Socio-economic Baseline Study of Ngchesar State

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Executive Summary

In 2015, the Palau International Coral Reef Center, in collaboration with the University of Queensland, conducted a baseline socio-economic study within six PAN States of Palau. The results presented in this report are based on one of six PAN states: Ngchesar State. The study utilized household questionnaires and key informant interviews incorporating key socio-economic indicators at the regional level (Micronesia Challenge), National level (Palau Indicators) and site level (local management plan).

Based on the results of this study, majority of households in Ngchesar State were knowledgeable of the state conservation areas, as well as the PAN. However, a larger proportion of respondents were not aware of the MC. The majority of households participate in fishing and farming related activities, equally for both food consumption and income. Most respondents did not attribute changes to locally-sourced marine and terrestrial food availability to the protected areas, however two key informants stated that the terrestrial protected areas had somewhat increased the abundance of birds and size of building materials.

The majority of respondents and key informants supported the protected areas in Ngchesar State, however most key informants stated the need for stronger enforcement of the rules and regulations of Ngchesar's protected areas. In addition, almost all key informants recommended regular communication of monitoring results to community members and consistent education and awareness programs. As a baseline study, these results can be used to make a preliminary assessment on the current socio-economic changes and trends taking place within Ngchesar, however

continuous monitoring is needed to adaptively manage the protected areas in Ngchesar State.

Introduction and Context

Socio-economic information provides resource managers and relevant stakeholders important information to effectively manage protected areas. Within the Micronesia region, the MC serves as an initiative to effectively conserve 30% of near shore and 20% of terrestrial resources across Micronesia by 2020. In Palau, a system of protected areas known as the Palau PAN was created with the goal of conserving and sustaining Palau's pristine resources and is Palau's mechanism to achieving the goals of the MC. This study aims to assess the effectiveness of PAN sites in improving the livelihood outcomes of Palau's communities. It does so by conducting a socio-economic study within six PAN States of Palau. The results presented in this report are based on just one of those six states: Ngchesar State.

Veitayaki (1997: 124) notes that ‘nearly all of the marine management systems now being tried in contemporary societies were used in some form in traditional Pacific Island management systems’. These have included actions such as closed seasons and/or areas, size and catch limitations, equipment control and prohibitions. The PAN, being implemented across Palau, in many ways pays close tribute to the traditional marine management system – Bul – that was in place for many, many decades.

In a broad brush manner, the literature on implementing protected areas, particularly marine areas, points to their lack of success, especially in developing countries (e.g.

Cinner and Aswani, 2007; Johannes, 2002). While these studies promote a rather grim prognosis for protected areas, ambitious calls to establish more conservations areas globally continue (Mora et al., 2006).

Often, studies on the impact, effectiveness and sustainability of protected areas focus heavily on biological and ecological indicators. While understanding the progress being made in these areas to conserving resources, equally important is understanding the views and perceptions of surrounding local communities – as Johannes (1978) puts it, understanding the viewpoint of the 'conserver'. This is the core impetus for undertaking this study. Making this study novel is that it builds on a limited knowledge base of empirical data on local people's behaviours, support for, and perceptions of the protected areas, not only in Palau, but globally (see Bartlett et al., 1999).

Methods and Study Site

Methods

This study utilized a structured household questionnaire administered across six States of Palau: Kayangel, Ngaraard, Ngchesar, Ngiwal, Airai and Peleliu. Within each state is a registered marine and/or terrestrial PAN site. While the aim of this study was to determine a variety of social factors related to marine protected areas, equivalent terrestrial questions were conducted where applicable. This study focused on surveying individuals over 18 years old who could speak on behalf of their household and were considered to be the head of household, being mindful too of the need to try and ensure a gender balance across the sample size. To do so, the local data collectors asked if either the male or female head of household was available to be surveyed.

This data collection method was deemed most appropriate and efficient in collecting a large sample size across a broad geographical area. The main objectives of the household questionnaire were to ascertain:

- Socio-demographic data on the respondent and their household;
- Livelihood activities and household income levels;
- Food and water security at the household level; and
- Individual views on the Conservation Areas in their State.

Each question attempted to align with some of the indicators set by the Micronesia Challenge, Palau Indicators and PICRCs own indicators. The questionnaire is provided in Appendix 1 and each question also shows which indicator it is attempting to align with. The questionnaire also more broadly aligns with the Marine Protected

Areas Management Effectiveness Initiative set up by the World Conservation Union's World Commission on Protected Areas (Marine) and the World Wide Fund for Nature, which has developed 16 indicators related to the socio-economic dimensions of marine protected areas.

Accompanying the household questionnaires were a series of key informant interviews. These were conducted by PICRC staff with a total of six people from Ngchesar State. These interviews were held with Ngchesar State Government officials, village chiefs, conservation officers, local fishermen/women, and leaders and/or members of Ngchesar traditional community groups. An interview schedule with a list of semi-structured questions was used to guide the interview to help clarify some of the questionnaire findings and also ascertain the views of these interviewees in relation to the success and challenges of the conservation areas. Their views have been integrated into the discussion section.

A sample size for the socio-economic household questionnaire was determined for each of the six sites based on their population size (at a household level), as well as the desired confidence interval (or, margin of error– set at 5%) and confidence level (95%). A sample size calculator (http://www.surveysystem.com/sscalc.htm) was used to calculate the sample size for each of the sites – the results of which are illustrated below in Table 1.

Table 1. Determining the sample size for the six study sites

State and Study Site	**Number of households**	**Number of household questionnaires (based on the sample size calculator)**	**Total number of questionnaires actually collected**
Ngaraard	111	86	88
Ngchesar	*78*	*65*	*65*
Ngiwal	78	65	64
Peleliu	146	106	106
Airai	650	242	242
Kayangel	27	27	25
Total	**1,162**	**591 (51% of all households)**	**590**

In total, the sample size was determined as 591 household questionnaires. For Ngchesar State, the focus of this report, 65 questionnaires were required and 65 were collected for the study in total.

The questionnaires were administered in each of the six sites by local data collectors who were trained on how to collect data ethically and systematically. The data were then inputted into the Statistical Package of the Social Sciences (v22.0), and analysed. The analysis, for the purposes of this report to show baseline data, included basic frequencies, percentages, means and sums.

Provided below is a summary of the various indicators that were used and integrated into the household questionnaire.

Micronesia Challenge Indicators:

- MC1: Perception of change in food availability
- MC2: Household participation in MC management planning or decision making
- MC4: Change in violations and illegal activities related to fishing, harvesting and use of natural resources
- MC8: Community awareness of MC
- MC9: Community support for MC

Palau Indicators:

- PI1: Household food availability and sources
- PI2: Household dependence on local food resources
- PI3: Level of harvesting from local resources and their conditions-fishers and farmers
- PI4: Household income, expenses and subsistence distribution by source
- PI5: Perception of quality and quantity of water

Ngchesar State Protected Area System Management Plan 2011-2015 Indicators:

Goal 1: Objective 2: Community members know and value the importance of Ngelukes and its resources.

Goal 2: Objective 1: Community members know and value the importance of Mesekelat and its resources.

Study Site

The State of Ngchesar is located on the eastern coast of Palau's largest Island of Babeldaob. The state is comprised of six hamlets: Ngchesar, Ngersuul, Ngerngesang, Ngeraus, Ngeruikl and Ngerkesou and has a total household population of 78 households. Ngchesar has two protected areas that form the Ngchesar State Protected Area System (NSPAS), which include the Mesekelat Conservation Area, a terrestrial protected area which is the site for the Ngchesar water supply dam and consists of upland forests and numerous shallow streams and forested slopes (Ngchesar State Protected Area Management Plan, 2011-2015).

The Ngelukes marine conservation area is a 1 km patch reef with substrate of mostly sand and rubble (Ngchesar State Protected Area Management Plan, 2011-2015). Numerous fish species can be found in Ngelukes, as it is also known locally as a site for aggregations of *Siganus argenteus* and *Siganus lineatus*. Several commercially and edible macro-invertebrates such as *Stichopus hermanni*, *Actinopyga miliaris* and *Tripneustes gratilla* can be found in Ngelukes Conservation Area (Ngchesar State Protected Area Management Plan, 2011-2015).

Figure 1. Source**:** Ngchesar State Protected Area System Management Plan 2011-2015.

Results

Socio-demographics

Most respondents were male (61%) with 35% female respondents. The mean age of respondents was 53, with an age range of 23 to 83 years old. In terms of the length of time lived in this state, 91% of respondents mostly lived in Ngchesar all their lives, with 6.2% having lived in Ngchesar between 1 to 5 years. In terms of marital status, most respondents were married (63.1%), followed by being widowed (20%) or single (16.9%). The vast majority (or all) of respondents held Palauan citizenship (96.9%). Table 2 provides some further socio-demographic characteristics of the respondents and their households.

Table 2. Socio-demographic information on respondents and their household.

Education (%)		**Traditional knowledge (%)**		**Income (%)**		**Land tenure (%)**		**Participate in resource management (%)**	
Up to elementary school	9.2	None	0	Government work	27.7	Traditional agreement	7.7	Never	49.2
Up to high school	46.2	Some	21.5	Pension/social security	27.7	Owns land	87.7	Seldom	32.3
Up to college	26.2	Extensive	73.8	Fishing (fish, invertebrates)	7.7	Leases from State Government	3.1	Sometimes	15.4
Up to university	10.8			No income	10.8	Private rental	1.5	Often	3.1
				Other	0	Informal agreement	0	Always	0
				Private business	7.7				
				Farmer	7.7				

46% of respondents reported having obtained formal education of up to high school, while 26% indicated an educational level of up to college and university (10.8%)

(Table 2). Most respondents reported that they predominately earn an income as government employees or by receiving pension and social security (Table 2). 73.8% of respondents also indicated having extensive traditional knowledge and 87.7% of respondents own the land they live on (Table 2). Almost half (49.2%) of all respondents reported that they have never participated in the management planning and decision making process for protected areas (Table 2).

