



ISLAND DYNAMICS

# Political Ecology Approach to Island Tourism Planning and Climate Change Adaptation: A Methodological Exploration

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**Abstract:** Climate change is emerging as the main driver of current and future climate-related risks for small islands. These risks include sea level rise, stronger tropical cyclones, and changing rainfall patterns. While there is now high confidence in the scientific community that the present change in climate is anthropogenic in nature compared to the Earth's geologic history of natural variability, there is a need for more detailed evaluations of the relationships between humans and the climate. As a human activity affected by climate change, tourism is in need of such analyses since current positivist analytical tools are inadequate for evaluating the complexity of such interactions. This paper reviews the literature, scientific frameworks, and methodological epistemologies used to analyse human community relationships to natural environments and their applicability in small island tourism environments that are impacted by climate change in the Philippines. Political ecology emerges as a potent and appropriate framework since climate change adaptation planning processes for island tourism are inherently political. The paper advances the use of political ecology for climate change adaptation to grapple with the equally complex phenomena of island tourism urbanisation and climate change, thereby contributing to the discourse in three research areas.

**Keywords:** Climate change adaptation, island tourism planning, political ecology, Tourism Area Life Cycle, tourism urbanisation

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# Political Ecology Approach to Island Tourism Urban Planning and Climate Change Adaptation: A Methodological Exploration

## 1. Introduction

Tourism is an agent of change, and its impacts are usually evaluated in terms of its economic contributions, despite tourism being a resources-based activity with implications for ecological balance (Murphy, 1983). The impact of tourism urbanisation is especially pronounced on small islands, due to their fragile natural environments and geographical limits (Graci and Dodds, 2010). Furthermore, island spatiality may encourage particular patterns of urbanisation in general (Grydehøj, 2015; Swaminathan, 2015) and tourism urbanisation in particular (Pons *et al.*, 2014). Sustainable tourism, with an emphasis on involving key stakeholders in tourism planning and development processes, is vital for ensuring that tourism has a low impact on the tourist area's immediate environment (Byrd, 2007). Nevertheless, a growth in tourism activities is taking place in a context of global climate change, with rising sea levels, intensification of tropical storms, abnormal rainfall patterns, increasing temperature minima, and climate-related disasters making documented impacts on small islands (Mimura *et al.*, 2007; Nurse *et al.*, 2014). Tourism as an economic sector is expected to be impacted by climate change in turn.

The enactment of the Tourism Policy Act 2009, Climate Change Act 2009, and Philippine Disaster Risk Reduction and Management Act 2010 provides the Philippines with a legal framework within which such issues can be addressed at the local government planning level. However, it is unclear how local stakeholders in these areas are meant to interact with and integrate climate change into a unified process, bearing mind that the Philippines may be exceptionally vulnerable to the effects of climate change (Penalba *et al.*, 2012; PCCC, 2011). This problem is compounded by the fact that the country is already particularly prone to disasters due to its location in the Pacific Ring of Fire and typhoon belts. Coupled with weak governance, this magnifies the impacts of climate change on island populations (Bankoff, 1999).

A study of records at 23 weather stations from 1911 to 2010 (Villafuerte *et al.*, 2014) suggests that parts of the country are already experiencing statistically significant extreme rainfall changes. There is also evidence of higher mean daytime and nighttime temperatures at 34 weather stations from 1951 to 2010 (Cinco *et al.*, 2014). Hydrological disasters caused by intense precipitation from southwest monsoons and tropical typhoons have also been recorded, with the 2009 typhoon and *habagat* (southwest monsoon) season recently examined in the scientific literature (Yumul *et al.*, 2013). During the 2009 season, Metro Manila experienced its worst 100-year flood when 442 millimetres of rain poured down in 12 hours, equivalent to one month's precipitation in September. Typhoon Parma (locally known as Pepeng) also inundated the main island of Luzon, making landfall three times and remaining in the country for 11 days, far longer than the three- or four-day average for tropical cyclones. Super typhoon Haiyan (locally known as Yolanda) in November 2013 fundamentally changed the local debate on climate change when it struck the central Philippines islands at record strengths: At landfall, the typhoon was 35 knots above the existing Category 5 threshold, with the result that scientists have suggested creating a new Category 6 (Lin *et al.*, 2014). Typhoon Haiyan killed over 6000 people and exposed the gaps between the national,

regional, provincial, and local government responses to disasters, including the political impediments affecting the implementation of proper responses (Sidel, 2014).

