DRM-SD

Cases from SEA (Malaysia) and the Pacific (Fiji)

APN Climate Adaptation Framework Workshop
21-23 August 2013
Kobe, Japan

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Sustainability Defined…

…development that meets the needs of the present without compromising the ability of future generations to meet their own needs…

-Brundtland Commission, "Our Common Future"

…development that meets the needs of the present while safeguarding Earth's life-supporting system on which the welfare of current and future generations depends…

Sustainability, Security and Risk

Reconceptualization of Security and Risk - three reasons:

1. **Post-war progress**
2. **Global SD challenges**
3. **Globalization**

***Widened* – political-military to eco, soc & env dimensions**

***Deepened* – state centred to (inter)national to human-centred**

***Sectorialiazed* – food, water, health, energy, poverty, climate etc.**

Risk Management

Hazard + Vulnerability = Risk

Impact - Adaptation = Vulnerability

Realized Risk is Disaster

Institutional Arrangement

- **DRM Workshop**
- **Sust. Network – SEASN**

Oct 28 – 1 Nov 2013 - Penang

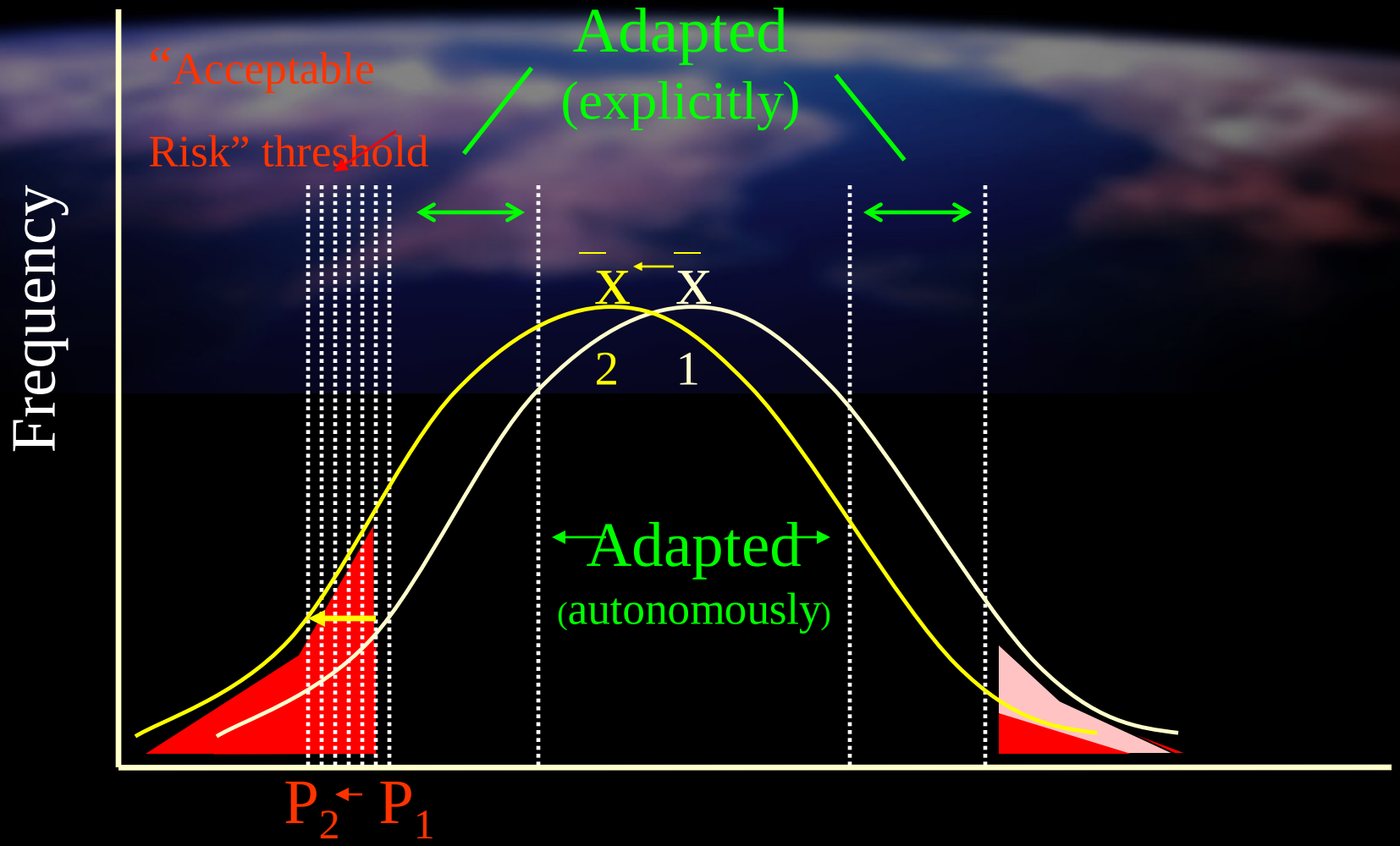
Risk Management

ISDR Risk Equation:

