Rota

Commonwealth of the Northern Mariana Islands

Training and Assessment Report

Socioeconomic Monitoring Guidelines for Coastal Managers in Pacific Island Countries (SEM-Pasifika)

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Acknowledgements:
The Rota SEM-P team would like to extend our appreciation to the people of Rota for participating in the assessment and welcoming us into their homes. Funding for this project was provided by National Oceanic Atmospheric Administration (NOAA), The Nature Conservancy, and CNMI Bureau of Environmental and Coastal Quality, Division of Coastal Resources Management.

Summary

SEM-Pasifika is a set of community-based socioeconomic monitoring guidelines developed specifically for coastal managers in Pacific Island countries. Since its launch in 2008 SEM-Pasifika trainings have been conducted throughout Micronesia. Assessments have taken place in the CNMI, Palau, the Marshall Islands, Chuuk, Pohnpei, and Yap in the Federated States of Micronesia. Between July 14-July 20, 2014, Rota was host to the island's first SEM-Pasifika training.

For the training, a number of objectives and outputs were identified:

Objectives:

- To build socioeconomic monitoring capacity of the participants based on SEM-Pasifika
- To understand basic principles of data coding, management, and quality control
- To understand principles of qualitative research and data analysis
- To complete a socio-economic assessment for a field site in Rota
- To conduct a baseline assessment for long-term monitoring effort
- To communicate results of data analysis and effectively communicate data visually
- To be able to use analyzed data in conservation planning and adaptive management
- To produce an assessment report
- To pilot Micronesia Challenge socioeconomic measures as appropriate

Outputs/outcomes from workshop:

- Participants trained to undertake a socioeconomic assessment with some guidance from trainers
- Understand and appreciate mixed research methods with quantitative and qualitative approaches
- Greater understanding and appreciation of socioeconomic monitoring as an important tool for resource management
- Commitment of participants to future SEM-Pasifika activities
- Socio-economic assessment completed and data analyzed for Rota site
- Report back to community on assessment results

Building off of the Rota Conservation Action Plan (CAP), the workshop team developed and conducted an assessment focusing on the island's natural resources. The objectives of the assessment were driven by local management partners and the information gathered is intended to be used to help inform and support resource management. In addition, this training was the first step in developing a longer-term monitoring program. Finally, the training provided an opportunity to test the proposed MC Socioeconomic Indicators.

To do this, a team of resource managers from the Bureau of Environment and Coastal Quality, Division of Coastal Resources Management, Saipan traveled to Rota to work with a local team made up of representatives from the Division of Lands and Natural Resources, Department of Commerce, and Luta Soil and Water Conservation District. The team worked through developing assessment objectives, indicators, key informant interviews and assessment implementation.

Key informant interviews were designed and conducted to give all team members an opportunity to gain a better understanding of the island and the community in relation to the developed objectives. The team then used the information to develop a household survey which sought to gather information and answer questions regarding Rota. Participants then implemented the assessment by interviewing Rota residents. Questions addressed issues such as livelihoods, perceived resource conditions and sustainable solutions.

The training, in addition to building the capacity of participants, was also an opportunity to build relationships between resource managers. The training was also host to the launching of the Micronesia Challenge socioeconomic indicators. During the workshop the MC indicators which were selected at the First MC SE Measures Meeting held in Palau in 2012 were field tested for the first time.

Rota SEM-Pasifika Team

Background

The socioeconomic assessment was conducted in Rota to provide managers and the community with information regarding the island's natural resources. In addition the assessment was the first opportunity to field test the MC Indicators.

For this assessment, the following objectives were developed:

- Collect baseline demographic information
- Understand perceived condition of coastal and marine resources
- Understand perceived threats to coastal and marine resources
- Explore existing and potential coastal and marine activities
- Assess community's knowledge and understanding of Rota's natural resources and management
- Pilot MC indicators as appropriate

Site description:

Rota is one of the three primarily populated islands in the Commonwealth of the Northern Mariana Islands. Rota is 12.3 miles long and 4.2 miles wide. It lies 47 nautical miles north of Guam and 73 nautical miles south of Saipan. The population of the island, according to the 2010 Census, is 2,527 of which 1,700 are over the age of 18. However, there is anecdotal information that the population has decreased since the 2010 census as a result of people leaving for Guam, Saipan, Hawaii and the US mainland. Rota is accessible via plane and boat and relies significantly on imported goods to supplement the local produce and livestock.

Workshop participants

Methodology

Indicators

Following the identification of assessment objectives by the team, the next step was to select indicators that would address the six objectives. The indicators helped to guide the development of questions for the key informant interviews and the household surveys. The selected indicators for the Rota assessment are as follows (the letters and numbers in parentheses represent the indicator designation in the SEM-Pasifika guide):

1. Age (D4)
2. Education (D7)
3. Sources of household income (D12)
4. Knowledge of coastal and marine resources (C10)
5. Coastal and marine activities (C1)
6. Coastal and marine goods and services (C2)
7. Dependence on coastal and marine resources (C5)
8. Cultural pride in natural resources
9. Perceived threats to coastal and marine resources (T3)
10. Resource conflicts (T5)
11. Awareness of rules and regulations (M11)
12. Management effectiveness (M16)
13. Change in violations and illegal activities related to fishing, harvesting, and use of natural resources (MC4)
14. Community awareness of the Micronesia Challenge (MC8)
15. Community support for the Micronesia Challenge (MC9)

Sampling Design

Together, the team agreed that for this initial survey, it would be best to conduct an assessment that was representative of the entire island's population. Whereas previous SEM-P assessments have focused on an individual village or community, the group determined that because Rota's natural resources are accessible to all, it was most appropriate to conduct an island-wide survey. Thus, the sample size was based on the adult (18 years old and above) population of 1,700. Using a confidence level of 95% and a confidence interval of 5% we set a goal to complete 314 surveys. However, upon completing the surveys, five were invalid. Thus the results of this assessment are based on the knowledge, attitudes and perceptions of 309 people.

Data Collection

After identifying objectives and indicators, the Rota team developed questions to ask key informants and focus groups. With the help of Rota partners, the team identified community members, youth, resource managers, and other individuals who were thought to have information that would provide important insight into the status of natural resources on the island. Key informant interviews and the focus group were held in Songsong.

Following the key informant interviews the group developed the household survey. The household survey was made up of 41 questions aimed to address the objectives and indicators selected earlier. Once the questions were drafted, the surveys were pretested in the community. Following the pretest,

the team reconvened, addressed issues that had arisen during the pretest, and developed a final survey. It is also important to note that there was a discussion about the necessity of translating the survey into Chamorro. This decision was left to the Rota participants who, after considering the situation, determined for the purposes of this survey, English would be sufficient.

After finalizing the survey, the team split up to begin conducting the assessment. People were assigned to different parts of the island to ensure all areas were included. In Songsong and Sinapalo, efforts were made to survey every other home to randomize the sample. Household maps were used to determine which homes would be surveyed by which team member. However, some homes were abandoned, some had no one home, etc. Surveys were conducted over a two week period between July 18-July 21, 2014.

Results

Following the survey a data entry sheet was designed. On this sheet the data from the surveys collected was inputted. The raw data was then cleaned and analyzed. For this report, basic data analysis was conducted along with some more in-depth analysis of certain questions.

Years Lived in Rota

Of those surveyed, a large majority had lived in Rota for more than ten years.