The present paper explores the use of political ecology as a framework for analysis in mainstreaming climate change adaptation in islands with significant tourism activity. Political ecology is defined as “combining the concerns of ecology and a broadly defined political economy that encompasses the shifting dialectic between society, land-based resources, and within classes of a given society” (Blaikie & Brookfield, 1987). Political ecology is extensively used to examine the dynamics of place, unequal economic and political power, access to resources, vulnerability of the poor, and nature (Bryant, 1998; Nygren & Rikoon, 2009). Criticism, however, has been levelled at the manner in which political ecology is being used since some assume that political factors are *always* important (especially external factors) and that special prominence is granted to *a priori* statements, whereas a more sensible approach would be to look at existing environmental phenomena and work backwards to explain factors, causes, and effects of such events (Vayda & Waters, 1999). We are conscious of this criticism, and the island case study approach pursued here assumes nothing of the sort, instead relying on themes that emerge from application of the methodology.



Figure 1: Boracay in Aklan province, a major tourism island in the Philippines (Author's Fieldwork Pictures, July 2013).

Tourism planning and existing comprehensive land use planning processes are likely flawed and imperfect institutional exercises by local government units at various administrative scales. In a governance system where the responsibility for planning and tourism management has largely been devolved from the national government since 1991, local governments are struggling to comply with even the most basic of national legislation (Maguigad, 2013; cf. Andexlinger, 2015). The search for a viable process for integrating climate change adaptation into tourism land use planning processes on islands in the

Philippines must begin with a search for a platform upon which we can analyse the relationships, beliefs, social structures, and governance structures of the actors involved. This necessitates using frameworks and methodologies that are appropriate for the spatial scale in question, which in this research is the scale of islands that are identified as hosting significant tourism activity.

This paper has been written at a time when the Philippines is seeking to adapt to climate change and integrate adaptation into various levels of governance for important economic sectors, specifically into island tourism planning. The appropriateness of the framework and its accompanying methods is vital as different island research sites can represent different levels of governance, cultural geography, tourism development, and experiences in extreme weather and climate events. This paper explores the challenges of such research by critically examining various approaches taken within current climate change studies in order to identify the most reasonable and acceptable methodological and analytical platforms for tourism planning at island research sites.

In a follow-up to this paper, we will apply the research framework discussed here in a study of Boracay Island in the Philippines (Maguigad, King, & Cottrell, 2015). First, however, it is important to set out the necessity, foundations, and contours of our proposed political ecology research framework.

## **2. Climate change and positivist science**

The study of climate change has evolved significantly from its earlier dominance by positivist, natural science research (Simonovic & Davies, 2006), so that there is today greater understanding of climate change's human dimension, of its effects on communities and their abilities to mitigate and adapt. This prior dominance of natural sciences-dominated realism in climate change research is understandable as logical positivism (the search for and subsequent verification of patterns in datasets and basing conclusions upon such data) and logical empiricism (denying the existence of anything that cannot be measured or quantified) are foundational philosophical concepts of orthodox science (Forsyth, 2003). Whereas the natural sciences are heavily associated with the use of extensive or quantitative methods, the social sciences are more associated with intensive or qualitative methods.

Indeed, knowing the results of extensive or quantitative methods are best “seen as good entry points to synthesis,” but intensive methods are best positioned to further social understanding of natural phenomena (Birkenholtz, 2011). While positivism in science has its share of critics, it is important not to overlook that it is through these positivist methods that science has advanced and made its greatest contributions to society (Forsyth, 2003). There is even a degree of agreement that, at least in Western societies, scientific knowledge has epistemic authority and that some specific disciplines, such as physics, are considered more robust than others (Knorr-Cetina, 1999). This epistemic authority means greater confidence in results due to the accepted rigour, protocols, and languages used in the discipline.

Citing numerous studies, the Intergovernmental Panel on Climate Change (IPCC) notes the complexity of climate change research but also highlights that the amount of research being undertaking has increased appreciably over the decades (Treat *et al.*, 2007). One school of

thought subscribes to an eco-centric view in which climate change is basically a natural process, and the majority of climate change is due to natural variability resulting from the vagaries of the Earth's various environments – galactic, solar, and Earth system – rather than to living organisms (Plimer, 2009). In contrast, and representing the dominant narrative in climate change discourse, is the view that although natural variability has been attributed to climate change in the period pre-1850, the same cannot be said for current warming: The IPCC and the scientific community have deemed with “high confidence” that currently observable climate change is anthropogenic in nature (Hegerl *et al.*, 2007; IPCC, 2014).

