

Rapid Assessment Report – Community Engagement Component (Component 2)
USP-EU Global Climate Change Alliance (GCCA) Project
Pacific Centre for Environment and Sustainable Development (PACE-SD), University of the South Pacific (USP)

Country:	Nauru
In-Country Coordinator:	Abraham Aremwa
Date of Submission:	06 September, 2012

REPORT SUMMARY

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

- (1) *Meneng Statehouse*
- (2) *Meneng Terrace*
- (3) *Boe Gareow*
- (4) *Meneng (coastal erosion)*
- (5) *Anabar (coastal erosion)*
- (6) *Anetan (coastal erosion)*

The sites identified as the USP-EU GCCA Project demonstration sites and the identified vulnerabilities in the demonstration sites after the rapid assessment are:

- (1) Meneng Statehouse *Water Resources Scarcity*
- (2) Meneng Terrace *Water Resources Scarcity*

INTRODUCTION

Nauru is a small 21 sq.km Pacific island that is located just below the equator. With a population of approximately 10,000, Nauru's economy is heavily reliant on the exportation of its natural resources - phosphate rocks, from foreign fishing licensing fees and externally-funded projects amongst those that are outlined in the country's National Sustainable Development Strategies document.

Being so close to the equator, Nauru does not experience tropical cyclones, although it is subject to strong winds and sea swells. Nauru's climate varies considerably from year to year due to the El Nino-Southern Oscillation. This is a natural climate pattern that occurs across the tropical Pacific Ocean and affects weather around the world. There are two extreme phases of the El Nino-Southern Oscillation: El Nina and La Nina. There is also a neutral phase. In Nauru, El Nina events tend to bring warmer, wetter conditions than normal, while La Nina events are associated with a delayed onset of the wet season and drier than normal conditions, often resulting in an extended drought. The recent La Nina occurred from 1998 to 2000. These prolonged droughts impact the underground freshwater lens, resulting in water supply problems and severe stress on natural ecosystems.

Nauru has very limited freshwater resources and currently relies on water produced from three reverse-osmosis units with an overall producing capacity of 360kL/ day. This equates to around 36 litres of potable water per person assuming the population of Nauru is 10,000. However, the conjunctive use of other water resources such as brackish water has been effective in conserving potable water use for non-potable use. Restoration of a once fully-operational and effective seawater reticulation system is undergoing a feasibility study and will likely be funded and become operational again in the near future to provide seawater mainly for toilet flushing to some 2,000 people. This project is being coordinated by PACC-Nauru. Another related Regional project - IWRM, is also on island and is focused on enhancing water security through better water management and reduced groundwater contamination. Both coordinators of these projects are members of the NPAC.

The two common vulnerabilities of the selected sites are water resources scarcity and coastal erosion. The Meneng Statehouse and Meneng Terrace sites are located on elevated land and hence have no access to brackish or well water as a source of non-potable water for non-potable use (washing, toilet flushing, etc.). NPAC has agreed with the support of site visits and most obvious the water situation on Nauru, that a solution to providing these two sites access to brackish water be considered top priority as compared to building seawalls at the other vulnerable sites.

At Meneng Statehouse, there is already an existing brackish water reticulation system that has not been in operation for so many years. It is this system that NPAC wishes to revamp despite a recent attempt five years ago by JICA failed. It is believed that one of main causes of this project failing was that there was lack of community awareness and involvement prior to and during the implementation of the project hence there was no sense of ownership by the community.

At Meneng Terrace, there used to be a freshwater reticulation system that is comprised of one big tank that supplies water by gravity to about 35 units. At present, this system is no longer used and all the units now have their own freshwater storage tanks. NPAC has suggested that a technical and financial feasibility study be carried out to locate a source for brackish water and a pump that will supply the big tank with brackish water to supply non-potable water to these units. The study should include planning and designing of the distribution pipe-work systems.

METHODOLOGY

The rapid assessment method is as per PACE-SD Rapid Assessment 2012 manual prepared by Mr. Leone Limalevu (refer to attached).

RAPID ASSESSMENT FINDINGS

It must be noted that where applicable some assessments are based entirely on National data as there are no community data. For this and any similar assessments, I will regard Nauru as a community rather than a country.

