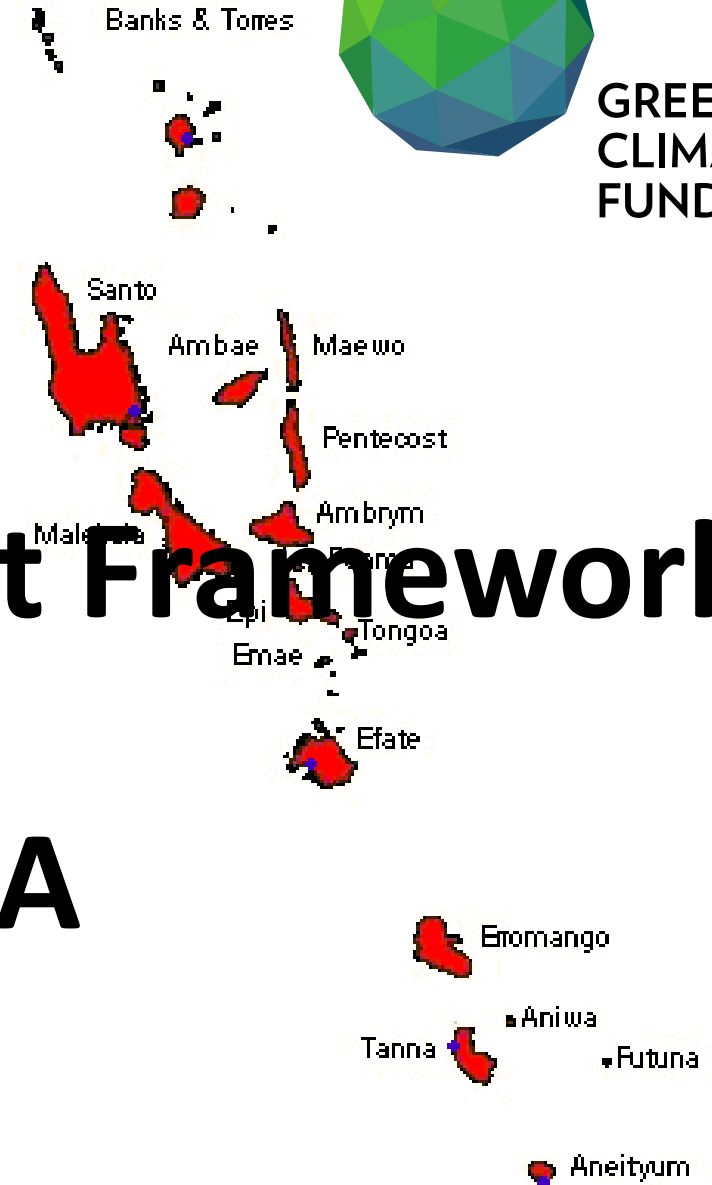


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# A Proposed National Vulnerability Assessment Framework (VAF) for NAB / NDA



NSDP Vision: A stable, sustainable and prosperous Vanuatu							
*culture *responsive state to all citizens *pristine environment *resilience to and disaster *job & earning opportunities for rural & urban	Soc1, Soc4, Soc5, Soc6		Env4, Env5		Env4.2, Eco2.2		Env1
VAF aligned NSDP goals	Soc2, Soc3		Env4, Env5		Env4.2, Eco2.2		Env1
VAF MANDATE	Env Goal 3: A strong and resilient nation in the face of climate change and disaster risks posed by natural and man-made hazards						
CCDRP Vision	Vanuatu is a resilient community, environment and economy						
CCDRP Definition	Vulnerability: The characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard						
Lifehood Assets (LA)	Human Security Objectives (HSOs)						
	SECURITY OF PLACE	HEALTHY COMMUNITY	HEALTHY ECOSYSTEM	WATER SECURITY	FOOD SECURITY	INCOME SECURITY	ENERGY SECURITY
INSTITUTIONS & GOVERNANCE *customary *socially inclusive	Pg	Hg	Eg	Wg	Fg	Ig	Ng
NATURAL RESOURCES	Pn	Hn	En	Wn	Fn	In	Nn
INFRASTRUCTURE & SERVICES	Pi	Hi	Ei	Wi	Fi	Ii	Ni
HUMAN RESOURCES	Ph	Hh	Eh	Wh	Fh	Ih	Nh
FINANCE	Pf	Hf	Ef	Wf	Ff	If	Nf

# Outline

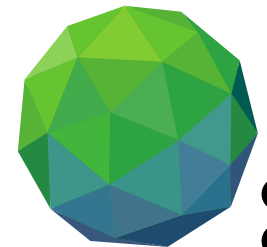


- 1. The VAF purpose**
- 2. The VAF development process**
- 3. Key VAF priorities by stakeholders**
- 4. The final VAF structure**
- 5. VAF Process Forward**
- 6. Recommendations for NAB consideration**

# The purpose of the VAF:

The Vanuatu Vulnerability Assessment Framework (VAF) is designed to strengthen the institutional processes of NAB/NDA, informing

- climate-resilient decision-making
- project prioritization
- financial allocation



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# The purpose of the VAF:

Helping NAB endorse the right interventions in the right places by the right people that meet real needs.



=> towards a more robust, transparent, equitable and socially inclusive process for climate decision-making

# VAF & the GCF Investment Criteria



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## Six Investment Criteria Against which proposals are assessed

NSDP Vision: A stable, sustainable and prosperous Vanuatu							
*Culture *responsive state to all citizens *pristine environment *acc and disaster resilience *Job & earning opportunities for rural & urban	ENVIRONMENT PILLAR			ECONOMY PILLAR			
	1	2	3	ECO 1	ECO 2	ECO 3	ECO 4
VAF aligned NSDP goals	Soc1, Soc4, Soc5, Soc6	Soc2, Soc3	Env4, Env5	Env4.2, Eco2.2	Env1	Env2, Eco1, Eco2, Eco3, Eco4	Env2.3, Eco2.1
VAF MANDATE	Env Goal 3: A strong and resilient nation in the face of climate change and disaster risks posed by natural and man-made hazards						
CCDRP Vision	Vanuatu is a resilient community, environment and economy						
CCDRP Definition	Vulnerability: The characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard						
Wellbeing Assets (WAs)	Human Security Objectives (HSOs)						
	SECURITY OF PLACE P	HEALTHY COMMUNITY H	HEALTHY ECOSYSTEM E	WATER SECURITY W	FOOD SECURITY F	INCOME SECURITY I	ENERGY SECURITY N
INSTITUTIONS & GOVERNANCE *Customary *socially inclusive g	Pg	Hg	Eg	Wg	Fg	Ig	Ng
NATURAL RESOURCES n	Pn	Hn	En	Wn	Fn	In	Nn
INFRASTRUCTURE & SERVICES i	Pi	Hi	Ei	Wi	Fi	Ii	Ni
HUMAN RESOURCES h	Ph	Hh	Eh	Wh	Fh	Ih	Nh
FINANCE f	Pf	Hf	Ef	Wf	Ff	If	Nf

Impact potential

Potential to contribute to achievement of Fund's objectives and result areas

Paradigm shift potential

Long-term impact beyond a one-off investment

Sustainable development potential

Wider economic, environmental, social (gender) co-benefits

Country ownership

Country ownership and capacity to implement (policies, climate strategies and institutions)

Efficiency & effectiveness

Economic and, if appropriate, financial soundness, as well as cost-effectiveness and co-financing for mitigation

Responsive to needs of recipients

Vulnerability and financing needs of beneficiary in targeted group

# Vulnerability Data Required in GCF Proposal Template

## A.1.11. Results areas *(mark all that apply)*

### Reduced emissions from:

- Energy access and power generation**  
(E.g. on-grid, micro-grid or off-grid solar, wind, geothermal, etc.)
- Low emission transport**  
(E.g. high-speed rail, rapid bus system, etc.)
- Buildings, cities and industries and appliances**  
(E.g. new and retrofitted energy-efficient buildings, energy-efficient equipment for companies and supply chain management, etc.)
- Forestry and land use**  
(E.g. forest conservation and management, agroforestry, agricultural irrigation, water treatment and management, etc.)

### Increased resilience of:

- Most vulnerable people and communities**  
(E.g. mitigation of operational risk associated with climate change – diversification of supply sources and supply chain management, relocation of manufacturing facilities and warehouses, etc.)
- Health and well-being, and food and water security**  
(E.g. climate-resilient crops, efficient irrigation systems, etc.)
- Infrastructure and built environment**  
(E.g. sea walls, resilient road networks, etc.)
- Ecosystem and ecosystem services**  
(E.g. ecosystem conservation and management, ecotourism, etc.)

# Vulnerability Data Required in GCF Proposal Template

## C.2. Project / Programme Objective against Baseline

*Describe the baseline scenario (i.e. emissions baseline, **climate vulnerability baseline**, key barriers, challenges and/or policies) and the outcomes and the impact that the project/programme will aim to achieve in improving the baseline scenario.*

### E.1. Impact Potential

Potential of the project/programme to contribute to the achievement of the Fund's objectives and result areas

#### E.1.1. Mitigation / adaptation impact potential

*Specify the mitigation and/or adaptation impact, taking into account the relevant and applicable sub-criteria and assessment factors in the Fund's [investment framework](#).*

***When applicable, specify the degree to which the project/programme avoids lock-in of long-lived, high emission or climate-vulnerable infrastructure.***

### E.1. Impact Potential

Potential of the project/programme to contribute to the achievement of the Fund's objectives and result areas

#### E.1.1. Mitigation / adaptation impact potential

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# Vulnerability Data Required in GCF Proposal Template?