Years Lived in Rota	% of Respondents
1-5 years	5
6-10 years	10
More than 10 years	47
Whole life	38

Table 1

Village Distribution

Of those surveyed, 60% lived in Sinapalo, 30% in Songsong, 7% in Teneto, and 2% in other. These percentages closely reflect the village distribution of the Rota population over 18. According to the 2010 census, fifty percent of the Rota population over 18 lived in Sinapalo, 25 percent lived in Songsong, and 6 percent lived in Teneto.

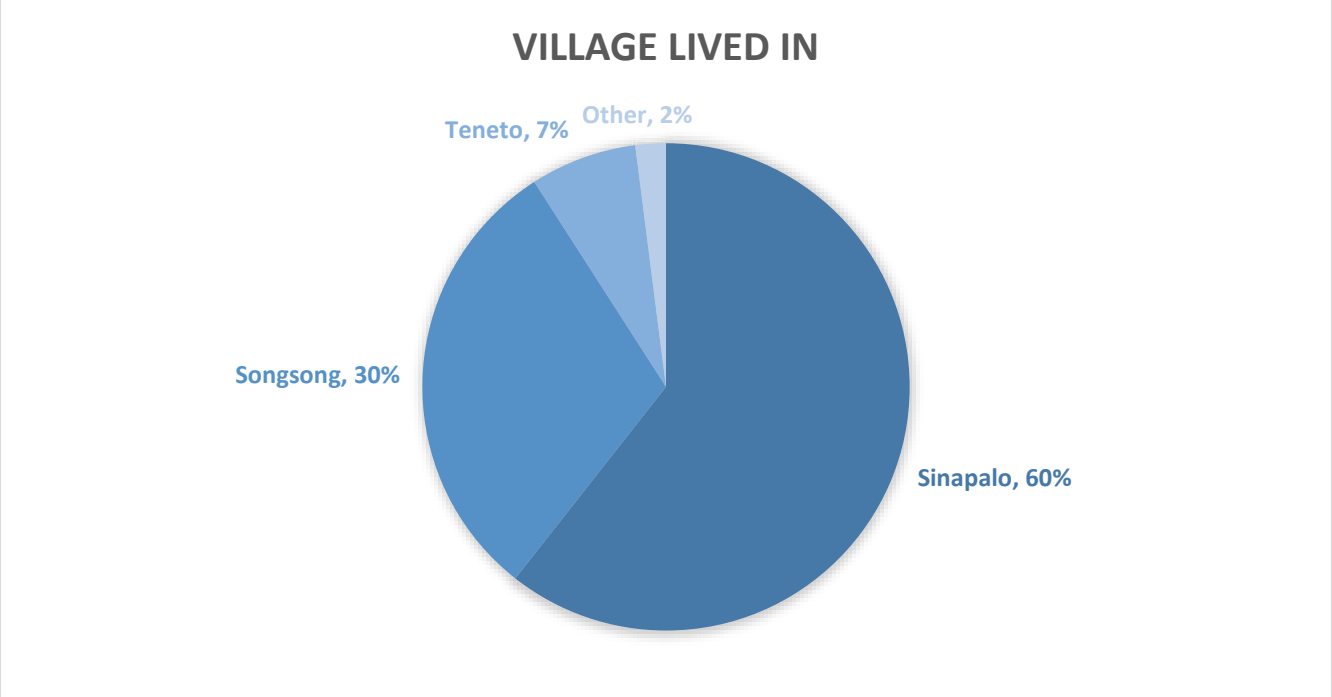

Figure 1

Age of Range of Respondents

Respondents were approximately evenly distributed across the four age categories, as shown in Table 2.

Age Group	% of Respondents
18-30	22
31-40	25
41-50	28
Over 50	25

Table 2

Responsibility for Managing Natural Resources

Of those surveyed, it was clear that an overwhelming percentage thought that the Division of Lands and Natural Resources was responsible for managing Rota's natural resources (73%). This was followed by CRM (26%) and DEQ (24%). Interestingly, some 20% of respondents stated that it is the community's responsibility. *Note that for this question, respondents were allowed to provide more than one response.*

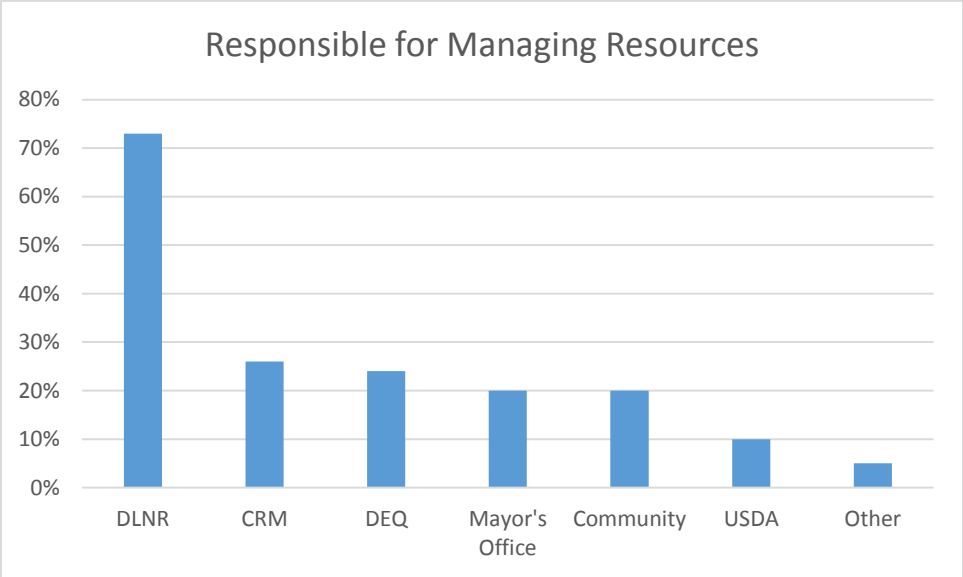

Figure 2

Awareness of Conservation Areas

When asked about their awareness of conservation areas in Rota, over half of all respondents were able to identify four main sites; Wedding Cake (67%), Bird Sanctuary (66%), Sabana/Talakaya (71%), and Sasanhaya Bay/Coral Gardens (55%). Other sites were listed, but only by a very small percentage of respondents (no more than 5%). These results, while high, also highlight opportunity for further outreach and education to raise awareness regarding Rota's conservation areas. This question was open-ended and respondents were asked to list as many conservation areas on Rota that they were aware of.

When asked what Rota's conservation areas protect, awareness was very high. The lowest levels of awareness were for plants. This may demonstrate a need for awareness about the role of conservation areas in protecting Rota's flora.

Protected by Rota's Conservation Areas	% of Respondents who answered "yes"
Fanihi	97
Deer	87
Ayuyu	87
Birds	86
Coral Reefs	76
Fish	69
Plants	56
Medicinal Plants	54

Table 3

When asked about activities allowed in conservation areas, responses were as follows (those highlighted red were incorrect responses and those in green were correct responses):

Activity	% Yes	% No	% Unsure	% No Answer
Fishing	25	66	8	1
Hunting	21	74	5	1
Burning	2	91	4	3
Collecting medicinal plants	40	32	27	1
Hiking	59	20	18	3
Taking plants	26	58	14	2
Cutting trees	16	70	13	1
BBQ	32	48	19	1
Swimming	64	22	12	2
Scuba Diving	47	34	18	1

Table 4

Exceptionally high (91%) was the number of respondents who know that burning is not allowed in conservation areas. For future education and outreach efforts addressing this issue time and energy could be best spent on changing attitudes about burning and not on trying to raise awareness as awareness is already very high.