Households ranged in size from 1 to 11, with a mean of 4 people. Figure 2 shows the total number of people in each age group living in each surveyed household, and Figure 3 shows the average size of each household.

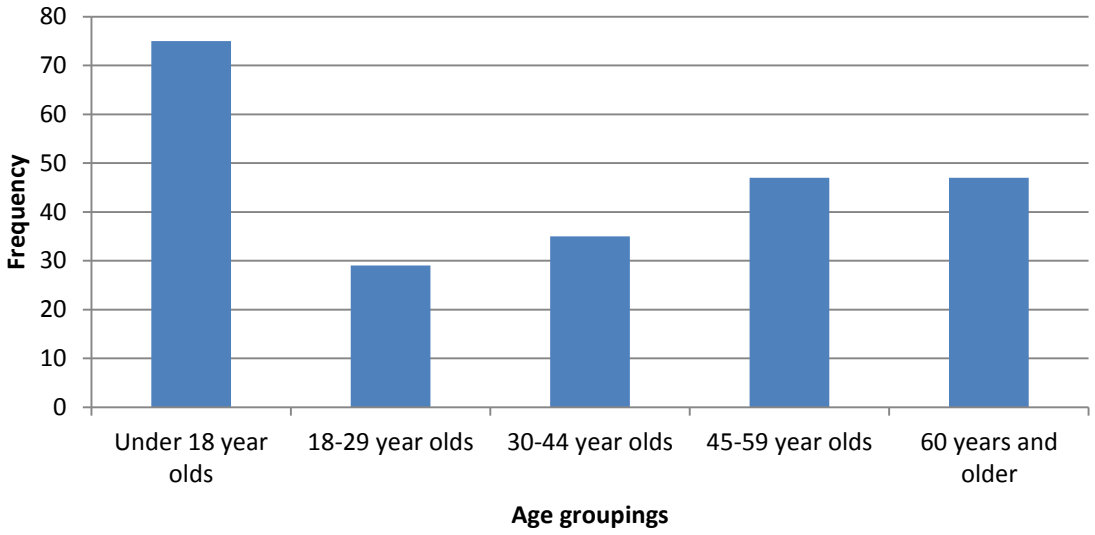

Figure 2. Number of people in each age group living in the surveyed households.

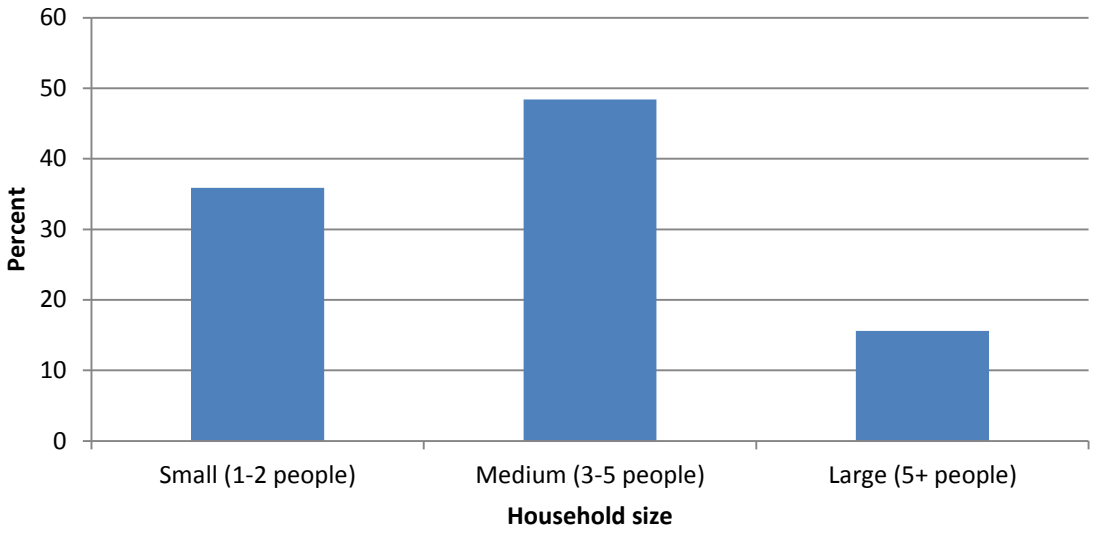

Figure 3. The average size of each surveyed household.

Income and Livelihood activities

The questionnaire sought to identify the key income and subsistent livelihood activities of each surveyed household. 47% of households indicated a monthly income between $500-1,000 while 34% of households reported a monthly income of less than $500 (Figure 4). Most respondents indicated no changes to their household income or expenditures as result of the protected areas (Table 3).

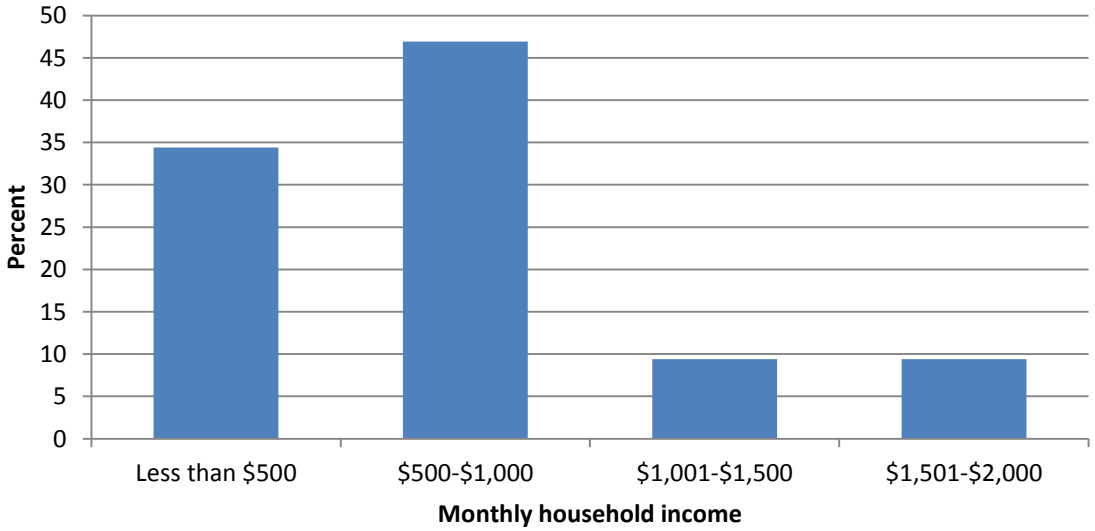

Figure 4. Monthly household income according to respondents.

Table 3. The reported effect of the conservation areas on household income and expenses (**bold** denotes highest percent in each food category).

	Greatly increased	Somewhat increased	Not Changed	Somewhat decreased	Greatly decreased	Don't know
Household income	0%	0%	**95.4%**	3.1%	0%	1.5%
Household expenses	0%	1.5%	**95.4%**	0%	0%	1.5%

Respondents also reported on their household's key subsistence livelihood activities which included fishing, harvesting invertebrates, farming crops and rearing livestock. 61% of all surveyed households indicated that at least one member of their household participated in fishing or harvesting invertebrates. Of the households that participated in fishing related activities, 27% indicated that their fishing activities were mainly for income and food consumption (Figure 5). In addition, 25% of surveyed households only participated in fishing related activities for food consumption (Figure 5). In terms of invertebrate harvesting, 12.5% of households reported harvesting invertebrates for income and food consumption. Fewer households harvest invertebrates for consumption only (11%) (Figure 5). The majority of all surveyed households in Ngchesar participated in fishing fish and harvesting invertebrates on a weekly and/or monthly basis. Only 4.8% of surveyed households indicated rearing livestock mainly for income purposes (Figure 5).

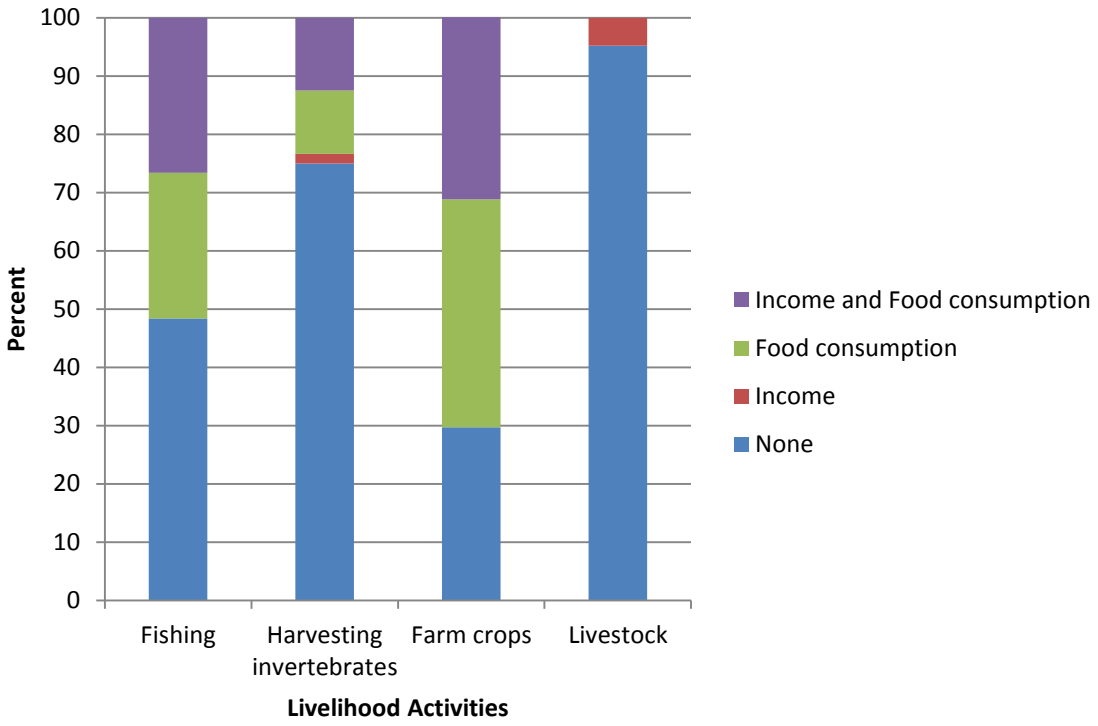

Figure 5. Household level of resource use for livelihood activities in Ngchesar State.

