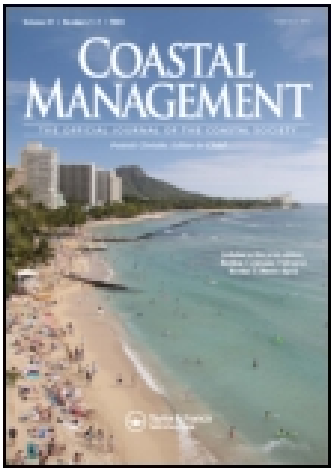

Coastal Management
Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/ucmg20

Climate Adaptation Planning in the Northern Mariana Islands: Adapting Guidance for a Locally Appropriate Approach

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Published online: 26 Aug 2015.

To cite this article: Dana Okano, Rebecca Skeele & Robert Greene (2015) Climate Adaptation Planning in the Northern Mariana Islands: Adapting Guidance for a Locally Appropriate Approach, Coastal Management, 43:4, 394-406, DOI: 10.1080/08920753.2015.1046806

To link to this article: http://dx.doi.org/10.1080/08920753.2015.1046806

Coastal Management, 43:394–406, 2015

ISSN: 0892-0753 print / 1521-0421 online
DOI: 10.1080/08920753.2015.1046806

Climate Adaptation Planning in the Northern Mariana Islands: Adapting Guidance for a Locally Appropriate Approach

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This case study describes the climate adaptation planning efforts that were undertaken on the island of Saipan in the Commonwealth of the Northern Mariana Islands. This effort focused on establishing a multi-agency Climate Change Working Group. The adaptation planning efforts on Saipan used two main sources of guidance: one document written for application to coastal jurisdictions throughout the United States and a set of tools designed for small island communities in the Pacific. These sources were combined with inspiration from adaptation processes in other jurisdictions and adjustments were made to fit Saipan's situation. Modifications were based on available knowledge or expertise, technical capacities, and local needs. Several themes that are common to adaptation processes elsewhere were important in Saipan: leadership and political will, stakeholder involvement, level of climate knowledge, building on existing collaborations, and technical capacity. These themes are examined, with an emphasis on how we adjusted to meet the challenges that arose in the context of Saipan's social, political, and economic landscape.

Keywords climate action planning, climate change adaptation, CNMI, Pacific Small Island Developing States (PSIDS)

Introduction

In recent years, a range of adaptation approaches have been taken to address the complex challenges posed by climate change at local, state, and regional levels (Bierbaum et al. 2013; Bierbaum and Stults 2013, Carmin, Nadkarni, and Rhie 2012; Van Aalst, Cannon, and Burton 2008). Although some guidance documents and associated tools offer step-by-step assistance on how to initiate an adaptation planning process, these documents are not supported by an adequate body of peer-reviewed literature concerning the relative levels of success of these tools (Bassett and Shandas 2010; Bedsworth and Hanak 2010; Bierbaum et al. 2013; Blanco et al. 2009; Glick, Staudt, and Stein 2009; Luers and Moser 2006; Moser 2012; Smith, Vogel, and Cromwell III 2009). In addition, the specific

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geographic, socioeconomic, political, and cultural context of a particular jurisdiction may differ drastically from others, eliminating the feasibility of a "one size fits all" approach to adaptation planning (Bierbaum et al. 2013; Bierbaum and Stults 2013). As a result, many jurisdictions facing immediate impacts from climate change are moving forward with adaptation processes without clear guidance or direction from applicable decision-support tools (Carmin, Nadkarni, and Rhie 2012). This has created a growing need among practitioners for adaptation guidance relevant to the scale at which adaptation actions are implemented (Bedsworth and Hanak 2010; Blanco et al. 2009; Van Aalst, Cannon, and Burton 2008). An enhanced aggregation of best practices and case studies of successful approaches would provide a means of identifying methods and decision-support tools that can be applied at appropriate scales (Bierbaum and Stults 2013; Smith, Vogel, and Cromwell III 2009).