Criteria 1: Current Level of Vulnerability Related to Livelihood Sectors

Ref	Rapid Assessment Site	Water Resources	Health and Sanitation	Food Resources and Food Security	Energy Resources and Energy Security
1	Meneng Statehouse	5 - Very vulnerable	2 - Low vulnerability	3 - Moderate vulnerability	2 - Low vulnerability
2	Meneng Terrace	5 - Very vulnerable	2 - Low vulnerability	3 - Moderate vulnerability	2 - Low vulnerability
3	Boe	5 - Very vulnerable	2 - Low vulnerability	3 - Moderate vulnerability	2 - Low vulnerability
4	Meneng	5 - Very vulnerable	2 - Low vulnerability	3 - Moderate vulnerability	2 - Low vulnerability
5	Anabar	5 - Very vulnerable	2 - Low vulnerability	3 - Moderate vulnerability	2 - Low vulnerability
6	Anetan	5 - Very vulnerable	2 - Low vulnerability	3 - Moderate vulnerability	2 - Low vulnerability

Given the limited freshwater resources and the variability of rain-months per year, Nauru's freshwater resources when related to livelihood is considered to have a very high vulnerability to the impacts of climate change.

According to Dr. Waidubu (NPAC Chairperson), for health and sanitation, Nauru has an overall level of incidence relating to vector-borne and water-borne diseases is 2 or low in vulnerability. It must be noted that on Nauru, there is one general hospital with services and medicines that are free of charge to locals.

Around 80% of food on Nauru is imported from Australia and Fiji on a monthly basis. It is rare that sources of imported food like rice will run out on the island, however these will normally be flown in by air if need to. A variety of fresh fish is widely available and is one of the main sources of local food besides pork and chicken. Basic kitchen gardening is currently being promoted by the Taiwanese

Embassy on Nauru where vegetables such as lettuce, cabbage, cucumbers, egg plants, etc., are being grown locally.

The island of Nauru is 100% electrified. However, during the eighties and nineties, electricity billing was somehow not enforced and for nearly twenty years the whole island was running on free electricity with the cost of maintaining and fueling the power station being subsidized by the government until 2005 when prepayment meters were introduced and later installed during 2007-08 on every building on Nauru - both domestic and commercial. The introduction of this system has made people more aware of the costs of electricity and as a result the people have become more conservative in the use of their electricity and now most households are using alternative cooking appliances that uses kerosene or gas.

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

Factors	Meneng Statehouse	Meneng Terrace	Boe	Meneng	Anabar	Anetan
(i) Level of income per household (estimated)	4 - Income that adequately meets the basic family needs.	4 - Income that adequately meets the basic family needs.	4 - Income that adequately meets the basic family needs.	4 - Income that adequately meets the basic family needs.	4 - Income that adequately meets the basic family needs.	4 - Income that adequately meets the basic family needs.
(ii) Predominant type of economic system either in the agriculture or fisheries sectors	3 - Semi-commercial	3 - Semi-commercial	3 - Semi-commercial	3 - Semi-commercial	3 - Semi-commercial	3 - Semi-commercial

The points obtained for the above factors are based entirely on National data and not for the individual sites.

Criteria 4: Level of Community Interest

Factors	Meneng Statehouse	Meneng Terrace	Boe	Meneng	Anabar	Anetan
(i) Level of interest shown for the proposed project	5 - Very interested	5 - Very interested	5 - Very interested	5 - Very interested	5 - Very interested	5 - Very interested

To provide an alternate source of water in the form of brackish water to two adjacent communities that have an estimated population of 500 will save a huge amount of potable water that is currently being used now for non-potable use (toilet flushing, washing, gardening, etc.). With an average daily water requirement of 100 Litres per person per day, the availability of brackish water can certainly save up to 70% of potable water use for non-potable use and hence save approximately 35,000 Litres of potable water per day. Because of their elevated sites, communities at sites 1 and 2 cannot access brackish water.

Criteria 5: Feasibility of the Project

Factors	Meneng Statehouse	Meneng Terrace	Boe Coast	Meneng Coast	Anabar Coast	Anetan Coast
(i) Approximate cost of funding a livelihood adaptation project related to project funding allocation per site or community	4 - feasible	4 - feasible	1 - not feasible	1 - not feasible	1 - not feasible	1 - not feasible

Based on amount of project funding, the first two sites are considered feasible whereas the other four sites will be a lot more costly when considering building seawalls. Another factor that is being taken into consideration here is the number of people that will benefit from these projects. For sites 1 and 2, around 500 people or nearly 80 homes will benefit from this project. On the other hand, building a seawall for site 3 will only benefit or save one house; for site 4 - a small part of the main road will be saved, and for sites 5 and 6 - one house each will be saved.

Additional Criteria

Note: These additional criteria are used only in cases where the preceding five criteria are not able to clearly determine the required designated number of vulnerable sites. For example, to choose three sites from a pool of six shortlisted sites, two out of six sites have clearly been identified as highly vulnerable, while the third site out of the remaining four sites is difficult to choose as the point score may be equal. In such a case, Criteria 6 is then used as a decider. If this still cannot determine the third site, then Criteria 7(a) or Criteria 7(b) are used depending on the location of the sites. For the use of Criteria 7, coastal communities are compared only against coastal communities using Criteria 7(a), whilst inland communities get compared only against inland communities as in Criteria 7(b).

