

WATERSHED MANAGEMENT ON POHNPEI:
LESSONS FOR ENHANCED COLLABORATION

by

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ABSTRACT

Watershed management on Pohnpei evolved from a conflict situation between communities and the state government over establishment of a Watershed Forest Reserve and authority for management of the area. Today, management can be characterized by a collaborative approach in which all parties work to manage this threatened area. This case study looked at three key areas: 1) it analyzed the evolution of watershed management on Pohnpei and pinpointed significant crossroads; 2) identified lessons learned, including successful strategies and their attributes; and the roles of different organizations and parties; and 3) examined the current situation, particularly challenges facing management, and devised appropriate recommendations based on comparative collaborative and community-based case study analyses. Six factors underlying effective, collaborative natural resource management were identified: 1) commitment to a collaborative approach at multiple levels is present; 2) appropriate incentives are evident at multiple levels; 3) capacity exists at multiple levels; 4) accountability measures are incorporated; 5) coordinating structures that manage and sustain productive interaction are present; and 6) long-term perspectives and adaptive management approaches have been adopted. Analysis was based on literature review and field research in which over 40 interviews were conducted with community members, traditional leaders, state agencies, non-governmental organizations, U.S. federal agencies, municipal governments, and politicians. Theories and frameworks utilized in the analysis originate from the fields of collaborative natural resource management, community-based natural resource management, and environmental psychology.

EXECUTIVE SUMMARY

Watershed management on Pohnpei evolved from a conflict situation between communities and the state government over establishment of a Watershed Forest Reserve and authority over management of the area. Today, management can be characterized by a collaborative approach in which all parties work to manage this threatened area. This case study looked at three key areas: 1) it analyzed the evolution of watershed management on Pohnpei and pinpointed significant crossroads; 2) identified lessons learned, including successful strategies and their attributes; and the roles of different organizations and parties; and 3) examined the current situation, particularly challenges facing management, and devised appropriate recommendations based on comparative collaborative and community-based case study analyses. Analysis was based on literature review and field research in which over 40 interviews were conducted with community members, traditional leaders, state agencies, non-governmental organizations, U.S. federal agencies, municipal governments, and politicians. The results of this case study analysis provide clear lessons for the watershed management program as well as other programs and projects facing similar challenges and issues.

Key Findings: Significant Crossroads

The following events were identified as key crossroads for watershed management on the island.

- *The Extension Program and Education Campaign with Communities* opened the door to developing relationships and providing opportunities to overcome mistrust between the different parties. The creation of the Watershed Steering Committee (WSC) also improved coordination of watershed management activities.
- *The Asian Development Bank Grant* allowed testing of new approaches and strategies for watershed management, particularly for developing community-based approaches. However, these years also created large expectations on the part of communities as well as loss of focus and direction for the WSC. Public awareness expanded to gain support of the general populace for watershed management activities.
- *Governor Rejects Revised Rules and Regulations for Watershed Management Devised by the WSC and Communities*, leading to return of mistrust between the state and communities as well as dissolution of the WSC. Watershed management efforts lose cohesiveness and coordination, with different parties pursuing separate approaches and strategies.
- *Natural Disasters* experienced on the island raise public awareness concerning the threats facing watershed areas and consequences of their destruction.
- *Development of Local Capacity* through creation of a local, non-profit conservation organization and developing legislation with municipal governments strengthens watershed management on the island.

Key Findings: Major Observations and Lessons

The following are key lessons learned during the 16 year history of the program. These findings can also serve to provide lessons for other programs facing similar challenges and issues.

- *Approaches are Varied and Both Top-down and Bottom-up.* Watershed management involves both the state as well as communities working together. Communities need to direct the process and identify issues themselves. Multiple strategies must be used to make progress as there is no one approach.
- *Build on Existing Foundations* as creation of new institutions and processes, particularly within communities, only creates confusion and upsets power balances.
- *Recognize how People Learn in a Way that has Meaning to Them and Fosters their Ownership and Commitment.* Working together to address issues and problems requires developing trust and understanding between all parties by recognizing the human relationship aspect of collaboration. It also means understanding how people can learn together in ways that addresses their interests meaningfully, thereby fostering ownership of the problem and process.
- *Assess Strategies, Activities, Incentives, and Motives.* Spending more time assessing strategies, activities, incentives, and motives is critical for efficacy. Examples include insuring institutions, processes, and activities are accountable and have legitimacy to all parties involved and avoiding financial compensation to participants as it attracts participation for the wrong reasons.

Key Findings: Achievements and their Attributes

Perhaps the most telling impact of the watershed management program is that all interviewed (non-supporters included) responded that if not for the watershed management program, watershed areas on the island would be either completely destroyed or damaged more severely. The following outline some of the other key successes, and related attributes, of the program:

- *The Grow Low Campaign* showed communities that sakau could be grown successfully in the lowland areas. Success can be attributed to key leaders within communities adopting the practice as well as efforts by The Nature Conservancy to provide nursery grown plantings to communities, allowing them to experiment with the new planting style.
- *Awareness of the Issues* is prevalent on the island due to education efforts focusing on the importance of watershed areas and threats.
- *Gain of Community Support for Watershed Activities* as a result of community outreach and attempts to develop co-management approaches to watershed management.

- *Behavior Changes* can be seen in movement of sakau plantings from the upland forests to lowland areas, clearing of pig pens and latrines near streams, and clean-up efforts in villages.
- *Adoption of Community-based Approaches within State Activities and Innovative Strategies* is more prevalent.
- *Involvement of Key Individual*, director of The Nature Conservancy on Pohnpei, was cited most frequently as a critical attribute of the successes outlined due to his unique expertise and commitment.

<p>Key Findings: Roles and Challenges of Organizations and Parties</p>

Questions concerning appropriate roles for the various parties were asked of participants. The various roles outlined provide insight into collaborative approaches and elements needed for efficacy.

- *Division of Forestry* was seen by many as an institution that should provide technical assistance as well as play an advisory role. They were also seen as critical for enforcement. However, given the lack of leadership and capacity, such roles are heavily hindered, thus leading to dependency on the non-governmental organizations.
- *Non-governmental Organizations* were also seen as providing technical assistance as well as an advisory role. They were seen as particularly effective in capacity-building and fundraising.
- *Municipal Governments* were seen as a substitute for addressing the ineffectiveness of the state in managing watershed areas as well as the state's reluctance to devolve management to community levels. The strengths of the municipal governments were their close ties to communities and passage of legislation adopting co-management approaches to natural resource management. Deficits included lack of funds and capacity to implement legislation.
- *Traditional Leaders* were seen as key figures for successful watershed management. However, the efficacy of traditional leaders depended largely on the individual, leading to issues with support and capacity regarding management.
- *Communities* were seen as implementers of management. However, it must be noted that this role was seen mainly by NGOs and state agencies. Communities expressed interest in co-management; however, capacity issues as well as quality of participation prove challenges for sustainability.
- *Ways of Working Together to Manage Watershed Areas and Improving the Collaborative Process*. All parties interviewed agreed that everyone must work together to manage the watershed. Overlap of responses on roles and responsibilities differed so that no one approach was identified. However, responses tended to fall into three categories: 1) municipal governments, the state, and traditional leaders should share management and enforcement roles; 2) municipal governments and traditional leaders should fulfill management roles;

and 3) the role of the state should be to consult with traditional leaders on management of watershed areas. Improving coordination of activities and communication between parties was identified as critical ways to improve the current collaborative process.

Key Findings: Involvement of Parties

The following identifies how parties came to be involved with watershed management efforts as well as why they continue to be involved. These findings provide insight into future strategies on how to engage other parties as well as maintain continued involvement for sustainability.

- *Education Campaign through the Extension Program* was the key activity noted as people's first introduction to watershed management efforts on the island.
- *Parties Continue to be Involved for Benefits.* Though various reasons were provided, the overriding theme to involvement concerned benefits (e.g. protection of sacred places, protection of the water supply and quality, provision of information to others on how to protect their natural resources and serve as advisors, conserving for future generations, etc.).
- *Parties Enjoy Being Involved because it Provides them with Learning Opportunities and Skill Development.* This applied to both personal as well as professional areas.
- *Challenges Concerning Involvement were Varied.* Aside from being chased out of villages early on in the program, other challenges were: enforcement issues, dealing with people unwilling to listen, the slow nature of the process causing frustration, and involvement of politics.

Key Findings: Steps in Moving Forward

Parties were asked what needed to happen in the next five years to improve watershed management on the island. These findings reveal levels of support for certain strategies and approaches, thereby helping to direct future management activities.

- *Laying Down the Watershed Forest Reserve Boundary Line.* Marking the boundary for the Watershed Forest Reserve was seen as critical for enforcement and conservation of the area.
- *Improving Coordination, Planning, and Relationships* among different parties and activities is a major challenge and responses overlapped for the need to address these issues.

Key Findings: Five Key Challenges

Challenges, both current as well as future, facing effective watershed management on the island were identified as follows:

- *Enforcement.* Issues concerning enforcement centered on creating an effective process with concerns revolving around how enforcement would be conducted, funding sought, and authority and responsibility for enforcement of the Watershed Forest Reserve clarified.
- *Building Capacity in Both Communities and the Division of Forestry to Co-Manage.* In participatory management approaches, new skills and understanding must be developed in parties to undertake new roles and responsibilities. As such, communities and the Division of Forestry must develop capacity to engage effectively in collaboration.
- *Developing Political Will for Participatory Management and Commitment to a Collaborative Approach* addresses the state's lack of commitment, through adoption of participatory management legislation, to recognize communities (and others) as a legitimate party in watershed management.
- *Increasing Communication Between Groups and Improving Overall Coordination* encompassed strengthening of leadership roles for coordination, management, and implementation, clarifying roles and responsibilities of the different parties involved, and developing a coordinating structure that enhanced communication between parties and coordination of activities.
- *Mitigating Outside Influences* was seen as critical. This challenge mainly involved a shift to a cash economy and subsequent erosion of traditional lifestyles and customs. Finding alternative income generating activities to counter commercial sakau farming is key to addressing this challenge.

Key Findings: Conclusion and Recommendations

Six factors that underlie effective, collaborative natural resource management were identified. Each factor was linked with specific recommendations and steps the watershed management program could take. The six factors are:

- *Commitment to a Collaborative Approach at Multiple Levels is Present.* Such commitment is built on understanding of the issues and a need for a collaborative approach that is identified by all parties involved.
- *Appropriate Incentives are Evident at Multiple Levels.* For Pohnpei, incentives are rooted in enforcement, personal benefits, resource benefits, and ownership of the problems and process to address issues.
- *Capacity Exists at Multiple Levels.* Capacity includes educating parties to develop understanding of the need for capacity to address issues.

- *Accountability Measures are Incorporated.* Accountability addresses not only the work being done, but also of the parties' commitment to the collaborative and as representatives of their constituents. Accountability is enhanced by clear measures for encouraging accountable involvement; when goals are clear and accepted; and when roles and responsibilities of involved parties in achieving these goals are identified.
- *Coordinating Structures that Manage and Sustain Productive Interaction are Present.* Coordinating structures provide mechanisms for parties to develop relationships and trust, maintain communication and be well-informed, develop consensus on problems and strategies, ensure accountability, and monitor activities to provide feedback for adaptive management.
- *Long-term Perspectives and Adaptive Management Approaches Have Been Adopted.* In looking at sustainability of initiatives, long-term perspectives and adaptive management are factors that encourage efficacy as parties maintain relationships, shared visions provide motivation, and strategies adapt to new challenges and situations.

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ABBREVIATIONS

ADB	Asian Development Bank
CAP	Community Action Plan
CBNRM	Community-based Natural Resource Management
CCO	Community Conservation Officers
CSP	Conservation Society of Pohnpei
DoF	Division of Forestry
FSM	Federated States of Micronesia
GEF	Global Environment Facility
NGO	Non-governmental Organization
PRA	Participatory Rural Appraisal
PRMC	Pohnpei Resource Management Committee
RMAC	Resource Management Advisory Committee
SPREP	South Pacific Regional Environment Programme
TNC	The Nature Conservancy
UNDP	United Nations Development Programme
USDA	United States Department of Agriculture
USFS	United States Forest Service
WAMC	Watershed Area Management Committee
WFR	Watershed Forest Reserve
WSC	Watershed Steering Committee

GLOSSARY

Kousapw	Village
Nahnken	Chief advisor and administrator to the Paramount Chief
Nahmwarki	Paramount Chief of the municipality
Soumas	Village chief
Wehi	Kingdom or municipality

INTRODUCTION

In 1987, the Pohnpei state legislature passed the Pohnpei Watershed Forest Reserve and Mangrove Protection Act in which close to 5,000 hectares (or 12,500 acres) of upland forest was set aside as a protected Watershed Forest Reserve. The purpose of this act was to halt the degradation of the interior forests from road construction and population encroachment as well as to protect the watershed and water supply for the island's population. However, when surveyors attempted to mark the boundary of this reserve, suspicious and angry villagers with machetes and guns turned them back.

With this single act, the story of watershed management on Pohnpei began and continues to unfold today. This case study analysis examines the evolution of watershed management on Pohnpei, from the difficulties of developing a management plan and educating the public on the importance of watersheds to the process of engaging in collaboration, including community-based natural resource management. It also attempts to extrapolate lessons learned from the challenges and opportunities experienced by those involved as well as develop recommendations concerning current challenges.

The case study analysis begins with this chapter, which outlines case study objectives, methods, and provides background to some of the issues discussed in the succeeding chapters as well as historical, geographic, and socio-economic information concerning Pohnpei.

In Chapter Two, the history of watershed management efforts will be outlined. This chapter will also identify significant crossroads for watershed management by examining how such transition points affected management efforts subsequently, the

factors that affected the decision-making process, and why these crossroads were considered significant. Successes and challenges will also be discussed in this chapter.

Chapter Three continues the report of interview results by focusing on lessons learned (e.g. what worked, what didn't, and why) and achievements, current challenges to effective watershed management, and future steps to be taken.

In Chapter Four discussion of successes and challenges continues in the context of organizational issues. Specifically, the roles and challenges facing involved parties and their participation in watershed management will be reviewed and analyzed.

Using a comparative case study approach, Chapter Five reviews similar collaborative and community-based cases and studies in the context of the specific challenges that are identified for watershed management at the end of Chapter Four.

Chapter Six concludes the watershed management case study analysis by summarizing overall observations through identification of six key factors for enhanced collaboration. Specific steps and recommendations regarding these six key factors are developed for the watershed management program to consider.

Methods

The case study analysis used multiple methods of personal observations, interviews, and document reviews while on Pohnpei during the months of May through July of 2002. Interviews were also conducted in Hawaii in August 2002. These methods were the basis of analysis for Chapters Two, Three, and Four. For Chapter Five, these methods were also supplemented by literature review on collaborative and community-based case studies. In addition, a local research steering committee, comprised of representative parties involved in watershed management (state agencies, non-profit

organizations, and traditional leaders), was organized to help determine objectives for the research as well as assist in implementation and final write-up.

Critiques of the methods mainly relate to limitations imposed by time and resources available during field research. They are as follows:

- The local research steering committee generated the list of interviewees. As such, information gathered during the interview process may be biased in representation as only those selected by the steering committee were interviewed. However, the steering committee considered parties at different levels of involvement and support (and non-support) to ensure a rounded list of interview candidates in order to provide insight from all possible angles and aid in developing a comprehensive understanding. The final list of interviewees was broadly representative of community members (including sakau farmers), municipal governments, non-governmental organizations, politicians, state agencies, traditional leaders, and U.S. federal agencies.
- The other issue regarding the interviews was use of two interpreters who were also employees of the state as well as The Nature Conservancy (TNC). There were concerns that interviewees would not feel comfortable or be forthright in their answers as a result. However, these concerns were outweighed by the fact that Pohnpeian society is tightly knit and personal relationships are a big factor in interactions. As such, using an interpreter that is not familiar to community members may have inhibited their answers and produced similar concerns over level of comfort and forthrightness. Therefore, the two interpreters were used because they were familiar to communities, despite their links to the state and TNC. Another issue concerning the interviews has to do with *Kanengamah*, a manner of behavior signifying reserve and restraint. Pohnpeian anthropologist Glenn Petersen notes that in Pohnpeian society management of the truth or a person's ability to conceal their knowledge, interest, or emotions from others to control the flow of information in the interest of maintaining power is prevalent (Petersen, 1993).¹ To balance this issue, interviews were focused on a diverse and broad range of people. In addition, at the beginning of each interview, the researcher explained that the research was independent and not sourced by the state or non-governmental organizations.
- Another concern regarding methods comes in the form of understanding the nature of communities in Pohnpei. Though the researcher attended community workshops and worked closely with Pohnpeians, due to logistical issues and constraints on time, the researcher was not able to spend quality time in

¹ Petersen himself noted this issue during his own experiences with conducting interviews on the island. He would often come across instances when people would contradict each other or even themselves with the information offered as well as other instances when an individual would share a critical piece of information or reflection only after months of interviewing.

communities. As such, full understanding of community mechanisms and workings was beyond reach of the investigator. However, attempts to address this shortcoming was done through talking with fellow researchers who had spent longer time periods on Pohnpei living with communities (e.g. PhD students, expatriates), reviewing anthropological studies on Pohnpeian communities, and speaking with Pohnpeians about the nature of communities. In addition, several interviews were conducted in villages after which lunches were provided and sakau ceremonies performed, allowing the researcher to step out of the interview role to talk with people informally at such social gatherings.

Geography

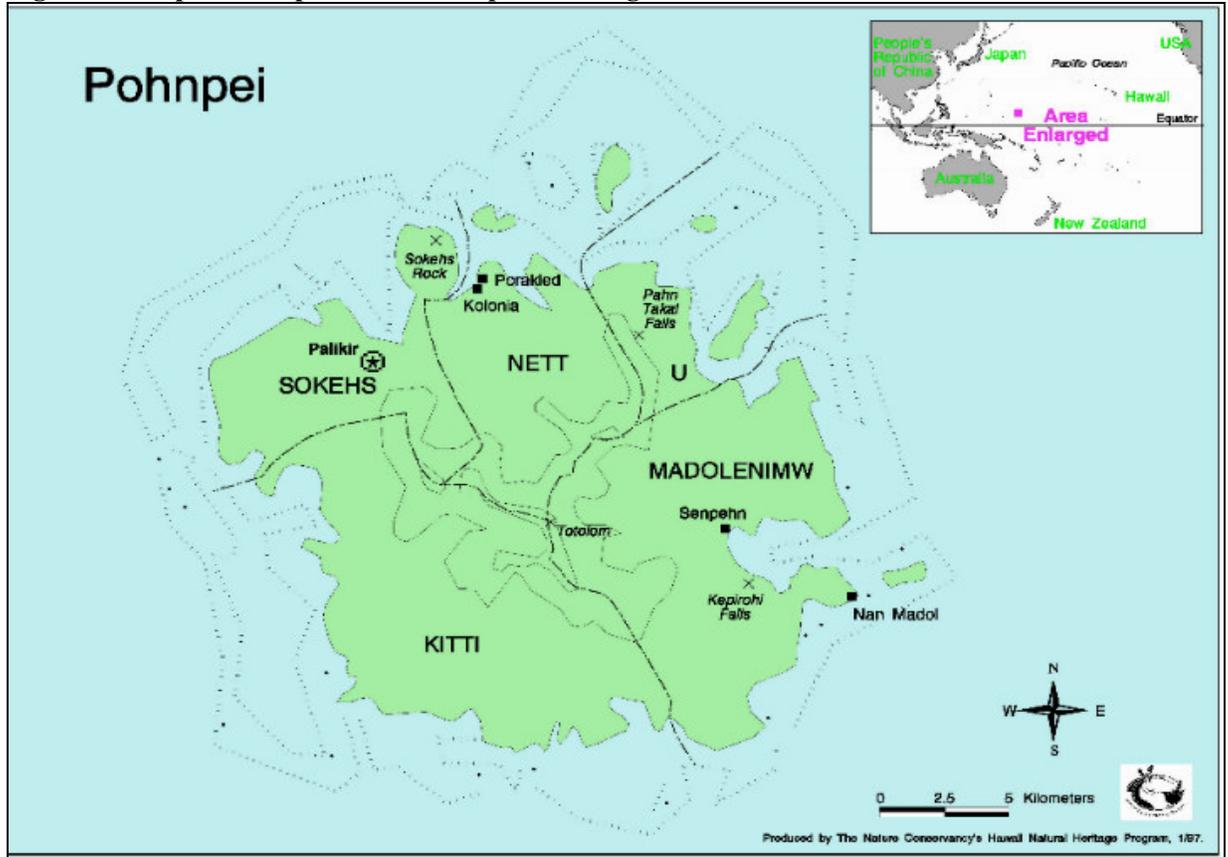
As one of four states comprising the Federated States of Micronesia, Pohnpei encompasses 129 square miles and is the third largest island in Micronesia.² It is 2,500 miles southwest of Hawaii, situated between Guam and Northern Australia, and east of the Philippines.

This volcanic island in the Western Pacific Ocean is considered a high island for it is mostly mountainous in terrain with deep valleys and ridges that are covered by dense, tropical vegetation in the form of rain forests found in the interior. These upland forests consist of a mix of broadleaf, swamp, and dwarf forests. Maximum elevation is 780 meters. Mangrove forests are found along the coastal areas of the island with vegetation consisting primarily of agroforest and grasslands due to human habitation. Off-shore barrier reefs form lagoons around the island, providing abundant grounds for marine life and fishing opportunities and livelihoods. Pohnpei experiences heavy rainfall throughout the year, with an average annual rainfall recorded at 194 inches. As such, the island is home to a number of rivers and waterfalls. The climate is tropical with average temperatures at 27 degrees centigrade. Pohnpei also experiences tropical typhoons as

² Pohnpei State also includes 125 islands and atolls. However, since the watershed management program focuses mainly on the island of Pohnpei, usage of the word *Pohnpei* in this case study analysis will refer to the island itself rather than the entire state.

well as periodic drought conditions that critically affect the groundwater available to its population of 38,000.

Figure 1. Map of Pohnpei with municipalities/kingdom divisions outlined



Source: The Nature Conservancy

Due to its relative age and isolation, the upland forests of Pohnpei house an incredible amount of biodiversity with high levels of endemism, making it one of the most diverse places in Micronesia. Of the 767 plant species that have been recorded on the island, 34% are native to the island's upland forests. 111 plant species are endemic to the island and 90% of these are found in upland forests. In addition, sixteen percent of the island's 50 bird species are endemic to the island (Dahl and Raynor, 1996).

Brief History

Though Pohnpei's history goes back as far as 500 AD, in understanding watershed management on the island, it is the recent history that has been most influential. The Pohnpei of today has been greatly affected by its over 150 year history of colonial rule, particularly property arrangements and displacement of traditional political governance systems. Each colonial regime instituted governance systems focused on supporting economic and strategic interests of the homeland. The result has been loss of control over lands by traditional leaders, co-option of lands by the state, and organization of lease and homestead programs for property distribution to Pohnpeians – all creating high levels of insecurity over land tenure for many Pohnpeians and leading to feelings of distrust concerning the state (Dahl and Raynor, 1996).

From 1886-1899, Pohnpei was ruled by Spain during the time of the spice trades. At the end of the Spanish-American War in 1898, Spain sold its interest in Pohnpei to Germany. As a result, from 1899-1914, it was governed by Germany, under whose administration traditional land use and ownership were changed dramatically as the Germans instituted individual ownership of land by deed and inheritance by primogeniture in order to promote agricultural production (traditional land inheritance systems were matrilineal). The effects of German land reform can still be seen today in the form of confusion over land ownership between the state and individuals as well as traditional leadership versus state authority over certain areas. Under German rule, the production of copra (the dried oil-bearing meat of the coconut) for trade was also developed. From 1914-1945, Pohnpei came under Japanese control. During this time period, state or public land increased greatly as the Japanese considered all unused or

untitled lands state property. Forced sales were also conducted in which land was given to Japanese settlers or used for military purposes. Pohnpei also experienced great growth in terms of development. The Japanese, seeing Pohnpei as a resource for its war efforts, built sugar cane factories and developed mining, fishing, and agricultural industries. They also invested in infrastructure such as roads and creation of towns with hospitals, local stores, and schools. However, this development was quickly laid to waste at the end of World War II when Pohnpei was heavily bombed.

After the war, Pohnpei came under the Trust Territory of the Pacific Island, created by the United Nations in 1947. The United States took on the role of Trustee for the territory from 1947-1986. State lands under administrative rules set in place by the Japanese remained the same during the U.S. Trust Territory years. Additionally, leases obtained during Japanese rule were considered defunct by the Trust Territory government and reverted to public domain, with leases obtained during German occupation considered legitimate. The Trust Territory administration also instituted a major land registration program and conducted land surveys to assist with land disputes. During this time period, the responsibility of the United States toward Pohnpei, along with Chuuk, Yap, Kosrae, Palau, the Marshall Islands, and the Northern Mariana Islands, was promotion of economic development and eventual self-sufficiency and governance of these islands. However, the years under Trustee administration proved these objectives to be secondary to the U.S. need for securing Pohnpei as a strategic base of operations for its military forces in the Pacific. As such, the financial assistance that was provided to Pohnpei was not directed toward building self-sufficiency capacity (which was greatly mismanaged), but toward securing the island for U.S. defense purposes. One

consequence of the Trusteeship period was the establishment of a U.S. system of democratic governance over the traditional governance structure of chiefs and kingdoms (discussed later under *State and Municipal Governance Structures*). This shift in governance systems has created tension between traditional leaders and the state, the effects of which will be revealed in subsequent chapters.

Another consequence of U.S. Trusteeship was growing financial dependency on U.S. subsidies. In 1979 Pohnpei joined with Yap, Chuuk, and Kosrae to form the Federated States of Micronesia (FSM) to become a sovereign country with a constitution and national and state governments. In 1986 the U.S. transferred governmental functions, in accordance with the UN Trusteeship Agreement, to the FSM thereby allowing the FSM (and through it Pohnpei) to become truly independent for the first time since 1886. However, relations between the FSM and the U.S. continued in the form of a 1986 Compact of Free Association in which the U.S. provided funding over a period of fifteen years to help the FSM build governance capacity, infrastructure, and economic development in exchange for military rights and use of the island as a strategic base. This funding would be decreased every five years in order to promote gradual development of self-sufficiency at the end of the fifteen year period. However, similar to the Trust Territory days, the result of this Compact has not been self-sufficiency for the FSM, but continued dependence on U.S. aid as the public sector grew to meet the needs of executing Compact funded projects and initiatives. As a result, the public sector remains the largest employer in the country. This shift in the economy toward public sector development also created a move from a subsistence economy (traditionally agriculture and fishing) to a cash economy as more people were drawn into government

jobs and related activities (e.g. restaurants, grocery stores, gasoline stations, etc.) that sprang up to meet the needs of this new class. Youth are particularly impacted by the cash economy as traditional subsistence lifestyles are rejected in favor of the benefits of a cash economy. In addition, Pohnpei is home to a large number of foreign nationals, mostly Americans along with Australians and Japanese, who are employed as teachers, lawyers and Peace Corp volunteers. The existence of such a large ex-patriate community adds to the growth of the cash economy as stores also cater to their Western lifestyle needs and subsist on their dollars for imported goods. With minimal growth in the private sector and very little foreign investment, Pohnpei's dependence on dwindling U.S. financial assistance looms as a large challenge for the state and particularly for the watershed as commercial sakau cultivation becomes the only other income generating activity available to people.³

Pohnpei Today

Though the Compact expired in 2001, the FSM is in the process of renegotiating with the U.S. government to extend the Compact to provide additional funding for another twenty years. One of the biggest issues facing Pohnpei is how the economy as well as the state will continue to function without this subsidy. Pohnpei has no industry on which to base economic development and most of its private sector consists of services for domestic consumption (Micronesia Seminar, 2002). Though Pohnpei does export coconut related products, sakau, and pepper, these industries are decreasing and remain small given the dearth of available land for farming. As a result of these limited

³ Planting of sakau is the largest threat to the watershed areas, particularly as this plant has become a commercial cash crop. The role of sakau will be expanded upon later in this chapter.

economic employment opportunities, many Pohnpeians migrate out of the state for economic opportunities with an estimated 2,000 FSM citizens a year leaving the islands (Micronesian Seminar, 2002). In addition, according to a 2000 country economic review conducted by the Asian Development Bank (ADB), though Pohnpei experienced strong growth in the early Compact years, poor policy environment coupled with bad public enterprise investment has led to economic stagnation (Asian Development Bank 2000, 4). Foreign investment is also discouraged by the existence of “restrictions on land leases, uneven court enforcement of contracts, lack of tax incentives, and multiple bureaucratic requirements imposed on outsiders” (Micronesian Seminar, 2002). Other issues mentioned in the previous section (declining traditional ways, move toward cash economy, and problems with executing western style government) also remain.

However, despite the challenges outlined above, Pohnpei also faces opportunities. In 1995, the Asian Development Bank convened an economic summit in which it was recognized that state governments should be downsized, dependency on imports reduced, foreign investment laws and regulations changed to promote investment, and efforts at developing commerce, trade, agriculture, and tourism be made a priority.⁴ A set of objectives for various sectors was developed as well as plans to reach these goals. As such, the private sector in Pohnpei has seen growth, though slow, in the form of privatization of its telecommunications, public utilities, road-building, and construction. In addition, this economic summit, along with subsequent summits, created a mechanism in which donor aid could be better utilized to create self-sufficiency. Licensing of fishing

⁴ Challenges concerning foreign investment in Pohnpei are inadequate infrastructure and lack of skilled work force since education is only mandatory from grades 1-8. Advantages are that Pohnpei has a stable democratic government, its business laws are modeled after the U.S., it is close to major markets in the U.S. Pacific Rim, Australia, and Southeast Asia, has its security guaranteed by the U.S. military and has advanced communications such as internet and satellite capabilities.

fees to foreign vessels is also a potential income generator for Pohnpei as its waters are abundant with tuna.⁵ Tourism has also been identified as a potential growth industry since Pohnpei is home to World War II relics as well as Nan Madol, a world class archaeological site, and natural beauties such as coral reefs, rain forests, and waterfalls.⁶ Pohnpei, when compared to the rest of the FSM, is also fiscally disciplined regarding management and is the least dependent on external grants (Asian Development Bank 2000, 15).⁷

Another positive development for conservation is the stabilizing population growth (mostly attributed to emigration) the FSM has been experiencing. The years 1994-2000 experienced only a 0.4% increase in population on the island (Micronesian Seminar, 2002). Current population stands at around 38,000. With such stabilization of population, demands for road-building and housing should decline, thereby decreasing some pressure threatening watershed areas on the island.

In addition, though the traditional ways of life and governance have suffered from years of colonial rule, Pohnpei is experiencing a reawakening through a return to old customs and encouraging pride in traditions. Efforts at reviving mechanisms of traditional governance systems originate both from the watershed management program as well as global movements in natural resource management recognizing the important role of indigenous knowledge and systems. During the time period in which this research

⁵ Issues of sustainability of these tuna populations must be considered in order to estimate continued future viability of licensing fees as an industry.

⁶ In the author's opinion, given what was experienced during field research, tourism as an economic industry for the state has a long road ahead as infrastructure development (tap water must still be boiled for use in household cooking and drinking) and facilities of hotels and amenities require further improvement before Pohnpei can compete with similar destinations such as Bali or Palau, which also have excellent diving and hiking opportunities and amenities. In addition, the heavy rains experienced daily on the island may prove problematic for tourism development.

⁷ However, external grants still make up to 68% of government revenue.

was conducted, a region-wide conference of traditional leaders took place on the island. Traditional leaders from Palau, the FSM, the Marshall Islands, and others discussed issues such as natural resource management, integrating traditional governance systems with Western governance systems, and strengthening traditional customs and cultures in the face of globalization.

State and Municipal Governance Structures

State. Pohnpei is one of four states that comprise the Federated States of Micronesia.⁸ Pohnpei has a constitutional government with an executive, judicial, and legislative branch. The executive branch is led by a governor, elected every four years, who is responsible for administering the law and government services. The legislative branch (unicameral) is made up of 21 senators, elected by their districts, and is the law-making arm of the government. The judicial branch includes district courts and is given the responsibility of interpreting the laws. The state has several agencies or departments that deal with education, economic development, agriculture, environmental regulation, lands and so forth. With regard to natural resource management, the state has authority over the conservation and management of terrestrial and inshore marine resources out to 12 miles from the reef. The Division of Forestry and Marine Surveillance is under the Department of Lands.

Municipal. The five municipalities are based on the existing five traditional kingdoms of Madolenihmw, U, Kitti, Nett, and Sokehs. Introduced during the U.S. Trust Territory years in 1948, municipalities are governed by elected chief magistrates as well

⁸ As a comparative reference to the U.S. system, the Federated States of Micronesia and Pohnpei State are parallel in terms of relationship and governance responsibilities to the U.S. federal government and the 50 states.

as elected councilors to the legislative body.⁹ Given the overlap of this system with the traditional kingdoms, in order to be effective, the chief magistrate must work closely with the Nahmwarki as responsibilities and roles coincide. This can similarly be said of elected councilors and village chiefs (Hughes, 1969). In the past, the position of chief magistrate was often filled by individuals who were also traditional leaders, but today this dual role of authority is uncommon in Pohnpei.

Traditional Political Governance and Community Structures

Five traditional kingdoms exist on the island: Madolenihmw, U, Kitti, Nett, and Sokehs. Each kingdom is governed by two chiefs, the *Nahmwarki* and *Nahnken*. The Nahmwarki is the paramount chief while the Nahnken serves as his chief adviser and administrator. There also exists a state-wide traditional council of paramount chiefs as well as municipal traditional leader assemblies known as *Pwihn en Wahu*. Prior to colonization, Nahmwarkis held ownership and management responsibilities of all lands within their kingdoms. These kingdoms are divided into *kousapws* (or villages), which in turn are governed by village chiefs, *Soumas en kousapws* (Hughes, 1969). These soumas report to and are governed by the Nahmwarkis. Villages are usually made up of families or a group of people with close kinship ties that live and work in the area and are bound to the leadership of a soumas. There are over 200 villages island-wide with populations in each ranging from 50-300.

The relationship between traditional leaders and communities revolve around tributes, feasting, and redistribution of goods. This system strongly affects natural resource use patterns (as will be discussed later in the *Sakau* section). Though their

⁹Similarly, municipalities can be considered as equivalent to U.S. cities or counties in which the chief magistrate is the mayor and has similar governance roles and responsibilities.

authority is not based in law, traditional leaders maintain their leadership role and influence through the granting of titles and feasts. Communities serve their chiefs through tribute and labor and in return, titles, settlement of disputes, and chiefly consent are provided (Dahl and Raynor, 1996). Traditional leaders also redistribute tributes received back to the community as a sign of their authority. Redistribution enforces the binding of communities to traditional leaders and legitimizes their leadership. In this way, though traditional leaders rule within communities, the reciprocal nature of the relationship serves as a checks and balance system for both. As such, traditional political governance is based on inter-personal relationships and reciprocity. In addition to the distribution of titles, a traditional leader's authority rests on his ability to listen and meet the needs of his community as well as on his humility and wisdom (Petersen, 1982).