On the opposite end of the spectrum from the philosophical concepts of orthodox science are those of relativism and constructivism. One criticism of the social sciences is that, traditionally, “modish trends avoided the principles of accuracy, honesty and hard work demonstrated by centuries of conventional realism-based physical science” (Forsyth, 2003). Relativism is interpreted as rejecting standard, universal statements on physical reality by orthodox realists and holding instead that reality is influenced by individual and societal worldviews, assumptions, biases, and experiences. Constructivism, in contrast, is grounded in the belief that biophysical reality is what humans make it to be and that the creation, presentation, and consumption of reality in the past, present, and future necessitates flexible representations of reality (Forsyth, 2003).

These opposing views do not entirely negate the primacy of natural science methods and approaches but rather reframe such results into newer interpretations. The use of social constructivism in political ecology in studying interconnected Earth systems, including human-nature interactions in climate change, emphasises “the need to see environmental change as the result of social action and ecological dynamics” (Nygren & Rikoon, 2009). Nygren and Rikoon (2009) further state that, in the age of the Anthropocene:

In order to do justice to the constantly shifting relationships between nature and society, political ecological analyses require an integrated understanding of the interconnections between political struggles over environmental resources, cultural meanings attached to the environment, and the ecological dynamics of environmental change.

The realisation that humans are active agents of global change gives rise to studies concerning the human-environment relationships involving human societies and the players within these societies. There is nevertheless criticism that there remains a form of epistemic dominance or authority held by the physical sciences with regard to climate studies relative to studies concerning climate change's human dimension, for instance concerning the impacts of human activity on resource use, which ultimately impacts climate change, as well human adaptability to global change (Simonovic & Davies, 2006).

Such production of knowledge for knowledge's sake in climate change studies is therefore undesirable as production of knowledge should in fact be relevant to improving adaptation to climate change. There is a trend, for example, for modelling and analysing adaptation measures using econometric methods. A recent study on the application of the climate change-vulnerability risk model in Infanta and General Nakar in Quezon Province can be classified as lacking practical applicability since the modelling was insufficiently comprehensive, and no fieldwork

was undertaken (Cuevas, 2012). That study likewise proved too technical and too difficult to understand for personnel involved in adaptation activities at the local government level.

Interdisciplinary approaches, such as those that planners use in existing adaptation processes, are well-suited to reaching across the breadth of available sciences, both natural and social. Human activities such as tourism, which depend on natural environment amenities (for instance, pleasant climate and beaches) and interconnections via networks of transport, personal contacts, and cultures is one area of human activity for which an interdisciplinary approach to the study climate change impacts is essential (Mimura *et al.*, 2007). An inter-disciplinary approach adds a much-needed critical voice to integrated climate change research because of its focus on finding new methods of finding new knowledge and on applying this new knowledge to particular settings (Murphy, 2011). After all, “adaptation to climate change on small islands is not only a technical challenge, but particularly a political and social task” (Petzold, 2015).

The aforementioned discussion suggests that the frameworks and accompanying methodologies of the natural sciences, though important for establishing the scientific basis for climate change and setting the tone for policy discussions, are inadequate for accommodating social interpretations of local experience of climate change phenomena.

### **3. The social construction of science and political ecology**

Global climate change phenomena are locally experienced and interpreted in various ways. Tourism as an economic activity is also largely experiential in nature and is identified not only as a vital economic sector in many developing economies like the Philippines but also as a contributor to climate change (Broderick, 2009; Dubois *et al.*, 2011). Both climate change and tourism present immense challenges to the Philippines, a country that has been identified as highly vulnerable to the ravages of climate change (Harmeling, 2011) and exceptional in terms of exposure of its urban populations to sea level rise (Dasgupta *et al.*, 2012; Nicholls *et al.*, 2007). At the same time, the Philippines’ international tourism arrivals are increasingly rapidly (Arnaldo, 2012; DOT, 2012), with immense potential for further tourism development. As the IPCC has noted, many countries with small islands rely on tourism as a main generator of much-needed foreign exchange, which could be endangered by the effects of climate change (Mimura *et al.*, 2007; Nurse *et al.*, 2014).

We also know that science is not entirely value-free. For example, popular media debates demonstrate that science, as a “coded language,” must be translated to be understood (Ungar, 2000) and thus support the claim that scientific knowledge is socially constructed. The ‘construction’ of scientific knowledge is dependent on the principle that one cannot separate the human and societal contexts upon which research is being undertaken. For example, in disaster research, the decision as to what constitutes a natural hazard is socially determined by the interaction of human communities, and disaster risk reduction depends heavily on how to use and interpret hazard knowledge for appropriate action (King, 2008).