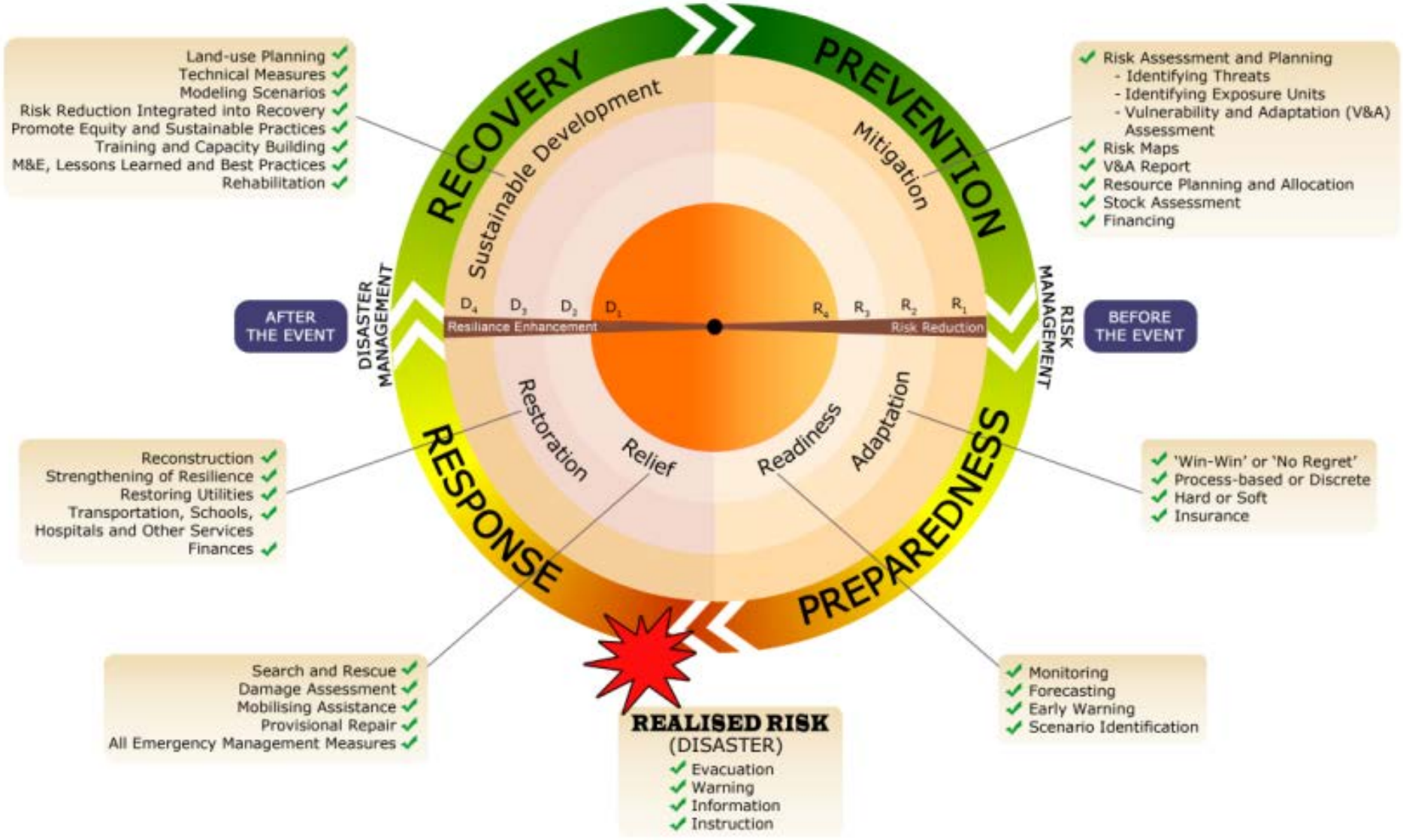
$$\frac{\text{Hazard} \times \text{Vulnerability}}{\text{Capacity}} = \text{Risk}$$