41% of households that participated in fishing and invertebrate harvesting activities, reported that they predominantly fished by handline, followed by gleaning (23.4%), spear diving (21%), bottom fishing (17.2%) and trap (15.6%) (Figure 6). Figure 6 further summarizes all key methods used as a means for fishing fish or harvesting invertebrates.

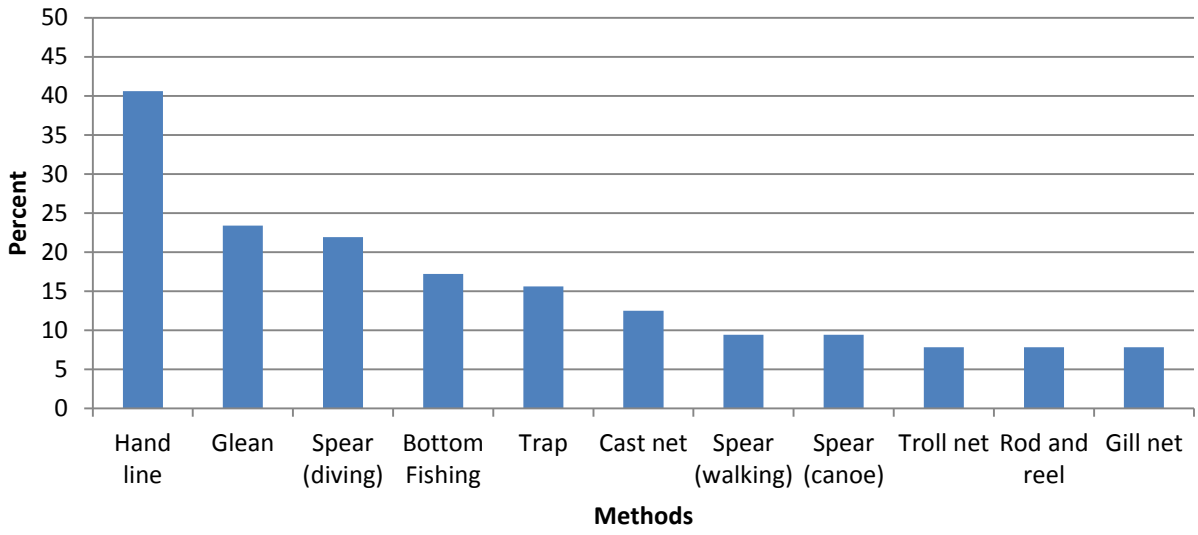

Figure 6. Methods used by households for fishing related activities.

The majority of surveyed respondents in Ngchesar reported that the top two threats to Ngchesar's fisheries were sedimentation/pollution and overfishing. As a solution for these threats, some respondents indicated having silt fences for debris/sediment and stricter law enforcement for sustainable harvesting of marine resources.

Food and Water Security

Respondents were asked where there household's food supply comes from, how often it was sourced and if this was different compared to five years ago. The results of these are in Table 4.

Surveyed households reported relying moderately on household grown crops and/or vegetables including imported crops and/or vegetables (Table 4). Most households also reported having moderate reliance on self-caught marine resources, including imported processed or canned food from the shop (Table 4). Almost all household food sources were not different compared to five years ago.

Table 4. Household's food supply in comparison to five years ago (**bold** denotes highest percent in each food category).

	Now - how often (%)				**Compared to five years ago (%)**		
	A lot	*Moderate*	*Little*	*None*	*More*	*Same*	*Less*
Household grown crops and/or vegetables	4.6	**56.9**	15.4	23.1	21.9	**60.9**	17.2
Local market crops and/or vegetables	1.5	**52.3**	38.5	7.7	4.6	**76.9**	18.5
Imported crops and/or vegetables	4.6	**60**	30.8	4.6	0	**73.8**	26.2
Self-caught marine resources	3.1	**36.9**	18.5	41.5	10.9	**59.4**	29.7
Local market marine resources	4.6	24.6	**55.4**	15.4	1.5	**78.5**	20
Imported marine resources	0	9.2	44.6	**46.2**	1.6	**81.3**	17.2
Local freshwater resources	30.8	**60**	7.7	1.5	14.3	**77.8**	7.9
Local land animals (pigs, birds, fruit bats)	0	20	**63.1**	16.9	1.5	**76.9**	21.5
Locally produced livestock	0	18.5	**53.8**	27.7	3.2	**77.8**	19
Imported livestock (meat)	15.4	**53.8**	26.2	4.6	6.2	**80**	13.8
Imported processed or canned foods from shop	9.2	**60**	29.2	1.5	10.9	**79.7**	9.4
Other	0	0	0	0	0	0	0

83% of households indicated farming coconut, followed by fruit trees (82%), betel nut (74%), taro (55%), tapioca (43%) and garden vegetables (40%) (Figure 7). Respondents who participated in farming activities mainly used animal manure and green manure or compost for fertilizing their farm crops (Figure 8). Most respondents reported that their household had minimal pesticide use (including insecticides, herbicides and fungicides) on household grown crops.

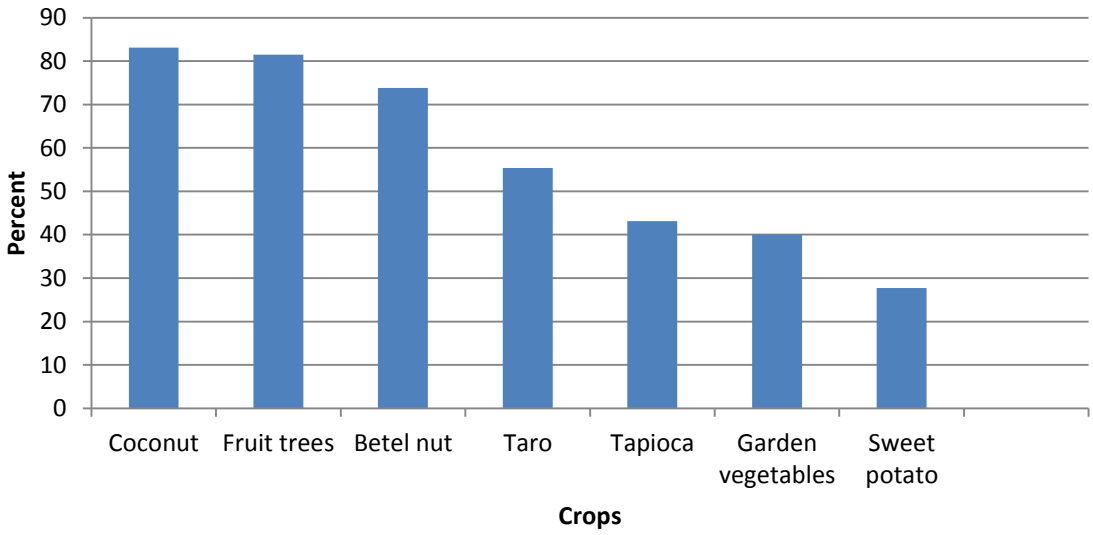

Figure 7. Crops grown by households in Ngchesar State.

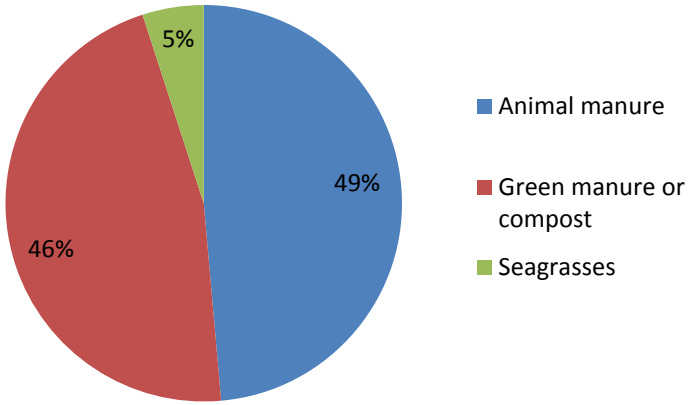

Figure 8. Main fertilizers used on household grown crops.

Respondents were also queried regarding their perceptions on the quality of their household drinking water and general use water. Most survey respondents relied on household rainwater tanks and village wells or taps for sources of household water. Almost all respondents reported that they have access to safe drinking water as well as safe general use water for their household.

Views on the Conservation Areas

With the overall focus of this study, it was crucial to identify if respondents had heard of different conservation initiatives such as the MC, PAN, state bul and state conservation areas. Most respondents reported having heard of the PAN as well as Ngchesar's conservation areas which include Mesekelat Terrestrial conservation area and Ngelukes marine protected area. In terms of knowledge regarding other conservation initiatives, only 56.9% of respondents indicated having heard of the MC (Figure 9). Similarly, most respondents had medium to extensive level of knowledge regarding the PAN, state bul and State conservation areas, with more respondents having no knowledge of the MC (Figure 10). Most respondents indicated having support for Ngchesar's state conservation areas, as well as the PAN (Figure 11). However, there was a higher number of respondents that declined to state their level of support for the MC due to having limited or no knowledge of the MC (Figure 11).