A majority of the population live in coastal villages and in Kolonia (the capital). Almost all households engage in subsistence agriculture based on agroforestry, with a few also involved in animal husbandry (e.g. poultry and pigs). Agricultural products include sakau, breadfruit, coconut, banana, and yam. Communities in Pohnpei are fairly homogenous and cohesive as a majority of the island's population are native Pohnpeians. Given this fact, Pohnpeian's emphasize consensus and relationships in the functioning of communities. Other populations on the island consist of neighboring islanders (e.g. Kosrae, Chuuk, Yap) as well as outer islanders. As a result of colonization, most Pohnpeians are Christians.

Figure 2. Governance Structures: Government, Traditional, and Other

Government	Traditional	Community and Private Sector
<p>FEDERAL</p> <p>Federal Congress</p> <p>President</p>		
<p>STATE</p> <p>Governor / Lt Governor</p> <p>Legislature</p> <p>Government Departments</p> <ul style="list-style-type: none"> • Resource Management and Development (Lands, Agriculture and Forestry, Tourism, Marine and Coastal Resources) • Environment Protection Agency • State Planner • Education • Foreign Investment Board 	<p><i>Mwoalen Wabu</i> (Council of Paramount Chiefs)</p>	<p>NGOs - The Nature Conservancy, Conservation Society of Pohnpei, MIC etc</p> <p>Education and Research - Marine Environment Research Institute of Pohnpei (MERIP)</p> <p>Church</p> <p>Businesses</p>
<p>MUNICIPAL</p> <p>Local Government</p> <p>Legislature</p> <p>Judiciary</p> <p>Executive</p> <p>Boards (Health, Land, Sports, Development Advisory, Resource Management)</p>	<p><i>Nanmwarki</i> <i>Nabnken</i> (Paramount chiefs)</p> <p>Higher titles <i>Nanmwarki</i> line – <i>Wasabi, Dauk, Noabs</i> <i>Nabnken</i> line – <i>Nablainiv, Nabnsauririn, Namadan idehd</i></p>	<p>Community-Based Organizations – Women’s groups, youth groups, Church groups, Resource owners</p>
<p>SECTION</p> <p>Councilors</p> <p>Representatives</p>	<p><i>Soumas</i> <i>Paliendal</i> (Village chiefs)</p> <p><i>Kaun en pwihn</i> (Section chief)</p> <p>- various titles in <i>Nanmwarki</i> line and <i>Nabnken</i> line</p>	<p>Community members</p> <p>Youth groups</p> <p>Churches</p> <p>Community Conservation Officers</p> <p>Local business</p>

Source: Chatterton, 1999

Sakau

Sakau, or *Piper methysticum*, is a type of pepper plant that is used both as a traditional agroforestry crop as well as commercial cash crop. The roots of the plant are used to make a narcotic beverage that is at the heart of Pohnpei's culture and social fabric. Sakau was formerly only enjoyed by traditional chiefs and nobility, however, due to weakening traditional systems as a result of colonization and transition to a cash economy, sakau is now prepared and enjoyed by all Pohnpeians.¹⁰ The commercialization of sakau has proven the largest threat to watershed areas on the island as sakau production requires clearing of forest canopies as direct sunlight is required for growth. Additionally, upland forests are targets for sakau cultivation because the richer soils and moist environment promote fast growth of the plant (Dahl and Raynor, 1996). Between 2,500 and 5,000 hectares (or 6,000 and 12,000 acres) are planted for sakau, generating approximately \$5 million a year for the 5,000 people who grow it annually (Hunnam, 2000). Most of the demand is domestic. Clearing of upland forests for sakau has led to destruction of habitat for wildlife, decreasing endemic plant species, loss of water catchments, and increased soil erosion which has resulted in decreasing water quality and downstream sediment accumulation impacting mangrove forests, lagoons, and coral reefs.

¹⁰ It is still considered a sacred drink however as people must close their eyes when the sakau cup is raised to the lips to drink. The receiving of the cup is also done in a sacred way with the hands crossed, a mannerism reserved when receiving anything from traditional chiefs.



Figure 3.
Sakau plant

Source: The Nature Conservancy

In addition to the commercial aspect of sakau cultivation, sakau also serves several critical roles in traditional Pohnpeian culture and society. As one of the traditional crops offered to traditional leaders during tributary feasts, sakau serves two purposes. Sakau represents the worth of a Pohnpeian in that it reflects the labor and diligence of a person in farming and producing the crop. As such, the offering of sakau as a tribute shows traditional leaders the worth of that person, and that person is often rewarded with an honorary title that elevates a commoner within the social structure (Petersen, 1976).

Sakau is also required in social activities such as gatherings (particularly for weddings, funerals, and feasts) and any activity involving the presence of traditional chiefs. The gift of sakau represents both the wealth and status of the individual. Another use of sakau is in conflict situations. Conflicts, particularly face-to-face conflicts, are generally avoided. However, if a conflict situation cannot be avoided, a ceremony (*tomw*) is performed. Senior family members and heads of clans will be involved, with sakau serving as a facilitation mechanism. If the situation involves a wrong doing, the offender's family (e.g. senior members) will, in addition to preparing it, offer sakau and ask forgiveness from the wronged family.¹¹ In most cases (even crimes such as murder), transgressions are forgiven and never mentioned again. If the wronged family decides not to accept the offering of forgiveness, then the transgression shifts to the responsibility of the wronged party. However, in most cases, the Soumas or Nahnken can override the wronged party to accept the apology and offer of forgiveness (pers. comm.).

Finally, sakau is also used as a form of social bonding as the drinking of it occurs in group settings with family members and friends. Sakau is a daily occurrence in villages where families pound and prepare the drink for everyday enjoyment and appreciation of the day's activities and work.

¹¹ If sakau is not available, then green coconut (*uhpw*) can also be used as an offering.

Figure 4. Traditional preparation of sakau with coconut cup¹²



Source: The Nature Conservancy

Definition of Terminologies and Usage

Throughout the case study analysis, certain frameworks and approaches to natural resource management will be used. The most commonly used concepts and representative terminology are outlined below:

¹² Sakau is prepared by first cleaning the roots of the plant, then pounding the roots on a stone table using pounding stones until the roots are mashed into fibrous materials. The roots are then strained and squeezed with hibiscus bark to produce a glutinous brown liquid. A coconut cup is used to pass around the drink.

Co-management as an approach to natural resource management is “power-sharing in the exercise of resource management between a government agency and a community or organization of stakeholders” (Warner, 1997). Co-management usually entails a formal, legal agreement between communities and governments in managing areas.

Another approach to natural resource management involves increasing participation of all parties in the process. One approach to such participatory management is *community-based natural resource management* in which the participatory approach focuses on “human development; respect for traditional or local knowledge; community empowerment...partnership and genuine dialogue between community stakeholders and representatives of institutions such as government departments, NGOs, and funding agencies” (Warner, 1997).

Collaboration is another way of engaging in natural resource management. Within the U.S., development of the collaborative approach has resulted in response to a declining sense of trust in governments; reduced sense of individual responsibilities and civic engagement as institutions and organized interest groups have taken over decision-making roles; fewer resources available to effectively manage natural resources; and gridlock as a result of top-down regulatory approaches and competing interests resulting in conflict. Components of a collaborative approach include involvement of multiple parties and building relationships between these groups (particularly those that have been isolated from decision-making processes); collection of high-quality information as a basis for making decisions and to address uncertainties in natural resource management; are usually place-based and encompass large ecosystem areas that encourage long-term

visioning; builds a sense of ownership and responsibility through decentralized decision-making and consensus building; and creates a process to generate means to get the work done (including capacity building). Key factors in successful collaborations include: building on common ground; creating new opportunities for interactions among parties; employing an effective and meaningful collaborative process; focusing on problems in new ways; fostering ownership and commitment; recognizing that partnerships are based on people and not institutions; having proactive and entrepreneurial behavior; and mobilizing support and resources for activities (Wondolleck and Yaffee, 2000).

Additionally, throughout the analysis, different terms will be used interchangeably. Examples are: communities and villages; parties, stakeholders, groups, and entities; state and the Division of Forestry; traditional chiefs and traditional leaders (e.g. Nahmwarkis, Nahnkens, and Soumas en Kousapws); and participatory management and collaboration/collaborative approaches.

EVOLUTION OF A WATERSHED MANAGEMENT PROGRAM

In 1983, during a joint vegetation survey undertaken by the U.S. Forest Service (USFS) and the Pohnpei State Division of Forestry (DoF), rapid forest clearings in the island's interior and upland forests were noted. This deforestation was attributed to the growth in human population and movement into the area for purposes of subsistence farming as well as cultivation of a traditional crop, sakau, which had begun to enjoy some commercial success as a cash crop. As a result, the Pohnpei State Division of Forestry with the assistance of the USFS developed legislation to counteract these threats. Based on watershed legislation in Hawaii, this legislation attempted to protect Pohnpei's rich biodiversity and intact forests as well as its watershed, which supplied water for the people on the island. The Pohnpei Watershed Forest Reserve and Mangrove Protection Act of 1987 (S.K. 1L-128-87) was passed and created a close to 12,500 acre Watershed Forest Reserve (WFR) from public lands which would be protected from consumptive activities and managed by the Division of Forestry.¹³ The legislation outlined rules and regulations on access to the WFR with entry requiring permits from the Division of Forestry (Anson, 1993).¹⁴

Work began in 1990 by the USFS and the Pohnpei Division of Forestry to lay the boundary for the Watershed Forest Reserve. However, when government surveyors entered villages and attempted to lay down the boundaries in Kitti and Nett municipalities, they were confronted by villagers who were suspicious of these

¹³ The legislation also encompassed protection of close to 13,300 acres of coastal mangrove forests. However, for the purposes of this thesis, only issues dealing with the watershed areas and upland forests will be addressed.

¹⁴ The legislation is available in Appendix B.

government officers and were denied access to the areas, in some cases with machetes and guns (TNC, 1/3/94). Though public hearings had been held, not much public education or notification of activities, particularly with villages neighboring the proposed WFR, had been done. As such, villagers' suspicions were only heightened as they considered public lands open to communities for farming and agroforestry activities.¹⁵

Faced with the anger and suspicion of villagers, work on establishing the WFR halted while those involved with the efforts contemplated how to move forward. Bill Raynor, at the time an instructor at the College of Micronesia who had been hired by the Pohnpei Division of Forestry as a consultant because of his graduate work on the island's agroforestry, crossed paths with John Weilbacher with the Pohnpei Department of Lands at a sakau market in Madolenihmw municipality. As they discussed the situation, an idea to create an inter-agency task force (the first of its kind on Pohnpei) was developed and both men took the concept to Herson Anson, head of the Division of Forestry. Herson endorsed the idea and the three developed a list of agencies involved in watershed management to include on the task force.

The result of this work was the formation of the Watershed Steering Committee (WSC) in 1990. With the support of the Director of the Department of Resource Conservation and Surveillance (which the Division of Forestry was then under), the WSC's responsibilities were to 1) develop, manage, and implement the law; 2) represent the government when dealing with the municipal governments and communities; and 3)

¹⁵ This suspicion must also be understood in the context of Pohnpei's colonial history. People were used to seeing the state government in adversarial terms given the decades of colonial rule in which various governments changed traditional mechanisms of landownership and usage through establishing formal regulations on land registration resulting in control of lands by the state. In addition, as one politician noted concerning the protective status gained by the area and suspension of farming activities, "the rules and regulations were unrealistic...subsistence living is very difficult."

develop and implement long-term management strategies for the WFR (internal memo, 1/25/93). The WSC was also charged with seeking funds as well as technical assistance to implement the law. Once the WSC gathered and incorporated community concerns into the law, specifically its rules and regulations of access and management that would enforce the law, it would then present these revisions to the Governor who would then amend the law to reflect these changes and reintroduce it to the state legislature for final passage. WSC membership consisted of government agency representatives from the Department of Conservation and Resource Surveillance's Divisions of Agriculture, Marine Resources, and Forestry; Department of Health Services' Division of Environmental Health; Department of Lands' Divisions of Historic Preservation and Land Administration; Pohnpei's Environmental Protection Agency; College of Micronesia (and later The Nature Conservancy as Bill Raynor moved from the college to create and head TNC's Pohnpei office in 1992); and the USDA's Soil and Conservation Service.¹⁶ Funding for activities of the WSC (mainly the extension program of education and outreach with communities) came from the USFS and the United Nation's South Pacific Regional Environment Programme.

With the creation of the WSC, momentum to move forward with the WFR began again in 1990. One of the first activities of the WSC was an extension program for educational outreach, the goals of which were to educate communities about the 1987 law, significance of the watershed, and to gather feedback on the rules and regulations of the law. The extension program took the form of three day workshops in villages and

¹⁶ Regarding organizational structure, the WSC membership was voluntary and its members met once a week to organize and coordinate its activities with decisions made through a consensus-based format. The WSC had a chair as well as secretary who also kept minutes for each meeting and distributed them to the membership.

consisted of a presentation to the community by the WSC members covering topics such as the rules and regulations of the legislation, administration of public lands, land tenure issues and changes in land use, importance of watersheds and forests, biodiversity, and cultural sites related to the watershed (meeting minutes, 5/4/90). After the presentations, the WSC then opened up the workshop for question and answer periods in which communities had a chance to express their concerns and issues with the law and discussion followed.¹⁷ The WSC began the education program by focusing on the areas of Koapin Soamwoai in Kittu, Lehda-Senipehn in Madolenihmw, and Nanpil in Nett, as they were considered the most threatened areas based on past surveys and scientific data collected by the USFS, USDA Soil and Conservation, and the Pohnpei Division of Forestry. Later, the WSC expanded its education program to other villages and by the end of the two years (1992-1994) had met with over 200 communities island-wide.

At the same time these education workshops were being conducted, the USFS sponsored three trips to the Philippines for three different groups of Pohnpei's traditional leaders in the most critical communities.¹⁸ The purpose of these trips was to provide an opportunity for these traditional leaders to learn about deforestation issues in another country and its effects on the land and biodiversity as well as its people. As a result of these trips, the traditional leaders turned their opposition into support for the WFR and helped the WSC in developing relationships with the communities by serving as facilitators and educators.

¹⁷ The WSC met with the traditional leaders of the municipalities and villages to gain support and approval prior to visiting with communities. The workshops were also opened to the senators representing these areas in the state legislature as well as representatives from the municipal governments. The WSC also aired radio programs to announce activities of its education program.

¹⁸ These traditional leaders were chosen and invited by the Division of Forestry. Selection was based on their level of opposition and the key watershed areas they represented. Those who were supportive were also invited in order to strengthen their ability to communicate issues to their villages. Other key leaders in the community, such as the clergy, also participated.

By the end of 1994, the WSC developed an understanding of the communities' issues regarding the law. The key issues centered on the need for participatory management of the reserve between the state government and traditional leaders, developing a holistic approach of encompassing management from the mountain to the sea, and adjustments in the boundary lines.¹⁹ Within each of these issues were related topics concerning how decisions about appropriate use of certain areas were to be made, how local knowledge was to be integrated with scientific information, how capacity building measures for villages to co-manage these areas were to be developed, how methods of surveying the boundary of the reserve were to be decided upon, and how monitoring of activities in these areas and enforcement was to be conducted (meeting minutes, 6/4/90). It became clear to the WSC that communities needed to be involved with management decisions if Pohnpei were to successfully protect its watershed.

In 1994, based on the work of the extension program, Pohnpei state government received a two-year technical assistance grant from the Asian Development Bank (ADB) to develop a long-term watershed management plan.²⁰ The ADB grant would help Pohnpei to determine environmental conditions and trends of the watershed, review institutional capacity and needs to implement the law and community co-management, develop a watershed plan for sustainable resource use, and determine development options - all of which would culminate in a long-term integrated watershed management

¹⁹ An interesting note regarding the extension program was that communities often wanted to do more for conservation than state agencies were doing. Agency officials were often asked why they allowed dredging of coral or road construction as it led to disturbing natural resources. This experience is important in that one concern often cited with community-based natural resource management is that communities will extract natural resources for their benefit without concern for conservation. However, the extension program reveals that communities are very cognizant of sustainability issues as they rely closely on the watershed for subsistence living.

²⁰ The ADB is a multilateral development finance institution focused on the Asian and Pacific regions.

plan which would go through community and government review (TNC, 1/3/94). The grant was an opportunity to test various approaches and management strategies regarding watershed management and the incorporation of community participation. The grant would be organized through the WSC, with TNC taking the lead role in coordinating the activities.²¹

Work with the communities to develop a community-based planning process for management of watershed areas began with a pilot project in the Senpehn village of Madolenihmw municipality in 1995.²² Information identifying threats to the watershed and development needs of villages were gathered through community participatory rural appraisal (PRA) workshops.²³ These PRAs were also a method to help communities with organizational planning for management of their watershed areas (Dahl, 1995). PRAs determined sustainable use of the upland forest areas and secured community agreement on the location of a core watershed forest reserve area. The end result was a Community Action Plan (CAP) fully developed by villages, approved by soumas, senators, municipal governments, and DoF, and integrating community needs with watershed management

²¹ As required by the grant, most of the work was conducted by ADB consultants (e.g. a GIS database management specialist, watershed management specialist, agroforestry specialist, biodiversity specialist, legal and institutional framework specialist). These consultants were not local to Pohnpei, and were foreigners.

²² This pilot project would serve as a model for the Participatory Rural Appraisal and Community Action Plan development activities conducted with other villages. The pilot project also tested joint boundary line development with communities through the use of GIS technology.

²³ The PRA is a method of community participation that is bottom-up in approach. It focuses on understanding the needs, usually socio-economic, of the target group through information sharing and joint analysis. It is also an efficient way of understanding the local situation. The goal is empowerment of participants as decision makers as they work to develop strategies based on this information sharing and analysis to address issues and problems. PRAs are usually conducted by a facilitator, are short in duration (e.g. not more than three weeks) and can consist of direct observations, interviews, and group workshops. In the case of Pohnpei, government agency personnel and community representatives were trained to conduct PRAs with various villages (Dahl, 1995).

and WFR implementation.²⁴ Local, village level management committees with membership appointed by the soumas, were created to implement the CAPs and to coordinate activities with the WSC. Unfortunately, in the case of the Senpehn pilot project, though a co-management agreement between communities and the state had been developed and signed off by the soumas, chief magistrate of the municipal government, and governor, concerns by the State's Public Lands Board of devolving control over public lands to local communities led the state government to eventually pull out of the agreement. Their concern centered on the fact that there was no checks and balance system to prevent traditional leaders from encroaching on public lands in response to community needs for agricultural lands or housing. (This issue, the relationship between traditional leaders and communities, is a consistent theme throughout the watershed program's history and remains a challenge to this day.)

Also in 1995, at the suggestion of one of the traditional leaders, the position of Community Conservation Officer (CCO) for each village was created.²⁵ Usually selected by soumas, CCOs were members of the villages designated as natural resource and watershed educators for the community. They also helped with coordinating and implementing CAPs (including monitoring and enforcement) and served as a liaison

²⁴ In essence, CAPs were management agreements between local communities and the government. CAPs defined roles and responsibilities of participating parties for natural resource management, identified issues and problems, developed guidelines for resource use and sustainable management, developed restrictions concerning the boundary lines of the WFR, and developed the capacity of communities to manage these areas. CAPs also set up processes for review and amendments to management activities and agreements that had to be endorsed by traditional leaders, villages, and government officials. The CAPs were later incorporated into the final ADB funded long-term management plan for the watershed.

²⁵ The number of CCOs in each village varies depending on interest, training, and selection by traditional leaders. Currently, there are 200 CCOs island-wide.

between the village and the Forestry PRA team and the WSC. Training was provided to assist CCOs with these responsibilities.²⁶

The ADB years (1994-96) resulted in a better understanding of the needs for watershed management on Pohnpei for the following reasons:

- Activities with the communities (e.g. producing CAPs, CCOs, and local management committees) were conducted as well as environmental education (e.g. people removed latrines and pig pens from river areas thereby improving water quality);
- Collection of scientific information on the condition and status of the watershed (e.g. threats established as sakau cultivation, human settlement, road construction, hunting, and development of trails for tourism) were carried out as well as institutional analysis for co-management with communities (e.g. analysis of laws and policy verified precedents for co-management with communities existed);²⁷
- GIS land use analysis led to development, in conjunction with communities, of a spatial zoning plan for watershed management incorporating three areas of a core, protected watershed forest reserve, a buffer zone outside of the WFR for limited consumptive uses, and an intensive consumptive use zone outside of the buffer zone was established.

This understanding of needs, as well as the input by traditional leaders revising the rules and regulations of the 1987 law during the education workshops, led to development of an integrated watershed management plan at the end of 1996.²⁸ The plan focused on community-based sustainable natural resource management and improving coordination between communities and the state government for co-management of watershed areas. Strategies centered on the use of community planning and management; developing a framework for co-management with communities; government, private sector and related political/legal frameworks to support co-management; creating

²⁶ An assessment of the current CCO program is available in Appendix G.

²⁷ A diagram extensively listing both indirect and direct threats to upland forests is available in Appendix C.

²⁸ A national watershed workshop in which activities of the program were shared with government agencies and other relevant stakeholders was also conducted at the end of the grant.

compatible development options; building capacity around a core group of resource managers both at the community and governmental levels; and creating a monitoring and evaluation plan to guide this work (Pohnpei Watershed Project Team, 1996). At a workshop held in 1996, this management plan was reviewed and given support by traditional leaders, state agencies, and then Governor Del Pangelinan. Unfortunately, due to state budget cuts that occurred in 1997, this management plan, which was to be implemented by a Watershed Management Unit under the Division of Forestry, was never fully implemented. Parts of the management plan, specifically work with the communities to develop management capacity and Community Action Plans, continued under TNC.

Before the management plan was completed, the revised rules and regulations enforcing the 1987 law and incorporating recognition of traditional leaders as partners in watershed management was presented to then Governor Johnny David in 1995.²⁹ However, the state's attorney general concluded there was no legal basis on which to support devolving state management authority over public lands to communities via co-management agreements with traditional leaders. As a result, the rules and regulations were not adopted by the governor and were sent back to the WSC.

The WSC held discussions on how it should move forward in light of the governor's rejection of the rules and regulations. Some members felt that the objectives of the WSC had been met with development of the revised rules and regulations. With no way to move forward, the WSC, as a vehicle to implement the 1987 law, was seen as moot and this group advocated pursuing a return to state agency regulation. Others felt

²⁹ 1995 was the last year in Governor David's term. Governor Del Pangelinan began his term in 1996. Governor David returned to office in 2000 and is the current governor of Pohnpei.

that since the state was unwilling to recognize communities as critical stakeholders in watershed management, the WSC should adopt a wholly community centered approach and move away from the state. This approach was seen as the most effective for watershed conservation since communities were the direct resource users. This division over separate approaches for the future direction of the WSC led to a split within the membership with the result that the group advocating a return to state regulation left and later headed up the Department of Lands' initiative to create a master land-use plan for the entire island. The other group, consisting mostly of TNC and the Division of Forestry, continued under the WSC and pursued capacity building in communities for watershed management (personal interview, 2002). Activities focused on continuing with CAP development, working with communities to set WFR boundary lines, training new CCOs, developing environmental education programs, and continuing efforts to reform laws to recognize communities as partners in watershed management.

With funding from Keidenren, a Japanese organization, the years 1997-99 saw a continuation of these community activities in addition to a shift in some strategy. With the state unwilling to engage in co-management, TNC gradually shifted its attention to working with municipal governments as potential co-management partners with communities and as a more effective body through which to address watershed conservation. The shift to the municipal governments was also influenced by TNC's realization that working at the kousapw level developing CAPs for the entire island would take too long to accomplish. The level of authority of the traditional chiefs at the village scale was also an issue. Soumas en Kousapws (village chiefs) had limited authority. As such, to move CAPs forward more effectively, Nahmwarkis at the

kingdom or municipal level had to be involved.³⁰ Additionally, the local management committees, due to internal village politics and lack of dedicated members, had not been successful in moving forward to implement CAPs. As a result, TNC moved efforts for management of watershed areas to the municipal level, where coordination was viewed as being more effective and authority for implementation stronger (personal interview, 2002). Institutional organizations to coordinate and implement CAPs (developed at the kousapw level but now amalgamated to form comprehensive municipal level CAPs) were developed in the form of Watershed Area Management Committees (WAMC). Members were usually selected by traditional leaders. Ten WAMCs were created for ten areas adjacent to major stream sheds with Nett and Madolenihmw municipalities taking the first step. WAMCs also advised the Division of Forestry on watershed management issues. Instead of having local, kousapw level management committees, CCOs took on the role and responsibilities of these committees. TNC also developed a community-based monitoring program for the watershed, covering issues such as land conversion, spread of non-native species, bird hunting, water quality, and sakau plantings.

TNC had also introduced legislation to the state legislature that allowed for recognition of community-based institutions and planning processes such as the WAMCs and CAPs as having authority for watershed management and enforcement. However, this legislation died in committee.

³⁰ In addition to their management and enforcement abilities, the involvement of the Nahmwarkis was also critical in that the authority they commanded was greatly respected by the state government, partly because their authority surpassed that of the state government. As such, the state government could not challenge or counter decisions made by these traditional leaders. In this way, Nahmwarkis were seen as the only entity that could sufficiently challenge the state government regarding watershed management as well as exert control over the communities and villages.

In addition, after the dissolution of the WSC, a new coordinating structure, the Pohnpei Resource Management Committee (PRMC) formed in 1997. The PRMC worked with WAMCs to coordinate watershed management activities. The PRMC expanded its mission to not only focus on the watershed, but on addressing overall coordination of natural resource management on Pohnpei. It consisted of state agency representatives and non-governmental organizations (NGOs) with chairmanship revolving between the parties. It was later joined by the lieutenant governor, who became chair in 2001. The leadership of the lieutenant governor strengthened the PRMC and the committee really began to move forward with its mission and objectives. What makes the PRMC an important working group, one member noted, is that “the head of each agency [is involved] and they can commit to do each activity, they don’t need to clear it with anyone else, consensus-based.”³¹ Another member said, “because of committee, there is a partnership between NGO and government and agencies...now we have a work plan and it’s all coordinated work toward one goal.”

The first Resource Management Advisory Committee (successor to WAMCs), formed by traditional leaders and TNC, was established in Madolenihmw municipality during this time as well (Nett had also developed a similar resource management committee in 1997 which still remains today). Though the committee stopped functioning in 2000 due to problems with finding capable and dedicated people to serve, the advisory committee had been tasked with clarifying the roles and responsibilities of both government and traditional leaders in watershed management. The committee, with

³¹ Unless otherwise noted, all quotes (in this as well as subsequent chapters) were derived from interviews conducted on Pohnpei during May-July 2002 and on Hawaii August 2002. Interviews were conducted with the understanding that confidentiality would be maintained and no names would be directly linked with a quote. As such, all quotes noted in this thesis are not subscribed to specific individuals by name.

the assistance of a TNC legal specialist and working with the municipal government, also developed a model conservation law empowering communities to nominate, designate, and manage protected areas with municipal governments. This law, adopted by the municipal government, created a precedent for co-management between communities and a government entity (monthly reports, 5/00).³² Consequently, forest, mangrove, and marine conservation reserves have been established in the villages of Senpehn and Enepein.

In addition, a sakau nursery program was developed to help communities shift sakau planting from upland forests to lowland areas and near houses. The concept had been a result of the 1996 integrated watershed management plan. However, due to droughts resulting from El Nino during 1997-98, the program's launch had been delayed until 1998. This program has educated people that sakau can be planted successfully in these lowland regions.

This period (post-1996 on) also saw environmental education programs about the watershed and general natural resource conservation issues integrated into school curriculums through classes, workshops, events, and exchange programs between schools and students. Efforts to involve youth are further developed with teen programs geared toward applied learning field trips to collect scientific information and evaluate conservation areas.

Between 2000-02, several activities developed during previous years were seeing fruition.³³ Many of these activities were greatly assisted by the creation of the

³² Municipal governments are allowed to declare and protect conservation areas as a result of a 1999 amendment to the State's Protected Areas Law that had been supported by TNC and the Conservation Society of Pohnpei.

³³ These years were funded by the World Bank's Global Environment Facility.

Conservation Society of Pohnpei (CSP), Pohnpei's first local non-profit conservation organization. CSP was formed from capacity building efforts to create a local institution that could assume day-to-day management and coordination of activities concerning the watershed.³⁴ This organization was particularly critical as TNC began to shift its focus to a more regional conservation approach and looking at natural resource management issues in Micronesia as a whole.

In addition, sponsored by TNC, U municipality (e.g. municipal government officials, traditional leaders, church leaders, communities) conducted a community visioning process, developing a plan for sustainable community development and addressing socio-economic issues such as job creation, health care, education, and the environment.³⁵ The section on the environment included activities to delineate the WFR boundary line, monitoring and enforcement of the area, regulating access to the watershed area, developing sustainable resource use activities, and establishing conservation areas (U municipality, 2000). U became the first municipality to successfully lay the WFR boundary line. Similar community visioning efforts are also underway in Nett and Madolenihmw municipalities, with Madolenihmw having completed half of its boundary line.

In 2002, the PRMC had a planning retreat in which completing the Watershed Forest Reserve boundary line was selected as a priority activity for FY03. In the same year an island-wide CCO conference was held to facilitate networking among

³⁴ Specifically, activities consisted of working with the communities, the Grow Low campaign, monitoring, working with the state legislature, environmental education, and setting the boundary line.

³⁵ Over the years, TNC had shifted its approach with communities to center conservation issues within development needs. TNC had realized that conservation issues could not be addressed without integrating them into the development needs of the communities. Similar to PRAs and the CAP process, Community Visioning is a method of community participation in which communities develop and set priorities for what they want to accomplish.

participants, strengthen community planning processes, and share lessons between different villages. An extensive training program was developed for CCOs. It focused on ecology, roles and responsibilities of CCOs, conservation, monitoring, and community planning and organizing. Results from the monitoring conducted in 2000 were announced, revealing that few clearings had been created near the areas where community planning programs were in place and the WFR line had been surveyed and established (monthly reports, 9/00).³⁶ A legal description of the boundary line for the WFR awaits amendment to the 1987 law while CSP and the DoF work toward finalizing and gaining approval for rules and regulations.³⁷ Efforts to finalize the rules and regulations of the 1987 law, with emphasis on increasing management and enforcement authority for municipal governments, are currently being coordinated by CSP with the attorney general's office. Plans for community and public hearings are scheduled before final approval. In addition, the State legislature approved \$120,000 for FY03 to finish the WFR boundary line, thereby closing one chapter in the watershed program as a law passed 16 years earlier is finally fulfilled.³⁸

Significant Crossroads: A Legacy of Successes, Challenges and Lessons Learned

In the 16 years the watershed program has been in existence, many factors have contributed to its evolution. Support of key decision-makers, funding, infrastructure and capacity development of involved partners, coordination of collaborative processes, and

³⁶ It is interesting to note that over half of the new clearings documented were in Kitti municipality where education and outreach activities with communities had been hampered by traditional leader politics and the high concentration of commercial sakau farmers.

³⁷ Though individuals can be arrested for planting sakau in the upland forests, the state is unable to prosecute such offenders because there currently does not exist rules and regulations to implement the 1987 law.

³⁸ An abridged timeline of the history is available as a reference in Appendix A.

other factors are common to the watershed management program as well as other natural resource management projects involving large-scale land areas and multiple parties. However, certain key crossroads led directly to changes in strategy and approach and were influential in its effects on evolving watershed management efforts (the legacies of which are still being addressed by involved parties today). Examining these crossroads will provide insight into some of the factors that can affect how a project evolves and the choices it makes. These crossroads can also provide lessons for others on what can influence project direction and activities.³⁹

Extension Program with Communities

The first turning point in watershed management on Pohnpei occurred as a result of the extension program of community education and outreach conducted during 1992-1994.⁴⁰ The education campaign was credited by many interviewees as being a seminal activity. When asked what they would keep the same if faced with doing the project over again, those interviewed most often cited the education program as an activity to repeat. The extension program was considered successful in that it accomplished several important steps that allowed watershed management on the island to move forward.

Opening the door to developing relationships and overcoming mistrust. First and most importantly, the education workshops provided an opportunity for communities and state agencies to interact for the first time since the legislation had been passed. It was the first time state agencies had attempted to reach out to communities concerning state activities. It was also the first dialogue in which all parties had a chance to express

³⁹ Key crossroads were determined through analysis of interviews with participants of the program.

⁴⁰ Lessons learned concerning engagement with communities were developed by The Nature Conservancy and are available in Appendix F.

their concerns and interests and to learn about one another. Through the question and answer sessions, the WSC learned about community views toward land use and the watershed, concerns about specific facets of the rules and regulations that would affect their lives, and attitudes toward public and private lands. The WSC also learned that though they had the technical, scientific knowledge of these watershed areas, community knowledge about these very same lands was just as critical and must be respected to succeed in watershed conservation. Similarly, the WSC also learned practical skills such as interacting with communities (e.g. learning the high language of the chiefs) that would help them to effectively work closely with communities on watershed management in later years. For the communities and traditional leaders, they too had an opportunity to learn about the rules and regulations of the 1987 law, helping to clear up misunderstandings or misconceptions as well as the concerns behind state action in enacting the law. They learned about the various state agencies and how public lands were managed. As a result, this mutual learning helped to develop a shared understanding of the issues and problems which in turn laid the foundation for building future working relationships that would help to overcome trust issues between communities and the state as well as build support for watershed management activities.

Gaining support. Additionally, attitudes of communities toward watershed conservation (and state agencies) changed to the point where communities were welcoming the WSC into their villages, a far cry from 1990 when surveyors were chased out of villages with machetes and guns. For the first time, through the education workshops, communities and traditional leaders were provided an opportunity to influence state management decisions that affected their lives and be truly engaged in the

process. The extent of this accomplishment is best understood when juxtaposed against the following comment made by a sakau farmer regarding his views on the land, “the creation of the land is for what it should be used for – people...the land is there for people to use, that’s why its big and large and that’s the way they work, make their living...Lord made land for people, so long as people is there the land will be there for people.” This viewpoint was held by many communities the WSC met with, yet they were able to convince communities to lend their support.⁴¹ The WSC did this by asking communities how and in what ways they wanted to see the rules and regulations changed. At the end of the three-day workshops, these suggestions were incorporated into revised rules and regulations that were then brought back to the community and the soumas (and in some cases the state senators for the area) for final approval. By taking this step, the education program showed communities that their opinions mattered and that the state was willing to work with communities to address their concerns about the rules and regulations of the 1987 law.

The trips to the Philippines were also seminal in that it turned key leaders around to supporting watershed conservation. Prior to the trip, traditional leaders had been skeptical of the deforestation problem the WSC had been outlining, particularly since their forests had never been anything but abundant. However, the trip to the Philippines, also an island, showed these leaders through first-hand observation that forests, if not managed properly, could be destroyed and completely cleared. By providing this destructive glimpse into Pohnpei’s potential future, the trips to the Philippines opened the

⁴¹ It must be noted that people still hold this view today as the quote used to illustrate the gain of community support originated from a sakau farmer that was interviewed during summer 2002.

eyes of these key decision-makers. These facets of the extension program had a great deal to do with the sea change of support in villages.

