Subjectivity and the politics of transformation in response to development and environmental change — Source link ☒

David Manuel-Navarrete, Mark Pelling

Institutions: Arizona State University, King's College London

Published on: 01 Nov 2015 - Global Environmental Change-human and Policy Dimensions (Pergamon)

Related papers:

- Adaptation and transformation

- Global environmental change II: From adaptation to deliberate transformation

- Reframing adaptation: The political nature of climate change adaptation

- Adaptation to Climate Change: From Resilience to Transformation

- Reconceptualising adaptation to climate change as part of pathways of change and response

King's Research Portal

Document Version
Peer reviewed version

[Link to publication record in King's Research Portal](#)

Subjectivity and the Embedded Politics of Transformation in Response to Development and Environmental Change

Introduction

Accelerating rates of climate change and ongoing international development failures are compelling global environmental change (GEC) scholars to explore societies' capacities to purposely deliver structural transformations that simultaneously reduce inequality and vulnerability (O'Brien 2012; Moore et al. 2014). Transformation is a rapidly moving term in climate change and development research and policy. Pelling (2014) identifies applications of the term to describe: adaptive choices lying beyond the limits of incremental adaptation (Dow et al. 2012), mainstream adaptation choices that can have profound impacts on receiving social-ecological systems (Kates et al 2012), and adaptation that is a leverage point for addressing unmet development challenges (Pelling 2011). Each interpretation is legitimate but here we focus on the latter. Such emancipatory adaptations can arise spontaneously or be deliberate (O'Brien 2012; Westley et al. 2011). They do not originate in environmental change, but their dynamics and outcomes can be affected by it. For instance, a transformative process of contestation can be furthered or hindered by hydro-meteorological events or global policies that exacerbate inequalities. Outcomes from transformative processes are highly unpredictable (Pelling 2011).

Where transformation is deliberate and progressive, design will require questioning the assumptions and mechanisms underlying predominant discourses and practices of development of which climate change adaptation is an increasingly important component (Duffield 2012; Pelling et al. 2012). Accomplishing these transformations entails innovative forms of authority and subjectivity to advance inclusive and emancipatory change across cultures. It also involves a stronger emphasis in power and emancipation. This brings GEC research closer to critical theory and political ecology (Taylor, 2015). The intellectual origins and strands of political ecology are diverse, but GEC scholarship can draw on recent Foucaltian and Gramscian approaches focused on how resource users position themselves within larger fields of power, and how their involvement in ecological change is part and parcel of their own becoming as individuals (Agrawal 2005; Li 2007; Ekers et al. 2009).

We apply this to explore adaptation, and in particular transformative adaptation in Akumal: a small urban settlement in Mexico's Yucatan Peninsula dependent on beach tourism. Akumal's population, its environmental and physical assets are exposed to risk from extreme events. These have included hurricanes Emily and Wilma in 2005, and Dean in 2007. However, in policy and popular narratives, climate change, disaster risk and their management, continue to be separated from the imaginaries of everyday life. This takes risk outside of development narratives to be managed instead by disaster preparedness and response, by evacuation and reconstruction. This false separation between the drivers of risk and development are reproduced through individual and economic relations, organizational structures, land-use, environmental quality and access to basic services (Manuel-Navarrete et al. 2011). This separation is in stark contrast to the tight material and experiential coupling between risk and development. A first step in reconnecting risk and development in ways that can enable practical and philosophical engagement requires an unearthing of the historical narratives and actions that have shaped specific places and their associated social and social-ecological

relationships. This responds to the uncomfortable positioning of much climate change adaptation literature that presents adaptation as sitting on top of development or inhabiting only policy fields labelled as adaptation or risk management, and so avoiding responsibility for interacting in deeper fields of social change and stasis.

We attempt in this paper to uncover the deeper and coevolving processes of social and environmental change that give rise to risk and wellbeing and their social and spatial distribution. To draw out the centrality of power asymmetries and the diverse ways in which power can be exercised locally to shape risk and resilience – in acts that are deliberate, spontaneous, reactive or accidental, we present an analysis around three 'politics' of development. We understand politics here to signify the relations of discursive and material power held between individual actors, including organizational and collective entities extending to the extra-local state and market. We differentiate between development that presents politics of stability, resilience and radical change. These politics coexist, are messy and sometimes contradictory, but nonetheless are empirically distinctive across institutions, identities, practices and social-ecological materiality. Coexistence requires that each narrative be uncovered. There are many analytical possibilities for doing so. Here we argue that at the heart of the historical processes of capital's creative destruction of social-ecological systems lies a tension between individual and subject formation. This frame is developed below and offers two analytical advantages. First it emphasises self-identification and the labelling of others identity as processes through which the social and spatial inequities brought through change are labelled, legitimised and can be explained by social actors. Second, it offers a mechanism to connect global scale processes with local – even individual – agency and environmental change.

Authority and Subjectivity

A political ecology framework for adaptation emphasizes the dialectical relations between individuals and wider structures of development. This positions adaptation to climate change as only one expression of adaptation as an ongoing condition of social as well as social-ecological relations. Enabling adaptation to climate change becomes an extension of continuous adaptation-development pathways. Understanding why actors undertake specific adaptive behavior within particular development contexts can be helped within a political ecology tradition though the notions of authority and subjectivity. Authority objectifies subjects to divide people, including the demarcation of some as more powerful than others. This is what Foucault (1982) and Butler (1997) described as subjectivation; or the processes through which we are subjected, and actively take up as our own the terms of our subjection (Davies et al. 2001). However, human agents have the power to resist subjectivation; through self-knowledge and self-government. Personal goals, often related with personal security or emancipation can lead human agents to endorse, consent, evade, resist or oppose authority. Subjectivities are defined in this paper as the dynamic positionalities that individuals take to situate themselves in relation to processes of subjectivation (Laclau and Mouffe 1985). Any individual subjectivity is just one amongst many and coexisting possibilities of self-

consciousness. Politics of development and adaptation are often premised on authorities that promise, respectively, improvement or security in exchange for subjugation. These authorities are often presented through a lens of dichotomous subjectivities (e.g. underdeveloped/developed or vulnerable/self-reliant; security/risk) that lead individuals into traps of falsely constrained choices where achieving or maintaining freedom and wellbeing requires the perpetuation or extension of social oppression, inequality and ecological decline (Klein 2008). Differently, politics of transformation seek to open up choices by recognizing the messiness of development and risk and encouraging the transgressing of dichotomy. However, when tactics of resistance and emancipation rely on dichotomous subjectivities (e.g., oppressed/oppressors), transformation can easily turn the oppressed of the past into new oppressors.

Politics of deliberate transformation address the challenge of governing connection points and flows of influence between the transformative potential of individual agency and wider systems' pathways of change (Pelling and Manuel-Navarrete 2011). GEC scholarship can contribute by: (1) examining achievements and failures of conventional politics of change, be it seeking stability, resilience or radical alternatives, in terms of inequality and risk reduction, (2) critically assessing the exercise of authority in contexts characterized by persistent inequalities, ecological degradation and increasing environmental variability, (3) interrogating ways in which unjust and deteriorating contexts or localities make their inhabitants subjects, while some of these inhabitants freely refuse to submit and, instead, turn themselves into self-defined subjects, and (4) uncovering forms of knowledge, authority and subjectivities that enable politics of deliberate transformation.