It should be noted that this question was not necessarily clear as it did not specify conservation areas. Because different conservation areas in Rota allow different activities, for future surveys it is recommended breaking the question down into specific conservation areas.

Time and activities in the jungle

When asked how often they spend time in the jungle, most responded "a few times a year" (41%), followed by "never" (23%), "every week" (16%), "every month" (15%), and "everyday" (6%). Of the majority who do go into the jungle, 31 percent responded that they go out to hunt, 29 percent collect plants and fruit, 23 percent explore, 21 percent hike, and 19 percent collect medicinal plants

(respondents were allowed to choose more than one option when asked about their activities in the jungle).

Hunting

40 percent of those surveyed responded "yes" when asked if they hunt. Of those who hunt, when asked how often, most (53 percent) responded with "a few times a year."

Figure 3

Of those who hunt, their responses of the type of animal they hunt and how often were as follows:

Animal	%Often	%Sometimes	%Never
Deer	25	68	7
Coconut Crab	23	72	5
Birds	11	43	46
Fanihi	2	5	93

Table 5

When asked what they do with their catch, 96% said that they "share it with their family," followed by 31% who give it away, and 24% who sell it. Respondents were asked to answer with as many responses as necessary.

Time and activities in the ocean

When asked how often they spend time in the ocean, only 8 percent responded "never." Of those who did spend time in the ocean, 70 percent swim, 43 percent fish, 27 percent explore, and 21 percent snorkel. Respondents were allowed to give more than one response to this question.

Of those who responded “yes” to fishing, they were then asked about their frequency of fishing for specific species.

Of those who fish, responses to what they fish for were as follows:

	%Often	%Sometimes	%Never
Lobster	13	39	47
Reef fish	35	55	9
Bottom/pelagic fish	14	32	53
Aliling (trochus)	11	58	30
Clams	2	22	75
Crabs	9	46	45

Table 6

Of those who fished, when asked what fishing methods they use, the most common form of fishing for residents of Rota was rod and reel (74 percent) followed by spearfishing (61 percent).

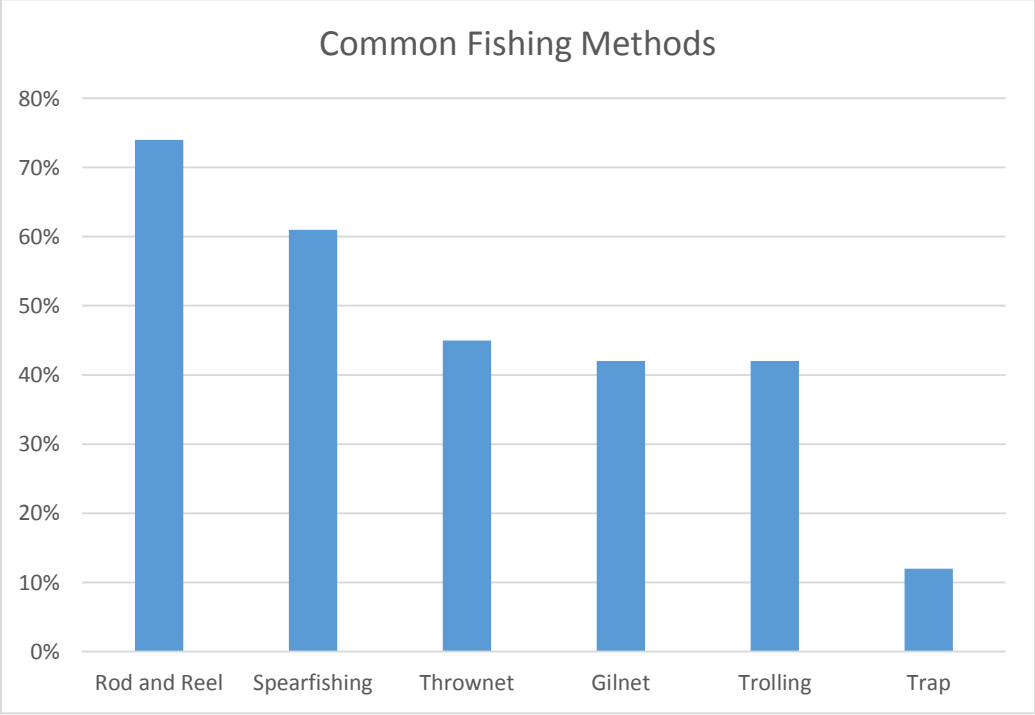

Figure 4

When asked what they do with their catch, 96 percent responded that they “share it with their family”, followed by “give it away” (36%), and “sell it” (26%). For this question, respondents were asked to answer as many options as were applicable for them.

Farming and livestock

When asked if they have a farm, 48 percent of respondents responded "yes." Of these people with farms, 71 percent said they plant fruit, 63 percent said that they plant vegetables, 33 percent plant sweet potato, and 28 percent plant taro.

When asked if they raise livestock, 31 percent responded "yes." Of these respondents, 71 percent raise chicken, 56 percent raise pigs, and 34% raise cattle. Of these, pigs and chickens are most commonly raised together.

Local fish, animal, and plant consumption

When asked how often they eat local fish, animals, or plants survey respondents said:

Figure 5

Terrestrial Resource Related Activities

When provided a list of terrestrial-related activities they participate in and asked to answer yes or no to each, survey respondents answered:

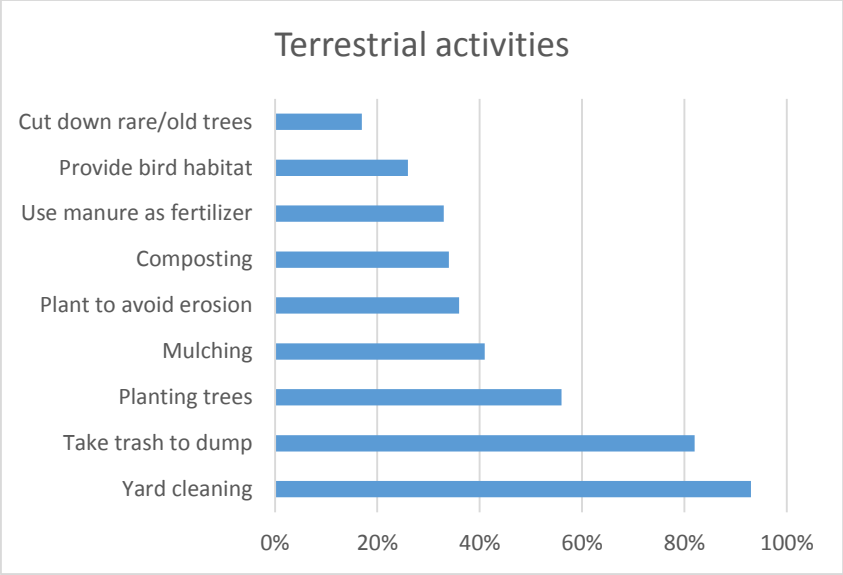

Figure 6

Traditional Practices

Respondents were asked if they knew of traditional practices (farming, fishing, hunting, etc) in Rota that people would do to care for the environment. Twenty seven percent of respondents answered "yes." Of those who answered yes, the most common responses were "planting trees" and "taking only as much as is needed." Other answers included crop rotation, using only natural pesticides, and traditional fishing methods.