Initiation of the Adaptation Process

This case study focuses on the climate adaptation efforts that were undertaken on the island of Saipan in the Commonwealth of the Northern Mariana Islands (CNMI), a jurisdiction of the United States located in the Western Pacific. The adaptation efforts on Saipan were initiated by the Division of Coastal Resources Management (DCRM), a CNMI government agency that operates as an approved coastal zone management (CZM) program under the United States Coastal Zone Management Act (CZMA). One of the major strategies proposed by DCRM for the 2011–2015 period was the need to explore and plan for sea-level rise and other climate change impacts in CNMI. The project was funded by the National Oceanic and Atmospheric Administration (NOAA) through the CZMA. DCRM was able to secure two fellowship positions through NOAA to initiate the adaptation process and provide technical support. Prior to this work, no substantial coordinated effort had been made to research and plan for potential climate change impacts in CNMI.

A CNMI Climate Change Working Group (CCWG) was created in 2012 to serve as a platform for collaboration between stakeholder agencies and organizations to work on adaptation. The CCWG was led by a Planning Committee comprised of representatives from nine key local agencies, with the two DCRM fellowship positions serving as CCWG facilitators and technical support. Participants in the CCWG provided local expertise and stakeholder insight as the group worked toward a series of objectives, including a community climate knowledge survey and a risk and vulnerability assessment (Figure 1).

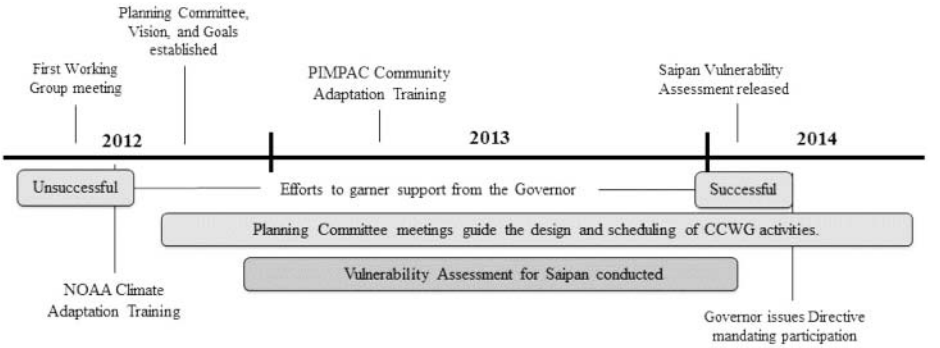

Figure 1. Timeline of the adaptation planning process in CNMI.

This article focuses on the issues faced during the establishment of the CCWG and subsequent adaptation planning processes, highlighting the efforts of facilitators to address these challenges. In particular, various components that are critical to a successful adaptation planning process are identified. These components are used to explore the opportunities and challenges faced, the necessary adjustments that were made to adaptation planning approaches, and associated lessons that may inform future adaptation efforts in other jurisdictions.

Saipan: A Unique Setting for Climate Adaptation

The CNMI is an archipelago of fourteen islands located in the Western Pacific. With 48,220 permanent residents, the island of Saipan contains 90% of CNMI's population (U.S. Census Bureau 2012). The CNMI's central government is located on Saipan, as are most of the CNMI's tourism industry, public infrastructure, and community activities. This concentration of social and economic functions, and potential for associated stakeholder concerns, led facilitators to focus initial climate adaptation efforts solely on Saipan.

CNMI's political structure is similar to that of the United States, with a governor and a bicameral legislative branch that are all elected by popular vote (CIA 2013). Political power is most often held by citizens of "Northern Mariana Descent," despite this group only comprising about 35% of the island's population. Most of the remaining population, including many of the tour operators and business owners that have considerable economic influence, are not U.S. citizens (U.S. Census Bureau 2012). Tourism accounts for approximately a quarter of CNMI's gross domestic product. There is some agricultural production and subsistence fishing but their contribution to the overall economy is negligible (CIA 2013). A struggling, inconsistent economy coupled with this complex patchwork of ethnicities and cultural practices has created a landscape of conflicting social processes. These complications necessitated a high degree of sensitivity to local context when facilitators were leading adaptation planning efforts.

Primary Documents and Tools Used

Saipan's sociopolitical context, along with a set of distinct programmatic and financial drivers at the federal level, places it in a unique position where neither large-scale nor community-based adaptation planning guides were entirely applicable. Therefore, the adaptation process on Saipan utilized two primary sources of guidance that were designed to help resource managers assess a jurisdiction's vulnerability and develop an adaptation plan. These two sources were appropriate for settings with contrasting scale and context: one adaptation guidance document written with the intent of being applicable to CZM programs throughout the United States (NOAA 2010), and a set of tools designed for practitioners working at the local level in small island communities in the Pacific (Gombos, Atkinson, and Wongbusarakum 2013).