Realized Risk is Disaster

Residual Risk



Disaster Risk Management for Sustainable Development



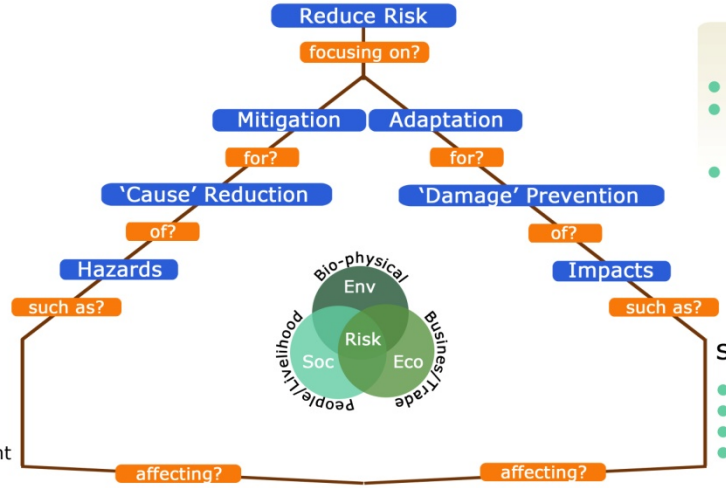
RISK ASSESSMENT METHODOLOGY (R.A.M)

The R.A.M Logic

- The assessment is based on the risk equations - See PX
- Essentially in risk management, the effort is to 'reduce the cause' of the hazard and to 'prevent potential damage' of the impacts
- Once the impacts of the hazard on critical exposure units spanning the three pillars of SD are assessed, a risk rating is carried out
- Based on this prioritization, risk management approaches such as 'prevention and preparedness', before the event, and 'response and recovery', after the events are implemented

How to follow this chart?

- Start from the top
- Each ▬ has an instruction or suggestion to be carried out as an act or a process, while each ▬ contains a clarifying question/query
- Read reflectively as you traverse down to the bottom-most line



Extreme/Unusual:

- Physical event
- Phenomenon
- Human activity
- Technological accident

Severe/Destructive:

- Flood, drought, tsunami
- Climate change, poverty, species loss
- War, inequity
- Oil spill, pollution

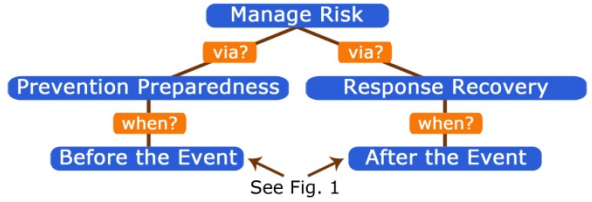
How the Risk Rating works?

1. Given that disasters result in 'loss', the goal is to minimize loss as much as possible.
2. Using any semi-quantitative assessment approach, assign H (High), M (Medium) and L (Low) symbols to the four atributes, shown in columns 4-7, of the impact under consideration.
3. Then use the table on the right to assign an average 'Risk Rating' symbol in column 8 (see 4 & 5).

contd. →

Worksheet 1

2 Sphere	2 Resource / Sector	3 Impact	4 Magnitude / Coverage H, M, L (How Big)	5 Intensity / Severity H, M, L (How Strong)	6 Probability / Certainty / Timing H, M, L (How Often)	7 Importance / Capacity / H, M, L (How Resilient)	8 Risk Rating H, M, L (Average)
Social	People	Of Hazard/ Extreme Event e.g. flood, drought, tsunami	M	M	L	H	
	Livelihood		M	M	L	H	
Economic	Business		M	M	L	H	H
	Trade		M	M	L	H	
Environmental	Ecosystem		M	M	L	H	
	Physical		M	M	L	H	