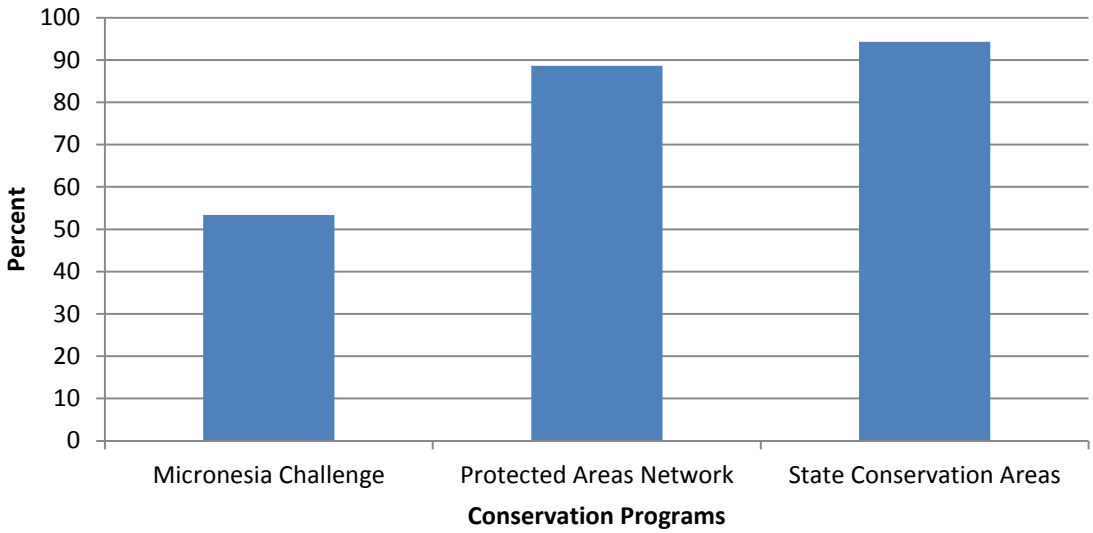

Figure 9. Level of awareness of different conservation initiatives.

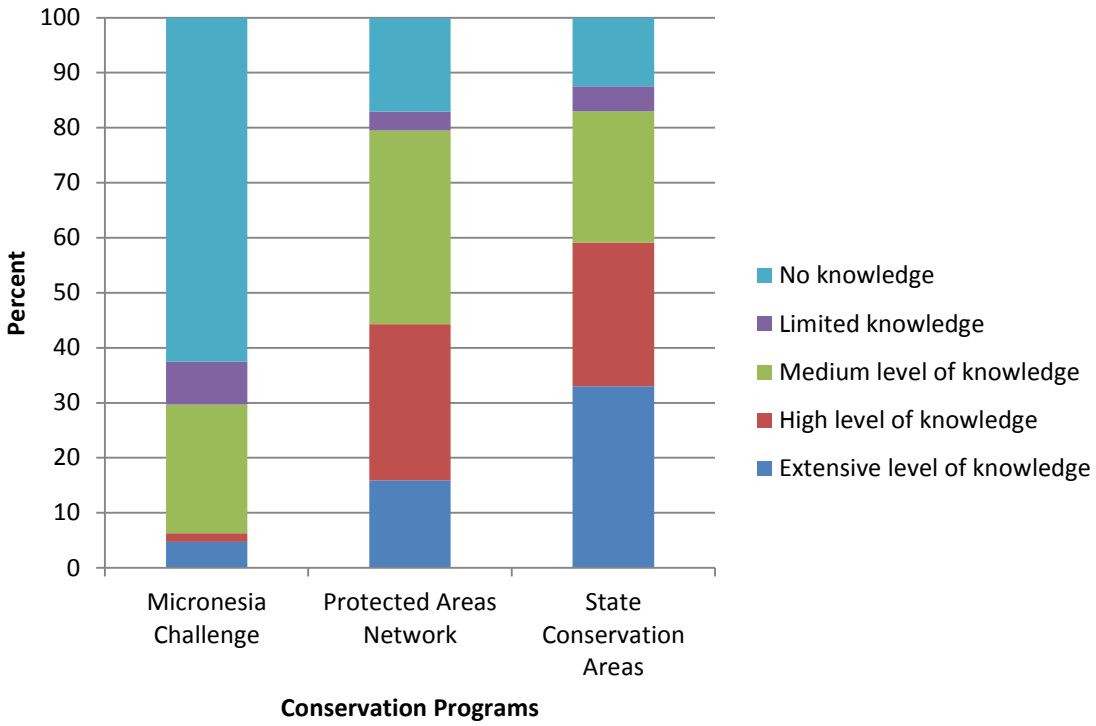

Figure 60. Level of knowledge of different conservation initiatives.

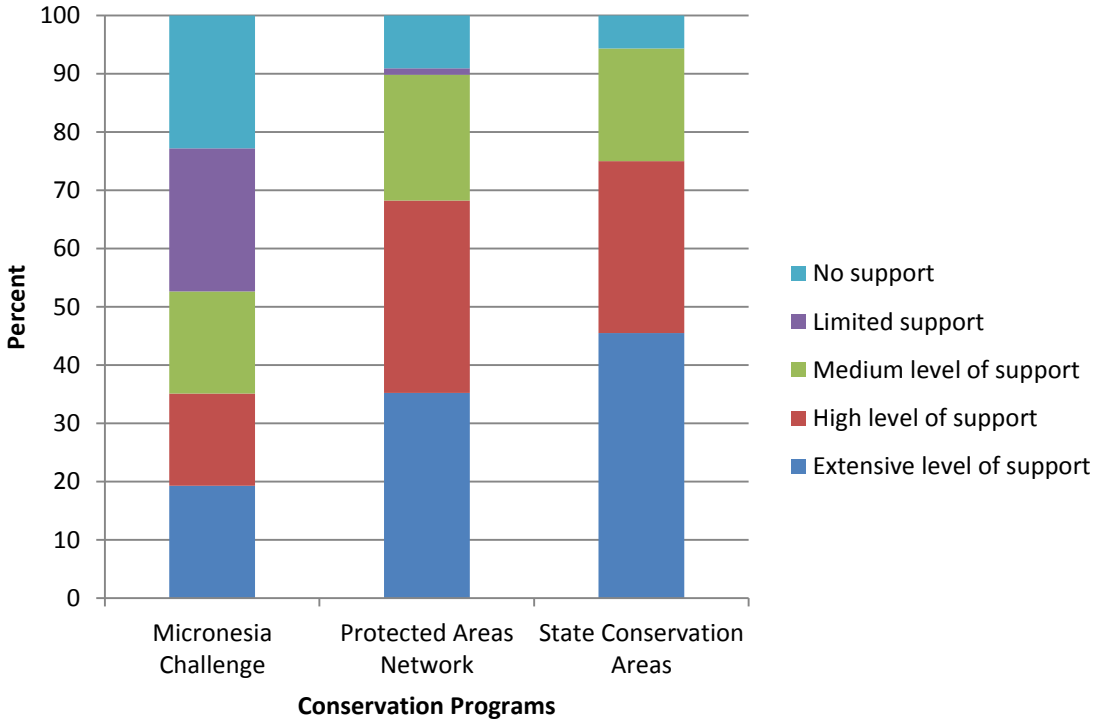

Figure 11. Level of support for different conservation initiatives.

72% of respondents reported that they had knowledge of some of the allowable activities regarding the conservation areas within the Ngchesar State Protected Areas Network (Figure 12). 23.4% of respondents indicated having no knowledge and only 4.7% reported having knowledge of all allowable activities of the conservation areas (Figure 12).

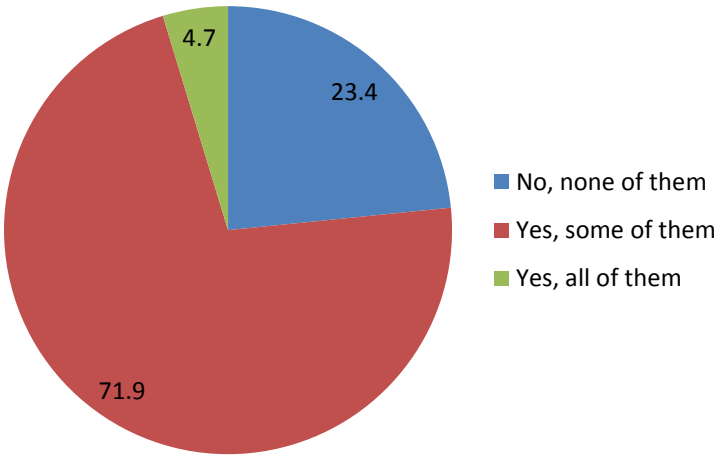

Figure 12. Respondents' knowledge of allowable activities or regulations of the conservation areas within Ngchesar State Protected Areas System.

49.2% of all respondents reported that they or members of their household had seen, read and/or participated in some outreach activities related to the conservation areas (Figure 13). On the other hand, 46.2% of all respondents indicated that they or members of their household have never been involved or participated in any activities related to the conservation areas in Ngchesar State (Figure 13).