Tools for Adaptation in Large Municipalities

The strategy driving this adaptation planning process contained language that specifically outlined the use of the adaptation guide, *Adapting to Climate Change—A Planning Guide for State Coastal Managers* (NOAA 2010), which was written for application in U.S. state CZM programs. The guide suggests three types of resources essential to adaptation

efforts: (1) human resources, including leadership and stakeholder involvement, (2) technical resources, including expertise, capacities, and data availability, and (3) financial resources. With the emphasis on these resources comes a set of assumptions about existing conditions within a state or other locale. The first assumes that a complex governance structure exists with leaders and a set of stakeholders that may be willing and able to contribute throughout the adaptation process. The guide also requires that some set of technical capacity and body of information is acquirable, if not already available to the planning team. Finally, the significance of financial resources implies that the entire adaptation process will not continue without reliable or sustained funding sources.

Tools for Adaptation in Small Island Communities

The facilitators utilized guidance designed for less-developed Pacific Islands and focused at the community level. *Adapting To A Changing Climate: Guide To Local Early Action Planning (LEAP) and Management Planning*, created by the Micronesian Conservation Trust (MCT), (Gombos, Atkinson, and Wongbusarakum 2013) offers a variety of exercises and assistance for conducting community-based vulnerability assessments. This MCT guide also contains instructions in linking assessment results with adaptation actions and strategies that can be implemented immediately at the local level.

In contrast to the NOAA guide, the MCT guide explicitly mentions intended application to less developed settings, particularly communities that are largely dependent on subsistence-based livelihoods and have less complex governance structures. The MCT document assumes that a clear arrangement of authority and leadership exists, where actions can be implemented with few political obstacles. It is designed to help inform and empower traditional leaders to incorporate adaptation planning at the community level. In addition, the MCT guidance is designed to support adaptation processes where there may be a lack of technical resources and scientific expertise concerning climate impacts, emphasizing the importance of local, traditional knowledge.

Themes

The climate adaptation planning process on Saipan used the above guidance documents along with inspiration from ongoing adaptation planning processes from other U.S. jurisdictions such as Hawaii (ORMP 2009), Puerto Rico (PRCCC 2012), and San Francisco (BCDC 2011). These sources were adapted to accommodate the unique qualities of Saipan described above, including Saipan's small geographic scale, its large population of non-permanent residents, and the CNMI's access to resources of the U.S. federal government. As the adaptation process progressed, a number of themes emerged that are common to most adaptation planning initiatives (see Table 1). These themes include the importance of leadership and political will, stakeholder involvement, level of climate knowledge, building on existing collaborations, and technical capacity. These themes are explored here, followed by a discussion of how adjustments were made to meet the challenges that arose in the context of Saipan's social, political, and economic landscape.

In addition to the above themes, the importance of sufficient financial resources has also been identified as a key stumbling block to the implementation of adaptation planning activities (Blanco et al. 2009; Carmin, Nadkarni, and Rhie 2012; Luers and Moser 2006; Moser and Ekstrom 2012; NOAA 2010; Smith, Vogel, and Cromwell III 2009). However, funding was not a major factor affecting the adaptation process on Saipan as