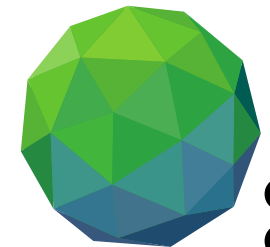
E.1.2. Key impact potential indicator			
Provide specific numerical values for the indicators below.			
GCF core indicators	Expected tonnes of carbon dioxide equivalent (t CO <sub>2</sub> eq) to be reduced or avoided (Mitigation only)	Annual	
		Lifetime	
	<ul style="list-style-type: none"> <li>Expected total number of direct and indirect beneficiaries, disaggregated by gender (reduced vulnerability or increased resilience);</li> <li>Number of beneficiaries relative to total population, disaggregated by gender (adaptation only)</li> </ul>	Total	
		Percentage (%)	
Other relevant indicators	<p>Examples include:</p> <ul style="list-style-type: none"> <li>Expected increase in the number of households with access to low-emission energy</li> <li>Expected increase in the number of small, medium and large low-emission power suppliers, and installed effective capacity</li> <li>Expected increase in generation and use of climate information in decision-making</li> <li>Expected strengthening of adaptive capacity and reduced exposure to climate risks</li> <li>Others</li> </ul>		
Describe the detailed methodology used for calculating the indicators above.			
Describe how the project/programme's indicator values compare to the appropriate benchmarks (i.e. the indicator values for a similar project/programme in a comparable context).			



# For GCF programming a VAF is essential

The VAF is a common assessment framework for NAB / NDA to:

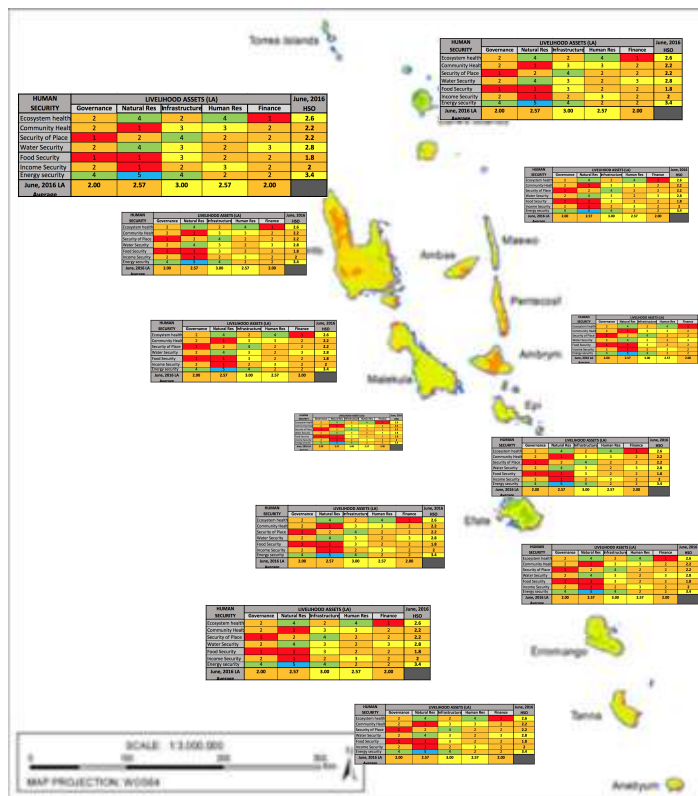
- Identify people and places that are most vulnerable to climate change
- Acknowledge specific development goals/sectors that are vulnerable
- Consider bottom-up climate and disaster resilience priorities of men, women, youth, disabled and other socially vulnerable groups
- Make sense of a range of technical, scientific, anthropological studies, reports, methodologies, & tools undertaken at different scale
- Overcome research data gaps
- Assess GCF investment proposals



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# NAB / NDA VAF Usage

A Decision-Support Tool For NAB / NDA; a snapshot of Vulnerability

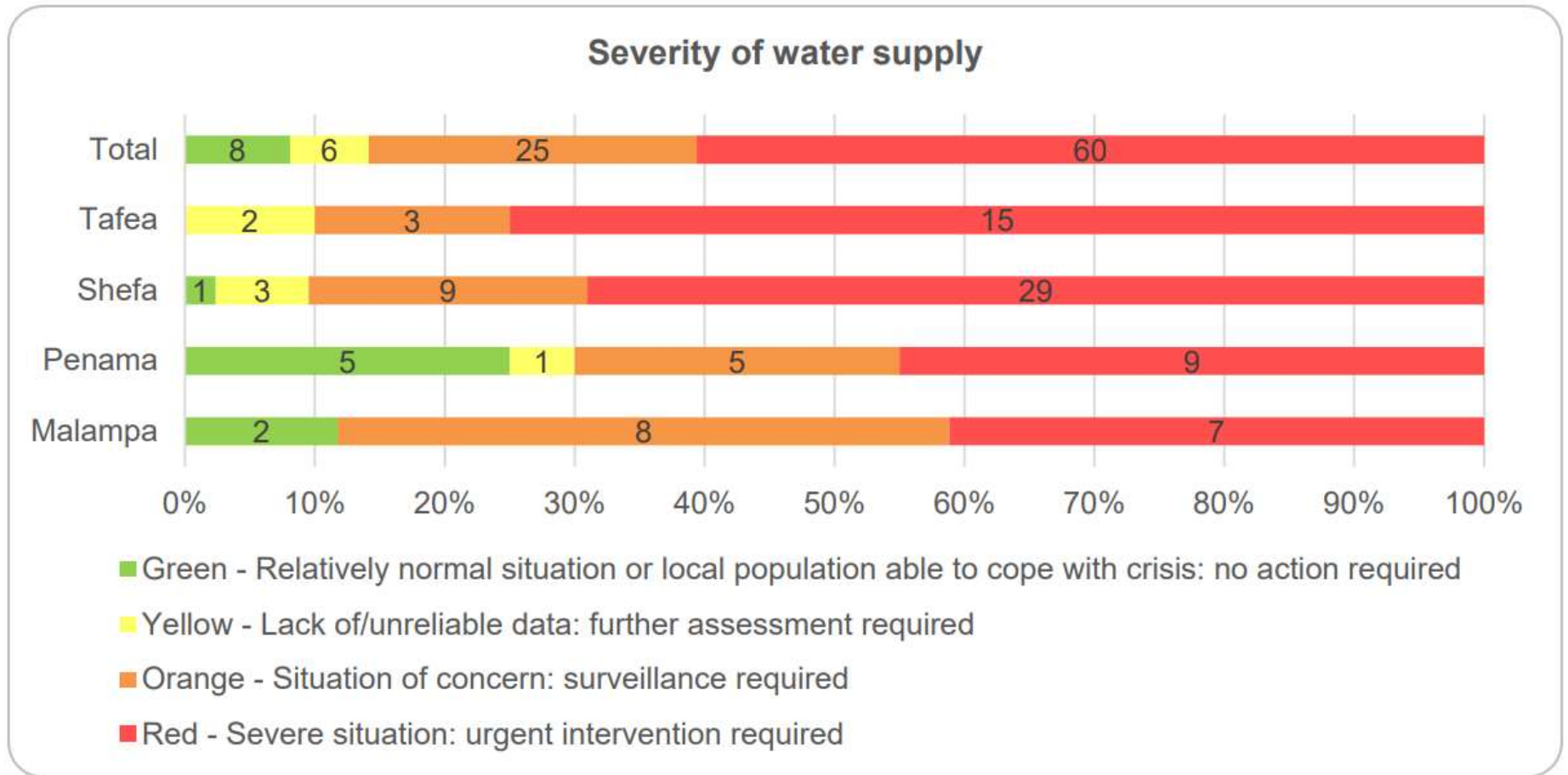
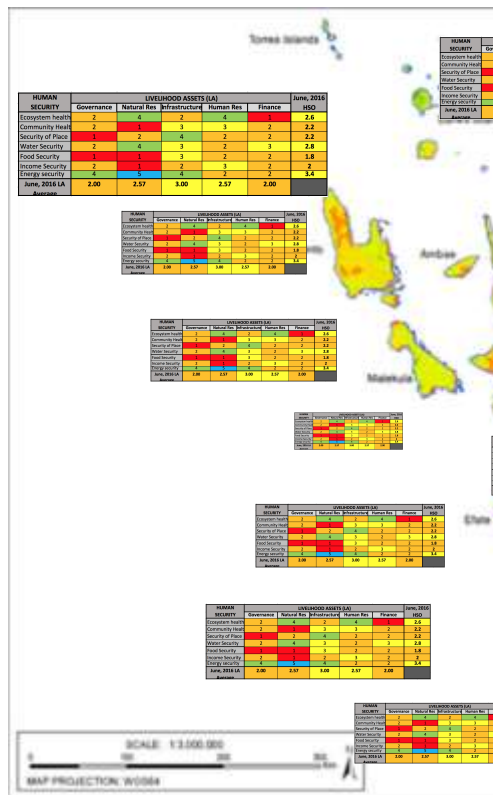


HUMAN SECURITY	LIVELIHOOD ASSETS (LA)					June, 2016 HSO
	Governance	Natural Res	Infrastructure	Human Res	Finance	
Ecosystem health	2	4	2	4	1	2.6
Community Health	2	1	3	3	2	2.2
Security of Place	1	2	4	2	2	2.2
Water Security	2	4	3	2	3	2.8
Food Security	1	1	3	2	2	1.8
Income Security	2	1	2	3	2	2
Energy security	4	5	4	2	2	3.4
<b>June, 2016 LA Average</b>	<b>2.00</b>	<b>2.57</b>	<b>3.00</b>	<b>2.57</b>	<b>2.00</b>	

Community -> Area Council (AC) -> Island -> Province  
 AC is lowest level of administrative division in Vanuatu

# NAB / NDA VAF Usage

A Decision-Support Tool For NAB / NDA; a snapshot of Vulnerability



# NSDP Vision: A stable, sustainable and prosperous Vanuatu

<p><b>*culture</b>  <b>*responsive state to all citizens</b>  <b>*pristine environment</b>  <b>*cc and disaster resilience</b>  <b>*job &amp; earning opportunities for rural &amp;urban</b></p>		<b>SOCIETY PILLAR</b>			<b>ENVIRONMENT PILLAR</b>			<b>ECONOMY PILLAR</b>	
		SOC 1	Vibrant cultural identity		ENV 1	Food and Nutrition Security		ECO 1	Stable and Equitable Growth
		SOC 2	Quality Education		ENV 2	Blue-Green Economic Growth		ECO 2	Improve Infrastructure
		SOC 3	Quality Health Care		ENV 3	Climate and Disaster Resilience		ECO 3	Strengthen Rural Communities
		SOC 4	Social Inclusion		ENV 4	Natural Resource Management		ECO 4	Create jobs and business opportunities
		SOC 5	Security, Peace and Justice		ENV 5	Ecosystems and Biodiversity			
		SOC 6	Strong and Effective Institutions						