Criteria 6: Level of Vulnerability of a Community to the Impacts of Cyclones

The "Site x" will be replaced by the names of the respective demonstration sites. Rank each sector/criteria as per rapid assessment site analyses as 1, 2, 3, 4, or 5.

Factors	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6
(1) Categorization of the types of housing structures in the community						

Explanation of the above findings in text:

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

The "Site x" will be replaced by the names of the respective demonstration sites. Rank each sector/criteria as per rapid assessment site analyses as 1, 2, 3, 4, or 5.

Factors	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6
(1) Foreshore Elevation (Estimation – above normal high tide)						
(2) Village Elevation (Estimation – above normal high tide)						
(3) Reef System						
(4) Mangrove Protection						
(5) Average distance of shoreline to nearest first row of houses along the shore (if substrate upon village is located is made of sedimentary materials or sand/coral rubble)						
(6) Ease of relocation to higher ground without socio-economic and cultural constraints						
Average (rounded to the nearest whole number)						

Explanation of the above findings in text:

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

The "Site x" will be replaced by the names of the respective demonstration sites. Rank each sector/criteria as per rapid assessment site analyses as 1, 2, 3, 4, or 5.

Factors	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6
(1) Foreshore Elevation (Estimation)						
(2) Village Elevation (Estimation)						
(3) Location on river system (proxy for bank erosion potential)						
(4) Average distance of river bank to nearest first row of houses along the river						
(5) Drainage						
(6) Ease of relocation to higher ground without socio-economic and cultural constraints						
Average (rounded to the nearest whole number)						

Explanation of the above findings in text:

DEMONSTRATION SITE RECOMMENDATIONS

Criteria 1-5:

Identified Demonstration Site	Criteria 1				Criteria 2		Criteria 3	Criteria 4	Criteria 5
	Water Resources	Health and Sanitation	Food Resources and Food Security	Energy Resources and Energy Security	(i) Level of income per household	(ii) Predominant Economic System	Level of community need	Level of community interest	Feasibility of the project (funding)
Meneng Statehouse	5 - Very vulnerable	2 - Low vulnerability	3 - Moderate vulnerability	2 - Low vulnerability	4 - Income that adequately meets the basic family needs.	3 - Semi-commercial	3 - Externally driven projects with some contribution from the community	5 - Very interested	4 - Feasible
Meneng Terrace	5 - Very vulnerable	2 - Low vulnerability	3 - Moderate vulnerability	2 - Low vulnerability	4 - Income that adequately meets the basic family needs.	3 - Semi-commercial	3 - Externally driven projects with some contribution from the community	5 - Very interested	4 - Feasible

The vulnerabilities of the initial sites selected include water resources scarcity and coastal erosion. However, results obtained from the point scoring system indicate clearly that the funding amount required to resolve the coastal erosion issue is beyond the amount budgeted for each site. Another factor that is taken into consideration is the number of people who will benefit from the six potential sites. Combined, Meneng Statehouse and Meneng Terrace are small communities that have approximately 100 homes with an estimated population of 500 not to mention an additional 300 or more primary school children and teaching staff who are located within the Meneng Statehouse area.

Additional Criteria

Identified Demonstration Site	Criteria 6	Criteria 7a					Criteria 7b				
		(1) Foreshore Elevation	(2) Village Elevation	(3) Reef System	(4) Mangrove Protection	(5) Average Shoreline Distance	(1) Foreshore Elevation	(2) Village Elevation	(3) Location of River System	(4) Average Distance of River Bank	(5) Ease of Relocation
Meneng Statehouse											
Meneng Terrace											

Explanation of above table – why were these sites selected as demonstration sites with respect to the rapid assessment findings.

GPS Coordinates for Demonstration Sites

Identified Demonstration Site	GPS Readings	
	Longitude Reading	Latitude Reading
Meneng Statehouse	0° 32' 48.63" S	166° 56' 31.12" E
Meneng Terrace	0° 33' 03.62" S	166° 56' 07.50" E

CONCLUSION

After the rapid assessments of the six potential sites the two sites selected as demonstration sites are:

- (i) Meneng Statehouse
- (ii) Meneng Terrace

The vulnerabilities identified in the demonstration sites include:

Meneng Statehouse	<u>Water Resources Scarcity</u>
Meneng Terrace	<u>Water Resources Scarcity</u>

ATTACHMENT

PACE-SD
V&A Rapid
Assessment
Tool

2012

SITE SELECTION PROCESS AND CRITERIA

Developed by Leone Limalevu (PACE-SD Fellow)