We address these four contributions in our exploration of social-ecological change in Akumal, a coastal enclave in the Mexican Caribbean. Our lens, on subjectivities directs analysis away from adaptation as an outcome and towards adaptation as an intrinsic dynamic of unfolding socio-ecological processes. Our interest in the transformative potential of adaptation privileges an attention on the deeper social relations and associated subjectivities that help reveal points of leverage and scope for emancipatory social change. To do this we organize around three narratives of social-ecological systems change. First, stability signifies development narratives deploying the notion of "improvement by design". The meaning of improvement changes over time and is a matter of interpretation, but the realities of the powerful tend to dominate (Chambers 2013). Ultimately, that which counts as development is contingent on the distribution of social power. Second, resilience signifies local responsiveness to external threats. Resilience is a system's capacity to change in order to keep structural congruence with its changing environment. Resilience to climate (or any other environmental change, be it biophysical or socio-political) is integral to the dynamics of any local community. However, global climate change brings this pattern of change up in value to the point that supra-local organizations increasingly incorporate local resilience building as part of their development mandates and practices. Third, radical change signifies individual or local capacity for fundamental change be it in values, identity or social-ecological organization. Some radical changes are reactive and emergent. They result from the functional capacity of a system to self-organize in the face of a crisis or collapse. However, this paper focuses on deliberate

transformations; those radical changes purposefully initiated and carried out by human agents and that can be triggered or accelerated by environmental events such as hurricanes or market shocks to meet both inequality and climate risk reduction aims..

Development pathways and politics

Drawing out connections between subject formation and historical processes of change benefits from the 'pathways approach (Leach et al. 2010; Muñoz-Erickson 2014; Wise et al. 2014). This approach calls for studying 'actor-centered pathways logics' that are considered crucial for aligning multiple actors' values into collectively desirable pathways (Olwig 2012; Haasnoot et al. 2013). In this view, reflexivity is seen as a cognitive mechanism yielding different framings of a problem or situation, as well as subjective narratives about preferred pathways of social-ecological change. For instance, Stirling (2008) identified a set of reflexive processes that involve choices of symbolic boundaries and that shape actors' agendas, goals, options, issues, contexts, baselines or methods. Through its focus on agency and reflexivity, the pathways approach contributes to the formalization of deliberate transformations in climate change politics (Barnett et al. 2014; Rosenzweig and Solecki 2014).

The pathways approach is part of a broader debate about how to ground climate change adaptation in social, subjective, historical and political processes (Adger et al. 2009). This paper advances the debate by examining political spaces for deliberate transformation, defined as social and discursive space that enables reflection, contestation and purposive action to simultaneously reduce inequality and vulnerability. Such spaces are a fundamental attribute determining the trajectory and processes through which social-ecological systems will be able to reorient towards more sustainable and risk resilient pathways in specific locales. In particular, we research contemporary forms of authority and subjectivities and their evolution via the experiential, intimate and self-reflexive processes of individuals as they take positions in relation to individualizing forces of authority, including emancipatory moves (Davidson 2012). Empirical research on the interplay between societal structures and individual decision processes is becoming more common in climate adaptation literature (e.g., Eakin and Wehbe 2009; Larsen et al. 2011; Chhetri et al. 2012; Manuel-Navarrete 2013). Such research shows the importance of linking bottom-up initiatives with the agendas of agents 'at the top', who can potentially consolidate the structural transformation intended by the agents 'at the bottom'. However, despite promising developments, the challenge of effectively accounting for human agents' reflexivity remains elusive (Davidson 2013). We use three heiuristics to help draw out the ways in which different development contexts and moments constrain of shape adaptation and transformation. These we describe as development as stability, resilience and radical and change.

Development as Stability

Political spaces for stability reflect dominant social relations. These also set the context for the politics of resilience and radical change. But in assuring stability, the mechanisms of

development can be violent. In consequence, development as a national and international social, economic and political project is contradictory and contested (Smith 2010; Willis 2011).

Dominant discourses of development promise order, stability and security. The subsequent need for disciplining mechanisms to keep political subjects aligned justifies supervision. Paradoxically, this authority and the dichotomous subjectivities inherent to it (i.e., developed/undeveloped) tend to undermine the net wellbeing gains they claim to seek (Yapa at al. 1995; Kapoor 2004). A large literature has demonstrated the multiple and interlocking mechanisms for this stability trap, which expresses in uncritical consciousness (Freire 1970), administrative structures (Agrawal 2005), institutions of governance (Ostrom 2005) and routinized everyday behavior (Loftus 2012).

Stability to maintain a pathway of improvement defined by material growth justifies inequality, and inequality generates risk. Empirical research shows that beyond certain threshold inequality causes socio-ecological disruption and economic destabilization (Rogers 2014; Bartusevičius 2014; Stockhammer 2015). But missing are feedback mechanisms to deliberately challenge or correct 'stability' in the face of risk. Rather cycles of risk have become part of the dominant logic of material accumulation, as personal security, emergency response and risk transfer become new growth areas for private investment. It seems that capital has learnt to exploit risk and loss distorting these warning signs into opportunities to enhance the dominant trajectory (Klein 2008). At the same time, risk and its management are an expanding political space that provides a new window into the tensions between dominant and alternative developments at a time when the local is being reinvigorated (Cleaver 2012) and to examine these dynamics we must turn to adaptation and transformation.

Development as Resilience

Resilience denotes homeostatic change – the ability of a system to stay in equilibrium with its environment, or in a domain of multiple stable states. Political spaces for resilience sit within and alongside those of development and radical change. They indicate activities that seek to protect core functions and values of development, but that recognize some compromise with the environment may be necessary to succeed. They open a debate on the rights of those planning and enabling resilience – what is to be left behind or protected and who decides.

Despite its homeostatic nature, climate change scholars often assume that resilience is attainable through centralized or hierarchical control. Organizations, such as governments, are thought to be able to coordinate local organizational response to environmental change. This suggests two different conceptualizations of resilience: (1) a self-organizing phenomena driven by non-hierarchical forms of collective action that can include networks, markets, as well as random interactions, and (2) a hierarchically directed form of development initiated by centralized authority as a planned response to a perceived or anticipated change in the environment. Each conceptualization involves distinctive forms of authority and subjectivities.

Resilience based on centralized control allows making climate response amenable to developmental interventions. However, it is not clear whether resilience can be achieved 'by design' (Huntjens et al. 2012). There are inherent uncertainties in determining whether a system's future state will actually be more resilient, particularly when we cannot predict the multiple environmental changes that may occur as a system attains a pre-designed state of adaptation (Belliveau et al. 2006). Given the hegemony of development discourse and practice, it is not surprising that resiliency scholars adopt developmental framings so that hierarchical forms of authority can be put at the service of resilience. As a new political subject, the vulnerable are offered or recast into becoming self-reliant, resistant or adapted as part of the politics of resilience (Duffield 2012). People's consent or compliance in adopting these new subjectivities is to be gained in exchange for access to the perceived benefits of resilience. Such benefits often align closely to dominant development trajectories limiting scope for transformation..

Development as Radical Change

The dominant stability of development paths is manufactured through centralization of authority and the promotion of certain subjectivities, but when challenged can point to moments and movements for liberation (Pelling et al. 2014). Radical change arises from these spaces and associated pathways. At the heart of this challenge lies a tension between the individual and subject. The development subject, as critically aware, can engage in self-led reproduction and the instantiation of alternative practices, institutions and potentially governance arrangements. This is not to romanticize local and individual behavior. However, given the intransigence of macro-policy that seems to be intensifying rather than challenging dominant development and reproducing unsustainable and inequitable futures (Brooks et al. 2009), climate adaptation scholars look again at the local as a political base for radical change to facilitate transformative alternatives (Ayers and Huq 2013; Dodman and Mitlin 2013). Through this lens, adaptation as part of the unfolding of social-ecological systems pathways and as a site of social and public organization and action can be a catalyst or vehicle for transformation (Marshall et al 2012).