VAF aligned NSDP goals	Soc1, Soc4, Soc5, Soc6	Soc2, Soc3	Env4, Env5	Env4.2, Eco2.2	Env1	Env2, Eco1, Eco2, Eco3, Eco4	Env2.3, Eco2.1
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**VAF MANDATE** Env Goal 3: A strong and resilient nation in the face of climate change and disaster risks posed by natural and man-made hazards

**CCDRP Vision** Vanuatu is a resilient community, environment and economy

**CCDRP Definition** *Vulnerability: The characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard*

**Livelihood Assets (LAs)** **Human Security Objectives (HSOs)**

	SECURITY OF PLACE <b>P</b>	HEALTHY COMMUNITY <b>H</b>	HEALTHY ECOSYSTEM <b>E</b>	WATER SECURITY <b>W</b>	FOOD SECURITY <b>F</b>	INCOME SECURITY <b>I</b>	ENERGY SECURITY <b>N</b>
<b>INSTITUTIONS &amp; GOVERNANCE</b> *customary *socially inclusive g	<b>Pg</b>	<b>Hg</b>	<b>Eg</b>	<b>Wg</b>	<b>Fg</b>	<b>Ig</b>	<b>Ng</b>
<b>NATURAL RESOURCES</b> n	<b>Pn</b>	<b>Hn</b>	<b>En</b>	<b>Wn</b>	<b>Fn</b>	<b>In</b>	<b>Nn</b>
<b>INFRASTRUCTURE &amp; SERVICES</b> i	<b>Pi</b>	<b>Hi</b>	<b>Ei</b>	<b>Wi</b>	<b>Fi</b>	<b>Ii</b>	<b>Ni</b>
<b>HUMAN RESOURCES</b> h	<b>Ph</b>	<b>Hh</b>	<b>EH</b>	<b>Wh</b>	<b>Fh</b>	<b>Ih</b>	<b>Nh</b>
<b>FINANCE</b> f	<b>Pf</b>	<b>Hf</b>	<b>Ef</b>	<b>Wf</b>	<b>Ff</b>	<b>If</b>	<b>Nf</b>

# The VAF Development Process

## 5 stages of the VAF development process:

1. Initial drafting of the VAF based on a review of past vulnerability assessment frameworks, methods and findings previously conducted in Vanuatu and the Pacific Islands Region.
2. Inception workshop and individual interviews with key stakeholders (12.09.17)
3. Revised VAF Structure and Process
4. 2<sup>nd</sup> VAF workshop to finalize VAF structure and process (1.12.17)
5. VAF training workshop (planned early 2018)



# Key VAF priorities raised by stakeholders

1. Direct VAF alignment with NSDP
2. Gender and social inclusion considerations
3. Current & Future Climate Risks
4. Comparability –  
Accept multiple methods  
Data sourcing and scoring standards
5. Vertical aggregation and integration



# The VAF Structure

Based on extensive Global and Regional Literature Review of CVA, VCA, VAF and other resilience/vulnerability assessment approaches



# The VAF Structure

**Recognizes** that the effects of climate change and disasters:

- **exacerbate existing problems** (such as coastal erosion due to mangrove clearing),
- **creates new hardship** (such as increased soil salinity due to sea level rise),  
**may also generate opportunities** to rebuild better and safer.
- ❖ **VAF categorically assesses the capacity of livelihood assets (LAs) to meet basic needs human security objectives (HSOs) in a changing climate.**



# National Sustainable Development Goals (15 Goals and 98 Objectives)

SOCIETY PILLAR	
<b>SOC 1</b>	Vibrant cultural Identity
<b>SOC 2</b>	Quality Education
<b>SOC 3</b>	Quality Health Care
<b>SOC 4</b>	Social Inclusion
<b>SOC 5</b>	Security, Peace and Justice
<b>SOC 6</b>	Strong and Effective Institutions

ENVIRONMENT PILLAR	
<b>ENV 1</b>	Food and Nutrition Security
<b>ENV 2</b>	Blue-Green Economic Growth
<b>ENV 3</b>	Climate and Disaster Resilience
<b>ENV 4</b>	Natural Resource Management
<b>ENV 5</b>	Ecosystems and Biodiversity

ECONOMY PILLAR	
<b>ECO 1</b>	Stable and Equitable Growth
<b>ECO 2</b>	Improve Infrastructure
<b>ECO 3</b>	Strengthen Rural Communities
<b>ECO 4</b>	Create jobs and business opportunities

## **NSDP ENVIRONMENT GOAL 3:**

A strong and resilient nation in the face of climate change and disaster risks posed by natural and man-made hazards

### **Climate Change and Disaster Risk Reduction Policy (CCDRR) Vision:**

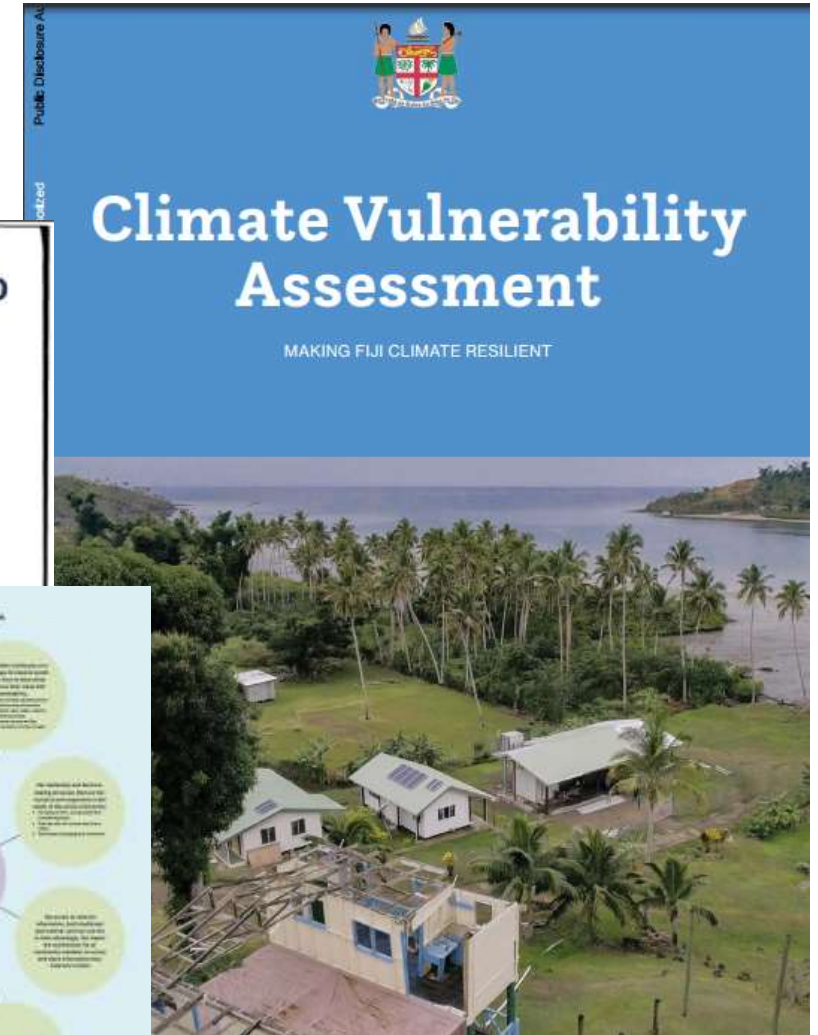
Vanuatu is a resilient community, environment and economy

### **CCDRR Policy Vulnerability Definition:**

The characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard

# Basic Needs: Human Security Objectives (HSOs)

- Ecosystem Health (E)
- Community Health (H)
- Security of Place (P)
- Water Security (W)
- Food Security (F)
- Income Security (I)
- Energy Security (N)



# Example: Security of Place

SDO	Definition (Global)	Vanuatu Definition (from Sept VAF Inception Workshop)	NSDP Goals
<b>Security of Place (P)</b>	Having access to adequate housing ( <a href="#">Habitat 2009</a> ) in a place that is physically and socially safe	Climate and disaster resilient houses, buildings and settlement (e.g. built outside buffer zones) with adequate access to health and education services, harmonious relationship between neighbors; effective community policing and judicial services (e.g. for the safety of women, children and disabled), and adaptable to climate change	<b>Soc 1:</b> Vibrant cultural identity <b>Soc 4:</b> Social inclusion <b>Soc 5:</b> Security, peace and justice <b>Soc 6:</b> Strong and effective institutions <b>Env 3:</b> Climate and disaster resilience

## **NSDP ENVIRONMENT GOAL 3:**

A strong and resilient nation in the face of climate change and disaster risks posed by natural and man-made hazards

