

Rapid Assessment Report – Community Engagement Component
USP-EU Global Climate Change Alliance (GCCA) Project
Pacific Centre for Environment and Sustainable Development (PACE-SD)
University of the South Pacific (USP)

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REPORT SUMMARY

Rapid assessments (using the PACE-SD 2012 manual) were carried out in six potential sites identified by the National Planning Advisory Committee (NPAC). The potential sites where the rapid assessments were carried out included:

1. Aimeliik (23rd November – 22 participants);
2. Ngaraard (26th November – 22 participants);
3. Kayangel (27th November – 18 participants);
4. Ngardmau (28th November – 25 participants);
5. Hatohobei (29th November; rapid assessment conducted in Koror – nine participants); and
6. Koror (29th November – 13 participants).

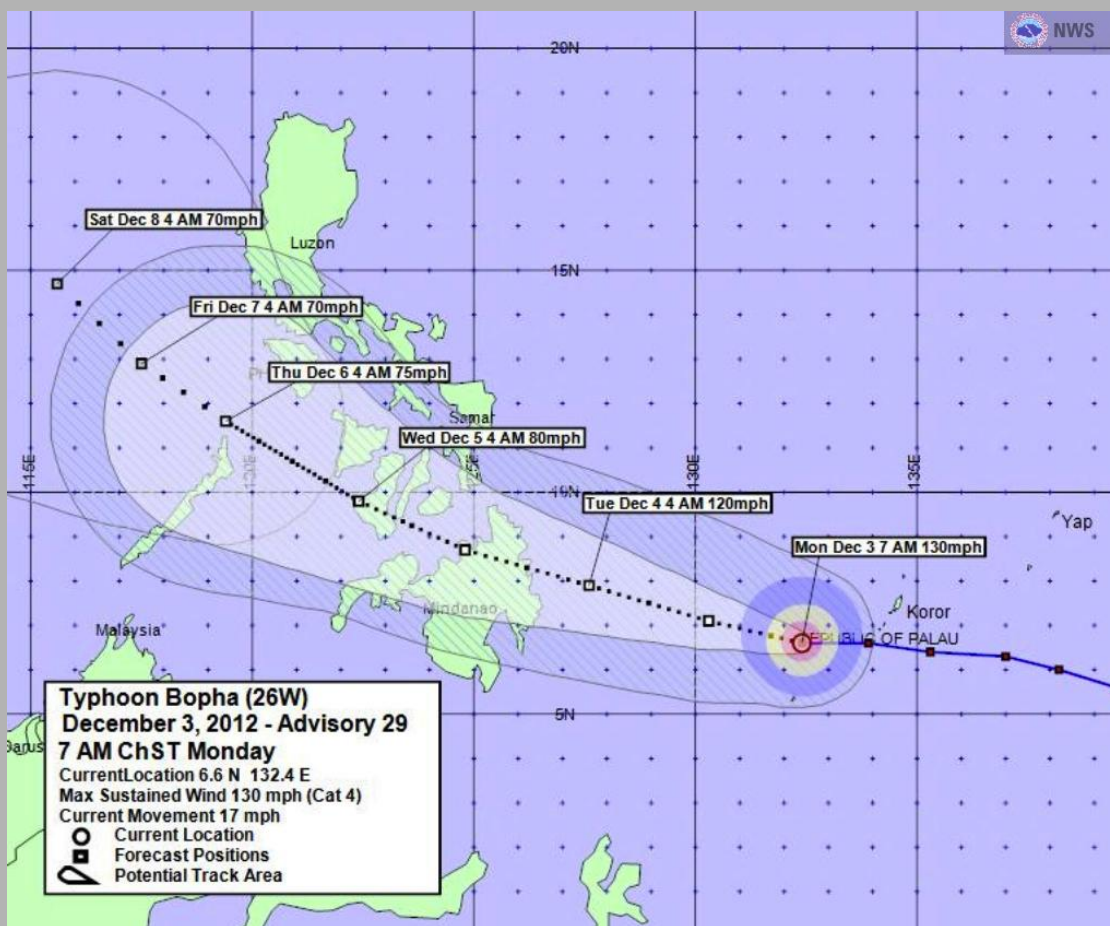
Based on the rapid assessments at each of the six sites, the final USP-EU GCCA project demonstration sites for Palau include:

1. Kayangel;
2. Ngaraard; and
3. Ngardmau.

The following report provides a more in-depth look into the reasons for this final site selection.