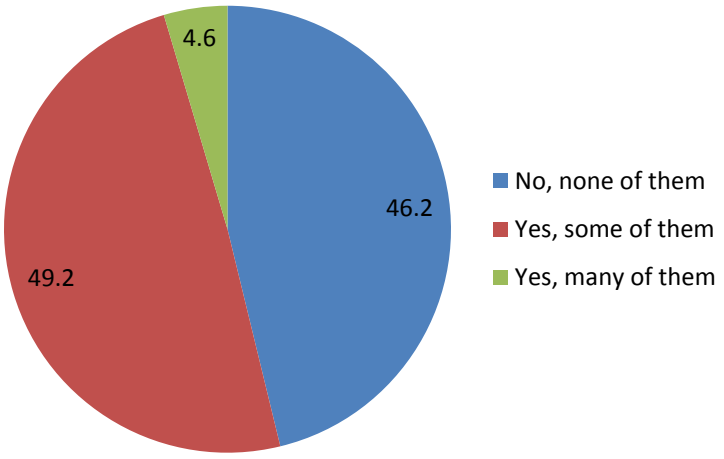

Figure 13. Involvement with activities related to the conservation areas within Ngchesar State Protected Areas System.

The most common method of communication to which respondents gained knowledge of the protected areas in Ngchesar were awareness print materials, fact sheets and education and/or awareness plans (Figure 14). Only less than 5% of households reported having gained information through community meetings (Figure 14).

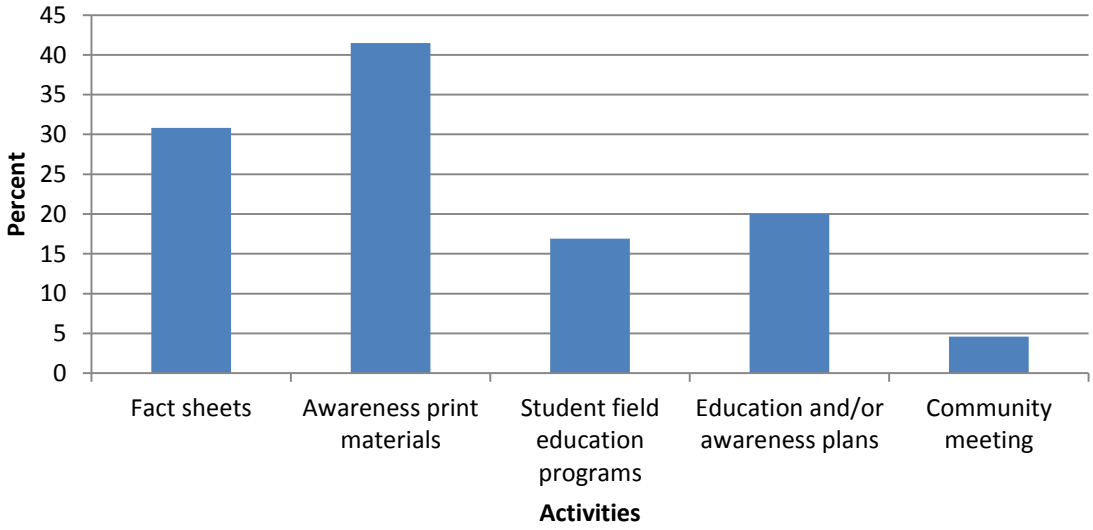

Figure 14. Activities that respondents and their household members have participated in.

Most respondents did not attribute any changes to locally-sourced marine and terrestrial food availability to the protected areas (Tables 5 and 6). This was similar to changes to the overall quality of the marine environment as well as the overall quality of the terrestrial environment (Tables 5 and 6). However, two key informants stated that the terrestrial protected areas had somewhat increased the abundance of birds and the size of building materials.

Table 5. The perceived impact of the Marine Protected Areas on livelihood factors (**bold** denotes highest percent for each variable listed in the first column).

	Greatly increased	**Somewhat increased**	**Not changed**	**Somewhat decreased**	**Greatly decreased**	**Don't know**
Overall quality of the marine environment	0	0	**86.2**	4.6	1.5	7.7
Abundance of fish	0	0	**86.2**	4.6	1.5	7.7
Abundance of invertebrates	0	0	**86.2**	4.6	1.5	7.7
Size of fish	0	0	**86.2**	4.6	0	9.2
Size of invertebrates	0	0	**87.7**	3.1	0	9.2
Availability of food from fish	0	0	**86.2**	4.6	1.5	7.7
Availability of food from invertebrates	0	0	**86.2**	4.6	1.5	7.7
Spiritual and cultural amenity	0	0	**87.7**	3.1	1.5	7.7

Table 6. The perceived impact of the Terrestrial Protected Areas on livelihood factors (**bold** denotes highest percent for each variable listed in the first column).

	Greatly increased	**Somewhat increased**	**Not changed**	**Somewhat decreased**	**Greatly decreased**	**Don't know**
Overall quality of the terrestrial environment	0	3.1	**81.5**	4.6	1.5	7.7
Abundance of fruit bats	0	0	**83.1**	7.7	0	7.7
Abundance of medicinal plants	0	1.5	**83.1**	4.6	1.5	7.7
Abundance of building materials	0	0	**83.1**	7.7	1.5	6.2
Size of fruits bats	0	0	**86.2**	4.6	1.5	6.2
Size of building	0	1.5	**84.6**	4.6	1.5	6.2

materials						
Availability of farm food (crops)	0	0	**87.7**	3.1	1.5	6.2
Quality of public freshwater	0	1.5	**84.6**	3.1	1.5	7.7
Quantity of public freshwater	0	1.5	**86.2**	3.1	1.5	6.2
Spiritual and cultural amenity	0	0	**86.2**	4.6	1.5	6.2

Finally, respondents were asked to reflect on a series of statements related to the overall impact and progress of the Conservation Areas in improving livelihood outcomes. These attitudinal statements were placed on a scale of 0 (do not agree) to 4 (very strongly agree). Respondents could also select ‘don’t know’. The results (both means and percentages) and illustrated below in Table 7.

In terms of respondents' perceptions of benefits of the protected areas in Ngchesar, there was no clear consensus on perceived overall benefits to the community. Similarly, there was no clear consensus as to respondent's seeing or hearing about illegal entry or taking of resources from the conservation areas (Table 7). However, during key informant interviews, almost all key informants stated that there is still illegal entry or taking of resources from the conservation areas in Ngchesar State.

Table 7. Attitudinal statements related to the Conservation Areas(**bold** denotes highest percent for each variable listed in the first column).

Statements	Mean Value	Very strongly agree	Strongly agree	Moderately agree	Agree a little	Do not agree	Don't know
Overall, the Conservation Area(s) has been beneficial to our community	4.86	1.5	27.7	26.2	**40**	1.5	0
I often see or hear about illegal entry or taking of resources from the Conservation Area(s)	10.60	1.5	18.5	21.5	**41.5**	7.7	0
There is adequate enforcement of the rules of the Conservation Area(s)	4.65	0	20	26.2	**47.7**	3.1	0
There is adequate monitoring of the natural resources in our community	3.08	0	16.9	26.2	**52.3**	3.1	1.5
There have been positive livelihood benefits due to the Conservation Area(s)	3.18	0	23.1	26.2	**44.6**	4.6	1.5
There have been positive economic benefits due to the Conservation Area(s)	3.20	0	24.6	24.6	**44.6**	4.6	1.5
There have been positive cultural and spiritual benefits due to the Conservation Area(s)	3.20	0	23.1	27.7	**43.1**	4.6	1.5
There have been positive environmental benefits due to the Conservation Area(s)	3.22	0	23.1	29.2	**41.5**	4.6	1.5
Everyone benefits equally from the Conservation Area(s)	3.17	0	21.5	27.7	**44.6**	4.6	1.5
If we want to preserve our natural resources then 'closing off' certain areas is necessary	3.18	0	21.5	30.8	**40**	6.2	1.5

Local Management Plan

Over 90% of respondents stated that they have knowledge of the Ngelukes Marine Protected Area as well as Mesekelat Conservation Area. However, when asked if they knew of the boundaries of both protected areas, only 28% of respondents were knowledgeable of the boundaries of Ngelukes MPA (Figure 15). Similarly, only 17% of respondents knew of the boundaries of Mesekelat Conservation Area (Figure 15).

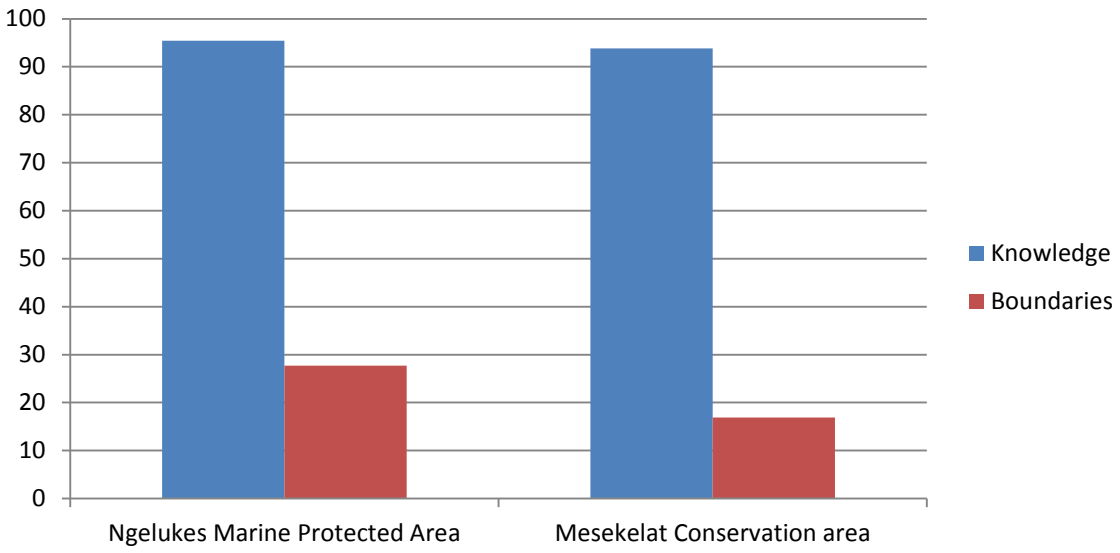

Figure 15. Respondents' knowledge of the Ngelukes Marine Protected Area and Mesekelat Terrestrial Conservation Area.