### **Climate Change and Disaster Risk Reduction Policy (CCDRR) Vision:**

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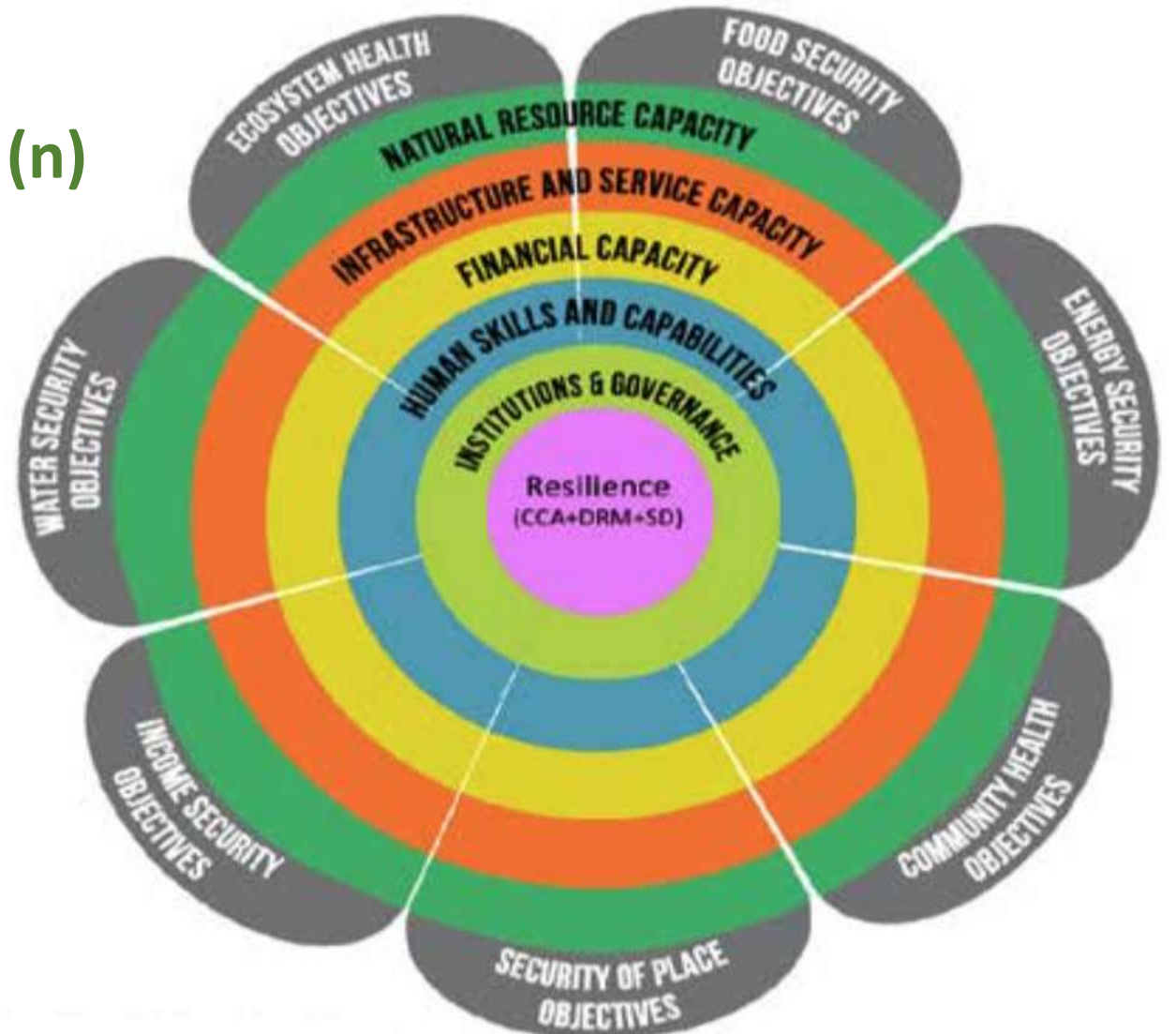
### **CCDRR Policy Vulnerability Definition:**

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# Livelihood Assets (LAs)

The term Livelihood Assets (LAs) includes a range of assets, capabilities and activities that exist across sectors and governance levels (country, community, household) including:

- ❖ Natural (environmental) resources (n)
- ❖ Infrastructure and services (i)
- ❖ Financial resources (f)
- ❖ Human Resources (h)
- ❖ Institutions and governance (g)



# NSDP Vision: A stable, sustainable and prosperous Vanuatu

<p><b>*culture</b>  <b>*responsive state to all citizens</b>  <b>*pristine environment</b>  <b>*cc and disaster resilience</b>  <b>*job &amp; earning opportunities for rural &amp;urban</b></p>		<b>SOCIETY PILLAR</b>			<b>ENVIRONMENT PILLAR</b>			<b>ECONOMY PILLAR</b>		
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VAF aligned NSDP goals	Soc1, Soc4, Soc5, Soc6	Soc2, Soc3	Env4, Env5	Env4.2, Eco2.2	Env1	Env2, Eco1, Eco2, Eco3, Eco4	Env2.3, Eco2.1
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**Livelihood Assets (LAs)** **Human Security Objectives (HSOs)**

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INSTITUTIONS & GOVERNANCE <i>*customary</i> <i>*socially inclusive</i> <b>g</b>	<b>Pg</b>	<b>Hg</b>	<b>Eg</b>	<b>Wg</b>	<b>Fg</b>	<b>Ig</b>	<b>Ng</b>
NATURAL RESOURCES <b>n</b>	<b>Pn</b>	<b>Hn</b>	<b>En</b>	<b>Wn</b>	<b>Fn</b>	<b>In</b>	<b>Nn</b>
INFRASTRUCTURE & SERVICES <b>i</b>	<b>Pi</b>	<b>Hi</b>	<b>Ei</b>	<b>Wi</b>	<b>Fi</b>	<b>Ii</b>	<b>Ni</b>
HUMAN RESOURCES <b>h</b>	<b>Ph</b>	<b>Hh</b>	<b>Eh</b>	<b>Wh</b>	<b>Fh</b>	<b>Ih</b>	<b>Nh</b>
FINANCE <b>f</b>	<b>Pf</b>	<b>Hf</b>	<b>Ef</b>	<b>Wf</b>	<b>Ff</b>	<b>If</b>	<b>Nf</b>

# Example: Security of Place

## SECURITY OF PLACE Broad assessment criteria

### INSTITUTIONS & GOVERNANCE

- \* **Culture:** Transmission of traditional knowledge and practices specific to house construction, spatial planning & migration management.
- \* **Social decision-making:** Inclusive, gender-sensitive & sustainable decision-making processes in relation to housing, spatial planning & migration management.
- \* **Rules, regulations & enforcement:** Adequate and enforced formal and informal rules (including laws, regulations and community plans) for housing, spatial planning & migration management.
- \* **Adaptive management & innovation:** Innovative and adaptive use of traditional & modern knowledge, technology and practices in approaching and managing housing, spatial planning & migration management.
- \* **Disaster risk management:** Disaster preparedness, response & recovery specific to house construction, spatial planning & migration management.

NSDP Vision: A stable, sustainable and prosperous Vanuatu

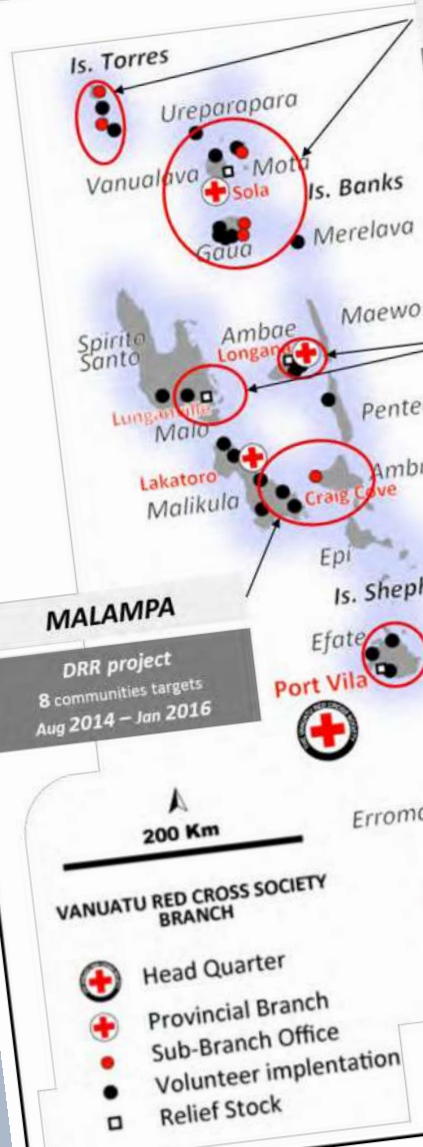
CCDRP Vision  
Vanuatu is a resilient community, environment and economy.

CCDRP Objective  
Vanuatu is a resilient community, environment and economy that is resilient to the damaging effects of a range of hazards.

Human Security Objectives (HSOs)	P	H	E	W	F	I	N
INSTITUTIONS & GOVERNANCE	Pg	Hg	Eg	Wg	Fg	Ig	Ng
INFRASTRUCTURE	Pn	Hn	En	Wn	Fn	In	Nn
INDUSTRY & SERVICES	Pi	Hi	Ei	Wi	Fi	Ii	Ni
ENVIRONMENT	Ph	Hh	EH	Wh	Fh	Ih	Nh
PEOPLE	Pf	Hf	Ef	Wf	Ff	If	Nf



**VRCS DISASTER MANAGEMENT DEPARTMENT PROJECT SITE**



**TORBA**  
 DRR project  
 25 communities targets  
 Jan 2010 – July 2014  
 CCA project  
 25 communities targets  
 July 2012 – Dec 2014

**SANMA & PEI**  
 DM project  
 9 communities  
 April 2013 –

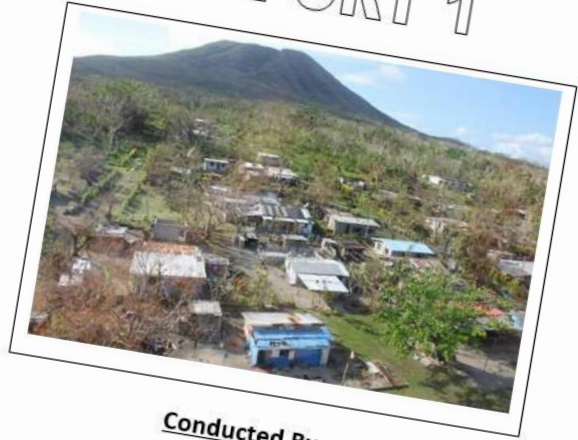
**MALAMPA**  
 DRR project  
 8 communities targets  
 Aug 2014 – Jan 2016

**SHEP**

200 Km  
**VANUATU RED CROSS SOCIETY BRANCH**

- Head Quarter
- Provincial Branch
- Sub-Branch Office
- Volunteer implementation
- Relief Stock

**CYCLONE PAM  
 SITUATION ASSESSMENT  
 REPORT 1**



**Conducted By:**  
 Situation Assessment Team (SAT) for  
**NGUNA-PELE AREA COUNCIL**  
 For Islands of Nguna & Pele, North Efate Offshore.  
 Saturday 28<sup>th</sup> March & 31<sup>st</sup> March 2015

ity of Place

**VCAP HIGHLIGHT SHOTS**



INSTITUT  
GOVERN

2014

Provincial  
Statistical  
Indicator  
(PSI)

Malampa Province



PROVINCIAL  
GOVERNMENT  
COUNCIL



PROVINCIAL  
GOVERNMENT



NATIONAL  
DISASTER  
MANAGEMENT  
OFFICE



NATIONAL ADVISORY BOARD  
ON CLIMATE CHANGE AND DISASTER RISK REDUCTION  
GOVERNMENT OF TORBA

NATIONAL  
ADVISORY BOARD  
ON CC & DRR

2016



TORBA  
Provincial Disaster & Climate  
Response Plan

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g & migration management.