Perceived Health of Natural Resources

Respondents were asked about their perception of the health of Rota's natural resources. For each resource, they were asked to provide a rating of "good" "okay" "poor" or "unsure."

	%Good	%Okay	%Poor	%Unsure
Fish	42	33	13	12
Ocean Water Quality	45	34	8	13
Marine Invertebrates	24	26	23	27
Coral	26	24	21	29
Forest	43	37	8	12
Grasslands	30	38	15	16
Freshwater	50	33	10	8
Deer	31	26	19	24
Coconut crab	27	30	21	22
Fanihi	27	15	18	40
Totot	23	20	16	40
Aga	19	18	16	46

Table 7

These results reflect the way in which those surveyed perceive the health of the listed resources. Overall, the people of Rota view their natural resources to be in okay to good health, however, many are also "unsure". The high responses of "unsure" which are particularly apparent for the Fanihi, Totot, and Aga suggest the need for additional education and outreach necessary to raise the community's awareness.

Perceived threats to Rota's environment

When asked if they thought that there are threats to Rota's environment, sixty-one percent responded "yes", twenty-one percent responded "no", and 18 percent responded "unsure."

Of those who answered "yes" when asked what they thought were the top two threats the responses included:

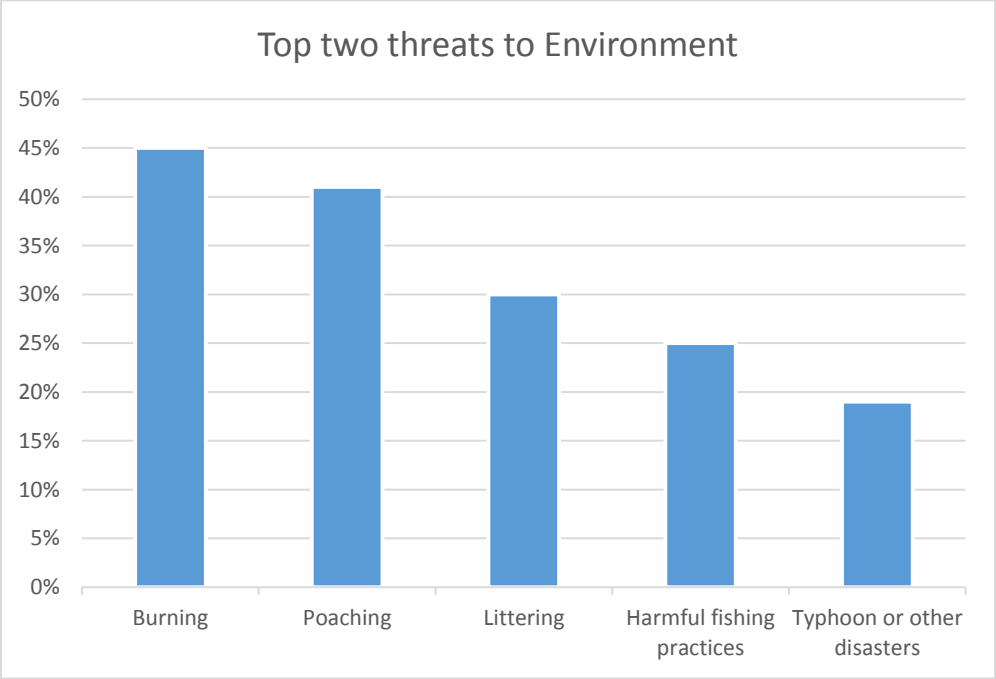

Figure 7

Following the question of threats to the environment, respondents were asked to suggest potential solutions to the perceived threats. This question was open ended. Respondents were not offered options and were asked to list the top two that came to mind. For every threat (with the exception of typhoon and natural disaster), the top two solutions were more education and more/strengthened enforcement.

When asked if they would report someone violating natural resource rules and regulations, only fifty percent answered "yes." Interestingly, 34% of respondents chose not to answer the question at all. This is perhaps indicative of the sensitive nature of reporting a violation and Rota and should be considered when designing outreach and enforcement efforts.

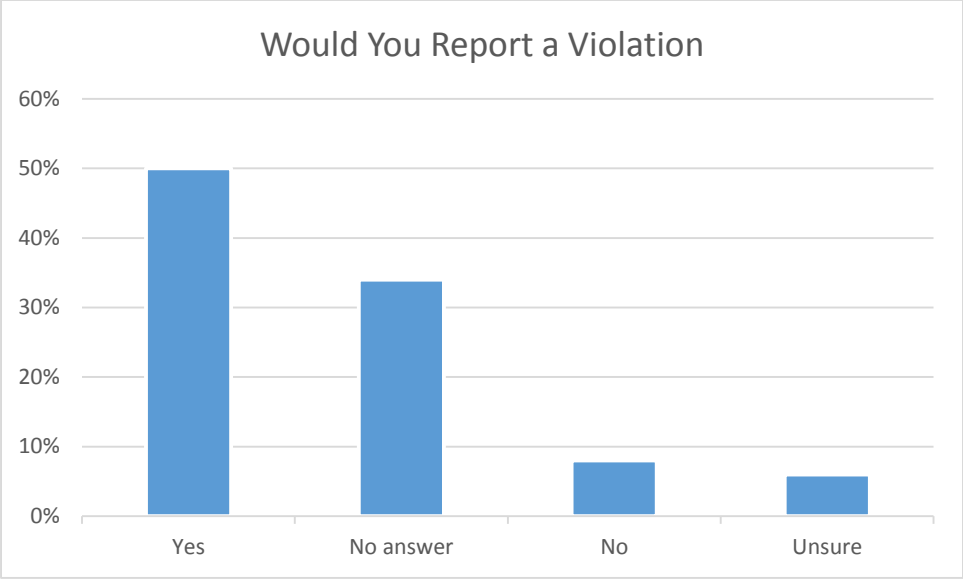

Figure 8

Communication Regarding Natural Resources

When asked who they speak with regarding Rota's natural resources, most respondents answered "friends" (66%), followed by family (52%), visitors (23%) and policy makers (22%).

When asked how often they talk to others about Rota's natural resources 36 percent of respondents said "only during major events," such as fiestas and other large island gatherings. Twenty-five percent responded "once a month" and 17 percent responded every day. The data did not show any trends indicating that those who accessed the resources more regularly were more likely to speak to others about them.

Livelihoods

Respondents were asked how they support themselves and their families and were given the option to select multiple options. The top five responses were salary from employment (74%), fishing (25%), farming (22%), hunting (18%), and retirement/pension/etc (15%). Other options included business (5%) and income from other natural resource related activities (3%).