Deliberate, radical changeis purposefully aimed at challenging and transgressing established authorities. In climate change adaptation, deliberate transformation aims at challenging authorities that foster or perpetuate unequal risk. Discourses for transformation and radical change originate in the making of emancipatory subjectivities, which break free from the status quo (Laclau and Mouffe 1985). These divergent subjectivities compete within each individual with other subjectivities creating internal tensions between: order versus change, known past versus uncertain future, or predictable versus unpredictable. Emancipatory subjectivities can crystalize around some basic ideas that provide the basis for the emergence of counter-hegemonic authority. Gramsci (1988) formalized this authority in terms of counter-hegemonic blocs emerging from civil society in opposition to hegemonic historic blocs. Counter-hegemonic authority promotes subjectivities based on oppressor/oppressed dichotomies to promise freedom and emancipation. However, emancipation by definition involves lessening

external authority, while total emancipation would end authority. Therefore, discourses and practices that promise emancipation need to be seen as new modes of control from which subjects can again emancipate, thus continuing the seemingly endless dialectical tension between authority and subjectivity (Laclau 1992).

Methods: Studying Subjectivity and Authority in Akumal

Akumal is located in Quintana Roo on Mexico's hurricane exposed Caribbean coast. Its social history draws both from the symbolic independence of forest working gum tappers, and the indentured labourers of plantation estates. In the last 40 years, large-scale private and state capital has enabled the rapid development of the coast for international tourism. Mangroves and coastal forest have been replaced by increasingly capital-intensive investments in all inclusive hotel, golf courses and service settlements. Civil society including organised labour is weak with political affiliation tied closely to national party structures (Redclift et al. 2011). Other work has shown the region to have built effective disaster risk management and response capability, but that this together with the intransigence of development and limited political space has constrained scope for adaptation and curtailed all but the most limited capacity for transformation (Manuel-Navarrete et al. 2011). Set against this background the analysis below draws out the importance of subject formation within political spaces organised for development through logics of stability, resilience and radical change. We focus on everyday social relations oriented towards social as well as social-ecological threats as perceived by respondents. This places adaptation to climate change (and its transformative, emancipatory potential) within an analysis of development.

Study Area

Akumal (meaning "home of the turtles" in Maya) is a coastal tourism enclave in Mexico's Mayan Riviera located approximately 70 miles south from the major tourist destination of Cancun (Figure 2). Akumal consists of a 10-mile tract of Caribbean coast. Since the inauguration of Cancun in the 1970s, the Mayan Riviera has undergone rapid tourism development leading to growing ecological fragmentation, deforestation and environmental risk (Soto-Estrada 2008). The area is exposed to hydro-meteorological hazards, such as tropical storms, the impacts of which are likely to increase from global climate change (Saunders and Lea 2008). The frequency of high intensity hurricanes in the Atlantic depends on sea surface temperature, which is in turn a function of air temperature (Elsner 2006). The 2000s was the decade with the largest number (3) of high intensity hurricanes to hit the Mexican Caribbean. One of them, Wilma, was the most intense Atlantic storm on record. The area of Akumal was evacuated and suffered substantive material loses from Wilma (Personal communications with interviewees). Beach erosion is one of the major impacts of hurricanes in the Mayan Riviera, which can be aggravated by sea-level rise. The rate of erosion in Akumal beach between 1978 and 2005 was 2.1 feet per year (Márquez García et al. 2010).

When Akumal was founded in the early 1970s, business owners and workers shared a contiguous living space, adjacent to the beach, and closely intermingled. In the early 1990s,

business owners and the regional government promoted segregation by pushing workers to move to the inland side of the 307 Federal Road, which runs parallel to the coast (Figure 2). On the road's seaside, Akumal Playa (hereinafter referred to as Playa) became a resort that contains some small hotels and vacations residences spreading along the shoreline and owned by a few hundred American and European ex-pats and a small number of Mexican entrepreneurs. South of Playa is the Bahia Principe Resort; an all-inclusive 3,000 bedroom complex built in the late 1990s, and owned and operated by a Spanish corporation. Opposite to Playa, and separated by both the road and a quarter-mile wide forest strip lies Akumal Pueblo (hereinafter referred to as Pueblo); a Maya/Mestizo town of over a thousand inhabitants created by workers. Also on the interior side of the road and with similar demographics, but four miles to the South, lies Chemuyil, a service town created by business owners to relocate the workers from Playa.

Life-story Interviews

This paper is a first step in the challenging, and never neutral, task of using people's categorizations to understand subjectivities, and how these shape the operations of power that constitute adaptation and development in specific contexts.

We conducted life-story interviews (n=32; 21 men, 11 women) in 2011 and 2012 amongst tourism business owners, managers, workers and residents in Playa, Pueblo and Chemuyil. Interviews elicited the inner dialogues through which individual agents relate to themselves and their socio-ecological contexts (Bochner and Riggs 2014). Informants were identified via a snowball approach focused on long-term dwellers that were recognized by others as players in local processes of change. All interviews were taped and transcribed. Codes were assigned manually while in the field as basic themes, phenomena and categories emerged (Basit 2003). Many interviewees from the three locales used the term "workers" to individualize the inhabitants of Pueblo and Chemuyil. Interviewees from Pueblo and Chemuyil often used the term "entrepreneurs" [*empresarios*] to identify the inhabitants of Playa. However, other terms were also used, including more neutral spatial categories such as "the people from" Pueblo, Playa or Chemuyil. Our voice in the narrative presented below prioritizes certain categories, such as "workers" and "business owners", as we discuss the politics of development, adaptation and transformation. We acknowledge that in these choices we exert authority to promote certain subjectivities. However, we include in our narrative other categories used by the interviewees to classify themselves and others.

Life-story interviews are self-reflexive and relational conversations in which the researcher asks the narrator to tell stories about his or her life experience and personal interpretations of lived events (Atkinson 1998). The focus is on people's experiences, meanings and personal identities. People's stories may include facts - the actual, but also possibilities and desires- the not-yet-manifested and the good. Our "generative question" (Riemann 2006) sought to prompt narratives about the interviewees' involvement in community change. It was left to respondents to demarcate "community". Two men in Pueblo and one woman in Playa were classified as key informants and subjected to recurring interviews (Tremblay 1989).

Change, Authority, and Subjectivities in Akumal

Akumal is an unlikely encounter of tourism entrepreneurs, American ex-pats and Mestizo/Mayan farmers interacting in an enclave of locally controlled tourism development. This provides a rare opportunity for research on a relatively bounded social-ecological system that can surface the overlapping but discrete contexts of stability, resilience and radical change in individual and collective development trajoectories. We outline these development periods below through the lens of subjectivation to draw out the potential and lived moments for individual and collective adaptation. In particular our lens helps to identify when transformative adaptation arises in response to the coupled pressures and opportunities of development and risk.

With practical absence of government authority, entrepreneurs controlled development discourse and practice. The subjectivities brought by individuals to Akumal became entangled in new processes of subjectivation, as well as opportunities for self-knowledge and self-government. Entrepreneurs and American ex-pats found in Akumal emancipating opportunities to break free from certain routines of modern urban life and reconnect with nature. Mestizo/Mayan colonial subjects were pressed to become tourism service workers while some seized the emancipatory potential of subjectivities constructed from indigenous rebellion and class struggle.

Establishing Stability

Authority for Akumal's development was initially instituted in a single individual: Don Pablo Bush, a Mexican-American adventurer and owner of the Ford automobile dealership in Mexico City. He provided the original vision, governance structure and material expression of development for the town. Bush acquired land rights from the Mexican government in 1973 to develop the resort. He envisioned a small, laid-back resort with condos, two restaurants, a dive club, two hotels, a small supermarket and about a hundred two-story beachfront villas. He created a governing body, the Akumal Yacht Club, to implement his vision and gathered about 30 like-minded people to join the club. An entrepreneur's wife invited by Don Pablo describes how moving to Akumal changed her urban subjectivity: "I saw all the beauty. I was not looking for it because I was hardly starting to get tired of Mexico City. However, when I started to live in one of the bungalows by the beach I thought: I would not change this for anything else, and I had a luxurious penthouse downtown in Mexico City. The thing is that nature talks to you. [...] we had decided to come to live here, we were raising our kids here. [...] One feels the ownership over the land, I belong here!"