Additionally, the way in which climate science is studied cannot be separated from the social contexts of climate science research. These social contexts include competition among scientists and research programs, current scientific practice, and knowledge that reflects current cultural

and political influences (i.e. the push by small island countries for sea level rise studies), and extended translations of knowledge (i.e. how research problems are ‘framed’) (Callon, 1995). It is also influenced by language and the power dynamics of its use (e.g. are Chinese-language journals less acceptable than English-language journals?) and history (e.g. will centuries of Spanish-American colonialism influence approaches to Philippine scientific research?).

The interesting confluence of these two phenomena – climate change as experienced on small islands and tourism as a voluntary movement of people and wealth – in research settings in the Philippines likewise presents the researcher with epistemological and methodological challenges regarding how best to approach the research. The relative complexity of both climate change and tourism, as well as the epistemologies that gave rise to each of their current states of understanding, are divergent, and understanding both phenomena as essentially politicised human activities provides a richer understanding of the resulting dynamics involved in the identified research sites.

Small islands in particular have become compelling targets for media politicisation and representations as real-world manifestations of climate change (Baldacchino & Kelman, 2014). In 2007, the IPCC released a section on ‘Small Islands’ in the Third Assessment Report as a separate chapter to highlight the “very high confidence” that climate change will impact these islands due to sea level rise, exacerbating storm surges and inundation, increasing the frequency of extreme events, and compromising fresh water supplies (Mimura *et al.*, 2007).

There is likewise “high confidence” that climate change will negatively impact coral reef ecosystems, fisheries, subsistence and commercial agriculture, and tourism. Although grounded in sound science, the IPCC report chapter served, together with compelling images of “disappearing islands” in the South Pacific and Indian Ocean, as concrete and tangible evidence of climate change gone amok and as a signifier of the reality of the statistical modelling conducted by climate change scientists (Cameron, 2011). Tourism representations in the Western media encourage alarmism and advance the politics of climate change social justice of various persuasions (Masum, 2009). Tourism to small, distant islands coupled with the strong narratives of exploitation, North-South divides, and the social tension inherent in visitor-visited interactions make small island tourism and climate change a dynamic research area.

#### **4. Why a political ecology perspective on island tourism and climate change adaptation?**

The term ‘political ecology’ was first used by anthropologist Eric Wolf (1972), who initially used it to describe the interactions of Swiss households with their natural environment. Upon publication of the book *The Political Economy of Soil Erosion in Developing Countries*, Piers Blaikie emerged as the leading figure in political ecology, expanding its scope to combine “the concerns of ecology and a broadly defined political economy that encompasses the shifting dialectic between society, land-based resources, and within classes of a given society” (Blaikie & Brookfield, 1987). Generally speaking, political ecological analysis involves seeing the interactions among members of a particular ecology in concert with their environments at different spatial scales (from international to regional to local, *etc.*) as well as the power relations of government and the various classes and stakeholders within society.

Tim Forsyth (2003: 10) further stresses in his book *Critical Political Ecology* that, while science is utilised to legitimise environmental policy, “there is little appreciation of the biophysical uncertainties or political conflicts” behind many supposedly well-known problems. Paul Sears (1964: 11-12) adds that ecology is inherently “political,” and by its very nature, “ecology affords a continuing critique of man’s operations within the ecosystem.” These statements are relevant in the study of climate science. While the science may have established the evidence and the proof that ongoing climate change is anthropogenic in nature, not all societies at varying spatial scales may agree on the form, shape, representations, experiences, and predictions of such phenomena.

Political ecology as an interdisciplinary approach in itself elicits a more measured, finessed, and defined study on the human side of the ecological spectrum, decidedly anthropocentric in orientation, without losing sight of the natural ecological system. Within the social sciences, disciplines such as cultural anthropology, geography, political economy, Marxism, Third World studies, and gender and women’s studies have provided multiple lenses through which use of natural resources, management of institutions, and adaptation to constantly changing natural systems have been analysed, calibrated, and improved (Bryant & Goodman, 2008; Peterson, 2000; Walker, 1998). Political ecology is also extensively used to examine the dynamics of place, unequal economic and political power, access to resources, and vulnerability of the poor alongside nature (Bryant, 1998; Nygren & Rikoon, 2009).

Indeed, in a poststructuralist and post-normal science world, Bryant (2008) argues the possibility of a “multitude of truths” at various spatial and temporal scales. Political ecology, while appearing messy and incoherent, has nevertheless advanced a closer engagement between the natural and social sciences in order to plan adaptations, find solutions, and implement societal changes in response to global climate change in local settings. By extension, fieldwork research on the politics of tourism and climate change adaptation in the Philippines (or any other island research site) is going to be messy and chaotic, and it is only through the application and erudite use of interdisciplinary methods that the dynamics of adaptation processes can be understood.