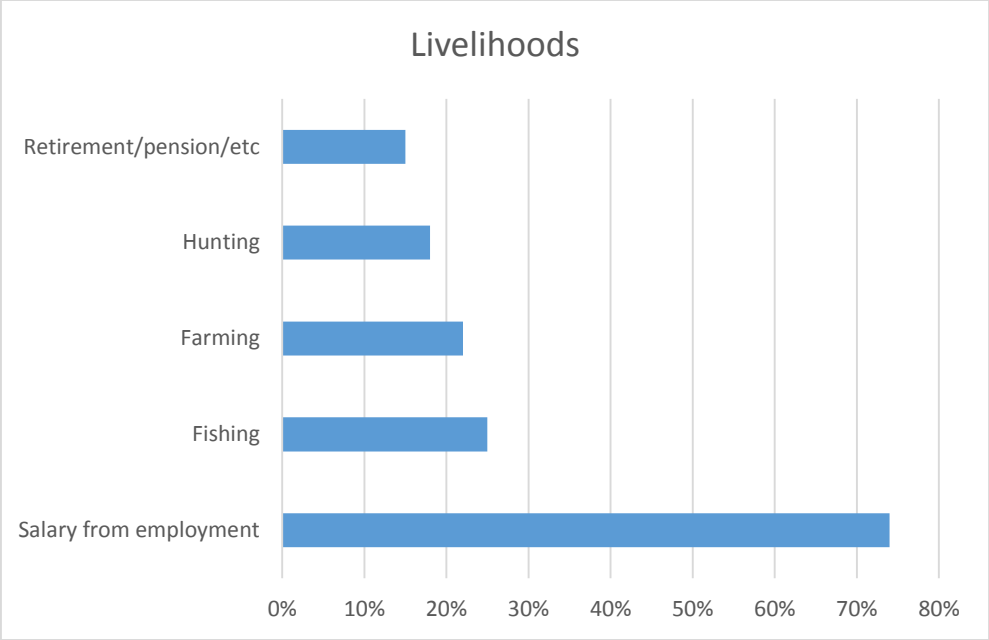

Figure 9

Micronesia Challenge

This assessment also marked the first opportunity to pilot the Micronesia Challenge in Rota. After reviewing all of the indicators, the Rota team selected four questions to include in their survey.

When asked if they have heard of the Micronesia Challenge, only twelve percent of those surveyed responded "yes." The large majority of respondents (81%) had not heard of the Micronesia Challenge and six percent were "unsure."

Of those who responded "yes" to having heard of the Micronesia Challenge, almost all (94%) said that they support the effort with only three percent responding "no" and three percent "unsure."

Of those who responded "yes" to knowing about the Micronesia Challenge most had a general understanding of the Challenge's main goals.

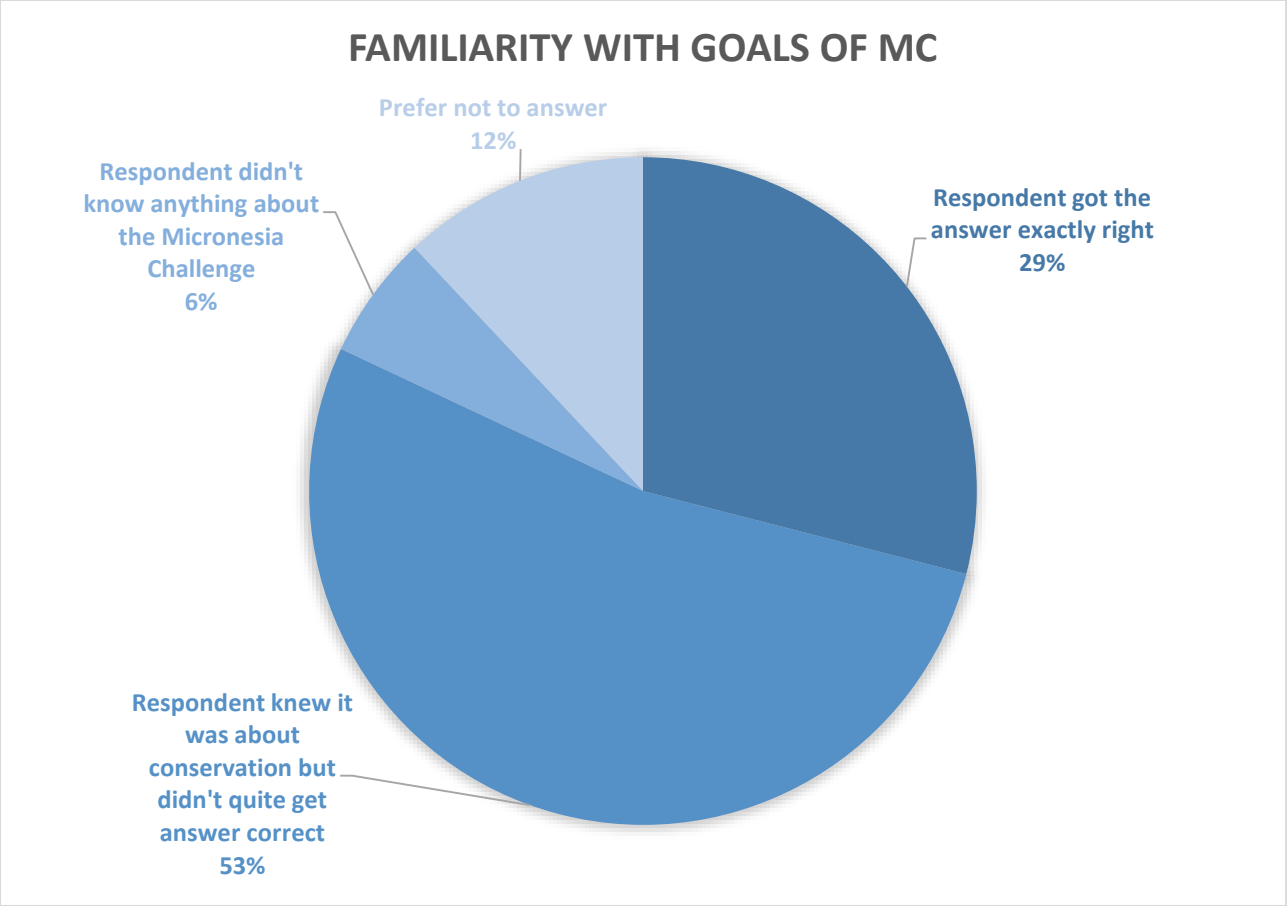

Figure 10

Finally, when asked what they could do to help the CNMI reach the goals of the Micronesia Challenge, responses primarily suggested increased education opportunities and increased community involvement. Specific answers included providing support through speaking with local leaders, educating the community and students about the Challenge and its goals, participating in island clean-ups, and sharing and caring for local conservation traditions.