Table of Contents

1.0	Introduction.....	15
1.1	The PACE-SD Site Selection Approach	15
2.0	Methodology	16
2.1	Gathering Information and Short-listing Sites	16
2.2	Field Visits	16
2.3	Site Assessment Method: Point Score System.....	16
3.0	Site Selection Criteria	17
	Criteria 1: Current Level of Vulnerability Related to Livelihood Sectors	17
	(1) Water Resources.....	17
	(2) Health and Sanitation	18
	(3) Food Resources and Food Security.....	19
	(4) Energy Resources and Energy Security.....	19
	Criteria 2: Current Level of Adaptive Capacity Related to Livelihood Sectors.....	20
	Criteria 3: Level of Community Need.....	20
	Criteria 4: Level of Community Interest.....	21
	Criteria 5: Feasibility of the Project	21
4.0	Additional Criteria	23
	Criteria 6: Level of Vulnerability of a Community to the Impacts of Cyclones	23
	Criteria 7a: Level of Vulnerability of Coastal Communities to Inundation, Storm surges and Projected Sea Level.....	24
	Criteria 7b: Level of Vulnerability of Inland Communities to Riverbank Erosion, Inundation and Flooding.....	25
	Annex 1	26

1.0 Introduction

The selection and prioritisation of project sites for climate change adaptation initiatives foremost depends on the objective of the project. The objective can determine how communities are selected to participate in the project. For projects focused on assisting rural communities to adapt to current and projected future climate change, there are basically three main components, as follows:

- a. Research;
- b. Adaptation of highly vulnerable communities; and
- c. Adaptation of representative vulnerable communities.

For the PACE-SD methodology, the primary focus is on the latest component. The main rationale for this is to be inclusive and therefore ensure future uptake by entire communities, as climate change impacts will be felt by all communities, though at different levels of severity and within different timeframes.

1.1 The PACE-SD Site Selection Approach

This site selection process and criteria, as a core component of the PACE-SD methodology, provides suggestions for the European Union Global Climate Change Alliance (EU-GCCA) in-country coordinators to consider in selecting their project sites. The assessment approach could be based on the following key factors, to be determined and agreed to by GCCA Project Management Team and the National Project Advisory Committee in each of the countries, categorised in relative terms:

- Level of vulnerability of the community;
- Level of adaptive capacity of the community;
- Level of need of the community;
- Level of interest of the community; and
- Feasibility of the project to adequately address the identified level of vulnerability within the funding capacity of the project.

Additional criteria can include:

- Level of vulnerability of the community to cyclones; and
- Level of vulnerability of the community to flooding, storm surges and/or projected sea level rise for coastal communities.

2.0 Methodology

2.1 Gathering Information and Short-listing Sites

The relevant stakeholders, namely the Provincial Offices, the Department of Environment, the Water Authority, and the Health Department are to be contacted to provide list of potential sites. It is important that the letter sent to these agencies be carefully drafted so that the response would be relevant to the information that is required for screening and selection of sites. From the number of sites submitted (for example 20 or more sites), the information gathered from correspondences with district and provincial offices plus from established networks can be used by the National Project Advisory Committee to screen the sites down to ten sites. Following on from this, the rapid assessment, based on the following criteria, is to be used to select the most vulnerable final three to six sites.

2.2 Field Visits

The PACE-SD Rapid Assessment is used to gather information from the short-listed communities (see Annex 1). It should take three to five hours at each site to undertake this assessment. Acquisition of data and information is through a number of key informant interviews (such as community leaders), discussions at informal village meetings and via rapid appraisal of the physical and built environment. The scores for each site are then decided on collectively by the people involved in the site assessment.

2.3 Site Assessment Method: Point Score System

A total score of one to five is made for each criterion, by taking the average and rounding it off to the nearest whole number. It is important to note that when tallying up the points, the vulnerability score ranges from one ('very low vulnerability') to five ('very high vulnerability'). The table below indicates the key to be used. The opposite applies when assessing adaptive capacity. That is, the highest adaptive capacity (five) indicates the lowest vulnerability, while the lowest adaptive capacity (one) is the most vulnerable. Therefore vulnerability scale is judged on the highest score to determine the most vulnerable, while the adaptive capacity scale is judged on the lowest score to determine the most vulnerable.

Description	Very low vulnerability	Low vulnerability	Moderate vulnerability	High vulnerability	Very high vulnerability
Value	1	2	3	4	5

3.0 Site Selection Criteria

Criteria 1: Current Level of Vulnerability Related to Livelihood Sectors

The assessment of this criterion needs to be conducted in a more objective and systematic way based on the factors relating to community vulnerability. This assessment is focused on the impacts of climate change on three climate-sensitive livelihood sectors. The sectors include: (i) water resources; (ii) health and sanitation; and (iii) food resources and food security. The points scale system to be used for each of the livelihood sectors is as follows: 1 = very low vulnerability; 2 = low vulnerability; 3 = moderate vulnerability; 4 = high vulnerability; and 5 = very high vulnerability.