Mestizo/Mayan farmers from central Yucatan constituted the workforce that built and labored the resort. In Mexico, Mestizos are people of mixed indigenous and white background; but in Yucatan, Mestizo is a political subjectivity made after the Caste War (1847-1901), the bloodiest and most militarily successful indigenous/peasant rebellion in Latin America (Reed 2001). With this revolt, Indio-Maya colonial subjects set a politics of radical change that rendered new identities, which are still contributing to subjectivity dynamics in present-day Akumal.

Indigenous fighters reinvented themselves as the Cruzob (People of the Cross). In 1848, Cruzob forces almost succeeded in driving Caucasian invaders (or *Dzul*) from the peninsula (Rugeley 1996). The Mexican government re-established political control in the northwestern part of the peninsula, but Cruzob resisted colonial authority until the end of the 20th Century by retreating into the peninsula's lush southeastern forests (Jones 1998). Mexican authority divided the Indio-Maya into: Rebel Maya, and Pacified Maya. Subjectivity of pacification, a term originally coined by Spanish Conquistadores, fell into disuse and was replaced with the term Mestizo to designate subjects of indigenous background who, independently of genetic makeup, joined work in haciendas and dissociated themselves from rebels (Hervick 1999). Mestizos working in haciendas or subsisting as autonomous farmers moved to Akumal to become tourism workers. Promotional tourism strategies exoticize Mestizos as descendants of an ancient and mysterious culture to be discovered by tourists (Magnoni et al. 2007; Jamal and Camargo 2014). The persistent power of tourism subjectivities was evident in our interviews. Workers who had (either proudly, or hesitantly) initially identified themselves as Maya, shifted to Mestizo subjectivities in the unfolding of their narratives.

Other subjectivities emerged in interviews in relation to the resort itself along economic (e.g., employer/employee), ethnic or cultural divisions. During the 1970s, a floating population of about fifty Mestizo-Maya workers was temporarily accommodated in two strings of shacks at the entrance of the resort. In some respects, this reproduced the organization of labor of haciendas, but given the temporality of tourism and other factors, workers were not encouraged by business owners to settle. In this sense, workers were left outside of development subjectivities and subjectivized instead as proletarians and outcasts (identifications pre-dating development discourse). In the 1980s, increasing numbers of families seeking permanent housing built their own *Palapas* (i.e., thatched-roof wooden huts common in the Caribbean) around the shacks. An informal settlement, the *Jatos*, emerged contiguous to the hotels (Figure 2). The development pathway set by Don Pablo started to derail. As we discuss in the next section, this led a transition in Akumal's authority, and the emergence of a politics of resilience to cope with the threat of Mestizo immigration.

From Stability to Resilience

In the early 1990's, three external pressures threatened Don Pablo's vision for slow, centrally controlled and highly exclusive development. This produced a shift from a local politics of development that sought stability and reproduced dominant social structures to a local politics of resilience where original visions and practices enscribed through land-use and ecological relations were adapted to new pressures. Here, local administrative structures, land-use and narratives of identity emerged that strengthened Akumal's capacity to adjust to environmental threats.

First, larger numbers of Mestizos continued to arrive by word of mouth and settled in the *Jatos*. Some workers tried to regularize the settlement through calls to government authority, but their efforts never prospered (Manuel-Navarrete 2012). They illegally connected their homes to the

power grid and found ways of accessing drinkable water. Their stories describe personal discovery of a beautiful beach, encounters with tourists, nights spent by the sea, but also hard work, conflicts with employers, family dramas and the devastation caused by hurricane Gilbert in 1988. Gilbert tore the *Jatos* apart. Workers sought refuge at the school and hotel buildings made of concrete. They report experiencing great fear and uncertainty due to unfamiliarity with the phenomenon, but no casualties. Workers relied for recovery on kinship networks connecting them with their original homes inland. Current Playa entrepreneurs and residents recall the *Jatos* very differently. Their narratives focus on aesthetic problems, unsanitary and unlivable conditions, and the threat that the *Jatos* allegedly posed for tourism business. These narratives emphasize disorder, overcrowding, waterlogging and pests. For instance, three informants uttered the idea that: "workers had to sleep with the lights on because there were rats at night". About half of Playa informants agreed that the *Jatos* was an eyesore or bad for tourism, while others tended to disagree with this assessment. Nevertheless, negative perceptions in Playa contrast with workers' nostalgia. For instance, one of the most enthusiastic workers from Chemuyil remarked: "The *Jatos* was the maximum! People lived in their *palapas*, the floor was smooth, made of concrete, always fresh, and in the evenings: swimming until dusk!". Playa's narratives of the *Jatos* suggest subjectivities of underdeveloped workers living in poverty and in need of assistance to overcome their dire situation. On the contrary, workers' narratives suggest emancipatory possibilities associated with access to coastal ecosystems. Two women from Pueblo illustrate this: "Any minute I was not spending at work I used to spend it on the beach. Some days I would spend the entire day there just sitting, I only moved if I had to go to the restroom [laughs]"; and: "This was the happiest time of my life. We used to go to the beach and make a fire and play games. Now they do not let us enter the beach at night. They say that we are going to steal or to bother the turtles".

Second, management change in the Yacht Club pushed Akumal towards a development trajectory away from Don Pablo's ideal of an exclusive resort to breaching the stability of his vision and its connection to a 'pristine' nature. Don Pablo brought this threat upon himself when he teamed up with a Canadian entrepreneur, Ken Morgan, and gave him a 30-years concession to operate the Yacht Club. Ken built his own hotel using plywood and other cheap materials and had a falling out with Don Pablo. He was also accused of mismanaging the Club' restaurant. A former Club member described this period as a time of decay: "That which was just flourishing started to die out because the Canadian brought his prefabricated hotel. Things turned bad even for him [due to the bad look]. He also bought another hotel. At this point Akumal started to rot. It was literally stinking due to general neglect". This individualization of the "bad entrepreneur"; not attuned with Akumal's vision of eco-development, is central in Akumal's politics of adaptation.

Third, the government and tourism corporations accelerated the expansion of Cancun's corporate-style tourism to the south. The Cancun-Tulum Corridor Ecological Land Zoning was launched in 1994 and it included specific hotel room densities for the land surrounding Don Pablo's property in an attempt to rationalize development. Local authority and eco-resort identity were threatened by global tourism's aggressive expansion of all-inclusive resorts along the Mayan Riviera. In Akumal, some ex-pats who had bought land from Don Pablo started

building vertically. An interviewed Bush family member explained Don Pablo's disappointment as follows: "He thought that Akumal would be a small place, semi-private, without mass tourism or [snorkeling and diving] tours in the bay. Now there are many boats. He never imagined that there would be three story condos. Once, […] he saw a three-story condo and asked: Why is that there? Why has it not been pulled down? For him it was illogical that someone could build such a building in a land that he had classified as low density".

The aforementioned external threats contributed to instituting a politics of resilience. This politics required demarcating clear boundaries to leave the threats outside, and decentralizing authority with the goal of strengthening the system's capacity to adjust to environmental threats. Boundary demarcation meant removing the *Jatos* and relocating workers outside. The new authority meant dismantling the Yacht Club to regain control over development and decentralizing governance with the creation of an environmental NGO: *Akumal Ecological Center* (CEA for its Spanish Acronym). CEA facilitated participation of Playa residents in the community's affairs and provided legitimacy for governing Akumal's socio-ecological system. It helped bind residents together in defense of the socio-ecological system, while effectively segregating workers.