*Culture	
*Responsive nature	
*Active	
*Involvement	
*Cooperation	
*Job & working opportunities	
*Willingness	
Sec1, Sec2, Sec3, Sec4	Sec5
Sec6	Sec7
Sec8	Sec9
Sec10	Sec11
Sec12	Sec13
Sec14	Sec15
Sec16	Sec17
Sec18	Sec19
Sec20	Sec21
Sec22	Sec23
Sec24	Sec25
Sec26	Sec27
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Sec98	Sec99
Sec100	Sec101

# Exam

# Security of

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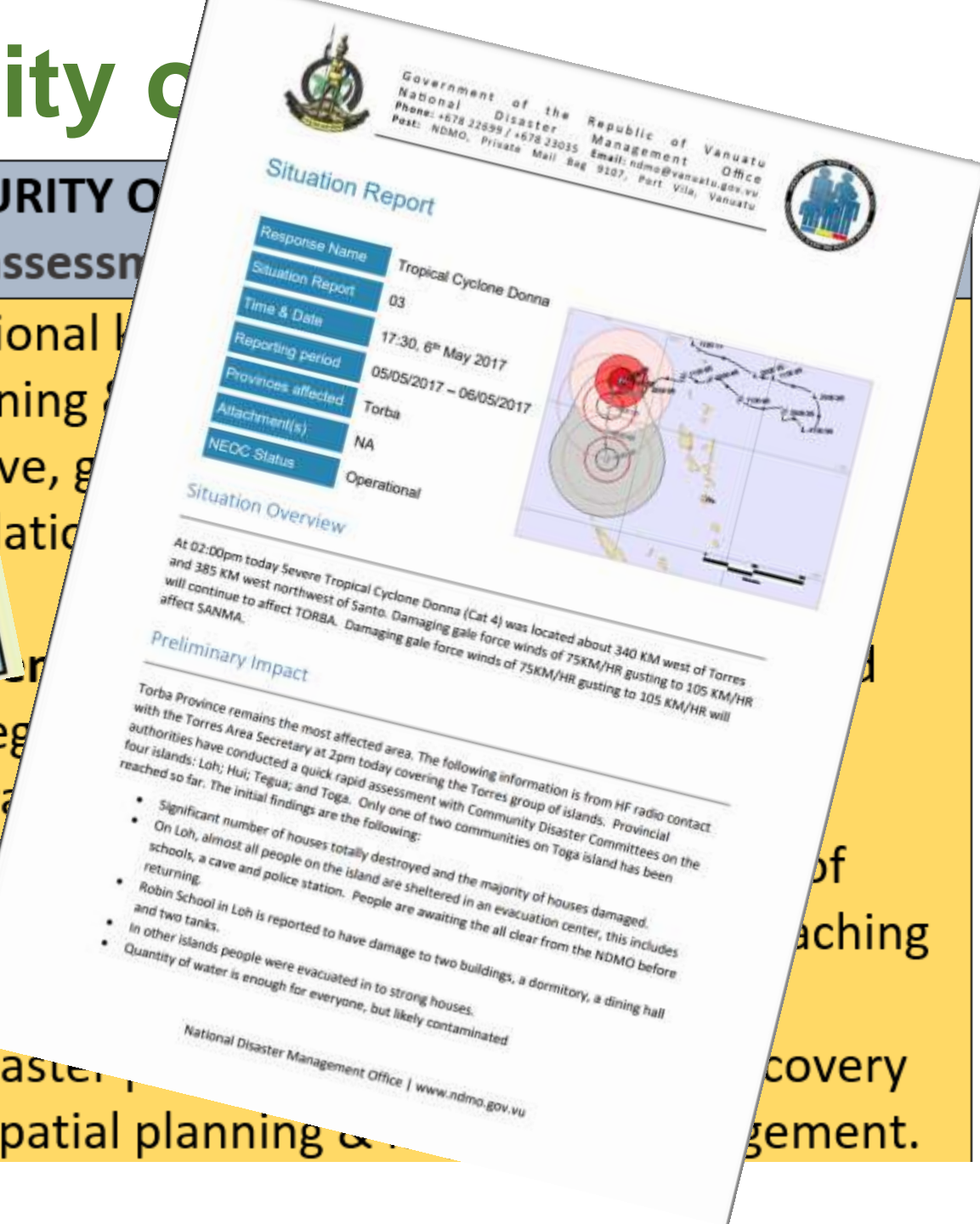
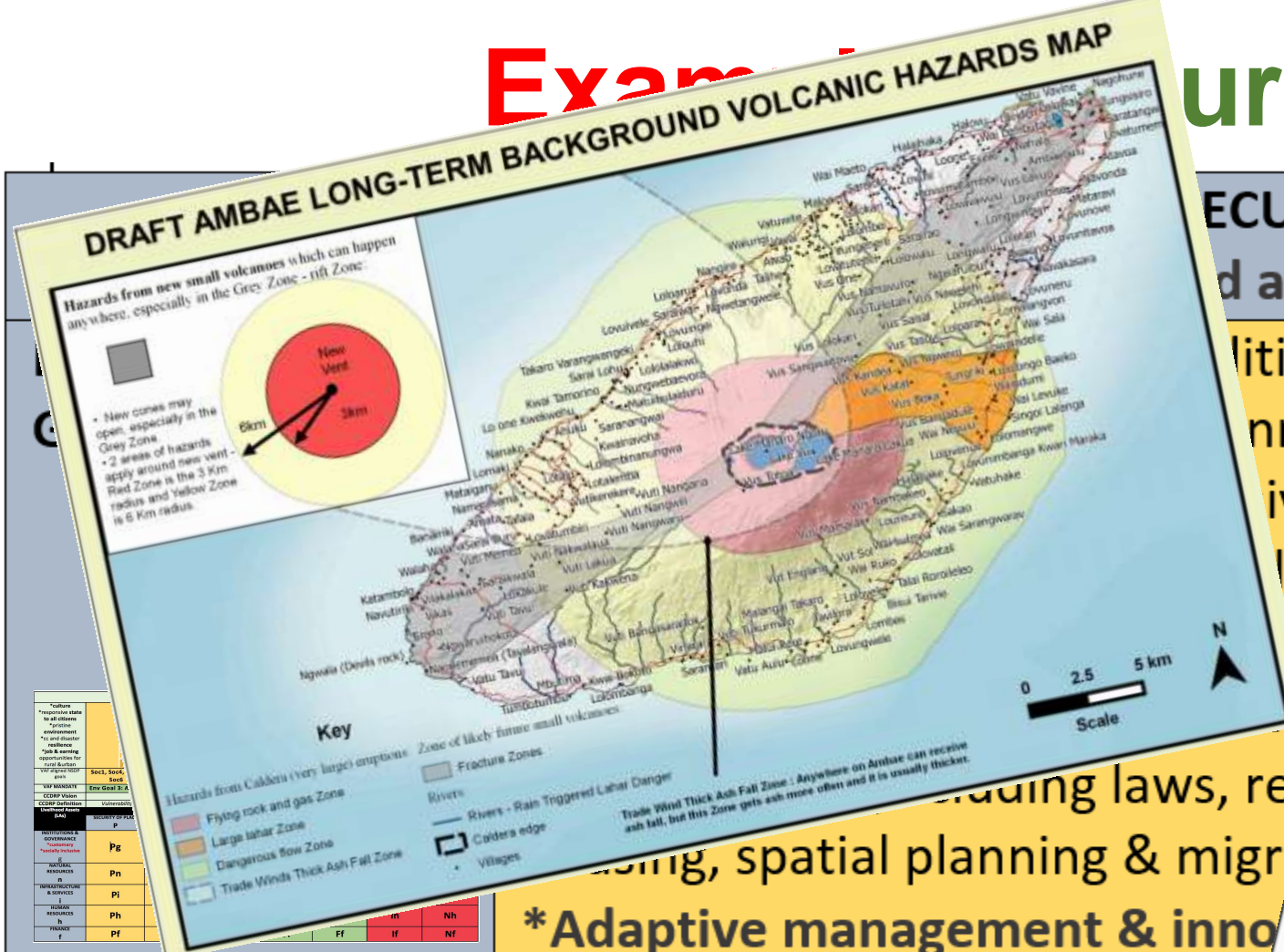
## \* Adaptive management & inno