Table 1
Summary of climate adaptation themes

Theme and summary	Sources
Leadership & Political Will • Critical to success and sustainability of any adaptation effort • Initiation by local government leadership provides legitimacy to process and ensures broader support • Guidance from a planning committee of representative stakeholders who have resources that are vulnerable; with human, fiscal, or technical resources to contribute to the process; and with authority, knowledge, and commitment to implement adaptation actions	• (Bassett and Shandas 2010; Bedsworth and Hanak 2010; Bierbaum and Stults 2013; Blanco et al. 2009; Conde et al. 2005; Fletcher 2007; Gombos, Atkinson, and Wongbusarakum 2013; NOAA 2010; ORMP 2009; PRCCC 2012; Smith, Vogel, and Cromwell III 2009; Van Aalst, Cannon, and Burton 2008; Vogel et al. 2007)
Stakeholder Involvement • Adaptation efforts require participation and commitment from a broad range of stakeholders to legitimize the process • Need to clarify roles and responsibilities early in the process • Creation of advisory groups can leverage expertise and focus input for decision-making	• (Bassett and Shandas 2010; Bedsworth and Hanak 2010; Bierbaum and Stults 2013; Blanco et al. 2009; NOAA 2010; ORMP 2009; PRCCC 2012; Smith, Vogel, and Cromwell III 2009; Van Aalst, Cannon, and Burton 2008; Vogel et al. 2007)
Levels of Understanding and Existing Experience • Adaptation efforts are more effective when stakeholders are well informed about climate change and committed to addressing shared goals • Process could build off of existing collaborations	• (Bassett and Shandas 2010; Bedsworth and Hanak 2008; Bierbaum and Stults 2013; Glick, Staudt, and Stein 2009; Gombos, Atkinson, and Wongbusarakum 2013; Luers and Moser 2006; NOAA 2010; ORMP 2009; PRCCC 2012)
Technical Expertise and Computing Capacity • Relies on a solid foundation of climate change data and the capacity to distill this data into relevant and useful information • Incomplete or missing data should not hinder initiation of the process • Local knowledge and expertise can be used to fill gaps in lieu of data and technical expertise	• (Bassett and Shandas 2010; Bedsworth and Hanak 2010; Betsill 2001; Blanco et al. 2009; Carmin, Nadkarni, and Rhie 2012; Gombos, Atkinson, and Wongbusarakum 2013; Klein and Nicholls 1999; Luers and Ekstrom 2006; NOAA 2010; Smith, Vogel, and Cromwell III 2009; Snover et al. 2007; Yamada et al. 1995)

there was sufficient initial investment by NOAA to begin the process, thus was not included in the following discussion.

Application to Saipan

Leadership and Political Will

Local government leadership. While the adaptation planning process was initiated at the direction of the DCRM administrator, it was recognized from the beginning stages that leadership of the governor was needed for a successful multi-agency planning process. In the spring of 2012, the facilitators and DCRM administrator drafted a directive for the governor to sign that would propel the adaptation planning process forward. This document expressed direct support for the CCWG's ongoing adaptation efforts and mandating that all agency heads send appropriate staff to represent their respective agencies at CCWG meetings. However, multiple attempts to meet with the governor were unsuccessful, and the adaptation planning process moved forward without this official support of the governor. As such, most government agencies had weak or sporadic attendance and contribution throughout the process.

Changes in government leadership positions in 2013 prompted the facilitators to reach out again for an audience with the new governor and heads of key partner agencies. In February 2014, a revised directive was drafted and a meeting was held where the governor signed Directive No. 2014-01, requiring agency participation in this effort. At the time of this meeting the CCWG had already been in existence for almost two years, the completed Saipan Vulnerability Assessment (Greene and Skeele 2014) had just been released the previous month, and CCWG participation had waned considerably. The Directive from the governor did little to boost CCWG participation at this late stage, which highlights the importance of timing on any local leadership efforts.

Guidance from a planning committee. In the early stages of the CCWG, a collaborative stakeholder analysis was conducted to identify a core planning committee to lead the adaptation process. Through the stakeholder analysis, CCWG participants identified nine local government agencies as critical stakeholders through the following criteria: (1) who could bring critical resources to the process (such as technical capacity, funding, or enforcement); (2) who has especially vulnerable or valuable assets; and (3) who could provide sustained commitment. The heads of each of the identified agencies then nominated an official representative to serve on the planning committee. This transparent stakeholder analysis was critical in establishing the planning committee members as leaders in the adaptation process, with representatives that have the political and personal connections necessary for further stakeholder engagement.

In part, because of the initial lack of official support from the governor, climate change adaptation remains a low priority for many key agencies and therefore, the planning committee's efficacy has been limited. Continued progress is restricted by a high turnover of agency representatives, inconsistent and irregular participation of committee members, and a persistent lack of climate change knowledge among members. This results in repetitive education on climate processes and adaptation options at planning committee meetings, and a redundancy that ultimately deters more consistent participation. While the signing of the Governor's Directive and the finalization of the Saipan

Vulnerability Assessment did prompt a slight surge in planning committee attendance in early 2014, attendance has since dropped and little progress from the planning committee has been made. The facilitators attempted to improve the planning committee dynamics by proposing rotational leadership responsibilities within the planning committee, so far with little success.