(1) Water Resources

Factors	Point System	Points
(i) Estimated rain-months per year that occur in the area	9 - 12 months: 1 6 - <9 months: 2 3 - <6 months: 3 1 - <3 months: 4 Less than 1 month: 5	
(ii) Presence of water sources	Flowing river/s: 1 Stream/s: 2 Medium to large spring/s: 3 Small spring/s: 4 Well/s: 5	
(iii) Discharge rates of springs (To be measured preferably during the dry month or season)	1.5 L/second and above: 1 1.0 - < 1.5 L/second: 2 0.5 - < 1.0 L/second: 3 0.25 - < 0.5 L/second: 4 < 0.25 L/second: 5	

Notes:

- (i) If the community has wells as well as small springs, the point score would be 4.
- (ii) Community relying solely on a bore-hole as a source of water receives a point score of 5.
- (iii) The discharge rates can be calculated using improvised materials, if proper measuring cylinder and stop watches are not available. The use of a wrist watch for clocking the time and any container with known volume is adequate for calculating an estimated discharge rate of a spring.

(2) Health and Sanitation

(a) Level of incidence of vector-borne diseases occurring in the community

Factors	Point System	Points
(i) Dengue (number of cases per year)	None:	1
	1 - 3:	2
	4 - 7:	3
	8 - 10:	4
	>10:	5
(ii) Malaria (number of cases per year)	None:	1
	1 - 3:	2
	4 - 7:	3
	8 - 10:	4
	>10:	5

Notes:

(i) The point system needs to be adjusted to reflect the level of occurrences of vector and water borne diseases occurring in the study areas. For example, if occurrences range between 8 to 30 in the communities, the scale of the point system should be adjusted to cater for the high incidences.

(ii) To decide on the higher level of vulnerability between two sites if their point scores are in the same range, e.g. 8 - 10 scale, then the actual number of incidence should be the decider.

(b) Level of incidence of water-borne diseases occurring in the community.

Factors	Point System	Points
(i) Diarrhoea (number of cases per year)	None:	1
	1 - 3:	2
	4 - 7:	3
	8 - 10:	4
	>10:	5
(ii) Skin diseases (number of cases per year)	None:	1
	1 - 3:	2
	4 - 7:	3
	8 - 10:	4
	>10:	5
(iii) Typhoid	None:	1
	1 - 3:	2
	4 - 7:	3
	8 - 10:	4
	>10:	5
(iv) Cholera	None:	1
	1 - 3:	2
	4 - 7:	3
	8 - 10:	4
	>10:	5

(3) Food Resources and Food Security

Factors	Point System	Points
(i) Basic subsistence sources of food	Derive 100% of food needs from both land and marine-based food resources: 1 Derive less than 75% of food needs from both land and marine resources: 2 Derive less than 50% of food needs from both land and marine resources: 3 Derive less than 25% of food needs from both land and marine resources: 4 Derive less than 25% of food needs from either land or marine resources: 5	
(ii) Total land area per person	≥7 hectare/per person: 1 5 - <7 hectare/per person: 2 3 - <5 hectare/per person: 3 1 - <3 hectare/per person: 4 <1 hectare/per person: 5	
(iii) Relative soil fertility	Highly fertile soils: 1 Fertile soils: 2 Moderate fertility: 3 Low fertility or degraded soils: 4 Poor or highly degraded soils: 5	
(iv) Relative productivity of marine resources	Highly productive marine resource: 1 Productive marine resource: 2 Moderately productive: 3 Low productive or degraded resource: 4 Poor or highly degraded resource: 5	

(4) Energy Resources and Energy Security

Factors	Point System	Points
(i) Basic energy sources for lighting	Multiple sources, including solar: 1 Connected to a main power grid: 2 Electrical generator: 3 Kerosene lamp: 4 Candle, fuel wood or others: 5	
(ii) Basic energy sources for cooking	Multiple sources, including electric: 1 Fuel wood, kerosene and gas: 2 Fuel wood and either kerosene or gas: 3 Solely kerosene: 4 Solely fuel wood: 5	

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

This criterion is mainly based on the approximate aggregate income of the community per year. This amount is then divided according to the number of households to calculate the income per household per year, and then further calculated to a daily basis. The points system to be used equivalent in actual weekly earnings is as follows: 1 = income per household is below poverty line; 2 = poverty line; 3 = marginally above poverty line; 4 = income that adequately meets the basic family needs; and 5 = earning disposable income. According to the United Nations definition of poverty, people well below the poverty line are earning less than US\$1 per day. Each of the in-country coordinators needs to check their own country-specific definition of poverty. If the level of income is difficult to derive, then the type of economic system, such as agriculture system or fisheries could be used. The point system to be used is: 1 = purely subsistence; 2 = semi-subsistence; 3 = semi-commercial; 4 = commercial; 5 = highly commercial.