CEA's authority supported subjectivities of emancipation from urban life through reconnecting with nature. This form of authority conferred a distinctive trait unique in the Mayan Riviera and uncommon elsewhere. The provision of environmental protection requires and bestows territorial and spatial authority. In the Mayan Riviera, it also legitimizes keeping the area away from regional government authority. On the one hand, the government is widely perceived as lacking willingness and capacity to fulfill its environmental protection duties. On the other hand, the economic value of environmental quality is discursively acknowledged due to its purported role in attracting tourism. Unlike other environmental NGOs, CEA's authority is financially supported through stable income coming from the rental of buildings and spaces that belonged to the Yacht Club. Despite CEA's valuable contributions to protect the environment, workers argue that its main goal is to keep them away from the beach and use conservation to justify segregation.

The externalization of the perceived threat posed by workers proved much more difficult, perhaps due to the fact that their labour is integral to the enclave's internal organization. Another complication was that workers had to be relocated to land owned by the regional government. Therefore, the collaboration of governmental authority was required. Business owners and the regional government agreed to create a new service town; Chemuyil, built from scratch four miles to the south from Akumal (Figure 2). Interviewees from Playa highlight the improvements brought about by Chemuyil to workers and local ecosystems. In their view, it offered better housing conditions, land regularization, access to urban services, real estate property and "proper" urban living. However, the majority of Playa residents admit that construction in Chemuyil was of poor quality and tainted by corruption and opportunism. Residents who did not own a business or of European origin were generally more critical with the relocation, a few pointing to the lack of integration of workers as a community's failure. Nevertheless, relocation to Chemuyil was generally seen as necessary to preserve the tourism

enclave's image and guarantee its orderly development. Ecological concerns were prevalent due to fears that uncontrolled growth in the *Jatos* would end up degrading ecosystems.

Informants did not remark that moving workers to the inland side of the road would reduce exposure to hurricanes, illustrating the alienation of development narratives from risk exposure even amongst the most vulnerable. This is surprising given the temporal and spatial proximity of Hurricane Gilbert, dubbed "the storm of the century" for breaking all meteorological records as the most powerful hurricane in the Western Hemisphere (Clifton 1991). One possible explanation is that workers' high mobility and replacement size enabled the adaptive capacity of the labor force at the population level, despite soaring material loses at the individual level. In fact, the *Jatos* escalated its growth after Gilbert while no apparent measures were taken to cope with future storms.

Workers in Pueblo and Chemuyil describe the relocation as a process of land dispossession and privation of access to coastal ecosystems. Many evoked negative feelings prompted by business owners' rejection. For instance, a male worker from Pueblo felt that "[entrepreneurs] did not want us here because they thought we made the place ugly for tourism". Workers also complained about discrimination from their own government. A major concern was moving miles away from workplace. The majority described Chemuyil houses as small, poorly built and overpriced. Buying a house involved signing a binding contract for thirty years and paying high-interest mortgages that were largely a foreign practice for Mestizo-Maya families. It is not surprising that by 1991, when housing units in Chemuyil were completed, only about ten families had willingly moved in (Personal Communication with one of the first workers to move). Workers claim that business owners threatened to fire them unless they bought a house unit. Despite these alleged intimidations, many decided to reject the "offer". In 1992, pressed by local authorities and business owners to abandon the *Jatos*, those who had rejected moving to Chemuyil retreated into nearby government-owned forests to establish a new version of the *Jatos* in the *Crucero* (the Crossroads, in reference to the crossing of the Federal road and the byroad to Playa) (Figure 2).

Politics of Radical change

Local expressions of radical change came when workers' resistance to business owner's authority reproduced Cruzob strategies. Retreating into the forest required adaptive knowledge about how to survive in local ecosystems, as well as the ability to rapidly build shelter. There were multiple relocations. Maria was a child at the time, but she keeps vivid memories of this period: "We lived invading and they moved us away, and we kept building another *palapa*. […] They wanted to move us out by force. My dad always said that we were going to stay until the end. […] There were people in the politics [*la política*] who were on the side of the people who wanted to take us away." This narrative points to the alliance between business owners and some politicians, and the determination of workers to resist and revolt against subjectivations imposed by government and Playa's authority. Moving to Chemuyil involved accepting economic and cultural subjugation and renouncing newly acquired subjectivities as Akumal beach dwellers (Figure 3).

Workers' resistance was high risk. Living in the *Crucero* meant constant exposure to the equivalent material effects of a storm. In Maria's words: "It was very sad because every time we were moved we had to start over again. Sometimes we did not have enough time to build a floor". Concrete houses in Chemuyil could potentially eliminate risk of eviction while significantly reducing vulnerability to hurricanes, but workers have already instituted a politics of transformation. They were concerned with the injustice and discrimination engendered by Chemuyil's alternative and ready to transgress Playa's adaptation authority. Maria articulates well workers' persistent sadness caused by an unjust arrangement: "The worst is to see how much we have suffered here to get a piece of land and then some people come here with money and they get their house right away".

Workers' narrative about the *Crucero* takes a dramatic turn from initial passive resistance to a more active emancipatory discourse around the idea of "The Fight" ("La Lucha"). Allan Hernandez Juarez, The Fight's main leader, coined the term from his participation in Central American revolutionary movements and other revolts in Mexico. In his view, the term is (or was) popular across Latin America to designate any form of liberation from oppression and any struggle for justice and rights. In 1990, Allan moved to the *Crucero*. He was not Mestizo-Maya, but decided to live "with them and as one of them", because "they are the most disadvantaged people in Mexico". He also claimed that his grandfather was Maya. Born of an indigenous mother, Allan escaped from his home in El Salvador in 1959 at the age of twelve and travelled on foot to Costa Rica, just to be arrested in Nicaragua by Somoza's police. After two weeks in prison, Sandinista revolutionary forces freed him to spend a few months with guerrillas before continuing course to Costa Rica. Two years later Allan was back in El Salvador fighting for the Revolutionary Popular Bloc. At the age of 16 he moved to Mexico and was adopted by a new family. His tempestuous childhood and witness to murders of fighters in Central America and Mexico contributed to fix in Allan a rebellious and emancipatory subjectivity and positionality to oppose repressive authority on principle.

Back in 1990, Allan decided to start The Fight the morning a business owner from Playa threatened him with eviction from the Crucero: "He owns a hotel and came to overwhelm me as they used to do with all employees, but they did not employ me and could not threaten me. […]. This day I decided to fight for the town's regularization. I said to myself: 'nobody can oust me! I will leave this place whenever I want!'". The Fight built on syndicalist subjectivities adopted by some workers prior to Allan's arrival. Jose Burgos had instructed Mestizo workers in syndicalism during the late 1970s and some in Akumal had joined the State's Gastronomic Union. Workers describe Burgos as a "person with strong and combative personality", and readily identified Allan as someone with the same personality. Nevertheless, syndicalism in the Mexican Caribbean is hierarchically organized under close guardianship by the clientelistic structures of the Institutional Revolutionary Party (PRI) (Kray 2006). This debilitated the Gastronomic Union's effectiveness in Akumal (Manuel-Navarrete 2012). The Fight's authority promoted subjectivities of workers as sovereign to decide how to create their own town (*Pueblo*), build their own houses as they pleased, and have free and legal access to land. It weaved indigenous, peasant, labor and nationalist narratives of liberation. This hybridization

of narratives provided new grounds for subjectivities that allowed workers to reposition themselves outside the purview of regional and local authority, and as part of a larger struggle.