Typhoon Bopha

Palau has not experienced a typhoon since 1991. Following the completion of the rapid assessments in November 2012 at the above six sites, a tropical storm developed in the Western Pacific, later turning into a category-4 typhoon that crossed just south of Palau on 3rd December 2012. The NOAA-generated image below shows the path of Typhoon Bopha. With regard to our rapid assessments, we don't believe that the final recommendation of the three sites for the EU-GCCA project would be different if we were to re-assess each of the six communities in light of the impacts of Typhoon Bopha. However, we do believe and urge the assessment team in Palau to devote extra attention to the preparedness, impact and recovery efforts in relation to Typhoon Bopha when they conduct the PACE-SD V&A assessment in early 2013 at the three recommended sites.



(Track of Typhoon Bopha, December 2012. Source: www.prh.noaa.gov/images/guam/errorTrack1.jpg).

INTRODUCTION

The USP-EU GCCA project is a four-year project. It focuses on capacity building (through formal and informal training), community engagement (across 15 Pacific countries and 40 communities) and applied research. In Palau, an NPAC has been established and an In-country Coordinator (ICC) has been appointed. USP has signed an MOU with the Palau International Coral Reef Center (PICRC) to implement this climate change adaptation project in Palau. A rapid assessment was undertaken in November 2012 in six sites across Palau, the findings of which are detailed in this report. A selection of three sites for demonstration climate change adaptation initiatives has resulted from this rapid assessment, which has been endorsed by the NPAC in Palau.

METHODOLOGY

To conduct the rapid assessments in each of the six communities, a meeting was held at each site and a wide-reaching invitation to participate was initiated. A very promising community turn-out ensued, indicating the enthusiasm of these six communities in participating in the proposed EU-GCCA project. At each of the community meetings, an overview of climate change was first presented, followed by a presentation on the climate of Palau and projected impacts of climate change for the entire country and communities.

Following on from this, the community members present were invited to participate in an open discussion for the rapid assessment, which was developed by PACE-SD under the leadership of Leone Limalevu (PACE-SD Fellow). The rapid assessment asked communities to consider a series of criteria that related to levels of livelihood vulnerability (of water resources, health and sanitation, food resources and energy resources), community adaptive capacity, community need, level of community interest, project feasibility and levels of vulnerability to coastal or riverbank erosion and inundation.

Figure 1: USP EU-GCCA Project Rapid Assessments in Palau - (a) community participants and Palau ICC at Ngaraard; (b) community participants at Aimeliik; (c) community participants, PACE-SD staff, field assistants and Palau ICC at Hatohobei.

Figure 2: USP EU-GCCA Project Rapid Assessments in Palau - (a) community participants, PACE-SD staff, field assistants and Palau ICC at Kayangel; (b) community participants at Ngardmau; (c) community participants, PACE-SD staff, field assistants and Palau ICC at Koror.

RAPID ASSESSMENT FINDINGS

Criteria 1: Current Level of Vulnerability Related to Livelihood Sectors

The below criteria explores water resources, health and sanitation, food resources, and security and energy resources and security. The community nominated a number that was collectively decided upon, according to the following scale: highest level of vulnerability = 'number 5' to lowest level of vulnerability = 'number 1'.

Water Resources

Factors	Aimeliik	Ngaraard	Kayangel	Ngardmau	Koror	Hatohobei
Rain months per year	1	1	1	1	1	2
Presence of water sources	1	1	5	2	1	5
Spring discharge rates	NA	NA	NA	NA	NA	NA
TOTAL	2	2	6	3	2	7
AVERAGE	1	1	3	1.5	1	3.5

In Aimeliik, surface water is largely used for drinking, such as rivers and rainwater tanks. In Kayangel, the community relies on the underground aquifer for cooking and washing but they are unsure how much water is there. Rainwater tanks are utilized to provide the community's drinking water. The community indicated that there are enough rainwater tanks to serve their needs at present. For those living in Ngardmau, the river provides the piped potable water for households, while springs and rainwater also provide alternative water sources but are rarely used for consumption. In Koror, rainwater and bottled water are utilised for drinking water, however, the main supply is derived from the river in another state, which is piped directly to homes. In Hatohobei, rainwater tanks are used for potable drinking water and the underground wells are used for cooking and washing.