Discussion

Responsible for managing Rota's natural resources

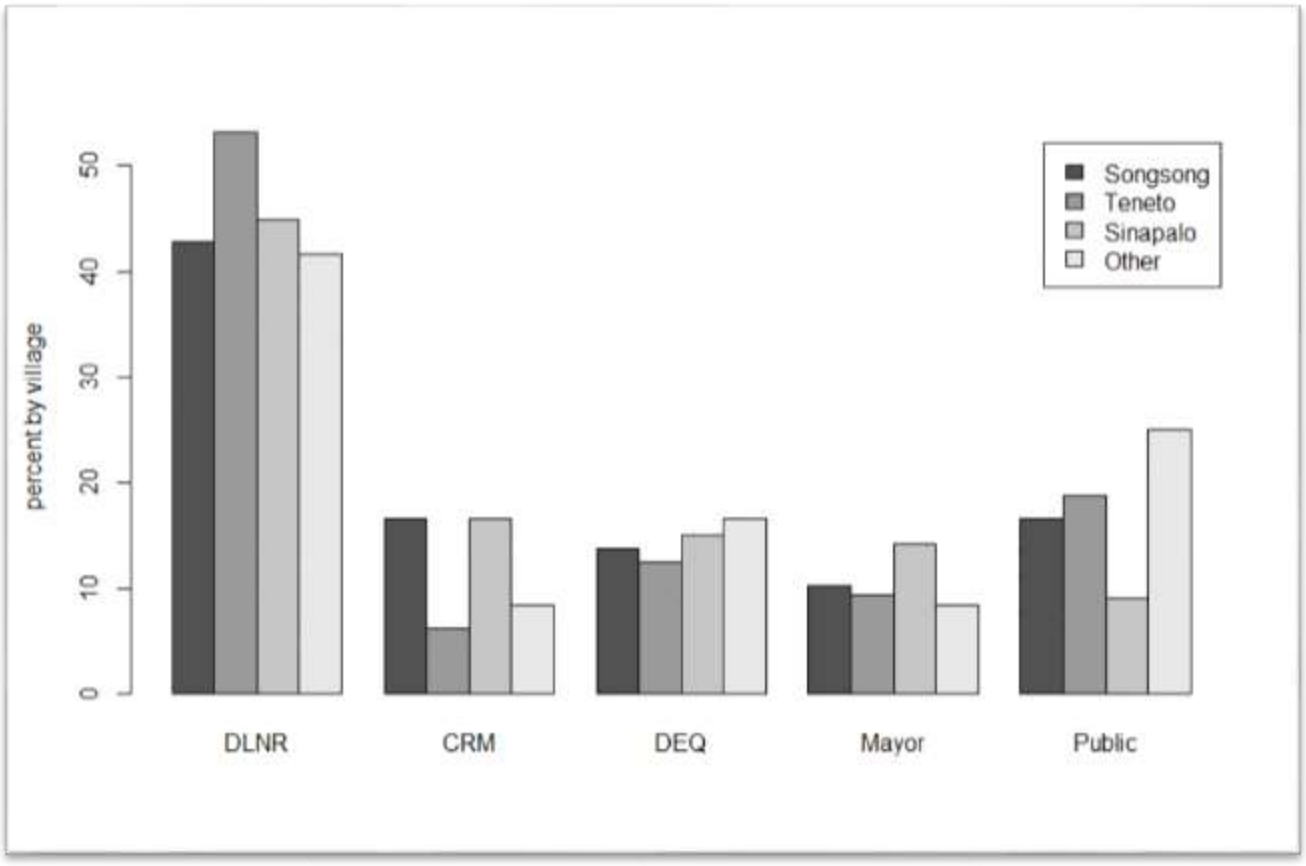

Figure 11

To gain a better understanding of the breakdown that existed among respondents regarding which agencies they felt were responsible for managing Rota's natural resources, we examined the top five responses broken down by villages. As the graph above demonstrates, DLNR had the highest rate of response from all villages. This is likely because of the strong presence of DLNR in Rota compared with CRM who has one fulltime staff and DEQ that has one part time staff. Perhaps outreach and education that presents the roles and responsibilities of the various agencies working on Rota would begin to address this. In addition, the response "public" may demonstrate the responsibility Rota's citizens feel for their island and should be considered when designing resource related campaigns.

Perception of Rota's fish resources and fishing frequency

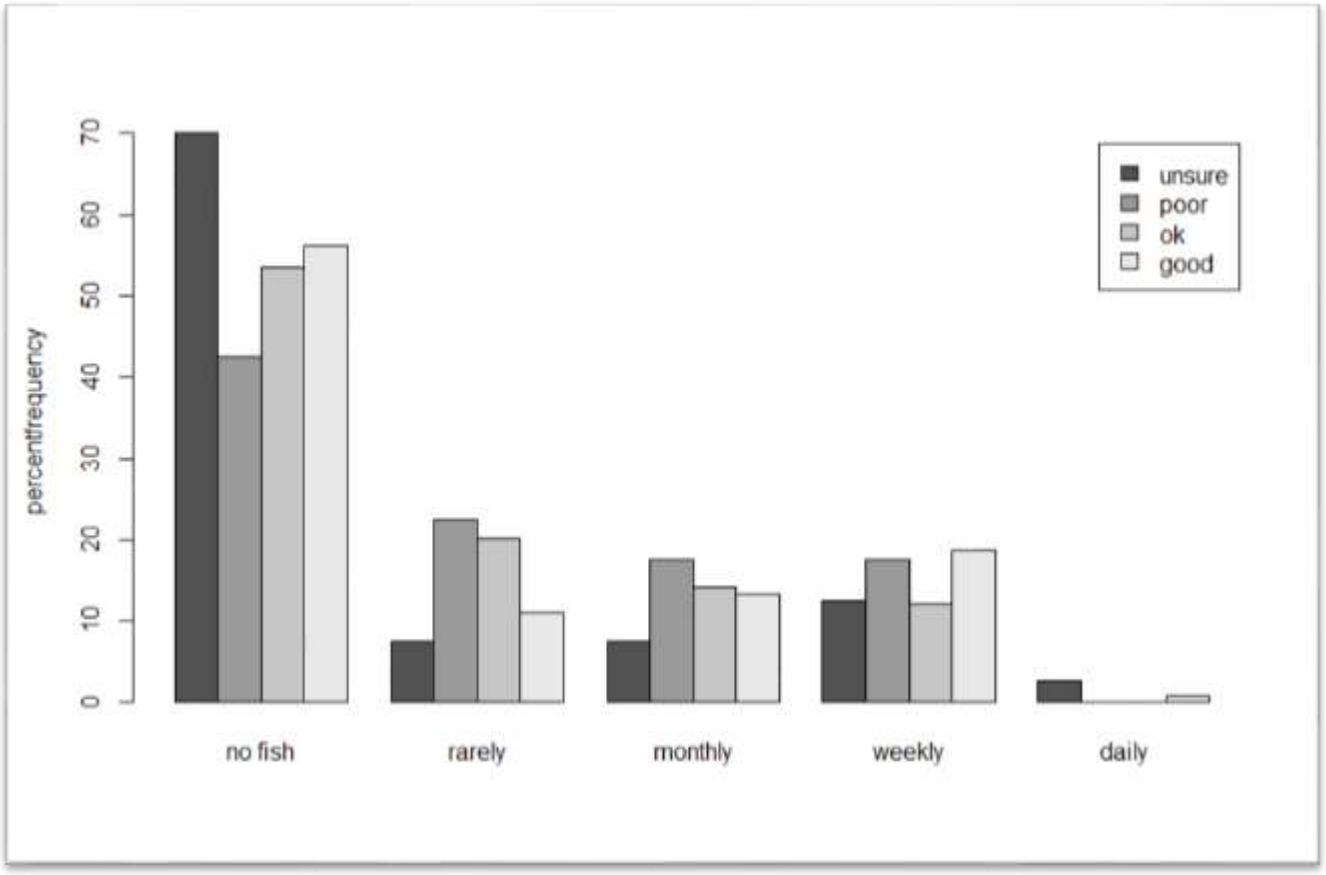

Figure 12

The figure above demonstrates the frequency of respondents' fishing activities and their perception of the health of Rota's fish resources. Here, we can see that those who do not fish perceive the resource as less healthy than those who fish more regularly. Because those who fish on a regular basis are likely more familiar with the resource, this provides valuable insight. For future surveys, limiting respondents for resource health questions to only those who fish or those who farm would allow for a deeper look into such activities.