By 1995, workers stopped recognizing the power of regional and local authority to determine land access rights. When the government's delegate and two policemen started once again to tear *palapas* down in the Crucero, workers gathered in rage and chased the delegate who had to run and hide for his life. The mob tore down two billboards put up by the government to warn that living in the Crucero was a punishable crime. A few months later category 3 Hurricane Roxanne hit the Mayan Riviera and knocked down the *Crucero*. Many sought refuge during the hurricane in hotels, CEA buildings and concrete shacks by the beach. The conflict was put aside during the hurricane and solidarity between business owners and workers prevailed, but the latter found themselves homeless once more. A few weeks after Roxanne, a public draw was held to assign lots in the new Pueblo. Each lot of 200 sq. m cost 5,000 pesos; twice as big and 24 times cheaper than Chemuyil's lots. The details of the political process leading to this draw are discussed somewhere else (Manuel-Navarrete 2012). A cursory analysis may conclude that Roxanne caused the creation of Pueblo, but our research indicates that it was just a factor that perhaps accelerated the decision that the government had already taken in response to The Fight. This supports the idea that environmental changes rarely determine the direction of socio-ecological transformations even though they can influence their pace (Pelling and Manuel-Navarrete 2011).

Pueblo's location facilitated beach access, but business owners continued promoting subjectivities of workers that alienated them from the beach, arguing that their presence poses threats to both ecosystems, and tourism operations. Workers use the beach during the day, but confine themselves to a reduced section by the main access partly due to the hostility they perceive from hotels' surveillance strategies. Business owners implement an illegal "beach curfew" after dawn, and there is always talk about closing down beach access, which is a common, although illegal, practice along the Mayan Riviera. CEA justifies surveillance practices through discourses of environmental protection that reduce climatic risk. However, this does not take into account that this segregation may be generating other risks and hindering local climate change adaptation.

It is unquestionable that Don Pablo's development vision and the politics of adaptation promoted by CEA have somehow contributed to reduce socio-ecological vulnerability to GEC. As a result, Akumal is more resilient than Cancun and nearby all-inclusive resorts adjacent to Akumal. Many beaches along the Mayan Riviera needed mechanical replenishment after Hurricane Wilma and continuous maintenance from geo-engineering companies (Buzinde et al. 2010). However, the main stressor to coral reefs ecosystems in Akumal is not originated in tourists accessing the beach, but in groundwater discharges of sewage combined with frequent hurricanes (Harvell et al. 2007). These stresses cause eutrophication of coastal waters and proliferation of coral diseases (Baker et al. 2010; Lacey et al. 2013). Even though part of Akumal's water pollution comes from upstream, a significant portion is locally generated and there is practically no infrastructure for treating wastewater neither in Playa nor Pueblo. Therefore, CEA's beach access policing is missing the major causes of GEC risk, while creating obstacles to collaboratively tackling them.

Addressing wastewater pollution requires cooperation with Pueblo, but this cooperation is hindered by inequality and a politics of adaptation that subjectivizes workers as alien to the socio-ecological system. This is points to the need of conceptualizing risk and inequality as interdependent. An anonymous post at AkumalBayInfo, a webpage presumably administered by Playa business owners, discussed the ongoing beach access dispute between Playa and Pueblo as follows: "There should be no social unrest in Akumal; there should be no personal attacks on individuals of the CEA administration and board. There should be respect for private property rights. […] This is not about foreigners vs. Mexicans or rich vs. poor, as the *Piratas* [an organization constituted in Pueblo to operate tours in Akumal beach] have stated through the press." Our research provides leverage points to deliberately overcoming political divisions that hinder climate change adaptation through revisiting and seeking to unravel the past rather than ignoring it.

Conclusion: Climate Change, Inequalities, and Deliberate Transformations

Adaptation is a general pattern of social-ecological change. Reducing adaptation to a particular policy intervention or policy process ignores that social and ecological systems, and their components (including ourselves), are constantly adapting. Furthermore, adaptation is just one amongst many possible patterns of social-ecological change. Development, transformation, as well as other patterns not explored in this paper, can individually and concomitantly modify the internal organization and environmental interactions of social-ecological systems. All these patterns of change are fundamentally political. That is, their outcomes and dynamics are contingent on existing forms of authority and subjectivities, which are also in constant movement. Each pattern of change (developmental, adaptive or transformative) is structurally coupled with a type of politics, or pattern of relations between authority and subjectivities. On the one hand, authority makes subjects in order to shape their freedom and empower them to act in certain ways (Dean 2010). On the other hand, authority does not constitute freedom, which originates in agents' reflexive capacities of self-knowledge and self-government (see Figure 1 above). Unlike related concepts such as 'decision-makers' or 'actors', agency entails non-functionalist characterizations of humans that emphasize their relative freedom from structures (Brown and Westaway 2011; O'Brien 2012). This significantly complicates how social-ecological systems respond to changes in climate. It calls for the exploration of the subjective dimension, and its operations under instituted authority. Not only are the individuals participating in a system constantly changing internally, but also new subjects join or leave at any point, which can potentially influence other subjects, refashion authority or even create a new politics of change altogether. This paper offers an initial step to address this set of analytical challenges and in so doing opens space for a broad agenda of future research on adaptation as development and deliberate transformation.

Identifying and understanding predominant types of politics in a system is important when thinking about climate-related interventions that seek to address both risk and inequalities. For instance, an intervention seeking to promote climate adaptation might be easier to implement in a system dominated by a politics of adaptation than in one where a politics of development

is prevalent, while a politics of transformation may present new, but often ephemeral, opportunities or barriers for climate adaptation. As shown in Akumal, a key consideration in a politics of adaptation is how the boundaries of the system are demarcated: Who is excluded, and how? Overcoming ethnic and cultural divisions will likely be central. In systems dominated by a politics of development, external interventions aimed at adaptation might need to deliberately transform an established development trajectory or vision (Manuel-Navarrete et al. 2011). Divisions that are intrinsically generated by the very development process, such as developed/underdeveloped, need to be considered by climate-related interventions to avoid contributing to perpetuating inequalities. Climate adaptation scholars need to question the degree of democratic control of a politics of development, the credibility a current development pathway enjoys or its compatibility with different climate-related interventions. In contexts characterized by a politics of transformation, the key question for climate adaptation scholars is whether climate-related interventions can add to coalitions of actors and subjectivities that are seeking to disrupt forms of developmental or adaptive authority that increase risk or inequality. While transforming developmental politics means changing goals, transforming adaptive politics involves changing the demarcation of system boundaries. Another important question is how to deliberately deliver transformations that institutionalize the goal of simultaneously reduce risk and inequalities.

Deliberate transformation suggests that radical social-ecological change can happen in an organized way or even through consensus. This is where a pathways approach may provide a useful lens to represent entwined processes of change and their inertias, and envision ways of democratically steering future transformations, like finding routes of convergence that allow divided subjects to come together in order to tackle climate-related challenges. The analysis presented here is useful to understand the pathways that brought Akumal to its present situation. This can in turn help to envision plausible future pathways, including how current political dynamics might favor or block them. Understanding suboptimal previous pathways and the subjective reasons (e.g., certain positionalities adopted by specific individuals) that make these pathways robust to change might be a first step to deploying a politics of deliberate transformation.

References

Adger, N.W., Dessai, S., Goulden, M., Hulme, M., Lorenzoni, I., Nelson, D.R., Naess, L.O., Wolf, J., Wreford, A., 2009. Are there social limits to adaptation to climate change? Climatic Change 93, 335–354.

Agrawal, A. 2005. Environmentality: technologies of government and the making of subjects, London: Duke University Press.

Atkinson, R., 1998. The life story interview. Sage. Thousand Oaks, CA.

Ayers, J., Huq, S. (2013). Adaptation, development and the community. In J. Palutikof, S.L. Boulter, A.J. Ash, M. Stafford Smith, M. Parry, M. Waschka, and D. Guitart (Eds.), Climate adaptation futures. Oxford: Wiley, 203–214.

Baker, D.M., Jordán-Dahlgren, E., Maldonado, M.A., and Harvell, C.D., 2010. Sea fan corals provide a stable isotope baseline for assessing sewage pollution in the Mexican Caribbean. Limnology and Oceanography 55(5), 2139-2149.