Focusing efforts through a coordinating structure. Another legacy of the extension program was establishment of the Watershed Steering Committee. The WSC was the first committee of its type in that it was an inter-agency task force bringing together and coordinating all the state agencies and activities responsible for watershed management on Pohnpei. Shared mission and objectives were developed for all members of the WSC thereby effectively directing agency personnel and activities in coordination. Since the WSC served as the official state government representative, it made engagement with communities easier as communities only had to deal with one entity and with the same people, instead of being approached by several different agencies with different messages and objectives. This coordination among various state agencies made the extension program an effective vehicle for turning the tide of support for watershed management.

Asian Development Bank Grant Years

The funding provided by the Asian Development Bank supported several activities related to watershed management between 1994-96. The ADB grant allowed a time of experimentation of theories and expanding the work that had been done during the extension program. It produced several key items which continued to move watershed management forward and cemented the community-based approach that was to characterize the program's approach. However, the ADB grant also led to the project losing focus and clarity. Support from certain agencies also began to waver.

Developing new approaches and strategies. The legacy of the ADB grant was full adoption of a community-based approach to watershed management. The foundations for co-management were developed through pilot programs in areas such as Senpehn and later served as models on how to work with communities. As a result, communities continued to support the idea of watershed conservation as well as build relationships with the state as co-managers. During these years, the WSC also came to realize that conservation issues were intimately linked with community development. Conservation had to address the needs of the community as a whole rather than just environmental activities. In this way, communities were provided with incentives to practice conservation when it was linked to better health, education, and income for families.

With regard to a product, the most important contribution from the ADB grant was a long-term management plan for the watershed that incorporated concrete goals and objectives as well as strategies and activities for conservation. It also explicitly laid out the roles and responsibilities of both the state and communities in co-managing the watershed areas, thereby establishing communities as critical and legitimate stakeholders in watershed management.

The other significant legacy of the ADB grant was an unexpected byproduct of a larger GIS effort to map the watershed areas and different land uses and biodiversity. Ironically, though a large part of the ADB project funds had been used to develop spatial planning zones and train people to use the GIS software for strategic planning for the area, it was a simple poster generated as an afterthought that had the largest effect on the watershed project. Though people on the island, through the education program, had

been informed about the amount of deforestation, it had been difficult to convince communities with just words when it seemed as if their part of the island still seemed healthy with trees and agroforestry crops. The WSC decided to use maps that had been generated by the GIS work for an educational poster. The poster depicted a digitized aerial view of the island taken at two different intervals, one in 1975 and the other in 1995. Forested areas were depicted in green and deforested areas in brown. Given that during this 20 year period Pohnpei suffered a 66% decline of its primary forests, the comparative visual image of a much shrunken native forest area was quite dramatic.

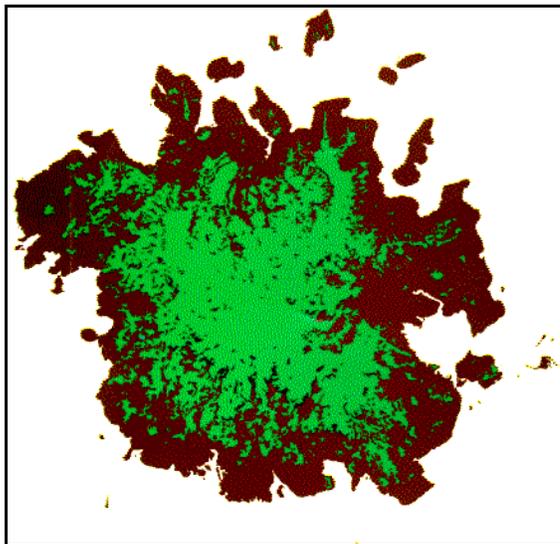
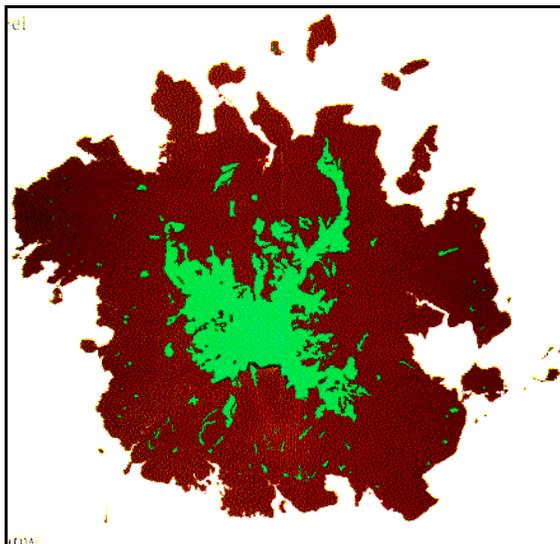


Figure 5. The top figure shows Pohnpei's forests (represented by the green area) in 1975. The figure below shows the same information for 1995. Both maps illustrate the significant decrease of forest coverage Pohnpei experienced during these twenty years. Map courtesy of the Nature Conservancy.



This poster was put up all over the island, in stores, in the post office, in restaurants, in schools, in municipal offices, in villages, and used in WSC presentations and talks with communities. It was the first time that people had a visual representation of the deforestation they could see for themselves, versus just being told about the problem. This impact was to galvanize support of communities and make the issue of watershed conservation an island-wide topic for discussion. The poster raised the awareness of many people on the island of the importance and urgency of the issues and of the need to find solutions.

Creation of expectations and the loss of focus. The ADB funded several activities to develop capacity, better understand issues and approaches, and strengthen communities and state agencies for co-management. These activities, however, were also considered by some interviewees to detract from, if not diminish, the momentum that had been developed at the end of the extension program. At the end of the education program, community input for the rules and regulations had been collected and the WSC was to present their revisions to the governor, who in turn would present it to the state legislature as amendments to the 1987 law. However, this path was delayed with the advent of the ADB grant. Consequently, some participants felt that the ADB activities caused the WSC to lose its focus and sight of its mission. It could also be said that the various activities may have stretched the ability of the WSC to accomplish its mission effectively. In other words, people were involved with too many activities at the same time without having adequate time or skills to organize and coordinate WSC objectives in the most effective way. The scope of the work had also moved to encompass the entire island versus targeted areas where watershed damage was the highest. The other

criticism of the ADB funding was the requirement by the Bank to use designated consultants. Though efforts were made to adapt the techniques of the consultants to Pohnpeian ways, some felt that these consultants came across as too western and expert in their approaches and diminished the community knowledge that had been used and respected during the education campaign. As such, some members felt that the consultants began overshadowing the work accomplished by the WSC during 1992-4. As one person shared:

Once education was completed, we were going to survey and designate the lands. When we completed it [education workshops], all these outside experts came in to advise and experiment, rather than pursuing in-depth local knowledge, we started getting people from all these consultancies. We reverted the process, it alienated the communities with all the consultants...like PRA, it was too western, wanted to know who owned what and tell everything, people were beginning to rely on the government, welcome it back, allow access. PRA destroyed this and I lost interest.

The other consequence of the ADB years was the expectation that was created by communities regarding their role as co-managers of the watershed areas. The use of community action plans and the PRA method was positive in that communities became empowered and saw themselves as agents of change versus the complacent attitude of relying on the state that had been instilled during the Trust Territory years. However, these methods of community participation also developed high expectations within communities, particularly among traditional leaders, that co-management would be the approach used for the WFR. As such, the ADB activities created a large expectation that community-based watershed management would be accepted by the state, an expectation that would prove pivotal for the program in 1995.

1995: Governor Rejects the Rules and Regulations

1995-97 were pivotal years for watershed management on Pohnpei. One key event led to a swift division of stakeholders, visions, and approaches for watershed management on the island. Its influences are still felt to the present, where ramifications continue to pose challenges for effective management.

In 1995 the revised rules and regulations were given to then Governor Johnny David for final approval. The governor's approval would mark the official beginning of full implementation of the 1987 law and was a culmination of the WSC's work and efforts. The support of the governor was also critical because, as expressed by an ADB consultant's report, "the state government has jurisdiction over much of the watershed land and success of the Watershed Management Project rests, to a large extent, on the state's willingness to accept the principle of community management and control of watershed areas albeit within the framework of a broader strategic island-wide Watershed Management Strategy" (ADB report, 1996). As a result, when the governor vetoed the rules and regulations, several key consequences resulted:

Loss of coordination and momentum. When the WSC received the rules and regulations back from the governor's office, it was a moment of crisis for the committee. At this point, some on the committee felt the mission of the WSC had become moot as the objectives of the committee and culmination of all their work since 1990 had been rejected. Others thought the committee should continue its work with the communities despite the setback posed by the state. The WSC never fully recovered from this split and as a result some members left to pursue watershed management through the government while others continued to work solely with the communities and turned their

attention from the state to the municipal government. The WSC met sporadically and lost the focus and momentum which had propelled it in the earlier years. The legacy of the WSC dissolution was the loss of benefits for the project that came as a result of having a unified, coordinated, focused mechanism that moved the project forward in an effective manner.⁴² The committee brought together all of the related state agencies involved with watershed management, thereby helping to coordinate activities and insure that agencies moved together toward one objective and direction. In addition, this unity also helped when dealing with communities as the WSC provided a consistent body and message for communities to interact with. Also, unlike the PRMC, the WSC's sole mission was to implement the 1987 law. However, with dissolution of the WSC, this focus and coordination was lost, with the result being that watershed management on the island has been sectioned off into various bodies, from the different state agencies to the NGOs. Consequently, activities by some organizations are unknown to others, causing confusion among the different groups (not to mention communities as well as state legislators) and conflicts over contradictory activities and limited financial resources and personnel. Another legacy from the WSC split is the absence of some of these key state agencies from committees such as the PRMC.

Setbacks for relationships built and trust developed. With regard to the communities, particularly its traditional leaders, the governor's rejection of the revised rules and regulations as well as dissolution of the management plan (due to budget cuts) resulted in several steps back. First, the WSC, particularly TNC as it really led the

⁴² Though it has also been said that one of the positive outcomes of the dissolution of the WSC was the ability to reorganize the PRMC so it attracted members that were committed to improving coordination of natural resource management on the island, versus those that were just involved to enjoy the meals, travel stipend, and opportunity to spend time in communities away from their normal work activities as had been done under the WSC when it conducted the education workshops.

activities with the communities and the PRAs, was discredited in the eyes of some traditional leaders. As one person noted, “CAPs were rejected by the state, it put a big question mark on TNC, really frustrated grass roots, they [communities and traditional leaders] started putting the blame on others, they lost interest. They got disillusioned, it really affected trust between community and government.” Their expectations had not been met, despite the work and the community action plans they had developed, and as such, they lost faith as well as trust in the WSC (TNC), the program, and especially the state. The progress and relationships that had been developed over the years was lost. The broken promise by the governor left traditional leaders wary of the state and this distrust and cynicism remains today affecting attitudes and opinions toward the state. As one traditional leader stated, “state people careless to do their job.” To a lesser extent, these feelings can also be applied to TNC as some traditional leaders continue to feel resentful over losing the benefits (e.g. vehicles and equipment) that would have resulted from the management plan and felt were promised by TNC. As such, support and momentum for the watershed activities in communities suffered a setback as some traditional leaders withdrew their support or decreased their level of involvement. Though the project did eventually recover its activities with the communities after 1996, the process was a slow one and some traditional leaders and community members still cite these events as reasons to distrust the state and continue to pose challenges for watershed management on the island.

Decreased government support and capacity. The other event which occurred during 1996 and influenced watershed management dealt with a state decision linked to external factors. As the state looked toward its second step down in Compact funding in

1996 (the first occurring in 1992), it attempted to curb its budget and decrease spending by offering early retirement options to government employees and cutting the work week from five days to four every other week. This action had several effects for the watershed project, namely for the Pohnpei Division of Forestry as a partner in watershed management activities. The biggest impact was the dissolution of the integrated management plan that had been developed at the end of the ADB years. As mentioned previously, the management plan would have been implemented through the Division of Forestry. However, with the cutbacks, such a role for the division was impossible and the management plan made ineffective. In addition, the early retirement option resulted in several good forestry employees leaving the government and of those who remained, the four-day work week and government cuts left the staff demoralized with additional responsibilities, such as administrative tasks, for which they were unequipped and overburdened. As one U.S. federal agency representative who had worked closely with Forestry at the time noted, “when the state cut back to a four-day work week, it was demoralizing. A lot of people got disillusioned with professional work.” The cut back in working hours also meant that the Pohnpei Division of Forestry was only available on certain days for certain activities and this provided logistical difficulties for partners. There was also a Reorganization Act of 1996 which eliminated the Department of Conservation and Resource Surveillance, lowering the Division of Forestry from a division to an office within a division and reducing its authority for managing natural resources.

In addition to the budget cuts, a change in administration also signaled a step back for the project as the new governor was not publicly supportive of the project and as a

result, its priority within the state government was lost and with it momentum, support, and funding for watershed activities.

Natural Disasters

The activities of the watershed management project were given unexpected support through a series of natural disasters, which similar to the poster, provided visual evidence to the people of Pohnpei regarding the importance of conserving forests and maintaining watershed areas. These natural disasters were cited as critical events most frequently by all those interviewed across all parties from state agencies, to NGOs, to communities, to municipal governments, to politicians, and to traditional leaders. As one Pohnpeian who was interviewed noted, “[Pohnpeians] can only understand what they see, experience, they can’t understand a life they can’t see.”

Raised awareness of the problem. Starting in 1991, Pohnpei experienced several landslides that not only damaged property (Kitti in 1991), but also led to the deaths of several people (Sokehs in 1997). Up until this point, mudslides had never been recorded or remembered by people. In a way, these landslides legitimized what the education program expressed as the dangerous effects of deforestation. For the first time, people could draw a clear link between deforestation activities and the devastation it caused.⁴³ As one Pohnpeian stated, “landslide that killed 17 people in 1996, never had an incident like that, associated with destruction people on the island could see. Many people

⁴³ During my time in Pohnpei conducting research, the neighboring state of Chuuk experienced a severe landslide that killed many people and damaged utilities and property. Medical personnel were flown in from Australia as well as Hawaii as the state declared the area an emergency. Before newspapers could report on the cause of the landslide, it was interesting to note that conversations in town cited forest clearings as reasons for the devastating land slide (later indicated to be true as Chuuk had cleared forests for construction on the hillside).

stopped planting sakau because of this.” This causal link was helped by the fact that the landslides occurred in Kitti, a municipality known for large commercial sakau farming where little watershed conservation management activities had been conducted due to traditional leader politics. These landslides resulted in galvanizing support island-wide for watershed activities and for the first time, communities began targeting sakau farmers to address conservation measures.

Similarly, Pohnpei experienced periods of drought during 1992-93 and 1997-98 in which people noted streams that had never stopped flowing suddenly dried up or water levels decreased substantially. Said one person, “it was the second drought, people started to blame sakau farmers for deforestation, no rain and water.” As such, people were again provided evidence of how forest clearings could affect water supplies.

Pohnpei also experienced a cholera epidemic in 2000 which became a state emergency and was traced to contaminated water. Again, this incident emphasized the importance of water quality as most communities rely on rivers and streams for drinking water, bath and cleaning water, and cooking. As one person shared, “two years ago, cholera outbreak, that’s why important to have clean waters, in our area, no houses or pig pens [near streams].” The cholera epidemic convinced people of the importance of moving pig pens as well as latrines away from streams and rivers, activities that had been urged by the WSC (and NRCS) during its early work with communities.

Transitions

Building local capacity. From the beginning, TNC, through its director, played a critical role in the watershed management program. As a well-established, non-governmental organization with its access to resources, expertise and funding, TNC was

in a unique position to take on the main coordinating and organizing role and provide momentum for watershed activities. In addition, its position as a NGO allowed it to be an effective intermediary between the state agencies and the communities and its director, who had adopted Pohnpei as his home, provided the commitment, ideas, and organizing force to keep activities moving forward.

However, in 1999, TNC began shifting its focus to a more regional approach and as such, its central focus moved away from the watershed management program. In anticipation of this shift, TNC helped to create Pohnpei's first local NGO, the Conservation Society of Pohnpei (CSP). CSP was created with the intent that it would assume watershed management activities. Though only three years old, CSP has accomplished a significant amount in this short time. CSP has been successful in establishing the WFR boundary line in U and half of Madolenihmw. It has also established several conservation reserves with communities and successfully amended a state law that allows municipal governments to declare conservation areas. To be sure, many of CSP's successes have been possible because of the groundwork previously laid by the WSC and TNC, particularly the education workshop with communities and general public education campaigns. However, CSP's effectiveness can also be attributed to the fact that it is focused mainly on watershed conservation activities, has four times the staff of TNC (that is representative of all five municipalities), is also led by a dynamic, energetic, Pohnpeian executive director who has a clear vision for the organization and is well-respected, and is made up largely of Pohnpeians (including its board of directors).

Unlike earlier efforts, CSP also focuses on working closely with the state legislature and key senators to promote watershed management activities by educating them on issues and creating environments for the adoption of ideas that build constituent support for senators without negative backlash. In this way, by building on the lessons of past efforts, CSP has effectively utilized the approach of identifying the right strategies combined with the right people to engage at the right time. CSP's youth as an organization is also an advantage and an element to its success as it has not yet had time to develop a history regarding watershed management and other parties are still trying to understand the non-profit's role. Though it is not clear yet in what ways CSP will influence watershed management in the future, its achievements so far certainly hint that the organization will greatly affect the future of watershed management on the island.

Municipal governments as avenues for watershed protection. The other transition that may prove influential is the growth of municipal governments as alternatives to the state, where lack of funds, skilled personnel and political will for participatory management with communities have made effective watershed management a challenge. The relationship between the municipal and state governments is somewhat similar to the relationship that U.S. states have to the U.S. federal government – one that is defined by the state's need to establish its own authority and boundaries separate from that of the federal government (even though some of its revenues are derived from the federal government and its legal relationship is secondary). For many years, the role of municipal governments was second to the state government. As such, when the WSC began its work, the municipal governments did not have the structure or capacity to address watershed management issues. However, in the last few years, municipal

governments have begun to assert their positions in the form of new chief magistrates that see municipal governments as engines to effectively address issues within communities and themselves as independent from the state. What makes these chief magistrates so effective is their use of the traditional system and working within the wehi (old kingdoms which are now municipalities). They have laid the municipal government's foundation for authority by aligning themselves with the Nahnmwarkis. This strategy provides municipal governments with the clout and historical precedence in land management necessary to deal with the state. Traditional leaders have historically managed lands for their people and often see land management as one of their roles and responsibilities. In this way, municipal governments, by aligning themselves with the traditional system establish their own legitimacy in managing common lands, whereas the state has no such historical precedence or tradition to support its land management authority. As such, municipal governments have begun to fill some of the roles that the state has regarding natural resource management. An example of this move to fill state roles is the community visioning which occurred in three municipalities. U municipality created a 20 year plan to help guide the municipality toward various goals concerning healthcare, education, economic development, and conservation. This sea change in the capacity of municipal governments to act as managers and leaders of municipal activities will have a large impact on watershed management in the future. In this way, watershed management on Pohnpei has gained another partner and resource for its activities.

**BUILDING ON THE PAST, UNDERSTANDING THE PRESENT, AND
PLANNING FOR THE FUTURE: SHARED INSIGHTS FROM PARTIES**

As with many natural resource management projects, understanding the issues, developing successful strategies, addressing challenges, and other key elements moving projects forward can only be achieved through evolution of the project itself. Providing an opportunity for reflection allows projects to build upon the lessons they have learned as well as assess the current state of affairs to advise future activities and strategies. Such reflections also provide a learning vehicle for other projects facing similar challenges and issues on which to draw as a strategic resource. This chapter will focus on gaining such insights into watershed management on Pohnpei by focusing on three segments: 1) building on the past; 2) understanding the present; and 3) planning for the future.

In *building on the past*, key observations and lessons learned based on past accomplishments were examined. The observations and lessons were:

- Approaches are varied and both top-down and bottom-up;
- Build on existing foundations;
- Recognize how people learn in a way that has meaning to them and fosters their ownership and commitment; and
- Assess strategies, activities, incentives, and motives.

In *understanding the present*, current challenges facing the program were identified as:

- Generating resources (both financial and human);
- Political leadership and conflicts of interest;
- Controlling destructive activities; and
- Mitigating outside influences on traditional lifestyles.

In *planning for the future*, steps to be taken in the next five years for watershed management on the island were seen as:

- Laying down the Watershed Forest Reserve boundary line;
- Enforcement; and
- Increasing education activities and outreach.

The conclusions in each section (as well as in Chapter Four which continues similar analysis of successes and challenges from an organizational perspective) are drawn from interviews and reflect participant perspectives at differing levels of involvement and support, from state agencies to non-profits, from traditional leaders to village members, from municipal governments to sakau farmers.⁴⁴ As presented in Figure 6, 38 individuals were interviewed for this case study analysis, representing seven categories of involved groups and parties.⁴⁵

Figure 6. Breakdown of stakeholder groups and representative numbers interviewed

Stakeholder Groups	Total Interviewed
Community Members (including sakau farmers)	7
Municipal Governments	5
Non-governmental Organizations	5
Elected Officials (Politicians)	6
State Agencies	6
Traditional Leaders	5
U.S. Federal Agencies	4

Building on the Past: Key Observations and Accomplishments

Participants were asked several questions concerning accomplishments or changes seen as a result of watershed management activities, elements that made such accomplishments possible, things that did not work and why, aspects that could have

⁴⁴ Throughout this chapter, *parties* will be used interchangeably with *stakeholders* and *groups*. *Project* and *program* will also be used similarly.

⁴⁵ The key observations noted in this chapter, as well as in Chapter Four, focus only on those answers derived from responses most frequently cited across all seven categories of respondents.

been done differently, and how past challenges were overcome.⁴⁶ The responses provided an opportunity to reflect on what has been accomplished and what has been learned as a result. The four main observations discussed here are: 1) approaches are varied and both top-down and bottom-up; 2) build on existing foundations (e.g. processes and institutions); 3) recognize how people learn in a way that has meaning to them and fosters their ownership and commitment; and 4) assess strategies, activities, incentives, and motives. Where appropriate, these observations are linked to major accomplishments resulting from watershed management activities. These accomplishments highlight how these key observations are applied. Specifically, these accomplishments are recognition (even by non-supporters) that without the watershed program, watershed areas on the island would be destroyed; the Grow Low Campaign; gaining community support for watershed management activities; increased awareness of threats and issues; and development of innovative strategies through experimental approaches.⁴⁷ The following observations also provide useful insights informing current activities and other projects facing similar issues and challenges.

Approaches are varied and both top-down and bottom-up. Watershed management on Pohnpei has gone through periods of both top-down (e.g. 1987 law) as well as bottom-up approaches (e.g. 1996 shift to communities). However, participants

⁴⁶ A complete set of the interview questions is provided in Appendix D.

⁴⁷ Though not cited as frequently among the range of participants interviewed, interviewees noted other successes as including increased awareness of the 1987 laws and its necessary regulations, the formation of the PRMC, support of state legislators, getting the state to be held accountable to communities, increased coordination among all partners, successfully laying the Watershed Forest Reserve line down in U and Madolenihmw, developing alternative activities such as sponge farms and sakau nurseries, creation of reserves, development of a sakau clearing monitoring program, move by the state from a top-down approach to a more inclusive approach, development of an environmental education program, return of birds and streams as well as increased water quality, shift of conservation legislation to recognize and include traditional processes and grassroots efforts, and communities developing plans.

have come to realize that neither approach works without the involvement and support of parties both approaches bring together. When the state used a purely legislative and regulatory approach, its work was halted by angry villagers. When TNC moved to a purely community-based approach, it realized that without the political support of the state legitimizing and holding accountable activities (as well as providing resources), communities alone would be unsuccessful managing watershed areas. As stated by one individual, “without political will, without the top people, if government doesn’t believe in resource management, we will all be struggling.” As a result, the current approach to watershed management is a balance of both bottom-up as well as top-down approaches in which communities and the state (as well as municipal governments) work together to develop solutions to watershed management. As one individual noted, “[we] need to communicate clearly guidelines between traditional chiefs and state roles and responsibilities for watershed management. By law, state yes; by culture, it’s the chiefs. Consensus is the main key.”

A mix of strategies and activities has also proven useful in achieving progress. This mix has resulted from the experimental approach adopted by the program in which effectiveness is achieved through a philosophy of, as one person put it, “learning by doing and by mistakes.” The completion of the Watershed Forest Reserve boundary line in U and half of Madolenihmw mirrors this observation. Achievement of this objective was accomplished by lobbying state legislators, gaining support of the lieutenant governor (a key decision maker on the PRMC who could make the budget request to the state), working directly with the many organizations in each municipality (e.g. traditional leaders, church leaders, municipal leaders) through a community visioning process, and

education activities to promote awareness on issues and create community support. As one interviewee noted, “you have to feel them out in every municipality, your approach will be different each time... [there is] no single approach for this program...no one strategy to fix everything.”

Part of this mix of approaches and strategies has led to one of the successes of the program: development of innovative strategies (through experimental approaches) to address watershed management issues and challenges. Examples of innovative strategies are the poster, education workshops, and lowland sakau program. In particular, the work done with municipal governments in drafting co-management legislation and agreements as a way to address the challenge of the state’s unwillingness to formally adopt co-management strategies is a good example. By working with the municipal governments, the watershed program is setting a precedent for co-management thereby laying the ground work for a blueprint that can be adopted by the state in the future. In working with the municipal governments, models of co-management can be tested from which the state can learn and hopefully adopt in the future.

Build on existing foundations. Learning to work within institutions and processes that already exist versus trying to create new ones was a lesson learned early on in the program when attempts to create local management committees were tried. These committees eventually fell apart because they did not have the support of the Nahnkens (who saw these committees as competing institutions for power) and were a new entity that no one in the villages had any experience with (thereby hindering effectiveness). In addition, the legitimacy of these committees (both with traditional leaders as well as the state) to manage watershed areas, particularly regarding enforcement, was never

established. Another lesson resulting from these experiences was learning where the key-decision makers within traditional systems and communities lay to move watershed management forward. As one traditional leader noted, “regarding support, it’s not a matter of what’s on paper, but it’s a matter of who supports it, who says what.” This lesson was reflected when the CAPs moved from the kousapw to the wehi levels, involving Nahnmwarkis. A different example of new institutions competing with already established institutions and creating problems is a situation that occurred in Nett municipality. In Nett, the municipal office had already created its own resource management committee that led to competition with the local management committees created by TNC. This caused confusion among villagers in Nett and slowed the progress of watershed management in this municipality.

Recognize how people learn in a way that has meaning to them and fosters their ownership and commitment. Prior to the PRA workshops, both the state and NGOs tried to convince communities to address environmental concerns identified by the WSC. However, through the PRA workshops, the state and NGOs learned that environmental issues were less likely to be adopted unless communities themselves recognized them and could be linked to daily lives. In other words, environmental issues were less pressing for communities when they were dealing with fundamental concerns such as health, education, and livelihoods. When communities were given the chance to express their own concerns and explore ways to address these, issues of natural resource management were apt to be more effectively addressed as linkages were made (e.g. moving pig pens from streams would improve water quality as well as prevent health problems). As Bill Raynor of The Nature Conservancy noted at the 17th annual Pacific Islands Conference,

“people-centered development...involves improving the quality of people’s lives through improving their ability to participate” (Raynor 1998, 138). Another put it in the following way, “[watershed management] it’s about peoples’ relationships...let them tell me what the problems are. [It’s] a two-way street.”

This observation can be seen in the Grow Low campaign, a major accomplishment of the watershed management program. A program promoting sakau cultivation in lowland areas, the Grow Low program provides villages with nursery grown sakau to plant near houses and areas closer to communities (as opposed to upland forests) and was cited most often by those interviewed as a critical success of the watershed management program, “you seldom see sakau around houses in the past, but now can see sakau near houses and is a result of education.” The success of this program, similar to the aerial photography poster, trip to the Philippines, and natural disasters, can be attributed to both first-hand observation and experience as well as key leaders also adopting the practice. As one individual noted, “that is the Pohnpeian way, seeing is believing.”

Initially, due to the success of sakau cultivation in the uplands, people were skeptical that it could be grown in the lowland areas. However, this program, demonstrated to people in communities that sakau could be grown just as successfully in the lowlands. They could see it with their own eyes either through their own experiences or that of a neighbor’s, “lowland sakau, more people believe it can work. In the beginning questioned it, but once see it in a village people want to do it, people drinking lowland sakau now at funerals...people choose the lowland sakau because it is stronger and older.” In addition, the fact that key leaders within the community had also planted

sakau near their houses also proved critical in spreading the practice and gaining support.⁴⁸ Indeed, as one traditional leader explained, “changes are clear now, cooperating, working in lowlands, easy for them to work...when some people ask why so many sakau, he asks, you didn’t get the education program? Ask why these things growing better, his answer, because of the watershed program.”

Related to this success, other behavior changes were also noted as accomplishments. They include: decreased clearings of upland forests for sakau; removal of pig pens near rivers and streams; the relocation of latrines near rivers and streams; anti-littering in villages, rivers and streams; and increased discussion of watershed management within communities.

Recognizing how people learn in a way that has meaning to them and fosters their ownership and commitment has also led to another major success of the program - gaining community support for watershed activities. The engagement of the communities through the education workshops, PRAs, and development of CAPs led to increased support by communities of watershed management activities. Several people, including state agencies, community organizers, and traditional leaders, noted the following regarding this change in support, “people think this project is a land grab...they learn project is for them, not government,” “during Trust Territory days, government takes away from people everything. Now, people feel differently...people didn’t like the

⁴⁸ Examples prompting conservation behaviors is termed “Modeling” in the field of environmental stewardship psychology. It has been shown that modeling a behavior is an effective way, surpassing education in the form of information sharing or signage, to promulgate in others the behavior. Modeling, particularly when it is done by a key individual within a community or group, sets a social norm and allows others to overcome barriers, such as unfamiliarity, doubts, or fears, concerning the behavior (Ester 1981-2, 212). The other aspect of this program’s success also has a practical side. Growing sakau in the lowlands means that the elderly, women, and children can also participate since its production in the upland forests is relegated to young men whose strength is necessary to harvest the plants as long hikes over difficult terrain is required.

watershed law, they don't feel that way now, they support where the line is. People more willing to listen to the government," "before people are against law, people now understanding we need to set aside land for watershed." More importantly, it led to a reawakening of communities' abilities to take responsibilities for their own futures by organizing themselves and developing the capacity to address issues and problems, instead of relying on the state to do so (this dependent attitude was fostered through many years under colonial rule as well as Trust Territory control). As a community member noted, "[watershed activities] really gave the people education and awareness of the programs. Getting people together to make plan together, not just one person makes the plan." With regard to the PRAs and CAPs specifically, one person stated, "it's taught communities how to be involved. There can be a process of getting involved, they can provide input, and their input is valuable, needed to move forward. Move them away from complacency." This opinion was echoed by a traditional leader as well when he shared, "when they [communities] make objectives, they become realistic, it works, they implement it." An example of this self-organizing is the visioning conference held in U. As a person closely involved with the conference noted, "the marine life, they put sanctuaries, they see fish returning, one of the elements of the visioning, put down a plan, all the people in U know they should respect the land."

The other aspect to recognizing how people learn in a way that has meaning to them and fosters their ownership and commitment is the realization of the important role human relations play. Like many other natural resource management projects dealing on an ecosystem level and involving multiple parties, the people involved with watershed management on Pohnpei have come to realize that though the issues are ecological, the

approaches to developing solutions come down to human relations. Watershed management means managing both the resources and people. Whether dealing with traditional leaders, villagers, state agents, municipal agents, or NGO representatives, developing relationships through understanding and respecting the views of people is a key factor for moving forward. As one individual phrased it, “[Watershed management is about] human relations, really getting to know them. It’s not nature, it’s people damaging nature. You have to get to know them better.”

As a result of working with communities and developing relationships, a major outcome has been increased awareness of the threats and issues facing watershed areas throughout the entire island and recognition (even by non-supporters) that without the watershed program, watershed areas on the island would be destroyed. Whether in Kolonia, the capital of Pohnpei, or in villages, people are familiar with the watershed – both its ecological as well as social importance and the activities conducted by various organizations to improve management of these areas.⁴⁹ As one woman interviewed in a community noted, “[after] the education program came, I learned nature of upland is related to sea... I didn’t know that clearing forest damages the water... [Now] destroy sea and it’s hard to fish. I tell my kids not to destroy forest, kill birds, and not to trash things.” Another person stated, “everybody needs waters...if forest is destroyed we will have no waters.” This awareness also translates into the willingness to discuss in

⁴⁹ These comments seemed to support the researcher’s own experiences during her three month stay on the island. Given the small population and size of the island, people on Pohnpei are very friendly as well as curious to new comers. As such, I was often invited to meals at people’s houses or casually stopped on the street and asked the purpose of my visit. I would simply state my purpose as “studying the watershed” to avoid leading responses by people. During such exchanges with people in both Kolonia and in villages, people not directly related to the program would share their views on the watershed, often citing its importance and need for conservation.

communities issues concerning proper management and the need for change, “we are getting a larger percentage of people to agree that there needs to be changes.”

Assess strategies, activities, incentives, and motives. Sixteen years of experience suggests a need for more deliberate assessment of strategies and activities. Many of the approaches tried throughout the last sixteen years have led to development of effective strategies. But sixteen years have passed also because some strategies (e.g. kousapw level resource management committees, compensation, capacity development) proved to be unfeasible or led to backtracking of activities. These effects could have been avoided by spending more time assessing the particular approach and effectiveness of a strategy before its implementation. Activities to monitor the strategy would also have proven useful in alerting people to the effectiveness of a strategy. In particular, many of the challenges of watershed management seem to revolve around understanding the parties involved. As such, more time should be given to better understand who the key decision-makers are, what incentives they have to pursue different strategies, their motives for involvement and support, what influences parties, and how parties can be held accountable for their actions. Such an assessment would have proven useful when a village in Kitti and its CCOs began veering away from implementing their CAPs and creating distrust in other villages about the WSC and its work. Such assessments could also efficiently focus resources and the time participating parties spend on developing effective approaches.

Part of assessing strategies and activities is to also insure that institutions, processes, and activities are accountable and have legitimacy. Many of the attempts to develop local and municipal level resource management committees as well as

Community Action Plan implementations were less than effective because of accountability and legitimacy issues. Though Asian Development Bank consultants had conducted a legal analysis exploring the viability of community co-management within existing state laws, the fact remains that the state has yet to legitimize (through adoption of the 1995 revised rules and regulations) co-management with communities. As a result, attempts to involve communities in watershed management have been slow and in some areas unfeasible. Additionally, when local management has been tried, the absence of such laws (which are also mechanisms to insure accountability of activities and individuals, a concern by the state regarding devolving management to communities) have hindered community activities toward watershed management.