It became apparent during data analysis that there are variations in the ages represented in Rota villages. This could be important for future management efforts. Because communication efforts are most effective when designed around specific target groups, this information should be considered before designing outreach and communication programs. As the graph below demonstrates, Sinapalo is home to a younger portion of the Rota population, while Songsong and Teneto have older populations.

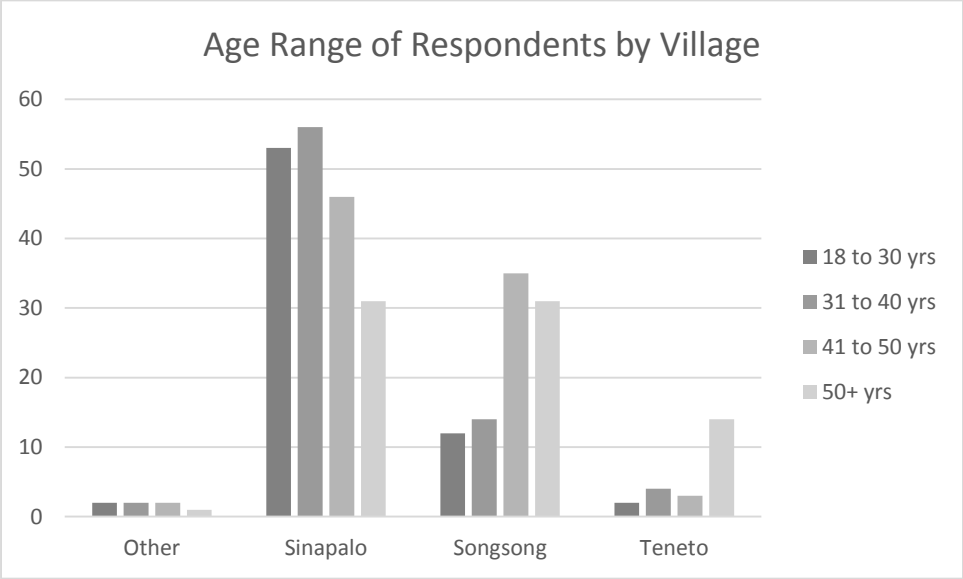

Figure 14

ATTACHMENTS

Survey

ROTA COASTAL AND MARINE RESOURCES SOCIOECONOMIC SURVEY

Interviewer Name: _____ **Survey ID: _____**

Date (month/day/year): _____

Greetings! (Buenas dias, Buenas tatdes, Buenas noches)

My name is_____. I am here to conduct a survey about Rota's coastal and marine resources on behalf of the Division of Coastal Resources Management, Bureau of Environmental and Coastal Quality. The purpose of this study is to find out what activities are going on in Rota that affect our natural resources and what people think and feel about them. The information will be shared with the natural resource agencies to support the sustainable management of Rota's environment. Your responses will be confidential and the results of the survey will also be made available to the community. We expect this will take about **15 minutes** of your time. There is no right or wrong answers, and you don't have to answer any question(s) you are not comfortable with.

You must be at least 18 years or older to participate in this survey.

Have you taken this survey before? **[CHECK ONE] [IF YES, STOP SURVEY. IF NO, CONTINUE]**

☐ *Yes* ☐ *No*

First, I am going to ask you some questions about yourself:

1. How long have you lived in Rota? [DO NOT READ OPTIONS]

a. ☐ 1-5 years
b. ☐ 6-10 years
d. ☐ More than ten years
e. ☐ My whole life

2. What village do you live in? [DO NOT READ OPTIONS]

a. ☐ Sinapalo
b. ☐ Songsong
c. ☐ Other _____

3. May I ask your age group?
[READ OPTIONS, CIRCLE ONE]

a. ☐ 18-30
b. ☐ 31-40
c. ☐ 41-50
d. ☐ Over 50

[ENUMERATOR: NOW I AM GOING TO ASK YOU SOME QUESTIONS RELATED TO CONSERVATION ON ROTA]

4. Who do you think is responsible for managing Rota's natural resources? [DO NOT OFFER ANSWERS, CHECK ALL THAT APPLY]

a. ☐ DEQ
b. ☐ CRM
c. ☐ Mayor's Office
d. ☐ DLNR (Forestry, DFW)
e. ☐ USDA
f. ☐ Other:_____

5. Please name as many of the conservation areas on Rota that you are aware of? [DO NOT GIVE THEM OPTIONS, CHECK WHAT THEY SAY]

a. ☐ Wedding Cake
b. ☐ Bird Sanctuary
c. ☐ Sabana/Talakhaya
d. ☐ Sasanhaya Bay/Coral Gardens
e. ☐ Other: _____
f. ☐ No answer/Don't know

6. Which of the following do Rota's conservation areas protect? [I WILL READ A LIST, PLEASE SAY YES, NO, OR UNSURE]:

	Yes	No	Unsure
a. Birds			
b. Fanihi			
c. Deer			
d. Medicinal Plants			
e. Coral Reefs			
f. Fish			
g. Ayuyu/Coconut crab			
h. Plants			

7. Now I'll read a list of activities. For each one, please tell me if you think it is allowed in Rota's conservation areas:

	Yes	No	Unsure
a. Fishing			
b. Hunting			
c. Burning			
d. Collecting medicinal plants			
e. Hiking			
f. Taking plants for your property			
g. Cutting trees			
h. BBQ			
i. Swimming			
j. Scuba diving			

[**ENUMERATOR**: NOW I AM GOING TO ASK YOU A FEW QUESTIONS ABOUT YOUR USE OF NATURAL RESOURCES]

8. How often do you spend time in the jungle? [READ OPTIONS] [IF RESPONDENT ANSWERS "NEVER" SKIP TO #10]

a. ☐ Every day
b. ☐ Every week
c. ☐ Every month
d. ☐ A few times a year
e. ☐ Never

9. What do you do when you're in the jungle? [DO NOT READ OPTIONS. CHECK ALL THAT APPLY]

a. ☐ Plant trees
b. ☐ Hike
c. ☐ Explore
d. ☐ Hunt
e. ☐ Collect medicinal plants
f. ☐ Collect plants or fruit
g. ☐ Camp
h. ☐ Other:_____

10. Do you hunt?

a. ☐ Yes if yes, continue
b ☐ No if no, skip to #14
.