Barnett, J., Graham, S., Mortreux, C., Fincher, R., Waters, E., Hurlimann, A., 2014. A local coastal adaptation pathway. Nature Climate Change 4, 1103–1108.

Bartusevičius, H., 2014. The inequality–conflict nexus re-examined: Income, education and popular rebellions. Journal of Peace Research, 51(1), 35-50.

Basit, T. 2003. Manual or electronic? The role of coding in qualitative data analysis. Educational Research 45, 143–154.

Bassett, T. J., Fogelman, C. 2013. Déjà vu or something new? The adaptation concept in the climate change literature. Geoforum, *48*, 42-53.

Belliveau, S., Smit, B., & Bradshaw, B. 2006. Multiple exposures and dynamic vulnerability: evidence from the grape industry in the Okanagan Valley, Canada. Global Environmental Change, 16(4), 364-378.

Bochner, A.P., Riggs, N.A., 2014. Practicing Narrative Inquiry. In: Leavy, P. (Ed.), The Oxford Handbook of Qualitative Research. Oxford University Press, Oxford, 195-222.

Brooks, N., Grist, N., & Brown, K. 2009. Development futures in the context of climate change: Challenging the present and learning from the past. Development Policy Review 27(6), 741-765.

Brown, K., Westaway, E., 2011. Agency, Capacity, and Resilience to Environmental Change: Lessons from Human Development, Well-Being, and Disasters. Annual Review of Environment and Resources 36 (1), 321–342.

Bulkeley, H., Schroeder, H. 2012. Beyond state/non-state divides: global cities and the governing of climate change. European Journal of International Relations 18(4), 743-766.

Butler, J., 1997. The psychic life of power: theories in subjection. Stanford, CA: Stanford University Press.

Buzinde, C.N., Manuel-Navarrete, D., Yoo, E.E., and Morais, D., 2010. Tourists' perceptions in a climate of change: Eroding Destinations. Annals of Tourism Research 37(2), 333-354.

Chambers, R., 2013. Ideas for Development. London: Routledge.

Chhetri, N., Chaudhary, P., Tiwari, P.R., Yadaw, R.B., 2012. Institutional and technological innovation: Understanding agricultural adaptation to climate change in Nepal. Applied Geography 33, 142-150.

Cleaver F., 2012. Development through bricolage: rethinking institutions for natural resource management. London: Earthscan.

Clifton, D., 1991. Yucatan after the wind: Human and environmental impact of Hurricane Gilbert in the Central and Eastern Yucatan Peninsula. GeoJournal 23(4), 337-345.

Davidson, D., 2012. Analysing responses to climate change through the lens of reflexivity. The British journal of sociology 63 (4), 616-640.

Davidson, D., 2013. We still have a long way to go, and a short time to get there: A response to Fikret Berkes and Helen Ross. Society & Natural Resources 26 (1), 21-24.

Davies, B., Dormer, S., Gannon, S., Laws, C., Rocco, S., Taguchi, H. L., McCann, H., 2001. Becoming schoolgirls: The ambivalent project of subjectification. Gender and Education 13(2), 167-182.

Dean, M. 2010. Governmentality: Power and rule in modern society. Sage publications.

Dodman, D., and Mitlin, D. 2013. Challenges for community- based adaptation: discovering the potential for transformation. Journal of International Development 25(5), 640-659.

Dow, K., Berkhout, F., Presnton, B.L., Klein, R.J.T., Midgley, G., Shaw, M.R. 2013. Limits to adaptation, Nature Climate Change 3, 305-307

Duffield, M., 2012. Challenging environments: Danger, resilience and the aid industry. Security Dialogue 43 (5), 475-492.

Eakin, H.C., Wehbe, M.B., 2009. Linking local vulnerability to system sustainability in a resilience framework: two cases from Latin America. Climatic Change 93 (3-4), 355-377.

Ekers, M., Loftus, A., Mann, G., 2009. Gramsci Lives!. Geoforum 40(3), 287-291.

Elsner, J. B., 2006. Evidence in support of the climate change–Atlantic hurricane hypothesis. Geophysical Research Letters, 33(16).

Eriksen, S., Brown, K. 2011. Sustainable adaptation to climate change. Climate and development, *3*(1), 3-6.

Foucault, M., 1982. The subject and power. Critical inquiry, 777-795.

Freire, P. 1970. Pedagogy of the oppressed. New York: Continuum.

Fukuda-Parr, S. 2003. The human development paradigm: Operationalizing Sen's ideas on capabilities. Feminist Economics, 9(2-3), 301-317.

Gramsci, A. 1988. An Antonio Gramsci reader: selected writings, 1916-1935. D. Forgacs (Ed.). New York: Schocken Books.

Haasnoot, M., Kwakkel, J.H., Walker, W.E., ter Maat, J., 2013. Dynamic adaptive policy pathways: a method for crafting robust decisions for a deeply uncertain world. Global Environmental Change 23 (2) 485–498.

Harvell, D., Jordán-Dahlgren, E., Merkel, S., Rosenberg, E., Raymundo, L., Smith, G., Weil, E., Willis, B. 2007. Coral disease, environmental drivers, and the balance between coral and microbial associates. Oceanography 20: 172-195.

Hervick, P., 1999. Mayan People Within and Beyond Boundaries, Amsterdam: Harwood Academic Publishers.

Huntjens, P., Lebel, L., Pahl-Wostl, C., Camkin, J., Schulze, R., and Kranz, N. 2012. Institutional design propositions for the governance of adaptation to climate change in the water sector. Global Environmental Change, 22(1), 67-81.

Hvistendahl, M., 2014. While emerging economies boom, equality goes bust. Science, 344(6186), 832-835.

Ignaciuk, A., Rice, M., Bogardi, J., Canadell, J. G., Dhakal, S., Ingram, J., Leemans, R., and Rosenberg, M., 2012. Responding to complex societal challenges: A decade of Earth System Science Partnership (ESSP) interdisciplinary research. Current Opinion in Environmental Sustainability, 4(1), 147-158.

Jamal, T., Camargo, B.A. 2014. Sustainable tourism, justice and an ethic of care: toward the Just Destination, Journal of Sustainable Tourism, 22(1), 11-30.

Jones, G. D. 1998. The Conquest of the Mayas of Yucatán and Maya Resistance During the Spanish Colonial Period. In: Schmidt, P., M. de la Garza, and E. Nalda (Eds.), Maya, New York: Rizzoli, 483-494.

Kapoor, I. 2004. Hyper- self- reflexive development? Spivak on representing the Third World 'Other'. Third World Quarterly, 25(4), 627-647.

Kates, R.W., Travis, W.R., Wilbanks, T.J. 2012. Transformational adaptation when incremental adaptations to climate change are insufficient. PNAS 109(19): 7156-7161.

Kelman, I. 2011. Disaster diplomacy: how disasters affect peace and conflict. London: Routledge.

Klein, N. 2008. The Shock Doctrine: The Rise of Disaster Capitalism. Penguin: London.

Kray, C.A. 2006. Resistance to what? How? Stalled social movements in Cancun. City & Society 18(1), 66-89.

Lacey, E.A., Fourqurean, J.W., and Collado-Vides, L., 2013. Increased algal dominance despite presence of Diadema antillarum populations on a Caribbean coral reef. Bulletin of Marine Science 89(2), 603-620.

Laclau, E. 1992. Beyond emancipation. Development and change, 23(3), 121-137.

Laclau, E., Mouffe, C. 1985. Hegemony and Socialist Strategy. Towards a Radical Democratic Politics. London, New York: Verso.

Larsen, R. K., Calgaro, E., Thomalla, F., 2011. Governing resilience building in Thailand's tourism-dependent coastal communities: Conceptualising stakeholder agency in social–ecological systems. Global Environmental Change 21 (2), 481-491.