In addition, recognizing incentives associated with different methods for encouraging participation is critical. In the beginning of the program, participants were provided financial compensation to help with attending watershed activities (e.g. transportation costs), organizing education workshops and resource management committees, conducting CAPs, and working as Community Conservation Officers. However, these financial compensations attracted people who were more interested in the compensation than watershed management and improving their communities. As one person explicitly stated, “their participation was really to get this stipend.” This affected the quality of participation both in terms of level of representation and input as well as effectiveness of the activities. Indeed, this concern was reflected early on in WSC meeting minutes concerning the education workshops that had been held in Kitti:

He [community organizer] was disappointed overall in the low turnout of villagers at meetings. [He] felt the per diem (*isais*) we [WSC] gave the chiefs was more a reason for them attending the meetings than the desire to learn and do something about the watershed and mangrove. The paid people were there, but

those not paid tended not to come. He also stated that he had doubts about whether the Soumas would or could explain the watershed situation to their people that did not come to the meetings. (WSC meeting minutes, 3/9/93).⁵⁰

As a result, when the financial compensations were rescinded, many ceased their involvement or remained only peripherally involved to the point of becoming unreliable, thereby affecting the momentum and continuation of watershed activities. As one community organizer put it, “[it’s] hard to get them to work without paying. They [community members] don’t realize they are doing the work for their own benefits.”

Understanding the Present: Current Challenges

As evidenced in Chapter Two, watershed management on Pohnpei has experienced and overcome several challenges in order to reach the point it has today. As with any natural resource management situation, challenges continue to evolve and the program evolves to meet the new issues progress brings. When participants were asked what they felt were the most critical challenges facing watershed management today, responses generally fell into the following categories (in order of most frequently cited by largest range of parties): finding resources (namely funding), addressing political leadership and conflict of interest issues, stopping destruction of resources, and mitigating outside influences on the traditional Pohnpeian way of life.⁵¹

Generating resources. With most of the state (and therefore DoF’s budget) tied to decreasing Compact funding, generating resources to adequately protect and manage

⁵⁰ This quote also highlights issues concerning capacity as well as credible representation of communities by traditional leaders. These issues are further explored in Chapter Four.

⁵¹ The question of future challenges was also posed to participants. However, upon analyzing responses, answers revealed that current and future challenges were often seen as the same by respondents as answers overlapped or were repeated. As such, this section should be viewed by readers as including both current and future challenges.

watershed areas on Pohnpei is a large challenge. Most of the activities to date have been funded by donor agencies such as the ADB and GEF (and to a lesser extent, the U.S. Forest Service). As such, finding adequate funding, particularly long-term dedicated funding, to continue watershed management activities was cited by most parties as the number one challenge for the program. The effects of funding hindering activities centered on hiring of personnel and equipment for enforcement and monitoring as well as other activities. The lack of resources was particularly tied to hindering work with communities, chiefly with developing alternative incomes to sakau farming and the need for more education. Such concerns were voiced by several in the state government, “forestry not capable of doing the job, we don’t have enough material to work within the community. Not enough people and finances, not enough,” “when develop community organizations they need constant support, if let support go, they pass, we don’t have the resources though to do this,” “community has to be involved...communities ask to be joining enforcement, that’s the way to do it. State has no money,” “planned to give them [CCOs] uniforms and simple survey and chart, providing them with tools and uniforms, no funding or money.”

Political leadership and conflicts of interest. With regard to the state, issues concerning conflicts of interest and legitimacy of the state to manage watershed areas are foremost challenges. Within the state legislature, conflicts of interest are evident in natural resource management as some senators, who sit on natural resource committees, also own construction and dredging companies, hotels, and commercial markets. As one U.S. federal agency representative noted, “[you have to] realize the politics, senators in the business of exporting mangrove crabs, yet being on natural resource committees

making the rules, conflict of interest, this undermined our efforts.” Another said, “government is always going to be a challenge...corruption, lack of attracting competent people to positions...political influence on management decisions.” Indeed, these business ventures have direct impact on watershed activities as the state legislature makes decisions on development activities and the funding allocated to them. The building of roads in particular for construction activities or in response to constituent requests and industry interests is of particular concern because roads lead to greater and easier access to upland forest areas, often resulting in settlement of the area.⁵² One state agency representative diplomatically explained, “we need to work as a team, lawyers appropriate money and build roads without qualifications of engineers, other examples are dredging and sand. Our leaders are not well educated enough.” An NGO representative stated it more directly, “the condition not good for watershed because Pohnpei state government are doing all the development projects and still also running conservation. Getting more money for development they forget about conservation.” Still another noted, “if a mangrove is a protected mangrove, government will designate it a dredging site and will go ahead and dredge it.”

People in communities also shared similar views as one traditional leader said, “problems from government now, marine and upland, clearing. In the uplands, they make the roads and destroy habitat for species, in marine, they are dredging and destroy the marine life.” One woman told of going to the chief minister of her municipal government

⁵² This conflict of interest was noted by the author’s own experiences while on Pohnpei. Since most restaurants on the island are connected to hotels, the author frequently noted several local meetings, conferences, and functions held at these hotels. Many of these meetings were state government related. It was interesting to note that often, the selection of the hotel venue for these activities coincided with the Senator who owned the establishment. When the author noted this observation to a lawyer working at the national legislature, it was stated that government related functions were scheduled in these hotels so Senators could profit through these functions and that this practice was common knowledge.

to complain about coral dredging in her village done by the owner of one of the hotels. She was told that there was nothing the municipal government could do since the governor and Pohnpei Environmental Protection Agency had given the hotel owner permission to dredge. These issues are also a reason why municipal governments often felt they would be better managers of watershed areas. Said one municipal government head, “state is giving land to their own interest, not to benefit our people...they give land to their friends and relatives, not looking at needs of people.” Another stated, “they [state] don’t understand the difference between development and conservation. They don’t understand that it’s more important to protect this area than build a road.”

Another concern was election politics and the challenges leaders faced in making hard decisions unpopular with constituents but necessary for improving the state of the watershed. Concerning the current governor, one person noted, “he wants to get elected, so he won’t move out the fishermen and sakau planters.” Another commented on state senators saying, “some of the senators tell Kitti people don’t listen to the state, don’t move down [from upland forests]. Some of these leaders incapable of telling the truth, especially when approach elections...they only care about being elected.” Regarding enforcement issues, it was said, “political suicide if they prosecute farmers.”

The concern of making government accountable for its actions was another challenge cited. Though Pohnpei’s government is based on the U.S. governance system of executive, legislative, and judiciary branches, other checks and balance systems such as citizen watch-dog groups and an informed constituency lobbying representatives and applying the mechanism of accountability have yet to develop. Other challenges related to the state deal with gaining support from the administration, raising watershed

management to a higher priority in the state's agenda, and improving its financial infrastructure system (particularly budgetary allocation and spending). As one U.S. federal agency representative noted, "staff and forestry hasn't been able to organize effectively. Frustration on lack of executive branch. FSM and Pohnpei state fiscal systems have been dysfunctional so requires a lot of energy."

Destructive activities. The management of destructive activities continues to be a challenge as cited by many interviewed. Though sakau plantings continue to be the major concern, activities related to the state's permitting for development leading to coral dredging on the coasts and road building are of growing concern. Managing such growth and development on the island is critical to watershed management as these activities, particularly the building of roads, increases access to upland forests and encourages settlement in these areas. Though mainly cited by U.S. federal agencies, other issues to consider are use of pesticides for farming, dynamite fishing in coral areas, and the growth of invasive species.

Outside influences. Of particular concern to many interviewed was managing the effect of outside influences, mainly western patterns of consumption, on traditional Pohnpeian lifestyles and leadership structures. One reason why sakau farming has been so destructive is that it provides Pohnpeians with the income to buy western goods and luxury items, from canned meats to electronic equipments and larger items such as cars and concrete homes, "people depend on imported food now...interest in maintaining local food is not there." Another person put it more succinctly, "it all comes down to money." This is particularly true for the young, "the young generation don't know what happened yesterday...the young want imported food, this causes them to plant sakau in

the watershed.” This move from a subsistence economy to a cash economy has been one of the legacies of the colonial periods and Trust Territory days as western goods were introduced along with western styles of government and economic growth principles, “because they want money, they want to plant sakau, money is creating the problem.” Such changes in consumption patterns, accumulation of wealth, exposure to other societies (by those leaving Pohnpei for either schooling or jobs in places such as Hawaii and Guam), also affect adherence to traditional customs and rules of conduct within communities, particularly as it relates to the traditional leadership system. As one historian noted, “there is a tendency to provide imports during tribute to chiefs, nahmwarki is now seen as a consumer, reinforcing a different system.” When speaking to traditional leaders as well as other Pohnpeians in communities, they expressed concern that many youth, now focused on making money instead of traditional farming, do not listen to traditional leaders. As one individual noted, “the traditional management system is breaking down, especially among the young. They are the ones planting sakau for money, someone has to talk to them.” However, the problem is that, “there’s a trend that traditional custom is breaking down, especially when dealing with commerce and money. They [youth] can get anything without help of the chiefs. They look at chiefs now as figure heads.” A traditional leader also voiced this concern when he said, “now that money comes in, people step back from traditional leaders because they don’t need the traditional leader’s help.” Since the role of traditional leaders in watershed management is to guide and advise their communities on appropriate activities and stewardship of watershed areas, the breakdown of this structure and ability to exert influence in communities is of concern.⁵³ This challenge of adhering to tradition while moving

⁵³ The evolution of traditional lifestyles and its negative impact on watershed management can be

forward into a changed world was poignantly phrased by a Pohnpeian when he stated, “[it’s] hard to go back to the past and hard to jump to the future.”

Outside influences also refer to the issue of decreasing Compact funding. As one politician noted, “everything is U.S. subsidized, [Pohnpei] has gone so far on a false economy...beyond the point of no return.” Since the state’s main revenue source is from Compact funding and it provides most of the jobs on the island (there is hardly any private sector development on Pohnpei), its decrease in the years ahead could also lead to increased sakau farming, as sakau is the only other alternative to income generation available. As one person noted with concern, “the problem that still exists is when economic situations deteriorate, concerns for the environment become less. Stepping down of money from the U.S. and little economic industry, people will lose sight of long-term focus for day-to-day needs.” Others stated the problem of decreased Compact funding in the following ways, “one of the biggest challenges is finding good, passionate, local people...getting people to go home facing low pay, asking students who have a degree...willing to go back for \$18,000 salary and a different standard of living [is hard],” “we need to develop economy to create jobs to provide alternatives. We can’t ask them to stop planting without providing alternatives.” One politician outlined the problem best when he explained:

People like having money now and there is a change in lifestyle...education is good, but if you can’t use it, you get frustrated. We [state]

seen in the history of sakau use. Sakau’s preparation, consumption, and use in the old days were relegated strictly for ceremonies and traditional chiefs. However, sakau, though still considered a sacred drink, has moved from its position of limited use by traditional chiefs to that of wide consumption by regular Pohnpeians with many households having their own stones in which to pound the plant roots in preparation for drink by family members and friends almost every evening. As one Pohnpeian noted, “they [people] plant there [in the uplands] instead of lowlands, but it was never done like that before. Before they didn’t drink it every night, only for ceremonies.” This increase in consumption (both in number of people and frequency) has led to increased demands for the plant and as such increased plantings in the watershed areas.

can't put people to work, can't ask valedictorians to go back to tend taro patches... watershed management is not just an area, but deals with the whole of Pohnpei... you have to deal with economics first, before you can address conservation.⁵⁴

Planning for the Future: Next Steps in Moving Forward

When parties were asked what needed to happen in the next five years to improve watershed management on the island, the recommendations fell into two categories: 1) implementing activities (expressed as laying down the boundary line for the Watershed Forest Reserve, enforcement, and increasing education and outreach activities); and 2) improving planning/coordination and relationships (which will be discussed in the following chapter with organizational challenges). The overwhelming overlap in responses expressed broadly across all stakeholder groups concerning most of these recommendations is encouraging because it reveals a level of support for certain strategies and can help to direct future watershed management activities.

Laying down the Watershed Forest Reserve boundary line. Almost all agreed that the number one activity to focus on in the next five years was finishing the boundary line for the Watershed Forest Reserve, “boundary line not in the ground, and that is a big problem. If it is in the ground, it will help... boundary line isn't in place so they [people] work any place they want.” Another put it as, “boundary first. How can we protect something we don't know where it is.” With the line finished in U, half of Madolenihmw done, and the state legislature appropriating funds to finish the rest of the island, finishing

⁵⁴ Additional challenges cited were Pohnpei's growing population, convincing people to take on stewardship roles and to think long-term (a difficulty as one person stated, “our people never think about the future, just tomorrow, that is the problem”), keeping momentum and support for watershed activities going, and continuing to balance the top-down/bottom-up approaches to watershed management.

the boundary line looks promising and seems to be effective as one U person noted, “people don’t respect [watershed], but when people see the line they respect it.”

Enforcement. Conducting enforcement was the next activity expressed by most parties as a priority for the next five years. Those interviewed suggested activities such as issuing citations (including stripping people of titles if they are caught), developing a system to report infractions (including addressing the issue of squatters) and monitoring, increasing capacity for enforcement by establishing authority to conduct enforcement activities beyond the police department and DoF (e.g. communities, CCOs, municipal governments), and creating a ranger patrol to canvass the watershed. Interviewees shared these thoughts on approaches to enforcement: “village chiefs should appoint a very reliable person and work on their behalf, someone the farmers will respect and listen to,” “don’t go to police, approach chief ministers and they will approach the intruders, talk to them as a local person,” “government should be the one to provide enforcement,” “having people police themselves, this is the best approach...self-enforcement is more realistic if you can convince people it’s for the best.”

Increasing education activities and outreach. Along with enforcement, education and outreach was the second most expressed recommendation across stakeholder groups. Examples included education to decrease clearings, raising awareness, promoting stewardship, addressing sustainability issues, reviving the earlier education workshops in communities to share what has been learned, accomplished, and changed in the last 16 years, and developing educational outreach programs to target

specific groups such as senators and sakau farmers to build support for sustainable watershed management for the entire island.⁵⁵

By reflecting on past accomplishments, understanding current challenges, and identifying actions in moving forward, this chapter has revealed several key insights for the watershed management program. The lessons derived from past experiences will be useful in developing strategies in order to address current challenges. Similarly, the overlap in responses from interviewees concerning next steps will also help to guide the program in moving forward. However, additional factors also affect efficacy with regard to watershed management. In the next chapter, these factors (in the form of organizational issues) will be discussed and analysis deriving key observations and lessons, challenges, and shared views on next steps continued.

⁵⁵ Additional recommendations that were cited by different groups included finding alternatives to sakau farming (e.g. continuing the Grow Low Campaign, improving agroforestry methods), zoning the watershed into different use areas and developing a permit process for these areas, increasing monitoring activities, improving and increasing scientific information for the watershed to improve management, avoiding eviction of farmers, having more economic summits as was conducted in U, resolving land use and ownerships issues, finding passionate individuals to get involved with efforts, and creating more conservation areas.

**ORGANIZATIONAL ISSUES AND INVOLVEMENT OF PARTIES:
OBSERVATIONS OF PARTICIPANTS**

Analysis to understand the efficacy of collaboration in Pohnpei must first begin with a look at the parties, the role they play, and their appropriate fit for collaboration. This chapter will examine the specific challenges facing participants, particularly those dealing with capacity, legitimacy, and clarity of authority. The quality of participation that allows collaborative processes to function effectively will also be analyzed. An effective participant is defined as a party that represents its interests, is accountable to its constituencies, has the ability to contribute to the collaborative process and is considered a resource (e.g. generate ideas, provides information/expertise, provides funding, etc.), and has the authority to agree to the strategies or solutions devised by the collaboration as well as capacity to implement activities.

The analysis continues with examining how parties came to be involved (through the education workshops) and why they continue to be involved (derived benefits such as skill development and learning opportunities). The ability of parties to work together and ways of improving the collaborative process were also analyzed. Though no one clear structure of working together was identified, all those interviewed stated that working together was key for watershed management. Lack of coordination of activities and communication between parties were seen as issues to address for improving the collaborative process. Similar to the previous chapter, key observations are derived from interviews and linked with challenges and accomplishments.

The chapter concludes by summarizing the issues examined in both this chapter as well as in Chapter Three to identify five key areas to focus efforts to improve efficacy of watershed management on the island. The five key areas are: 1) enforcement; 2) building capacity in both communities and the Division of Forestry to co-manage; 3) developing political will for participatory management and commitment to a collaborative approach; 4) increasing communication between groups and improving overall coordination; and 5) mitigating effects of shifting to a cash economy.

Figure 7. Summary of results for party roles and challenges

Parties	Ideal Roles	Collaborative participation challenges
Division of Forestry	Technical assistance and enforcement	Lack of clear roles and responsibilities for itself; ineffective leadership; inability to garner state funds
Non-governmental organizations	Consultant providing technical, capacity-building, and fundraising assistance	Overburdened with majority of management responsibilities and coordination of activities resulting in inequality between parties
Municipal governments	Increased involvement in watershed activities	Lack of legitimacy due to the area being public lands, lack of funding, lack of infrastructure and personnel to conduct activities
Traditional leaders	Hands-on involvement and active support	Traditional leaders are not always accountable to their communities; lack of accountability measures that can be applied to traditional leaders; individual personalities affecting efficacy
Communities	Manage and coordinate activities for their watershed areas	Lack of skills and capacity to manage; lack of people to take on such roles; lack of credible representatives as well as institutions to engage in collaboration

The Unique Roles, Contributions, and Challenges of Organizations and Parties

The primary parties involved with watershed management on the island are: the Division of Forestry, non-governmental organizations (namely The Nature Conservancy

and the Conservation Society of Pohnpei), traditional leaders at both the village and wehi levels, and municipal governments. As with many efforts involving multiple parties, collaborative efforts and organizational structures evolve to take advantage of strengths and to mitigate weaknesses. As expressed by a state agency representative, “that’s what’s good about a team, shore up each other’s weaknesses.” Involving multiple parties also helps to insure effective management stated one person, “the more organizations involved, the more stable the situation...the way it [watershed management program] has evolved, it has optimal buy-in of groups that it didn’t before.” Indeed, during the interviews, parties from all segments of the program agreed that everyone should work together to manage the watershed, “in order to have a successful watershed management program, all should be involved.” Another stated it as a “responsibility [that] is shared by everyone.”

However, when participants were asked about the different roles each group played in watershed management, not all agreed about whether or not current roles were an appropriate fit regarding responsibilities, management, effectiveness, and ways in which parties should be working together. Indeed, the current roles organizations and parties fill have resulted from the evolution of the program and specifically the challenges and deficits regarding capacity the parties have tried to address and overcome. As such, the current situation does not reflect what role certain organizations and institutions should ideally play in watershed management and whether or not this leads to more effective management. The following sections will first look at current roles played by organizations and parties, reveal the opinions of those interviewed on roles each should be fulfilling, and then analyze the appropriate fit in terms of capacity and efficacy

of these expected roles.⁵⁶ This discussion will also continue to reference additional challenges and accomplishments derived from Chapter Three and interviews.

The role of the state as represented by the Division of Forestry. Though the 1987 law endows the Division of Forestry (DoF) with management and regulatory responsibilities for the watershed, the backlash by villagers against DoF as well as the lack of funding and capacity issues (limited staff and natural resource management expertise) have prevented DoF from taking on this management role. In addition, part of the role of DoF is fund generation through budget requests for watershed management activities from the state. However, though it is not clear what prevents DoF from effectively garnering such funds from the state, this role has also been problematic for the division.⁵⁷ As the agency having the backing of the 1987 law and representing the state, DoF should also be able to provide parties with advice on the legitimacy and accountability of watershed management strategies and activities against what has been legislatively outlined and authorized. However, this guidance is also absent. As one person noted, “it [watershed management] should be the state’s responsibility because the law says so...but state can’t meet its responsibilities yet.”

Given these issues, the NGO community, namely The Nature Conservancy and Conservation Society of Pohnpei, have stepped in to fill these roles because it has the

⁵⁶ The challenges facing effective collaboration regarding fit and capacity of the parties involved are more extensively examined in Appendix E.

⁵⁷ Given that Pohnpei is still a developing state and has relied on Compact funding from the U.S., the state may not have funds to appropriate to watershed management activities or may not feel, given competing issues of education, health care and overall development, that the watershed merits funding. Another possible reason why DoF has been unable to garner state funds may also deal with the fact that the agency itself is still developing and has gone through several reorganizations. As a result, a budgetary process in which yearly budget submissions to the state may not have reached the normative stage, thereby disrupting fund generation. Another reason may also be lack of a key decision-making figure with leadership and authority skills able to effectively steer budgetary requests to the state for watershed management activities.

resources and capacity to do so. As such, the role of DoF has been delegated to a more supportive position where it is involved in activities such as education initiatives in schools, assisting farmers with nursery seedlings, attending meetings of the PRMC, and conducting limited outreach with communities. However, given the fact that the watershed areas are public lands and the 1987 law is a state law endowing the DoF with management responsibilities, the involvement of the NGO organizations (though understandable given the vacuum of capacity), has implications for accountability for DoF. In other words, the NGO organizations have taken over much of the DoF role so that DoF has no incentive to improve its capacity to take on a much larger role and involvement in watershed management activities as laid out by the law. This release of responsibilities to NGOs can lead to a debilitating dependence by DoF on others to fulfill its role.⁵⁸ The current situation also raises expectations of other parties involved that the NGO organizations should have the role they currently play (that this is the norm), placing an unfair burden on NGOs while also further decreasing expectations (and incentives) for the state to step up to its responsibilities.⁵⁹ As one person noted, “now, government is subservient to the public interest groups, which is not good for watershed management. Government has lost confidence in itself in this area.” A similar

⁵⁸ Such a situation can also foster resentment when the capacity and resources available to one organization is so unbalanced as to create feelings of inequity with other parties in the collaboration.

⁵⁹ Given the current realities of the situation (e.g. lack of capacity, expertise, staff, funds), it will take time for DoF to develop the capacity to take on such a larger role in management. In fact, the author does not contend that DoF should take on a coordinating role (during the interviews, only one person thought the state should play a coordinating role). In many collaborative cases in the U.S. where federal agencies, also charged by law for management responsibilities and facing lack of funding and capacity, do not play coordinating roles, but instead are one of many other parties involved in the collaborative effort. However, unlike the DoF, these federal agencies play significant roles because they provide the legitimacy, technical knowledge, funds, advice, and solution generating skills for collaborative efforts. Whether DoF can take on such a role remains to be seen. However, the author makes the point of the deficit in DoF’s role to underlie the effects the current situation has regarding future implications for effective watershed management.

observation was also made recently by a UNDP consultant assessing a grant to the watershed management project:

The impression gained during the MTE [mid-term evaluation] is that NGO execution of the Project has contributed to government agencies feeling less interest in central issues, less responsibility for the success of the WFR. They do not feel engaged in the Project as partners with shared ownership of the expected Outcomes...the challenge is for the NGO Executing Agency to use the Project to assist government to address this failure [organizing management of the WFR] rather than the NGO taking on the management responsibility itself, which would not be a long-term solution (Hunnam 2002, 15).

However, despite the capacity deficits of the DoF, a major accomplishment of the watershed program has been the change in the attitudes of not only the DoF but also other state agencies regarding approaches to the activities they conduct. Namely, state agencies now engage in actively reaching out to and engaging communities in their activities and programs. As one government representative noted, “agencies have learned to educate first and let people decide.” The idea that communities must be engaged in the process of developing activities, policy, or legislation is a large shift from the regulatory approach first used by the state in 1987. In addition to the Division of Forestry, this recognition of the importance of communities in gaining support for state activities has permeated to other state agencies such as the Department of Agriculture, Lands, and the Pohnpei Environmental Protection Agency through development of community outreach programs.

When participants were asked what role the state should play in watershed management, the most frequently cited answer across the parties was provision of technical assistance, with enforcement a close second. Other roles revolved around funding, supporting the role and involvement of traditional leaders, and outreach

involving communications and education. (It is interesting to note that only two people thought DoF should be responsible for management and conservation of the watershed and two others felt the state should have no role at all.)

The role of non-governmental organizations. Beginning with The Nature Conservancy and now the Conservation Society of Pohnpei, the NGO organizations have filled the role of coordinating and organizing efforts to move watershed management forward on the island. Examples of such work include working with communities to develop alternative income generating activities, creating reserves, educating people about natural resource management, working with the state to develop grass roots legislation, lobbying for funds to lay the boundary line, coordinating state agency activities with overall efforts, and working with municipalities to establish co-management legislation and creating reserves. In large part, they have been successful in accomplishing these tasks because they have worked closely with the communities and do not have the problems with trust associated with the state agencies. Consequently, the NGOs are in a unique role of being able to play facilitator/intermediary for all parties involved. In addition, they have the resources (e.g. staff, expertise, funding, energetic and dedicated leaders) for the successful role they play. As one Pohnpeian put it bluntly, “only NGO is doing stuff, the others are only lip service.”

Indeed, the involvement of the NGOs has also been critical as one of its representatives was identified as a key factor in moving watershed management forward on the island. When participants were asked questions regarding accomplishments and successes of the program, the most often cited element to these successes was the involvement of Bill Raynor, director of The Nature Conservancy. As one individual

noted when asked what contributed to the successes of the watershed program, “Bill’s great leadership. He had enough perspective to try different things and to regroup, keep the ball rolling. He has traditional leaders, non-profit, and government experience.” Indeed, the skills and qualities that made Bill Raynor effective in his position were: he was a risk taker always ready to try new approaches and ideas; effective at organizing partners and activities; provided the momentum and energy to move the program forward; had knowledge of the high language and adopted Pohnpeian ways; was equally competent in the non-profit world and internationally; was respected and found credible by those involved; was dedicated and passionate about the work; and was able to provide resources (both financial and training) to allow the program to move forward.⁶⁰

The role of NGOs as described by many interviewees should be that of consultant. People felt that NGOs should provide technical support, training, capacity building and expertise. NGOs were also seen as entities that should assist with funding for watershed management activities. Providing education was also another big role people saw NGOs fulfilling. Other roles included conducting research, bridging the relationship between the state and communities, acting as a checks and balance system on state activities, being a driver of change, and developing alternative activities to sakau farming.

⁶⁰ Indeed, it is no coincidence that Madolenihmw and U, municipalities experiencing high levels of watershed management activities and progress, are both home to Bill Raynor and Willy Kostka, CSP director and another dynamic key figure. This further supports the notion that the presence of key individuals as facilitators of project progress is important. This finding, existence of a key figure as a facilitating factor in projects, is consistent to other ecosystem and collaborative natural resource management projects (Wondolleck and Yaffee 2000, 108). Other factors for success mentioned by participants were: having energy and patience, and education of people on watershed issues and the program. Additional attributes noted by the researcher are: involvement of different parties, availability of funding as well as capacity resources, the support of key individuals, hard work and the many hours put in by participants, development of plans to guide activities, experimentation with different strategies, and working with multiple parties.

The role of municipal governments. Involvement of municipal governments evolved in response to the state's move away from adopting co-management of watershed areas with communities. As such, the role of the municipal government today is almost as a substitute for the state. Municipal governments are developing legislation for co-management of reserves, laying the boundary line, and practicing enforcement.⁶¹ In other words, municipal governments are addressing the shortfall of the state to effectively manage the watershed. The representatives of municipal governments who were interviewed felt they were better fit to assume these roles because the watershed areas were within their municipalities and were therefore their responsibilities. As one head municipal government representative stated when asked why municipal governments would be better watershed managers, "because each municipality has its own government and traditional chiefs and we can work together." The state was seen as unable to understand issues particular to municipalities because they were not from these areas, did not live on these lands and therefore could not understand the issues and problems, "none are from [this municipality], why should they care." A traditional leader shared a similar view, "they [communities and municipalities] are the ones affected by these resources, but people in government, they are in offices, they don't know what happens, they don't know what's happening."

The fact that involvement by municipal governments is a new development in watershed management may have contributed to the lack of overwhelming consensus regarding opinions on the role they should play. As such, very few respondents proposed roles. Some roles that were mentioned included conducting monitoring activities for sakau planting encroachments, providing communities with materials to conduct

⁶¹ There are five municipalities and the degree to which each has adopted these roles varies.

activities, developing alternative activities to sakau farming, establishing conservation laws, and having the authority over management of watershed areas. As one interviewee stated, “the state government should amend the [1987] law to give municipal governments a role in watershed management.”

Though municipal governments can (and do) play an important role in buttressing state efforts at watershed management, similar capacity issues (e.g. well-trained staff and funding) facing the state also affect the ability of municipal governments to effectively play such a role. Unlike the state, the concern is not so much about having the will to pass co-management conservation legislation (as evidenced by the recent success of legislation passed by Madolenihmw’s municipal government allowing communities to designate reserves). The concern lies in the capacity to implement such legislation (and its associated activities and responsibilities). Municipal government revenues are derived from the same Compact funding that constrains the state. Municipal governments only receive funding from the state and FSM national government for specific projects such as building new roads and infrastructure development. Only a small portion of their revenue is collected locally through business licenses, fines resulting from violation of municipal laws, and mangrove cutting fees (a significant conflict of interest if municipal governments are seen as avenues for conservation). This dependence of funding provides similar capacity issues that plague the state, interfering with effective management of the watershed. As such, some fear that municipal governments could create yet another institution that must be given considerable time to develop capacity to manage watershed areas and to organize and coordinate activities, thereby adding another level of complexity to overall watershed management activities. Moreover, municipal

governments are limited in watershed management because the lands are public state lands and the area is governed by a state law.

The role of traditional leaders. As respected leaders and gatekeepers to communities, traditional leaders have played a less direct role than other parties (with the exception of the Nahnken of Nett who, during the education workshops, organized community meetings and directed workshops with the WSC). However, their role in watershed management is critical. As commented by a state agency representative, “you cannot go through a municipality without permission of traditional leaders, that is the way it is done, you get their permission to enter.” Another put it as, “traditional leaders are the ones that work with the people. If this doesn’t happen, our water will go bad.” Still another stated, “procedure of going through soumas, they are the ones have a lot of people work in the forest, government can’t tell people to come down.” In essence, their role is one of providing support to watershed management activities by giving approval for other parties such as NGOs, state agencies, and municipal governments to conduct work in the municipalities and within kousapws.

Indeed, traditional leaders would often cite during interviews that it was their role and responsibility to be involved with watershed management. As one traditional leader shared, “[it’s] my responsibility to manage resources, my title, there is a responsibility to help people.” Often times, involvement will include attendance at community meetings and activities, selection of participants from kousapws to participate in watershed management activities or committees, and receiving reports on activities. The effectiveness of this role of advisor and support through consent and guidance (similar to their overall role as leader for the community) can be understood by an example shared

by an NGO representative, “traditional leaders are still very much fathers of people, particularly in face-to-face communication and relationships... for example, we put up a radio announcement [about a meeting] no one shows up, but when we go through nahnmwarki and he informed section chiefs we got a lot of people who come and show up.”⁶² However, the fulfillment of this role is often dependent on the individual traditional leader himself (e.g. their personalities, specific politics within that community, past history with the watershed program, their own views of what their roles and responsibilities to their communities are). As such, effectiveness of traditional leaders in these roles varies across municipalities.⁶³

Indeed, when participants were asked to comment on current challenges facing watershed management, issues concerning conflicts of interest and legitimacy of some traditional leaders were cited often. The challenges are associated with certain traditional leaders not listening to their people or being duplicitous in their words and actions concerning watershed management support and activities for other motives (e.g. compensation, politics of titles, fight against state to assert their own authority prior to colonial era). Several from communities and those working with traditional leaders noted this challenge, “involve traditional leaders, but at the same time, they break the laws. They are the ones pushing the people uplands...they just want to get involved to get

⁶² Though this quote highlights the influence traditional leaders have in communities, it also brings into question the reasons behind community participation. Communities may only be involved with watershed management activities because the traditional leader supports it. If this is the only reason why communities are involved, issues of sustainability and quality of participation surface.

⁶³ This comment and related issues will be further examined later in this chapter. However, to note here, in some situations, traditional leaders have used the watershed management program as a way to gain back some of their authority over lands that were taken during colonial times. Others have used the program to not benefit their communities, but themselves while still others have professed support of the program and its activities, encouraging communities to cease sakau planting in the uplands, while still continuing the practice themselves. In this way, involving traditional leaders can be a double-edged sword for watershed management and assessing incentives and motives is particularly critical in such instances.

compensation. In the end they are not protecting the watershed,” “soumas are also politicians...sections chiefs selected as contributions to nahnmwarkis,” “governor has authority on land and control over public lands...the chiefs’ argument is if we can maintain hold on people, can control the land...traditional leaders are trying to redefine their roles and responsibilities against state leaders,” “there is a [mangrove] channel here...one of the traditional leaders cleared the mangrove, all the trees died, full of sediment...most of the village chiefs listen to their people, but not this one. He’s different, he can’t listen to his people,” “all the nahnken wanted to do was be listened to, not talk about things.” Similar concerns that chiefs do not represent communities were echoed in a study conducted by Daniel Hughes focused on how the U.S. governance system interacted with Pohnpeian traditional political structures. An interviewee noted doubtfully, “a noble would not really be concerned with the good of the people” (Hughes 1969, 43). Additionally, another concern that must be addressed is the event when the job of municipal chief magistrate is sometimes filled by individuals who are also traditional chiefs. In one interview, Hughes noted in Nett where this occurred (the Nahnmwarki was also the chief magistrate for the municipal government), council men found it difficult to argue with the chief magistrate at council meetings because he was also their traditional chief.

Similar to state senators, it is also a challenge for traditional leaders to make hard decisions concerning the watershed as it is their responsibility to take care of their people and insure their livelihoods. As one villager put it, “[chiefs] find it difficult because they are leaders of the group. When the group finds it difficult, asks for help. Even if soumas think it’s [upland forest conservation for watershed] good, hard to ignore needs of the

people.” There is also a built in conflict of interest as well since traditional leaders depend on the tributes (e.g. sakau and other agroforestry products) the community bestows upon them in exchange for honorary titles, making it hard to turn aside requests to plant in the uplands. As one Pohnpeian put it, “reciprocating is big in our culture.” The other related challenge tied to traditional leaders was lack of coordination between them. As one community organizer put it, “no coordination among village chiefs...other soumas don’t follow the action plan.” Another stated it as, “everyone wants to be talking chiefs, not all of them want to be working chiefs.”

The interviews revealed a push for traditional leaders to take on a more hands-on approach to watershed management. Examples of this included helping with enforcement, implementing management activities (as defined by the Community Action Plans), directly instructing members in their communities to stop planting sakau in the uplands, and managing the watershed areas themselves.⁶⁴

The role of communities. Over the past 16 years, community involvement has taken on many roles from participation in the PRAs to development of Community Action Plans, from coordinating watershed activities within villages to conducting education workshops on natural resource management and the importance of healthy watersheds, and implementing alternative income activities. Community members have also assisted with monitoring for sakau clearings and helping to develop management

⁶⁴ Part of this call for increased involvement of traditional leaders can also be understood in the larger context of efforts to strengthen and revive traditional leadership on the island (and in the region as a whole). The traditional leadership system has been weakened through many years of colonial rule as well as introduction to western consumption patterns and ideas. During the author’s stay on the island, a region-wide traditional leaders conference was held in which traditional leaders from Palau and other FSM states came to discuss ways to strengthen traditional leadership systems and insure its future survival.

plans and creating reserves. The Community Conservation Officers program is where most activities and roles of communities reside and have been channeled.