More than 80% of respondents were aware and understood the importance of Ngelukes MPA including the importance of Mesekelat Conservation area. However, when asked how strongly respondents value both conservation areas, approximately 40% of respondents stated that they moderately valued the importance and 32% of respondents strongly valued the importance of both conservation areas.

Discussion

Most respondents in Ngchesar have lived in the state all their lives and hold Palauan citizenship. The majority of respondents predominantly earned their income through Government work, pension and social security and owned the land that they live on. Almost half of all respondents stated that they have never participated in natural resource planning or the decision making process.

In terms of respondents' level of resource dependency, majority of households indicated that they participated in fishing and farming related activities. However, these activities were mainly for food consumption, customary practices, giving away and less for income. Most households in Ngchesar relied moderately on household grown crops including self-caught marine resources. Most household food sources were not different compared to five years ago.

Most respondents did not attribute changes to locally sourced marine and terrestrial food availability to the protected areas. However, most respondents supported the protected areas in Ngchesar. During key informant interviews, most key informants believed that the protected areas can have positive livelihood benefits for the overall community; however, there should be stronger efforts in awareness and education for the protected areas. In addition, most key informants stated that there should be regular communication of biological monitoring results to the community in an effort to keep the community well informed about the protected areas in Ngchesar. In the same manner, two key informants also recommended that awareness/education programs should target certain age groups (younger adults) within the community.

The majority of respondents were aware of the importance of Ngelukes MPA and Mesekelat Conservation Area; however, less than 30% of respondents were knowledgeable of the boundaries of both conservation areas. This signifies the need to strengthen awareness efforts including the regulations and boundaries of the protected areas in Ngchesar. In terms of related conservation initiatives, majority of respondents were aware of the PAN and less for the MC. Most key informants strongly believed that the conservation areas in Ngchesar were beneficial to the community however, they stated that there was illegal entry/poaching, therefore enforcement needs to be strengthened.

Conclusion

The results presented in this study serve as baseline socio-economic information for the protected areas in Ngchesar State. These results illustrated the current socio-economic conditions and perceptions of community members in Ngchesar and can be used as a preliminary assessment on the effectiveness of protected areas in improving livelihood outcomes. Continuous socio-economic monitoring is essential for capturing trends and changes overtime to enable site managers and relevant stakeholders to adaptively manage the protected areas in Ngchesar.

Acknowledgements

We wish to acknowledge and thank the Ngchesar state Government and the people of Ngchesar as well as the data collectors, Sophia Ngiralmau and Jerome Ramarui for their assistance and support throughout this study. We would also like to thank the Palau Socio-economic working group, Dr.Supin Wongbusarakum, and King Sam

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THE UNIVERSITY OF QUEENSLAND
AUSTRALIA

School of Geography, Planning and Environmental Management

Project Title: Socio-economic Study of Palau's Protected Areas Network

PARTICIPANT INFORMATION SHEET FOR SURVEY PARTICIPANTS

I, Karen McNamara, kindly seek your assistance with a research project exploring the effectiveness of the Protected Areas Network on livelihood outcomes across six sites in Palau. This research project is being conducted by The University of Queensland in close partnership with the Palau International Coral Reef Center (based in Koror). This research seeks to draw on the views and experiences of locals to better understand the overall livelihood benefits, or not, of the protected areas network.

This research will involve the collection of information about your household socio-demographics, livelihood activities and income, food and water security, and views on the conservation areas.The results from which will be written up in reports and peer-reviewed literature to illustrate progress towards the socio-economic outcomes of the Protected Areas Network.

Your participation is voluntary. At all stages of the research, participant feedback is warmly welcomed. If you would like more information on this research project, please don't hesitate to contact me.

This study adheres to the Guidelines of the ethical review process of The University of Queensland and the National Statement on Ethical Conduct in Human Research. Whilst you are free to discuss your participation in this study with project staff (contactable on +61 (7) 3365 6069 or karen.mcnamara@uq.edu.au), if you would like to speak to an officer of the University not involved in the study, you may contact the Ethics Coordinator on +61 (7) 3365 3924.

I would like to thank you very much in participating in this research.

Dr Karen McNamara
Lecturer
School of Geography, Planning and Environmental Management
The University of Queensland
E: karen.mcnamara@uq.edu.au

HOUSEHOLD QUESTIONNAIRE: PALAU INTERNATIONAL CORAL REEF CENTER

Surveyed by:_____ Date:_____Survey No: _____

State:_____Hamlet:_____

SECTION ONE: Socio-demographics. Telengtengil a delengchokl

1. Obtain the following information for the 'interviewee' - who is the 'head of household' (remember to aim for a gender balance, where possible). (PICRC1, MC2)

A. Who **Ng techa oungerachel er a delengchokl?**	B. Age (in years) **Ng tela rekim?**	C. Have you always lived in this State? **Ke meketeketang el kiei er tia el beluu?**	D. Marital Status **Ke bechiil?**	E. Highest level of formal education **Kot el ngar bab el skuul el mtilobed er ngii**	**F**. Highest level of practice of traditional knowledge **Klemdengei er a siukang, klebelau me a klechibelau**	**G**. How do you predominately earn an income? **Uchul a klekerngem**	H. Citizenship **Chad er ker**	**I**. Does your family own the land you live on? **Tia el om kiei er ngii ng chetemem**	**J**. Participate in resource management planning and decision making **Mla nga er a omesodel me a omelchesel a llechul me a omengermelel a ngikel, cheled, blul el basio.**
(Interviewee)									
1='Male' head of household 2='Female head of household'		**0** =Yes **1**=No, less than 1 year **2** =No, between 1-5 years **3** =No, more than 5 years	1=Single 2=Married 3=Widow 4=Divorced 5=Other (specify)	1=Up to elementary 2=Up to high school 3=Up to college or similar 4=Up to university or similar 5=None 6=Other (specify)	1=Extensive **Dmolech el klemedengei** 2=Some **Medengei a bebil** 3=None **Diak**	1=No income 2=Handicraft 3=Fishing (catch and/or harvest) 4=Farmer (crops, livestock) 5=Private business 6=Remittances 7=Land or house lease 8=Government work 9=Family custom 10=Pension/social security 11=Other (specify)	1=Palau 2=Other (specify)	1=Yes 2=No, lease from State Gov't 3=No, private rental 4=No, informal agreement 5=No, traditional arrangement	0= Never **Diak** 1= Seldom **Derstang** 2= Sometimes **Bebil ra taem** 3= Often **Oumesind ra taem** 4= Always **Bek el taem**

2. Indicate how many people (adults and children), including yourself, live in your household, including their age group: **Te tela el chad el uldimukl er kau a kiei er a delengcheklem e dertela rekrir?** (PICRC1, MC2)

	Under 18 years old	18-29 years old	30-44 years old	45-59 years old	60 years old and higher
Number					

SECTION TWO: Livelihood Activities and Income. Omenged, Omelngot me a Omengerker

3. What income and subsistent livelihood activities does your household do? **Ngera el omenged me a omelngot a omoruul er a delengcheklem? (PI1, PI3, PI4)**

E.g.: Do you or anyone else in your household go out to catch or harvest? **If No, select 'None'. If Yes, is this for money or food or both (select all that apply).** And how often (on average over a year) ? **Ng ngar ngii a ngar er a delengcheklem el oumenged el melngot el di kall, ng makit a lechub e ngii el teblong? E a le ngar er ngii e ng locha tela el taem er a ta el rak?**

Complete this for all the other livelihood activities (harvest, farm crops and livestock).

Catch (fish, turtles etc) ☐None			**Harvest (invertebrates)** ☐None			**Farm crops** ☐None			**Livestock** ☐None		
For $	For food	How often (on av./yr)	For $	For food	How often (on av./yr)	For $	For food	Area (acres)	For $	For food	How many (on av./yr)
☐	☐	____	☐	☐	____	☐	☐	____	☐	☐	____
		1=daily 2=weekly 3=monthly 4=6 months+			1=daily 2=weekly 3=monthly 4=6 months+			1=<0.25 2=0.25-1 3=>1			1=1-5 2=6-10 3=>10

4. What is the monthly income level of your household**? Ng locha telang a uldekial a kerrekerngem me a rebek el mengerker el kiei er a delengcheklem er a chelsel a ta el buil?** (PI4)

Less than 500$ Mekesai er a 500	**500-1,000$**	**1,001-1,500$**	**1,501-2,000$**	**2,001-2,500$**	**More than 2,500$ Betok er a 2,500**	**Do not wish to say Diak el soal el ouchais**
☐	☐	☐	☐	☐	☐	☐

5. Have the Conservation Area(s) changed your household income or household expenses? **A ika el blul el basio, ng ngar er ngii a blal ngedechii er a klungel a kerrekerngem me a omengitem er a udoud?** (PI4)
    - **If No, mark 'not changed' box**
    - If Yes, has it increased or decreased your household income/expenses? Greatly/Somewhat?