Stakeholder Involvement

During the early stages of the CCWG, invitations were extended to 38 different organizations, including representatives from federal, commonwealth, and municipal government agencies, the local community college, nongovernmental organizations, agricultural and fishing associations, and business associations. Over the first few meetings, stakeholder participation included 24 different organizations, mostly from government agencies and local legislature. However, attendance dropped quickly and significantly without continued leadership from local government authorities. Participation from the private sector was limited from the start, and dwindled to essentially none after the first few meetings.

Further attempts to re-engage some notable missing stakeholders were initiated once the planning committee was established. The facilitators hoped that attendance at future meetings would improve with more personalized invitations coming from local colleagues, rather than from the facilitators who had fewer local professional relationships. Additional attempts included efforts such as an informational presentation at a meeting of the Chamber of Commerce, establishment of a regular meeting schedule, and the announcement of upcoming CCWG meetings in local newspapers. Unfortunately, these and other efforts had limited success. The business community's lack of interest in long-term adaptation efforts may reflect the foreign investors' focus on short-term economic gain rather than long-term investment in Saipan as a community. Many local agencies may have been focused on more immediate issues such as a struggling economy, failing infrastructure, or the potential shut down of the public hospital. It became necessary for facilitators to initiate one-on-one meetings with key stakeholders and agency directors in order to gather information for the risk and vulnerability assessment. This additional effort was essential in overcoming collaboration challenges. Support from high level government officials early on in the process may have reduced the need for this additional effort and increased the efficacy of stakeholder engagement.

Levels of Understanding and Building on Existing Experience

The ability to build on existing collaborative experience on Saipan was limited due to a general lack of climate change knowledge or precedents of collaboration. Climate change is a fairly new and complex topic for many stakeholders (Ding et al. 2011). The CCWG was composed of individuals with disparate levels of climate knowledge, creating difficulties in drawing connections between climate change and stakeholder interests. This created barriers to demonstrating the relevance and importance of the adaptation work, especially compared to the many immediate issues the CNMI government is facing. In addition, successful collaborative efforts involving different government agencies or partnering organizations has been minimal in CNMI, thereby creating numerous challenges related to communication and coordination between planning committee and CCWG members.

The facilitators attempted to address these challenges by starting the adaptation process with climate change informational sessions, trainings, and general capacity building

in order to establish a knowledge foundation. Initial climate change "lessons" were informed largely by the MCT guide (Gombos, Atkinson, and Wongbusarakum 2013) and the release of region-specific climate data in the Pacific Islands Regional Climate Assessment (Keener et al. 2012). Facilitators also hosted two climate adaptation trainings: one led by NOAA Coastal Services Center and one led by the Pacific Islands Management and Protected Areas Community (PIMPAC).

Even after the CCWG had been established, there was still persistent stakeholder confusion over climate change and its impacts. The MCT guide proved useful in designing vulnerability assessment activities that assessed non-climate threats and documented local climate histories. These tools were designed with non-experts in mind, reinforcing the notion that participation from a diverse set of stakeholders requires a simple approach (Schipper et al. 2010; Van Aalst, Cannon, and Burton 2008).

Technical Capacity

The technical expertise and computing capacity on Saipan was limited throughout the adaptation planning process due to inconsistencies between data and tool availability for the region, as well as differences in accessibility to expert knowledge among different sectors. The CNMI had the initial support of NOAA through the acquisition of the two fellows, who had the training necessary to initiate and support the process. NOAA's Coastal Services Center provided an array of tools and technical expertise, though these tools were not always applicable at finer resolutions (e.g., village level). CCWG members offered some local knowledge, but the information was not always relevant to the adaptation process.

These limitations were especially notable in the efforts to conduct a local-level vulnerability assessment of sea-level rise. The assessment utilized a simplified inundation model due to a lack of necessary data on Saipan to support input requirements for more sophisticated techniques. Gaps in data concerning coastal development and infrastructure were addressed by soliciting local expert opinion in participatory mapping exercises, as suggested by the MCT guide. This information was rendered compatible with the more technical assessment of inundation by using geographic information systems (GIS) to compare the results of qualitative mapping with coastal flooding models. This form of stakeholder-based "ground-truthing" and integration of both qualitative and quantitative information can provide added scientific value to an assessment while encouraging continued engagement of stakeholders in the adaptation process (Füssel and Klein 2006; Schipper et al. 2010, Turner et al. 2003). The assessment also adapted a social vulnerability index that was developed for application among U.S. coastal counties (Cutter, Boruff, and Shirley 2003). To apply this tool to Saipan, adjustments to the input data were made in order to downscale from the county level to island villages. This adaptation offered a locally relevant perspective from a tool that would not have originally captured Saipan's social configuration.