Actual implementation and management of watershed areas was seen by many as the role of communities (e.g. enforcement, monitoring, CAPs). However, it must be noted that these views were mainly held by state agencies and NGOs, with a few in communities agreeing. As one politician noted, “main role of people should be managers. State can’t manage it all. Municipal and state assisting the communities to manage and NGOs...work with communities better.” Community members did agree that they should have responsibility for management activities, however, comments did not go beyond this to define responsibilities, “as a Pohnpeian, I believe that the role of Pohnpeian people is to manage the watershed and the role of government is to assist in technical support and funding. But primary management should be with the people themselves as resources.” The benefits of having communities manage the watershed themselves lie in the effectiveness of its approach. As noted by several who work with communities, “people tell each other what is good to do, this is more effective,” “telling is not enough...they do the job and others will listen to them because they are one of the community,” “better to work from within the community...they ask themselves why it is important and then will ask their neighbors and so forth and it will work,” “deal with communities only way it will work, if conservation deals with communities, I [politician] can approve it.”

Indeed, though communities have taken on significant roles, due to capacity issues (training, funding), much of their effectiveness in these roles is still very much reliant on the NGOs and state agencies. As such, the major hurdle facing communities in

taking on a more independent role and fully assuming co-management is this reliance, particularly the reliance on these organizations for taking the lead to organize, coordinate, and develop plans and initiatives for watershed management activities.⁶⁵ Despite the work with PRAs and CAPs, communities still do not see themselves in this type of leadership role. As one woman in a village said, “sponge farm is no good and management of forest reserve...CCOs they don’t have a work plan to follow, they wait for people from government...if possible, [good] to have an assistant once a month to tell them what to do...the knowledge is with them [government].” Another stumbling block to communities taking on a co-management role has been the difficulty in finding energetic, dedicated, skilled, key individuals within communities to galvanize watershed management and lead such initiatives. Part of the problem of finding individuals (as well as sustaining involvement of communities generally), also originates from the fact that communities continue to be treated by the state as resource users and not managers. As an NGO representative noted, “need to get them [communities] to the point where they feel ownership and attachment. Now they are distant because it’s public lands, because it’s not their own.”

Improving the Collaborative Process

When participants were asked how the different organizations and parties should manage the watershed, there was overwhelming agreement that all should work together. However, there was no overlap in responses on one organizational structure outlining ways in which all parties should work together to share responsibilities and roles for

⁶⁵ It must also be noted that such activities should be framed against day-to-day livelihoods and responsibilities. Most people are farmers or fishermen and some of these watershed management activities require large amounts of time and commitment that may be unrealistic given the way people live.

watershed management. Despite this absence of response overlap concerning organizational structure, views tended to fall into three categories: 1) municipal governments, the state, and traditional leaders should share management and enforcement roles; 2) municipal governments and traditional leaders should fulfill management roles; and 3) the role of the state should be to consult with traditional leaders on management of watershed areas. The first two situations were expressed by representatives from state, municipal, and NGO organizations, while the third was expressed by municipal, NGO, and traditional leaders. With regard to enforcement specifically, similar to ways of working together, no overlap in responses on partnership structures emerged. However, the partnership structure of involved parties that were suggested fell into four categories: 1) all parties involved with enforcement; 2) state and communities conducting enforcement; 3) municipal governments and communities conducting enforcement, and 4) the state, municipal governments, and NGOs conducting enforcement.

Given the challenges and issues outlined in the previous examination of roles, these ways of working together should be weighted against capacity building issues and existing capabilities. Ways of working together should also be considered against one of the major challenges that was identified as facing current watershed management on the island - clarity of authority for management activities. During interviews with the different groups involved in watershed management, there seemed to be a lot of confusion over who had authority for certain issues, roles, and responsibilities (as well as misunderstandings about past activities and events). The three major groups sharing this confusion were the DoF, municipal governments, and traditional leaders. Often, this confusion would manifest itself through inactivity and assigning of fault as one group

would state that they did not have the authority to conduct certain activities, when in fact they did. Communication and clarity between the state and communities is particularly lacking. These issues were particularly a problem regarding enforcement as no group had a clear idea of where the authority lay or what activities were authorized. As one person stated, “that’s one problem, enforcement of areas is really weak, nobody is really up to date on their responsibilities.” Such clarity is required to address problems such as sakau planting encroachment by people from other municipalities into protected watershed areas, a management challenge cited by several respondents.

The other challenge linked to leadership was capacity building and training. It seemed that groups or individuals tasked with leadership responsibilities were not provided adequate training in the form of continuation and follow-up training and capacity building. As one community woman noted, “[we] need training to manage these areas.” There is also no infrastructure or support to train people interested in forestry or keeping people informed of activities outside of Pohnpei that could assist with watershed management.⁶⁶

As a result, when participants were asked what steps should be taken in the next five years for watershed management, respondents agreed that improving coordination, planning, and relationships among different parties and activities was critical. Though no one recommendation received support across the different parties, the responses given revolved around the common theme of improving coordination, planning, and

⁶⁶ Similar to Hawaii, Pohnpei suffers from a situation called the brain drain in which the island’s brightest and most skilled leave for lack of opportunities (both job and educational) thereby creating a dearth of candidates to involve in watershed management and no incentive to create such infrastructural support. As one person noted, “the best and the brightest go to business or politics.” A U.S. federal agency personnel noted that a benefit of the Trust Territory days was scholarships to train forestry personnel. Such scholarships or similar forms of training are no longer available.

relationships between the groups involved. Examples are: traditional leaders developing a unified vision for management of watershed areas and using the traditional leaders' council to implement activities, improving coordination and working relationship between the state and traditional leaders as well as among agencies, legitimizing the authority of the PRMC, increasing partnerships with more communities as well as improving coordination between and within communities, creating opportunities so people get to know each other, hiring a coordinator (or coordinating group) for the watershed areas to define and assign responsibilities and roles, state support of CCOs, achieving island-wide uniformity of activities, and involving the College of Micronesia with training individuals for watershed management.

Involvement with the Program

A segment of the interview questions was devoted to understanding how partners became involved with the program, aspects they enjoyed about their involvement, what continued to keep them involved, and the challenges of being involved. The answers provided can inform partners on the effectiveness of strategies regarding outreach as well as ways in which to sustain involvement by parties, often cited as a challenge in collaborative, multi-party efforts (Wondolleck and Yaffee 2000, 117).

Education workshops were key in introducing parties to the program. The education workshops conducted in the early 1990s were cited most often by those interviewed as their introduction to and beginning involvement with the watershed management program. The workshops were particularly most cited by traditional leaders and members of the villages (which provide insight into the effectiveness of the workshops as a strategy for outreach). Another interesting finding, possibly related to the

workshops as a secondary effect, was the third most cited answer - involvement through association with friends, neighbors, and relatives. The second most frequent response was jobs, as in the watershed management was part of one's job responsibilities.⁶⁷ Other answers were: appointment by traditional leaders to participate in watershed management activities, passage of the 1987 law, and appearance of the surveyors in 1990.

Parties continue to be involved for benefits. Aside from the fact that it was part of their job or their roles as traditional leaders (highest cited response), no other responses were significant with regard to frequency as various reasons were provided as to why those interviewed continue to be involved. However, ultimately, the theme that drew these motivations together is one of benefits. Put simply by one traditional leader, "if no program, if someone just tells me, I will not follow, but since it has benefits I participate."

The overwhelming benefit noted by all participants were the learning and skill development opportunities brought about by involvement. The response most often given when asked what people liked about being involved with the watershed program was the opportunity to learn (e.g. how to work in teams, with other agencies, developing community knowledge, gaining natural resource management training, development of new skills, learning about conservation and ecology). This answer was given most by those in the NGO community and state agencies. Those in the communities (traditional leaders, villagers, municipal governments), cited taking care of the watershed and

⁶⁷ This reflects the fact that almost a third of those interviewed came from state agencies, NGOs, and the U.S. Forest Service where the 1987 law originated and responsibilities for watershed management fell into their domains.

keeping its waters clean through restoration, prevention, and protection.⁶⁸ The different responses provided by different segments of those interviewed could provide managers with insight into how to sustain involvement as well as support by these parties in watershed management activities.

With regard to skill development, involvement with the program allowed parties to develop both personal and professional skills. Personal skill development often dealt with relations to others. Responses included learning how to speak in front of large groups, to deal with different groups, and the problems communities encounter. Other personal skills revolved around knowledge acquisition such as ecology, bio-diversity, and connection of upland forests to coastal areas.

With regard to professional skill development, people across all segments interviewed cited natural resource management (both island-wide as well as within their own communities/areas) as the skill learned most. Other skills included balancing top-down and bottom-up approaches, developing their own conservation programs, and learning how to work with communities.

Other less frequently cited responses for reasons behind involvement included: 1) protecting the resources (e.g. protection of sacred places; protection of the water supply and quality); 2) personal benefits (e.g. provide information to others on how to protect

⁶⁸ Both answers given correlate with thinking developed in the environmental stewardship psychology field concerning involvement with conservation behaviors and activities. Based on the Reasonable Person Model (RPM), this field has demonstrated that people adopting environmentally responsible behavior often do so because of internal, intrinsic motivations caused by commonalities in the human condition and the way humans process information for survival. RPM contends that 1) people are motivated to know, to understand what is going on (they hate to be confused or disorientated); 2) people are motivated to learn, discover, explore and prefer to acquire information at their own pace in response to their own questions; and 3) people want to participate (because they hate feeling incompetent or helpless) and to play a specific role (one which they feel only they can fill) in what is going on around them (Kaplan 2000, 498). The following responses, given by two individuals closely involved with management efforts, seem to support the RPM theory, “people are talking about it now and people are more welcoming to the message. It gives me a sense of accomplishment,” “you get to know people and people to know you. You get respected...people stop me and ask questions, ask for help, seen as a problem solver.”

their natural resources and serve as advisor; working with communities to help them manage their natural resources; getting to know people and allowing others to know you, respect gained by those in the community because of one's work; the challenging nature of the program; interaction with traditional leaders, authority for enforcement, and having sakau close to homes to avoid walking to upland areas); and 3) personal/social values (e.g. witness damaging changes in the land from the past when they were children such as drying up of streams, decrease in bird and fish populations; to benefit the people and future of Pohnpei; inspired by those involved; education of people about resources).

The challenges associated with being involved in watershed management repeat some of the challenges already discussed in this chapter as well as in Chapter Three. Most responses noted the biggest challenge of being involved occurred at the beginning when involved parties were blamed for the law and chased by villagers. This response was highest amongst the state and NGO groups. Other responses, weighted more toward communities (traditional leaders, villagers, municipal governments) and NGOs dealt with enforcement issues (lack of it as well as authority to conduct it), dealing with people unwilling to listen, interfering with people's livelihoods (farming), the slow nature of the process causing frustration (particularly when dealing with multiple parties), and involvement of politics (e.g. stands not taken by politicians for fear of not being re-elected, internal politics within villages concerning traditional leaders).

A Review of Current Issues: Five Key Areas to Focus Efforts

Several issues and challenges were identified for watershed management in both this chapter as well as in Chapter Three. Challenges ranged from developing sustainable

funding to addressing coordination of activities; from finding dedicated people to improving the capacity of those currently involved; from gaining the support of key leaders to lobbying for legislation. Despite the number of issues highlighted, there were five main challenges which seemed to encompass or relate to all of the issues and can be seen as the most critical to address in order to improve efficacy of watershed management on the island. They are: enforcement; building capacity in both communities and the Division of Forestry to co-manage; developing political will for participatory management and commitment to a collaborative approach; increasing communication between groups and improving overall coordination; and mitigating effects of shifting to a cash economy.

Enforcement. With the boundary line for the Watershed Forest Reserve being finalized in the coming years, enforcement takes on a more immediate and pressing concern. The challenge is creating an effective process through which enforcement is carried out. Issues are: how will enforcement be conducted, how will it be funded, who will conduct enforcement, who has the authority to prosecute violations, how will enforcement be made known on the island, how will conflict be handled, and what will be the process/procedures for enforcement.

Building capacity in both communities and the Division of Forestry to co-manage. Given that Pohnpei's watershed management approach has been heavily community-based (resulting from initial community consultations in the early 1990s and the inability of the state to manage these areas itself), building capacity within communities to undertake natural resource management continues to be a large challenge. Capacity in communities suffers from varying degrees of effectiveness and more

importantly, sustainability. These issues include: how to support communities in becoming effective partners in participatory management and ending reliance on NGOs to provide direction; pinpointing what institutions within communities can take on authority for participatory management from the state and can work as intermediaries between communities and other entities (e.g. NGOs, municipal governments, financial institutions); finding dedicated individuals to represent communities and coordinate watershed management activities; continuing to cultivate support from both communities and traditional leaders; sustained training and feedback to support continual capacity building and motivation; and improving the quality and ability of communities to participate.

Similar to communities, the Division of Forestry also faces the challenge of developing capacity such as expertise in management to serve in advisory roles to communities and municipal governments, defining a role for itself in watershed management, attracting qualified and motivated candidates, improving leadership, learning how to garner funds for watershed management activities, and developing relationships with communities to overcome trust issues. Such issues are part of a larger problem facing Pohnpei's state government of improving infrastructure, creating efficiency in how the government conducts its business, and improving its work ethic and management style.

Developing political will for participatory management and commitment to a collaborative approach. The challenge concerning the state is developing its political will, whether at the legislative or executive branch, to recognize communities as legitimate partners in watershed management activities. Specifically, political will for

participatory management refers to legislation or legal agreements instituting participatory management. To a certain extent, this recognition of legitimate management partners can be extended to municipal governments as well. The state does not have enough funding, personnel, and in some people's eyes, legitimacy to effectively manage the watershed areas and WFR. As such, it is critical for the state to work collaboratively with communities and other parties to implement its mandate in the 1987 law. Legislation is the first step toward showing commitment to this collaborative approach. However, commitment must also be developed in the attitudes and activities of state agencies working in the collaborative. The Division of Forestry must show its commitment to this collaborative approach by engaging partners as resource managers and as equals in the decision-making process.

Increasing communication between groups and improving overall coordination.

One of the biggest challenges facing effective watershed management on Pohnpei that came clearly through the interviews was lack of communication between all of the involved parties resulting in confusion, misinformation and misconceptions concerning one another and watershed activities. There needs to exist some kind of forum or structure (e.g. coordinating group or organization) that meets often and has mechanisms to allow for consistent information flow to all parties. Such a structure would also help to clarify roles and responsibilities for all entities involved, as well as how they interrelate with one another (e.g. who has authority to do what, who are the decision makers, what are the processes, jurisdictions, and so forth). Such a structure could also address the related challenge of the program not having a systematic framework for reviewing its activities and progress. Through such adaptive management (in which monitoring and

collection of information on activities provides critical feedback to all parties on the progress of watershed management activities), an assessment of strategies, parties' incentives, leadership dynamics, proactive approaches to meeting challenges, and other elements of managing a program can be reviewed.

Mitigating effects of shifting to a cash economy. The transition of Pohnpei from a subsistence economy to that of a cash economy will continue to pose a major challenge for managing watershed areas on the island. The continued decrease in Compact funding, which has basically supported Pohnpei's cash economy, will affect the state's ability to appropriate funding for watershed activities as well as to provide jobs (the public sector is the largest employer on the island), leaving commercial sakau farming as the only other viable income generating alternative for many islanders. As such, the challenges ahead revolve around creating diversified sources of revenue such as developing private industry and attracting foreign investment. Mitigating the effects of a move toward a cash economy on Pohnpei's traditional lifestyles and community structures will also be one of the biggest challenges faced by the watershed in the future.

These five main challenges will provide the basis for analysis in the following chapter. By examining the experiences of other community-based and collaborative natural resource management case studies, lessons addressing the five main challenges will be explored in Chapter Five.

MOVING FORWARD

Watershed management on Pohnpei originated and evolved to adapt to a conflict situation. Though the level of the conflict has diminished from the days when state agency personnel were chased from villages with machetes and guns, conflict remains today. As revealed through the challenges section in the previous chapter, the conflict revolves around differing ideas on what natural resource management means, determining the need for it, how to conduct it, how to apply it to what areas, and who has the knowledge, authority, and legitimacy to conduct it. Specifically, the five main challenges concern: enforcement; building capacity in both communities and the Division of Forestry to co-manage; developing political will for participatory management and commitment to a collaborative approach; increasing communication between groups and improving overall coordination; and mitigating effects of a shift to a cash economy.

This chapter attempts to address some of these issues by reviewing other cases, particularly ones that involve multiple parties in which communities factor as prominent stakeholders, to learn how others have tried to deal with similar challenges. Though Pohnpei's history and experience with watershed management is unique, specific elements of the issues facing efficacy are shared by others. Based on the lessons of these cases, studies and reports, overall recommendations tailored to the watershed program will be presented for consideration in the following concluding chapter.⁶⁹ Through these

⁶⁹ The author's assumption is that the approach to effective watershed management continues to remain, as set out by the 1987 law, creation of a Watershed Forest Reserve with zoning of certain areas for farming and other activities.

comparisons, it is hoped that the watershed program will be informed of approaches and strategies that will help it to overcome current challenges to effectively move forward.

Learning from Others: A Review of Case Studies

Though different in objectives and scope (e.g. park protection, integrated conservation and development projects, private reserves, development projects), formation (e.g. started by foreign donors/organizations, grass roots, government), and situation (e.g. history of the country, socio-economic conditions, cultural influences), what was common to the cases, studies and reports reviewed was that all involved some component of engaging local communities to either assist or directly co-manage the natural resources (e.g. forests, marine, wildlife) targeted for either conservation or sustainable use purposes. These projects also share the common themes of involving multiple parties (e.g. communities, traditional leaders, local governments, the state, NGOs, international financial institutions, etc.) and addressing multiple issues (e.g. natural resource management, socio-economic concerns, democratic governance). As such, related issues of state commitment to participatory management, state and community relationship and mistrust, enforcement, and institutional/organizational development were common themes that emerged. Indeed, a review of community-based conservation in Africa reveals the same challenges faced by the Pohnpei watershed program: 1) central governments that are unwilling to collaboratively share management responsibility; 2) difficulty of local participation and time commitments in execution; 3) problems related to identifying appropriate community members for involvement; 4) ineffective project design leading to more environmental problems; 5) constant

monitoring and evaluation that is required; and 6) local situations that cannot escape being affected by external factors such as national or global politics and economics (Hackel, 1999).⁷⁰

The objectives in reviewing these cases, studies and reports are to: 1) provide the watershed program with lessons and strategies others have used to address similar challenges; 2) reveal some of the consequences and pitfalls of different approaches; and 3) illustrate how other projects have used strategies similar to those used in Pohnpei to overcome challenges (these examples support Pohnpei's own experiences). Though the case studies do not address all of the challenges facing the watershed program, they do reflect some of the major issues facing efficacy and may prompt reflection on reasons why the program is experiencing such challenges.

Enforcement

In analyzing integrated conservation and development projects (ICDP), one of the factors affecting project performance was the existence of enforcement and regulatory components that support project objectives (Brandon and Wells, 1992). As this finding illustrates, enforcement is an integral component to managing natural resources, whether for conservation or sustainable use.

In most of the case studies concerning enforcement, communities were involved with enforcement to some extent, whether it was conducting actual enforcement

⁷⁰ Given the breadth of the case studies reviewed, several different terminologies emerge when describing community participation and involvement. The terms are community-based natural resource management (CBNRM), community conservation (CC), community-based organizations (CBO), community wildlife management (CWM), and community-based management (CBM). The reader should note that all terminology should be viewed as interchangeable in the sense that they all refer to natural resource management approaches in which some level of community participation and involvement is a component.

themselves (as guards and patrolmen) or managing the enforcement through village councils which set regulations on access. Some of the benefits identified with involving the community in enforcement were: lower government enforcement costs, fewer opportunities for corruption, more communication between the community and lower government, and greater community commitment to its management plan (Gambill, 1999). In addition, enforcement was seen as beneficial because, aside from deterring illegal activities, it could also provide an incentive for violators to work with communities and government to resolve conflicts over resource use (Lewis, 1993). The selection from a range of different enforcement strategies often depended on whether the root causes of conflict over the natural resource had been properly addressed, with clear sets of rules and regulations that were understood by all parties governing management of the resource.

The following cases highlight different enforcement strategies and subsequent lessons affecting efficacy. The main lessons from the case studies revolve around enforcement systems themselves and the people actually engaged in enforcement.

Effective enforcement systems appear to exhibit the five following properties:

- 1) They are clearly understood and known to all;
- 2) Are consistent in their operations;
- 3) Possess credibility and legitimacy;
- 4) Provide ownership, particularly when involving communities (ownership was often linked to using existing processes or institutions for enforcement);
and
- 5) Provide appropriate incentives to support enforcement.

The studies also suggest that the people engaged in actual enforcement (e.g. community guards, park guards, patrolmen, etc.) should be 1) properly equipped and well-trained; and 2) deemed credible and legitimate by communities.

Case Studies Concerning Enforcement Systems and Institutions

- Tubbataha Reefs National Marine Park, Philippines: In Tubbataha Reefs National Marine Park in the Philippines, the government, local governments and politicians, and a non-profit organization evicted a private corporation that had been illegally operating a seaweed farm in the park. This situation had come about because the company was able to take advantage of the fact that there were no park wardens stationed at the park due to its remote location. It also received a permit for the activity from the local government, revealing no coordination and understanding of park management between the national and local governments. ***This case study highlights the importance of having an enforcement system in place that is understood by all involved with park management and clearly made known to encroachers.***
- Sagarmatha National Park, Nepal: In Sagarmatha National Park in Nepal, traditional enforcement systems of the forest that had been used by the Sherpas, an ethnic group living in the park before it was established, were taken over by outside enforcers (e.g. government officials and wardens). Increased deforestation within the park resulted as resentment by the Sherpas grew. Consequently, the government returned enforcement privileges to the Sherpa community. The success of the traditional enforcement system can be linked to the facts that forest guards were appointed on a regional basis among the villagers creating a shared sense of responsibility; they had the power to enforce community rules of resource use and could fine violators; they were respected by the community members; and, they took the responsibility very seriously (Lewis, 1993). ***This case study highlights the importance of using existing institutions that provide ownership and legitimacy.***
- Marine Parks, Indonesia: In marine parks in Indonesia, the use of traditional taboos and beliefs among coastal settlements assists enforcement. For example, the Bajau communities do not fish in what they consider sacred areas (which happen to coincide with the park boundaries) where people are believed to disappear. Nor do they harvest black coral because they believe it to cause bodily harm. What also helps with reducing encroachment into the park is the fact that Bajau communities are allocated fishing grounds with clear boundaries and regulatory authority of the areas resting with village leaders. As such, if outsiders want to fish in these fishing grounds, they must first receive permission from the village leader (Djoharni, 1996). ***Similar to the Nepal case study, this case echoes the importance of using existing institutions that provide ownership through participatory decision-making and involvement. In addition, communities***

around the park were provided with resources they could use in lieu of the ones banned from extraction within the park. This last point addresses the issue of developing the appropriate incentives to support enforcement.

- Redistribution of fines to communities: In another example, enforcement was set up in such a way that fines were given back to communities as incentives for enforcement thereby discouraging bribes or non-reporting of violations as a result of community peer pressure and social relations. ***Similarly, this case study highlights the importance of using the appropriate incentives for enforcement.***

<i>Case Studies Involving People Engaged in Enforcement</i>

- Living in a Finite Environment Program, Namibia: The Living in a Finite Environment initiative in Namibia hired wildlife game guards from the communities called Community Game Guards. They were appointed by the communities and were accountable to them through traditional leaders, who would take any disciplinary actions if necessary. These guards were not strictly enforcement, but also worked with the community to mitigate destructive activities of wildlife and educating communities on project activities. This strategy was seen as successful by the project because the guards were trusted by the villagers (unlike the government) and the guards were committed to effectively managing the resources. The result was a decrease in poaching activities and an increase in wildlife populations (Ntiamoa-Baidu et. al, 2000). ***Similar to the Nepal case, this case study shows the importance of credibility and legitimacy of guards in conducting effective enforcement.***
- Forests, Philippines: In the Philippines, one project instituted voluntary forest guards from the community. However, the program did not function effectively for the following reasons: the guards did not have sufficient support (e.g. training) or financial resources (e.g. equipment) from the municipal governments to carry out their responsibilities, the groups failed to acquire an identity (e.g. no uniforms or IDs) that helped communities identify them and allow the guards a sense of professionalism in carrying out their responsibilities, they suffered from lack of security in that if they were injured no compensation for themselves or their families was available, the guards lacked organization and clear objectives and therefore often became isolated units that led to lost motivation (Garrett, 2002). ***This case study shows that it is critical to have implementation support for enforcement both through capacity training and equipment. The system of enforcement must be supported by structural elements.***

In addition to the lessons outlined in these case studies, in a review of project design issues for managing common resources, author Paul Seabright found that the key to enforcement (and sustainable use) is that the natural resource area must be important to

the communities and they must believe that the future matters enough to outweigh the immediate benefits of present activities. He also found that it helped if violators were susceptible to peer pressure and the opinions of others within the community. Enforcement and community involvement can also establish a history of cooperation that makes it difficult for violators to overcome (Seabright, 1993).

Building Capacity in Both Communities and the Division of Forestry to Co-manage

Community participation means involving people in the decisions and institutions that affect their lives. The community is seen as a unit of solution, capable of taking collective action (Checkoway, 1995). Though this definition is taken from the field of social work, it aptly describes how community involvement in natural resource management is viewed in many case studies. However, community involvement has experienced numerous challenges and uneven successes. Part of the reason for these uneven successes can be understood by reflecting on some of the assumptions of community-based natural resource management (CBNRM) approaches.

In a review of community wildlife management in Africa, Alexander Songorwa outlined four assumptions underlying adoption of the community-based wildlife management approach: 1) national governments are willing to devolve ownership of and management for wildlife to communities; 2) communities are interested in managing wildlife; 3) communities have the capacity for such management; and 4) wildlife conservation and economic development are compatible (Songorwa, 2000). There is also the assumption that communities know what the problems are, have the solutions, and are ready to function accordingly as a unit and are not limited by external factors in taking

such action. These inaccurate assumptions have led to many projects facing similar challenges as the Pohnpei watershed program.

One case study in particular echoes many of the same strategies and resulting challenges experienced by the Pohnpei watershed management program, particularly with involvement of traditional leaders, introduction of new institutions, quality of community participation, and exclusion of communities in decision-making roles.

Developed by the government, Zambia's Administrative Management Design for Game Management Areas (ADMADE) created wildlife management sub-authorities reflecting existing chiefdoms in which the chief served as chair. These units monitored and addressed wildlife problems at the local level and implemented wildlife management plans in conjunction with community development projects. However, problems soon arose with this arrangement, despite following traditional institutions. ADMADE discovered that chiefs were not joining the program in order to become co-managers in wildlife and facilitate local participation; instead, they were more interested in the power and economic benefits received through the program as it fell to them to administer the community's revenues from wildlife off-takes into conservation and development projects. As such, chiefs began employing their own supporters and concentrating projects in their areas, thereby creating resentment among other villages. Village perception about the benefits of this program were also affected by the fact that the sub-authority units had no decision-making authority over hunting regulations, quotas, licenses, or fees (particularly safari concession fees where companies hunted on their lands). The villages also received no information about the revenue their areas produced;

revenues that went into the overall revolving fund that was distributed back out to different villages for projects.

ADMADE also created a wildlife scout program in which villagers participated. However, without effective unit leaders, commitment often declined and led to behaviors such as poaching and stealing. These scouts were also seen as challenging traditional authority institutions (e.g. elders) within villages. As such, authors of this case study recommended: ADMADE recognize a vast majority of residents received little benefits from the program; not all residents responded to purely economic incentives; different values are placed on development projects by individuals; rewards must be connected to individual actions; and rural residents must be considered as equal stakeholders with decision-making authority over management of the resources (Gibson and Marks, 1995). This case study confirms the same problems experienced by the watershed management program as a result of traditional chiefs being involved, communities not having decision-making authority over distribution of funds (ownership), instituting a new system (wildlife scout program) that competed with existing institutions (traditional chiefs), and not fitting the appropriate incentives to encourage support for the program.

The cases and studies introduced in this section of *building capacity in both communities and the Division of Forestry to co-manage* will center on: 1) challenges affecting quality participation with communities; 2) lessons from successful community-based initiatives; 3) development of capacity-building and training; and 4) general lessons concerning community-based approaches. Though no specific case studies were linked with building capacity for the Division of Forestry, many of the lessons and issues discussed in the community capacity building sections similarly apply to the DoF.

Similar to the ADMADE case study, the following studies go on to highlight challenges similar to those experienced by the watershed management program. The challenges specifically revolve around community involvement and seem to result from:

- 1) Lack of the appropriate incentives;
 - 2) Lack of ownership in the process and project (leading to credibility and legitimacy issues);
 - 3) Negative past experiences with the project (e.g. unmet expectations); and
 - 4) Lack of supportive environment to allow for participation (e.g. participation is voluntary, transit time and difficulties for participants are taken into consideration, etc.).
- Rural development study and participation: Though set in a development context, community participation in the field of rural development has also experienced similar issues with community participation, “local elites can often ‘capture’ more complex organizations and use them to promote their own ends” (Cohen and Uphoff 1980, 224). The same study goes on to describe other factors that affect quality and ability of participation: 1) direct participation versus representative participation (direct participation has greater impact on building individual capacity); 2) time required for participation; 3) intensity of participation linked to the various ranges of potential activities that benefit from involvement; 4) initiative from the grass-roots versus outside or national centers; and 5) voluntary or coerced involvement. The authors also conclude (as part of emerging generalizations of participation in rural development projects) that participation is not a panacea in the sense that just introducing participation into a project does not automatically meet objectives and produce results. Projects must be careful not to confuse more participation as better since meaningful participation depends on the quality and circumstances in which it occurs. ***This study echoes concerns of local elites co-opting processes for personal gain. This study also notes that quality participation and engagement should be voluntary, provide the appropriate incentives, create a supportive environment for participation, and result from needs directly voiced by those involved.***
 - Community-based natural resource management study, Botswana: A similar point was made during an analysis of CBNRM in Botswana, “participation may not be a ‘good thing,’ that local people may not want more participation or may not have the time to participate” (Twyman 2000, 331). However, the author goes on to say that apathy in participation is often due to the fact that projects do not address local priorities, local livelihood dynamics, or concerns and past experiences,

thereby making communities feel that the project is not truly theirs to begin with leaving no incentive to participate. ***This study notes that problems affecting quality participation can be linked to lack of ownership and missing the appropriate incentives for involvement.***

- Community-based wildlife management, Tanzania: Another analysis of community-based wildlife management in Tanzania found that the lack or loss of interest by communities in such approaches were linked to raised expectations that had not been met, unequal distribution of benefits from the program, lack of trust, and mismanagement and corruption at community-level institutions (Songorwa, 1999). ***This study echoes the Botswana CBNRM study but adds that participation can be affected by failure to meet expectations (e.g. past experiences), credibility and legitimacy issues, and lack of equally distributed benefits.***
- A study of integrated conservation and development projects: In analyzing ICDP projects and project design issues, authors Katrina Brandon and Michael Wells noted several issues when dealing with communities. Mainly, projects must define appropriate links and incentives to the overall objective of the project. The authors noted that in several instances, projects focused on activities departing from project objectives due to needs defined by communities that were wholly out of project boundaries or chose approaches that were unsustainable and did not reflect value of future benefits (Brandon and Wells, 1992). ***This study notes that efficacy of projects relied on the appropriate fit of incentives to project objectives. The study notes the potential pitfall of projects losing sight of their objectives by becoming overwhelmed by communities' needs.***

<i>Cases and Studies Concerning Successes with Community-Based Approaches</i>

Despite these issues, community participation has also experienced successes. The following cases and studies highlight the strategies used by different projects of community participation and the reasons behind their achievements. The case studies address success in two ways: lessons concerning communities themselves and organizational and process attributes affecting efficacy of community-based approaches.

The community attributes to success seem to be tied to:

- 1) Possessing ownership and decision-making capacities (thereby instilling a sense of responsibility for the natural resource resulting in quality participation);
- 2) Projects that originate directly from communities (these projects suffered less

from community capacity issues such as motivating participation, attracting dedicated individuals, and sustainability because communities had ownership over the problems and incentives for success); and

- 3) Management is seen as credible and legitimate.

Attributes concerning organizational and process issues involve:

- 1) Government support and commitment to community participation;
- 2) Clear rules, regulations, and authority concerning the natural resource;
- 3) Presence of the appropriate incentives;
- 4) Credible and accountable process that is transparent and makes available information for decision-making as well as provides flexibility in responding to situations; and
- 5) Capacity building and training is provided.

In addition, the nature of the relationship between states and communities also seemed to play a key role. When the relationship was less top-down, but more equal and partnership-like, projects were usually more successful.

