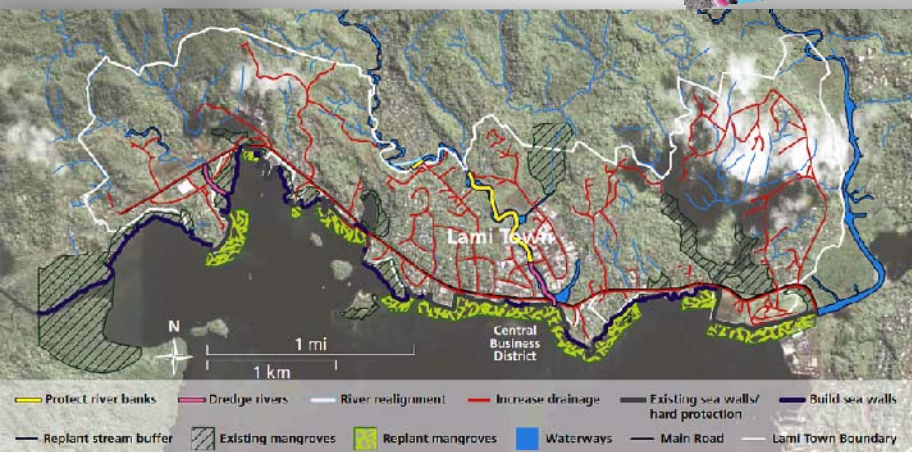
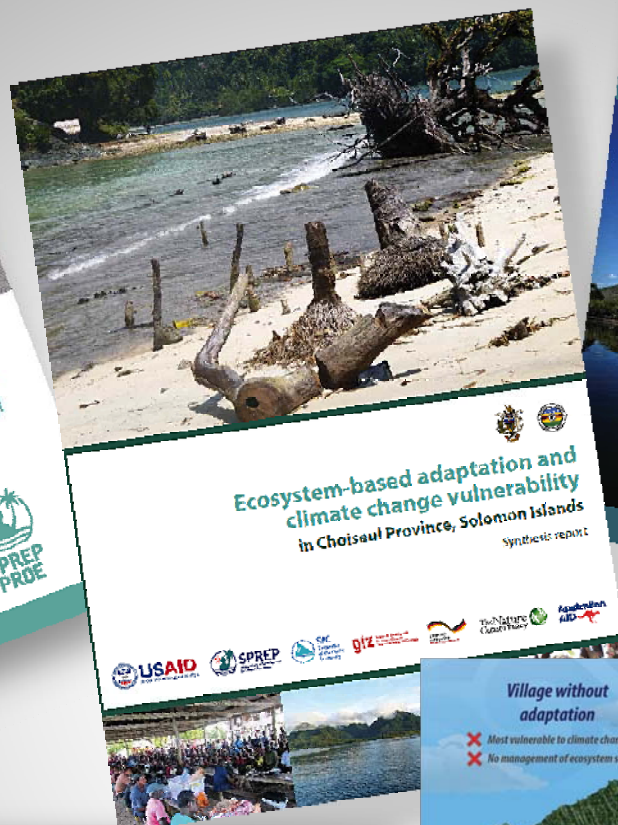
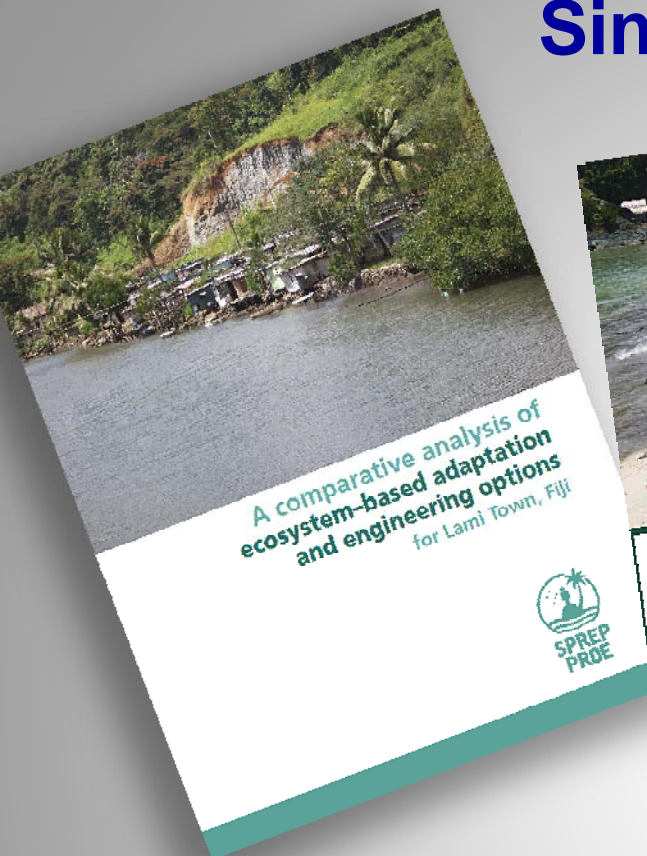


Social and ecological imperatives for Ecosystem-based Adaptation to climate change in the Pacific Islands



Since 2009 PCCR



EbA in the Solomon Islands: Ridge to Reef Approach



Choiseul Province, Solomon Islands

Climate change vulnerability assessment
and ecosystem-based adaptation

Synthesis report



- Choiseul Province, Solomon Islands
- USAID
- Partnership: SPC, GIZ, UNDP, PACSAP, etc

26,372

Population recorded
in 2009 census

2.8%

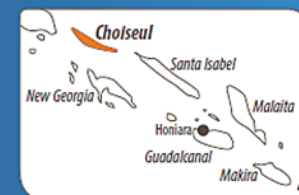
Annual population
growth rate

503

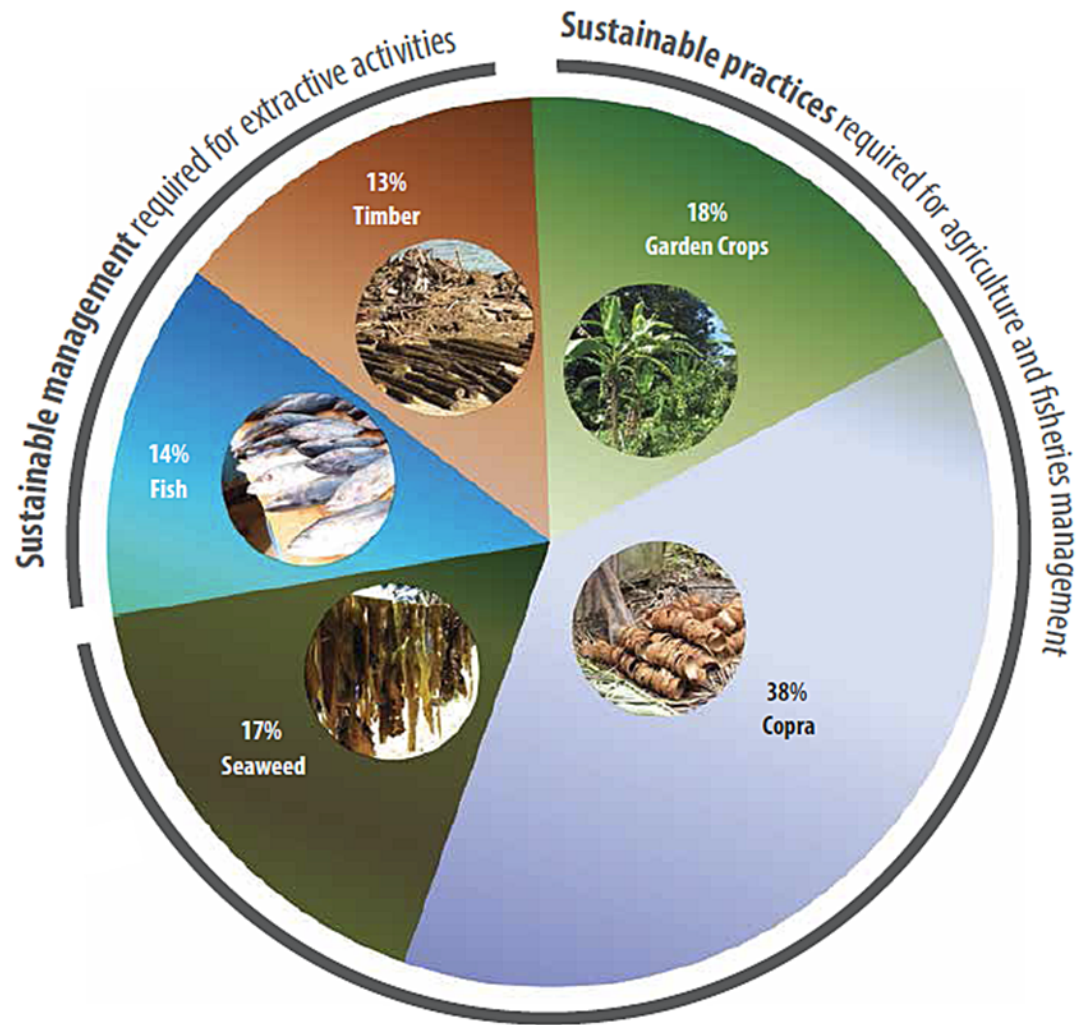
Number of
communities

3,292km²

Total land area



Average Source of Income

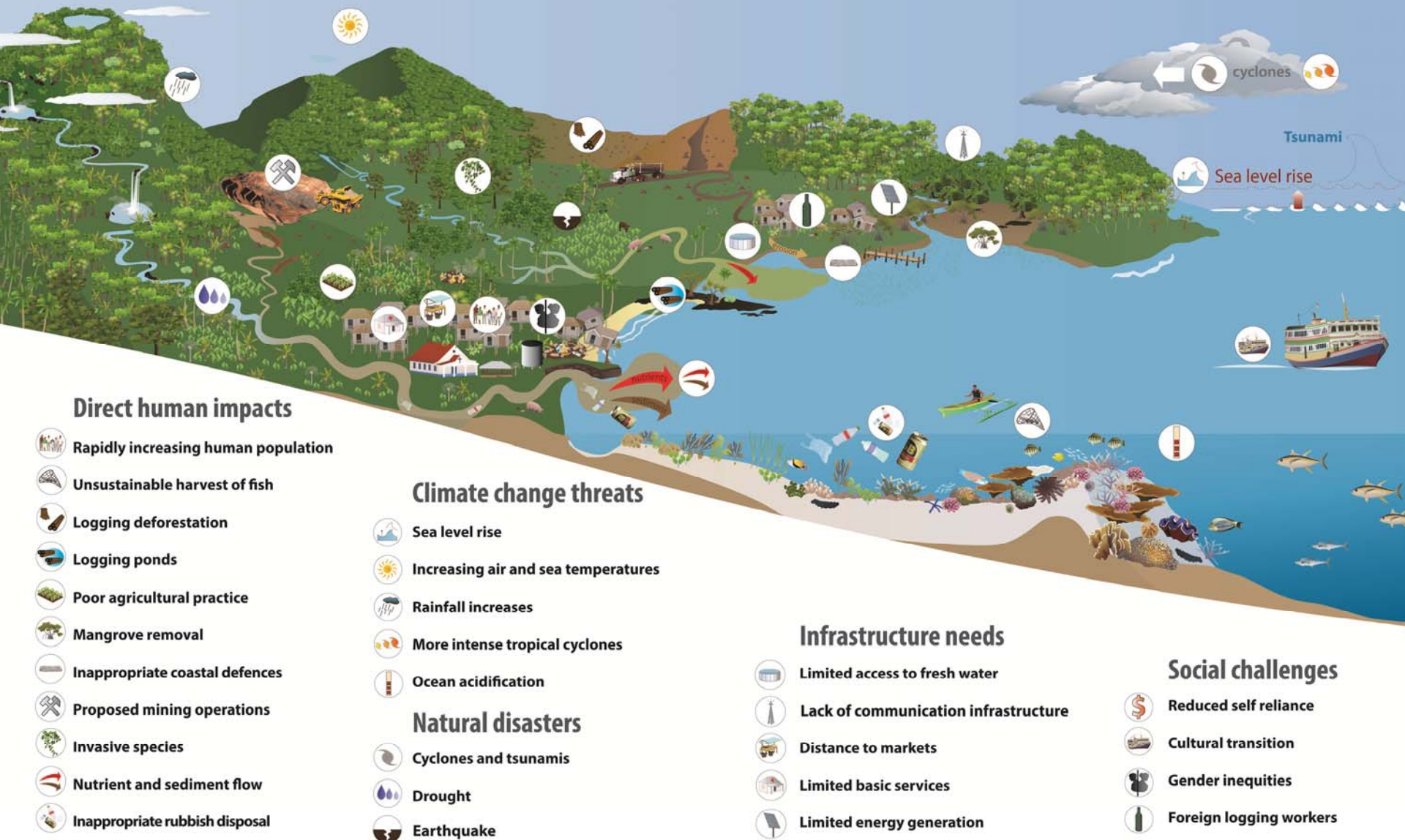


Average source of income

Per household income across all 14 wards



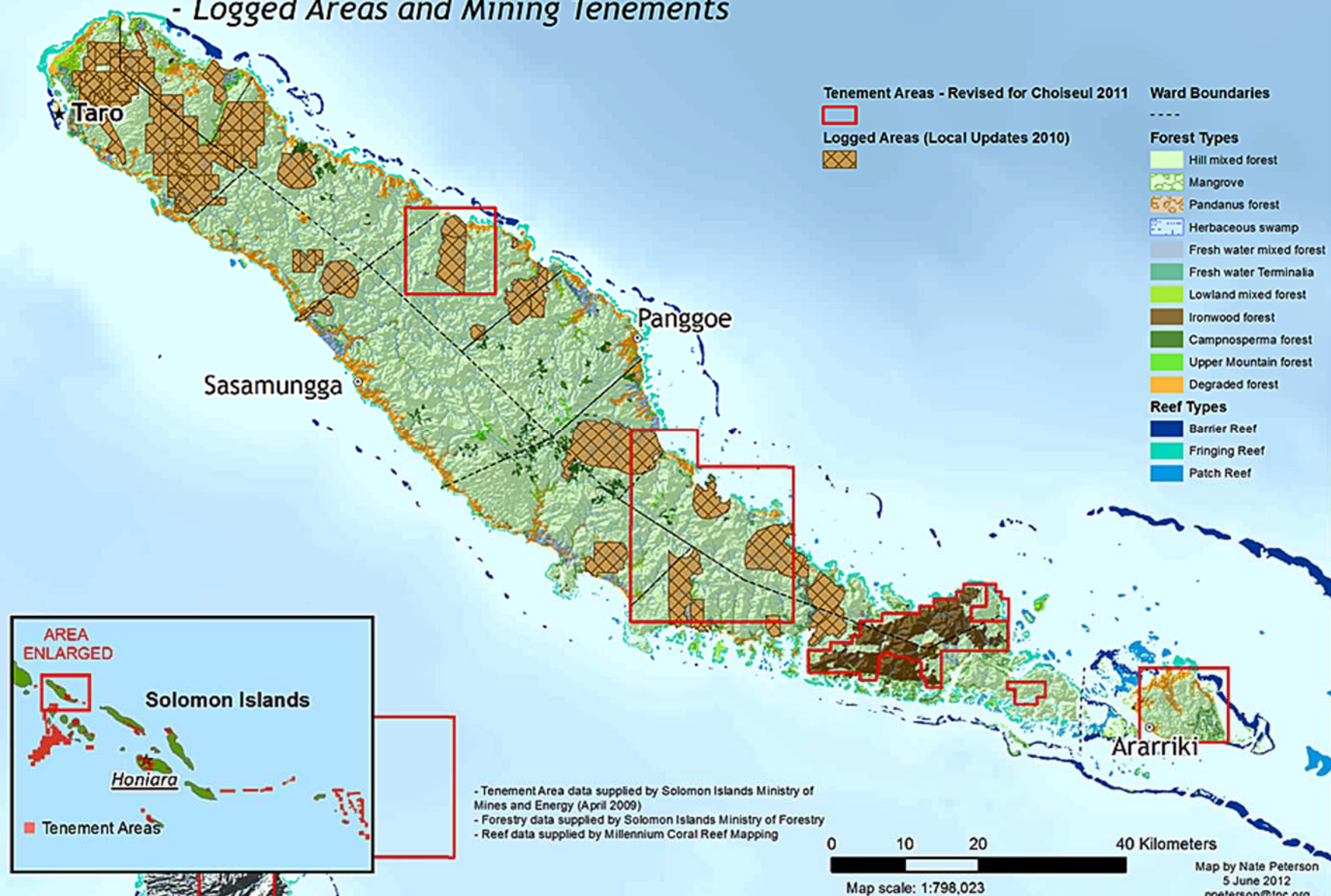
Threats identified by communities and known issues





Choiseul Province

- Logged Areas and Mining Tenements



Key vulnerabilities identified

Land and forest vulnerability

Vulnerability is heightened by a range of land-use decisions that are decreasing resilience to the added pressure from the current and predicted impacts of climate change. Terrestrial impacts are increased by non-climate change factors such as logging and its indirect impacts including the displacement of pigs to gardens coupled with the reduction in hunting pressure, inappropriate farming practices, opening up of forest canopy, soil erosion and lack of land use planning. Reported changes include:

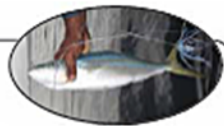
- **Increase in agricultural damage** due to pests and diseases
- **Increased flooding** events of food gardens and cash crops (coconuts and cocoa)
- **Increased incidence of landslides**
- **Reduced crop yields**
- **Increased top soil erosion and sedimentation** into streams and rivers



Marine vulnerability

Choiseul communities rely on fish and marine products as their main source of protein and also as an important source of income at the household level. Many villages reported declines in nearshore fishery resources and coral health. Reported changes include:

- **Mangrove dieback** (due to changes in coastline structure) and removal by humans
- **Declining coral health** as a result of increased sedimentation (from deforestation)
- **Declining fish and invertebrates**
- **Weakened traditional marine resource management systems**
- **Increasing population** putting more pressure on marine resources



Coastal vulnerability

Most communities in Choiseul are located in narrow low-lying coastal areas which are often bordered on the landward side by creeks, swamps and hills, and bisected or adjacent to rivers and streams. Reported changes include:

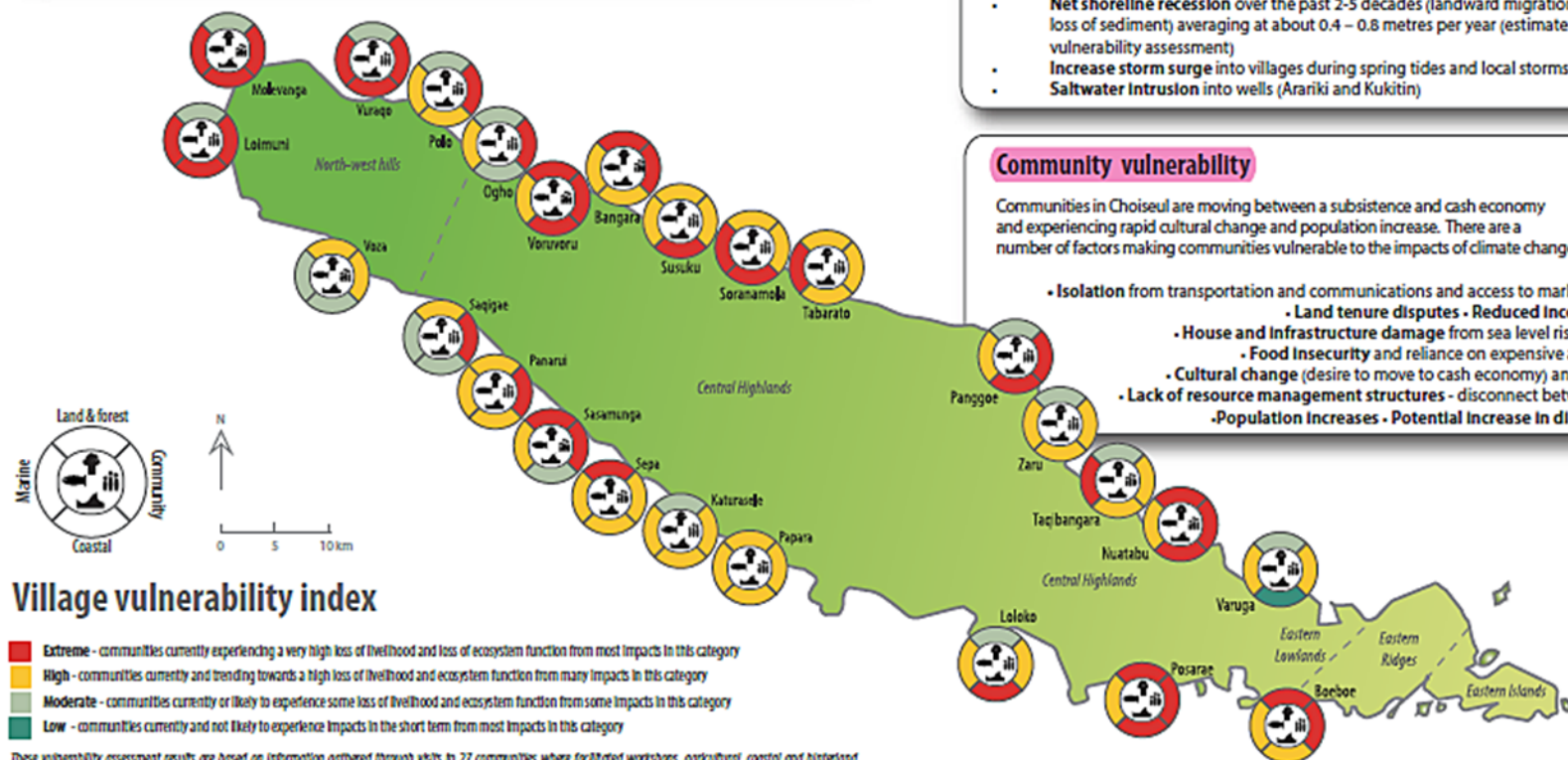
- **Coastal erosion** exacerbated by removal of mangroves and coastal vegetation
- **Net shoreline recession** over the past 2-5 decades (landward migration of the shoreline from net loss of sediment) averaging at about 0.4 – 0.8 metres per year (estimate from community based vulnerability assessment)
- **Increase storm surge** into villages during spring tides and local storms
- **Saltwater intrusion** into wells (Araiki and Kukitin)



Community vulnerability

Communities in Choiseul are moving between a subsistence and cash economy and experiencing rapid cultural change and population increase. There are a number of factors making communities vulnerable to the impacts of climate change. Reported changes include:

- **Isolation** from transportation and communications and access to markets for locally produced goods
- **Land tenure disputes** - **Reduced income** from sale of crops and fish
- **House and infrastructure damage** from sea level rise and increased storm damage
- **Food insecurity** and reliance on expensive and less healthy imported food
- **Cultural change** (desire to move to cash economy) and loss of traditional knowledge
- **Lack of resource management structures** - disconnect between community and agencies
- **Population increases** - **Potential increase in diseases**, insect and water borne



Adaptation Options Identified by Communities

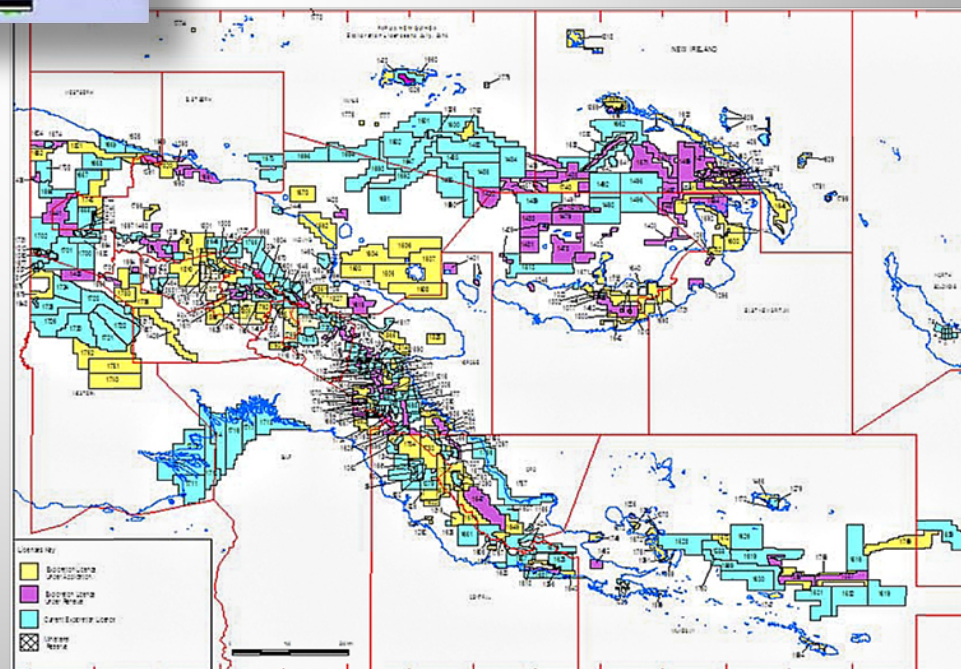
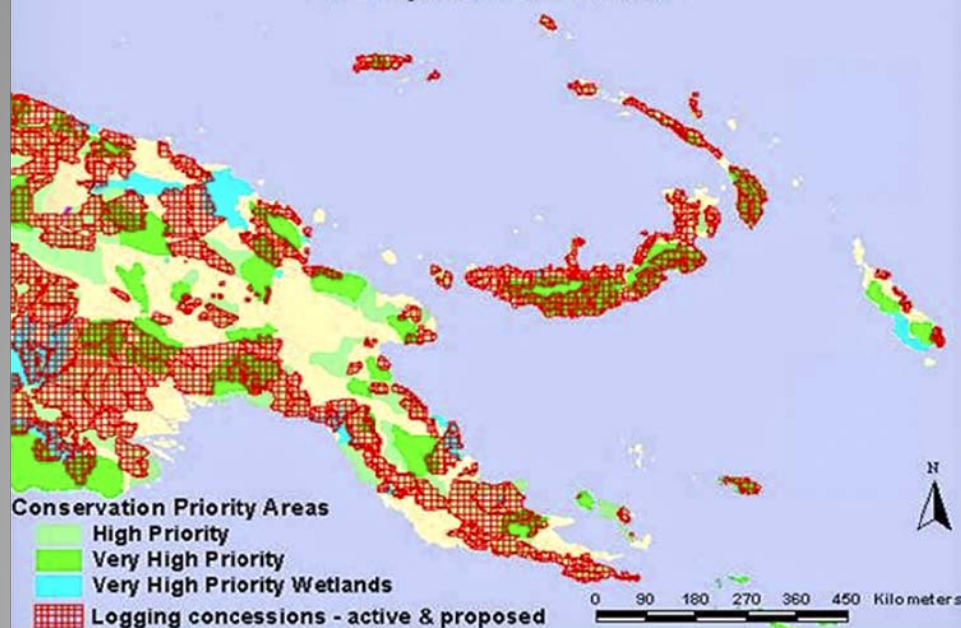
- **Minimizing damage to village infrastructure**
- **Management and protection of inter-tidal and coastal areas**
- **Increasing food security and livelihoods**
- **Protection of water resources**
- **Marine and fisheries management**
- **Increase disaster preparedness**

Examples of Project Activities

- **Catchment resource management planning**
- **Integrated fisheries and coastal zone management**
- **Revegetation: key riparian zones and coastal vegetation**
- **Provincial invasive species management plan and other natural resource management planning**
- **Supporting protected areas establishment and management**
- **Education and awareness on unsustainable logging practices and other resource management issues**


Relevance to Wider Pacific

Logging Concessions and Conservation Priority Areas in Papua New Guinea









Port Denarau

Westin

Sofitel

Hilton

Peninsula

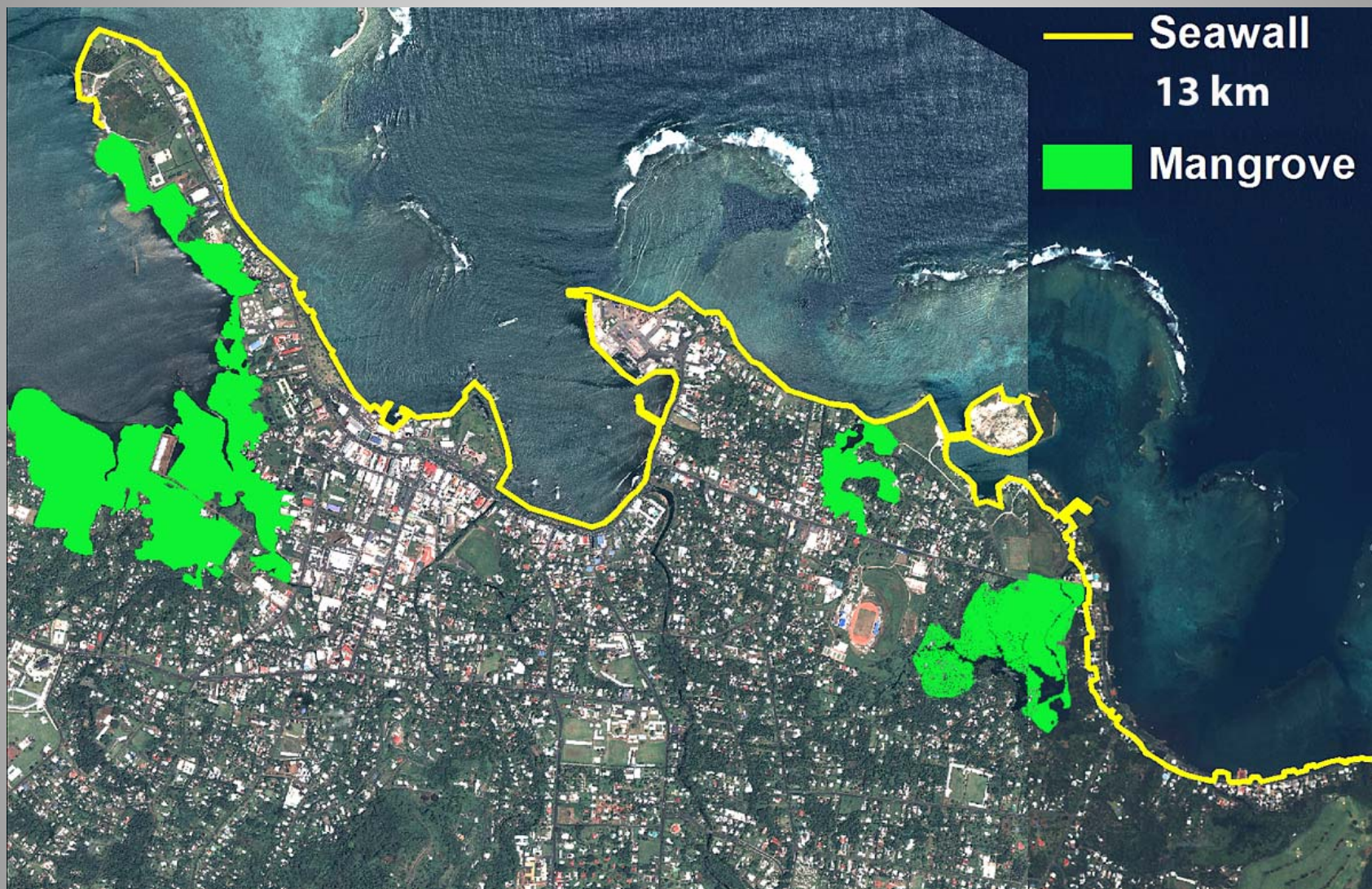
**For Sale
Waterfront Lots**

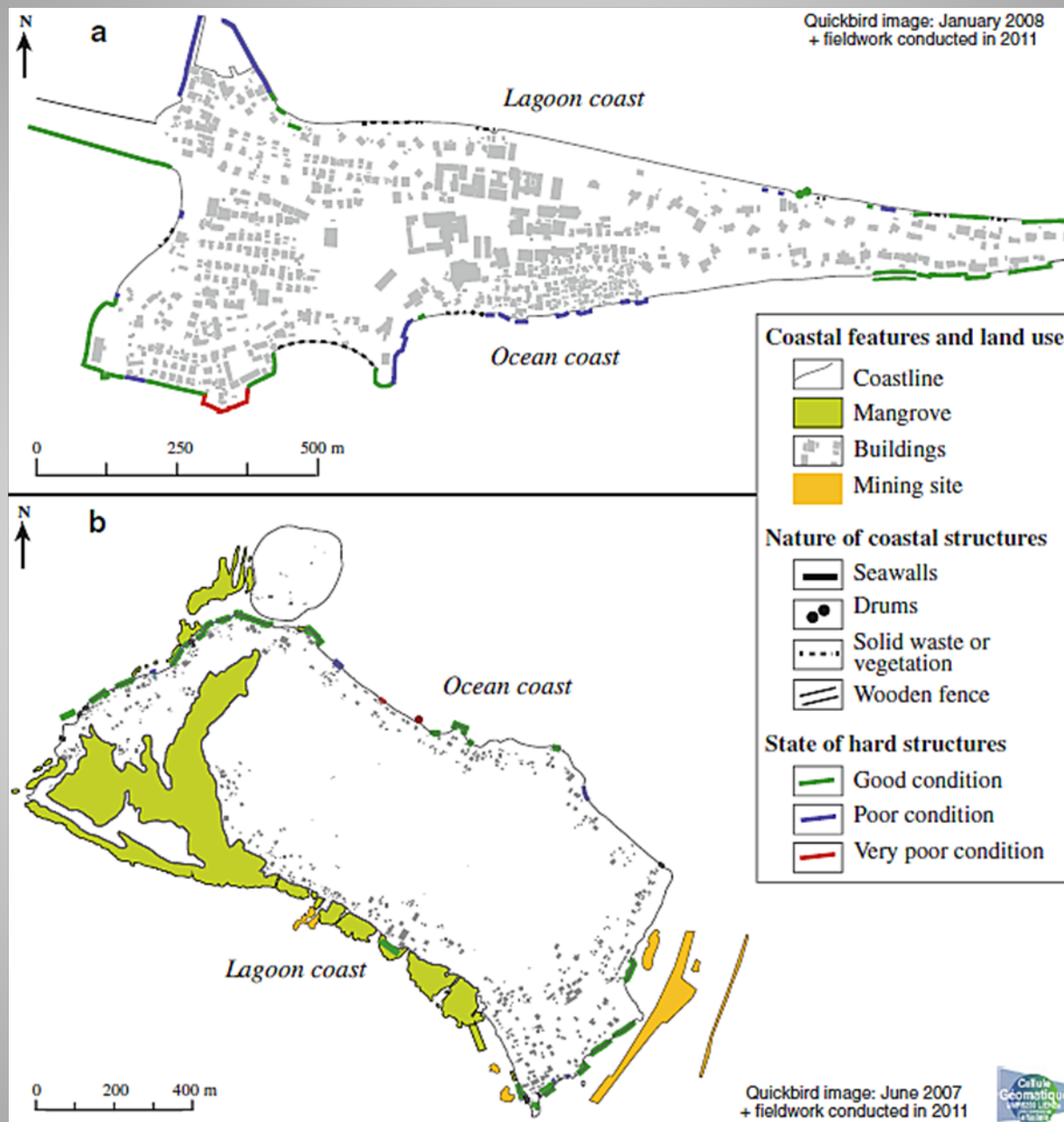
Secure NOW on
10% deposit.

**Denarau's best
... saved till last.**

What climate change?





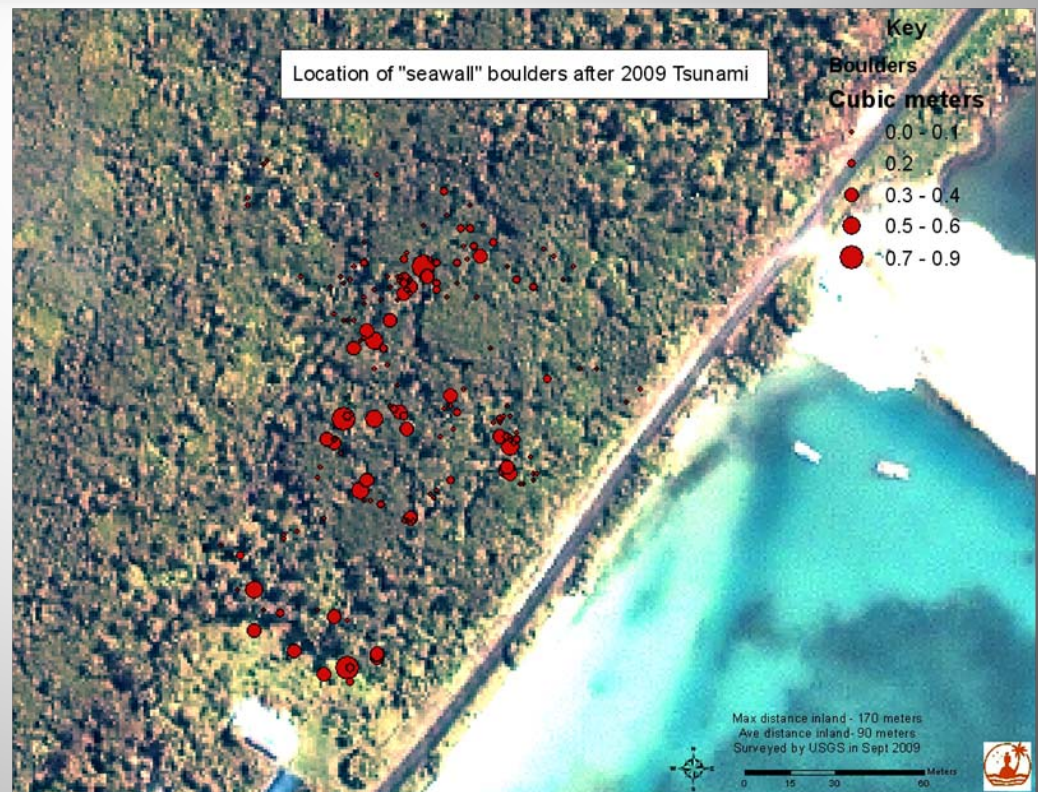
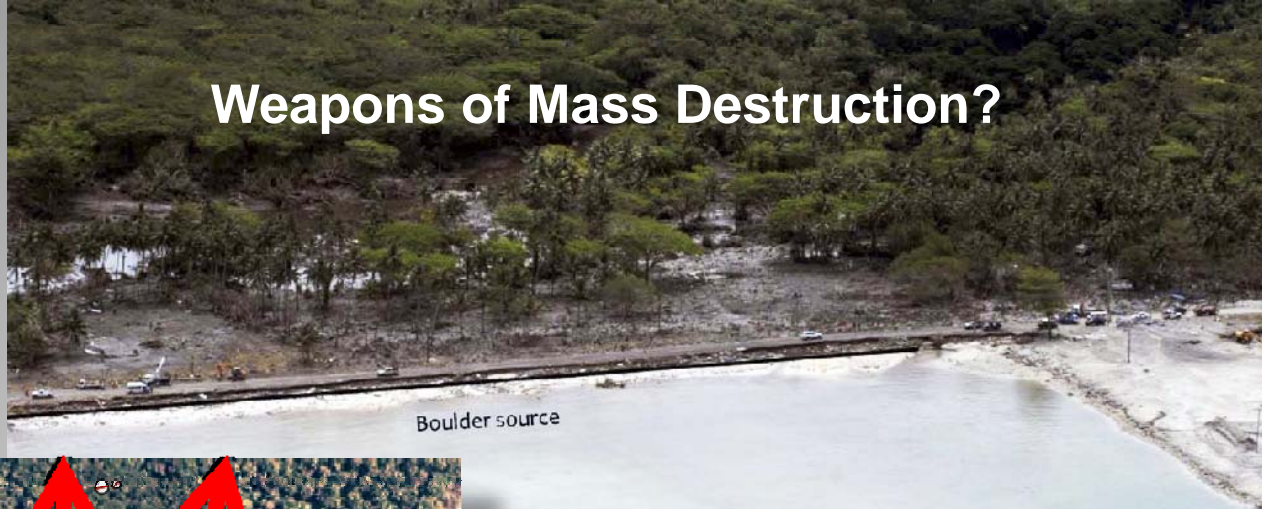




Weapons of Mass Destruction?



Weapons of Mass Destruction?



Invasive Species: the Other Disaster

Global cost of damages: US\$1.4 trillion annually almost 5% of the global GDP in 2001



**Taro Leaf Blight:
Drop in export value from
US\$3.2 million in 1993 to
<US\$60,000 in 1994**

Invasive Species: the Other Disaster



**Brown Tree Snake:
Research and control costs total over US\$7 million p.a.**

Invasive Species: the Other Disaster

WANTED

GIANT AFRICAN SNAIL



LOOK FOR THEM! REPORT THEM!
888-397-1517

A major landscape and agricultural pest, even eats stucco on homes

Public health threat - known to carry rat lungworm that may cause meningitis in humans

Able to reproduce rapidly - one snail can lay 1,200 eggs in a year
Can grow to up to 8 inches in length - no natural enemies

We need your help to stop this pest!