For example, one of the more compelling climate change narratives is that of a story with an identifiable “cast of characters,” who reflect patterns of “heroes, villains, and victims” (Adger *et al.*, 2001). Another narrative is that of the “profligacy” (Thompson & Rayner, 1998) of the West and the global ‘North’, characterised by overconsumption in the carbon-based economies, with the only way of stabilising carbon emissions being to rein in this overconsumption. In this narrative, tourism in itself is viewed as a contributor to climate change, particularly long-distance intercontinental travel. A single intercontinental journey may actually exceed the annual per capita carbon production of an average developing country citizen (Gossling *et al.*, 2008).

Part of the complexity of studying climate change on a local level is that of disparate risk assessment by various players and stakeholders within particular social-natural ecologies. This disparity can be caused by culture and religion, as in the case in Fiji, with stakeholders “who presume that if a problem is of a divine nature, there is no point of doing anything about it” (Lata & Nunn, 2012). It is also complicated by short-term views taken by stakeholders



such as resort owners (for instance, return on investments is typically between seven to nine years in the Maldives), who have a false confidence that they will not be around anyway when the worst effects of climate change manifest themselves in 30 years (Sovacool, 2011).

Another difficulty involves the inherent complexities of climate change science and its interaction with human environments, which makes it challenging to link climate change directly to deaths, as opposed to linking it to “secondary factors” like water, food availability, and possibly disasters (Randalls, 2011: 1244). Also, it does not help that current research in the Philippines on climate change remains grounded on technical, top-down approaches to adaptation, which are incomprehensible to local planners, much less to communities.

Political ecological analysis and its variations provide a rather robust framework within which to analyse interactions in small communities in the field of tourism, climate change, and planning as well as how these interactions can be used to improve climate resilience. We believe that climate change and its influence on travel and tourism will prove to be a fertile field for tourism planning research.

We therefore subscribe to the view that researchers should be comfortable drawing upon various disciplines. Instead of being constrained by the technicalities of each ‘knowledge silo’, they should seek to understand climate change in various contexts, In this case, island planning for tourism in the Philippines. Researchers should approach their work in the same comfortable manner as do planners: problem-focused, juggling the technical and the political, regulator and negotiator, all in the interest of advancing understanding adaptation in local communities.

## **5. Tourism Area Life Cycle**

It is instructive to refer to Richard W. Butler’s Tourism Area Life Cycle (TALC) as a basis for describing case study islands, such as the island of Boracay, discussed in the follow-up to the present paper (Maguigad, King, & Cottrell, 2015). TALC is one of tourism’s enduring theories of development, which continues to be relevant in the discussion of tourism and its interactions with other realms, including climate change.

Butler (1980) postulates in his seminal paper ‘The Concept of a Tourist Area Cycle of Evolution: Implications for Management of Resources’ that tourist areas undergo several stages of development corresponding to the levels of tourism activity and extent of regulation that governments enforce to affect change in these tourist areas. These stages are what he calls: a) Discovery and Exploration; b) Involvement; c) Development; d) Consolidation; e) Stagnation; and f) Rejuvenation, Stabilization, or Decline (Butler, 1980) (see Figure 2).

TALC describes the discovery of tourist areas by educated or economic elites, usually by college-educated backpackers and tourism first-movers with very little involvement from the local community. This discovery stage by erstwhile alternative tourists sets the particular area into a pattern that may later evolve into mass tourism. The involvement stage results when the community realises benefits from the increasing number of visitors. Formalised tourism businesses are formed during the development stage, which is characterised by immense growth in tourism activity. Consolidation results when competing tourism

businesses form and pursue economies of scale and efficiencies consistent with a free market or capitalistic style of economics. Stagnation is usually the stage for mature tourist areas, which may or may not lead to the rejuvenation or eventual decline of their tourism activity.