<i>Community Attributes for Success</i>

- **Village forest management, Tanzania:** After a very similar experience to Pohnpei of driving back government officials attempting to demarcate forest reserves, villagers in Tanzania demarcated their own village forest management areas out of a proposed national forest reserve. They instituted forest patrolmen, outlined rigorous forest use regulations, access controls, and forest management by-laws. The reason behind why the approach worked in Tanzania was that villagers felt the implications of being given such a role and responsibility for managing the forest areas. One village leader noted that they could no longer blame the government if the forests were destroyed. Another key factor was the support and leadership of the village leaders. Additionally, the villagers were not treated by the government as resource users to be regulated, but as resource managers (Wily and Dewees, 2001). ***This case study notes successful CBNRM linked to decision-making (and thereby ownership of both the process and project) by communities. It also highlights the importance of the nature of relationships between the state and communities (e.g. less top-down, but equal and partnership-like).***

- Forest committees in Thailand: Similarly in Thailand, sub-district and village committees (with chiefs as heads and members selected by chiefs) were created in order to address forest maintenance and protection (Asian NGO Coalition, 1991). ***Similarly, this case study shows communities given a role in decision-making over the resource leading to more effective management.***

- Marine sanctuary, Philippines and Forest management, Thailand: In the Philippines where a community established a marine sanctuary, success was attributed to the fact that the problem, needs, and solutions were wholly identified by the communities, and governments and NGOs were only brought on board later as technical support. A similar situation was reported in Thailand when community management in forestry issues was addressed by villages through formation of committees which effectively facilitated community consensus and collective action toward forest protection (Asian NGO Coalition, 1991). ***The success of these case studies was linked to the initiative originating from the community itself, thereby providing credibility and legitimacy as well as incentives to support the effort.***

- Community-based forestry program, Philippines: Incentives and motivations can be encouraged by involving communities in monitoring efforts. As was seen in a CBNRM project in the Philippines, villagers walked the forest to monitor the state of the forests managed under a community-based forestry program. Monitoring resource use taught communities the consequences of how they use their resources and helped them to determine management efforts which in turn reinforced commitment to sustainable forest management (Gambill, 1999). ***This case study shows that providing the appropriate incentive leads to support for activities. The incentives in this case study were: the opportunity to learn, be involved with the project through monitoring, and making decisions based on collected information (also addresses ownership).***

- Wildlife resource management, Africa: If the community chooses a committee to act as intermediary between itself and other parties (e.g. government and NGOs), these committees must be able to “identify, articulate, and defend the communities’ interests in providing input into the decision-making process” as well as relay back to the community the management decisions that were made (Kiss 1990, 180). ***This study highlights the need for community committees to possess capacity to represent community needs in a legitimate and accountable manner.***

<i>Organizational and Process Attributes for Success</i>
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- A study of community-based initiatives, South Asia: A paper presented at the Second World Conservation Congress of International Union for Conservation of Nature (IUCN) looked at community-based initiatives throughout South Asia in order to draw lessons about successes of such projects. The paper found several factors that led to developing effective community-based management. They

were: transparent and equitable decision-making both within the communities and between other organizations they associated with (e.g. NGOS, state); decision-making could occur when information was shared and decision-makers were well-informed; the role of outsiders (e.g. state, donors, NGOs) must be associated with villages on equal terms by respecting different levels of capacity and information; community-based initiatives must be supported by legal authority through laws and state policies; inequalities within communities must be recognized and addressed so that empowerment does not become concentrated in the hands of the few; sustainability of efforts should be done through monitoring activities and creating internal funding not dependent on external donors to sustain initiatives; and the state was seen as supporter and guide to these initiatives. The same paper also found that in order to support community-based initiatives, policies and legal measures needed to facilitate empowerment of local communities for management and participation as well as enforcement and regulatory authority (Kothari, 2000). ***This study highlights the critical role of process when involving collaboration with communities. Issues such as transparency, availability of information for informed decision-making, legitimacy and accountability measures based in law, government support of the CBNRM approach, and recognition of the appropriate incentives were seen as crucial.***

- **World Bank report on forest management:** A World Bank publication found the following factors to be critical in the success of participation in forest and conservation management: government commitment to broad stakeholder participation in project goal setting and implementation; decentralization of authority from state to local levels (with clarity of authority and responsibilities); alignment of costs and responsibilities for each stakeholder to rights and benefits; and development of local capacity for sustainability of projects (Banerjee et al, 1995). ***Similar to the IUCN paper, this report also echoes the importance of the appropriate incentives, government commitment to community participation (including decision-making), and capacity-building for sustainability.***
- **Forest conservation, Indonesia:** Other successful community-based projects reveal that successes are linked to the size (small) of communities, the existence of clear rules and regulations regarding resource use, effective governance over areas, and legal authority over tenure of the area and regulatory enforcement capacity (Momberg et. al, 2000). ***This study also addresses institutional attributes such as clarity of rules and regulations as well as authority over the natural resource area and capacity for enforcement as elements of successful CBNRM.***
- **Community-based organizations, Botswana and Mali:** Mike McGahuey of USAID Africa Bureau outlined the effectiveness of community-based organizations in Botswana and Mali as based on the following: democratically elected representatives; leadership was held accountable to membership; internal rules of conduct as by product of negotiated agreements within the membership existed; members received basic business management training; and transparency measures were adopted (McGahuey, 2002). ***This study focuses on having***

legitimate and accountable representatives, existence of clear rules of conduct by participating groups, transparency, and capacity training as keys to success.

- Melanesia and sustainable development: Traditional organizations and institution should not be formalized in the context of codification under law for it robs such systems of their flexibility and therefore efficacy (Baines, 1989). *The importance of keeping flexibility of traditional systems to allow for adaptation to situations without mandating the process through detailed legislation dictating each step is highlighted in this case.*

<i>Cases and Studies Concerning Community Capacity Issues</i>

The following reports, studies, and cases outline specific strategies as well as lessons concerning community capacity building issues for individuals as well as traditional organizations and institutions. The main points concerning effective capacity development are:

- 1) The need for capacity training originating from both the community and traditional organizations and therefore seen as legitimate (community wants it; they are ready for it);
 - 2) Communities and organizations should have the opportunity to test new skills; and
 - 3) The capacity training is targeted at the right level (e.g. individual, village, municipal, etc.).
- Two general studies on working with traditional peoples world-wide: One way to address community capacity is to insure that villages have opportunities to share their experiences with one another. This will accomplish several things: by communities learning from each other, models of effective strategies/structures are more easily accepted and adopted by other communities because they are seen as credible sources for such information and can relate to each other better (as opposed to the state or NGOs); such exchanges will build confidence among community members regarding their work; it also sustains awareness raising and understanding of issues; and finally information access and flow is supported. Similarly, capacity building efforts must: 1) ask if the traditional organizations and people are appropriate in taking on new capacity roles; 2) if capacity needs are identified by the communities themselves or by other, outside entities (relates to issues of ownership and motivating incentives for involvement); 3) insure that capacity building measures have the opportunity to be utilized and false expectations are not created; and 4) start small to build confidence, support, and

experience in these new roles and responsibilities (Oviedo et. al, 2000). Such sharing between villages can also serve as catalysts of scaling up CBNRM from the village level to larger municipal levels (Singh et. al, 2000). ***This study cites capacity transfer between peers as a critical strategy for developing capacity within communities. It also highlights process issues such as assessing appropriate fit of capacity needs and providing opportunities to practice newly developed skills as affecting efficacy of capacity building.***

- **A study on community involvement and forest conservation:** Developing capacity with leaders is crucial. Effective leadership skills consist of group organization skills, the conducting of meetings, problem identification and problem solving skills, planning skills, team building, and communication skills. Useful training methods are method demonstrations, results demonstration, group discussions and practice, study tours, case studies, role playing, apprenticeships, and games (French and Geocolea, 1986). ***This study highlights the critical role leaders play in effective management and the types of skills necessary for leadership. Most of the capacity items identified organizational, analytical, and human interaction skills.***
- **World Wildlife Fund report on working with traditional peoples:** With regard to capacity building of traditional organizations and institutions, World Wildlife Fund recommends in its report on indigenous and traditional peoples: 1) ensure such organizations see the relevance for capacity building; 2) organizations, rather than individuals, are the focus of such efforts, and 3) provide opportunities to test and use newly acquired skills (Oviedo et. al, 2000). ***This study also echoes the point that capacity identified for development must be legitimate in the eyes of the organization, are focused at the organizational level (versus individual), and provide opportunities to test new capacities gained.***
- **Lake Mbuoro National Park, Uganda:** Even if traditional organizations may not be applicable, melding of both western approaches with traditional organizations can occur. In the case of community conservation in Lake Mbuoro National Park in Uganda, Park Management Advisory Committees were created that followed community designated political units called parishes. The choice to institute management at the parish level was made based on concerns of the committees being co-opted by local politicians at the village level. However, this decision also had a drawback in that parish level committees also suffer institutional weakness because they are not as close to villages as village level institutions. One other issue that has proven problematic for efficacy of these committees is the uncertainty many members felt about their roles (Hulme and Infield, 2001). ***This case shows that capacity not only deals with developing new skills, but also relates to organizational issues such as clarity of roles and working at the right level (e.g. village, municipal, state).***

Though capacity building is an integral part of community-based initiatives, it must also be noted that there are certain situations in which capacity-building may not be appropriate or viable. In the Kajiado district of Kenya, traditional institutions are being disrupted by wealth differentiations and are no longer based on kin relationships (Woodhouse, 1997). This situation highlights limits to capacity building of traditional organizations. Such institutions may be realistically unable to deal with outside pressures and external forces.

General Lessons Concerning Community-Based Approaches

The following cases and studies, which also confirm some of the points already mentioned in previous examples, also highlight general lessons learned by projects when involving communities in natural resource management. In particular, they stress these three realities about engaging in community-based approaches:

- 1) Community-based approaches are long processes;
 - 2) Communities are not the sole solution if problems arise from outside it; and
 - 3) Identifying influences behind incentives and motivations for conservation behavior is critical.
- Community-based eco-tourism, Papua New Guinea: Project managers of a community-based eco-tourism initiative in Papua New Guinea learned several lessons as they conceptualized and implemented their project. They learned that it takes time to get to know the community (for them 3 years) and for the community to get to know you; they did not verify if the community was interested or even ready for a conservation and development project; they raised expectations by coming in with funding, supplies and their positions as project officers; they learned that making everyone happy was not possible; the interest and capacity of the community to develop such a project is critical; and cultivating the right people for the job was important (Salafsky, 1999). ***This case highlights some of the realities of implementing community-based approaches, such as the long process, not raising expectations, insuring the project is wanted by the community, and that satisfying all members was not possible.***

- A study on collaborative coral reef management: Though communities have the ability and power to address natural resource management problems, community-based management cannot solve problems that originate outside of communities (e.g. external economic forces). This conclusion was reached as part of the lessons learned conducted of community-based management of coral reef projects (White et al, 1994). As such, government and NGO involvement is necessary to assist communities in mitigating these effects. It was also found that physical destruction of resources were easier to address through community-based approaches as communities could directly experience these problems and see it for themselves. It was also noted that communities not dependent on the natural resources would not respond to community-based management approaches. ***This study highlights the fact that collaboration with other entities (e.g. NGOs, government, etc.) is critical when communities are addressing problems that originate from outside it. Also, community-based approaches only work when communities directly rely on the natural resource.***
- A study of communities and conservation cultures: This study found that conservation behaviors are primarily motivated by self-interest, which in turn is affected by religious and ethical imperatives (primary), direct and immediate financial returns (secondary), availability of natural resources, provision of ecological services, fulfillment of aesthetic and recreational needs, availability of resources to meet future needs, regulation and enforcement by external agencies, and ecological security in relation to national and global policies (Singh, 2000). ***This study highlights the need to critically understand what influences incentives and motivations driving conservation behaviors.***

Improving the Division of Forestry's Capacity

Capacity building applies not just to communities, but to state agencies as well.

This need for improved capacity of state agencies was a common theme in many of the case studies. For example, as noted for participatory conservation planning in Madagascar, “for a collaborative multi-institution approach to work, particularly with new emphasis on forests outside of parks, institution-strengthening is essential. Human resources management, staffing, and the technical capacity of DEF [forestry department] and regional agencies must be examined and improved systematically” (Hannah, 1998). Authors Andrew Venter and Charles Breen also note that one of the key factors for the success of integrating protected areas into local systems is “the development of capacity

of the protected area staff and other local natural resource management stakeholders to plan, implement, monitor, and evaluate joint venture development opportunities” (Venter and Breen 1998, 813).

Indeed, a review of community wildlife management programs in Africa revealed efforts suffering from deficits on the part of state agencies such as “lack of motivated staff...unsatisfactory links to government structures and support, failure to adopt intended participatory approach, and inability to meet the basic needs of the communities and raise interest among community members” (Songorwa 2000, 639). In a report on park management and people, the authors point out that “most agencies lack equipment and the most basic technical expertise. Field staff are often poorly paid, ill-equipped, ill-trained...these constraints ensure that most park management agencies lack the inclination or capacity to respond constructively to local people-park issues” (Wells et. al 1992, 49). In the case of Pohnpei, this lack of capacity lead to what James Manor calls “decentralization by default,” in which decentralization occurs because government institutions prove ineffective at managing so that other entities (e.g. communities, NGOs) step in to take over (Manor, 1999).

As the examples above illustrate, lack of capacity on the part of state agencies has serious implications for the success of collaborative projects. Unfortunately, most of the cases reviewed offered very general recommendations such as improving capacity or providing training to state agency personnel. In order to address these issues however, organizational culture, limited budgets, and inflexible policies must be addressed (and change supported) by public officials higher up than the administrative system. These individuals must also be able to identify sources of information and capacity training

needs as well as locate funding for such initiatives. Capacity building is particularly important in the case of participatory management since state agencies must prepare to take on new roles and responsibilities as co-managers or advisers. Additionally, authors Hulme and Murphree also found that it is critical for managers of community-based approaches to have the opportunity, through networks or other forums, to share ideas and experiences in order to develop confidence, gain encouragement, and reflect on efforts. In terms of developing capacity to improve relations between communities and the DoF, one of the recommendations out of a study of community management in forests was for the government to have a coordinating office that would serve as a liaison between the forestry department and communities (Asian NGO Coalition, 1991). In these ways, collaborative initiatives may be able to assist state agencies with such needs. Some of the recommendations concerning community capacity building can equally be applied to state agencies as well.

Developing Political Will for Participatory Management and Commitment to a Collaborative Approach

There exist numerous examples around the world where the state assumed management (sometimes forcibly) over natural resources from communities or local governments. Such cases are particularly prevalent in formerly colonized areas of the world (e.g. South and Southeast Asia, South America, Sub-Saharan Africa). Often, the state assumed regulatory control of such resources in the belief that it would be better managers, either by protecting the natural resource for the benefit of all citizens or by more efficiently developing these resources for economic growth of the country. States also believed that their scientific capacities and trained personnel lent them toward better

management of areas. However, what often occurred as a result of state intervention over natural resource management was conflict with people that increased destruction of these areas and natural resources (Dauvergne, 1998, Fox, 1993, Potter, 1993). The reason behind this increase in destruction is that community access to these resources was denied or opened to broad public access thereby de-linking motivations of communities to sustainably manage and care for these areas. In addition, states were not immune themselves to pressures of economic growth and the interests of businesses, which, in the case of Indonesia, led to state forests being more severely threatened by logging than when the forests were under the control of villagers (Peluso, 1992).

Such a legacy of state control has led to the state implementing management structures not tailored to specific areas or issues as well as an attitude by state agency personnel that such areas must be protected *from* communities, not *by* communities. Such attitudes pose problems when joint management and decision-making with communities is considered as alternative systems, as often occurs in community-based natural resource management. In “Evaluating Comprehensive Community Initiatives: A View from History,” author Alice O’Connor similarly notes “the difficulty of achieving...institutional reform” as a consistent challenge of community initiatives (O’Connor, 1999). Reasons behind government reluctance to commit to a shared authority approach with communities for wildlife management in Africa are similarly laid out as: 1) wildlife is seen as a national heritage that should be centrally managed to benefit all; 2) fear of losing bureaucratic power; and 3) views toward community participation as threatening to government authority and economically damaging for the country (Songorwa, 2000).

However, support by the government (whether at the state or municipal level) is a critical factor for moving community-based natural resource management forward and is a consistent theme in many cases. Political will (defined as state willingness and commitment, via key leaders and within organizations, to engage in collaborative approaches with communities to meaningfully involve them in management of natural resources through joint management or shared decision-making) is critical because it also affects the viability of sustaining collaborative initiatives with communities. As was noted in an analysis of CBNRM in Namibia, “the length of time it has taken for the government to effect policy and legislative reform from the time when this was first discussed with pilot communities has led to individuals losing faith that any change would really occur, undermining the momentum of conservancy formation” (Jones, 1998). Similarly, a factor related to the failure of community conservation approaches in Africa is when conservation agencies set unrealistic limits on the extent to which they will share their powers (Adams and Hulme, 2001). In looking at integrated conservation and development projects and necessary preconditions for their effectiveness, author Michael Wells noted that legislation supporting such initiatives was critical (Wells et. al, 1992). In looking at governance issues in Kenya, author Philip Woodhouse argues that without political will for sharing authority at the state (e.g. center) level, no amount of work conducted at the local level to develop capacity for shared authority will lead to such a power-sharing structure, “Any redistributive goals of devolution of control of natural resource management must be contingent on the political nature of the central state. Reform at local level cannot therefore be a substitute for a progressive political agenda at the center” (Woodhouse 1997, 546).⁷¹

⁷¹ The terms *devolution* and *decentralization* (appearing later in this section) should be read as

The following cases and studies reveal: 1) how some states demonstrated commitment to participatory management with communities; 2) benefits to the state for adopting participatory management approaches; and 3) key factors for successful participatory management.

Cases Featuring How the State Demonstrated Political Will and Commitment for Participatory Management and Collaborative Approaches

The following cases outline how governments supported shared management authority with communities. Specific methods utilized were legislation adopting traditional management systems, legislation giving communities decision-making authority to designate and manage conservation areas, and legislation authorizing village councils to manage forest areas. The overall lesson tying all three cases studies was government support of shared authority with communities through legislation. Legislation exemplifies genuine government commitment to a collaborative approach with communities and also holds the state accountable and legitimizes the participatory management process. Legislation also acknowledges communities as critical partners and provides them with incentives to manage areas as a result of ownership through the decision-making process. (This lesson provides support for efforts by the Pohnpei watershed management program to lobby Senators and the Governor to amend the rules and regulations of the 1987 law to include joint management and decision-making authority with communities).

participatory management, in which management authority and decision-making are shared with other parties. Communities in particular should be given meaningful involvement in management of natural resources they are affected by. When seen in text, decentralization and devolution should not be viewed, as is normally the case, as the state government transferring all of its management responsibilities to communities or to another party/organization. Therefore, the objective of decentralization and devolution, as used in this analysis, is developing effective management (not the whole transfer of authority from the state to other institutions) via participatory management systems.

- Mollusk conservation, Indonesia: Faced with unsustainable harvesting of mollusks in Indonesia, the government legislatively adopted *sasi*, a traditional resource management system which had successfully regulated access to and harvest of mollusks in the Moluccas, through changes in its legislation and natural resource management policies. This adoption provided communities with incentives to sustainably manage mollusk populations despite commercial pressures (Zerner, 1998). ***This case shows how government supported community involvement in managing resources through legislative adoption of a traditional management system.***

- Communal conservancy areas, Namibia: Policy and legislative frameworks for creating conservation areas in Namibia is community-based and flexible enough to adapt to local situations. Under legislation, communities can decide for themselves if they want to adopt a conservancy approach for their area; communal area residents can define ‘community’ for themselves; the legislation does not dictate who should represent a community on committees; and communities decide for themselves how the income generated from wildlife and tourism should be used (however, such flexibility does have its drawbacks in that existing tensions within communities between different groups and even traditional leaders may create more conflict as communities attempt to decide such issues for themselves). The issue of co-option by local elites was addressed by not having specific positions designated to traditional chiefs on the management committees. These committees were elected positions. (Jones, 1998). ***This case study again notes community decision-making authority housed in legislation designating conservancy areas.***

- Village forest councils, India: An amendment to the Indian Forest Act of 1924 established village forest councils. These local forest councils had elected members who supervised the management of forests and were paid through collections from villages for access to the resource. Part of these funds also paid for a watchman to enforce regulations and sustainable harvesting (Gadgil and Iyer, 1989). ***This case study shows legislation identifying a community institution authorized for management of the natural resource.***

<p><i>Studies Outlining State Benefits of Participatory Management and Building Understanding of the Need for Participatory Management</i></p>
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One way to cultivate political will to support participatory management and build understanding for its need is to outline the benefits such an approach could bring to the state. The following two studies mainly highlight:

- 1) Improved relations with communities and sustainability of initiatives; and
- 2) Comparative advantage of delivering services and fulfilling responsibilities.

- A study on the political economy of democratic decentralization: Author James Manor, who analyzed the political economy of democratic decentralization, discusses the many advantages decentralization can bring: increasing participation and involvement in activities; improving the speed and quality of government response to community needs, increasing the information flow between the government and communities, and increasing sustainability of projects (Manor, 1999).⁷² ***This study notes decentralization supporting quality participation, a more responsive government and better relationship with communities, and sustainability of initiatives.***

- A study of the role of municipal governments, Central America: This study describes the comparative advantages municipal governments have over state governments when dealing with certain issues. Though the context is more development and government services oriented, many points still apply to the conservation context. In analyzing the reconstruction and transformation of municipal governments in Central America, author Mark Gallagher noted the following comparative advantages municipalities have over central governments: local governments, due to their proximity to local situations and electorates, are better situated to more effectively execute programs; as a result, municipalities are more effective at mobilizing communities and increasing participation; and proximity also breeds greater transparency of municipal activities. Gallagher does mention however that not all municipalities are equal and as such, the advantages listed may not be true across the board (Gallagher, 1999). ***This case study highlights the importance of analyzing comparative advantages of different parties and organizations for shared management authority.***

<i>Studies Highlighting Key Factors Influencing Effective Participatory Management</i>
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The following studies feature key factors influencing successful participatory management efforts. They mainly involve:

- 1) Allowing adequate time for transfer of authority;
- 2) Development of capacity to take on new roles and responsibilities;
- 3) Existence of accountability measures (thereby instilling trust in the organizations and decentralization efforts); and
- 4) Recognizing hazards of decentralization to counter negative outcomes.

⁷² Manor also outlines situations in which decentralization has little promise and should not be considered: reducing overall government expenditures, performing tasks that are merely delegated (without authority) by the central government, promoting planning from below (often problematic because of administrative capacity deficits), and promoting community participation development (usually because communities distrust government initiatives and decentralization creates authorities above the community levels which have differing needs).

- A study of decentralization cases, Africa: Decentralization must also occur over a staggered time period to allow municipal governments as well as communities time to develop capacity and experience in taking on these new roles and responsibilities. If decentralization occurs too quickly or abruptly without such preparations the success of the project will be affected (Kiss, 1990). This sentiment is also shared by authors David Hulme and Marshal Murphree who analyzed community conservation in Africa, “local institutions have to develop their managerial capacities and so it is best to plan for a sequenced build-up of responsibilities in line with the development of their capacity” (Hulme and Murphree 2001, 294). They go on to state, “devolution needs to focus on creating ‘nested sets’ of institutions - at different levels of scales and sometimes involving federations of local organizations-rather than an all-powerful authority” (Hulme and Murphree 2001, 294). ***This case study noted the critical role time and capacity building play in successful transfer of authority for participatory management.***
- A study on the political economy of democratic decentralization: Four factors noted by Manor as critical to successful decentralization efforts are: 1) systems/institutions must have sufficient power to exercise influence within the political system and over project activities; 2) they must have appropriate funding to function; 3) they have administrative capacity to undertake activities; and 4) they have accountability measures to both communities and the government (Manor, 1999). ***Similar to the previous study, this study also notes allowing for adequate time and capacity (including decision-making authority) for effective decentralization. The existence of accountability measures to communities and government was also cited.***
- A report on empowering civil society to monitor the environment: A World Bank report noted that local institutions are most effective when they have the trust of the communities they purportedly represent, are deeply committed to their constituents, have sound experience related to functional roles and responsibilities, are willing to let communities decide issues, and possess managerial as well as institutional capacity (Ariasingam, 1999). ***This study notes decentralization will not be successful if the institution receiving the decentralization efforts is not representative, accountable, or have the trust of those it serves.***
- A study on governance and local environmental management, Africa: Ultimately, efficacy of institutions rests on whether or not different users will be able to agree on a set of rules to govern use over the resource. However, institutions must also have: 1) clear boundaries of membership to the group; 2) clear boundaries for the resource area; 3) effective and transparent monitoring; 4) shared information flow between user groups; 5) homogeneity and small number of user groups; and 6) homogeneity in user group preferences as well as endowments such as wealth and assets (Woodhouse, 1997). ***This study notes that efficacy of local institutions***

relies on capacity to manage the area and representative groups that have commonality.

- A study of CBNRMs and local institutions: In another study looking at CBNRMs and local institutions, the disadvantage of focusing CBNRM in local governments was seen as their overall weakness compared to the central government with regards to limited revenues, staff, expertise, and legal authority. As such, efforts to manage natural resources may succumb to abuse and outside pressures such as business interests and local elites (Uphoff, 1998). Another potential danger is if decentralization occurs without being tied to accountability mechanisms. There is a danger that decentralization increases pressure on natural resource extraction in order to generate income for municipal needs. ***This study highlights the need to consider potential pitfalls of decentralization (e.g. limited staff, expertise, revenue creating vulnerability to outside pressure and abuse) in order to avert negative outcomes.***

Despite the many advantages of participatory management, very few projects have actually attained true co-management in which communities have joint responsibilities over management and are decision-makers over the natural resource. At a conference looking at the histories and politics of community-based natural resource management, it was found that CBNRM was often one in which communities were sources of labor rather than equal partners determining management strategies and structures. Such a model was often driven by the need to cost-save and originated from international agencies and multilateral financial institutions or national governments (Tsing et al, 1999). In another analysis of CBNRM where governments involved communities through public meetings, workshops, committee elections and field trips at the Okwa Wildlife Management Area in Botswana, it was shown that “although an element of choice was implied in the projects being presented to the communities, it became clear that only certain avenues were supported by the government and these were the ones most likely to succeed” (Twyman 2000, 328). Still other cases translated

participation as communities merely receiving benefits of the conservation program while governments or NGOs maintained control of management (Kiss, 1990).

Increasing Communication Between Groups and Improving Overall Coordination

In looking at integrated conservation and development projects and preconditions necessary for their effectiveness, author Michael Wells noted that realistic institutional arrangement for project management is critical (Wells et. al, 1992). Author Alice O'Connor similarly noted that community-based initiatives often suffer from a lack of “genuine integration among the individual components that make up community-based initiatives—making the whole more than a sum of its parts” (O'Connor, 1999). Given the multiple parties involved and multiple strategies used that often characterize collaborative initiatives, many cases often developed a coordinating organization or committee to manage these issues. These coordinating entities not only assisted with actual implementation of project activities, they also benefited projects by serving as a forum in which all involved could share ideas with one another, build relationships, support motivation, build confidence, address conflict management, and keep misconceptions and misperceptions from hindering project momentum.

This last point concerning the implications of misperceptions on project success is illustrated by a case study of participatory management in St. Lucia for harvesting of sea urchins. Though there existed a co-management agreement between the Department of Fisheries and harvesters, interviews conducted by the author of the case study revealed that perceptions of how well the co-management agreements were being conducted differed significantly (note that though a co-management agreement existed, there was no

on-going committee involving all the parties to monitor implementation and provide an opportunity for parties to interact). The Fisheries department believed they had “advanced along the road of participatory management compared to the dominant top-down approach...[while] the divers on the other hand do not perceive themselves as sufficiently empowered, nor their occupation as valued as it should be [despite the co-management agreement]” (Warner, 1997). This difference in perception has led to ineffective monitoring by divers for illegal harvests.

Having such a coordinating body would also avoid the pitfall of creating too many new institutions that could negatively affect community involvement. An example is community wildlife management programs in Africa where attempts to share authority with communities have created additional layers of bureaucracy that are beyond the ability of communities to manage and do not serve their interests (Songorwa, 2000).

A coordinating body is also critical in keeping projects focused, moving forward and sustainable. The environmental management committee created for a marine sanctuary in the Philippines was key to holding the initiative together because it focused activities and allowed parties to stay independent of outside entities such as NGOs or governments. For conservation of coral reefs and fisheries in St. Lucia, various resource users mobilized and organized to create an association to more effectively address issues affecting the reefs thereby increasing responsible reef management among users. Prior to the creation of this association, issues were dealt with by the government in an ad-hoc manner with parties often competing against one another at cross-purposes and to the detriment of the resource.

A coordinating body can also reduce the lag-time between updating working plans for a project, often a problem that creates disincentive for all parties to sustain participation (Shen and Contreras-Hermosilla, 1995). The gap, and the subsequent problems, that often occur between theoretical arrangement for natural resource management and actual implementation can be more readily addressed by having such a coordinating body on hand.

Studies, Reports, and Cases Highlighting Key Factors to Consider When Designing and Structuring Coordinating Institutions and Collaborative Alliances

When considering the design and structure of coordinating institutions and collaborative alliances, the following examples provide criteria and lessons for consideration. The summary of key characteristics of an effective coordinating body and collaborative alliances include existence of:

- 1) Structural elements (e.g. dedicated people that effectively represent constituents, understanding and trust between parties, standardized operating procedures with clear rules and understanding of shared goals, credible process, and clear authority over management); and
 - 2) Performance elements (e.g. information collection and sharing for quality decision-making, management of incentives and benefits, continual training for capacity development, and continuous feedback and flexibility to practice adaptive management to changing situations).
- **Studies on effective alliances:** According to a report done on effective alliances in conservation, a coordinating body should be simple, have clear goals at the start, have parties play appropriate roles according to their comparative advantages, and practice active balancing and management of benefits and costs of such an arrangement. Additional principals for effective alliances are allowance of decision-making at appropriate levels, securing strong leadership, strengthening management capacity, and being flexible and adaptable to changing circumstances in the project (Margoulis et. al, 2000). Institutions must also have clearly defined roles in order to be effective (Salafsky et al, 1999). ***These reports highlight the need for clarity of goals and party roles, managing incentives,***

consideration of appropriate levels of decision-making, and capacity in the form of flexibility and good leadership.

- A study on weak institutions and conservation of tropical biodiversity: Another analysis defines the following criteria as necessary for building an institutional structure or organization when faced with a dearth of ineffective institutions (at the community and state government levels): 1) have the authority and willingness to restrict access and use; 2) offers incentives to use resources sustainably; 3) have the capacity to monitor; 4) and possess managerial flexibility to address changes in conditions through decisions on rules of access and incentives (Barrett et. al, 2001). ***This study notes that the organizational institution must have the authority and capacity to manage. Similar to the previous example, flexibility for adaptive management and managing incentives was also mentioned.***
- Chesapeake Bay Commission, the U.S.: Several lessons were learned about design of such coordinating bodies by the Chesapeake Bay Commission, an advisory committee to implement bay-wide regional management policies. The group eventually disbanded because members of the groups represented their organizational interests rather than expertise, therefore discussions failed to go beyond how to proceed with management. Also, there were problems with collection and quality of information as lag time between reports on interstate fisheries issues affected group commitment and confidence about the quality of the recommendations they would put forth. Finally, the group lacked clear goals and objectives as well as no motivation for developing implementation strategies as they were only an advisory group with no authority to put forth any management plans formulated (Buck, 1989). ***This case outlines the need for coordinating bodies to rise beyond organizational interests (e.g. positional stances), collect high quality information for decision-making, have authority to influence management (e.g. decision-making), and possess clear shared goals.***
- Phuket Coral Protection Strategy, Thailand: One of the lessons learned by the Phuket Coral Protection Strategy in Thailand was that coordination between public and private sectors (and between national and local levels of government) was critical and that focusing on tangible efforts in the beginning was necessary for relationships to succeed (White et al, 1994). ***This case highlights the need for continuous coordination between all parties. Initial efforts were successful due to a focus on tangible benefits for all parties.***
- Lessons in collaboration, the U.S.: With regard to process, authors Julia Wondolleck and Steven Yaffee outline the following guiding principles for effective collaborative resource management: the process should be credible to those involved, informed to assist with decision-making, efficient to avoid frustrations and loss of motivation, compelling to all parties, accountable to those within and without the collaborative initiative, and adaptive (Wondolleck and

Yaffee, 2000). *This study notes the critical role process plays in influencing effective collaboration.*

- The role of individuals and representatives: It will be critical for a coordinating body to have dedicated and dynamic individuals involved as this is often cited as a key factor in maintaining viability (Kiss, 1990, Wondolleck and Yaffee, 2000). Also, the participants in a coordinating body or collaborative institution must be able to effectively convey the reasons behind management decisions to their constituents (Kiss, 1990). *Involvement of dedicated individuals that effectively represent constituents is key according to these studies.*
- Lessons in collaboration, the U.S.: In a review of over 200 collaborative initiatives in the U.S., authors Julia Wondolleck and Steven Yaffee noted collaboration is less successful if the following occurs: unfamiliarity with process management; lack of process and interpersonal relationship skills; and not managing the effects of outside events and activities to the collaborative and representative organizations. Keys to overcoming barriers to collaboration were: allowing for a long time-frame for iterative decision-making; creating a process that develops cooperation based on reciprocity and long-term relationship building; building a shared vision and clear, common goals; having rules to govern interactive behaviors; and building understanding and trust among parties (Wondolleck and Yaffee, 2000). *This study notes that collaborative approaches rely on knowledge relating to process management and interpersonal skills, managing affects of outside events, taking a long-term view in developing shared objectives and relationships, and building trust and understanding among parties.*

Part of improving overall coordination also involves practicing adaptive management whereby projects continually monitor project activities regarding effectiveness as well as revisit assumptions that led to selection of strategies. Adaptive management allows for the collection of information necessary for participants to make strategic decisions concerning management of the project, ultimately affecting efficacy (Salafsky et al, 1999). For example, managers must continuously monitor the incentives and pressures that may affect party involvement and behaviors. Examples of factors influencing behaviors can be socio-cultural, resource access, skills, options available, laws, values, policies, economics, social norms, knowledge and gender (Byers, 2000).

Some organizational and management issues to be aware of when conducting monitoring and evaluation (M/E) are pointed out by a study of comparative M/E efforts in Southeast Asia. They are:

- Project managers are often overburdened with information overload;
- Inter-departmental coordination in multi-agency projects is problematic and could benefit from having one coordinating agency;
- M/E information is not used toward addressing problems or changing project strategies (related to adaptive management is lack of decision-making or support to make such changes);
- M/E is not institutionalized and therefore suffers from inadequate implementation and organization (thereby affecting efficacy of information collected);
- M/E suffers from inadequately trained staff, budget and transport facilities as well as computer capabilities;
- M/E suffers from truthful reporting of results by projects for fear of losing support and future funding.

The same report goes on to recommend that when designing M/E, projects should consider 1) what should be measured; 2) for whom it should be measured; 3) why it should be measured; and 4) how it should be measured (Khan, 1990).

Mitigating Effects of a Shift to a Cash Economy

Pressures imposed by outside interests have an enormous impact on conservation and sustainable management of natural resources. An example from Indonesia highlights this point directly. Efforts to conserve Gaharu, a valuable wood, in the Kayan Mentarang National Park in East Kalimantan face pressures from encroachment by villagers (often young men not familiar with traditional sustainable collection techniques). These villagers are organized and paid by companies for collection of such wood (these villagers are also often in debt to these companies which provide loans to purchase western goods so that villagers have no other choice but to continue harvesting Gaharu in order to earn the income to pay back such loans) (Momborg et. al, 2000).

In an effort to combat some of these economic forces and outside influences, conservation efforts have historically moved from straight protectionist measures (e.g. parks) to sustainable resource use approaches (e.g. integrated conservation and development). However, ICDPs have had an uneven success rate at mitigating effects of a shift to cash economies. Uneven success is most often the case because projects cannot generate enough financial benefits to be equitably distributed among communities, thereby increasing tensions within and misconceptions about projects and the perceived benefits delivered by a conservation project (Gillingham, 1999). Aside from ICDPs, none of the case studies reviewed had other recommendations for how projects might deal with challenges of a cash economy. Indeed, one criticism of the CBNRM approach is that projects require people maintain a traditional lifestyle despite the economic development and influences that may make such a scenario impossible. As such, CBNRMs may not provide communities with the flexibility to adapt to these new circumstances because the end goal is conservation of a certain area or natural resource (Hackel, 1999).

However, one way to mitigate outside influences on traditional systems is educating those involved of the ways in which such systems work in the hopes of creating adaptive processes. According to author G.B.K. Baines, traditional resource management systems in the South Pacific are unlikely to survive under the forces of economic development without the support and intervention of government. The large value in the increase in access to these resources is the challenge. Baines recommends increasing the understanding of various entities, (e.g. government, development planners, international economic-assistance institutions), of the nature of traditional resource-

management systems and how to work with the processes of decision-making within these institutions (e.g. consensus-based, slow in nature). Just as outside entities must be educated on traditional resource systems, traditional resource managers must also become better informed on how to interact with such outside entities and the resulting implications as well as possible benefits of such associations (Baines, 1989).