Health and Sanitation

Factors (no of cases in 2012)	Aimeliik	Ngaraard	Kayangel	Ngardmau	Koror	Hatohobei
Dengue	3	1	1	1	2	1
Malaria	1	1	1	1	1	1
Diarrhoea	4	5	1	1	1	1
Skin diseases	1	1	1	1	3	1
Typhoid	1	1	1	1	1	1
Cholera	11	10	6	6	9	6
TOTAL	11	10	6	6	9	6
AVERAGE	1.8	1.7	1	1	1.5	1

In Koror, there have been some isolated cases of dengue. Kayangel had a few cases of skin diseases among children a few years ago; the community members believe that this was caused by bathing in the well water.

Food Resources and Security

Factors	Aimeliik	Ngaraard	Kayangel	Ngardmau	Koror	Hatohobei
Subsistence sources of food	3	3	2	3	3	1
Land area/pp	1	2	4	1	5	1
Soil fertility	3	3	4	3	3	1
Productivity of marine resources	3	4	4	3	4	1
TOTAL	10	12	14	10	15	4
AVERAGE	2.5	3	3.5	2.5	3.75	1

Some community members in Kayangel indicated how it is now becoming more difficult to grow and harvest their own source of food. For these community members, this food is not enough. Previously, the people of Kayangel used to sell their products in Koror to generate income. However, due to increased travel expenses (fuel), this is no longer the case. Recently Kayangel has also experienced a massive loss of their taro patches, which they believe could be due to salt-water intrusion.

Energy Resources and Security

Factors	Aimeliik	Ngaraard	Kayangel	Ngardmau	Koror	Hatohobei
Sources for lighting	2	2	2	2	2	1
Sources for cooking	1	3	2	1	1	5
TOTAL	3	5	4	3	3	6
AVERAGE	1.5	2.5	2	1.5	1.5	3

Criteria 2: Current Level of Adaptive Capacity Related to Livelihood Sectors

Drawing on average household incomes and levels of commercialisation, community members reflected on their adaptive capacity, using the following scale: lowest adaptive capacity = 'number 1' to highest adaptive capacity = 'number 5'.

Factors	Aimeliik	Ngaraard	Kayangel	Ngardmau	Koror	Hatohobei
Income per household	2	2	2	2	3	2
Type of economic system (in agriculture and/or fisheries)	2	2	1	2	3	1
TOTAL	4	4	3	4	6	3
AVERAGE	2	2	1.5	2	3	1.5

Criteria 3: Level of Community Need

Community members considered how the impacts of climate change might affect their livelihoods and local environment. Based on this reflection, the community considered the level of need for climate change adaptation related initiatives, drawing on a scale of: Highest community need = 'number 5' to lowest community need = 'number 1'.

Factor	Aimeliik	Ngaraard	Kayangel	Ngardmau	Koror	Hatohobei
Level of community need to address climate-induced stresses	5	5	5	4	5	5
AVERAGE	5	5	5	4	5	5

Criteria 4: Level of Community Interest

The level of community interest in the proposed project was ascertained, using a scale of: Highest community interest = 'number 5' to lowest community interest = 'number 1'.

Factor	Aimeliik	Ngaraard	Kayangel	Ngardmau	Koror	Hatohobei
Level of interest shown for the proposed project	5	5	5	5	5	5
AVERAGE	5	5	5	5	5	5

Criteria 5: Feasibility of the Project

Community members were asked to consider the feasibility of such a proposed project in their community to address one or two livelihood concerns that will bolster climate change adaptive capacity overall, especially in light of the project budget and scope. This was gauged using a scale of: Highest feasibility to address concerns = 'number 3' to lowest feasibility in addressing concerns interest = 'number 1'.

Factor	Aimeliik	Ngaraard	Kayangel	Ngardmau	Koror	Hatohobei
Feasibility of the project to address livelihood concerns, given the budget and scope	3	3	3	3	3	3
AVERAGE	3	3	3	3	3	3

Additional Criteria – Criteria 7(a): Level of Vulnerability of Coastal Communities to Inundation, Storm Surges and Projected Sea Level

The assessment team decided to ask each community additional criteria about the vulnerability of coastal communities to inundation, storm surges and project sea level, based on a scale of: Highest level of vulnerability = 'number 5' to lowest level of vulnerability = 'number 1'. This criterion was relevant for four sites, as illustrated below.