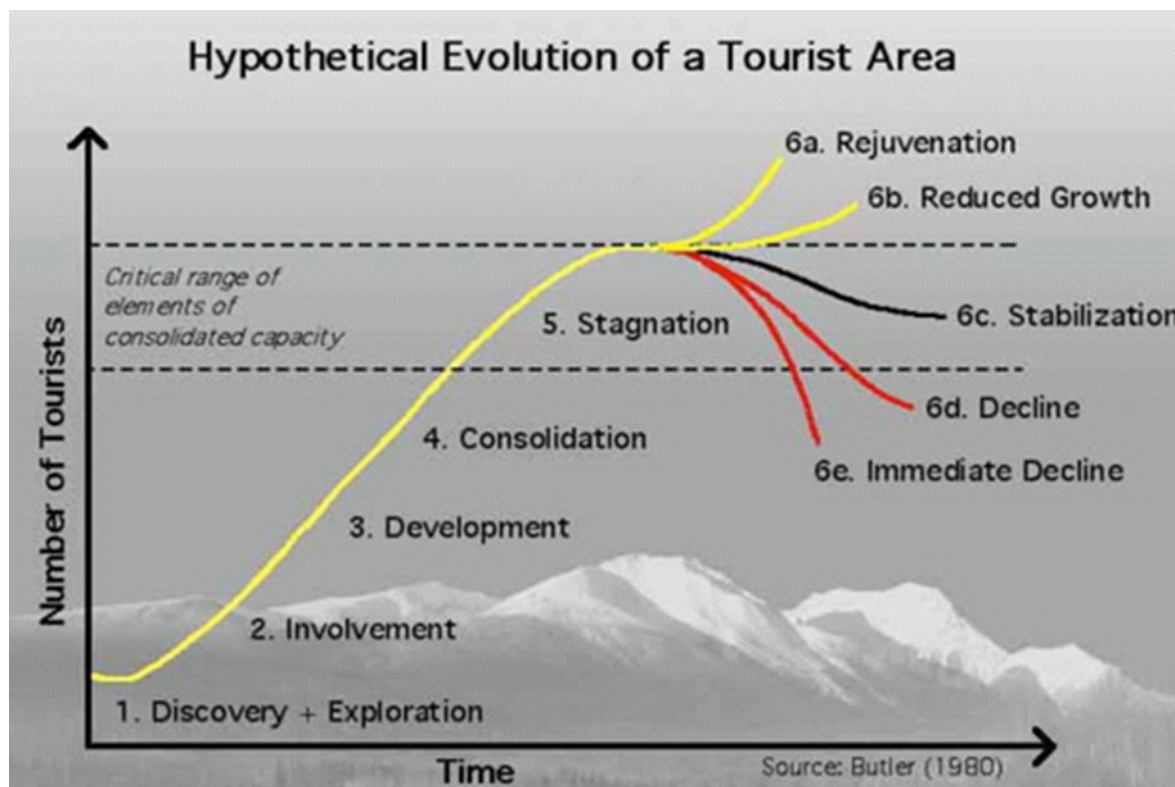


Figure 2: Butler's Tourism Area Life Cycle (Butler, 1980).

Butler (2006) admits that his original proposition lacked engagement with the politics of tourism development and has more recently realised that greater attention should be given to tourism's interaction on all levels. Tourism's dynamic involvement with various systems (including natural, political, economic, and social systems) makes it imperative for planners to consider developing a comprehensive "tourism ecology" to develop a more holistic view of tourism (Haywood, 2006). Political ecology represents a relatively plural and post-disciplinary analytical approach for mainstreaming climate change adaptation in island tourism planning.

Tourism researchers are typically biased toward a narrow disciplinary analysis. As a result, although each of the social sciences contributes to tourism studies, they are unable to shake off vestigial disciplinary methods, thereby hindering tourism studies' epistemological growth (Coles *et al.*, 2006). For example, similar to the questioning of island studies' interdisciplinarity (Fletcher, 2010), there is criticism that tourism is viewed through the narrow lenses of economic development theories, marketing, and travel psychology and yet that tourism studies is uncritically labelled as 'multidisciplinary' or 'interdisciplinary'. Coles and Hall (2006), for example, lament the reluctance of human geography researchers to appropriate the TALC model, despite being among the most-used models of tourism development and despite the model having arisen from geography.

The present paper subscribes to the perspective that mainstreaming climate change adaptation for island tourism should take into account the stage of development in the Tourism Area Life Cycle (TALC) that a case study island is currently experiencing. The paper argues, for example, that the extent to which a particular local government unit will commit to climate change adaptation for island tourism planning is heavily dependent on the involvement of the community in tourism as an economic activity. The TALC model is based on the observation that tourism destinations change over time alongside the views and attitudes of residents, visitors, governments, and other stakeholders (Martin, 2006). These political perspectives may be reflected in how people vote for their local governments, which in turn determine directions of local planning. Similarly, stakeholder efforts at climate change adaptation involving sectors such as tourism are rooted in tourism's importance as a social, political, and economic activity for the island in question (Coles, 2006; Hall, 2006).

Differing political ecologies and the level of tourism development of an island will likely impact how each of the stakeholders interact in promoting a tourism planning system that is climate-change adapted. We endorse the idea that TALC could provide a developmental foundation for further explaining stakeholder engagement with and perhaps commitment to mainstream climate change adaptation in island tourism planning.