CONCLUSION AND RECOMMENDATIONS

Watershed management on Pohnpei continues to evolve since initial efforts began in 1987. The different approaches and trials faced during its sixteen year history are testament to the complexities of natural resource management and the continual challenges faced. Current strategies continue to build upon the work and lessons of the past as well as inform future approaches. The multiple cases and studies of varying collaborative approaches to resource management reviewed from around the world in Chapter Five are also testament to the fact that Pohnpei does not face these issues and challenges alone. In particular, when adopting collaborative and community-based approaches, both the Pohnpei experience and other case studies reviewed provide insight into the particular challenges and successes such approaches bring. Given the role of personal relationships, conflict avoidance, and consensus that is characteristic of Pohnpeian ways, collaborative and community-based approaches are integral to natural resource management on this island.

This analysis suggests that six key factors underlie effective, collaborative natural resource management: 1) **commitment** to a collaborative approach at multiple levels is present; 2) appropriate **incentives** are evident at multiple levels; 3) **capacity** exists at multiple levels; 4) **accountability measures** are incorporated; 5) **coordinating structures** that manage and sustain productive interaction are present; and 6) **long-term perspectives** and **adaptive management** approaches have been adopted. Each factor is

linked in the following discussion to specific recommendations and steps the watershed management program might consider taking as it moves forward.

1. Commitment to a collaborative approach at multiple levels is present.

Collaborative approaches are most likely to succeed when involved parties are committed to it. Such commitment is built on understanding of the issues and a need for a collaborative approach that is identified by all parties involved. Additionally, identifying decision-makers that can affect approaches and strategies (whether by moving them forward or hindering them) is also important as their commitment to collaborative approaches is also critical. For Pohnpei, this commitment to collaboration is particularly lacking on the part of the state. To address this issue, the watershed management program should:

- ***Continue working with key political decision-makers for participatory management legislation:*** Specifically, the watershed program should continue to work with the state (through senators and the governor's office) to legislate and legalize shared authority of management and enforcement responsibilities with appropriate parties (e.g. municipal governments and communities). Without such mechanisms, the legitimacy of participatory management and realistic sustainability of watershed activities (particularly enforcement) is doubtful. This legislation will also allow the Division of Forestry to work with other parties as committed collaborators.

2. Appropriate incentives are evident at multiple levels. Understanding the incentives and motivations that influence parties (particularly their behaviors, actions they may take, and activities they may engage in) is very important. Developing approaches and strategies without such understanding can lead to setbacks, delays, and dead ends. In the case of Pohnpei, incentives for effective watershed management are rooted in enforcement, personal benefits, resource benefits, and ownership of the problems and process to address the issues. To address this issue of appropriate incentives, the watershed management program might:

- ***Stop encroachment by other municipalities:*** The watershed program may want to consider addressing the issue of encroachment into watershed areas by other municipalities.⁷³ Control of such encroachment is important as without it, people who practice conservation behaviors toward watershed management activities are not supported. Encroachment by others provides a disincentive to continue stewardship activities as benefits accrue not to the person managing resources sustainably, but to the encroacher.

- ***Find ways to engage uncertain traditional leaders:*** Given that the CBNRM approach in Pohnpei relies heavily on gaining the support of and working through traditional leaders, the program needs to address those situations when traditional leaders are not supportive, do not represent community views, or co-opt watershed activities for their own purposes. How is watershed management to be conducted in these situations, particularly enforcement of the WFR? Though there are no easy solutions to address this challenge, developing understanding of the motivations and incentives influencing a traditional leader's actions can help. From such understanding, strategies to mitigate effects of such traditional leaders can be developed.

- ***Increase activities targeting commercial sakau farmers:*** Related to enforcement and gaining support of key stakeholders, the watershed program could benefit from targeting specific commercial sakau farmers and engaging this group as part of their work. During the interviews, it seemed that the NGOs as well as state agency officials had negative views toward the commercial sakau farmers, believing that the only way to counter their activities was through strict enforcement (versus education or working with the communities). However, when the author spoke with some sakau farmers (whom also held negative viewpoints concerning NGOs and the state and opposed the WFR) and presented several different alternatives related to zoning certain areas for planting activities outside of the WFR, they seemed open to pursuing these options and their initial opposition to the WFR changed. Given this willingness to consider alternative options and as a parallel to establishing enforcement, the watershed program might consider engaging commercial sakau farmers directly to address trust and misconception issues in order to explore a

⁷³ Control of such encroachment was seen by El Vizcaino Biosphere Reserve in Mexico to be critical, “outside encroachment a common problem in biosphere reserves creates powerful disincentives for community-based resource stewardship and conservation” (Young, 1999). Young suggests that such encroachment could be minimized through creating exclusive access privilege for year-round residents via permit distribution control. Such control would provide residents incentives to continue managing the resources (in this case marine life) sustainably. Additionally, efforts to engage communities in enforcement should be concentrated on communities that directly share the WFR boundary. Work in Urumwa Forest Reserve in Tanzania showed that developing understanding and partnership with this key, core group was necessary before engaging other parties (Wily and Dewees, 2001).

range of options that meet the needs for all parties and help to increase sustainability of the WFR.

- ***Discontinue financially based integrated conservation and development projects:*** Though not an ICDP project, the watershed program has attempted to merge, on a small scale, conservation and development activities through projects such as sponge farming, eco-tourism, and non-timber forest production. However, as a strategy, the watershed program may want to consider discontinuing such ICDP activities as the revenues are not large enough to off-set the negative impacts such activities can bring if not done successfully. Additionally, these projects are often aimed at tourists in order to make such projects viable, and require heavy capacity building measures and commitment. However, Pohnpei does not experience enough tourist traffic to support financially based ICDPs. The result is often frustration on the part of participants and disillusionment due to unmet expectations of financial rewards. Instead, the program might continue activities which do not require new capacity building measures and benefits are accrued to the whole community and not measured through financial gains (e.g. marine reserves and the return of increased fish populations enjoyed by the communities).

3. Capacity exists at multiple levels. Collaborative approaches often entail developing new skills and understanding to fit unfamiliar roles and responsibilities parties may have to take on for collaboration. Capacity building also includes education on the issues to develop understanding of the need for collaboration in order to address these issues. To address capacity, the watershed management program could:

- ***Re-evaluate community participation approaches to better understand incentives for capacity needs:*** The watershed program could benefit by reviewing its approach to working with communities to determine if it is truly participatory and people perceive that they are meaningfully involved in the decisions and institutions that affect their lives. Specifically, the program could re-evaluate its understanding of incentives for community participation and its process of engagement (e.g. address community priorities, livelihood dynamics, concerns, past experiences, ownership issues).⁷⁴ This point is made because many of the capacity challenges identified originated from the NGOs or government agencies, not communities. The fact that comments from the communities

⁷⁴ Author Chasca Twyman notes that problems concerning sustaining initiatives and apathy in participation may result from the fact that the process of engaging communities does not address their priorities, livelihood dynamics, concerns or past experiences, thereby making communities feel that the project is not truly theirs to begin (Twyman 2000, 331).

mentioned conflicts with watershed activities and daily livelihood activities reveal capacity issues not reflecting community priorities.

- ***Determine the appropriate type and level of participation as well as required institutional support for such participation:*** The watershed program may want to consider what kinds of participation watershed management requires in order to reach its objectives. Community participation can come at many levels (e.g. decision-making, implementation, benefits development, evaluation) and not all communities may wish to be involved at every stage (Cohen and Uphoff, 1980).⁷⁵ Related institutional frameworks and processes must also be understood to support each approach to participation. The program should take time to assess these stages as well as the quality of community participation by reviewing questions such as: 1) who is participating, why are they participating, and how are they participating (are they framing the questions to be asked?); 2) is the power and social dynamic affecting the quality of participation?; and 3) is participation improving community ability to be involved in such a role and to act collectively in the community interest (McAllister, 1999)?
- ***Focus on the assets of communities, not deficits, to develop realistic capacity for needed management:*** The watershed program might also focus on the assets communities possess for the CBNRM approach, versus their needs and deficits. The program could take advantage of assets communities already possess in order to link it with appropriate strategies and activities. Such an evaluation of assets can help to minimize capacity issues as well as insure that realistic capacities are developed.
- ***Evaluate community participation:*** Evaluation of community participation can occur at multiple levels: 1) individual skill development for participation in decision-making; 2) organizational development as an intermediary between individual and community to channel opportunities to participate in decision making, shared responsibilities and leadership; and 3) community development which translates into collective action and community change (Checkoway, 1995).⁷⁶ The watershed program might consider evaluation mechanisms to insure objectives of participatory management for the watershed area are on track.

⁷⁵ Authors John Cohen and Norman Uphoff looked at community participation in the rural development context. They found that rarely do rural development projects experience community participation in all four types: decision-making; implementation; benefits development; and evaluation.

⁷⁶ A very useful resource on community participation processes, methods, evaluation, and analysis is provided by the University of Kansas at: <http://ctb.ukans.edu/>. This website offers practical tools and methods for practitioners in the field.

choice for such a position. He has been involved with the program since the beginning (possesses institutional history), has been on loan to CSP for the past year and as such has been working with communities on conservation activities and establishing protected areas, and has extensive training in conservation and management of natural resources.

5. Coordinating structures that manage and sustain productive interaction are present. Coordinating structures provide a mechanism in which all parties have opportunities to develop relationships, maintain trust, discuss issues, develop consensus on goals and strategies, monitor activities, share lessons, keep communications clear and on-going so that all parties are well informed, and receive feedback. In particular, having feedback on activities for involved parties is important because it allows parties to learn from experimenting with different strategies and approaches through reflection of what has been learned. This reflection can inform on future management decisions and continue to develop capacity as well as legitimate and accountable processes and institutions. To address this issue of coordinating structures, the watershed management program might consider:

- ***Engaging the Conservation Society of Pohnpei to assume the coordinating role for the WFR and lead development of a coordinating structure. The Division of Forestry could also shift its own greater management roles and responsibilities of the WFR to CSP to facilitate coordination:*** Given the realities of the financial and human resource constraints of the DoF (and barriers to effective management they pose) as well as sustaining the program, the state might consider shifting greater management of the Watershed Forest Reserve to the Conservation Society of Pohnpei (CSP).⁷⁷ Already, CSP is playing this de-facto role and has proven itself very capable. Such an arrangement does not mean that the state disengage its involvement since it must hold CSP and others parties accountable for proper management of watershed areas. However, shifting official management of the WFR to CSP will alleviate some of the issues of building capacity at DoF, its leadership, and frustrations by other parties concerning the inability of DoF to fulfill its mandate under the 1987 law. The advantages of this approach are several: CSP already

⁷⁷ Examples of this approach can be seen in Nepal where the government delegated management authority of a conservation area to a national conservation non-governmental organization; in Latin America most integrated conservation and development projects are managed by non-governmental organizations (Wells et. al, 1992); and in Guatemala reserve management for the Sierra de las Minas Biosphere Reserve was assigned to a national NGO by the government (Wyckoff-Baird et. al, 2000).

possesses the capacity to fulfill such a role, has a dedicated individual providing leadership, already has working relationships with various communities that have resulted in moving watershed forward, does not have trust issues the state suffers from, and they possess the skills necessary to effectively manage the collaborative process. As such, CSP could develop a coordinating structure for watershed management activities and assist with keeping the program focused. The Watershed Steering Committee provides a good model for such a coordinating structure.

6. Long-term perspectives and adaptive management approaches have been adopted.

When engaging in collaborative management with multiple parties, a long-term view is helpful in guiding strategies and the process of collaboration. In particular, shared common visions motivate and engage parties in a collaborative and such visions usually come from having a long-term perspective. The long-term view is also important in developing relationships between parties. Though successful natural resource management relies on having good scientific information, a large part of natural resource management also relies on the nature of relationships between the different parties involved. Developing shared goals, understanding of the issues, trust, and respect are critical elements to such relationships. Long-term perspectives encourage such relationships. Additionally, long-term perspectives also require patience and an ability to be adaptive. To address encouragement of long-term perspectives and adaptive management, the watershed management program could:

- ***Establish indicators for program activities and standard assessment reviews:*** The watershed program may want to consider incorporating adaptive management to analyze strategies (particularly incentives and pressures for all parties to act in different ways) and the assumptions underlying strategies and approaches selected (e.g. state of the watershed, state of threats, implementation of intervention strategies, status of institutions at the site, influences on behaviors and incentives). Part of adaptive management is developing monitoring and evaluation programs for each component of watershed management activities. The monitoring program for sakau clearings is a good example. However, additional monitoring indicators could also be developed for other activities such as community capacity development and participation, public education, and participatory management legislation. Adaptive management could also include time thresholds for each activity before changes are made (e.g.

how long should a strategy be tried before it is changed or discontinued). At the minimum, the program might consider a yearly review of its activities by all involved parties (through the coordinating structure). Specific questions that could be asked are: 1) based on the information gained from monitoring, how are the strategies faring; 2) if strategies are faring well/not well, why; and 3) are the assumptions and other factors made when initially selecting the strategies still valid? Assessments may also benefit from including the views of not just the leading parties involved directly in the collaborative, but also of people in the field such as community members who may have insights as to how activities or strategies are being conducted and their efficacy.

- ***Develop feedback mechanisms on activities for involved parties and the public concerning progress:*** The watershed program currently lacks a feedback mechanism to all parties involved, particularly communities and the public, on the progress of watershed activities and resulting benefits for the island. This feedback is critical in that it provides participants with motivation to continue their involvement as well as continuing to cultivate support. Whether this means regularly airing radio announcements, putting up bulletins, visiting with communities on a scheduled time table, or distributing newsletters, feedback is a critical component of sustainability of initiatives. Given the 16 year history of the project and concerns over youth, a touring education workshop (similar to the one conducted in 1990) to touchback with villages and give them feedback and updates on what has changed as a result may be useful. This need was also voiced by a Pohnpeian interviewed when asked what the watershed program could be doing better, “the support is not only funding, but to monitor the project so they can observe the needs of the project in their areas...reporting the accomplishments and what are the problems.”

As these six key factors illustrate, the results of this case study analysis provide marked insights and observations for the watershed management program to consider as it continues to move forward to meet challenges as well as experience continued success.

APPENDIX A:

Timeline: History of Watershed Management on Pohnpei

1983 Joint vegetation survey conducted by the U.S. Forest Service and Pohnpei State Division of Forestry notes rapid forest clearings in the island's interior and upland forests.

1987 Passage of the Watershed Forest Reserve and Mangrove Protection Act which protects 5100 hectares of upland forest (through creation of a Watershed Forest Reserve) and 5525 hectares of coastal mangroves.

1990 Efforts by surveyors to mark the boundary line for the Watershed Forest Reserve are turned back by villagers wielding machetes and guns.

Formation of the Watershed Steering Committee (WSC). The WSC was an inter-agency task force assigned to 1) develop, manage, and implement the law; 2) represent the government when dealing with the municipal governments and communities; and 3) develop and implement long-term management strategies for the WFR. They began with an extension program in which education workshops were conducted with communities to educate about the 1987 law, the watershed areas, and gather feedback to revise the rules and regulations of the law.

Educational trips to the Philippines involving traditional leaders and other members of the communities were conducted. These trips showed participants the results of deforestation in the Philippines.

1994 Education workshops were completed with over 200 villages being visited. Revised rules and regulations were developed with watershed management, at the request of communities, encompassing a mountains to the seas approach. Communities also required involvement of traditional leaders in decision-making for watershed management. Community and traditional leader support for watershed management is gained.

The state receives a two year technical grant from the Asian Development Bank (ADB) to develop a long-term watershed management plan for the island. This grant marks the beginning of many activities from ecological assessments to piloting strategies for community-based natural resource management. One product from the ADB grant is a poster that compares a 1975 aerial photograph of Pohnpei's forests to another taken in 1995. This reveals a major loss of forest and helps to educate the public as well as policy makers about the importance of the watershed project, leading to a gain in support for watershed management activities.

- 1995 A pilot project with Senpehn village to develop co-management of their watershed area is begun. Senpehn, through participatory rural appraisal workshops, develops a Community Action Plan to co-manage their watershed areas.
- The Community Conservation Officers (CCO) Program is created. CCOs are selected by traditional leaders from villages and act as natural resource educators, facilitators, and coordinators for communities.
- At the advice of the State's attorney general, the revised rules and regulations developed during the education workshops is deemed infeasible by the governor.
- With the revised rules and regulations rejected, the WSC disbands as one group pursues the community-based management approach (The Nature Conservancy and the Division of Forestry) while another pursues state management of the watershed areas through a Master Land Use Plan (Department of Lands). This results in a loss of coordination between agencies concerning watershed management activities and approaches.
- 1996 The long-term watershed management plan is completed. The plan focused on community-based sustainable natural resource management and improving coordination between communities and state government for co-management of watershed areas. However, due to rejection of the revised rules and regulations and state budget cuts, this plan was never officially adopted by the state. This rejection also critically affects the relationship and trust between communities (particularly the traditional leaders) and the state.
- State budget cuts lead to inability of the Division of Forestry to effectively participate in watershed management activities as staff and working hours are cut.
- 1997 With a grant from the Keidenren foundation, TNC continues to build upon its work with communities and works to develop capacity for co-management of watershed areas. A shift from working at the village level to the municipal level occurs with the development of Watershed Area Management Committees (to be later replaced by Resource Management Advisory Committees).
- As a replacement for the WSC, the Pohnpei Resource Management Committee (PRMC) is formed. Similar to the WSC, it is an inter-agency task force that also includes non-profit organizations focused on island-wide natural resource management issues. The PRMC is later joined by the lieutenant governor.

Drought on the island provides evidence to the general populace of the importance of watershed areas and galvanizes public support for the watershed management program. Similarly, a mudslide in Sokehs which kills a number of people also provides evidence of the results of deforestation.

1998 The Grow Low Campaign begins in which sakau planting is encouraged in lowland areas rather than in upland forests.

2000 Madolenihmw municipal government adopts a model conservation law empowering communities to nominate, designate, and manage protected areas with municipal governments. This law, adopted by the municipal government, created a precedent for co-management between communities and a government entity. Additionally, through an amendment to the 1999 State Protected Areas Law giving municipal governments authority to declare and protect conservation areas, Madolenihmw municipality creates a conservation area.

The Conservation Society of Pohnpei (CSP), the first local non-profit organization on the island, is launched. CSP will gradually assume the watershed management activities and role TNC had been playing as TNC moves to focus its attention on regional issues.

U municipality, through their community visioning, is the first on the island to lay the WFR boundary line for their watershed area. Madolenihmw municipality later joins U when it lays half of its boundary line for their watershed areas.

Cholera epidemic points to the need for clean water and leads to public support for watershed management activities.

2002 Results from the monitoring conducted in 2000 reveal few clearings had been created near the areas where community planning programs were in place and the WFR line had been surveyed and established.

The State legislature approves \$120,000 for FY03 to finish the WFR boundary line.

The State Department of Lands is on its third draft of the island-wide Master Land Use Plan.

Efforts to finalize the rules and regulations of the 1987 law, with emphasis on increasing management and enforcement authority for municipal governments, are coordinated by CSP with the attorney general's office.

APPENDIX B:
The Pohnpei Watershed Forest Reserve and Mangrove Protection Act of 1987

FIRST POHNPEI LEGISLATURE
FOURTH REGULAR SESSION, 1987

L.B. No. 381-85

AN ACT

Relating to the dedication and vesting of use and management rights in certain public trust lands to the State Government for watershed forest protection purposes, to the protection of important watershed areas and to the conservation of mangrove forests on Pohnpei.

BE IT ENACTED BY THE POHNPEI LEGISLATURE:

Section 1. Short title. This act is known and may be cited as the Pohnpei Watershed Forest Reserve and Mangrove Protection Act of 1987.

Section 2. Purpose. The purpose of this act is to create and provide for the protection and maintenance of an effective watershed forest reserve, to protect important watershed areas, and to provide for the conservation and management of mangrove forests.

Section 3. Findings. The Legislature finds that:

(1) There are many thousands of hectares of public trust lands with highly erodible soils, that should not be cleared of forest cover and/or used for domestic and farm purposes because such uses endanger the watersheds of Pohnpei;

(2) There are in Pohnpei's forests unique and valuable plants and animals that require legal protection to assure their continued survival;

(3) Mangrove forests provide the basis for healthy fisheries, and are thus of benefit to all the people of Pohnpei; and

(4) The conservation, protection and wise management of Pohnpei's forests in perpetuity is of material benefit to all the people of Pohnpei.

Section 4. Definitions. Unless the context otherwise requires for purposes of this act:

(1) "Board" means the Pohnpei Environmental Protection Advisory Board or its successor in Pohnpei law.

(2) "Chief" means the Chief of the Division of Forestry of the Department of Conservation and Resource Surveillance.

(3) "Director" means the Director of the Department of Conservation and Resource Surveillance.

(4) "Watershed forest reserve" means a large, contiguous area of highly or very highly erodible soils that is protected from development and retained in forest cover to provide long-term water supply for Pohnpei.

(5) "Important watershed areas" means areas that, as of 1985, were already inhabited on highly erodible soils and that will require special care to avoid polluting river systems, or increasing other associated hazards.

(6) "Highly erodible or very highly erodible soils" means soils defined by the USDA Soil Conservation Service (SCS) in the 1982 report Soil Survey of Ponape, Federated States of Micronesia as having a high or very high potential for being eroded by water. Specifically, they are as follows:

SCS #

- 301 Dolokei - Fomseng Association, 30-60% slopes
- 303 Dolokei - Fomseng Association, 30-60% slopes, cobbly
- 306 Fomseng-Dolokei Association 60-100% slopes
- 308 Fomseng-Variant silt loam, 30-60% slopes
- 318 Tolomier-Dolen Association, 30-60% slopes

319 Tolomier-Dolen Association, 60-100% slopes

These soils are shown approximately on the attached map bounded by a red line.

(7) "Permit" means a written instrument allowing a specified use in a Watershed Forest Reserve, or Important Watershed Area issued by the Director.

(8) "Mangrove forest" means a salt-tolerant tidal fringe ecosystem of trees, other plants and animals.

(9) "Solid waste" means any refuse composed of metal, plastic, glass, wood or wood fibers, synthetic material or any non-liquid substance deemed unsafe for the health of a watershed by the Director.

(10) "Polluting liquids" means any synthetic liquid substance which will or may get into ground or surface water, such as gasoline, oil, brake fluid, pesticides, laboratory chemicals or any liquid substance deemed unsafe for the health of a watershed by the Director.

Section 5. Establishment of a Watershed Forest Reserve. Pursuant to Section 5 of D.L. No. 4L-203-79, as amended, the Pohnpei Public Lands Authority is hereby empowered, authorized and instructed to dedicate and vest the control and use rights in the following delineated public trust lands to the State Government, Department of Conservation and Resource Surveillance, to be managed as a watershed forest reserve: all public lands within the green line on the attached USGS topographic map.

(1) Boundary marking and maintenance will be necessary to assure enforcement of this act. The Division of Forestry, with the assistance of surveyors from the Division of Lands and Surveys, will establish the boundary on the ground and

describe it in metes and bounds within 18 months following the effective date of this act.

Maintenance of the boundary will be the responsibility of the Division of Forestry.

(2) Uses permitted within the watershed forest reserve, under permit from the Director, are as follows:

- (a) Growing of certain crops;
- (b) Research on plants, animals, and natural processes;
- (c) Recreation such as hiking, camping in designated areas and sightseeing;
- (d) Gathering of wild plants;
- (e) Harvesting of timber, under supervision of the

Chief; PROVIDED that watershed protection is the principal concern for use of the land, and any timber harvesting so permitted is planned and conducted so as to assure watershed protection; and

(f) Other such uses as may be deemed compatible with watershed protection as authorized in writing by the Director.

(3) Uses specifically forbidden within the Watershed Reserve are as follows:

- (a) Permanent occupancy of any kind, or the building of structures such as houses, sheds, or barns;
- (b) Any use of pesticides or other chemicals, unless specifically permitted after appropriate environmental review;
- (c) Building of roads or trails unless permitted in writing by the Director after appropriate environmental review;

(d) Cutting of any trees, except as may be authorized under permit;

(e) Clearing by the use of fire, or any other use of fire not authorized by written permit; and

(f) Grazing of livestock.

Section 6. Important watershed areas. The Legislature finds that the lands lying between the green and red lines on the attached USGS topographic map are on soils designated as erodible or highly erodible by the Soil Conservation Service, are partly occupied by farms and homesteads, and are important watershed areas to all the people of Pohnpei.

(1) The Division of Forestry, with the assistance of surveyors from the Department of Land, will establish the boundary corresponding to the mapped red line on the ground and describe it in metes and bounds, assuring that the line is entirely on public lands, within two years of the date of final approval of this act. Maintenance of the boundary will be the responsibility of the Division of Forestry.

(2) In order to assure the future protection of these important watershed areas, the following restrictions shall apply within them:

(a) No additional building of roads or structures is permitted after the date that this act becomes law;

(b) No rebuilding or improvement of structures now in existence is permitted;

(c) The Board shall strictly enforce all regulations pertaining to location and design of toilets, septic tanks, drain fields, piggeries, fire, use of chemicals, and other pertinent regulations within these areas;

(d) All disposal of solid waste shall be at authorized dump sites located outside of the important watershed area; dumping of solid wastes within the area is forbidden;

(e) Any dumps currently existing within this area shall be cleaned up within one year of the effective date of this act, by those who created them or by the Department of Public Works; and

(f) It is at all times forbidden to dump polluting liquids on the ground or to dispose of them by any manner within the area.

(3) The Board shall monitor a representative sample of these areas to see how well the above restrictions, and the enforcement of them, work to protect the important watershed areas. Within three years of the effective date of this act, and ever, three years thereafter, the Board shall submit a report to the Legislature on the status of watershed protection in these areas, together with recommendations for any improvements deemed necessary. The Director shall concur in this report, or shall state in writing to the Governor any differences with it.

Section 7. Mangrove forests. Broad goals for the mangrove forests of Pohnpei are to conserve these forests for the maximum sustainable benefit to people, and to minimize those unsustainable or conversion activities that lead to the destruction of the forests. Cooperation between the Department of Conservation and Resource Surveillance and the Board will be necessary to meet these broad goals.

(1) Within two years of the effective date of this act, the Director shall make a study to determine which mangrove areas of Pohnpei, if any, should be designated as Pohnpei mangrove forest reserves. The Director's report will include recommendations for protection and management of any areas so designated.

(2) Upon passage of this act and filing of regulations, the following restrictions shall apply to all mangrove forests on Pohnpei:

(a) All cutting of trees is prohibited except as permitted in writing by the Director, through the Chief of the Division of Forestry;

(b) All dredging, road building and other major land disturbing activities affecting mangrove forests, whether privately or publicly sponsored, will require approval and a permit from the Director. Environmental review will be required for all such projects prior to approval;

(c) The building of new houses, sheds or other structures will be allowed only if the proponent can show a valid deed for the property to be built upon, or if the Pohnpei Public Lands Authority and the Director agree that a permit can be issued without significantly harming the mangrove forest. If either disagrees, the permit will be denied; and

(d) All use of chemical pesticides and herbicides, and the dumping of solid waste or polluting liquids is prohibited in mangrove forests except as may be permitted by the Director after appropriate environmental review.

Section B. Authorization for appropriation. There are hereby authorized to be appropriated annually from the General Fund of Pohnpei such sums as are deemed necessary to implement this act, the sums herein authorized for appropriation

shall be administered and expended by the Governor solely for the purpose of this act. The Governor shall report to the Legislature on or before October 15, following each fiscal year wherein sums are appropriated under the authorization of this Section. All sums appropriated for a fiscal year, remaining unexpended or unobligated for expenditure at the end of the fiscal year shall revert to the General Fund of Pohnpei.

Section 9. General Provisions.

(1) The Director shall make and prescribe rules and regulations for the use of watershed forest reserves, important watershed areas, and mangrove forests. Promulgation of initial regulations by the Director, for the implementation of this act shall be completed within 90 days after the effective date of this act. Copies of the Department regulations pursuant to this act shall be available for inspection at the offices of the Director and the Chief of the Division of Forestry.

(2) The Director and the Chief shall, to the maximum extent possible, cooperate and coordinate with The Board, the Marine Resources Division, water authorities, and with all other agencies or organizations, public or private, which are concerned with forest resources, and with the College of Micronesia.

(3) Public understanding and acceptance of the provisions of this act are important to the success of its objectives. The Director shall work with the College of Micronesia and; the Pohnpei Department of Education in curriculum development and training for grade school and high school level teachers, and in extension education for adults. Areas of education that need to be emphasized are:

(a) General conservation of soil, water and natural systems such as forests, mangroves, and lagoons;

- (b) Watershed concepts and importance;
- (c) Specific education regarding this act;
- (d) Wildfire prevention and responsible use of fire; and
- (e) The recognition, appreciation and protection of native species.

(4) The enforcement of the provisions of this act shall be as follows:

(a) Patrol of the areas and their boundaries established by this act, and reporting of violations, will be the responsibility of the Division of Forestry. All other law enforcement agencies on Pohnpei are also specifically authorized and encouraged to enforce the provisions of this act.

(b) Taking legal action against reported violators shall be the responsibility of the Pohnpei Department of Justice.

(5) Penalties for violation of certain provisions of this act are as follows:

(a) Anyone who violates Subsection (2) of Section 5 or Subsection (2) of Section 6 of this act shall be subject to a fine of not more than \$500, a term of not more than six months in jail for each offense, and liability for restoration of the site(s) to as near original condition as possible.

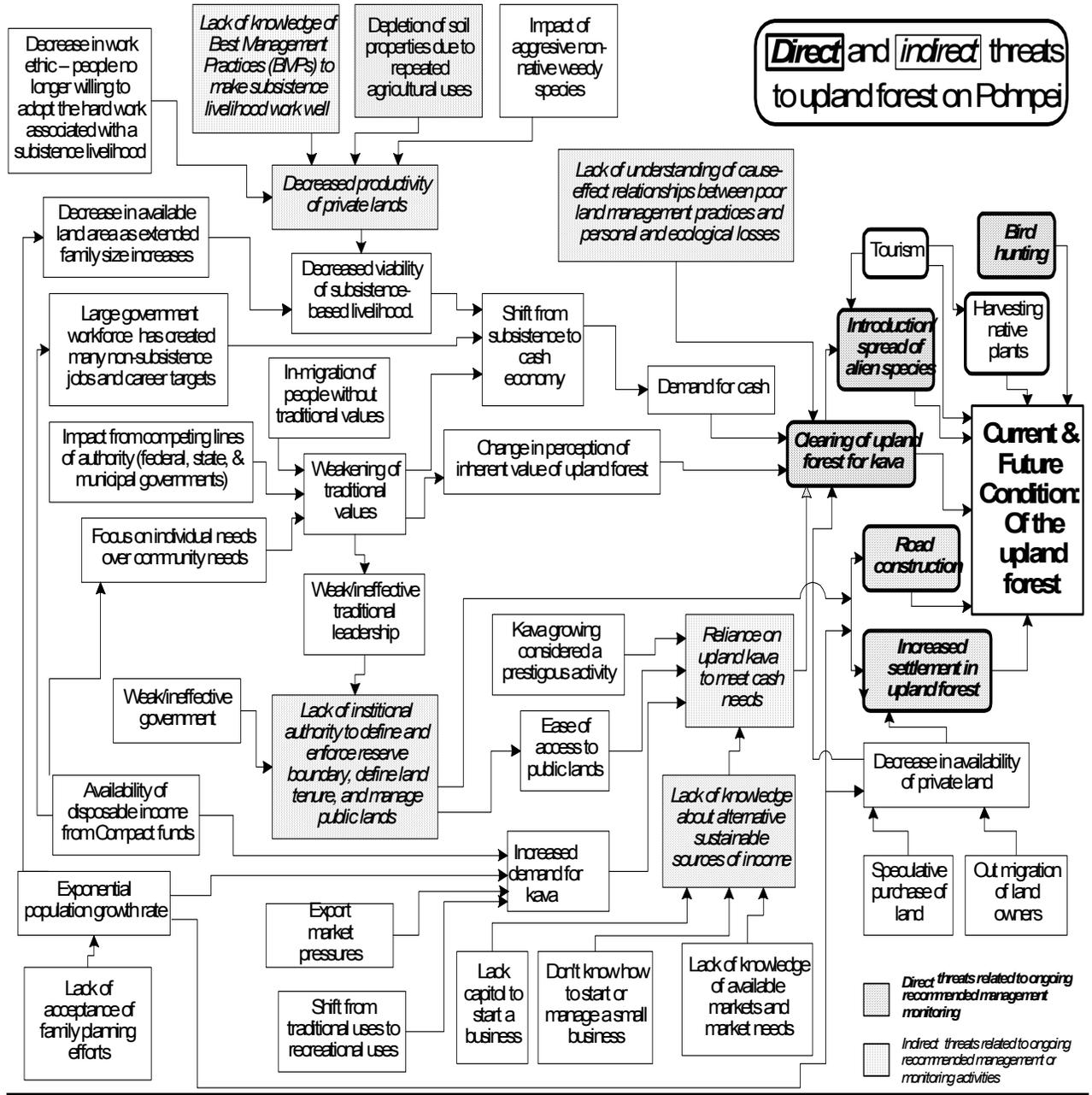
(b) Violators of Subsection (3) of Section 5, regarding prohibited uses in a watershed forest reserve, and Subsection (2) of Section 7, regarding prohibited uses in mangroves, shall be subject to a fine of not more than \$1,000 and a jail term of not more than one year for each offense, and liability for restoration of the site(s) to as near its original condition as possible; except that violation of Paragraph (d) of Subsection (3) of Section 5,

and Paragraph (a) of Subsection (2) of Section 7, shall carry a fine of up to \$1,000 per tree so cut, consistent with D.L. No. 4L-203-79, as amended.

Section 10. Effective date. This act shall take effect upon its approval by the Governor, or upon its becoming law without such approval.

PASSED BY THE POHNPEI LEGISLATURE ON 21 OF MAY, 1987.

APPENDIX C:
Diagram Outlining Both Direct and Indirect Threats to Upland Forests



Source: The Nature Conservancy

APPENDIX D:
Interview Questions (Both English and Pohnpeian Versions)

Interview Questions (1)⁷⁸

- I. Involvement in watershed program/management:
 - a. How are you involved with the project?
 - b. Why did you become involved?
 - c. What did you like about being involved with the project?
 - d. What did you not like about being involved with the project?
 - e. What did you learn by being involved?

- II. History:
 - a. Were there any key transition points for the project?
 - b. Do you think the watershed management project has changed from when it first began, why has it evolved this way?

- III. Lessons Learned:
 - a. What are the accomplishments of the project? a2. What made these accomplishments possible (what elements?)
 - b. What didn't work and why?
 - c. Looking back, what did the project do successfully and why?
 - d. What were the challenges faced by the project; how were they addressed?
 - e. If you had to do it over again, what would you suggest others do differently? e2. Same?
 - f. What changed because of the project (e.g. what was the project's impact on the watershed/on how the state deals with watershed issues/on you or your organization/on how local people understand the watershed issues?)
 - g. If the project did not happen, what would you think would have happened to the watershed management areas?