Leach, M., Scoones, I., Stirling, A., 2010. Governing epidemics in an age of complexity: narratives, politics and pathways to sustainability. Global Environmental Change 20 (3), 369–377.

Li, T. M., 2007. The will to improve: Governmentality, development, and the practice of politics. Durham, NC: Duke University Press.

Loftus, A. 2012. Everyday Environmentalism: Creating an Urban Political Ecology. Minnesota: University of Minnesota Press.

Magnoni A., Ardren T., Hutson S. 2007 Tourism in the mundo maya: inventions and (mis)representations of maya identities and heritage Archaeologies 3, 353–383.

Manuel-Navarrete, D. 2010. Power, realism, and the ideal of human emancipation in a climate of change. Wiley Interdisciplinary Reviews: Climate Change, 1(6), 781-785.

Manuel-Navarrete, D., 2012. Entanglements of Power and Spatial Inequalities in Tourism in the Mexican Caribbean. Working Paper 17, desiguALdades.net, Free University of Berlin, Berlin.

Manuel-Navarrete, D., 2013. Human-nature Integration and Global Environmental Change. In: O'Brien, K., Wolf, J., Sygna, L. (Eds.), A Changing Environment for Human Security: New Agendas for Research, Policy, and Action, Earthscan, London, 305-315.

Manuel-Navarrete, D., Pelling, M., Redclift, M., 2011. Critical Adaptation to Hurricanes in the Mexican Caribbean: Development Visions, Governance Structures, and Coping Strategies. Global Environmental Change 21, 249–258.

Márquez García, A.Z., Márquez García, E., Bolongaro Crevenna Recaséns, A., Torres Rodríguez, V., 2010. Cambio en la línea de costa en la Rivera Maya debido a fenómenos hidrometeorológico extremos, ¿Consecuencia del cambio global climático?. In A.V. Botello, S. Villanueva-Fragoso, J. Gutiérrez, and J.L. Rojas Galaviz (Eds.). Vulnerabilidad de las zonas costeras mexicanas ante el cambio climático. Semarnat-INE, UNAM-ICMYL, Universidad Autónoma de Campeche.

Marshall, N. A., S. E. Park, W. N. Adger, K. Brown, S. M. Howden. 2012. Transformational capacity and the influence of place and identity. Environmental Research Letters 7:034022.

McEvoy, J., Wilder, M. 2012. Discourse and desalination: Potential impacts of proposed climate change adaptation interventions in the Arizona–Sonora border region. Global Environmental Change, *22*(2), 353-363.

Moore, M.L., Tjornbo, O., Enfors, E., Knapp, C., Hodbod, J., Baggio, J.A., Norström, A., Olsson, P., Biggs, D., 2014. Studying the complexity of change: toward an analytical framework for understanding deliberate social-ecological transformations. Ecology and Society 19 (4), 54.

Muñoz-Erickson, T.A., 2014. Multiple pathways to sustainability in the city: the case of San Juan, Puerto Rico. Ecology and Society 19 (3), 2. http://dx.doi.org/10.5751/ES-06457-190302

O'Brien, K., 2012. Global environmental change II: from adaptation to deliberate transformation. Progress in Human Geography 36 (5), 667–676.

Ostrom, E. 2005. Understanding institutional diversity. Princeton: Princeton University Press.

Olwig, M.F., 2012. Multi-sited resilience: The mutual construction of "local" and "global" understandings and practices of adaptation and innovation. Applied Geography 33, 112-118.

Pelling, M. 2011. Adaptation to climate change: from resilience to transformation. London: Routledge.

Pelling, M., Manuel-Navarrete, D. (2011). From resilience to transformation: the adaptive cycle in two Mexican urban centers. Ecology and Society, 16(2), 11.

Pelling, M. 2014. Editorial - Transformation: A Renewed Window on Development Responsibility for Risk Management, Journal of Extreme Events, 1 (1)

Pelling, M., Manuel-Navarrete, D., Redclift, M. (Eds.), 2012. Climate change and the crisis of capitalism: a chance to reclaim, self, society and nature. Routledge, London.

Pelling, M., O'Brien K., Matyas D. 2014. Adaptation and Transformation, Climatic Change, DOI 10.1007/s10584-014-1303-0

Redclift, M., Manuel-Navarrete, D., Pelling, M. 2011. Climate Change and Human Security: The challenge to local governance under rapid coastal urbanization, London: Edward Elgar, pp192

Reed, N. 2001. The Caste War of Yucatán: Revised Edition. Stanford, CA: Stanford University Press.

Ribot, J. 2011. Vulnerability before adaptation: toward transformative climate action. Global Environmental Change, 21(4), 1160-1162.

Riemann, G. 2006. An Introduction to" Doing Biographical Research". Historical Social Research/Historische Sozialforschung, 6-28.

Rogers, D.S., 2014. Socioeconomic Equity and Sustainability. In Friedman, B., (Ed.). Global Environmental Change 1, 933-941. Dordrecht: Springer.

Rosenzweig, C., Solecki, W., 2014. Hurricane sandy and adaptation pathways in New York: Lessons from a first-responder city. Global Environmental Change 28, 395-408.

Rugeley, T. 1996. Yucatán's Maya Peasantry and the Origins of the Caste War. Austin, TX: University of Texas Press.

Saunders, M.A., Lea, A.S., 2008. Large contribution of sea surface warming to recent increase in Atlantic hurricane activity. Nature 451 (7178), 557-560.

Schumpeter, J. (2010 [1943]) Capitalism, Socialism, Democracy. London: Routledge.

Smith, N. 2010 [1984]. Uneven Development: Nature, Capital and the Production of Space. London: Verso.

Soto-Estrada, E., 2008. Strategic environmental assessment of a land-use programme in the Riviera Maya, Mexico. PhD Thesis, Brandenburg University of Technology, Cottbus, Germany.

Stirling, A., 2008. Science, precaution and the politics of technological risk: Converging implications in evolutionary and social scientific perspectives. Annals of the New York Academy of Sciences 1128 (April), 95–110.

Stockhammer, E., 2015. Rising inequality as a cause of the present crisis. Cambridge Journal of Economics, 39 (3): 935-958.

Stripple, J., Bulkeley, H. (Eds.). 2013. Governing the climate: new approaches to rationality, power and politics. Cambridge University Press.

Swyngedouw, E. 2011. Depoliticized environments: the end of nature, climate change and the post-political condition. Royal Institute of Philosophy Supplement, 69, 253-274.

Taylor, M. 2015. The political ecology of climate change adaptation. London: Routledge.

Tremblay, M-A., 1989. The key informant technique: A non-ethnographic application. In R. Burgess, ed. Field Research: a Sourcebook and Field Manual. London and New York: Routledge, 151–163.

Westley, F., P. Olsson, C. Folke, T. Homer-Dixon, H. Vredenburg, D. Loorbach, J. Thompson, M. Nilsson, E. Lambin, J. Sendzimir, B. Banarjee, V. Galaz, and S. van der Leeuw. 2011. Tipping toward sustainability: emerging pathways of transformation. AMBIO 40, 762-780.

Willis, K. 2011. Theories and practices of development. London: Taylor & Francis.

Wilson, J., Tyedmers, P., and Pelot, R., 2007. Contrasting and comparing sustainable development indicator metrics. Ecological Indicators, 7(2), 299-314.

Wise, R.M., Fazey, I., Stafford Smith, M., Park, S.E., Eakin, H.C., Archer Van Garderen, E.R.M., Campbell, B., 2014. Reconceptualising adaptation to climate change as part of pathways of change and response. Global Environmental Change 28, 325–336.

Yapa, L., Wisner, B., and Luce, H. R., 1995. Building a case against economic development. Geojournal 35(2), 105-118.