Factors	Point System	Points
(i) Level of income per household (estimated)	≤\$50 per week: 1 \$51 - \$100 per week: 2 \$101 - \$200 per week: 3 \$201 - \$300 per week: 4 >\$300 per week: 5	
(ii) Predominant type of economic system either in the agriculture or fisheries sectors	Predominantly subsistence: 1 Subsistence to semi-commercial: 2 Semi-commercial: 3 Commercial: 4 Highly commercial: 5	

Criteria 3: Level of Community Need

This criterion is related to the level of commitment the community has shown related to past projects addressing key livelihood sectors that are climate sensitive. The point system related to this criterion is as follows: 1 = climate change related impacts not an issue; 2 = entirely externally-driven projects; 3 = externally-driven projects with some contribution from the community; 4 = externally driven projects with equal level of contribution from the community; and 5 = community had embarked on project/s which tried to address impacts of climate change on their own.

Factors	Point System	Points
(i) Level of community need related to community commitment to addressing climate-induced related stresses in past community projects	Climate change related stresses not an issue: 1 Entirely externally-driven projects: 2 Externally-driven projects but with some contributions from the community: 3 Externally-driven projects with equal contributions from the community: 4 Entirely community-driven projects: 5	

Criteria 4: Level of Community Interest

The points system related to this criterion relating to community interest is: 1 = not interested; 2 = moderately interested but has reservations; 3 = moderately interested; 4 = interested; and 5 = very interested.

Factors	Point System	Points
(i) Level of interest shown for the proposed project	Not interested: 1 Moderately interested but have reservations: 2 Moderately interested: 3 Interested: 4 Very interested: 5	

Criteria 5: Feasibility of the Project

The fifth criterion involves assessing the relative feasibility of the project. The points system for this criterion is as follows: 1 = not feasible; 2 = low feasibility; 3 = moderately feasible; 4 = feasible; 5 = highly feasible. To consider, the funding level of the Fiji climate change adaptation projects was approximately F\$30,000-\$40,000 per site or approximately US\$20,000-\$30,000 per site. To evaluate the project feasibility in implementing adaptation projects related to livelihood sectors, this criterion is simply best determined by the population size. If you intend to work in a site that requires greater funding than that allocated by the project, then you need to be very skillful in sourcing additional funds from relevant stakeholders or other funding agencies including the national government. In this regard, adaptation measures such as coastal protection works, planned relocation, and major infrastructural developments such as construction of flood gates are best left with national governments to address.

Factors	Point System (In Fijian (F) dollars)	Points
(i) Approximate cost of funding a livelihood adaptation project related to project funding allocation per site or community	≥F\$100,000 (i.e. approx. >US\$50,000):	1
	F\$80,000 - F\$99,000:	2
	F\$60,000 - F\$79,000:	3
	F\$40,000 - F\$59,000:	4
	<F\$40,000 (i.e. approx. <US\$20,000):	5

Note: this criterion is only applicable if the amount of funding allocated per site or community is between F\$30,000 and F\$80,000.

4.0 Additional Criteria

The following two criteria (or whichever is applicable) are only applied to decide for sites that are equal in their points tally:

- Criteria 6: Vulnerability of the community to cyclones; and
- Criteria 7: Vulnerability of the community to flooding and or storm surges and projected sea level rise for communities located in flood prone or coastal areas.

It is important to note that Pacific Island countries that are located near the equator are not directly affected by cyclones, while inundation from king tides and storm surges may be the main hazards.

Note: These additional criteria are used only in cases where the preceding five criteria are not able to clearly determine the required designated number of vulnerable sites. For example, to choose three sites from a pool of six shortlisted sites, when two out of six sites have clearly been identified as highly vulnerable, while the third site out of the remaining four sites is difficult to choose as the point score may be equal. In such a case, Criteria 6 is then used as a decider. If this still cannot determine the third site, then Criteria 7(a) or Criteria 7(b) are used depending on the location of the sites. For the use of Criteria 7, coastal communities are compared only against coastal communities using Criteria 7(a), whilst inland communities get compared only against inland communities as in Criteria 7(b).