	Greatly Increased **Kmal klou**	Somewhat Increased **Ngar er ngii**	Not Changed **Diak a mla mengodech**	Somewhat Decreased **Mla ngmanget**	Greatly Decreased **Kmal mla ngmanget**	Don't Know **Ng ngaukai**
Household income. **Kerrekerngel a delengchokl**	☐	☐	☐	☐	☐	☐
Household expenses. **Omengitel a udoud er a delengchokl**	☐	☐	☐	☐	☐	☐

SECTION THREE: Food and Water Security. Ulekerreuil a Kall me a Ralm

6. Indicate where your household's food supply comes from, how often it is sourced, and if this is different compared to five years ago: **Ka mouchais el kmo a kall er a delengcheklem ng ngar ker el mei, e merames ng mekudem a ngeiul/skel , e ngodech a lechub e ng di osisiu me a eim el rak er a mla me mong?** (PI2)

	Now - how often **chelechang el taem - kudem**				Compared to five years ago **Eim el rak er a mla me mong**		
	A lot ***Mekudem***	*Moderate* ***Klebech***	*Little* ***Merames***	*None* ***Diak***	*More* ***Betok***	*Same* ***Osisiu***	*Less* ***Mekesai***
Household grown crops and/or vegetables **Sers er a ongraol me a yasai**	☐	☐	☐	☐	☐	☐	☐
Local market crops and/or vegetables **Ongraol me a yasai er a makit (delomel er Belau)**	☐	☐	☐	☐	☐	☐	☐
Imported crops and/or vegetables **Ongraol me a yasai el ngar er a ikrel Belau el mei**	☐	☐	☐	☐	☐	☐	☐
Self-caught marine resources **Oumenged**	☐	☐	☐	☐	☐	☐	☐
Local market marine resources **Ngikel me a cheled er a makit**	☐	☐	☐	☐	☐	☐	☐
Imported marine resources **Ngikel me a cheled el ngar er a ikrel Belau el mei**	☐	☐	☐	☐	☐	☐	☐
Local freshwater resources **Usbechel a ralm**	☐	☐	☐	☐	☐	☐	☐
Local land animals (pigs, birds, fruit bats) **Odoim el charm er a beluu (babii, charm el suebek, olik)**	☐	☐	☐	☐	☐	☐	☐

Locally produced livestock **Kerbou, kaming me a babii er a sers**	☐	☐	☐	☐	☐	☐	☐
Imported livestock (meat) **Tech er a kerbou, kaming el mla er a ikrel a Belau**	☐	☐	☐	☐	☐	☐	☐
Imported processed or canned foods from shop **Kansume er a stouang**	☐	☐	☐	☐	☐	☐	☐
Other _____ **Kuk bebil**	☐	☐	☐	☐	☐	☐	☐

The following questions are only applicable if the interviewee and/or members of their household go out to the ocean to catch or harvest (if not, move to the end of Question10)

☐	**Select this box if the following questions are not applicable**

7. Which methods do you and/or members of your household use to catch or harvest? **Ng ngera el teletael er a omenged a om ngar er ngii, kau me a rebek el chad er a delengcheklem? (select all that apply)** (PI3)

☐	Glean **Omelai el cheled**	☐	Spear (walking) **Omurch (di merael)**	☐	Spear (diving) **Melechelbakl**
☐	Spear (canoe) **Oltoir (a uel) Melkelikes (omurch a chemang me a ngikel)**	☐	Hand line **Mengereel Omedesakl**	☐	Rod and reel **Mengereel obang a sao**
☐	Trap **Omub (ngikel me a chemang)**	☐	Cast net **Omuked**	☐	Gill net **Mengesokes**
☐	Bottom fishing **Mengereel er a dmolech**	☐	Trolling **Mengetakl**	☐	Other _____

8. Over the past year, list up to three locations that you and/or members of your household most frequented for catch or harvest, and indicate if these sites are different to where you most frequented five years ago? Please try and keep these locations quite general and broad. **A chelsel tia el mlo merek el rak, e ngera a kldei el basio el kau me ar kiei er a delengcheklem a blechoel el mo er a chei er ngii. E a ika el basio ng ngodech a lechub ng osisiu er a basio el obla er a chei er ngii er a cheim el rak er a mla me mong?**(PI3)

Location	Compared to five years ago	
	Same ***Osisiu***	*Different* ***Ngodech***
	☐	☐
	☐	☐
	☐	☐

9. Over the past year, list the most popular marine animals your household collectively caught or harvested, how many, and indicate if these animals are different compared to five years ago? **Tia el mlo merek el rak, ng ngera el ngikel, cheled me a charm er a kereker (daob) a oblechoel el melai? E locha mle uangera ildisel? E betok ng mekesai er a cheim el rak er a mla me mong?**(PI3)

Catch		Compared to five years ago		Harvest		Compared to five years ago	
Name ***Ngakl***	*Number* ***Ildois***	*Same type* ***Osisiu el bedengel***	*Different type* ***Kakerous el bedengel***	*Name* ***Ngakl***	*Number* ***Ildois***	*Same type* ***Osisiu el bedengel***	*Different type* ***Kakerous el bedengel***
		☐	☐			☐	☐
		☐	☐			☐	☐
		☐	☐			☐	☐
		☐	☐			☐	☐
		☐	☐			☐	☐

10. Are there any threats to catch or harvest**? Ng ngar ngii a sebechel uchul e ng mo nguemed a ika el ngikel, cheled me a charm er a kereker (daob)?** (PI3, PI11)

☐ No

☐Yes → Can you list up to two top threats? _____

Ng sebechem el masech a teblong el uchul?

Can you list up to two top solutions? _____

Ng sebechem el masech a teblong el sebecheklel?

The following questions are only applicable if the interviewee and/or members of their household grow crops (if not, move to Question 15)

☐	**Select this box if the following questions are not applicable**

11. Over the past year, which crops did your household collectively grow? (**select all that apply) Tia el mlo merek el rak e ngera el dellomel a omullalem?** (PI3)

☐	Taro **Dait/Brak**	☐	Coconut **Lius**	☐	Garden vegetables **Yasai**
☐	Tapioca **Diokang**	☐	Sweet potato **Chemutii**	☐	Fruit trees **Rodech**
		☐	Betel nut **Buuch**	☐	Other _____

12. Over the past year, what percentage of each input did your household use on its crops? **(select all that apply to add up to 100% or if None then put 0%) Tia el mlo merek el rak e ngera el koeas e uangerang a klungel (tela el basent) a omuluusbech er a omelalem a dellomel?** (PI3)

Fertilisers	
Animal manure **Dechil a charm**	
Inorganic fertiliser (chemicals) **Koeas er a Ngebard**	
Green manure (weeds) or compost **Ramk**	
Seagrasses **Char**	
Other _____	
	100%

13. Over the past year, have any pesticides been used on your household crops? **Tia el mlo merek el rak, ng ngar er ngii a spray er a charm er a dellomel el bla mousbech er a dellemelem?** (PI3)

☐	No **Diak**	☐	Yes **Choi**

14. Are there any threats to farming crops? **Ng ngar er ngii a uchul e ng mo smecher a lechub e ng mad a dellemelem?** (PI3, PI11)

☐ No

☐Yes ⟶ Can you list up to two top threats? _____
Ng sebechem el masech a teblong?

Can you list up to two top solutions? _____
Ng sebechem el masech a teblong el kerul a lechub e ng sebecheklel?

15. Over the past year, what percentage of the total amount of catch and harvest, and crops grown by your household would be for the following purposes **(select all that apply to add up to 100% or if None then put 0%): (PI3) Tia el mlo merek el rak, ng tela el basent er a cheldmiu me a dellemeliu a mo usbechall er a ika el teletael el beldukl er eou:**

Catch		**Harvest**		**Crops**	
Eating **Blengur**		Eating **Blengur**		Eating **Blengur**	
Selling **Makit**		Selling **Makit**		Selling **Makit**	
Giving Away **Omekang**		Giving Away **Omekang**		Giving Away **Omekang**	
Family Custom **Mechesang**		Family Custom **Mechesang**		Family Custom **Mechesang**	
	100%		**100%**		**100%**

16. Indicate where your household water comes from: **(select all that apply) (PI5) A imeliu el ralm ng ngar ker el mei?**

☐	Stream or river **Omoachel**	☐	Household rainwater tank **Tank er a blai**	☐	Village wells or taps **Chido er a beluu**
☐	Spring **Madedok**	☐	Village rainwater tanks **Tank er a buai**	☐	Other _____ **Kuk bebil**

17. Does your household have access to safe drinking water and/or access to water for general use? (PI5) **A delengcheklem ng ngar ngii a rolel a ungil el ralm el ilumel me a dousbech er a blai el me er ngii?**

Safe drinking water **Ungil ilumel el ralm**		General use water **Ralm el dousbech**	
Yes **Choi**	☐	Yes **Choi**	☐
Sometimes **Al Bebil**	☐	Sometimes **Al Bebil**	☐
No **Diak**	☐	No **Diak**	☐

SECTION FOUR: Views on the Conservation Area(s) Klemedengei me a Osengem er a Blul el Basio

18. Which of the following have you heard of? **(select all that apply)** (MC8) **Ke mla remenges a chisel a ika el beldukl er eou? Mlecha olangch er a ike el rokui el modengei.**

☐	Micronesia Challenge	☐	Protected Areas Network	☐	Bul	☐	State Conservation Area(s)

19. Can you list the allowable activities in the Conservation Area(s)? (MC8) **Ng sebechem el masech a sebeched el meruul er a chelsel a blul el basio er a beluam.**

☐	No, none of them **Diak**	☐	Yes, some of them **Choi, medengei a bebil**	☐	Yes, all of them **Choi, medengei el rokui**

20. Do you know why the Conservation Area(s) in your State were established? (MC8) **Ke medengei el kmo ng ngera uchul e ng mlekedmokl a blul el basio er a beluam?**

☐	No **Diak**	☐	Yes **Choi**

21. Indicate your level of knowledge about the purpose of each of the following: (MC8) **Mleliang a olangch el olechotel a delechel a klemedengei er kau er a ika el beldukl er eou:**

	Extensive level of knowledge **Dmolech el klemedengei**	High level of knowledge **Medengei a betok**	Medium level of knowledge **Medengei a bebil**	Limited knowledge **Oumededenger**	No knowledge **Diak kudengei**
Micronesia Challenge	☐	☐	☐	☐	☐
Protected Areas Network	☐	☐	☐	☐	☐
Bul	☐	☐	☐	☐	☐
State Conservation Area(s)	☐	☐	☐	☐	☐