See Fig. 1

contd. →

Risk Rating Table

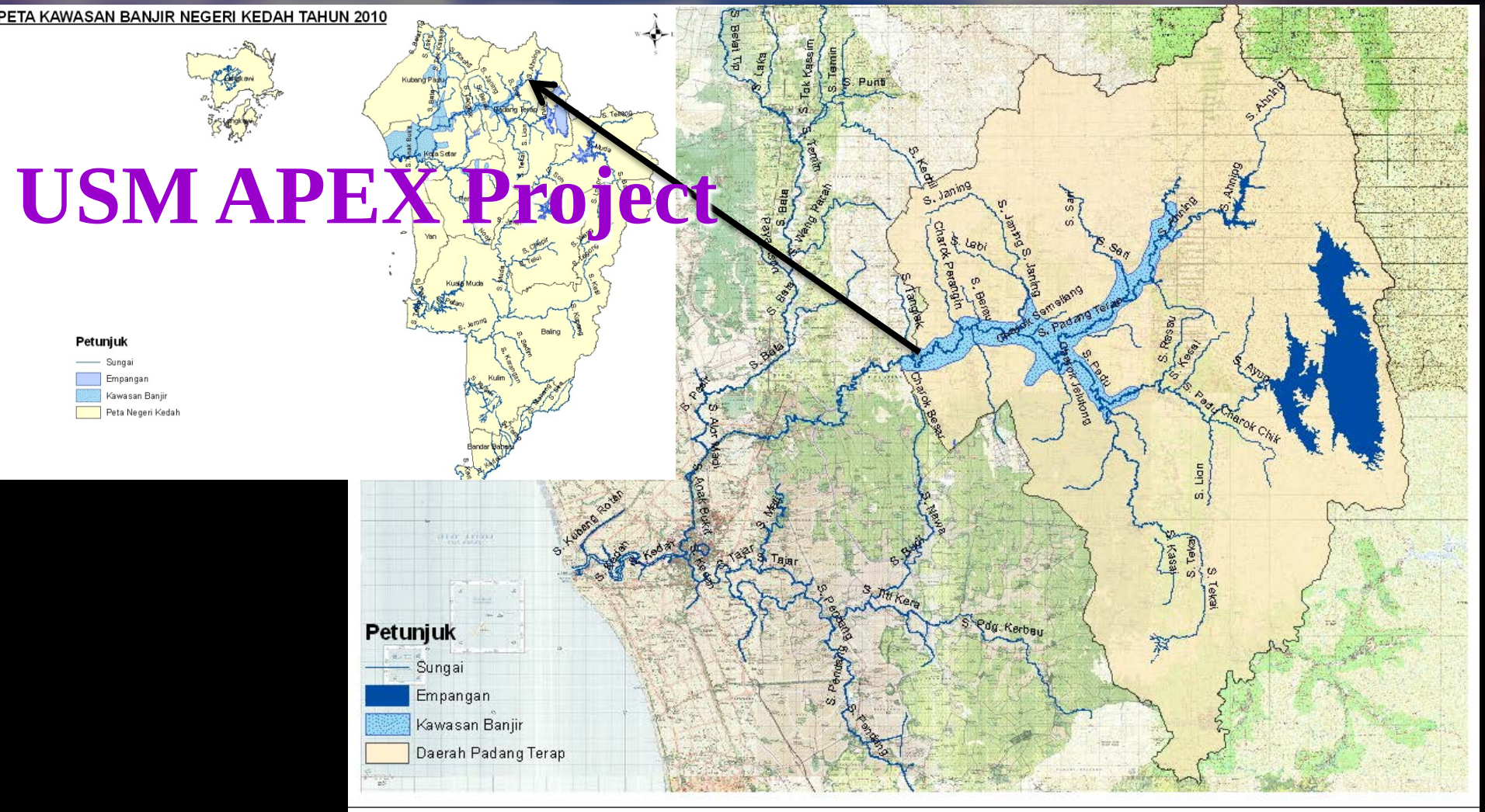
High H (>50%) 51-100%	Medium M (≤50%) 25-50%	Low L (≤25%) 0-25%
4H	4M	4L
3H, M	3M, L	
3H, L	3L, H	
3M, H	3M, L	
2H, M, L	2L, M, H	
2M, L, H		

4. The above table has been generated assigning the upper level value (H-100%), (M-50%) and (L-25%) to average the letter representations' in the left table. The entries in column 8 is also a measure of the vulnerability of the exposure units.

