
What do these images have in common ?


We are at risk from climate change.....
- our homes and families
- our communities
- our livelihoods and lifestyles
- national economies
- global welfare and well-being

UNFCCC Expert Meeting on Adaptation for Small Island Developing States

Session 2 – Integrated Vulnerability & Assessments (including impacts & risks)

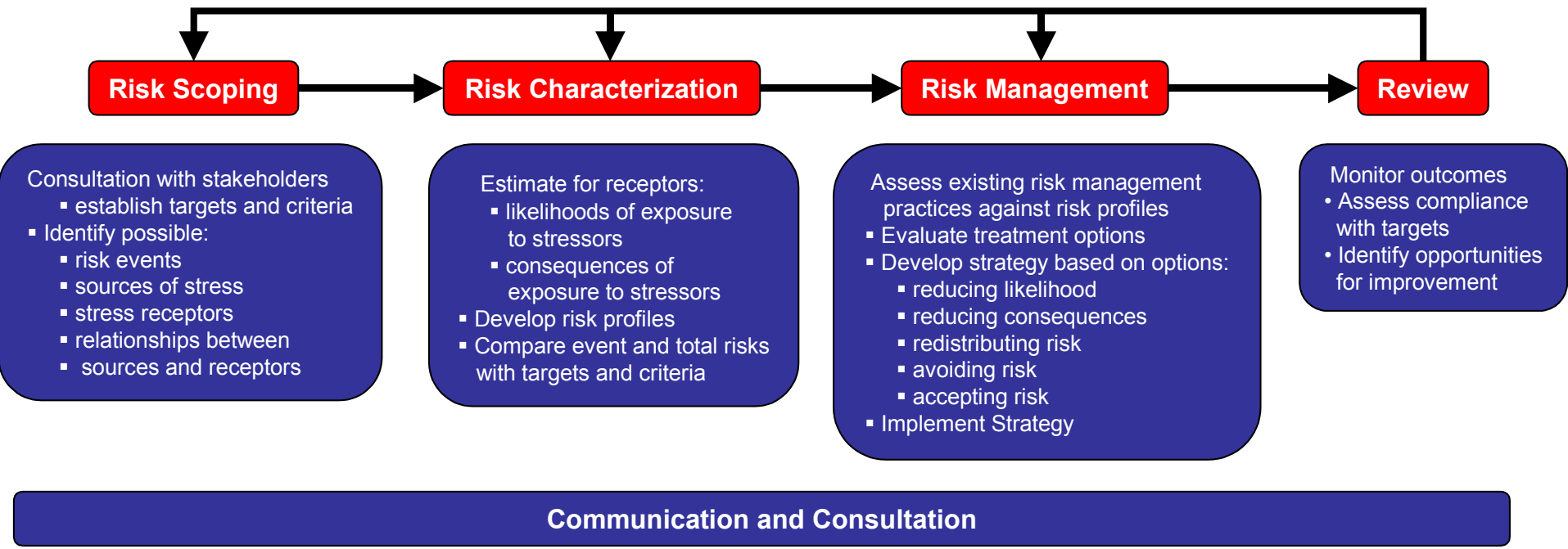
Rarotonga, Cook Islands
26-28 February 2007