## traditional & modern knowledg

## and managing housing, spatial

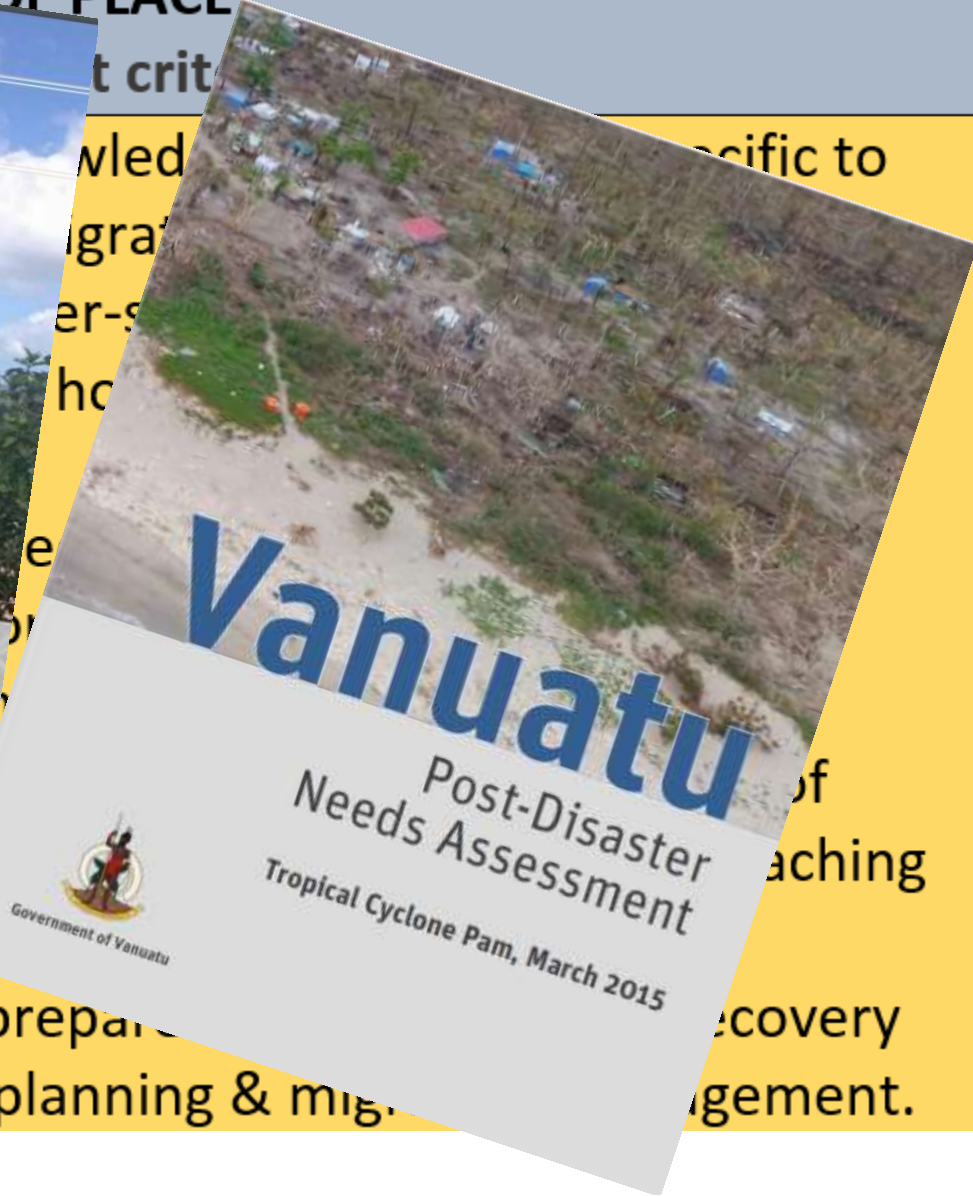
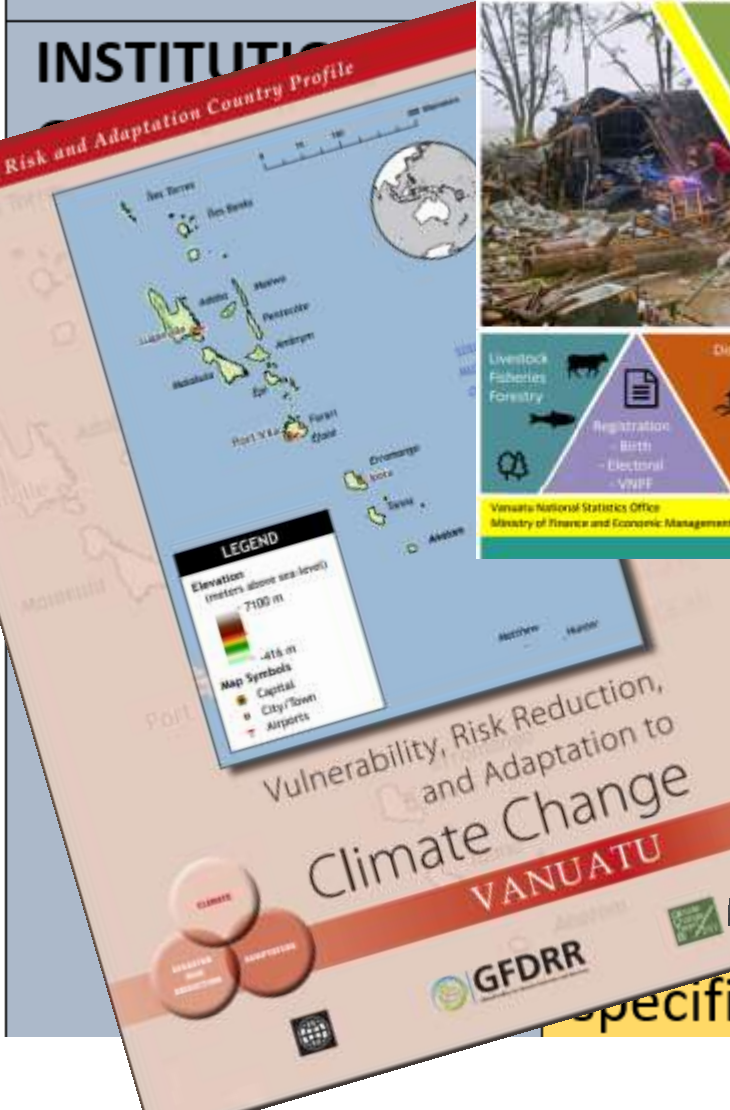
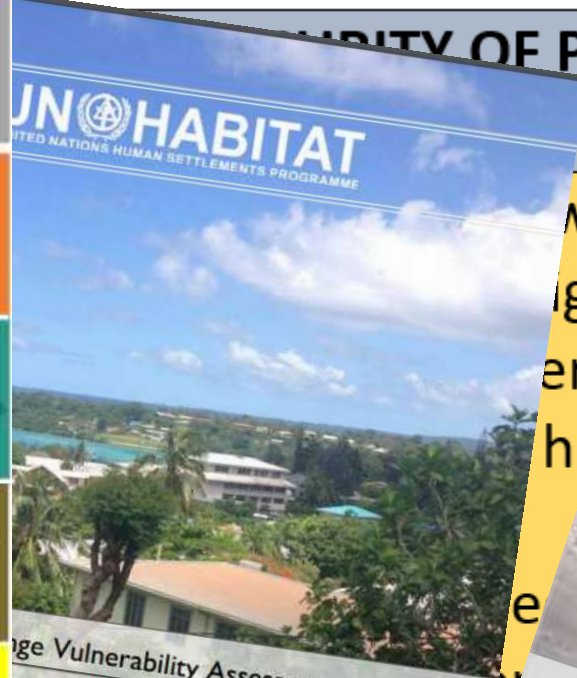
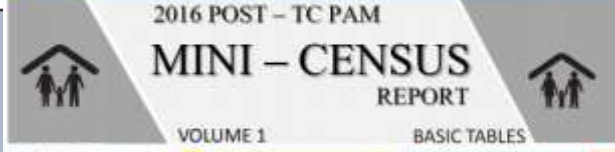
## \* Disaster risk management: Disaster

## specific to house construction, spatial planning &



Culture	Sec 1, Sec 2, Sec 3
Environment	Sec 4, Sec 5
Education	Sec 6, Sec 7
Health & Social Services	Sec 8, Sec 9
Infrastructure	Sec 10, Sec 11
Labour	Sec 12, Sec 13
Law & Governance	Sec 14, Sec 15
Public Administration	Sec 16, Sec 17
Public Services	Sec 18, Sec 19
Security & Defence	Sec 20, Sec 21
Social Services	Sec 22, Sec 23
Transport	Sec 24, Sec 25

# Security of Place



# Security of Place



Figure 3: A cross-sectional view of the Vanuatu Parliament House and across Vila Bay to Iririki Island using the LIDAR data. The data points have been coloured using aerial photos captured at the same time as the data.

## Vanuatu LIDAR and imagery products

The Vanuatu LIDAR survey has generated the following products:

- Digital elevation model (DEM) – elevation of the ground at 1m resolution and seafloor at 5m resolution in ESRI grid format. The topographic and bathymetric datasets were integrated to form a seamless DEM at 5m resolution.
- Contours – elevation of the ground and seafloor at 0.5m intervals in ESRI shapefile format.
- Digital surface model (DSM) – elevation of surface features such as tops of buildings, trees and bare ground at 1m resolution in ESRI grid format.
- Canopy height model (CHM) – height of vegetation above the ground at 2m resolution in ESRI grid format.
- Foliage cover model (FCM) – density of vegetation above 2m from the ground at 10m resolution in ESRI grid format.
- 3D point cloud – all measured LIDAR points classified in LAS format, with additional reflectivity information.
- Coincident aerial photography generated in ECW and TIFF formats.