5. E.g. 2M, L, H $= 2M+L+H$
$= \frac{2x50+25+100}{4}$
$\approx 56 = H$

Disaster Risk Management for Sustainable Development

Flood prone Area
(Padang Terap District, Kedah)



USM APEX Project

Stakeholder Workshop

Stakeholder Workshop - FGD

Personal interviews

Weak And Failed Adaptation

Awareness building

RAM Results for Sites

Sub- District	Magnitude/ Coverage	Intensity/ Severity	Probability/ Exact Time	Importance/ Capacity	Risk
Belimbing Kiri	H	H	H	H	H
Belimbing Kanan	H	M	H	H	H
Padang Temak	H	M	H	H	H
Padang Terap Kanan	H	H	H	H	H
Kurung Hitam	H	M	H	H	H
Padang Terap Kiri	H	H	H	H	H
Tekai	M	M	H	H	H
Batang Tunggang Kiri	H	M	H	H	H
Pedu	H	H	H	H	H
Batang Tunggang Kanan	M	H	H	H	H
Risk	H	M	H	H	H

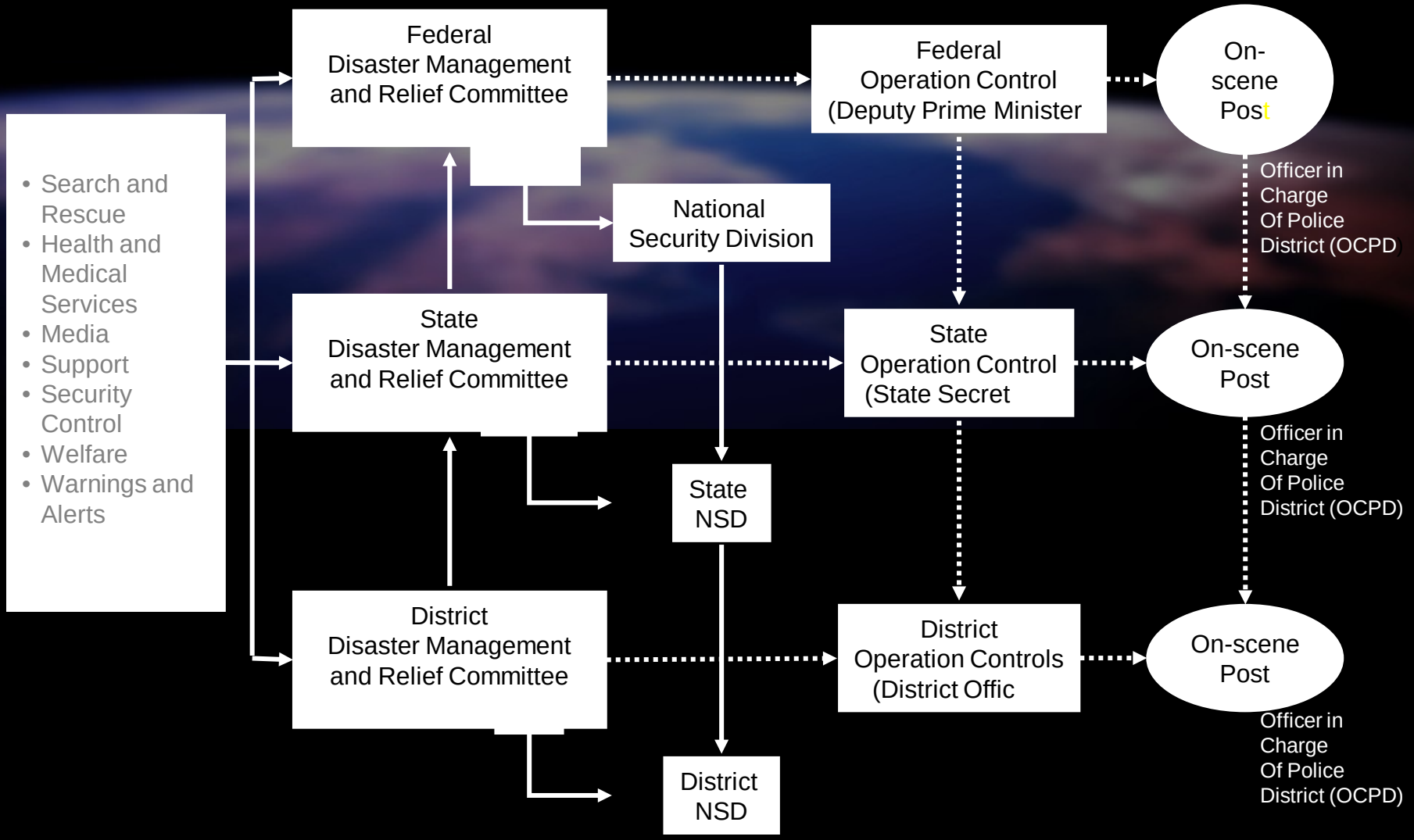
Community adaptation

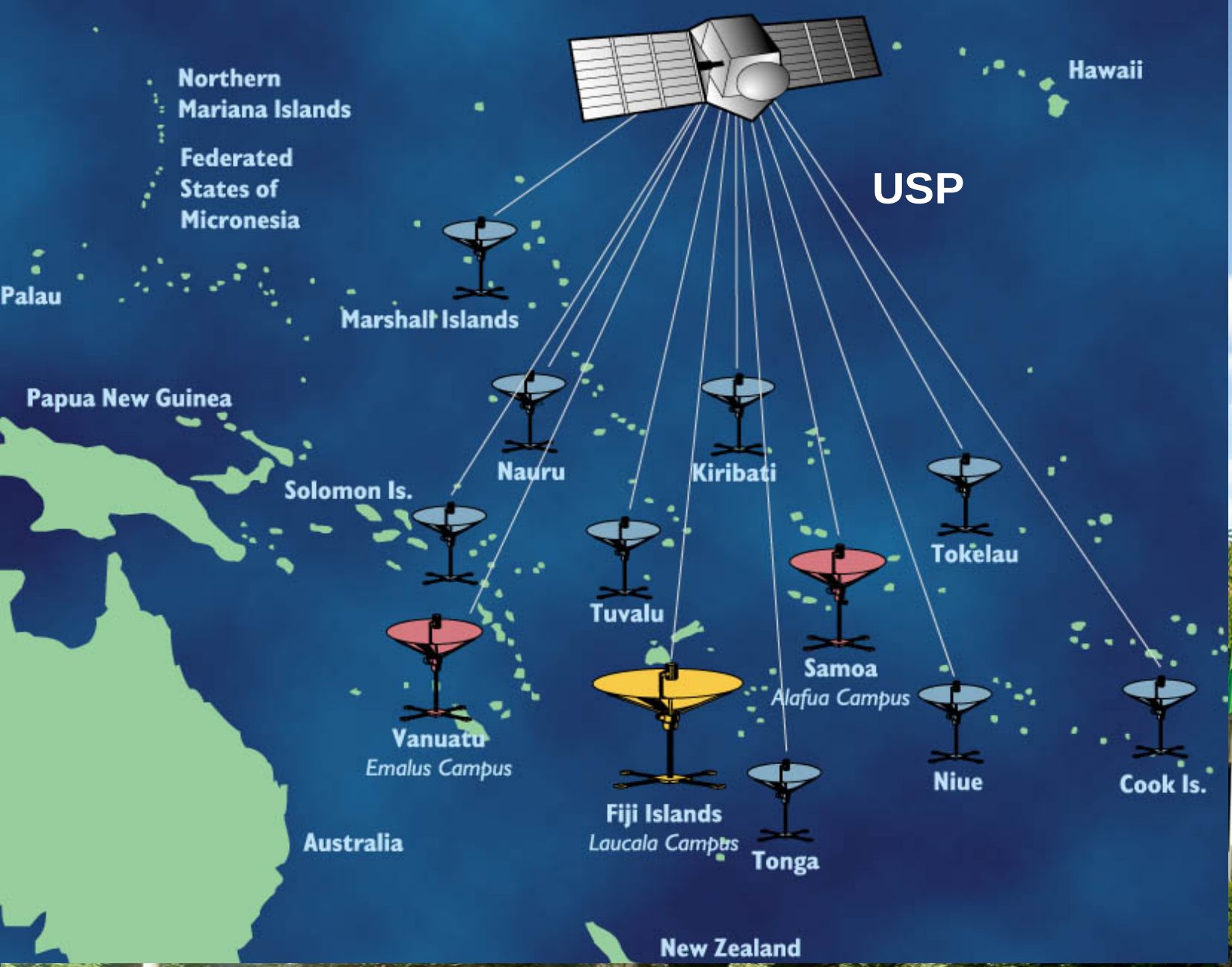
Adaptation kit

Hard aptation

Programatic adaptation

Structured adaptation




Northern
Mariana Islands
Federated
States of
Micronesia
Palau
Marshall Islands
Hawaii
USP
Papua New Guinea
Nauru
Kiribati
Solomon Is.
Tokelau
Tuvalu
Samoa
Alafua Campus
Vanuatu
Emalus Campus
Niue
Cook Is.
Fiji Islands
Laucala Campus
Tonga
Australia
New Zealand