Joseph M. Konno
MEA Advisor, Chuuk EPA, FSM

FOCUS

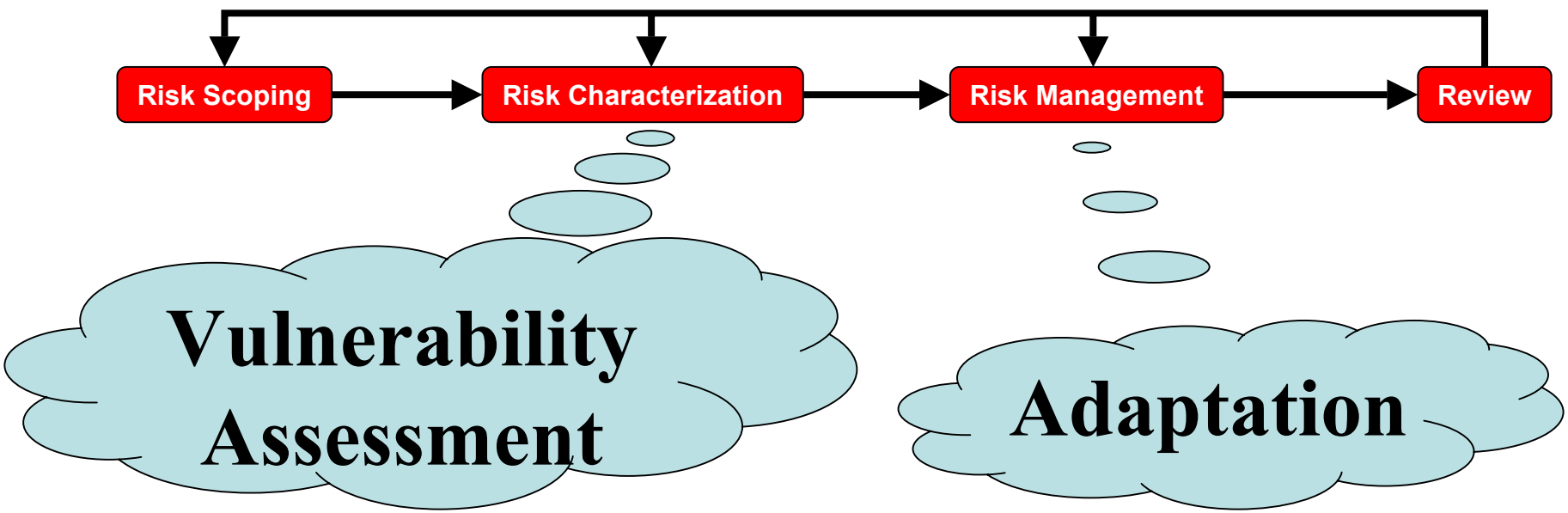
- Please address the following aspects as they relate to your topic
  - lessons learned and best practices identified
  - remaining gaps, needs and concerns
  - the role of local, national, regional and international actors, as appropriate
  - how can the UNFCCC process better facilitate support for adaptation

Risk-based Methodology



Risk-based Methodology

Appropriateness of a risk-based approach to adaptation



Lessons Learned

- Developing Climate Profiles for specific sites is critical for planning and designs.
- Integrating Climate Change at three levels (project, community, national) enhances the whole process.
- Incorporate climate change/adaptation into existing processes (e.g. EIA).
- Policy Makers have limited budget to allocate among competing needs, and quantifying risks, adaptation costs and benefits improves their understanding

CLIMATE PROFILE (RAINFALL/HOURLY)

Return Periods (yr) for Hourly Rainfall, Pohnpei				
Rainfall (mm)	Present	2025	2050	2100
Pohnpei				
50	2	1	1	1
100	6	3	2	1
150	14	7	4	2
200	23	12	7	4
250	34	18	11	5
300	47	25	15	8
350	61	32	20	10
400	77	40	26	13

Climate Proofing RS4 Design

- Current design for 1 in 23 year event – 7 inches per hour (179mm per hour)
- By 2050 this would be a 1 in 13 year event
- 1 in 25 year rainfall event in 2050 is 10 inches per hour (256mm per hour)
- Difference is approx. 80mm per hour

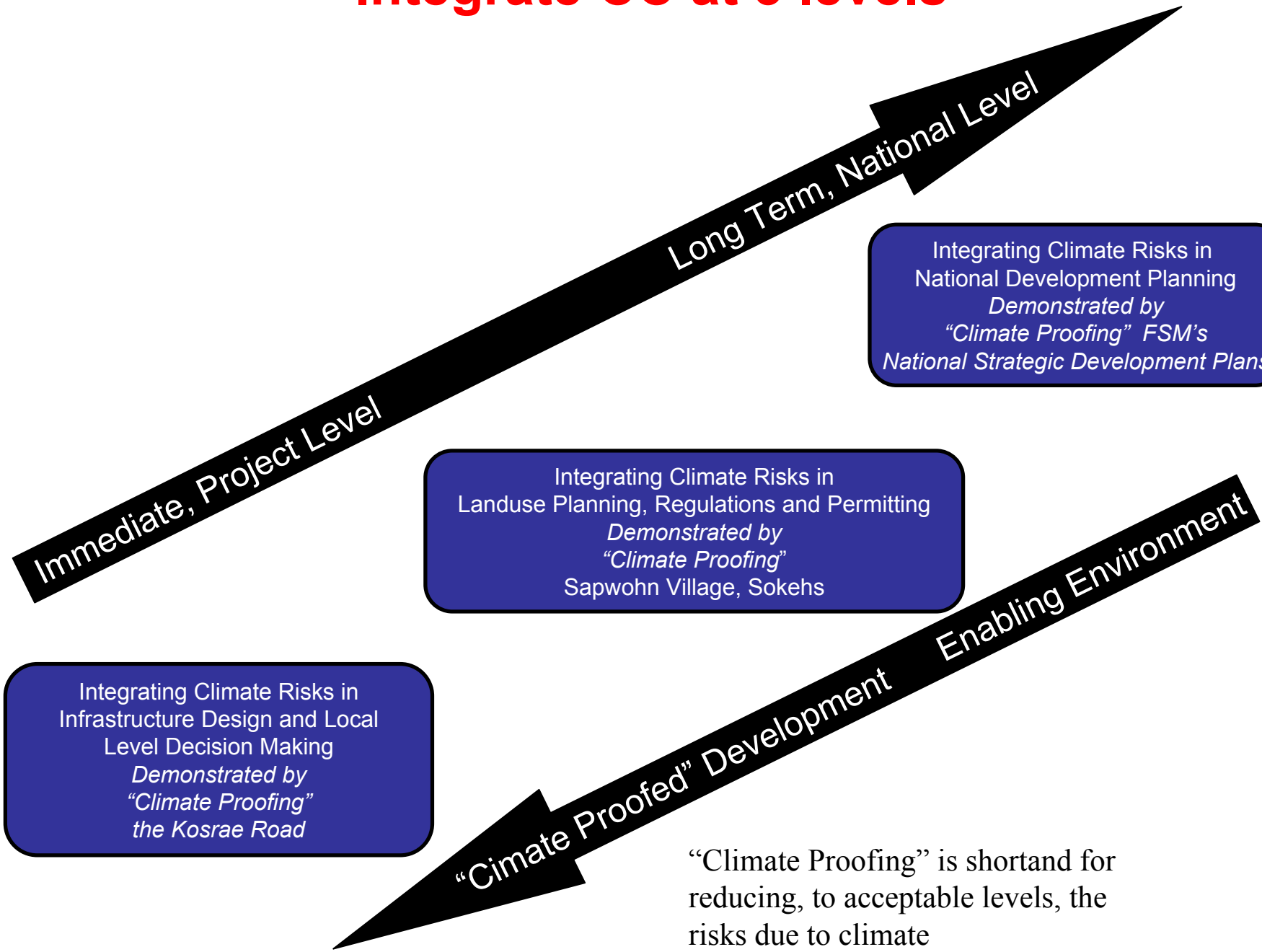
Cost-Benefit Analysis of Climate Proofing Parts of the Circumferential Road in Kosrae

New Road Section (3.9 miles)

Cost to Build Road

Original Design	**$1,894,647**
Climate Proofed Design	**$2,405,811**
Adaptation Cost	**$ 511,164**
Internal Rate of Return	**11%**

Integrate CC at 3 levels



"Climate Proofing" is shortand for reducing, to acceptable levels, the risks due to climate

Climate Proofing Community

(Regulations should be climate proofed to allow enforcement of polices and regulations)

- Climate Change Impacts & Adaptations have been incorporated in to existing EIA Regulations, Land Use Plans and Health Regulations and other permitting process
- State Team has been set up to undertake further risk assessments at state & community levels

Climate Proofing
Building Code & EIA Regulations

- Allow for surface flooding as a result of hourly rainfall intensities of at least 400 mm (such an event has a projected return period of 25 years in 2050);
- Allow for possibility of wind gusts exceeding 130 mph (this event has a projected return period of 25 years in 2050; current practice is to use 120 mph as the design wind speed).

National Strategic Development Plan is *Climate Proofed*

INFRASTRUCTURE SECTOR

- "…… Infrastructure designed, located, built and maintained to avoid unacceptable risks to infrastructure associated with natural hazards, including weather and climate extremes, variability and change."
- "…… Conduct risk assessments at state level and develop national- and state-level guidelines to ensure risks to infrastructure development projects are identified and addressed in a cost effective manner at the design stage."

National Strategic Development Plan

Environment Sector

- Mainstream environmental considerations, including climate change, in economic development
- "……. Strategies and plans that address unacceptable risks to the natural environment and built assets, including those arising from natural hazards such as weather and climate extremes, variability and change."

Gaps, Roles & FCCC Process

- Data/models/expertise to develop site specific climate profiles still lacking/limited
- National/local leadership wants to see quantitative costs & benefits of adaptation
- Mismatch between local project timing and outside (FCCC/GEF) funding availability
- National/local access to climate funds is very limited due to complexities in process
- Simple process (SGP) is working on the ground….BUT GEF does NOT allow funds under RAF to channel to SGP

UNFCCC Process

- Linkages with other Conventions (CBD, CCD, etc) is critical.