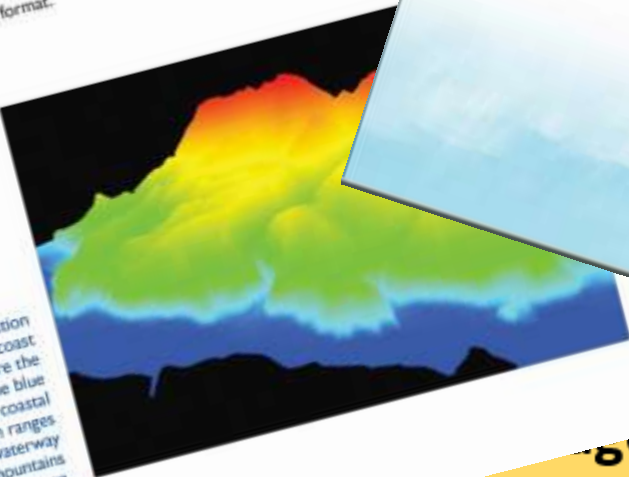
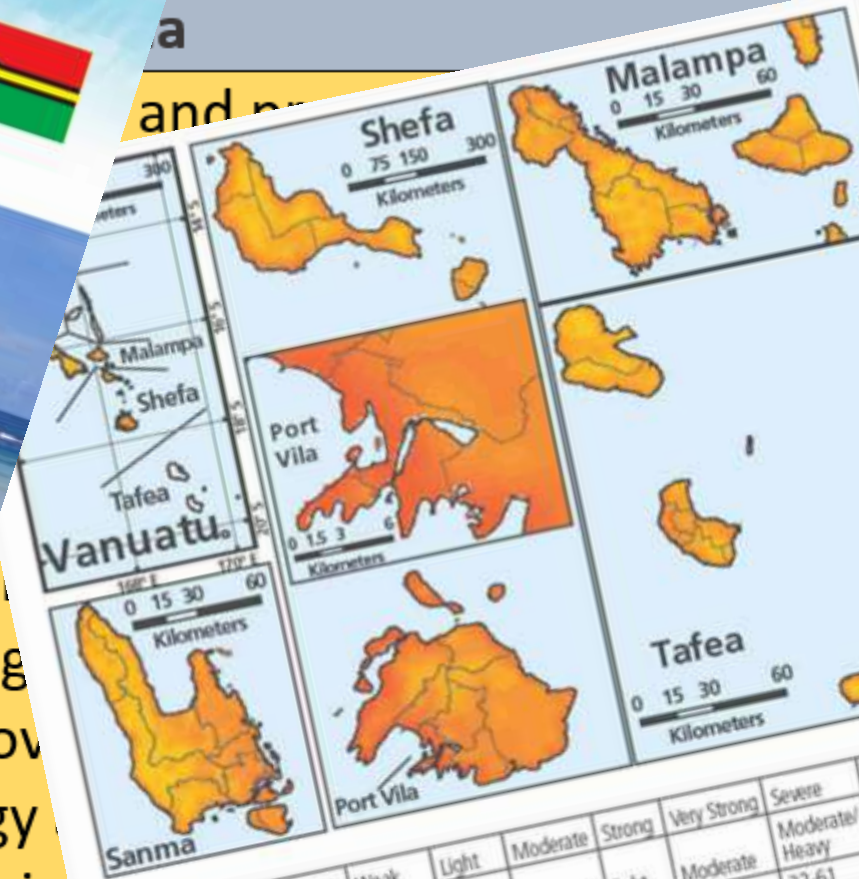


Figure 4: A 3D digital elevation model of a section of the coast of Malekula. The red areas are the highest elevation, and the blue areas are the lowest. The coastal plains and mountain ranges are clearly visible. A waterway running between the mountains can also be seen.



The contributions of Salea Kanaha and Philip Malsale from the Vanuatu Meteorology and Geo-hazard Department are gratefully acknowledged

### Chapter 16 Vanuatu



Perceived Shaking	Not Felt	Weak	Light	Moderate	Strong	Very Strong	Severe
Potential Damage	none	none	none	Very light	light	Moderate	Moderate/Heavy
Peak ACC. (%g)	<0.17	0.17-1.4	1.4-4.0	4.0-9	9-17	17-32	32-61
Peak Vel. (cm/s)	<0.12	0.12-1.1	1.1-3.4	3.4-8	8-16	16-31	31-59
Instrumental Intensity	I	II-III	IV	V	VI	VII	VIII

Management: Disaster preparedness & mitigation  
 house construction, spatial planning



2014

# Provincial Statistical Indicator (PSI)

Malampa Province

13 OCTOBER, 2014 REPORTING PERIOD: JULY - SEPTEMBER

## VCAP HIGHLIGHT SHOTS

INDICATOR	PI	HI	EI	WI	FI
INDICATOR	Ph	Hh	Eh	Wh	Fh
INDICATOR	Pf	Hf	Ef	Wf	Ff

### \*Rules, re

Figure 4: A 3D digital elevation model of a section of the coast of Malampa. The red areas are the highest elevation, and the blue areas are the lowest. The coastal plain and mountain ranges are clearly visible. A waterway running between the mountains can also be seen.



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# Example: Security of Place

## SECURITY OF PLACE Broad assessment criteria

### HUMAN RESOURCES

- \*Community members with traditional and modern knowledge and skills in building construction; spatial/settlement planning.
- \* Community members with traditional and modern knowledge and skills in managing disaster risks and impacts related to housing, settlement & migration

**NSDP Vision: A stable, sustainable and prosperous Vanuatu**

\*Culture  
\*Resilient due to all climate  
\*Climate  
\*Environment  
\*Coastal and disaster  
\*Resilience  
\*Risk & warning  
opportunities for  
\*Vanuatu  
\*Vanuatu  
\*Vanuatu  
\*Vanuatu

**Env Goal 3: A strong and resilient nation in the face of climate change and disaster risks posed by natural and man-made hazards**  
Vanuatu to reduce economic, environmental and economic

**CCSR Vision**  
\*Resilience

**Home Security Objective (HSO)**

HSO	SECURITY OF PLACE	HEALTHY COMMUNITY	HEALTHY ECOSYSTEM	WATER SECURITY	FOOD SECURITY	INCOME SECURITY	ENERGY SECURITY
HSO1: Resilient communities	Pg	Hg	Eg	Wg	Fg	Ig	Ng
HSO2: Resilient infrastructure & services	Pn	Hn	En	Wn	Fn	In	Nn
HSO3: Resilient human resources	Pl	Hi	Ei	Wi	Fi	Ii	Ni
HSO4: Resilient transport	Ph	Hh	EH	Wh	Fh	Ih	Nh
HSO5: Resilient	Pf	Hf	Ef	Wf	Ff	If	Nf



# Example: Security of Place

## SECURITY OF PLACE Broad assessment criteria

- \*Community members with traditional and modern knowledge and skills in building construction; spatial/settlement planning.
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## HUMAN RESOURCES

**NSDP Vision: A stable, sustainable and prosperous Vanuatu**

\*Culture  
\*Resilient due to all climate  
\*Climate  
\*Environment  
\*Disaster  
\*Resilience  
\*Opportunities for  
\*Climate  
\*Resilient

Soc1, Soc4, Soc5, Soc6	Soc2, Soc3	Env4, Env5	Env2, Eco2.2	Env1	Env2, Eco1	Env2.5, Eco2.1
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**Env Goal 3: A strong and resilient nation in the face of climate change and disaster risks posed by natural and man-made hazards**

**CCDR Vision**  
\*Resilient  
\*Opportunities for  
\*Climate  
\*Resilient

**CCDR Definition**  
\*Resilient  
\*Opportunities for  
\*Climate  
\*Resilient

SECURITY OF PLACE	HEALTHY COMMUNITY	HEALTHY ECOSYSTEM	WATER SECURITY	FOOD SECURITY	DISASTER SECURITY	ENERGY SECURITY
Pg	Hg	Eg	Wg	Fg	Ig	Ng

**NATURAL RESOURCES & SERVICES**  
Pn Hn En Wn Fn In Nn  
Pi Hi Ei Wi Fi Ii Ni

**HUMAN RESOURCES**  
Ph Hh Eh Wh Fh Ih Nh  
Pf Hf Ef Wf Ff If Nf

4

PROBLEM MAGNITUDE				
1	2	3	4	5
<b>serious normal &amp; disaster time</b>	<b>manageable normal time; serious disaster time</b>	<b>manageable normal &amp; disaster time</b>	<b>not a problem normal time; manageable disaster time</b>	<b>not a problem normal and disaster time</b>



# VAF Scorecard

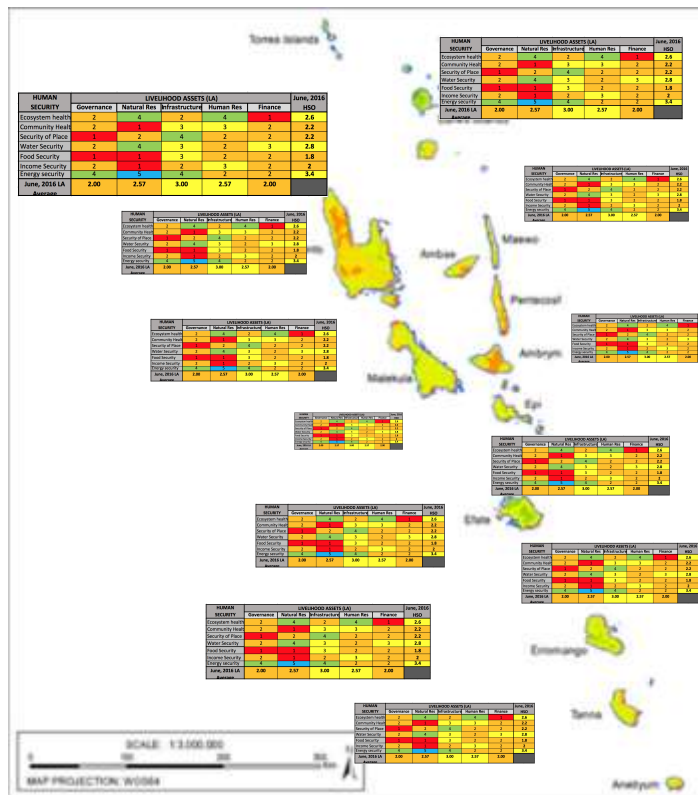
Vertical Integration – Community, Area, Provincial & National

HUMAN SECURITY	LIVELIHOOD ASSETS (LA)					June, 2016 HSO
	Governance	Natural Res	Infrastructure	Human Res	Finance	
Ecosystem health	2	4	2	4	1	2.6
Community Health	2	1	3	3	2	2.2
Security of Place	1	2	4	2	2	2.2
Water Security	2	4	3	2	3	2.8
Food Security	1	1	3	2	2	1.8
Income Security	2	1	2	3	2	2
Energy security	4	5	4	2	2	3.4
<b>June, 2016 LA Average</b>	<b>2.00</b>	<b>2.57</b>	<b>3.00</b>	<b>2.57</b>	<b>2.00</b>	

PROBLEM MAGNITUDE				
1	2	3	4	5
serious normal & disaster time	manageable normal time; serious disaster time	manageable normal & disaster time	not a problem normal time; manageable disaster time	not a problem normal and disaster time

# NAB / NDA VAF Usage

A Decision-Support Tool For NAB / NDA; a snapshot of Vulnerability



HUMAN SECURITY	LIVELIHOOD ASSETS (LA)					June, 2016 HSO
	Governance	Natural Res	Infrastructure	Human Res	Finance	
Ecosystem health	2	4	2	4	1	2.6
Community Health	2	1	3	3	2	2.2
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Food Security	1	1	3	2	2	1.8
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<b>June, 2016 LA Average</b>	<b>2.00</b>	<b>2.57</b>	<b>3.00</b>	<b>2.57</b>	<b>2.00</b>	