11. [IF THEY SAID YES TO HUNTING, THEN ASK]: How often do you hunt? [PLEASE READ OPTIONS]

a. ☐ Everyday
b. ☐ Weekly
c. ☐ Monthly
d. ☐ A few times a year

12. Please tell me how often you hunt the following animals: [READ LIST]

	Often	Sometimes	Never
a. Deer			
b. Coconut crab			
c. Birds			
d. Fanihi			
e. Other			

13. After you hunt what do you do with your catch? [PLEASE READ OPTIONS. CHECK ALL THAT APPLY]

a. ☐ Share it with your family
b. ☐ Sell it
c. ☐ Give it away
d. ☐ Other:_____

14. How often do you spend time in the ocean? *(Please read options)*

a. ☐ Every day
b. ☐ Every week
c. ☐ Every month
d. ☐ A few times a year
e. ☐ Never

15. What do you do when you're in the ocean? [READ ALL OPTIONS. CHECK ALL THAT APPLY]

a. ☐ Swim
b. ☐ Fish
c. ☐ Explore
d. ☐ Snorkel
e. ☐ Scuba
f. ☐ Collect shells
g. ☐ Collect corals
h. ☐ Boating

16. [IF THEY NEVER FISH, SKIP TO #20. IF THEY FISH, THEN ASK]: How often do you fish? [READ OPTIONS]

a. ☐ Everyday
b. ☐ Weekly
c. ☐ Monthly
d. ☐ A few times a year

17. Please tell me how often you fish for the following you can say often, sometimes, or never: [READ OPTIONS]

	Often	Sometimes	Never
a. Lobster			
b. Reef fish			
c. Bottom/Pelagic fish			
d. Aliling			
e. Clams			
f. Crabs			
g. Other			

18. When you fish, what fishing methods do you use? Please answer yes or no. [READ OPTIONS]

	Yes	No
a. Rod and Reel		
b. Trap		
c. Throw net		
d. Gillnet/ Chenchulu		
e. Spear		
f. Trolling		
g. Other		

19. What do you do with your catch? [READ OPTIONS, CHECK ALL THAT APPLY]

a. ☐ Share it with your family
b. ☐ Sell it
c. ☐ Give it away
d. ☐ Other:_____

[ENUMERATOR: NOW I AM GOING TO ASK YOU A FEW QUESTIONS ABOUT AGRICULTURE]

20. Do you have a farm?

a. ☐ Yes [IF YES, CONTINUE TO NEXT QUESTION]
b. ☐ No [IF NO, SKIP TO QUESTION #22]

21. What crops do you plant? [DO NOT READ OPTIONS, CHECK ALL THAT APPLY]

a. ☐ Sweet potato
b. ☐ Taro
c. ☐ Vegetables
d. ☐ Fruit
e. ☐ Aquaculture/Aquaponics
f. ☐ Other:_____

22. Do you raise livestock?

a. ☐ Yes [IF YES, CONTINUE TO NEXT QUESTION]
b. ☐ No [IF NO, SKIP TO QUESTION #24]

23. If yes, what kind?_____

24. How often do you eat local fish, animals or plants? [READ OPTIONS]

a. ☐ Every meal
b. ☐ Two meals a day
c. ☐ One meal a day
d. ☐ A few times a week
e. ☐ A few times a month
f. ☐ Special occasions

25. Which of the following do you do? Please answer Yes or No: [READ OPTIONS]

Category	Yes	No
a. Planting trees		
b. Cut down old or rare trees		
c. Using manure as fertilizer		
d. Plant plants to avoid erosion		
e. Composting		
f. Mulching		
g. Taking trash to the dump		
h. Cleaning the yard		
i. Providing bird habitat		
j. Other		

26. Do you know of any traditional (farming, fishing, hunting or other) practices in Rota that people would do to protect the environment? If yes, please explain:

a. Yes

_____
_____
_____

b. No

27. What natural resource is the most important to you?

_____

28. Where is a site on Rota that people really value?

_____

[ENUMERATOR: NOW I AM GOING TO ASK YOU SOME QUESTIONS ABOUT THE HEALTH OF ROTA'S RESOURCES]

29. What do you think of the health or current status of the following coastal and marine resources? For each category, please say good, ok, poor or unsure [READ ALL]:

Category	Good	Okay	Poor	Unsure
a. Fish				
b. Ocean Water Quality				
c. Marine invertebrates (aliling, sea cucumbers, clams, etc)				
d. Coral				
e. Forest				
f. Grasslands				
g. Freshwater resource				
h. Deer				
i. Coconut crab				
j. Fanihi				
k. Totot				
l. Aga				

30. Do you think that there are any threats to the environment in Rota?

a. ☐ Yes [CONTINUE TO NEXT QUESTION]
b. ☐ No [SKIP TO QUESTION #34]
c. ☐ Unsure [SKIP TO QUESTION #34]

31. What do you think are the top two threats to Rota's natural resources? [LET RESPONDENT GIVE ANSWER, DO NOT READ OPTIONS]

a. ☐ Grassland or jungle burning
b. ☐ Trash burning
c. ☐ Littering/ illegal dumping
d. ☐ Land clearing
e. ☐ Development
f. ☐ Poaching
g. ☐ Harmful fishing practices
h. ☐ Fishing in protected areas
i. ☐ Breaking or damaging corals
j. ☐ Typhoon or other disasters
k. ☐ Other:_____

32. Can you think of possible solutions to these threats? [READ THREATS CHOSEN] INDICATE THREAT LETTER AND PROVIDE SOLUTION. EXAMPLE E: FOLLOWED BY WHAT SOLUTION.

a. Threat 1:_____
b. Threat 2:_____

33. If you saw or heard of someone violating Rota's natural resource rules and regulations, would you report it?

a. ☐ Yes
b. ☐ No
c. ☐ Unsure

34. What do you do to help protect Rota's marine areas? _____
_____
_____

35. Who do you talk to about Rota's natural resources? [DO NOT READ OPTIONS. CHECK ALL THAT APPLY]

a. ☐ Family
b. ☐ Friends
c. ☐ Visitors
d. ☐ Policy Makers
e. ☐ Religious Leaders
f. ☐ Other:_____
g. ☐ None [IF NONE, SKIP TO #38]

36. How often do you talk about Rota's natural resources? [READ OPTIONS]

a. ☐ Every day
b. ☐ Once a week
c. ☐ Once a month
d. ☐ Only during major/special events
e. ☐ Other:_____

37. What is the main way you support yourself and/or family? [DO NOT READ OPTIONS. CHECK MAIN SUPPORT] Do you have any other ways in addition? [PLEASE CHOOSE ALL THAT APPLY].

a. ☐ Salary from employment.
b. ☐ Fishing
c. ☐ Hunting
d. ☐ Farming
e. ☐ Retirement/Pension/Social security/Alimony/Other Support
f. ☐ Business owner/self-employed
g. ☐ Income from other natural resources related activities (medicine, tourism, etc.)
h. ☐ Other:_____

38. Have you heard of the Micronesia Challenge?

a. ☐ Yes
b. ☐ No
c. ☐ Unsure

IF RESPONDENT ANSWERS NO, END SURVEY AND THANK THEM FOR THEIR TIME. IF RESPONDENT WANTS MORE INFORMATION, PLEASE VISIT WWW.CNMICORALREEF.COM, WATCH CHANNEL 5, OR CONTACT Micronesia Islands Nature Alliance AT 233-7333.

39. If yes, do you support the Micronesia Challenge?

a. ☐ Yes
b. ☐ No
c. ☐ Unsure

40. If yes to above: what are the main goals of the Micronesia Challenge? [NOTE TO ENUMERATOR: THE GOALS OF THE MICRONESIA CHALLENGE ARE TO CONSERVE 30% OF MARINE RESOURCES AND 20% OF TERRESTRIAL RESOURCES BY 2020] [LEAVE BLANK IF DID NOT ANSWER YES].

a. ☐ Respondent got the answer exactly right
b. ☐ Respondent knew it was about conservation but didn't quite get the answer right
c. ☐ Respondent didn't know anything about the goals of the Micronesia Challenge
d. ☐ Prefer not to answer

41. What do you think you can do to help the CNMI reach the Micronesia Challenge goals?

_____

_____

_____

THANK YOU!!!!!