- IV. Current Views:
 - a. What are your current views on how watershed management is being handled (a2. If watershed management has improved, what evidence suggests this improvement)?
 - b. What roles do you think the different groups should have in watershed management (e.g. NGOs, state and municipal governments, kousapws, farmers, etc.)? b2. Is this the role they have today?
 - c. What are the current challenges facing watershed management in Pohnpei today? What do you think should happen in the next five years?
 - d. What are the future challenges facing watershed management and how do you see them being addressed?
 - e. Is there anything else we haven't covered that you would like to comment on?

⁷⁸ Interview Question 1 was designed for interviewees who had either been involved with or were supportive of the watershed management program.

Interview Questions (2)⁷⁹

- I. Understanding of the Project and Involvement:
 - a. How did you become familiar with the watershed management project?
 - b. What is your view towards the watershed management project and why?
 - c. What do you feel the project is doing well? c2. What should it have done?
 - d. What are some issues and challenges you think should be addressed in watershed management that are not being addressed by the project?
 - e. If the project did not happen, what would you think would have happened to the watershed management areas?

- II. Current Views:
 - a. What is the current state of condition of the watershed today? (if good, what is the evidence/if bad, what is the evidence?)
 - b. How do you think watershed management should be managed?
 - c. What roles do you think the different groups should have in watershed management (e.g. NGOs, state and municipal governments, kousapws, farmers, etc.)? b2. Is this the role they have today?
 - d. What are the current challenges facing watershed management in Pohnpei?
 - e. What are the future challenges facing watershed management and how do you see them being addressed?
 - f. Is there anything else we haven't covered that you would like to comment on?

* Questions Specifically for Resource Users:

- III. Understanding Resource Use:
 - a. How do you manage/take care of your land?
 - b. Are there any changes you noticed with regard to natural resources and your land (how long have you been in this area)?
 - c. Are there watershed areas in your area?
 - d. Do you make use of public lands?
 - e. How do you feel public forest lands should be used?

⁷⁹ Interview Question 2 was designed for interviewees who were not involved with or not supportive of the watershed management program.

Interview Questions (1) Pohnpeian Version

1. Duen omwi patehng program en watershed:
 - A. Ia duen omwi tepin patehng program wet?
 - B. Dahme karehda omwi patehng program wet?
 - C. Dahme komw mwahuki de perenki ni omwi patehng program wet?
 - D. Dahme komw sohte mwahuki de perenki ni omwi patehng program wet?
 - E. Dahme komw koledi de alehdi ni ansou me komw patehng program wet?

11. Poadepen program wet:
 - A. Komw kak kasalehda mwekid kei me karehiong aramas eh wekdeksang program wet, de mwekid kei me kareiiong aramas eh utung program wet. Dahme karehda?
 - B. Ni omwi kasawih, mie wekdekla en program wet sang ni eh tepda. Dahme karehda wekdekla pwukat?

111. Pweidahkan oh soh pweidahkan:
 - A. Dahngeh kan me pwida nan program wet oh dahme karehda pweida pwukat?
 - B. Dahme sohte pweida nan program wet oh kahrepen eh sohte pweida?
 - C. Ma, program wet pahn pil ehu wiawi, Ia omwi pepehm me aramas me pahn katanga en wia? De en dueduehte?
 - D. Dahngehkan me wekdekla pwehki program wet (karasepe: dahme koaperment wia ong program wet, dahme omwi pali wia, de iamwomwen wehweh rehn aramas?
 - E. Ma program wet sohte wiawi dahme komw kupwukupwure me pahn wiawiong nan wasahn Nahk wet?

- 1V. Sapwelimomwi kesou ong ansou wet:
 - A. Ia sapwelimowmi kesou ong epwelpen watershed me wiewiawi ansou wet. Ma mie pweida, dahme wia kasalepen pweida wet?
 - B. Ia pwukoahn palihkan nan program wet nin duen omwi mwahngih? (koaperment, NGO, opis en wehi kan, kousapw, soumwet kan de mehteikan).
 - C. Iangehkan kahpwal akan me program wet lelohng nan Pohnpei rahn wet?
 - D. Iahngehkan kan kahpwal me pahn mie ong program wet nan rahn me pahn patodohkan oh iaduen omwi mwahngih kahpwal pwukat eh pahn kaweweh?
 - E. Mie soangen ire me se sohte sair me komw men kasalehda?

Interview Questions (2) Pohnpeian Version

1. Wewehn program wet ong komwi:
 - A. Ia duen omwi wewehkihda program wet?
 - B. Dah omwi kesou de mwahngih duen mwomwen program wet?
 - C. Dahme komw pepehm me program wet wia me mwahu? Dahme program wet kak wiada?
 - D. Dahngihkan soangen ire de pesesong me komw kupwukupure me konehng en sansal nan program me saikinte sansalada?
 - E. Ma program wet sohte wiawi, Ia kupwuromwi ong nan wasahn nahk wet?

11. Omwi kesou oh mwahngih:
 - A. Ni omwi mwahngih, dahme ia mwomwen program wet rahn wet? Ma e mwahu komw kak ketkihda kasalepee, ma e sohte mwahu komw kak ketkihda kasalepe, oh dahme karehda mwahu oh sohte mwahu pwukat?
 - B. Ia duen omwi kupwukupure program eh pahn epwel?
 - C. Ni omwi mwahngih dahme palihkan pahn pwukoahki: (koaperment, NGO, opis en wehi kan, kousapw akan, soumwet kan oh paili teikan. ihs me pahn pwukoahki koasoandien program? Ih pwukoah pwukat me pali pwukat pwukaohki ansou wet?
 - D. Soangen kahpwal dah me samsalohng program wet nan Pohnpei. Rahn wet?
 - E. Soangen kahpwal dah me pato pato mwohn program wet. Ia mwomwen eh pahn kasansalada?
 - F. Miete ire me komw pehm me konehng en sansal me se sohte patowen sair me komw men kasalehda?

111. Wewehn doadoahki kepikipik kan:
 - A. Ia duen omwi kin apwapwalih ninlimomwi et?
 - B. Mie wekdekla me komw mwahngih ni limomwi et oh dipwisou kan?
 - C. Mie wasa me wia watershed ninlimomwi et?
 - D. Komw kin doadoahki sapwen public?
 - E. Ia kupwuromwi ong sapwen weipokon kan eh pahn doadoahkla?

APPENDIX E:
**An Assessment of Parties and Organizations for Effective Participation
in a Collaborative Process**

For any collaborative process to be successful, analysis must focus on the parties involved in the conflict. No collaboration can occur without having the right parties and all the related characteristics that make parties effective present. As such, analysis to understand the potential of collaboration in Pohnpei must first begin with a look at the parties and their appropriate fit for collaboration.

The primary parties affected by the 1987 legislation (and its rules and regulations restricting use and access to the watershed and its upland forests) are as follows:

Division of Forestry (named by the legislation as the implementing state agency for the law), communities that are affected by the legislation, traditional leaders at the village and municipal levels as decision makers for the community, and commercial sakau farmers. Environmental non-profit organizations (namely The Nature Conservancy and the Conservation Society of Pohnpei) are also considered primary stakeholders in that they provide technical as well as financial resources and from past experience can serve as facilitators between communities and the state. Though not included in this assessment, secondary parties include other state agencies that deal with related watershed issues (e.g. EPA for water quality, agriculture department in dealing with subsistence farming methods and developing alternative methods for sakau planting), legislators and appropriate committees that have authority over amending the original legislation as well as providing funding for activities related to the legislation, the governor's office for similar reasons, municipal governments as they too deal with

natural resource management issues, and subgroups within the communities, such as women and the church, who may provide information and influence.

According to the 1987 legislation, the Division of Forestry has the authority over the watershed and is responsible for implementing the law (e.g. create the WFR, manage the area by regulating its uses, and enforcement). As the party responsible for implementation and having the legal authority over the resource, the Division of Forestry is a key participant for any collaborative process. However, the Division of Forestry suffers from several deficits that prohibit it from being an effective participant for a collaborative process.⁸⁰

The first issue to address is capacity (e.g. infrastructure and human resources), or lack thereof, within the Division of Forestry to implement potential solutions developed by a collaborative process. Before the 1987 legislation, the Pohnpei Division of Forestry's main activities had revolved around developing nurseries for certain tree species and providing farmers with seedlings for agricultural products.⁸¹ As such, the infrastructure of the organization, including its very limited budget, as well as the staffs' experience, reflects this very basic mission and still carries over to the present. There are only five staff in the agency and none have an education past the high school level.

Though some have received some forestry training through the USFS, none are foresters

⁸⁰ The assumption here is that though a party may need to be at the table, the issue of effectiveness as a stakeholder must be addressed for it is the quality of participation that allows collaborative processes to move forward. An effective participant is defined as a party that represents its interests, is accountable to its constituencies, has the ability to contribute to the collaborative process and is considered a resource (e.g. generates ideas, provides information/expertise, provides funding, etc.), and has the authority to agree to the strategies or solutions devised by the collaboration as well as capacity to implement activities.

⁸¹ One must also take into consideration that Pohnpei is a developing country and one that has only recently gained its independence from the U.S. as a trust territory. As such, the Division of Forestry does not have a long agency history as does the USFS nor does its mission have the same clarity in that Pohnpei's forests are not being managed for extraction and the issue of conservation is a new focus for the organization.

by institutional training. The absence of professionalism is not only reflected in the education but also in the work conduct as well. Before the arrival of a Peace Corp volunteer in 2001, the Division did not have any yearly work plans for the agency or its individual employees. There had been no monthly staff meetings to discuss activities or processes encouraging accountability for work goals. With regard to the work ethic, this too impedes the effectiveness of the organization. Employees do not consistently show up for work everyday and do not call in, including the director himself. When they are present at work, social activities are not considered inappropriate to conduct during work hours. With regard to the director, there are issues (e.g. trust, respect, and credibility related to the fact that he is an outer islander and not a Pohnpeian) that influence his effectiveness regarding work with other stakeholders. His ability to also persuade higher level agency officials (e.g. the governor and director of the Department of Lands, equivalent to the U.S. Department of the Interior) to support and implement any agreement reached is at issue as well. As a result of these concerns, the capacity for the Division of Forestry to be an effective participant and partner in a collaborative process is questionable.

Another key participant to a collaborative process must include the traditional leaders within communities as they are considered to be influential in setting the norms within communities and are perceived by Pohnpeians as advisors and decision-makers. Traditional leaders also see themselves as having authority over these lands, not in law, but more in practice as they and their communities work the lands and use them for subsistence agriculture. Often during interviews, many traditional leaders stated the reason they supported watershed conservation was because it was part of their duty and

responsibility as chiefs to take care of the land. However, there are many intricate variations to the role a traditional leader has within communities that make their effectiveness in a collaborative process problematic.

The role of a traditional leader in Pohnpeian society is not one of absolute authority, but a reciprocal relationship between people and leader. The relationship between the communities and these traditional leaders are tied to the political system of honorific titles and yearly agricultural tributes. Communities present *nahnmwarkis* and *soumas* with yearly crops of yam, sakau, and fruits to show respect and appreciation. These offerings are also linked with the giving of prestige titles by traditional leaders to reward the most productive farmer in recognition of his loyalty and industriousness. In this way, the relationship between communities and traditional leaders is reciprocal and as such co-dependent.

With regard to collaboration, there are several logistical issues which prove problematic for having traditional leaders at the table. The first deals with accountability to constituencies. Though traditional leaders would be in the best position to know the activities of his people and would ideally do what is best for them, there is nothing that ties the traditional leaders to a constituency relationship such as that of a non-profit organization or legislators. In other words, though traditional leaders can listen to the needs and wishes of his people, in the end, he is the decision maker and can make a decision that does not reflect the views of his community. His position also does not require him to report back to the community on the activities of a collaborative committee and to discuss the various options and justify his decision. In this way, it is questionable if traditional leaders can truly represent the views of the community. In

fact, there were several examples cited through interviews with community members concerning traditional leaders that did not support watershed conservation (even though their people thought it to be a good idea) or leaders that vocally supported watershed conservation but continued to plant sakau in the upland areas. This begs the question then of who can legitimately represent communities in a collaborative process. There are also issues of internal politics among the traditional leaders within the municipalities and between municipalities that prove difficult in having all traditional leaders involved in a collaborative process.

Another logistical issue has to do with the presence of a traditional leader at any meeting. People are very respectful of traditional leaders and this may prove problematic as collaboration is underlined by democratic theories of egalitarianism in which all parties are recognized as equal and opinions are treated as such. One wonders how candidly discussions would proceed in a collaborative process with traditional leaders in the room or how traditional leaders can be bound to agreements. The other related issue has to do with time spent on recognizing the presence of traditional leaders at the meeting, a formality that is accompanied by offerings of food and sakau. Another issue has to do with age and ability to be present at meetings. Most of the *nahmwarkis* are elderly, in their 80s and in poor health. Some live in very remote areas where no paved roads exist. As such, their continual presence throughout a collaborative process is doubtful. In addition, with over 100 traditional leaders on the island, the issue of scale becomes problematic when considering their full involvement. Also, as Pohnpei moves from a subsistence to a cash economy, the future durability of this traditional political system is in question. Many interviewed noted that the younger people in villages do not

adhere to the traditional systems and practices leaving in doubt the ability of traditional leaders to influence this segment of the community that is most involved with commercial sakau farming.

Another group who has a stake in the conflict is commercial sakau farmers. The difficulty with commercial sakau farmers, however, relates to their willingness to participate in a collaborative process. When the law first passed in 1987, commercial sakau farmers may have had an incentive to participate as they might have been unsure of its affects on their business. However, over the years, this incentive has dissipated as the issue of enforcement has been problematic. For commercial sakau farmers, there is no penalty if they plant in the upland forests for two key reasons. With the exception of U and Madolenihmw municipalities, no boundary lines have been set for the WFR in any of the other municipalities, particularly Kitti municipality where most of the commercial sakau farmers operate. Consequently, commercial sakau farmers can profess ignorance if they are challenged regarding their actions. It is hard to enforce a boundary where none exists. Related to this, given that the Division of Forestry has only five employees, enforcement proves difficult as there are not enough people to patrol the area. In addition, the watershed area and upland forests are not easy to reach and require a hard hike and many hours to reach. As a result of this, though commercial sakau farmers are a key stakeholder, the incentives for them to participate in a collaborative process may not be present.⁸²

⁸² In the case of the commercial sakau farmers, the clash of cultures creating conflict is evident. As Pohnpei moves from subsistence to cash economy, sakau farming has moved to meet this demand and opportunity. Consequently, this situation has created the threat to the watershed and upland forests. This shift to commercialism is also reflected in the traditional system of tithe offerings where sakau farmers, instead of presenting the traditional agricultural items of sakau, yams, and animals, are now offering gifts of cash or luxury items such as refrigerators and cars to traditional leaders as a sign of their wealth and prestige.

The last party that must be considered for collaboration is the non-profit sector, namely The Nature Conservancy (TNC) and Conservation Society of Pohnpei (CSP). These two organizations have a very unique position as participants for several reasons. Given the dynamics and capacities of the parties involved, TNC and CSP are key participants because they offer many resources, whether they are in the form of technical assistance with scientific data and protected areas management, fundraising, or human resources. TNC and CSP are also well-respected by the communities, which are more trustful of these non-profits than they are of state agencies. Given these elements, TNC and CSP play a key role in facilitating a collaborative process.⁸³ However, one caveat to their involvement is tied to the same reason why their involvement is critical – their resource capacity. If the directors of both organizations were not so respected, others at the table might feel that the uneven distribution of resources and capabilities of TNC and CSP could undermine collaborative processes as these two organizations may be viewed as managing the process to their own strengths and abilities.

In addition to the fitness issues of the parties above, other issues to consider when attempting to apply collaboration have to do with cultural matters and different notions of process and progress. The first issue has to do with time and work ethics. As mentioned when outlining the challenges of the Division of Forestry, work is conducted very differently on Pohnpei than in the U.S. Meetings often start late in Pohnpei because time has a very laid-back element to it. Appointments are canceled or people simply do not show up. Developing work plans and strategies are not priorities or even practiced.

⁸³ Since TNC has relinquished watershed activities to CSP as it moves to focus more on regional issues, TNC may be in a better position to play a facilitating role in a collaborative process as they could be considered more neutral, despite their conservation mission as an organization and past watershed history.

These examples outline logistical difficulties to creating an efficient collaborative process.

Another example linked to culture has to do with the sharing of information. As anthropologist Glenn Petersen advised through a phone interview, there is a politics of information concealment on Pohnpei in which sharing of information is considered as weakening one's power or authority. As such, information is not shared outright or is concealed behind multiple meanings and interactions. This predilection for concealment is in direct contrast to a collaborative process, which encourages all parties to share information in order to develop mutual understanding of the issues and problems.

Another issue is related to the prerequisite of participating parties to recognize the necessity of other parties at the table. Due to historical distrust centered on struggles over legitimate authority, the Division of Forestry and traditional leaders may not recognize the necessity of each other's presence in a collaborative process, certainly not as co-equals. It is also questionable if other parties have sufficient power or influence to affect or constrain any unilateral action taken by traditional leaders.

The last issue that must be addressed before considering a collaborative process has to do with accountability. Though Pohnpei's political system is based upon the U.S. model of having a legislative, executive, and judiciary branch, the laws that govern the island are fairly young. As such, parallel laws, such as the U.S. National Environmental Policy Act of 1969, U.S. Federal Advisory Committee Act, and U.S. Administrative Procedures Act, that insure public review, deter co-option of the process by interest groups, and guide collaboration through an established process of accountability are lacking and therefore pose a challenge to its credibility and legitimacy.

APPENDIX F:
**Towards Community Involvement in Watershed Management on Pohnpei:
Some Lessons Learned**

The following lessons resulted from the two years of education workshops conducted by the Watershed Steering Committee with various communities around the island. They reflect valuable insights gained concerning seven key points on working with communities and were compiled by Bill Raynor of TNC and Valentine Santiago of DoF.

1. Understand the community:

- Present concepts, ideas in ways that the community can easily understand. Learn general beliefs, local names/vocabulary, legends, stories – focus on the community’s world view instead of expecting them to adopt yours. Avoid the Western approach of focusing solely on science.
- Through the community, learn all you can about traditional/past resource management, enforcement, and monitoring. Get the community to compare before and now (trends), and look for ways to revive local ways, since these are usually more easily acceptable. Involve and support local institutions (chief’s councils, churches, youth groups, etc).
- Take the time to analyze the power structure in your target community, and work through it. Don’t create a separate structure.
- Plan your education/participation program to maximize interaction by all groups, through offering separate forums to women, youth, etc., and involving all groups in every steps, from problem identification to solving.

2. Respect the community:

- Don’t presume to know as much or more about a community than the people themselves. Do not come in as “experts”.
- Don’t try to control issues and problems to only those that you want. The community must be free to honestly and completely identify and prioritize issues important to them. It’s important to understand the community’s outlook, and being willing to work with them on all their problems builds trust and cooperation.
- Invite local leaders/experts to join your team.
- Don’t pay local leaders – they have to believe that they are working for the good/future good of their communities. Paying them undermines their authority in their own community.

3. Be honest:

- Don’t make promises you can’t or don’t intend to keep. Write promises down and fulfill them. The process of community involvement is based on building trust, and empty promises and forgotten agreements are the fastest way to destroy trust.

- Don't underestimate or exaggerate problems or situations. Local people need to know the truth so they can make good resource use decisions.
- Try to involve government agency representatives as much as possible. Concentrate on getting higher-level representatives, those with authority to speak for their agencies and make decisions. If you can only get lower level representatives, then try to arrange for some authority to be given to them.
- Don't misrepresent or overstate your authority or ability. You will need government support, and as thus must not commit the government unwillingly to things they can't or won't do. Don't openly criticize the government – remain upbeat and positive in focus. If you become too negative, you'll find yourself isolated from both community and government.

4. Concentrate on facilitation:

- Focus on your role as facilitator. You are there to help the community analyze their problems, generate alternatives and carry them out. You aren't there to make decisions for them. The goal of the process is to put communities back in control of their future.

5. Focus on the future:

- Focus on the future, especially future generations. Encourage enlightened self-interest – that is, how good resource management will improve the community's future. Convince people that change is possible, in fact, necessary. On Pohnpei, women seem to be especially focused towards the future, and all opportunities should be made to invite them as a voice in the proceedings.

6. Offer alternatives:

- Assist the village in identifying and describing major issues, problems, and needs. Then facilitate the villages' search for alternative solutions. Many solutions are probably already available in the local community, waiting only for clarification of the problem. Don't solve the community's problems for them. Outside solutions are bound to be less acceptable and successful, and failure can and will be blamed on outsiders (like you).

7. Be willing to learn as you go:

- Concentrate on listening instead of talking. Be willing to admit that you don't know everything, and are willing to learn from the local community members. Keep an open mind.
- Every community participation effort will have its flaws, and many of these will only become obvious once in the field. Don't dwell on the negatives. Be willing to make mistakes and accept criticism from the community. Involve them in evaluating the program.

APPENDIX G:
An Assessment of the Community Conservation Officers Program

Because CCOs are viewed by many groups involved in watershed activities as critical (due to their role as community organizers anchoring the community-based natural resource management approach), the program's effectiveness, particularly as The Nature Conservancy and others are currently reviewing future viability of the program, is of concern.⁸⁴ In an effort to assess the CCO program, CCOs were interviewed at the 2002 CCO conference in order to better understand the challenges and issues from the perspective of CCOs themselves. Participants were asked to comment on topics such as involvement (e.g. how and why, what has been learned, aspects enjoyed and not enjoyed), successes (e.g. impacts, aspects of success), challenges (e.g. problems, obstacles to effectiveness), and infrastructure support (e.g. what is needed to be a more effective CCO, who should be assisting in this capacity). By providing this perspective, the observations of the CCOs will be able to inform managers of the program of the obstacles hindering effectiveness of the program as well as motivations involving participation and successes that have been achieved, thereby helping to assess future viability of the program.⁸⁵

⁸⁴ In concept, the CCO program seems like an ideal candidate to take over many of the community-based natural resource management components that existed in the earlier phase of the watershed management program (e.g. CAPs, PRAs, education workshops, resource management committees). However, in practice, building the CCO program to reach this level of activity and role has been problematic. As such, the program is currently being reviewed by The Nature Conservancy and others such as CSP and DoF as to its effectiveness. At the heart of the matter lies the fact that the CCO program takes an enormous amount of staff time and financial resources to manage. As a result, TNC may be unable to continue housing the program, particularly as it's focus moves toward regional conservation activities. However, both the CSP and DoF do not have the funds or staff to take over coordination and management of 200 CCOs. As such, the future of the CCO program remains unclear.

⁸⁵ Though initially planned as an island-wide CCO conference with representatives from all five municipalities as well as those from outer islands, due to time constraints involved with planning, the conference was reduced in scope and size. As such, the sample interviewed is not representative of the larger CCO program in that it included only CCOs from one municipality, Madolenihmw (indeed, only ten people representing five villages were interviewed). The CCOs from this municipality are also not

Historical Perspective

The concept of Community Conservation Officers (CCO) was introduced in 1995 by a traditional leader and the subsequent program developed and managed by The Nature Conservancy (with additional assistance and involvement by the Conservation Society of Pohnpei). Usually selected by soumas, a CCO is a member of the village who is designated as a natural resource coordinator and educator for the community. CCOs also help with organizing and implementing CAPs (including monitoring and enforcement), developing alternative income generating activities, and serve as a liaison for their village with other groups such as DoF, NGOs, and municipal governments. As part of the analysis concerning roles and institutions involved in watershed management discussed in Chapter Four, a state agency official noted the CCO program as beneficial because it helped with education and enforcement. Recently, efforts to formalize CCOs through a certification program have begun (UNDP monthly report, March 2002). The certification program focuses on developing skills and knowledge to improve CCO effectiveness by providing continual training and education. Topics range from ecology,

representative of the overall program in that they are one of the more better trained and organized groups because of its strong historical involvement with watershed management activities (e.g. ADB funded pilot programs such as PRAs, co-management agreement with state, GIS boundary line project) and the presence of Bill Raynor and other TNC staff as members of the community. As such, this analysis should be viewed as representing a very small segment of the CCO program and no strong conclusions about the program can be determined from it. However, despite this, the group mentioned several challenges and needs faced in order to improve effectiveness. As one of the more successful CCO groups, their perspective can still inform managers of critical issues hindering program implementation. Indeed, the issues outlined by this group could be even more revealing given their higher level of involvement, training, and organization.

It must also be noted that the interviews were not conducted by the researcher herself (though the questions were developed by her). The conference had originally been scheduled to occur during the time period of the researcher's stay in Pohnpei, however due to planning logistics, the conference was pushed to August, a time when the researcher would have already left the island. As such, an intern at the DoF (an undergraduate student at the University of Hawaii and local Pohnpeian) was recruited to conduct the interviews with the CCOs. The intern had already been conducting interviews with communities for his own research purposes and was therefore familiar with interview processes and methods. Additional training in group interview methods was also provided by the researcher. The intern was introduced at the CCO conference as an independent researcher and not as an intern with DoF as his time there had already ended and such an affiliation might have posed a problem with participants and the responses given.

roles and responsibilities of CCOs, conservation strategies and management, monitoring, and community planning and organizing. Efforts to also improve linkages of CCOs within and between municipalities are also beginning. In August of 2002, an island-wide CCO conference was held to facilitate networking among participants, strengthen community planning processes, and share lessons between different villages.

The progress outlined above resulted from some of the lessons that had been learned along the way. As revealed through interviews with various parties, two specific lessons involved termination of compensation and selection by traditional leaders. Similar to the effects already mentioned in Chapter Three, compensation of CCOs had attracted individuals only interested in the financial reward rather than helping communities to better manage their natural resources. As such, compensation was halted and the program today is based on volunteers. The other lesson learned dealt with credibility of CCOs within the community. Initially, the program had selected young individuals as some of the work involved strenuous activities such as hiking. However, due to their age, these CCOs were not taken seriously and respected by other members (particularly older members) of the community. As such, the current program relies on traditional leaders to select CCOs, thereby bestowing credibility to these individuals.⁸⁶

Despite such progress, the CCO program as a whole has experienced varying degrees of success. Though there are close to 200 CCOs currently on the island, levels of involvement, activities, roles, missions, and effectiveness contrast greatly. Factors behind such divergences can be explained through different levels of support for capacity

⁸⁶ Selection by traditional leaders may have drawbacks as well since participation in the program may be based on prestige or because they are relatives of the chief or the chief is reciprocating a favor. As a result, similar to financial compensation, selection by traditional leaders may also engage individuals involved not for merit or interest.

building and training, leadership (lack thereof), quality of individuals involved (e.g. dedication, motivation, initiative), support by village infrastructure (e.g. communities, traditional leaders), funding for activities, and misconceptions or disagreements regarding their roles and responsibilities as well as mission. Some of these factors were revealed through comments made by NGOs, traditional leaders, and community members in the interview results, specifically the leadership section in Chapter Four. People cited the need for CCOs to be more active in their roles. Related to this was the need for assistance with coordination, increasing communication between traditional leaders, and involving individuals who did not treat the position as a job. The following comments, made by community members, traditional leaders, and state agencies, further underline these issues: “CCO leaders aren’t doing what they are supposed to do, aren’t going to soumas when there is a problem, very weak right now,” “CCOs doing work like it is a business...[he] doesn’t like the idea of CCOs going through the forest and citing farmers and reporting to municipal governments...they should report to soumas instead of municipal governments,” “CCO program not working in every municipality because they have many things to do, not only conservation,” “CCOs are doing the cutting and shooting, one problem is in their action plans, CCOs bring others from outside, do their own thing.”⁸⁷

Practitioners’ Assessments and Perspectives

Appointments by Soumas. When participants were asked how and why they came to be involved with the program, most replied with appointments by their soumas. They felt they were selected for their interest in the program or ability to interact with the

⁸⁷ This last comment refers to a situation in Kitti where CCOs had developed community action plans that benefited themselves. As such, conservation was not the forefront of these plans and these CCOs proceeded to decrease sizes of conservation areas so they could clear cut certain areas for sakau.

rest of the community. People also expressed that they wanted to help their community to protect places in their areas and that the work seemed interesting. “I wanted to join so that I can help my community preserve the places that need to be preserved,” responded one CCO. Most had been involved for at least three years.

Maintenance of communities. Roadside cleanings, removal of debris from the ocean, and proper garbage disposal were some of the examples given of maintaining communities when CCOs were asked what their responsibilities were. Other answers consisted of education and advising communities through workshops (e.g. working with youth to teach them how to care for plants, working with communities to share land management practices), meeting with soumas to coordinate activities, monitoring and surveying coastal as well as forested areas, and taking care of nurseries.

Opportunity to take care of their communities. When CCOs were asked what they enjoyed about their roles, they saw the program as providing them with the opportunity (by providing support and encouragement for activities) to fulfill their responsibilities to take care of their communities. The next most common response was the opportunity to visit other parts of the island and to see places they had never seen before. Such visits impressed upon CCOs the uniqueness of Pohnpei. Related to exploring other parts of the island, meeting and working with people from different places on the island and building a common understanding of the environmental problems faced by everyone was the next most common response. CCOs also enjoyed having a unified group in which people came together to share their skills and work together to take care of their communities. As one CCO noted, “When we work together to clean a certain place like the roadside, it is really amazing to see everyone working.”

Working with others both within their communities as well as outside also provided opportunities to learn from one another, noted one participant.

Low participation by others. Despite the responses given above, when participants were asked what they disliked about being a CCO, half responded with the low involvement of other CCOs. These respondents felt that other CCOs were not as dedicated or did not spend as much time in activities or in meetings and were not concerned with their roles as CCOs. Similar to this was non-involvement in activities by others (non-CCOs) within their communities. As one person said, “the thing that we do not like...is when some people do not want to lend an ear or help out.” Other responses revolved around the position itself. Some felt that given the title of a CCO actually impeded their effectiveness because it isolated them from community members. As one person commented, “when we become CCO, we are more like police officers and people fear us to a point where we can no longer interact or socialize with the community.”

Personal skills and self-discovery. Similar to the responses outlined in the involvement section of Chapter Four, most CCOs expressed developing personal skills as what was most learned through involvement with the program. These skills mainly centered on how to interact with communities (e.g. working with youth, approaching traditional leaders, developing language skills for interaction) and learning, through exploration of different areas on the island, about various names for plants and animals and identifying invasive species. Other examples of personal knowledge gained were discovering the importance of conservation and saving certain areas for future generations, how to manage lands and conservation areas, how to work with other

Pohnpeians outside of their villages, and realizing that some people cared about such issues while others did not.

Projects as impact and change. When participants were asked what impact they had as CCOs and what had changed as a result of their work, most answers revolved around the creation of projects and implementing various activities. Examples included teaching people how to plant crops (e.g. bananas, sakau, black pepper), instituting weekly clean-ups to prevent littering, installing water pipe systems, setting up nurseries for different tree species, creating monitoring programs, conducting a census of the village to understand needs, and putting up signage to demarcate protected areas and welcoming people to their communities. Other impacts included teaching people the importance of reserve areas, that sakau can lead to deforestation, and seeing improvements in the watershed. Most of these accomplishments were possible because the groups had the unity and cooperation of their communities.

Support of the traditional leaders. “CCO can be really successful starting from cooperation of the traditional leaders. They should show the people and the CCO members that they are 100% supportive.” Similar comments were made by other CCOs, placing support of traditional leaders as the most frequently cited answer as to what made CCOs effective in their work. Following closely was support of the community as a whole (e.g. elders, youth). Assistance from the NGOs was also a factor CCOs felt contributed to their success. Finally, CCOs felt they were successful because they did not just dispense advice, but also actively participated in projects by helping people to clean around their houses and getting directly involved with the work.

Poor involvement by others. Perhaps it is not surprising that if CCOs felt what made them most effective was the support of the community and traditional leaders, they felt that what hindered their effectiveness the most was not having this support, particularly in the quality of involvement and participation. The definition of support ranged from groups such as other CCO members to titled individuals to traditional leaders to members of the community. Said one individual, “one thing we believe that keeps a CCO from being effective is lack of cooperation among CCOs. The reason is that since CCOs do not get paid, some of us tend to slack off. For instance, when we call meetings, some of us won’t come if there is no sakau.” Such sentiments were prevalent as others mentioned absence or tardiness to meetings (which affected the value of the meeting by limiting what could be discussed), not having the involvement of traditional leaders, and lack of participation in project activities. The issue of direct incentives (or rather its absence), whether in the form of financial payment or sakau, was connected to these issues of participation and support (the issue of not getting paid as the reason for poor turn-out was cited by a majority of those interviewed). Still others noted not having enough time as hindering their effectiveness. CCOs cited family responsibilities as well as other work related responsibilities as impediments to fulfilling their obligations as CCOs.

Funds for activities and support by traditional leaders, state, and NGOs. When CCOs were asked what they needed in order to be more effective, most replied funds to purchase equipment (e.g. binoculars, boats to monitor, weed eaters, signs) to assist with activities and setting up conservation areas and monitoring programs. As one CCO noted, “we need grant to do these work. We cannot work on it by ourselves. We need a

sort of aid from outside to help us manage, preserve, and care for the environment.”

Participants cited needing more workshops and conferences (such as the one they were attending) to learn fundraising techniques such as proposal writing in order to gain such funding. (It is interesting to note that these funds were mainly sought from U.S. federal agencies rather than local NGOs and the state.) Other suggestions were to gain support of the communities and to get paid in order to increase involvement.

Traditional leaders, NGOs, and government departments working together was the answer given most by participants when asked who should be helping CCOs to be more effective. Specifically, NGOs and government departments were seen as entities to provide the tools to conduct activities, while traditional leaders were seen as advisors and entities to rally community support and involvement, “I believe the traditional leaders can bring the ears and hands of all people. With the help of these leaders, many youths and people from communities will work together.”

Destruction of our environment. Overwhelmingly, all cited destruction of their environment (e.g. species, waters, islets) and increased environmental problems as a consequence if the CCO program had not been established. Others shared concerns that their children would not be able to recognize certain plants because they no longer existed. Perhaps this response reveals the biggest impact the CCO program has made through the work it has done and the awareness it has raised that individuals do have the power to manage areas either for devastation or sustainably through stewardship and conservation. Shared one individual, “If there is no CCO, then nothing will happen. Our environment will end up in disaster – endangered species will die out, unique plants will disappear, because we are not enlighten to what is needed to be preserved.”

Recommendations. Additional comments made by participants revolved around recommendations and thoughts on their roles. Two CCOs recommended that education of youth, through support of traditional leaders and NGOs, should be increased through class activities such as field trips and workshops. Another felt it was their responsibility as CCOs to keep traditional leaders and NGOs informed of what was happening in their communities. Perhaps the most insightful recommendation regarding future steps for increasing not just CCO effectiveness but overall conservation efforts on the island came from a CCO who had been involved with the program for three years. He said, “I think that as long as we work together and put away our differences and our little selfishness, then we are able to concentrate on our problems that our environment is facing.”

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