22. Have you and/or any members of your household seen, read and/or participated in any outreach or awareness activities related to the Conservation Area(s)? (MC8) **Ng mla ta el om mesang ke oiuii, ke ngar er a miting me a lechub a cheldecheduch el olisechakl a teletelel a blul el basio er a beluam?**

☐	No, none of them **Dirkak**	☐	Yes, some of them **Mla ngar er a bebil**	☐	Yes, many of them **Kmal betok**

If Yes, select which ones **(select all that apply): A le ngar er ngii, e mlecha olangch er a ngii er a ika el beldukl er eou.**

☐	Fact sheets **Babier er a sodel a charm, dellomel, basio, me abebil el tekoi er a science el kirel a blul el basio**	☐	Student field education programs **Omesarch me a omesuub er a skuul**	☐	Other _____
☐	Awareness print materials **Babier el mesaod, omeklatk e omeketakl a teletelel me a llechul a blul el basio**	☐	Education and/or Awareness Plans **Plan me a lechub e ng babier el smaod a telbiil, ureor, okedmeklel, omengkerengel, me a osisecheklel a blul el basio.**	☐	Other _____

23. Indicate your level of support for each of the following: (MC9) **Kau mleliang a olangch er a kmo koumerang e oldubech a ika el beldukl er eou:**

	Extensive level of support **Dmolech el klaumerang e oldubech**	High level of support **Kmal oumerang e oldubech**	Medium level of support **Kuumerang e oldubech**	Limited support **Diak sa el oumerang e oldubech**	Do not support **Diak kuumerang me a ka kuldubech**
Micronesia Challenge	☐	☐	☐	☐	☐
Protected Areas Network	☐	☐	☐	☐	☐
Bul	☐	☐	☐	☐	☐
State ConservationArea (s)	☐	☐	☐	☐	☐

24. Do you think the Marine Protected Area (s) have changed the following for your household? (PI4) **A blul el basio er a kerker, ngar ngii a blal ngedechii er a delengcheklem?**

- **If No, mark 'not changed' box. A lak e mleliang a olangch er a "dirkak a mengodech"**
- If Yes, has it increased or decreased the items listed? Greatly/Somewhat? **A le ngar er ngii e mleliang a olangch er a klungel a mla mengodech er a ika el beldukl er eou.**

	Greatly Increased **Kmal klou**	Somewhat Increased **Telkib el klou**	Not Changed **Dirkak a mengodech**	Somewhat Decreased **Telkib mla ongesngesii**	Greatly Dereased **Kmal klou a bla losengesii**	Don't Know **Ngaukai**
Overall quality of the marine environment **Klungiolel a kerker**	☐	☐	☐	☐	☐	☐
Abundance of fish **Ildisel a ngikel**	☐	☐	☐	☐	☐	☐
Abundance of invertebrates **Ildisel a cheled**	☐	☐	☐	☐	☐	☐
Size of fish **Meklungel a ngikel**	☐	☐	☐	☐	☐	☐
Size of invertebrates **Meklungel a cheled**	☐	☐	☐	☐	☐	☐
Availability of food from fish **Ildisel a odoim el ngikel**	☐	☐	☐	☐	☐	☐
Availability of food from invertebrates **Ildisel a kall el cheled**	☐	☐	☐	☐	☐	☐
Spiritual and cultural amenity **Nglsecheklel a klebelau me a tekoi el chelid**	☐	☐	☐	☐	☐	☐

25. ***If applicable,*** do you think that the Terrestrial Conservation Area (s) have changed the following for your household? (MC1, PI1, PI2, PI7) **A omomdasu e a blul el basio er a beluu ng ngar ngii a bla el ngedechii er a delengcheklem?**

- **If No, mark 'not changed' box. A lak e mlelia olangch er a "Dirkak a mengodech"**
- If Yes, has it increased or decreased the items listed for your household?Greatly/Somewhat**? A le ngar er ngii e mlecha olangch er a klungel a mla mengodech er a ika el beldukl er eou:**

	Greatly Increased **Kmal klou**	Somewhat Increased **Telkib el klou**	Not Changed **Dirkak a mengodech**	Somewhat Decreased **Telkib mla ongesngesii**	Greatly Dereased **Kmal klou a bla losengesii**	Don't Know **Ngaukai**	**Not applicable**
Overall quality of the terrestrial environment **Klungiolel a beluu**	☐	☐	☐	☐	☐	☐	☐
Abundance of fruit bats **Ildisel a olik**	☐	☐	☐	☐	☐	☐	☐
Abundance of medicinal plants **Ildisel a dellomel el kar**	☐	☐	☐	☐	☐	☐	☐
Abundance of building materials **Ildisel a klalo el kerrekar**	☐	☐	☐	☐	☐	☐	☐

Size of fruit bats **Meklungel a olik**	☐	☐	☐	☐	☐	☐	☐
Size of building materials **Meklungel a klalo el kerrekar**	☐	☐	☐	☐	☐	☐	☐
Availability of farm food (crops) **Ildisel a delomel el kall (ongraol me a yasai)**	☐	☐	☐	☐	☐	☐	☐
Quality of public freshwater **Klungiolel a ralm er a beluu**	☐	☐	☐	☐	☐	☐	☐
Quantity of public freshwater **Ildisel a ralm er a beluu**	☐	☐	☐	☐	☐	☐	☐
Spiritual and cultural amenity **Nglsecheklel a klebelau me a tekoi el chelid**	☐	☐	☐	☐	☐	☐	☐

26. Indicate if you agree (and the level to which you do) with the below statements: (PI3, PI11,MC4)
Mleliang a olangch el kmo ke kongei a lechub e ng diak er a ika el beldukl er eou:

Statements Tekoi	**Very strongly agree Ak mal mui el kongei**	**Strongly agree Choi ak kongei**	**Moderately agree Ou ralm sils**	**Agree a little Oumededengei**	**Do not agree Diak moldubech**	**Don't know Diak Kudengei**
Overall, the Conservation Area(s) has been beneficial to our community **A ika el blul el basio a ngar er ngii al relii er a beluad**	☐	☐	☐	☐	☐	☐
I often see or hear about illegal entry or taking of resources from the Conservation Area (s) **Ak blechoel mesterir e remenges a chisir a re mo soiseb me a re melemall a llechul a blul el basio**	☐	☐	☐	☐	☐	☐
There is adequate enforcement of the rules of the Conservation Area (s) **Ng ungil a otutel a llechul a blul el basio**	☐	☐	☐	☐	☐	☐
There is adequate monitoring of the natural resources in our community **Ng ungil a klekerngel (monitoring) a dikesel a beluu (natural resources)**	☐	☐	☐	☐	☐	☐
There have been positive livelihood benefits due to the Conservation Area(s) **A ika el blul el basio a uchul a ungil omenged, omelngot, omengerker me a ungil el klengar.**	☐	☐	☐	☐	☐	☐
There have been positive economic benefits due to the Conservation Area(s) **A ika el blul el basio a dirrek el**	☐	☐	☐	☐	☐	☐

uchul a ungil kerruul el me er a beluu						
There have been positive cultural and spiritual benefits due to the Conservation Area(s) **A blul el basio a uchul a ngesecheklel a klebelau me a tekoi el chelid**	☐	☐	☐	☐	☐	☐
There have been positive environmental benefits due to the Conservation Area (s) **A ika el blul el basio a msa klungiolel a beluu me a kerker**	☐	☐	☐	☐	☐	☐
Everyone benefits equally from the Conservation Area(s) **A klungiaol el mengai er a ika el blul el basio a tabesul e oberk el mo er a dertang el chad er a beluu**	☐	☐	☐	☐	☐	☐
If we want to preserve our natural resources then 'closing off' certain areas is necessary **Al sekum e ng soad el mengeluoluo a dikesed e ng kired el osimer/omul a bebil er a basio**	☐	☐	☐	☐	☐	☐

SECTION FIVE: Views on the Local Management Plan

For Ngchesar State

1. Can you tell us the name of the State Conservation Areas**? Ke medengelii a ngklel a conservation area me a lechub e ng blul el basio er kemiu**? **(only select 'Yes' if they correctly state it)** (Goals 1, 2)

	Yes Choi	**No Diak**
Mesekelat Conservation Area (Terrestrial)	☐	☐
Ngelukes Conservation Area (MPA)	☐	☐

2. Do you know the official boundaries for these Local Conservation Areas? **Ke medengelii a kerrengsel tia el blul el basio el kmo ng nga er ker el mo er ker**? (Goals 1, 2)

	Yes Choi	**No Diak**
Mesekelat Conservation Area	☐	☐
Ngelukes Conservation Area	☐	☐

3. Indicate if you know the importance of each of the Conservation Areas and their resources. **Ke medengei a ultutelel me a moktek er a ika el blul basio**?: (Goals 1-2, 2-1)

	Yes **Choi**	**No** **Diak**
Mesekelat Conservation Area	☐	☐
Ngelukes Conservation Area	☐	☐

4. Indicate how much you value the importance of the Conservation Areas and their resources. **Ng ngera ultutelel a ika el basio el mo er a klengar er kau**?: (Goals 1-2, 2-1)

	Very strongly value the importance **Kmal klou a ututelel ma usbechel**	Strongly value the importance **Klou a ututelel ma usbechel**	Moderately value the importance **Klebech a ututelel ma usbechel**	Slightly value the importance **Diak a kmal ututelel ma usbechel**	Do not value the importance **Diak a ututelel ma usbechel**
Mesekelat Conservation Area	☐	☐	☐	☐	☐
Ngelukes Conservation Area	☐	☐	☐	☐	☐

If there are any other comments, please write them here: