather than representing a serious shift in Korea's global leverage.

Environmentalism and Security in Korea

National security in (South) Korea has traditionally been dominated by what are regarded as provocative and "existential" acts and threats from North Korea. Traditional security concerns for Japan and Korea have been tied to environmental concerns with the "nuclearization" of the Korean peninsula as a result of ongoing geopolitical tensions.

Traditionally, North Korea (and specifically the ruling regime) has been seen by (South) Korean Conservatives as a "foreign" and "non-Korean" regime, while liberals, perhaps paradoxically, have tended to pursue a more "sunshine" approach based on inter-Korean racial politics. Yet ongoing geopolitical and regional tensions have drawn attention to the problem of "environmental" security as being a result of both Korea's industrialization required for the strengthening of national security strategy and the issue of nuclear proliferation on and around the peninsula. This has led to much interest from Korean environmental groups in promoting "biodiversity" and "green" connectivity corridors as a means to peace on the peninsula such as the De-militarized Zone (DMZ) peace park proposals (Kim, 2007). President Lee in 2008 had linked the peace park proposal to wider "green growth" initiatives such as the preservation of South Korean wetlands for "carbon soaking," as highlighted at the 2008 Ramsar Convention meeting held in Korea. NGO conservationists have also pointed out that the DMZ has become a wildlife haven that is harboring many rare species. Historically, two movements form the kernel of the current environmentalist movement: the antipollution movement and the antinuclear movement. Environmental pollution during the General Park (1961–1979) era was known as a "public nuisance" or "gonghae" (Cho, 2014). Similar to the situation in China as mentioned in this book, there are both the eco-socialists or radical greens, those "Daoist" groups searching for some kind of self-defined ecological harmony, and those working for an antimodern "return to the countryside" and more proactive "eco-warriors" (Cho, 2014). In Korea during the authoritarian period of General Park, liberals had traditionally cornered the environmental narrative by linking greenism to the democracy movements. This opened up the issue as to whether and why environmentalism was somehow intrinsically "democratic" or was being used instrumentally as a way of exploiting and identifying a weakness in the industrialization model of the authoritarian state. These groups often regard climate change as a "foreign" environmental security threat to the Korean environment homeland from human-induced "airpocalypse."[2]

Green Growth Korea

Various sessions held at the November 2014 GGGI Convention included themes such as technology innovation, green climate finance,

social inclusion, micro-enterprise, public–private partnerships (PPPs), and the knowledge economy. The expected outputs and outcomes of the conference were to identify any major bottlenecks or barriers to the "large-scale deployment of green technology" and solutions to resolve the mismatch between the supply and demand in the so-called green financing in "cutting edge" low-carbon technology. The aim was to identify innovative investment models for green growth projects, including innovative and effective mechanisms for social inclusion and knowledge sharing. Green growth and the creative economy have, in effect, the common objective to create a better economic and environmental future "for the people" so that policies for green growth and creative economy should be socially inclusive. Accumulation of relevant experience and knowledge was seen as essential for developing countries to maintain green growth and creative economy policies (MOFA 2013, 2014). This was also said to be "for the people," again confirming the existence of particular ethnic nationalistic narratives on who is to be included or excluded from this approach to environmental security as resilience. The assumption was that climate change is a result of inefficient governments and market bottlenecks, and in this respect, market capitalism and environmental protection would no longer be considered to be a "trade off."

Green growth also addresses the challenges of environmental degradation caused by economic growth through the development of clean energy sources as a growth engine (Woo, 2011). Yet green growth does not see this as an issue of "sustainable growth" or of "slowing down growth." Former Korean prime minister Han Seung-soo (2012) stated that "green growth is the innovative and revolutionary development paradigm that enables economic growth while preventing environmental degradation and enhancing climatic sustainability. It calls for a conceptual shift to recognize that both economic growth and environmental protection can be achieved in parallel." The United Nations Environmental Programme (UNEP, 2013) has pointed out that "Green Growth seeks to fuse sustainable developments economic and environmental pillars into a single intellectual and policy planning process, thereby recasting the very essence of the development model so that it is capable of producing strong and sustainable growth simultaneously." In July 2009, Korea announced its National Strategy for Green Growth as a blueprint to shift Korea's economic structure away from energy-intensive industries (business as usual) that have driven the majority of

the developmental paths in Asia. The target goal is to reduce greenhouse gas emissions by 30 percent from a business-as-usual path by 2020 and increase the country's renewable energy to 11 percent of total energy supplies by 2030. As in Japan, Korea's government also announced plans to continue making investments in innovative, low-carbon technologies for renewable energy, waste management, public transportation, and construction, and to create enough new jobs in these sectors to offset the loss of employment in current carbon-intensive. As in China, such ecological modernization approaches have claimed that there is now a need for a gradual reorganization of modern capitalism and the centralized state (Moll and Spargaaren, 2000). Green growth is a means to sustainable development through an acceleration of growth by using traditional economic indicators. Green growth also wants to reorganize the economy by, in effect, speeding up the market system and by "breaking market bottlenecks" as these steps are considered to be a scientific and rational "solution" to climate change. Green growth sees the environment as "an asset" protected by "private ownership" and the impact of which is to be measured by using traditional economic indicators. Moreover, the ecological modernization approaches to the "third world" are still based on issues of managing environment regulation and regulating or monitoring development in the South through a form of Eurocentric "paternalism."

Green growth has emerged out of the different yet shared development experiences in emerging middle-income countries. There is, however, also the view that questions whether green growth *necessarily* leads to growth *and* inclusive "green" development or is used to shore up BAU developmentalism through "green zones," which enables "non-green" aid to be further provided. The role of aid donors is to help finance any short-term "trade-offs" during the so-called "green growth" transition (WEF, 2013a). Green growth is, in this context, to help promote the equitable and efficient use of resources so as to generate economic stability and economic growth (OECD, 2013).[3] The Korean Ministry of Foreign Affairs and Trade (MOFAT, now MOFA) (2014) stated that "Hereafter the Korean government will endeavor in cooperation with the civil society to reflect Korea's major concern and to include all the core tasks for sustainable development in the establishment process of the Post-2015 development agenda, which will commence at the end of this year to aim for adoption in UN Summit in September 2015. The Korean government is also committed to spreading the idea

of 'Green Growth' in the global community. Korea played a leading role in establishing the Global Green Growth Institute (GGGI), an international organization that aims to promote green growth in emerging and developing countries. GGGI is now assisting 20 countries including Ethiopia and Cambodia in their efforts to develop and implement their own national green growth plans. The institution was accorded Official Development Assistance (ODA) eligibility status in June 2013 by the OECD Development Assistance Committee (DAC), making financial contributions to the GGGI to be recognized as ODA contributions. Moreover, the institution was granted UN General Assembly observer status in December 2013." Thus, the global negative effects of climate change on food production, urban infrastructure, and clean water resources can be equally as devastating as a military attack in terms of human health and human survival. President Lee claimed that the "me first" philosophy shown by Korea is both a legal and moral commitment, and that protecting the planet and achieving prosperity can go hand in hand. In this sense environmentalism is no longer regarded as being a fetter on economic development but rather an integral facet of development and thus of a new approach to national security. However, the government has been criticized for not establishing a stable and conventional geopolitical environment with North Korea that is conducive to South Korean green business investments On January 13, 2010, the Korean National Assembly passed the *Low Carbon and Green Growth Act* (Lee, 2010). Regionally, across East Asia linking development with environmentalism is becoming a competitive business (Moon, 2010). The "rise of China" is also provoking the South Korean government to invest heavily in green technologies[4] and jostling for "green" diplomatic status (Broadhead, 2002). Green regional and geopolitical competition is also occurring in East Asia. South Korea gained much gravitas following the 2010 *United Nations Environmental Program* (UNEP), which reported "at a national address on the 60th anniversary of the Republic of Korea, President Lee, Myung-Bak announced a 'low-carbon, green growth' strategy as a new vision to guide the nation's long-term development" (UNEP, 2010: 2). It is suggested that Korea has "a large enough manufacturing base combined with sufficient research and engineering" to be able to "go green" and to, in effect, "retool the economy" due to its human resource capital (Clifford, 2010: 170). The UNEP (2010: 4) reported that the Korean Green Growth Plan seeks to promote the development of 27 core green technologies that would provide future

engines of growth to the Korean economy. Thus, the development of new green technologies seems to go hand-in-hand with the greening of the existing manufacturing sector by adopting specific policy goals and targets to reduce carbon intensity and energy intensity. The former Korean minister of the environment Lee Maan-ee[5] stated that GGK is purported to lead to new green jobs a new style of green consumer and "green awareness" that is beyond old-style economic development (Moon, 2010). Nevertheless, the Korean government aims to promote consultation to generate the necessary public support, as an essential component of accelerating transformation of South Korea's economy (Steiner, 2010). The National Strategy for Green Growth formulated the following three strategies:

- Mitigation of climate change and energy independence by limiting emissions, reducing dependence on fossil fuels, and strengthening the capacity to adapt to climate change.
- Creating new engines for economic growth through development of green technologies, promotion of green industries, greening existing industries, and advancing the industrial structure by engineering a structural basis for the green economy.
- Improving quality of life and enhancing Korea's international standing by building green infrastructure, "greening" daily lives, and becoming a role model for the international community as a green growth leader.[6]

Thus, the relationship between development and the environment is a fundamental issue of Korea's "green growth" initiative. This relationship has often been a cause of strategic divergences and stalemates between the role of developed and developing states at major global conferences (COPs 2014). Seoul also hosted the Seoul Climate-Energy Conference 2014. With Korea's rapid development, the country now accounts for 2 percent of total global carbon emissions (Victor, 2006). Korea's share of domestic renewable energy increased from 2.61 percent in 2010, and from 1.10 percent in 2000.[7] From 2005 to 2010, the so-called "green space" in Korea increased by 19.5 percent per capita, important for "green growth" credibility but with concerns that this is "cosmetic" or decoupled from the "real" Korean economy and a "green silo." From 2002 to 2010, "green growth" spending increased by 11 percent, and from 2000 to 2010, patents also increased. Emphasis on technology

has been placed on Korean telecommunication, which might bypass infrastructure which was traditionally one main critique of Asian donors critic by green Western NGOs. Korea's share of green ODA rose from 1.75 percent in 2006 to 12.4 percent in 2009 when Korea joined the Organisation for Economic Co-operation and Development's Development Assistance Committee (OECD-DAC). The Korean government has been conducting bilateral and multilateral environmental projects, and inviting government officials for green training in Korea. The Green Climate Fund, which was formalized after the Cancun and Durban COPS, aims to provide $100 billion for green growth projects. The Korea International Cooperation Agency (KOICA) has been put in charge of the Employee Assistance and Counseling Program (EACP) program. Thus, after accepting project requests and conducting feasibility studies on the requests, KOICA has selected 20 projects and has been implementing them in ten countries (Park, 2013). Other countries with the highest percentage of GDP invested in green technology include: Saudi Arabia at 1.7 percent; Australia at 1.2 percent; Japan at 0.8 percent; Germany at 0.5 percent; France at 0.3 percent; and Canada, South Africa, and the UK at 0.2 percent. Green growth is also seen as a way of generating and accelerating economic growth in middle-income countries, although there remain debates as to whether this is a business as usual fill in or a catch up or a new development paradigm. Korea as a new donor to the OECD-DAC in 2010 has been particularly proactive in the aid effectiveness debates since the Busan high-level talks of 2011 on aid effectiveness. The Korea-based Global Green Growth Institute (GGGI) has launched offices in Copenhagen, London, and in Abu Dhabi's Masdar City (United Arab Emirates).

Exporting Green Growth

Former OECD-DAC chairman Richard Manning (2013) recently called for more definitional precision with concerns that emphasis is now being placed on nonconcessional loans and financing. Part of this may be due to acknowledged shortfalls in ODA amounts since the 2008 financial crisis. Aid effectiveness may, for some, also be seen in this context of damage limitation. Others are calling for opening out the development agenda and widening the agenda. Korea as a relatively new OECD-DAC donor has been at the forefront of promoting the global low carbon, green growth initiatives. Korea has, therefore, been adopting

a response to climate change under the two broad themes of adaptation and mitigation (Brown, 2013; Clifford, 2010). It is estimated by the Green Growth Knowledge Platform (GGKP, 2014) that Korean state spending on securing energy independence rose from $6.7 billion to $14.9 billion between 2009 and 2013. State spending on financing new growth engines rose from $3.7 billion to $10.2 billion between 2009 and 2013, and financing a green quality lifestyle rose from $4 billion to $ 9.5 billion during the same five-year period.

Korea is to increase its ratio of green ODA projects to 20 percent of its total ODA by the year 2020, through priority partnering with small island states such as Kiribati, a founding member of the Korean-based GGGI. Countries already receiving its green ODA are Mongolia (yellow dust reduction by reforestation),[8] Vietnam (reforestation projects), Azerbaijan (sustainable approaches to clearing environmental destruction by oil exploitation), Indonesia, and Philippines (reforestation). This strategy also includes creating a myriad of self-sufficient energy resource policies, establishing more effective low carbon intensive industries, and improving the so-called end of the pipe biowaste technology. One concern, however, is that by increasing its green ODA outside its obligation to increase its grand element to its ODA, Korea is able to increase grants by shifting and green washing its loans into the green sector outside OECD-DAC commitments. In this respect the grant ratio would potentially go up and provide Korea with status, but its loans are actually transferred and, therefore, not recorded through the traditional channels.

The GGGI

The GGGI was originally founded in Korea as an NGO in 2010 and became a Korean-based international organization in 2012 following final ratification by Denmark, Guyana, and the Millennium Island of Kiribati. The GGGI now has observer status at the UN and it is to develop adaptation and implementation of green growth plans, the provision of research for policy-makers, and private sector engagement in the implementation of national green growth plans. The organization uses the Green Growth Planning & Implementation (GGP&I), Knowledge Development & Management (KDM), and Public-Private Cooperation (PPC). Former UN climate chief negotiator De Boer is to be the director general. Australian ambassador Howard Barmsey was the

acting director general in 2013, and at the 2014 Climate Summit, former Indonesian president Yudhoyono was voted in as 2015 chair of the GGGI council. It is based on voluntary financial contributions and constructs small scale strategies reflecting innovating first mover advantage by potentially avoiding institutional concerns with defection, inertia, free riding, and spoiling with its legitimacy based through results. Its aim is to promote the adaptation and implementation of green growth plans through the provision of research for policy-makers and to encourage private sector engagement in the implementation of national green growth plans.

The GGGI has no objective for formal climate treaties or binding agreements for a variety of reasons. The first reason is to avoid traditional institutional issues such as first mover disadvantage, zero-sum diplomacy, or making unrealistic agreements. The aim here is to encourage a framework for me first innovation. Second, the GGGI aims to avoid member defection, free riding, or institutional inertia blockages. The GGGI takes into account the different development stages and rates of its members (traditionally seen to generate membership conflict and inertia in climate negotiations) to generate innovation and form binding partnerships with like minded states. The Council is the executive organ of the GGGI. Members of the Council serve two-year terms. The Assembly is the supreme organ of the GGGI and is composed of members, who meet once every two years in ordinary sessions. The Assembly is responsible for electing members to the council, appointing the director-general, considering and adopting amendments to the Establishment Agreement, and advising on the overall direction of the GGGI's work. The Assembly consists of 20 member countries, and the Council 17 actors. The Secretariat acts as the chief operational organ of the institute and is headed by the director-general, who, under the guidance of the Council and Assembly, represents GGGI externally and provides strategic leadership for the organization to carry out its projects and objectives.

As part of Korea's commitment to green growth, the Seoul Climate-Energy Conference 2014 was organized by the Korea Advanced Institute of Science and Technology (KAIST), the Green Technology Center, and the Coalition for Our Common Future. In addition to other recommendations, the participants also urged world leaders to raise financial resources for the Green Climate Fund (GCF). The GCF was established under the UN Framework Convention on Climate Change (UNFCCC)

to transfer money from developed to developing countries to help with adaptation and mitigation processes in countering climate change. The GGGI (2013: 14) has

> 34 programs in 20 countries, working with them to integrate green growth into their regional or national economic goals. A typical GGGI country program consists of green growth plan (GGP) analysis and design, domestic capacity building, and public-private partnership to support GGP implementation. GGGI's project cycle starts from understanding a given country's economic and development objectives and to then assess the potential for green growth to achieve them. We do this by conducting rigorous, sector-by-sector, analysis and by prioritizing actions and policies along multiple dimensions that reflect a country's own priorities. This leads to developing multi-sector, comprehensive strategies for green growth. These are then assessed in terms of their costs, including their implications for the wider economy. Finally GGGI, building on international best practice, supports the development of appropriate institutional frameworks to implement such strategies, and eventually helps countries transform the strategies into programs and projects that can attract funding from the public and private sector.[9]

The GGGI (2013: 7) mission states that the organization partners with countries to help them build economies that grow strongly, and are more efficient and sustainable in the use of natural resources, less carbon intensive, and more resilient to climate change. In this sense middle powers are not mediators or autonomy, but act through voluntary network nodes and enmeshment and first movers within the GGGI. This "substitute network" of what might be seen as middle-power minilateralism is a result of varying concerns with global institutional "deadlock" between the developed and developing states. The GGGI is not promoted as an exclusive entity but as an organization open to sovereign states recognized by the UN. However, this notion of inclusion also raises the issue of Taiwan's role, which is clearly affected by regional climate change but not recognized by the UN. The GGGI is aiming to be "different" from the previous multilateral approaches in the following ways.

First, the member countries vary by region, income level, and type of economy, but this diversity is promoted as triangular nodes between "green aid" donors and recipients within the GGGI. The goal is to produce a number of successful examples that show that green growth is possible in a variety of settings and that there are "best practices" that

can then be adapted in different developmental situations. These on-the-ground experiences is fed into the GGGI's research, including two multilateral initiatives for which it is acting as the secretariat, namely the Green Growth Knowledge Platform and the Green Growth Best Practice Initiative. ASEAN recipient states of green growth assistance from Korea differ from the donors' own level of development and still have a relatively low carbon per capita rate but are, therefore, potentially similar to Korea in that they also have future projections of high carbon growth rates and, therefore, potentially have the opportunity to preempt any fetters on growth currently experienced by Korea. This means a, perhaps, paradoxical tension based on linear models, as emulating Korea's non-green growth would be expected to lead to an ability to emulate Korea's current green growth. Korea also has to tread a fine line for its credibility between the success of its previous brown development model allowing it to be a donor while promoting the environmental limits of this model, and at the same time promoting green growth on the basis that it has only new experience as to its efficacy. Whether trust in Korea's technological standing and experience narrative continues may rely on views regarding Korea's own domestic and public support for green growth. Such tensions would, in traditional expectations, cause potential restrictions on any climate deals, particularly when narratives of leapfrog or catch-up or level-playing fields are perceived as *artificial* limits to growth and restrictions.

Second, the GGGI pursues projects only in countries from which it has received a high-level request, usually at the ministerial level, and also consults widely with interested parties and ministries. Third, the GGGI tries to address concerns from the beginning by integrating a strategy to strengthen institutional and technical capacity into its plans. Fourth, the GGGI aims to be a hybrid organization, by bridging the developed and developing countries as well as governments and non-state actors. Its advisory committee consists almost entirely of non-state actors, such as leading experts in fields related to green growth. Fifth, the GGGI's financing comes primarily from voluntary contributions by members, with additional project funding from member and non-member countries and international financial institutions. The institute will at some point aim to seek for direct official development assistance eligibility status from the Organization for Economic Cooperation and Development to enhance its attractiveness to some donor countries, thus creating new opportunities for substitute networking transmissions and enmeshments. The GGGI is no longer wholly Korean managed; as a

result, there are emerging domestic debates as to whether this is an indication of Korea's global standing to pass on its initiative or a sign of Korean domestic apathy.

Sixth, Korea, as a high-middle-income country, sees climate change and green growth as an opportunity for unlocking a creative economy (Park, 2014). Green growth is seen as the next development stage and the view is that BAU has created solid enough growth and yet is now a fetter on growth. Indonesia, as a low-income country, is potentially more development vulnerable with its existing development paradigm, so green growth is initially regarded as providing either an acceleration of development by making areas of BAU more resilient or a leapfrogging or bypassing of the current and traditional brown development strategies. These are the so-called low hanging fruit development limits, where initiating domestic structural reform is also regarded as a potential risk for incumbent elites, leading to domestic political instability, which can also affect stable interstate relations. The recipient states of green growth assistance may differ from Korea's own level of development experience and state as high middle income to the extent that they still have a low-carbon per capita rate but are potentially similar to Korea in that they also have future high carbon growth rates. This, however, leads to the question as to whether the emphasis on growth is distinguished from development, or whether growth and development exist in a particular causal package relationship that leads to poverty eradication, or whether development (economic or social) leads to a particular form of growth and whether it is growth (rather than distribution) that necessarily leads to development *and* poverty eradication.

Generating Green Connectivity

According to the World Bank (2013), connectivity through infrastructure can lead to more effective competition, and this can be further enhanced by new technologies, and, moreover, being least development is also linked to being least connected. The term least also implies a temporal lagging behind rather than the term less, which implies spatial distribution issues and distribution imbalances. Often the failure to integrate so-called 'lagging' regions may have a dampening effect on national growth and contribute to the massive rural–urban shifts internally. The rise of middle income countries now means that paradoxically while global poverty may be reducing, there are actually concomitant rises in poverty (and inequality) in those countries which are now classified as

middle income countries with the higher GDPs. This new geography itself challenges the assumptions of how development and the environment relationship is articulated and this in turn affects approaches to green growth and what it means. The World Development Report (WDR) of 2009 (World Bank, 2013) brought this issue of economic geography to the fore of the mainstream development agenda by arguing that structural issues of location and geography play an important role in shaping the uneven spatial patterns of development, but that these are often compounded by policy. The structures imposed by physical networks and poor virtual networks for management of information and payments make it difficult for firms in peripheral regions to compete in the context of modern supply chains organized around the demands of shared production networks. The World Bank (2014) Report Connecting to Compete stated that infrastructure development has assured basic connectivity and access to gateways for most developing countries. In the aftermath of the 2008 financial crisis, the World Bank emphasized the need for more effective global infrastructure and more connectivity to compete in order to provide a greater resilience for both the developed and developing countries to respond to any future crisis. Both Korea and Japan are competing for influence in their aid-recipient countries by building up soft power based on their own experience of climate change and environmental insecurity.

Regional Green Growth Connectivity

Both Korea and Japan have aimed, through their ODA policies, to transfer value-added and carbon-capture green technology (and carbon-neutral technologies) as part of aid diplomacy to enhance recipient country resilience and environmental security. Yet this itself is now being seen by many recipient governments to be causing a potential dependency on Japanese and Korean techno-nationalism and undermining the possibility of endogenous green technology. For instance, ASEAN states Laos and Cambodia have been identified as the most vulnerable to climate change, and both Japan and Korea see this region as subject to increasing Chinese influence. Laos has also been experiencing small-scale weather extremes, which affect over 10 percent of the Laotian population. Recurrent floods and droughts are the main natural hazards in addition to fires, landslides, erosion, tropical storms, and disease epidemics, while floods mostly occur during the monsoon

season. According to the Cambodian Ministry of the Environment, the direct impacts of climate change are reflected in major changes to the natural rainfall pattern. In Cambodia, the National Council on Green Growth (NCGG)[10] is heralded as the institutional Cambodian equivalent of Korea's Presidential Committee on Green Growth (PCGG). Cambodia is also focusing on improving water resources management, food security, forest conservation, renewable energy, as well as education on green growth to improve a green quality of life. Forestry associations in Cambodia are now among the most active institutions that carry out the forestry activities in Korea. The Cambodian government sees this as a roadmap and a project of envisioning futures. In interviews with Cambodian officials in Seoul, it was clear there was a high expectation of value-added Korean technology, and the emergence of a competitive tendering process from Korea and Japan. There are concerns from the Cambodian government with sunken costs, and also with the technology dependency issue, as well as the product time life of green technology. Some delegates have also made the point that green growth is probably more of a wake-up call to improve and make more effective business as usual development. While an instant paradigm shift toward green growth is not to be expected, it was suggested that policies will gradually bring about an economic growth model conducive for human development. Water Landmark Projects are being run in Mongolia, the Philippines, and Azerbaijan with a combined budget of $70 million. Korea's forestation techniques have become valuable assets to countries such as Indonesia and the Philippines, which are under threat from rapid deforestations. The Korean government handed over a satellite reception and analysis ground system to Sri Lanka, which will now allow Sri Lankans to make weather forecasts and take preventive measures based on the data transmitted from Korea's meteorological satellite, the Chollian (Park, 2013). Analogous in some respects to the more traditional special economic zones, these would be territorial areas with a distinct institutional, regulatory, and investment regimes designed to spur low carbon investment, develop value addition in green goods and services, and establish global hubs for innovation and technology transfer. There are several concerns that this spatial segregation would, in effect, de-territorialize other areas by creating business as usual zones and actually encouraging brown development in the nonsanctioned or nongreen monitored zones. Yet there are concerns that these local programs will segregate and create migration to these green areas, leaving other

subregional spaces open to more exclusion and segregation. The Korean government has a role of providing a demonstration effect for evaluating good presumably as opposed to bad financial risk and return based on scale effect and signalling effect. Areas of interest include investing in climate-resilient crops, green buildings, and water infrastructure. The language is often one of securing natural assets but also using the market to protect natural assets by opening up incentives. The Korea International Cooperation Agency has accepted project requests from 31 countries and is conducting feasibility studies (Park, 2013). This is, in effect, a whole-of-government approach that also seeks to integrate green growth into a country's economic development agenda by evaluating the country's vulnerability and economic valuation of the priority measures, strengthening the strategic capacity for adaptation, and consolidating the existing capacity to use environmental assets efficiently (O'Donnell, 2013). KOICA also plans to scale up the green ODA portion from 11 percent of the entire development assistance budget in 2007 to 30 percent in 2020. The Green Climate Fund agreed to collect $100 billion won from developed countries after the forum. The long-term budget will be distributed for any weather-related damages through 2020. KOICA aims to register with the International Aid Transparency Initiatives (IATI) to improve its ODA. IATI has 22 cooperating agencies and they are involved in improving the environment in developing countries to adapt to climate change and pollution. One argument is that enhancing regional integration will enable recipients to leapfrog challenges posed by its fundamental physical, economic, and human geography limits and create specific regional hubs. Korea is also prioritizing those states that it sees as a replica and mirror image of its bridge hub transmission such as Mongolia, Uzbekistan, and Nepal. Korea sees itself in a triangular role and as a hub through which two recipient nations are connected. A further superimposed triangular relationship occurs at the subnational level as ports and cities are connected with the donor country acting as pivot. However, this donor positioning is opening up new sites and forms of agency in the recipient nation as a corollary to the paradoxically deterministic and critical responses to the policies and narratives of neoliberal connectivity. The main agents in Cameroon from Korea are the Eximbank of Korea for the Economic Cooperation Development Fund (ECDF) and KOICA. Korean ODA is often criticized for being spread too thinly and for constantly changing its priority partners, usually under the rubric of flexibility. Regional integration is often seen

as the stepping-stone for future integration in the global economy and as the missing building block for stronger, more broad-based economic growth and poverty alleviation. Regional integration holds a particularly strong promise for land-locked countries that are dependent on coastal neighbors for access to the sea. Land-locked countries also have an interest in the economic governance of neighboring countries. If the latter forgoes opportunities of integration, possible benefits to landlocked countries automatically are expunged (World Economic Forum, 2012, 2013). However, land-locked countries cannot easily integrate in subregional markets unless their neighbors desire this and implement policies aimed toward doing so. These unreciprocated dependencies effectively confine the extent of national sovereignty of a land-locked, resource-scarce nation and highlight the importance of regional solutions. Thus the OECD's (2011) Futures Project on Transcontinental Infrastructure Needs to 2030/50, has brought together experts from the public and private sector to identify the long-term opportunities and challenges facing gateway and corridor infrastructure (such as ports, airports, rail corridors, and oil and gas pipelines). Quality infrastructure is now seen as a key pillar of international competitiveness because infrastructure networks reduce the effect of distance, help integrate national markets, and provide the necessary connections to international markets. The view here is that such connections provide an opportunity for an ease of green goods, services, and technology diffusion, providing growth that can reinforce environmental security. Most of those countries with high-quality infrastructure also rank high in the world index for overall competitiveness. A recurrent concern is that many countries do not assign the same priority accorded to gateway ports to the key inland rail, road, and waterway connections required to move freight between the gateway ports and the cities and industrial areas in the hinterlands they serve. The inclusion and linking of gateway and inland connection needs in national policy frameworks will be important for the downstream actions required (OECD, 2011). The temporal acceleration and geographical expansion means that space appears as a significant barrier but one that can be overcome. The issue of creating a convincing green economic theory generated concern with the creation of new and exclusive epistemic communities' and techno-nationalist paradigms, particularly as most climate scientists in the GGGI were Korean. There are specific concerns that ODA based on exporting domestic green growth models does not necessarily or causally lead to green economies. Yet these

divergences are not as yet impacting the credibility and adaptability of the GGGI as increased links and networks are simultaneously providing KIA nations with increased issue leverage and brokerage spaces for dealing with the myriad of issues, as well as a leverage to be able to define these issues and choice of priority partners within the GGGI and with regional organizations such as ASEAN.

Green Growth Knowledge Platform

According to the Green Growth Best Practice (GGBP), PPPs now have a crucial role in enhancing infrastructure for smaller scale distributed systems and in overcoming the weakest link problems by challenging the traditional monopolistic/high entry costs of infrastructure and generating connectivity corridors to enhance environmental security and resilience. Closely aligned to sustainable development, green growth, the report argues, distinguishes between stock wealth and flows (growth). Green growth focuses on the interactions of economic, social, and environmental sectors, linking new technology with environmental returns and avoiding investment lock in and sunk costs or risk that is stranded (GGKP, 2014). The GGKP recognizes that there may be any number of dispersed benefits of green growth, but in order to identify these, there is a need for more big data mining and non–black swan modeling. Types of green aid now include the provision of grants (helping big infrastructure programs but with the problem of no reflows), concessional loans that might lower costs and risks (there is no disadvantage to this cited by the GGKP report), a guarantor of risks (but with a need to be able to quantify and measure unknown risks), and equity innovation (with the issue of how to measure risks). The GGKP calls for base-lining data based on a projected BAU timeline trajectory and inputed new projections based on a set of new variables such as agreed-upon time frames, sectors, and indicators (GGKP, 2014). Green growth finance (or finance *for* green growth) is now being provided by the government to the private sector not as an attempt to compensate business or aid recipients for industrial externalities, but as an opportunity for private investors to recalibrate their risk assessment in green public–private partnerships. Thus, there are more and more funding possibilities through venture capital, angle investing, or bootstrapping—opportunities for green entrepreneurs. From a Korean perspective, what is required is not incremental change but rather a remarkable systemic change where

pushing higher growth will also mean lower environmental impact, double dividend of growth, and environmental protection.

Responses to Green Growth

First, a general concern is with the need for attracting more highly leveraged green capital as constraints that could lead to more safe investments in the more conventional development trajectories that only require low initial expenditure but can result in longer-term inefficiencies. This is an issue for middle-power credibility as Korea sells its development experience overseas while requiring this credibility to be based on solid domestic success, where the soft-power exporting of aid might also cause domestic legitimacy tensions between different interests. The term green is deemed necessary for any project to receive financial subsidy or aid. The government has created economic and political competition between local communities and regions and local and regional governments for securing government funds. Local businesses who fail to close the green deal are held responsible for this failure by the local citizens. Second, high initial costs of green technology might also create a technological dependency by recipient states that are technically sovereign but not technologically self-sufficient. There are concerns that the emerging powers' respect for non-intervention, in fact, obscures increasing leverage over governments. Emerging powers and new donors are strengthening elite-led definitions of national sovereignty rather than strengthening local self-sufficiency or energy/food security as a mismatch between endogenous green technology, a growing emphasis on small- and medium-sized businesses (SMEs), and the more macro-developmentalist models of Japan and Korea. Third, the potential creation of green export zones would, in effect, also create more intraregional competition for donor green technology and finance, thus potentially generating further processes of economic segregation within territories, and potential conflict. Local residents might also be forced to relocate from a green zone. Yet there are issues that the GGGI represents presidential politics and institutional fragmentation rather than a substantive shift to a green creative economy. Moreover, such zones also imply a de-territorialization of the state and further evidence of domestic imbalances by leaving areas in-between chosen venues more unconnected. While green information technology may allow local communities a greater access to global food supplies,

climate information, and prices, this is also de-incentivizing necessary funding for a more connected national infrastructure by national governments. Indeed, infrastructure was often seen as ungreen and this was a major criticism of Asian donors during the 1990s. Korea has perhaps underestimated how creating green zones may also accelerate ethnic and cultural tensions within states and cause tensions over land rights and resource ownership issues. One response has been to advance the top–down master plans of green growth through national survival narratives where climate change narratives can justify civil society exclusion but can generate results-based government legitimacy in middle-income countries. Fourth, there is the issue of green rights for creating a green quality of life but that are often separated from structural economic inequalities, democracy, and human rights issues. Green growth master plans mean a redgreen way of inflating real estate prices, destructive deforestation policies (releasing more CO2) that are green washed, and the violent land clearing of indigenous communities (Featherstone, 2013). Fifth, the creating and conserving of these green zones is also being intrinsically connected to the accumulation and securitizing strategies of states both rolling back and rolling out governance mechanisms as a way of manipulating and inflating the prices of green assets by increasing risk speculation of possible resource harvests.

Conclusion

For Japan and Korea, green growth is aiming to break through the previous trade-offs between development and environmentalism that it sees as key to its own development future and environmental security. Through its own development and shared experience as one of the first nations to pursue green growth, Korea is attracting interest from both developed and developing nations. As a result, donor–donor alliances and cooperation on green growth and responses to climate change impact represent what might be considered one emerging part of the 2015 aid agenda. Green growth is a government-led response to climate change in the post-financial era. It is also, therefore, an issue that is opening up questions concerning the relationship between the public and private sectors (and regarding what is actually meant by the public and private sector). The chapter has also suggested that it explains and understands where government strategic options might come from and what options are then chosen and why on green growth, which can perhaps further an

understanding of the direction of the environmental security debate in the region.

Notes

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CHAPTER 5

Environmental Security and the Contradictory Politics of New Zealand's Climate Change Policies in the Pacific

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Introduction

In the hierarchy of global environmental problems, anthropogenic climate change is recognized as one of the most serious. New Zealand, however, is developing a reputation as a laggard in response to the need for climate change mitigation initiatives (Wilson and Nair, 2014), with its greenhouse gas (GHG) emissions in 2011 being 46 percent higher than in 1990 (Karoly, 2011). The upward trend in GHG emissions points to the failure of the state's responses to climate change (Chapman and Boston, 2006; Ministry for the Environment, 2013) and its inability to negotiate tensions between its goals of economic growth and environmental protection. At a broader level, climate change is an issue that exemplifies the challenges of global environmental problems for national environmental policy making and the ethical dilemmas in determining what is fair and equitable in addressing increased vulnerability (Adger et al., 2006).

New Zealand's response to climate change, and indeed to many other pressing environmental problems such as deteriorating freshwater quality and biodiversity conservation, is driven by the politics around the competing goals of ecological sustainability and intensive development of the primary industry sector. This chapter reflects the way in which

these politics have informed New Zealand's changing response to climate change and the implications for nations in the wider Pacific region. It begins with a review of the key discourses through which questions of environmental security are understood, before situating New Zealand in the Pacific regional context with a focus specifically on the climate change challenges facing the region. In examining New Zealand's policy responses to climate change, the chapter then provides an overview of domestic climate change policies followed by an examination of its aid policies in the Pacific and then concludes with a consideration of the implications of these for the wider Pacific.

Environmental Conflict and Security

The security implications of environmental change, first articulated by Falk (1971) and Brown (1977), entered into the mainstream of international environmental debates with the 1987 publication of the report Our Common Future: World Commission on Environment and Development (Trombetta, 2008). While the notion of environmental security is somewhat ambiguous, it has been used to highlight the way environmental changes and resource scarcity have potential to lead to conflict in the form of "border disputes, migration, resource shortages, social stress and humanitarian crises" (Detraz and Betsill, 2009: 303). This new focus on security and conflict drew attention to the global threats to peace and survival posed by the prospect of cumulative and irreversible degradation of the biosphere to the human community.

Research on the relationship between environmental concerns and conflict has been associated with four influential groups. The first is the Toronto group, which grew from the work of Homer-Dixon (1999) and his concern with the way environmental problems led to the scarcity of renewable resources and induced conflict. The focus was on the way environmental disruptions led to "a security problem for states or international peace and security" (Elliott, 1998: 220). Specifically, this group examined the issues of climate change, ozone depletion, land degradation, deforestation, water deterioration, and fish stock decline, and the way these contributed to the problems of economic scarcity and were associated with greater militarization and violence (Schubert et al., 2009: 27). While direct evidence of the link between the escalation of conflict and resource scarcity was difficult to find, this body of research did show that environmentally induced resource depletion, in

conjunction with social and economic factors, contributed to security threats.

A second cluster of researchers, known as the Zurich group and based around the work of Bachler and Spillmann, also focused on the links between the escalation of conflict, environmental degradation, and resource scarcity. They emphasized the way environmental change indirectly led to conflicts by amplifying existing social and economic tensions. They examined how environmental problems intensified conflicts, be they "centre-periphery conflicts, ethno-ecological conflicts, regional, cross-border and demographically induced conflicts, international water conflicts and conflicts arising from distant sources" (Schubert et al., 2009: 27). By comparison with Homer-Dixon, the Zurich group gave greater attention to the contextual factors, be it historical conflict or conflict between existing groups and organizational interests.

Critiques of the Toronto and Zurich groups spawned two further research networks: the Oslo group, based on Gleditsch's quantitative analyses of armed conflict and environmental problems, and a group based in Irvine, California, led by Matthew, which examined environmental security in terms of human adaptation (see, e.g., Gleditsch, 1998; Matthew and McDonald, 2004). Gleditsch and the Oslo group sought to measure in a more quantitative way the factors that were associated with specific instances of environmental conflict. Their aim was to correct what they saw as the unnecessarily complex models developed by Homer-Dixon and Baehler and Spillmann, as well as provide a more systematic basis for drawing conclusions about the contextual factors that were associated with the escalation of conflict. They identified cases of environmental degradation that had led to conflicts, and cases that had not, and using quantitative approaches, they compared these situations to clarify the specific factors that were associated with both environmental problems and conflict. Their research emphasized that environmental degradation was only one of a number of factors, with political and economic drivers also being central to explanations of conflict. The Irvine group adopted human security as the starting point for its study of environmental conflict. Focusing on long-term human and social adaptability, Matthew was concerned with carrying out analyses which identified environmental protection strategies that promote cooperation, integrating environmental and development policy approaches in the context of town planning and development,

enabling better understanding of environmental policy in post conflict situations. (Schubert et al., 2009: 28–29)

An additional approach that critiques at a more fundamental level the notion of environmental conflict itself has also been identified by Schubert et al. (2009). This body of work questions the appropriateness of addressing ecological sustainability questions through a security lens. Describing the concept of environmental security as "overloaded," Dasse (1992, in Schubert at al. 2009), Brock (1992, in Schubert at al. 2009), and Deudney (1990) suggest that it fails to provide for a sufficiently detailed account of the multilayered dynamics involved to draw meaningful empirically grounded statements, that it conflates different policy domains, and that it assumes shared interests between different actors. These researchers have drawn attention to the way reference to questions of environmental conflict and security frames debates on how to act in situations of ecological vulnerability in ways that reinforce the promotion of narrow national interests rather than promoting concern for the populations affected. The stability and security of the nation-state, in the face of conflicts triggered by environmental degradation and resource scarcity, become the primary concern.

They also identified how focusing on environmental security in these terms can be a way of legitimating military interventions and armed conflict. Barnett (2000) and Dalby (2002) develop this approach in terms of the North–South characterization of state relations. The focus on environmental conflict, they suggest, positions the poverty-stricken South as a threat to the affluent North in terms of migration flows and resource competition. This critique also draws attention to how framing situations of ecological degradation in terms of national security diverts attention from the global scale of environmental problems. Environmental problems thus become abstracted from the global whole and are analyzed as discrete occurrences and in terms of the implications for individual nation-states. The focus is drawn to sites where there are specific security threats. Environmental problems are thus attended to on a case-by-case basis, in an ad hoc manner as and when security problems arise. Moreover, the "large-scale injustices that exist in the global use and distribution of natural resources, are hidden from view . . . in favour of shoring up the global political status quo" (Schubert et al., 2009: 30).

These critiques, therefore, link environmental insecurity to global-scale problems, such as climate change, and imply a need to move away from narrowly focused state-centered reactions. Environmental policies

and procedures that are exclusively state-centered are seen as being based on "a simplistic view of the world as a series of homogenous and independent political spaces defined by territorial boundaries" (Barnett, 2001a: 114). Global environmental risks are recognized, instead, as being complex and uncertain, unbounded and potentially catastrophic (Beck, 1992, 1995). To deal with risks of this scale requires a new security logic, one that emphasizes human security and precaution through prevention.

Critics of research on problems of ecological degradation in terms of environmental conflict also question the fundamental premise that environmental change leads to conflict. Instead, they assert that the focus on conflict and security dramatizes problems in a way that prevents a more incisive inquiry into the social processes and adaptive strategies developed in response to environmental change that affects access to natural resources and environmental services. Finally, they emphasize the need for an approach that will help in understanding the questions of environmental security in ways that are "more concerned with peace than war, with the concept of sustainability rather than that of security, and with holistic analysis rather than one-sided deterministic perspectives" (Schubert et al., 2009: 30). We turn next to situate New Zealand in the Pacific context, focusing specifically on the security implications of climate change for the Pacific.

New Zealand in the Pacific

New Zealand has a long historical relationship with the Pacific Islands, established through its role in the European colonial expansion into Samoa, Cook Islands, Niue, Nauru, Tokolau, and Tuvalu. The Pacific, comprising 22 countries and territories, of which eight continue to be dependencies of the United States, France, or New Zealand, also remains a strategically important region for New Zealand and other Western powers (Edwards, 1999). Post–Second World War, migration to New Zealand has seen the New Zealand resident Pacific Island population increase from 2000 to around 266,000 by 2006. Pacific Islanders now constitute around 7 percent of the New Zealand population, and Pacific Island communities are a significant part of New Zealand society and economy (Allwood, 2013; Barnett and Campbell, 2010). These ties have been reinforced through trading, migration, and common membership in regional organizations such as the Pacific Island Forum and Overseas

Development Aid (ODA). New Zealand has also long responded with aid to extraordinary climate events such as hurricanes, tsunamis, and droughts in the region. Many small Pacific states rely on aid money to keep bureaucracies going and on remittance money from citizens working and living in New Zealand to sustain communities (Allwood, 2013; Barnett and Campbell, 2010; Locke, 2009).

The Pacific Islands (which are classified as Small Island Developing States or SIDS) are recognized as being among the most vulnerable to climate change. Climate change impacts, including sea-level rise, the increased frequency of extreme weather events such as cyclones and storms, and changes to rainfall patterns resulting in in droughts or floods with consequent impacts on food production, all pose particular threats to the Pacific states given their limited resources to adapt. The Intergovernmental Panel on Climate Change reports (in Elliott, 2012: 186) the following impacts as a result of climate change on the Pacific:

> Sea-level inundation that will threaten "vital infrastructure, settlements and facilities that support the livelihood of island communities"; increased water stress and reduction in freshwater resources; damage to coral reefs, fisheries, and other marine-based resources; and negative impacts on commercial and subsistence agriculture.

All of these changes will require an ability to adapt in order to survive. As Barnett and Campbell (2010: 9) point out, "Capacity to adapt is a function of many factors, including: access to economic resources, technologies, information and skills; the degree of equity in a society; risk and perception; and the quality of governance." On all these fronts, it is evident that the adaptive capacity of most Pacific states may be severely stretched in ways that wealthier nations such as New Zealand and Australia are not.

Two other aspects are also noteworthy. One is that, despite the recognition of the vulnerability of the Pacific Island states to climate change, "they are among the places where the least is known about the ways that climate change will affect them and the ways in which these effects may be adapted to" (Barnett and Campbell, 2010: 9). Second, contrary to a "tragedy of the commons" (Hardin, 1968) problem—normally marked by a situation where all the victims of an environmental problem are also its perpetrators (see Mitchell, 2010)—most Pacific Island states may be understood as innocent bystanders who have done little to cause climate change and are yet most likely to experience the brunt of the problem. This is in contrast to the position of New Zealand and Australia, both

heavily implicated in significant per capita GHG emissions, and thus occupying the role of perpetrators or villains of the climate change tragedy unfolding globally at this time.

As increasing attention from the UN, governments, and NGOs goes to security aspects of climate change, climate change is highly "likely to be presented as a threat multiplier, overstretching societies' adaptive capacities and creating or exacerbating political instability and violence" (Elliott, 2012: 179). Indeed, Pacific Island governments have embraced the discourse of security to mark the seriousness of climate change impacts on their communities, even as they recognize the "double-edged nature of vulnerability discourses" (Barnett and Campbell, 2010: 153; see also Elliott, 2012). At successive Pacific Islands Forum meetings, leaders have emphasized the need for action. The 2008, Niue Declaration on Climate Change refers to "the twin challenges of vulnerability and building resilience," and called for recognizing the importance of protecting the social and cultural identity of the Pacific, while noting the desire of the people to continue to live in their own countries (Pacific Islands Forum Secretariat, 2008). Climate change and the "existential threats" it poses to the Pacific Islands have received attention at every forum meeting subsequently, and has also been raised in international fora. The Pacific Islands Forum, for example, sponsored a United Nations General Assembly resolution on "Climate change and its possible security implications" that was adopted in June 2009 (Pacific Islands Forum Secretariat, 2009). The Majuro Declaration in 2013 highlighted the commitment of the leaders of the Pacific Islands Forum nations to reduce GHG emissions worldwide and spark a "new wave of climate leadership" (Pacific Islands Forum Secretariat, 2013), while the 2014 Palau Declaration reaffirmed their commitment to addressing climate change impacts (Pacific Islands Forum Secretariat, 2014).

In the wake of such sustained efforts, the attention of international and regional bodies has turned to the plight of the SIDS, and the Pacific Islands have become the embodiment of the global climate crisis, discursively constructed in documentary films and media news stories as the face of the impending disaster. Yet, as Barnett and Campbell (2010) point out, none of this has translated into actual material action either in the form of GHG mitigation by the developed world or resources that would allow for effective adaptation strategies by the Pacific Islands.

In addition, critical scholars have flagged concerns about the proliferation of the use of terms such as "climate refugees" and the problematic positioning of Pacific Island peoples "to speak for an entire planet under

threat" (Farbotko and Lazrus, 2012: 382); the dominance of outsider "expert" knowledge and top-down responses; and the notion of "climate exceptionalism," which has created a bubble where "climate change tends to dominate *everything* so that it seems like it is the paramount environmental problem" (Barnett and Campbell, 2010: 179). The term "climate refugees," for example, not only constructs images of helplessness, vulnerability, and lack of agency but also ignores a history of mobility where people have often moved and traveled for work. Indeed, the language of climate change and environmental security with regard to forced climate migration has often constructed images of hordes of people knocking on the doors of wealthy nations and thereby posing a threat (Elliott, 2012). The irony, of course, is that both in terms of historical responsibility for the cause of climate change and the current refusal to sufficiently reduce GHG emissions to necessary levels, wealthy nations, including New Zealand and Australia, represent a threat to the very survival of the developing nations. Similarly, assumptions of "climate exceptionalism" translate into climate change-related policies and actions that seem to exclude local communities and remain alienated from the broader goals of sustainable development (Barnett and Campbell, 2010) (Table 5.1).

Ultimately, given the level of risk posed by climate change to the security of Pacific Island states, there are two clear obligations that New Zealand faces. One is to implement domestic environmental policies that will reduce GHG emissions in line with scientific advice and

Table 5.1 Anticipated impacts of climate change in New Zealand

- Drought risks expected to increase and be more severe and of longer duration in drought-prone areas
- Very heavy rainfall may increase in many parts of New Zealand even in areas where average annual rainfall may decrease
- More frequent flooding
- Wetter in the West and drier in the East
- Temperatures expected to increase with greater increases in winter and in the north of New Zealand
- Frost risk is expected to decrease while the risk of very high temperatures will also increase
- Westerly winds are expected to increase in strength and frequency
- Increased risk of forest fires
- Sea level is expected to rise, bringing increased risks of erosion and saltwater intrusion
- Snowlines and glaciers expected to retreat and change water flows in South Island rivers

Source: Adapted from the Ministry for the Environment (2014).

its ethical obligation as a wealthy nation. The other is to provide aid to Pacific states that helps with mitigation and adaptation to climate change-induced threats informed by a commitment to the broader goal of sustainable development. To what extent New Zealand is fulfilling these obligations remains to be seen. We now turn to an assessment of New Zealand's domestic climate change policy.

New Zealand's Changing Environmental Policies

As a small developed island state, New Zealand itself faces numerous threats from climate change. New Zealand's response to these challenges can be approached within the context of its wider context within the Pacific. This section outlines New Zealand's political response to climate change as a way of tracing its changing reactions to the domestic imperative for national economic growth and its responsibility as a regional power.

The threats of climate change for New Zealand have been defined by the Ministry for the Environment (2014) in terms of potential impacts on national land, air, and water resources. Identified threats include an increased risk of drought in eastern areas, increased coastal erosion and flooding in highly populated coastal regions, increased storm events and the possibility of significant loss of biodiversity, as well as sea-level rise and glacier melt. The seriousness of these threats is underscored by the reliance of the economy, which is underpinned by agriculture, forestry, fishing, and tourism, all of which are fundamentally tied to the environment (O'Brien et al., 2009). Clearly, the anticipated impacts have significant implications. What follows is a brief review of the changing institutional response to climate change in New Zealand since 1990, with a view to explain its policy priorities and the politics underpinnings its decisions on climate policy.

New Zealand became a signatory to the United Nations Framework Convention on Climate Change (UNFCCC) in September 1992, and thereby agreed to meet the requirement to report on GHG emissions targets. The targets were to reduce CO_2 emissions by 20 percent of 1990 levels by 2000, and 60 percent by 2020. While the target of a 20 percent reduction by 2000 was challenging, it was believed that nation-wide steps to improve energy efficiency and initiatives to increase the size of the forestry sector would be sufficient to achieve the GHG emissions targets (Bullock, 2009). The National government also, initially, proposed

the introduction of a carbon tax to signal the need to reduce GHG emissions, but the proposal was quickly dropped as it was highly unpopular with business. Industry and business groups proposed, instead, nonbinding voluntary agreements and the National government accepted this proposal (Ministry for the Environment, 1997: Section 6.3.1). Nevertheless, the first report to the UNFCCC in September 1994 affirmed New Zealand's commitment to the goal of addressing climate change on a multilateral basis and the view that signatories would make an equitable contribution (Ministry for the Environment, 1994: 3).

The contribution of the agricultural sector to GHG emissions was not seen as problematic at this stage, and in the first three UNFCCC reports (Ministry for the Environment 1994, 1997, 2001), methane emissions produced by ruminant animals were not presented as a looming problem (Ministry for the Environment, 1994, 1997, 2001b). The removal of agricultural subsidies and the exposure of farming to global market forces had led to changes in the relative mix of land use between sheep and beef farming, dairying, cropping, and forestry. This initially led to an overall decrease in the number of ruminant animals, contributing to declining methane emissions (Ministry for the Environment, 1997: Executive Summary). Alongside the reduction in the amount of land used for pastoral farming, there was an increase in land used for forestry, with a goal of planting 100,000 hectares of forest per year until 2005 for carbon sequestration (Ministry for the Environment, 1997). New forestry plantings were expected to lead to a reduction in the overall net rate of GHG emissions. However, while there was growth in the forestry sector during the 1990s, improving returns from dairy products led to the conversion of sheep- and beef-farming and cropping lands to dairying, and between 1990 and 2000 the national dairy herd increased from 2.4 million cows to 3.6 million cows (DairyNZ, 2011; Statistics New Zealand, 2012).

At this stage, regional councils were involved in climate change mitigation initiatives, and the focus was on developing mitigation priorities for GHG emissions reduction through regional planning. Energy efficiency strategies began to be promoted, but the government accepted the business and industry lobby for voluntary engagement in emissions reduction measures. Emissions targets were seen as achievable given the expectation that growth in the forestry sector would result in declining net GHG emissions. The government also established the National Science Strategy Committee for Climate Change and increased domestic

funding for scientific research, reflecting the assumption that climate change risks could be managed through the development of better scientific knowledge and new technologies.

At the time of the change of government in 1999, the focus was on reducing net emissions and there was no real commitment to reducing total industry emissions. The use of state regulation had been rejected, although the government had begun to invest in research and development to find new technological solutions. Additionally, the government supported voluntary initiatives by industry to find solutions. By 2000, however, GHG emissions had increased from 1990 by 5 percent (Ministry for the Environment, 2001b). In 1999, a Labour-led government came to power and the policy direction set by the new prime minister Helen Clark was underpinned by a new commitment to a notion of sustainability. This is captured in a speech she gave in 2006: "I believe that sustainability will be a core value in 21st century social democracy. I want New Zealand to be in the vanguard of making it happen for our sakes, and for the sake of our planet. I want sustainability to be central to New Zealand's unique national identity" (Clark in Bührs, 2008: 65).

The rhetoric of the new government signaled a marked change in policy intention. Within six months of being elected, the new government established a ministerial group to oversee the development and implementation of a climate change action program. Alongside this, a new Energy Efficiency Bill was also introduced into the Parliament, driven in part by the Green Party, which, as a part of the Alliance, was in coalition with Labour. The purpose of the bill was to encourage, promote, and support energy efficiency, energy conservation, and the use of renewable sources of energy (Ministry for the Environment, 2001a, 2001b). The voluntary approach to the reduction of GHG emissions was not seen as sufficient, and, therefore, new Negotiated Greenhouse Agreements (NGAs) were introduced. These agreements were aimed at limiting emissions of GHGs by major emitting industries.

While the agricultural sector was not required to sign up to NGAs, there was a growing awareness that agriculture was the largest threat to meeting GHG emissions targets, and in 2002 a joint industry and government research group, the Pastoral Greenhouse Gas Research Consortium, was established. The consortium's primary focus was on the search for technical solutions to the problem of methane emissions from livestock. A levy on farmers was proposed to fund the research. This initiative was stopped in its tracks, however, by an effective political

campaign that signaled strong industry opposition to any direct government involvement in climate change initiatives. That opposition was also effective in halting the proposal of the 2002 Climate Change Response Bill to introduce a carbon tax to reduce GHG emissions. It was only after exhausting these possibilities that the government began to look at the use of a tradable permit scheme as a policy instrument to reduce emissions. Wide-ranging public consultation was undertaken, and it culminated in the proposal for an Emissions Trading Scheme (ETS) in September 2007 (Ministry for the Environment, 2007). This scheme was to be linked to the government's broader sustainability objectives through the *Sustainable Land Management and Climate Change Plan of Action* (Ministry of Agriculture and Forestry (MAF), 2007) and was a world first in the way it covered all sectors of the economy (including the agricultural sector) and included the six Kyoto Protocol-specified GHGs.

The period from 1999, then, involved an increased government commitment in addressing national environmental problems (including climate change), a commitment that approached these problems in a way that would also contribute to global environmental protection strategies. Despite these initiatives, GHG emissions rose sharply over this period. Importantly, by 2006, 49 percent of all GHG emissions in New Zealand was linked with the agricultural sector, a marked increase from 15.6 percent in 1990. The energy sector was producing 42 percent of emissions, a 37 percent increase above 1990 levels. Additionally, the national dairy herd continued to grow as the industry continued to remain profitable and, by 2006, had grown to 4.3 million cows (Table 5.2).

A change of government occurred at the end of 2008 and under the confidence and supply agreement between the incoming National-led

Table 5.2 Mitigation and adaption measures 1994–1999

- Under the Resource Management Act (RMA), Regional Council plans, statements, and resource consents were expected to consider questions around $C0_2$ emissions
- Regulatory reforms in energy sector were expected to encourage more competition and greater efficiency
- The removal of barriers to the establishment of renewable forms of energy, such as wind and biomass
- Reliance on voluntary measures by industry to reduce CO_2

Source: Adapted from the Ministry for the Environment (1994).

government and the Act Party, the new climate change legislation, the ETS, was put up for review by a Parliamentary Select Committee. The leading figures in the Act Party, and many members of the National Party, were well-known climate change skeptics. Hence, the review resulted in many amendments that deferred the date of entry into the scheme for the agricultural sector to January 2015. The argument presented for this change was the need to strike a balance between New Zealand's environmental and economic interests, particularly agricultural interests. Further amendments were made to the emissions targets. In the words of the responsible minister, Nick Smith, "attempting to cut GHG emissions by 40 percent by 2020 would cause too much economic hardship" (TV3 News, 2009), and a new target of 50 percent by 2050 was set (Climate Change Response (Moderated Emissions Trading) Amendment Bill, 2009).

The legislation was further amended in 2012 to indefinitely postpone the agricultural sector's liability to surrender carbon credits for emissions. This meant that the agricultural sector, which produced over 50 percent of New Zealand's GHG emissions, now has no fixed date of entry into the national climate change policy, the ETS. In justifying this change, the new climate change minister, Tim Groser, stated that the amendment was to support the government's economic growth agenda (Chapman, 2012). Further to these changes, the government withdrew its commitment to legally binding emissions reduction targets under a second term of the Kyoto Protocol. Instead, it opted to carry out reporting on climate change goals under the voluntary and nonbinding UNFCCC framework (Kaefer, 2014; Ministry for the Environment, 2012) (Table 5.3).

Table 5.3 Summary of mitigation and adaptation strategies 1999–2008

- 2000 Energy Efficiency Act
- 2002 Climate Change Response Act
- Negotiated Greenhouse gas agreements (NGAs) with major GHG-emitting industries
- 2002 Pastoral GHG research consortium established
- 2003 Proposed levy for research fund discarded
- 2003 Sustainable Development Programme of Action
- 2004 Amendment to RMA legislation and regional councils no longer able to take climate change into account when assessing resource consent applications
- 2005 Proposed Carbon Tax—discarded
- 2008 Climate Change Response (Emissions Trading) Act

Source: Adapted from the Ministry for the Environment (2006, 2012).

Table 5.4 Mitigation and adaptation strategies 2008–2012

- 2009 Amendment to Climate Change Response Act; allocation subsidies to big polluters till 2030
- 2012 Amendment to Climate Change Response Act; entry of agriculture no time given; subsidies to all polluters indefinitely
- Adaption through ensuring economic growth
- Support Greenhouse Gas Research Centre focusing on practical ways to reduce methane and nitrous oxide emissions while improving productivity
- 2011 Irrigation Acceleration Irrigation Fund (IAF) to allocate $35 million
- 2012 Established Water Infrastructure Fund to provide $400 million toward irrigation and water-storage projects

Source: Adapted from the Ministry for the Environment (2012).

By 2011, GHG emissions were 46 percent above 1990 levels, and between 2008 and 2014 the national dairy herd had grown to be over 6.5 million. Over this period, it is evident that New Zealand's commitment to global environmental protection strategies has decisively reduced. In 2006, the Yale environmental performance index ranked New Zealand first out of 133 countries. By 2012, it had dropped to 66th for climate change performance. Likewise, in 2012, the International Climate Action Network ranked New Zealand as worst for climate leadership out of 194 countries (Emerson et al., 2012; Kaefer, 2014). These initiatives are summarized in Table 5.4.

In the next section we turn to an analysis of how New Zealand climate change policy intersects with Pacific Island states.

The Implications for the Wider Pacific

As a signatory to the Kyoto Protocol, New Zealand has committed to not only reducing it GHG emissions but also to the principle of common but differentiated responsibilities. To what extent do its actions reflect this commitment? As the previous discussion made clear, its domestic policies demonstrate the absence of political will and indeed an outright rejection of any meaningful attempt to reduce its GHG emissions. What about its aid and development policies in the Pacific?

In evaluating how Pacific Island concerns have intersected with New Zealand climate change policy responses, we now turn to examine New Zealand's aid and development policy in the Pacific region and draw attention to the way the new approach to supporting development under the National-led Governments from 2008 is linked with notions

of environmental conflict and security and climate change adaptation programs in the Pacific. Our interest is in understanding the intersections between New Zealand climate change policy and its relationship as a provider of aid and development in the Pacific. As noted earlier, climate change is a significant issue facing Pacific Island countries. The UNFCCC was clear that these countries were most vulnerable to the effects of climate change, while also having the least capacity to make change. New Zealand's position might also be assessed within the context of the UNFCCC principle of common but differentiated responsibilities, which recognizes that while all states are responsible for addressing global environmental problems, the major differences in economic development between developed and developing states mean that they are not equally responsible (United Nations, 1992).

New Zealand's aid and development policy is the responsibility of the Ministry of Foreign Affairs and Trade (MFAT). Two different approaches over the last 15 years are evident. In 2000, a review by the OECD found that New Zealand aid policy lacked a focus on the broader OECD development goal of poverty alleviation through sustainable development (Grossman and Lees, 2001). In light of this, a review was undertaken by the Labour-led government, which led to a fundamental shift in New Zealand aid policy, one which involved a greater degree of alignment with the United Nations Millennium Development Goals. These changes manifested in 2002 through the establishment of NZAid as a semi-autonomous agency within its host ministry, the Ministry of Foreign Affairs and Trade. NZAid was given a clear mandate to focus on poverty alleviation, with strategic outcomes being identified as protection of the environment, food security, shelter, education, and economic growth (Clarke, 2010). A large portion of funds was allocated to areas of the Pacific where literacy, infant and maternal mortality, and gender issues were a concern. NGO relationships with NZAid were strengthened, and NGOs were given more freedom to deliver programs in countries where previously there had not been strong bilateral relationships with governments, for example, in Papua New Guinea, Solomon Islands, and Vanuatu (Clarke, 2010; Te Ara, 2014). Funds were also set aside for longer-term projects with a focus on providing access to primary education and improving health care. NGOs, such as Oxfam and World Vision, took on greater advocacy and campaign roles including supporting moves to combat climate change, promoting fair trade, or lobbying for Third World debt relief (Te Ara, 2014). Environmental

and climate change problems began to be seen as critical aspects of development, leading to the realization that there was a need for a holistic approach focused on human security, which would integrate environment, economic, and sociocultural concerns (Elliot and Fagan, 2010; Hayward, 2008).

Climate change concerns were, therefore, built into the new regional bilateral and multilateral aid and development relationships of New Zealand in the Pacific region. In recognizing these aspects, this broad approach to aid can be seen as being informed by an environmental security discourse focused on broader human well-being. The focus was on causes of insecurity and vulnerability, not symptoms. Aid and development initiatives were informed by multiple perspectives, especially local knowledge, and strong community participation was required. The goal was long-term ecological sustainability that would safeguard environmental, economic, and human needs. The approach was underpinned by at least a rhetorical commitment to social justice and global solidarity, with both the process for development and the outcome being critical.

Following the election of the National-led government in 2008, NZAid was brought back under the direct control of MFAT, with the ministry taking greater decision-making power over who and what was funded. Having lost its independent mandate, and being under a new minister, NZAid was required to support programs that would support New Zealand's wider economic and political interests in the Pacific (NZAid, 2014b). The focus was narrowed to that of supporting economic development, this being presented by the minister as "aid that works," and the emphasis was on "sustainable economic development" (McCully, 2009).

The change in policy resulted in the loss of funding for those NGOs with long-term development projects with a focus on climate change and human development (Clarke, 2010). NZAid funding was narrowed to Pacific countries with long-standing ties to New Zealand such as Samoa, Cook Islands, Niue, and Tokelau, and aid projects began to be required to "improve governance, the business environment, foster private sector development [and] strengthen trade" (Ministry of Foreign Affairs and Trade, 2010: 24). This amended policy was presented as assisting aid recipients to maximize sustainable returns, harness the benefits of international trade, and help producers move up the market chain (Clarke, 2010; Ministry of Foreign Affairs and Trade, 2011: 2–7).

All government aid programs, including those with a focus on climate change, were now required to ensure that projects were "designed to complement and further strengthen sustainable economic development" (NZAid, 2013: 3). This shift in focus is evident in the NZAid (2014a) review of its Pacific program, where it states that "improving economic well-being is our core thematic focus. Increasing revenue, income, and employment is essential for countries if they are to achieve sustainable long-term development."

This new policy direction can be seen to be informed by a narrower notion of economic well-being and a singular focus on economic development initiatives, with little regard for broader nonmaterial values. The institutional approach to environmental risks is framed by a cost–benefit analysis, with the environment needing to be protected to the extent that it is the means to secure economic growth. The policy agenda for climate change through this lens is set by New Zealand aid guidelines, and is not based on what Pacific Island states or local communities themselves view as problems to be solved (Barnett and Campbell, 2010; Edwards, 1999).

Conclusion: New Zealand's Response to Environmental Security in the Pacific

In summary, when considering the actions of New Zealand in the Pacific through the lens of environmental security, we can identify a shifting emphasis that varied over time in terms of the magnitude of the concerns demonstrated over climate change, the priorities of economic development versus more holistic sustainable development, and a short-term versus a longer-term perspective on aid and cooperation. Mitchell (2010: 170) points out that states "with low ecological vulnerability and high abatement costs will be 'draggers' or 'laggards', resisting international efforts," a description that certainly appears, albeit New Zealand itself being vulnerable to climate change, to explain at least some of New Zealand's response to climate change both domestically and in the Pacific.

From 1999, the policy approach was, at least rhetorically, to evaluate climate change risks holistically as one component of broader environment and development goals, and pursue mitigation initiatives with the potential to have a long-term impact on emissions. Steps began to be taken by the Clark-led government suggested that climate

change problems were recognized as being interlinked with human security and sustainable development. The politics of climate change policy development, though, have been intensely contested, with vocal opposition from powerful stakeholders including farmers and industry. Active regulation, therefore, has been firmly rejected. Under the National-led government from 2008, there has thus been a shift which has seen climate change problems as secondary considerations in relation to the goal of economic development and the modernization of infrastructure.

While there is still strong cooperation between New Zealand and the Pacific for the common good, particularly through the South Pacific Forum, the approach to achieving this common good has changed. Risks associated with anthropogenic climate change are currently viewed by the government as being managed best through supporting business growth and development. Growth is being pursued through development assistance that promotes greater use of new technologies such as solar energy and water storage systems. Moreover, these initiatives are informed much more by a top–down approach to decision making and the use of cost–benefit risk analyses, rather than local knowledge and strong community participation though bottom–up civil society networks.

Our review of New Zealand as a leading Pacific nation through the lens of environmental security has raised questions about the relationship between environmental change (and climate change in particular), the prospects for social, ecological, and economic disruptions in Pacific Island countries, and the potential threats of conflict. While an environmental security lens does draw our focus to the nature of New Zealand's place in the Pacific, it has the potential to position Pacific Island countries as a threat to New Zealand's prosperity and thereby invoke a defensive response. In contrast, a more holistic human security perspective would recognize that "in the Pacific, as elsewhere, it is people and their communities who are most at risk from climate change and from the instability, incapacity, social and economic stress that might occur" (Elliott, 2012: 190). Such a perspective would help focus on adaptation and building societal resilience through "securing the lives, livelihoods and, wherever possible, the lands and homes of those in the Pacific who are most vulnerable and most insecure from the threats of climate change" (Elliott, 2012: 190)—a process in which New Zealand could play a vital and meaningful role.

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Conclusion

Iain Watson and Chandra Lal Pandey

Before the Group of 20 (G20) and Asia-Pacific Economic Cooperation (APEC) summits in 2014, the United States and China signed an agreement to reduce and cap greenhouse gas emissions. Being a big emitter plays into China's push for more global responsibility. Chinese leaders at the Copenhagen Climate Change Conference in 2009 also made it clear that cutting its emissions sharply would impact its economic growth, thus impacting regional and global growth. In China's view, developed countries need to take more of the responsibility but taking responsibility has now become a part of China's message. This leads to debates as to determining whether democratic system are too short-termist and allow for political expediency and empty promises, as leaders will not be there for the long haul, while authoritarian leaders require a longer-term legitimacy and are, therefore, more sensitive to the social impacts of climate change on political stability. In the Asia-Pacific, the rise of the so-called new middle classes in China and India has been assumed to create new green pressures on government, despite the fact that the new middle classes have a particular stake or "no questions asked" contract with the state. Indeed, the new middle classes tend to focus more on spending on foreign goods, which both promotes more carbon impact and lowers domestic consumption, thus affecting the developmental model from which they have benefited most and causing stress on the political leadership. Often this can mean that environmentalism becomes the remit of civil society elites and concerns that, in some Confucian cultures, non-networked elites have used for "green" purposes and agendas. At the same time, the rise of the new middle classes has coincided with pockets of both rising poverty in these states and rising inequality. Moreover, there is the issue of determining what types of growth and middle class are actually being created

given that the new middle classes have a major stake in current economic system.

The US–China accord signed at the 2014 APEC meeting in Beijing on November 12, 2014, set aside issues over who has to cut the most and put a date to the expected peaking of its emissions by 2030. Yet China in 2014 also made two key deals with Russia over natural gas, with many pundits suggesting this is a marriage of convenience with leverage for Beijing to wean itself off its coal-dependent economy and much to Australia's obvious concern at the G20 in Brisbane. China has more prestige and more leverage in the region. No longer a pariah can place its other policies into "what's good for China is good for the environment." As Kerry Brown (2014) notes,

> State owned enterprises, particularly in the energy and mining sector, are going to have to undertake substantial reform if the 2030 target is met, becoming less polluting and more energy efficient. Their need to produce profits for the state while observing these new compliance demands is an ongoing negotiation. And their voice, through the many state company heads that sit on the Central Committee of the Communist Party, is a powerful one.

The book has shown that the Asia-Pacific region is clearly vulnerable to climate change and requires protection. Yet the term "protection," the book has shown, is not necessarily the same as "security," and as a practice and as a concept the term "security" also has somewhat different temporal, spatial, and cultural connotations. Environmental security is now being associated with issues of quantifying and living with environmental and climate change risks, natural resources constraints, and resulting conflicts. This environmental insecurity is difficult to address, as we have not had previous experience of managing it, but addressing it is tied to "robustness" and "resilience," providing various mandates for mitigation and adaptation through technological innovations and social practices. Environmentalism is now emerging as a social, cultural, economical, political, and ethical movement in middle-income countries. This has led to various debates regarding the efficacy of importing green ideas and technology from the West or creating now endogenous green technology, with obvious issues of innovation and technology ownership. Ecological modernization's emphasis on carbon capture, recycling, and "product cycle" does not necessarily focus on to what extent issues of ownership and patency are now more problematic in an age of technological diffusion and corporate

battles over intellectual property rights. One view is that by sorting out the legal process on such issues and on free market reform, this can release the inherent potential and resources for solving or even reversing climate change. However, a deeper and fairer transformation of the economy is perhaps also required, given that legal processes and the neoliberal creation of "level playing fields" merely obscure (or reproduce) an inherently unequal and environmentally destructive global economic system, and simply transfer responsibility to the most vulnerable states under the guise of the global "we can do it" and the paternal benevolence of the smiling Western economist and politician.

At the 2014 Global Green Growth Institute (GGGI) conference, emphasis was put on the nexus between the creative economy and green growth. This is all a part of a debate on how green growth is to be linked to wider structural economic reform in Korea. It is also based on an ongoing debate as to whether environmental protection should be the remit of the free market or of a more protectionist state, and as to whether the free market or the state can lead to greater environmental self-sufficiency. Indeed the question of national self-sufficiency is intrinsically tied to issues of national sovereignty, although these are not necessarily the same. Most notably, distinctions are now being made between issues of "legal" sovereignty and "green sovereignty" in terms of protecting or securing the environment and (for) citizens. Yet in many Asian states addressed in this book, the word "citizen" is often traded in favor of the more ethnically based "for the people." The problem with this term, of course, is in deciding who "the people" are and whether some "people" are more worthy of protection and inclusion than others. In environmental debates there have been widespread concerns that economically excluded and marginalized groups are more affected by climate change and this is now known as "environmental racism." Unfortunately, many "green" and often liberal nongovernmental organizations (NGOs) in Asia seem to carry similar nationalistic mantras of deciding who are ethnically "worthy" of being saved and those who are worthy but are not a part or "one of us." In this respect, as this book has highlighted, environmental security is tied both substantively and instrumentally to issues of national identity. From this, here are also key discussions emerging as to determining whether this is a new development paradigm and if so whether it is a part of a wider "south-south" perspective.

Many emerging market recipients are also using the global markets to borrow and sell government bonds rather than relying on aid. This is a potentially new aid architecture, one, even perhaps, going beyond the 2011 Busan "aid effectiveness" approach, and something of an opportunity but may also be a worrying trend. This is because it justifies reductions in Development Assistance Committee (DAC) donor aid to well below the holy grail of the 0.7 percent of gross national product (GNP) and any shortfalls are now simply made up from the very financial system that caused such development problems and sovereign debt in recipient countries in the first place.

The 2014 UN Climate Summit inevitably produced more hyperbole, more promises, and more "cutting edge" rhetoric on the day before the UN General Assembly. Emerging scenarios in the wider climate change debate are discussed. The first option is to carry on with business as usual development but mitigate through emission targets. This gives rise to a series of questions: what kind of business as usual, what kind of capitalism/industrialization, whether this is a capitalism "with Asian characteristics," and whether capitalism is or leads to modernization? Second, whether to carry on with business as usual development but make it more sustainable, by probably slowing it down but with the concomitant risk that the developing world sees this as a form of Western "green colonialism." Third, whether to carry on with business as usual but to employ the so-called carbon capture technology so as to enhance "carbon soaking up" marshes and to plant more trees. The fourth idea is to reorganize state–economy relationships through an "ecological modernization" approach, to release the market, and to make use of technology to break through market bottlenecks and provide incentives. Green growth focuses on a similar approach but is more endogenously initiated from the developing world, and in particular new middle-income countries, to accelerate growth that uses the environment as "an asset," which would allow states to leapfrog previous development or fill in the gaps. However, some are clearly skeptical of this approach, given the continuing interests and structural continuities of capitalism. Moreover, while, one the one hand, green growth might balance business as usual practices such as fuel subsidies, on the other hand it actually encourages more resource extraction, depletion, and the resultant climate change.

Each country involved has its own level and rate of development. This differentiation itself used to be seen as a key reason for a lack of global cooperation. But this differentiation has now reached tipping

point and can be potentially used now as a means to generate different cooperation between sovereign nations. Maybe the recent APEC agreement between the United States and China is an initial part of a shift away from "global conferences" such as Kyoto and Copenhagen, which serve to promote big power inertia and "grandstanding," to an alternative cooperation form that is based on what Robyn Eckersley and Moises Naim have termed "minilateralism."

The Asia-Pacific is known as the "canary in the mineshaft," a region where the first signs of climate change are moving from the government boardrooms and the reassurance of "big data" to the reality of lost and submerged islands such as Kiribati (Millennium Island). There have been calls from some geologists to call for a new "anthropological era" that represents this historical "flip" into a new meta-era full of unpredictable "black swan" events, as writer Naseem Taleb's perhaps rather nostalgic and elitist thesis once observed. After all, the world's nonelite and poor have lived in a permanent state of marginalization and unpredictability for centuries. Yet in this unpredictable age, the activities of elites and various politicians are still somehow remarkably predictable. But facing unpredictability also takes a new set of conceptual tools and understandings of how the world works and how climate change can be both prevented and preempted.

In this sense, the issue of environmental security is now being tied to issues of quantifying and living with "risk," "robustness," and resilience, providing various mandates for innovation and insulation from external and unquantifiable threats as states accept new security challenges that affect their populations. One example is that an emphasis now is not so much on securing some abstract concept of the state or "lines in the sand" but rather on securing the health and reproduction of actual populations. Indeed, this also leads to a myriad of contested narratives on national security: who defines (and who has the ability to legitimize their definition) of security and in whose interests? Clearly over the last 20 years or so, more emphasis has been placed on "humanizing" security and "humanizing development" within literatures that focus on "low politics" such as redefining security as "freedom from fear" and "freedom from want" while broadening the concept of security into issues such as the protection of human rights and environmental rights.

Apocalyptic warnings and cries for immediate action had previously led to a myriad of denunciations by economists who had clamored against the assumption of a near-zero time discount rate in scientists' modeling of possible futures. In other words, the narrative of limits to

growth as a fact, and as a moral goal, left little room for future contingencies where entrepreneurs and human ingenuity would come up with more energy-intensive technologies that produced fewer emissions (Landler 2014). An associated approach considers that it is basically immoral to deprive the developing nations of their economic future (Walsh, 2014). Some economists have now, through green growth initiatives, proposed their own version of past and future that has emphasized continuous technological innovation and economic growth based on the private sector and the invisible hand of the market.

A climate deal between China and the United States, the world's top two carbon polluters, is viewed as essential to concluding a new global accord. There are four main areas to be noted. The first is assessing the impact of geopolitical minilateralism as states from different regions are now creating their own "optimum number" middle-power forums and caucus. This shift has potential implications for small- and medium-power "bridge" nations in the region such as Nepal, Indonesia, and Korea. Second, the role of endogenous technology and the "creative economy" is linked to wider questions concerning the future of the Asian development model, particularly for emerging powers. Third, there is the role of "green" investment, funding, and technology, its social situating, and its representation of a particular elite-led narrative on what counts as national development. Fourth, there is the relationship between environmental security, national identity, and on what counts as "the environment" particularly given the previous links by governments in the region on contested narratives of nationalism as "pastoral" or "mythical." This means an understanding of how certain vested interests might capture a particular language concerning the spatial site of the environment and the temporal site of environmental security either as an ethnic nationalist "nostalgia" or as representing a particular "future." Each of the case studies in this book has attempted to show how these different and yet connected trajectories of debate are beginning to redefine and recast the settings of how environmental security is spoken, written, acted upon, and responded to, in the Asia-Pacific.

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Index