Community -> Area Council (AC) -> Island -> Province  
 AC is lowest level of administrative division in Vanuatu

# Next Steps in VAF Process

## Step 1: Set up VAF thematic working groups at national & provincial level

- Collate existing/secondary vulnerability data from past vulnerability assessment reports and other vulnerability related data sources
- Identify vulnerability data gaps and needs
- Plan acquisition of identified data needs



# The VAF Process

## Step 2: Develop a province-based national VAF database and populate with existing data

- Set up so database can be populated at provincial level
- With geospatial interface

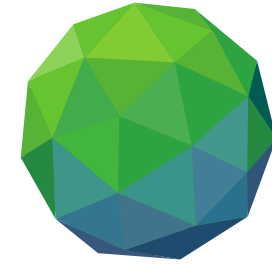


# The VAF Process

## Step 3: Plan and implement nation-wide vulnerability assessment activity

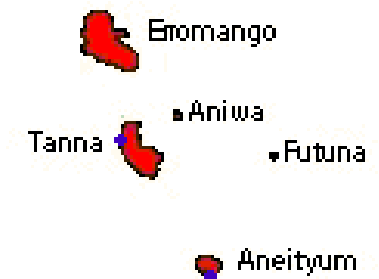
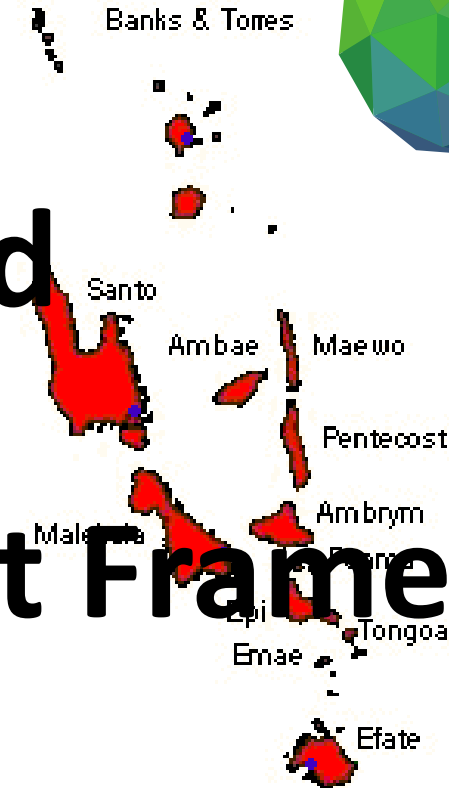
- Community-based/ Area Council & participatory
- Gender and age disaggregated and specifically tailored consultations with identified vulnerable groups





GREEN CLIMATE FUND

# The Proposed National Vulnerability Assessment Framework (VAF) for Vanuatu



NSDP Vision: A stable, sustainable and prosperous Vanuatu							
*culture *responsive state to all citizens *pristine environment *resilience to and disaster *job & earning opportunities for rural & urban	SOCIAL PILLAR		ENVIRONMENT PILLAR			ECONOMY PILLAR	
VAF aligned NSDP goals	Soc1, Soc4, Soc5, Soc6	Soc2, Soc3	Env4, Env5	Env4.2, Eco2.2	Env1	Env2, Eco1, Eco2, Eco3, Eco4	Env2.3, Eco2.1
VAF MANDATE	Env Goal 3: A strong and resilient nation in the face of climate change and disaster risks posed by natural and man-made hazards						
CCDRP Vision	Vanuatu is a resilient community, environment and economy						
CCDRP Definition	Vulnerability: The characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard						
Lifehood Assets (LA)	Human Security Objectives (HSOs)						
	SECURITY OF PLACE	HEALTHY COMMUNITY	HEALTHY ECOSYSTEM	WATER SECURITY	FOOD SECURITY	INCOME SECURITY	ENERGY SECURITY
INSTITUTIONS & GOVERNANCE *customary *socially inclusive	Pg	Hg	Eg	Wg	Fg	Ig	Ng
NATURAL RESOURCES	Pn	Hn	En	Wn	Fn	In	Nn
INFRASTRUCTURE & SERVICES	Pi	Hi	Ei	Wi	Fi	Ii	Ni
HUMAN RESOURCES	Ph	Hh	Eh	Wh	Fh	Ih	Nh
FINANCE	Pf	Hf	Ef	Wf	Ff	If	Nf

# (final VAF steps under GCF Readiness)

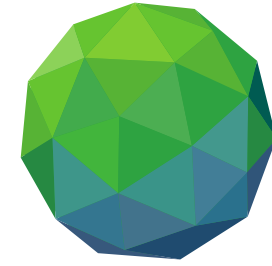
A 2018 training with project developers on how to apply the VAF to strengthen GCF project design and development:

- *‘Transformation towards a climate-smart Agriculture & Productive Sector in Vanuatu’- FAO/MALFFB*
- *Community-Based Climate Change Adaptation – Save the Children/MoL/MALFFB*
- *Enhancing Early Warning Systems to build greater resilience to hydro and meteorological hazards in Pacific Small Island Developing States (SIDS) – WMO/MoCC*

# Recommendations to the NAB

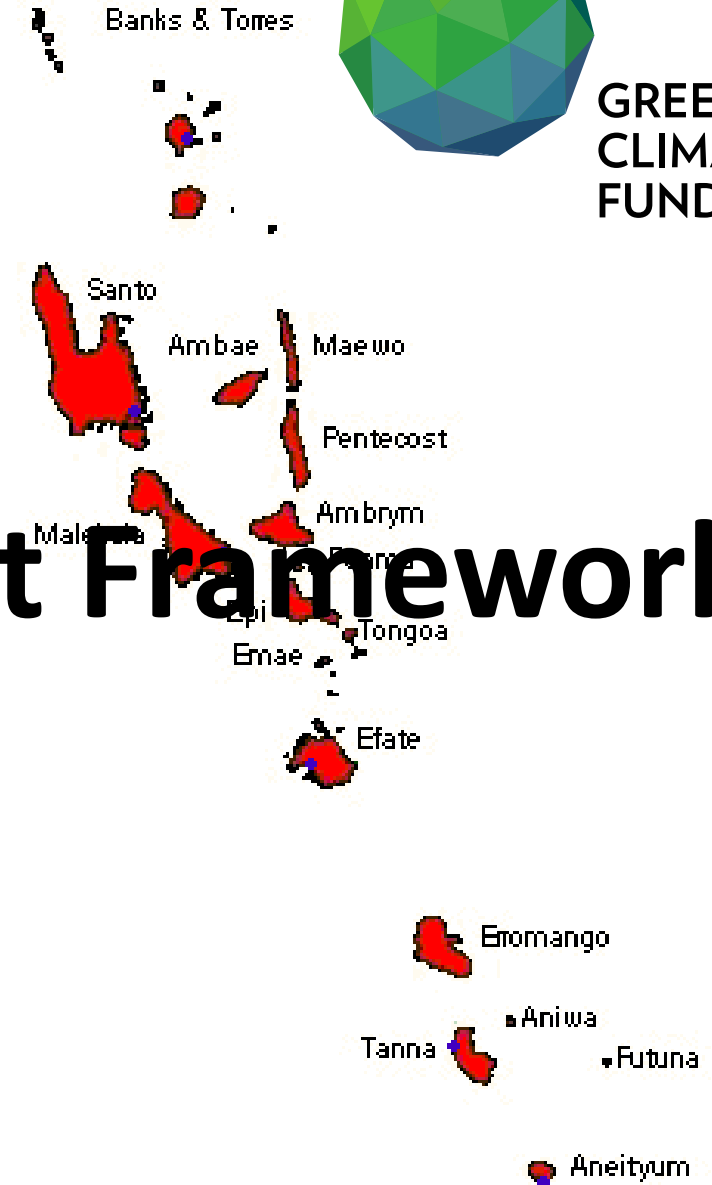
1. Endorse the VAF, as the national-standard vulnerability analytical framework
2. Mandate preparation and planning towards a nation-wide community vulnerability assessment program
  - led by government and non-governmental agencies with a vested interest the VAF process, in particular the NSDP M&E Unit, the National Statistics Office, Dept. of Local Authorities, Provinces, MoCC, MFEM, VCAN, VCCI-VBRC etc.
  - Using an appropriate financing window (e/g GCF Readiness)





GREEN CLIMATE FUND

# A Proposed National Vulnerability Assessment Framework (VAF) for Vanuatu



NSDP Vision: A stable, sustainable and prosperous Vanuatu							
*culture *responsive state to all citizens *pristine environment *cc and disaster resilience *job & earning opportunities for rural & urban	SOCIAL PILLAR		ENVIRONMENT PILLAR			ECONOMY PILLAR	
VAF aligned NSDP goals	Soc1, Soc4, Soc5, Soc6	Soc2, Soc3	Env4, Env5	Env4.2, Eco2.2	Env1	Env2, Eco1, Eco2, Eco3, Eco4	Env2.3, Eco2.1
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CCDRP Vision	Vanuatu is a resilient community, environment and economy						
CCDRP Definition	Vulnerability: The characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard						
Wellbeing Assets (BAU)	Human Security Objectives (HSOs)						
	SECURITY OF PLACE	HEALTHY COMMUNITY	HEALTHY ECOSYSTEM	WATER SECURITY	FOOD SECURITY	INCOME SECURITY	ENERGY SECURITY
INSTITUTIONS & GOVERNANCE *customary *socially inclusive	Pg	Hg	Eg	Wg	Fg	Ig	Ng
NATURAL RESOURCES	Pn	Hn	En	Wn	Fn	In	Nn
INFRASTRUCTURE & SERVICES	Pi	Hi	Ei	Wi	Fi	Ii	Ni
HUMAN RESOURCES	Ph	Hh	Eh	Wh	Fh	Ih	Nh
FINANCE	Pf	Hf	Ef	Wf	Ff	If	Nf