THE UNIVERSITY OF THE SOUTH PACIFIC


USP-AusAID Project site

Adaptation

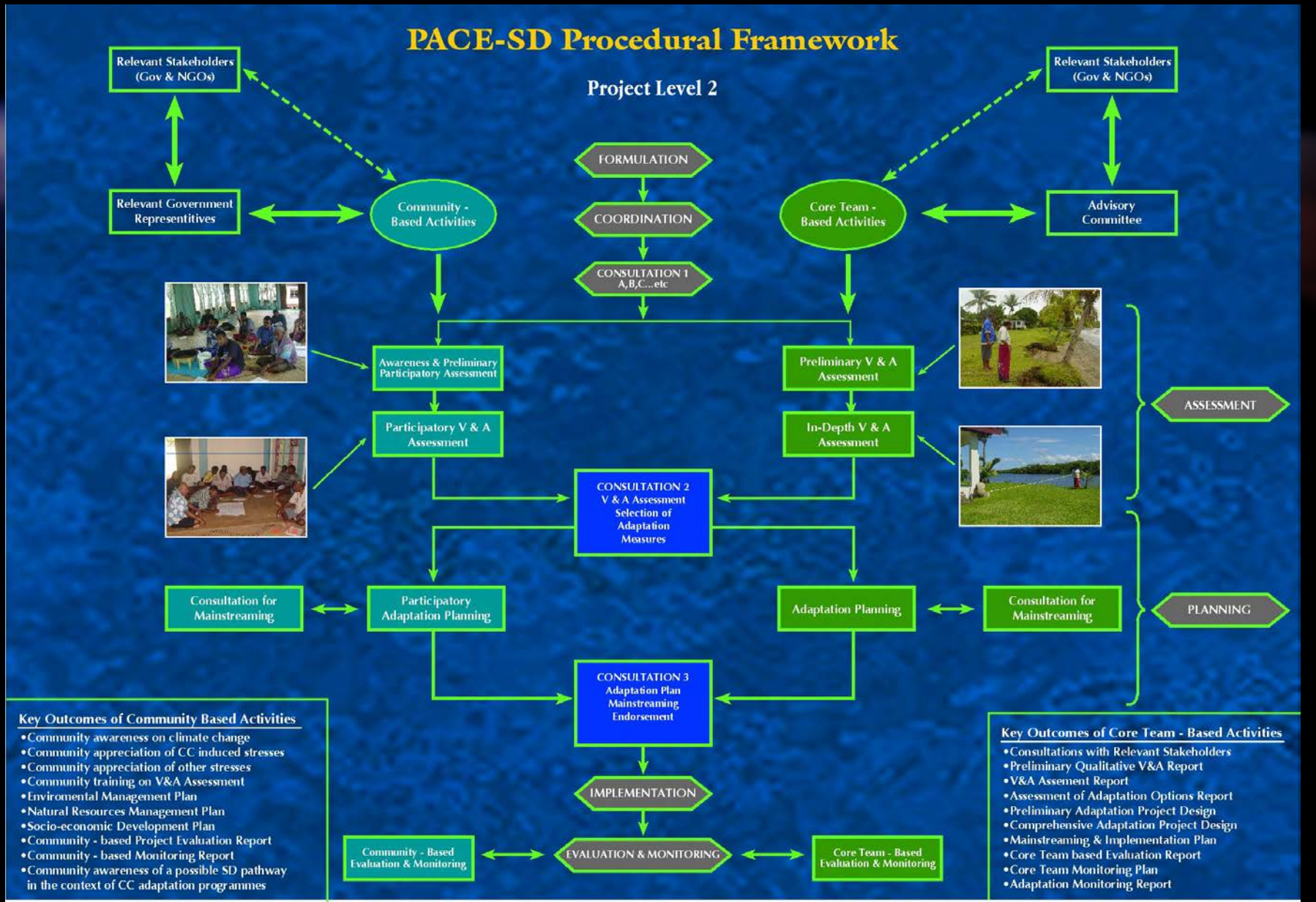
Buretu

Vetiver's deep thick root system


Adaptation
Buretu


Adaptation
Navukailagi

Community Project Framework



Thank You

http://cgss.usm.my