Factors	Aimeliik	Ngaraard	Kayangel	Ngardmau	Koror	Hatohobei
Foreshore elevation	-	5	5	-	5	5
Village elevation	-	5	5	-	4	3
Reef system	-	1	4	-	1	3
Mangrove protection	-	3	5	-	2	5
Distance of shoreline to nearest row of housing	-	5	4	-	5	4
Ease of relocation	-	2	5	-	4	5
TOTAL	-	21	28	-	21	25
AVERAGE	-	3.5	4.7	-	3.5	4.2

For the community in Kayangel there was an extreme level of concern about the rate and severity of coastal erosion and also the declining state of the taro plantation that the entire community relies on for their subsistence living. In Ngaraard, community members expressed concern over seawater inundating their yard and taro patches during high tides. Shoreline is a big problem and concern in Hatohobei. In Koror, there are fringing and barrier reefs but also disconnected reefs and the presence of open passages.

Additional Criteria – Criteria 7(b): Level of Vulnerability of Inland Communities to Riverbank Erosion, Inundation and Flooding

For those sites that are not coastal-based, this additional criterion was used. It questioned the vulnerability of inland communities to riverbank erosion, inundation and flooding, based on a scale of: Highest level of vulnerability = ‘number 5’ to lowest level of vulnerability = ‘number 1’. This criterion was relevant for the two remaining sites, as illustrated below.

Factors	Aimeliik	Ngaraard	Kayangel	Ngardmau	Koror	Hatohobei
Foreshore elevation	1	-	-	5	-	-
Village elevation	1	-	-	5	-	-
Location of river system	4	-	-	5	-	-
Distance of river bank to nearest row of housing	1	-	-	4	-	-
Drainage	3	-	-	5	-	-
Ease of relocation	1	-	-	4	-	-
TOTAL	11	-	-	28	-	-
AVERAGE	1.8	-	-	4.7	-	-

For the community in Aimeliik, there was a high level of concern about the rates of riverbank erosion and the impacts of sedimentation on the downstream catchment. In Ngardmau, there are big concerns with both riverbank erosion and coastal inundation that can flood taro plantations.

SUMMARY AND FINAL RECOMMENDATIONS

The final decisions on the demonstration sites were made using a color key; the darkest blue was used for the highest ranked State and the lightest blue for the lowest ranked, as per the relative criteria. Once all the ranked points had been assigned a color, the darkest shade of blue in each State was tallied. The State with the highest count of the darkest blue shade was selected as the demonstration site while the other States were considered for a second round of counts. In the second round of counts, a count for the second darkest shade of blue was made. Similarly, a third count was made to select the third demonstration site.



Summary of Scores							
Criteria	Description	Aimeliik	Ngaraard	Kayangel	Ngardmau	Koror	Hatohobei*
1 (Overall)	Current level of vulnerability related to livelihood sectors	1.71	2.04	2.38	1.63	1.94	2.13
2	Current level of adaptative capacity related to livelihood sectors	2	2	1.5	2	3	1.5
3	Level of community need	5	5	5	4	5	5
4	Level of community interest	5	5	5	5	5	5
5	Feasibility of the project	3	3	3	3	3	3
7a	Level of vulnerability of coastal communities to inundation, storm surges and projected sea level	-	3.5	4.67	-	3.5	4.17
7b	Level of vulnerability of inland communities to riverbank erosion, inundation and flooding	1.83	-	-	4.67	-	-
Demo.1	Kayangel	3	3	6	3	3	
Demo.2	Ngardmau	1	1		2	0	
Demo.3	Ngaraard	0	2				

Although the Hatohobei State had the highest count of the darkest shade of blue, it was ruled out as one of the demonstration sites since it would have been difficult to cater for travel expenses to Hatohobei. Each trip to Hatohobei State is estimated to cost approximately US\$4500 per day. The demonstration sites selected as per the designed color key were:

1. **Kayangel**
2. **Ngardmau**
3. **Ngaraad**

CONCLUDING REMARKS

The National Policy Advisory Committee for the Palau EU-GCCA project met in January 16, 2013, and rendered their decision to approve the 3 final sites for Palau identified by the results of the Rapid Assessment. The final three (3) sites are Kayangel, Ngaraard, and Ngardmau States. The listing of the NPAC members is provided as Appendix A.

We would like to acknowledge the support provided by Governors, Jeffrey Titiml-Kayangel State; Laurentino Ulechong-Ngaraard State; Akiko Sugiyama-Ngardmau State; Leilani Reklai-Aimeliik State; Yositaka Adachi-Koror State; and Thomas Patris-Hatobei State for organizing the Rapid Assessment meetings with their community members. We want to express our gratitude to Surech Hideyos, Rosania Victor and Gloria Patris for support and assistance they provided during the Rapid Assessment consultations with community members.

Finally, we want to thank Palau International Coral Reef Center, our major partner, for hosting this project and its full implementation in Palau.