## **6. Stakeholder group selection**

We have identified several stakeholder groups in tourism planning processes that can be expected to play vital roles in determining future planning with regard to the mainstreaming of climate change into local governance: a) the government at the various levels, especially the local level; b) tourism businesses; c) civil society groups and non-governmental organisations involved in tourism and the environment; d) local residents who are directly or indirectly involved in tourism; and e) tourists and visitors.

It is necessary to identify stakeholder groups in the specific research setting or ecology since social divisions (gender, race, class, *etc.*) and local factors can influence the results of empirical research and consequently the knowledge that is produced. Socially constructed divisions affect how these groups view their environments at various levels (Forsyth, 2003). However, the manner in which particular environmental issues are 'framed' and, by extension, how research is undertaken ultimately affect the final form of climate change adaptation for island tourism as seen through the lenses of the various stakeholders. Forsyth (2003) defines these 'framings' as principles and assumptions that underlie political debate and action. The local perception of environmental changes, like climate change are influenced by these frames. Dividing stakeholders into various groups is one means of framing.

In theory, the social construction and evaluation of a known natural phenomenon – climate change, filtered through stakeholders' experiences, economic wellbeing, tourism involvement, cultural values, and local knowledge – will form the basis for the eventual overarching planning approach for climate change adaptation for islands identified for tourism development. The values that these stakeholder groups bring to the discussion of a phenomenon such as climate change are often markedly different from the hard science worldview, and goals that result from these values will vary from one location to another. These same values, perceptions, and worldviews can constrain or enable action on perceived environmental problems.

This categorisation of tourism stakeholder groups and the premise that each group will act in accordance with its role is ultimately borrowed from anthropologist Mary Douglas' Group/Grid Theory (Douglas, 1979). Douglas initially sought to research the relationships between beliefs and the social environment and how these affect people's interactions with their environments. This approach has been applied to various fields, such as migration and tourism (Thompson *et al.*, 1990). One of the strengths of the theory is its "malleability" to various human interactions involving groups (Duval, 2006). Douglas classifies people into Groups and Grids. Groups refer to how integrated into bound units an individual feels while Grids refer to how an individual's life is affected by external prescriptive rules (Forsyth, 2003).

Douglas' work ultimately influenced what anthropologists term Cultural Theory or CT, which postulates 'Five Ways of Being', namely those of: 1) Hierarchy, represented by government organisations; 2) Egalitarianism, examples of which are NGOs and political activists; 3) Fatalism, manifested by beliefs of the marginalised and the powerless, who may turn to religion; 4) Individualism, represented by capitalists and the profit and market economy; and 5) Autonomy, basically a hermetic life, scoring extremely low on group and grid classifications (Forsyth, 2003). These groups are likewise representative of the stakeholders that have been identified for the present paper's subsequent study (see Figure 3).

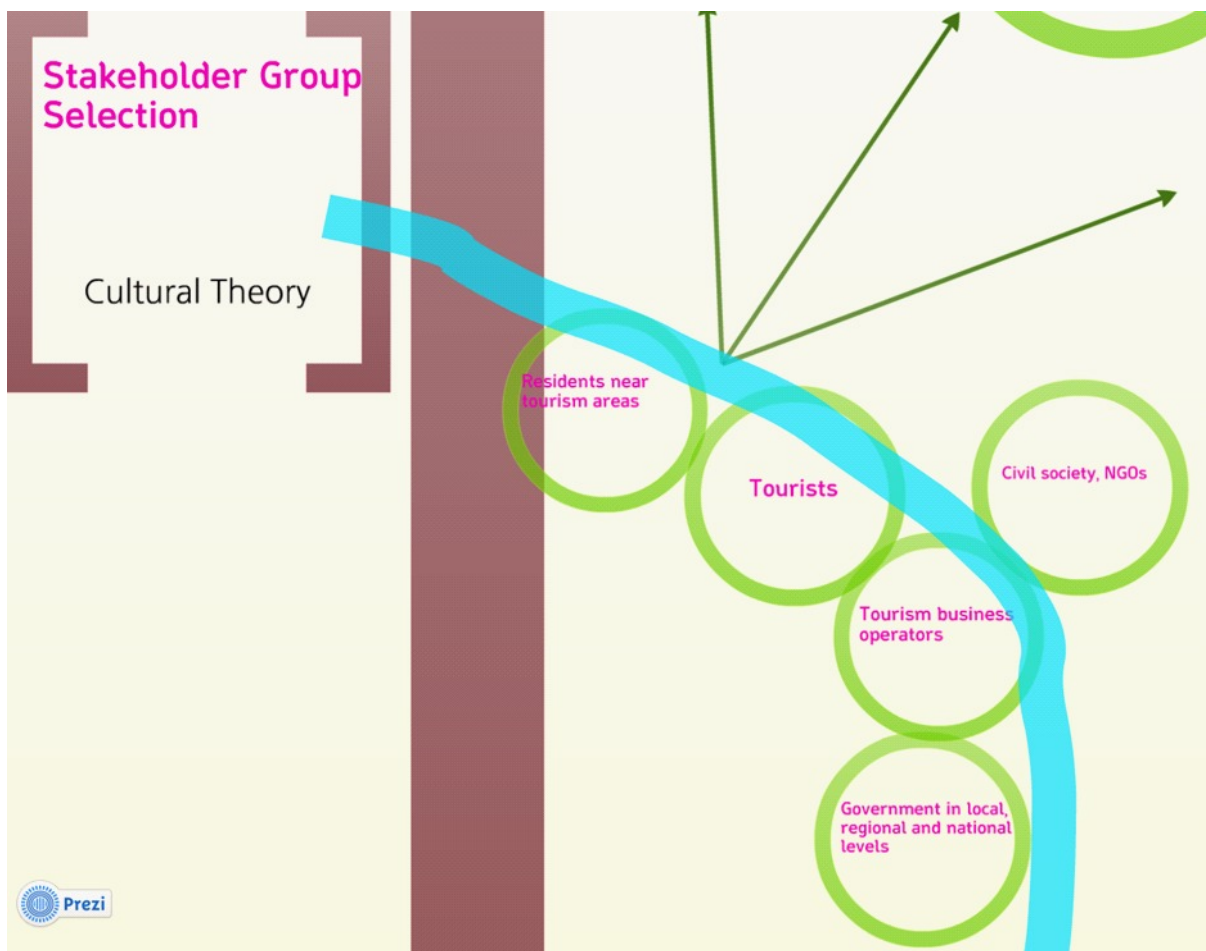


Figure 3: Research Framework Focus 2: Stakeholder Group Selection.

These groups or the individuals who most strongly identify with the groups to which they belong are likely to manifest their opinions and beliefs as “myths of nature” (Forsyth, 2003). 1) Individualists may regard nature as benign and capable of accommodating all adverse impacts. 2) Egalitarians may regard nature as fragile. 3) For hierarchical groups, nature and its impacts may be seen as perverse/tolerant, both manageable and ideally controllable. 4) Fatalists may see nature as capricious, with the result that there is no point in seeking to control or manage the environment, which always takes its due course. 5) Autonomous individuals may regard nature as resilient, thereby agreeing with individualists and fatalists and not prioritising urgent policy change.

These beliefs ultimately influence how groups react to planning policy, government interventions, and other concerns specific to tourism and climate change. It would be interesting if these views were manifested in the interviews with various tourism stakeholder groups in a research setting. These bottom-up analyses of stakeholder groups and an island’s level of tourism development, combined with classic top-down planning analyses, would ideally result in a mainstreamed process for adapting an island’s tourism industries in a manner that is both sensitive to stakeholders and appropriate to the island’s level of tourism involvement.

The combination of these approaches in tourism and cultural anthropology research into a viable political ecology research framework for island tourism planning for climate change adaptation responds to the insistent calls for localised climate change adaptation of critical livelihoods. We contend that such a research framework is replicable across temporal and spatial scales and contributes to the growing body of research for small islands, island tourism planning, and climate change adaptation.

## 7. Conclusion

This paper has appropriated political ecology as an analytical framework within which to uncover unique interventions in island tourism planning in the Philippines impacted by climate change. The framework espoused by this research approach takes into account two established theories in tourism and stakeholder group dynamics. The Tourism Area Life Cycle (TALC) is used to determine an island's level of tourism development, and Cultural Theory (CT) is used to uncover stakeholder group dynamics with regard to climate change and tourism. Understanding these two aspects of an island’s tourism development patterns and dynamics could produce better climate change adaptation mechanisms for use by agents with similar priorities in island tourism planning.

We have set out a political ecology framework, and in the follow-up paper (Maguigad, King, & Cottrell, 2015), we will deploy this framework in a study of Boracay Island, Philippines. We will uncover relationships among various Boracay stakeholder groups and how these relationships translate into practical structures for island tourism climate change adaptation. By using political ecology to inform the theory and methods of the research, we hope to generate knowledge that will advance understanding of tourism planning and development as well as climate change adaptation in the Philippines.

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