Criteria 6: Level of Vulnerability of a Community to the Impacts of Cyclones

Factors	Point System	Points
(1) Categorisation of the types of housing structures in the community	≥80% are of modern cement or properly constructed wooden houses:	1
	≥60 - <80% are of modern cement or properly constructed wooden houses:	2
	≥40 - <60% are of modern cement or properly constructed wooden houses:	3
	≥20 - <40 % are of modern cement or properly constructed wooden houses:	4
	≤20% are of modern cement or properly constructed wooden houses:	5

Criteria 7a: Level of Vulnerability of Coastal Communities to Inundation, Storm surges and Projected Sea Level

Factors	Point System	Points
(1) Foreshore Elevation (Estimation – above normal high tide)	>9m: 1 7 - <9m: 2 5 - <7m: 3 3 - <5m: 4 <3m: 5	
(2) Village Elevation (Estimation – above normal high tide)	>50%(>9m): 1 >50%(7 - <9m): 2 >50%(5 - <7m): 3 >50%(3 - <5m): 4 >50%(<3m): 5	
(3) Reef System	Presence of fringing and barrier reefs: 1 Presence of barrier reef only: 2 Presence of fringing reef only: 3 Reefs are disconnected or isolated: 4 Presence of open passages to shore or no barrier and no fringing reefs: 5	
(4) Mangrove Protection	Heavily Dense: 1 Moderately Dense: 2 Dense: 3 Scattered: 4 None or isolated stands: 5	
(5) Average distance of shoreline to nearest first row of houses along the shore (if substrate upon village is located is made of sedimentary materials or sandy/coral rubble)	> 20m: 1 15 - < 20m: 2 10 - < 15m: 3 5 - < 10m: 4 1 - < 5m: 5	
(6) Ease of relocation to higher ground without socio-economic and cultural constraints	Easily: 1 Limiting factor is only finance: 2 Some geographical constraints: 3 Major constraints: 4 No land to relocate to at all: 5	
Average Points (rounded to the nearest whole number):		

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

Factors	Point System	Points
(1) Foreshore Elevation (Estimation)	>9m: 1 7 - <9m: 2 5 - <7m: 3 3 - <5m: 4 1 - <3m: 5	
(2) Village elevation (Estimation)	>50%(>9m): 1 >50%(7 - <9m): 2 >50%(5 - <7m): 3 >50%(3 - <5m): 4 >50%(1 - <3m): 5	
(3) Location on river system (proxy for bank erosion potential)	Convex: 1 Moderately Convex: 2 Straight: 3 Moderately Concave: 4 Concave: 5	
(4) Average distance of river bank to nearest first row of houses along the river	> 9m: 1 7 - < 9m: 2 5 - < 7m: 3 3 - < 5m: 4 1 - < 3m: 5	
(5) Drainage	Good: 1 Moderate to Good: 2 Moderate: 3 Poor to Moderate: 4 Poor: 5	
(6) Ease of relocation to higher ground without socio-economic and cultural constraints	Easily: 1 Limiting factor is only finance: 2 Some geographical constraints: 3 Major constraints: 4 No land to relocate to at all: 5	
Average Points (rounded to the nearest whole number):		

Annex 1

PACE-SD Rapid V&A Assessment Tool [Questionnaire]

For Prioritisation and Selection of Sites

[Updated on 6th July 2012]
[Ref. L. Limalevu, Fellow (PACE-SD), USP]

Note: (i) This is a rapid V&A Assessment used to screen and select which communities are vulnerable to the current and projected impacts of climate change and therefore should be prioritised for adaptation projects.

(ii) The information gathered for the assessment is mainly from interviews of key informants or community representatives.

(iii) The assessment should take approximately one day per community to complete, depending on the weather condition and availability of community representatives as key informants for the interview.

(iv) The PACE-SD Rapid Assessment points scoring system is then used to assess the relative vulnerability and adaptive capacity of the community to the impacts of climate change.

A. Introduction

- Visit the community/village according to the proper cultural protocol, for example, in Fiji, the presentation of the 'sevusevu' is the norm
- Brief the community elders or representative/s on the purpose of the visit
- Provide a briefing on the rapid assessment approach (i.e. key informant interviews, followed by observations from a brief tour around the village and surrounding environment)
- Briefing on how the survey findings and procedure for determining the selection of the project sites
- Note: the team should ensure not to raise any expectations of the community; therefore their approach should be honest and 'straight to the point'

B. Physiographic Characteristics - Visual Observation (site and surrounding areas)

- Geomorphology
- Drainage Patterns
- Vegetation cover
- Land use types and pattern
- Note: you need to have background information at hand from your literature search and information networks (if available) to support your visual observations on the site and surrounding environment

C. Interview of Key Informants

- This should take 1 hour to a maximum of 3 hours
- The key persons that should comprise the key informants for the interview should be the community representative/s, a village nurse or community health worker, a representative from the village development committee (if there is one such committee) and a representative from the women's committee

1.0 Basic Socio-economic Information

1.1 What is the population and population distribution (total number, approximate gender distribution)?

1.2 What is the community management (governance) structure?

1.3 What is the total land area owned by the community?

1.4 What is the approximate proportion of flat 'arable' land to hilly/mountainous land or degraded (e.g. through salt-water intrusion)?