Results and Discussion

The outcomes of these climate adaptation planning efforts demonstrated mixed levels of success. There were distinct challenges and achievements related to the themes in this exercise that appeared relevant to this effort. Those challenges and achievements are highlighted in Table 2, along with recommendations for improved planning in climate adaptation efforts in other jurisdictions.

Table 2
Outcomes and recommendations by theme

Theme and outcome	Recommendations
Leadership & Political Will • A planning committee was formed with designated representatives from nine agencies • Agency leadership demonstrated inconsistent support throughout the process • While climate change is publicized as a priority in local politics, substantive support is lacking	• Obtain committed high level support and initiation from government or other authoritative body early in the process • Identify strategies to confirm leadership commitment • Have an alternate approach to take in case leadership is unable or unwilling to provide substantive support
Stakeholder Involvement • The Working Group maintained regular active participation from the natural resource agencies, with limited participation from other groups • The planning committee suffers from high turnover, irregular participation, and limited decision-making authority to carry initiatives forward	• Identify possible nongovernmental participants who have successful experience partnering with agencies and forge strong partnerships with them • Illustrate relevant adaptation opportunities for stakeholder agencies • Stakeholder groups should strive for a balance of stakeholders with both technical resources and expertise, and decision-making authority
Levels of Understanding and Existing Experience • Hosted two training workshops with participants from over 22 stakeholder organizations • Experienced a continued lack of climate change knowledge, in part due to high participant turnover rate • Many stakeholders did not have prior experience with successful collaborative efforts that could have informed this process	• Work individually with agencies early in the process to learn their priorities and incorporate their needs into a relevant climate adaptation planning process • Highlight potential adaptation opportunities within existing projects that would demonstrate collaborative processes
Technical Expertise and Computing Capacity • Limited preexisting work on climate change impacts or adaptation • Agencies identified technical capacity gaps and secured personnel to fill those needs • Tools and information are not always developed at appropriate scale or applicable at local level • Local traditional knowledge filled gaps in data coverage during the assessment process	• Apply flexible tools and methods that can be adapted to fit local needs • Utilize local experts or community knowledge to fill gaps in data coverage

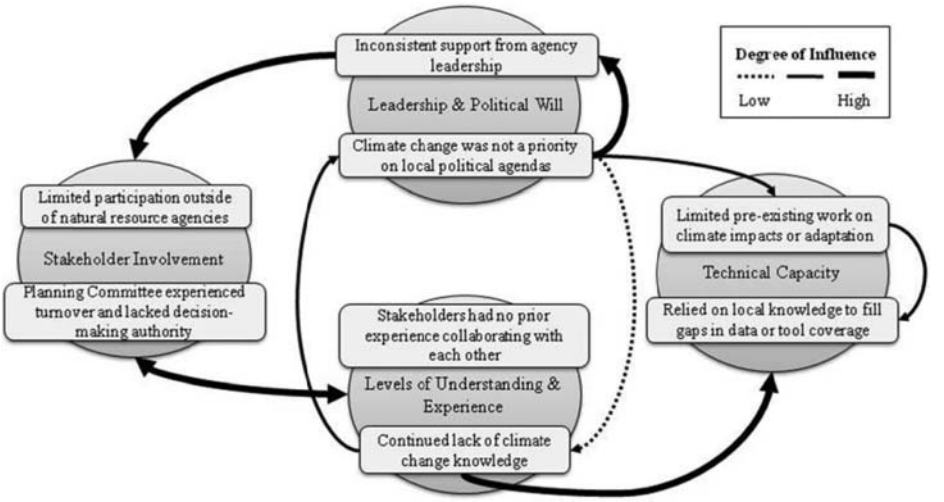

Figure 2. The relationships between adaptation themes in CNMI.