- 1.5 What are the main sources of income?
- 1.6 What is the main farming system practised by the community (i.e. subsistence, subsistence/semi-commercial, semi-commercial, semi-commercial/commercial, entirely commercial)?
- 1.7 What is the main fisheries system practised by the community (i.e. subsistence, subsistence/semi-commercial, semi-commercial, semi-commercial/commercial, entirely commercial)?
- 1.8 What is the aggregated weekly/monthly/annual income of the community derived from sale of natural resources?
- 1.9 Are there any paid employees/workers residing in the community? If so, what is the aggregate weekly/monthly/annual income of these workers?
- 1.10 Are there any village development plans?
- 1.11 What were the types of development projects implemented in the last 30 years?
- 1.12 Are there any natural resources development plans?
- 1.13 What were the types of natural resources management projects implemented in the last 30 years?
- 1.14 Are there any community investment/business plans?
- 1.15 What were the types of investment/business projects implemented in the last 30 years?
- 1.16 Has a climate change adaptation project been implemented previously by the community?

2.0 Water Resources and Supply

- 2.1 What is or are currently the most prominent source/s of water (well, spring, borehole, rainwater, stream, etc)?
- 2.2 What is the water availability throughout the year (i.e. annual rainfall distribution – number of dry months per year)?
- 2.3 What is or are the relative water quality of the most prominent source/s?
- 2.4 What is the current water distribution system?
- 2.5 What are the types and capacities of water storages dedicated for the whole community?
- 2.6 What are the types and capacities of water storages at the household level?

3.0 Health and Sanitation

- 3.1 What is the availability or presence of health services facilities?
- 3.2 How far is the nearest health centre?
- 3.3 What range of services does the nearest health centre provide?
- 3.4 What is the incidence of water borne diseases (diarrhoea, skin diseases, leptospirosis, etc)?
- 3.5 What is the incidence of vector borne diseases (dengue, malaria, etc)?
- 3.6 Are there any other diseases prevalent in the community?
- 3.7 Obtain a health report and health data from village nurse or health worker (note: treat with utmost confidence)
- 3.8 Is there a health committee? If so, are there any planned activities?
- 3.9 Record planned health committee or community health-related activities
- 3.10 If possible, you need to confirm the response to 3.2, 3.3 and 3.4 from the nearest district health centre (note: treat with utmost confidence)

4.0 Food Resources and Food Security

- 4.1 What is the total land availability (approximate total size/area of farming land for the community)?
- 4.2 List, according to importance, types of food sources: (i) root crops; (ii) vegetables; and (iii) trees crops
- 4.4 What are the relative productivity levels of the following: (i) root crops; (ii) vegetables; and (iii) tree crops?
- 4.5 What is the estimated area of fishing ground owned by the community?
- 4.5 List, according to importance, the main fish types as food sources
- 4.6 List, according to importance, the main non-fin fish types as food sources (e.g. crabs, prawns, octopus, etc)
- 4.7 What is the relative productivity level of fin-fish resources?

4.8 What is the relative productivity level of non-fin fish resources?

5.0 Energy Sources

5.1 List the key energy sources for cooking and priorities list (e.g. fuel wood, kerosene, gas, electricity)

5.2 List the key energy sources for lighting (e.g. kerosene, diesel generators, solar, electricity from mini hydro dam, electricity from main grid)

6.0 Disaster Risk Management (DRM)

Note: Limit DRM to climate-induced disasters, e.g. cyclones, droughts, floods, and cyclone-induced high waves or storm surges

6.1 Categorise the types of infrastructures in the community (i.e. % of traditional, lean-to (i.e. corrugated iron walls and roofing), wooden, wooden with cement base, cement/block house)

6.2 Is there a disaster management plan?

6.3 If there is one, how effective is the plan?

6.4 Is there an evacuation centre (inspect the status and condition of the evacuation centre)?

7.0 Community Needs Assessment

7.1 List the number of projects currently being implemented by the community by themselves and those through external assistance

7.3 Gauge their willingness to participate in the EU-GCCA project if their community gets selected?

7.3 What level of in-kind contribution would they be willing to provide for the project (e.g. labour, meals for the workers, etc)?

7.4 What level of cash contribution would they be willing to provide for the project?

D. Field Assessment

- This should take 1-3 hours
- The team will take a brief tour around the village and its surroundings making observations and verifying issues that are related to the questions asked during the interview

E. Concluding Remarks

- The team spokesperson would then make some concluding comments and then reiterate how the findings would then be used for the final selection process
- The team then thank the community representatives for their time and then an official request to leave is performed, e.g. for Fiji an 'itatau' is presented