Further analysis of the above outcomes and recommendations illuminated key relationships between themes and presented lessons learned that other jurisdictions and adaptation practitioners may find useful. Within the four themes outlined above, there appears to be an influential relationship between leadership and levels of understanding to stakeholder involvement and technical capacity. The challenges that most directly affected the outcomes of this initial adaptation planning process were the lack of consistent and effective participation from critical partner agencies and the limited access to technical tools and preexisting local climate work. Both of these issues may have been minimized had there been stronger support from political leaders and a broader understanding of climate impacts within the community (Figure 2).

For example, initial support from the governor and other political and community leaders may have fostered more enthusiastic participation from agency heads, and consequent challenges stemming from participation issues would have been more easily dealt with. The lack of stakeholder participation and leadership may also have been a product of a general lack of climate awareness among people of political influence. There was very little understanding of how climate change could impact Saipan; therefore it was difficult to get buy-in from stakeholders. Sustained participation could have been achieved more effectively had the goals of the adaptation process been viewed with greater importance by agency heads. The stakeholder process also proved challenging because a truly "collaborative process" is still a somewhat unfamiliar idea on Saipan. While the CNMI does have a governance structure that appears very similar to that of other U.S. jurisdictions, the culture of community decision-making on Saipan is still largely dominated by a more traditional structure that would be more appropriate for the community village processes described in the MCT guide.

The interconnectedness of each of the themes highlights the necessity for a more comprehensive plan of approach. There is no universal solution, but each of these components must be accounted for and the realities of each individual jurisdiction's context could determine which of these themes to focus on when initiating an adaptation planning process. This highlights the importance of flexibility. Despite the challenges faced regarding stakeholder participation and technical capabilities, the facilitators on Saipan were

able to address these issues through creativity and flexibility. The processes used to shape the CCWG and conduct the vulnerability assessment evolved overtime, and became increasingly effective as guidance and tools were adapted to be more sensitive to the local context.

Scale and Associated Capacity

In addition to the themes discussed above, another trend became apparent as an overarching influence that deserves discussion. The importance of scale was an issue that was pervasive throughout the adaptation process. As noted earlier, the key guiding documents were designed for implementation in very different contexts. It quickly became apparent to the facilitators that Saipan fit neither of these scales and instead fit somewhere in between what these tools were designed for. This discrepancy resulted in the necessity for guidance documents to be modified and combined in order to be applicable.

Incongruity of scale was most apparent in regard to the technical resources available on Saipan. Saipan's linkage to federal resources ensured access to information such as high resolution elevation data and the input of geospatial professionals. However, Saipan's remote location also meant that certain hazard assessment tools had not been customized for the CNMI, despite the availability of required input data. The facilitators attempted to fill some gaps in the assessment with local community knowledge; however, much of Saipan's population has shifted away from more traditional subsistence living. Therefore, Saipan's population was not able to contribute the breadth of knowledge and experience that is assumed to be available by the small-scale guidance documents.

The NOAA guide was initially used for Saipan because the complex governance system in place in the CNMI is so similar to that of other U.S. states and cities. However, Saipan's small population could not support the level of experience and expertise that the NOAA guide assumed was available. At the same time, the MCT guide that was designed specifically for small island communities was not entirely applicable on Saipan because it assumes the existence of a traditional governance structure with a more streamlined decision-making process.

Next Steps

Any planning or adaptation process is necessarily iterative in nature, as lessons learned are applied and processes evolve. The Climate Change Working Group will continue to engage a wide range of stakeholders in coming years in this adaptation process. The recent elections may result in turnover in upper-level government positions and therefore in planning committee membership. The facilitators will seize this opportunity to reengage agencies that have been missing in the CCWG planning committee and work together to find solutions to lackluster participation by key stakeholders. With the support of the new government officials and planning committee members, facilitators will be seeking opportunities to incorporate climate resiliency into new and upcoming projects, such as the statewide hazard mitigation plan. Other objectives in the climate strategy such as the education and outreach campaign are moving forward, and facilitators will seek ways to target the message to key stakeholders that are critical to the process. In addition, facilitators are now expanding these planning efforts out to other inhabited islands in the archipelago, Tinian and Rota. Lessons learned about appropriate scale,

stakeholder engagement, and limited technical resources will inform the climate adaptation process on these islands. The resulting vulnerability assessments will help ensure that these communities have access to valuable adaptation information, and allow them the opportunity to participate in what will hopefully become a Commonwealth-level initiative.

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