www.freshfromflorida.com/pi

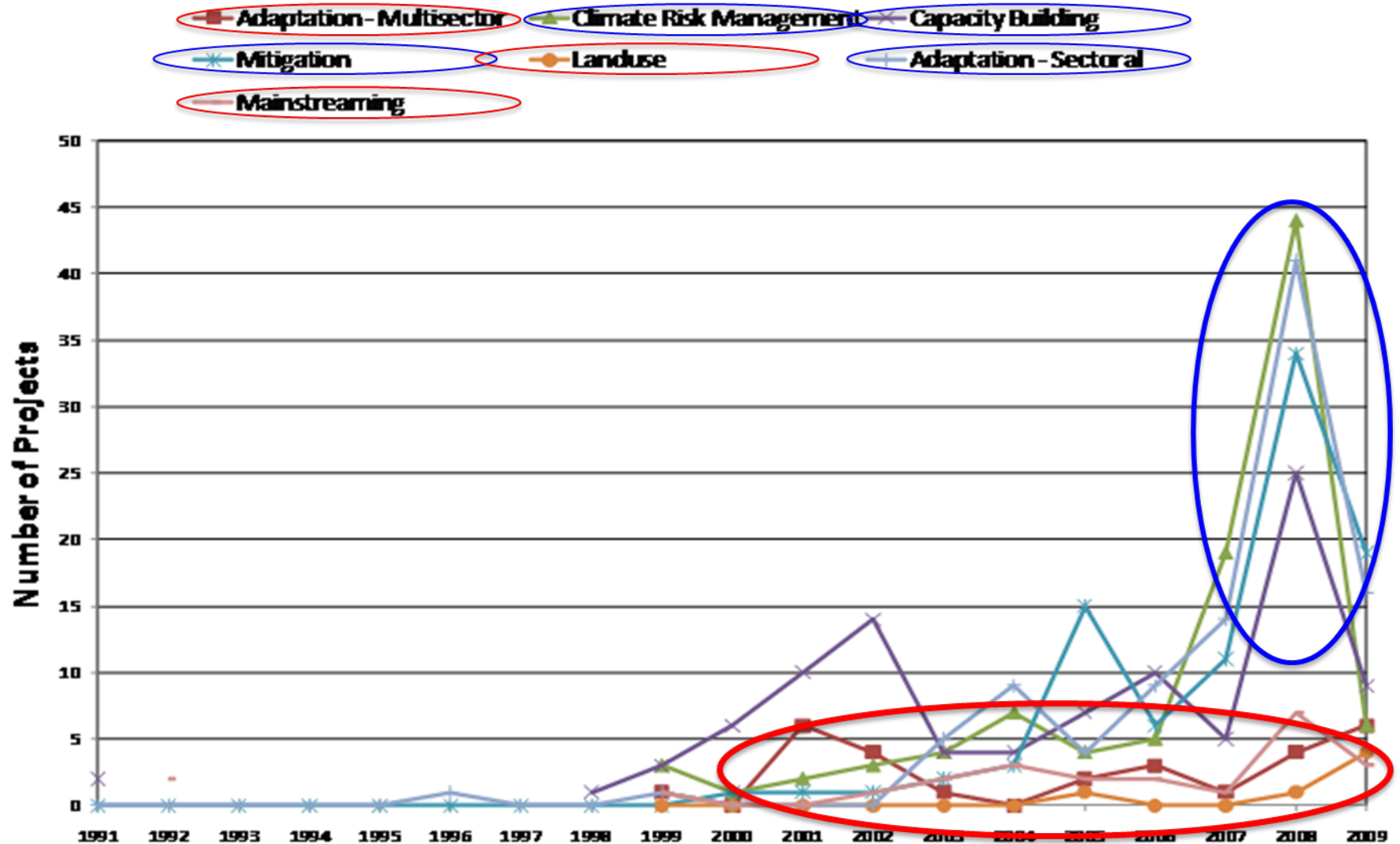
USDA **Division of PLANT INDUSTRY**
Fresh Florida, Protection through Detection
United States Department of Agriculture and Natural Resources
Adam N. Palmon, Commissioner

Invasive Species: the Other Disaster



What Needs to Change

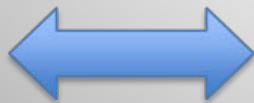
Number of Projects by Thematic Categories and Year (2009 PCCR)



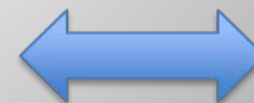
Landscape Scale: Community and Ecosystem Focus



**National policy
implementation**



**Sub-national policy
implementation**



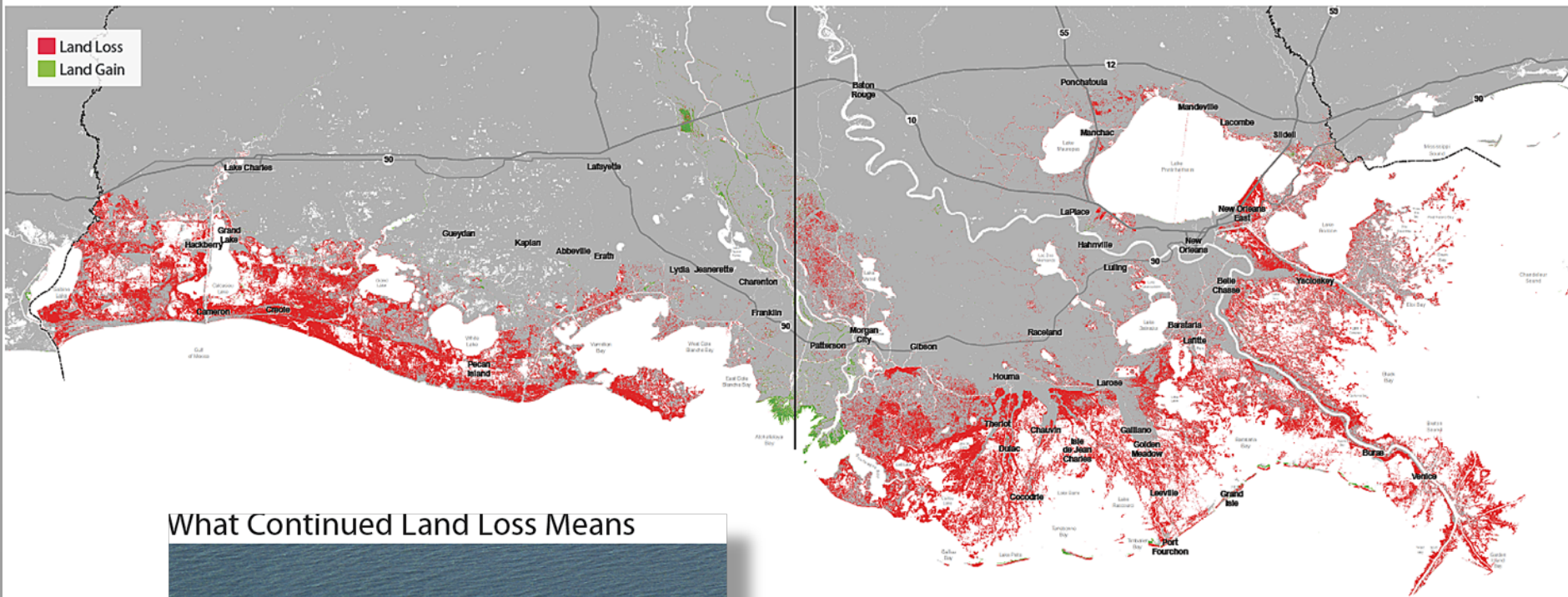
**Community
engagement**

**Country-wide integrated
planning**

**Whole-of-island integrated planning, ridge to
reef approach, watershed management, etc**

Louisiana is Experiencing a Coastal Crisis

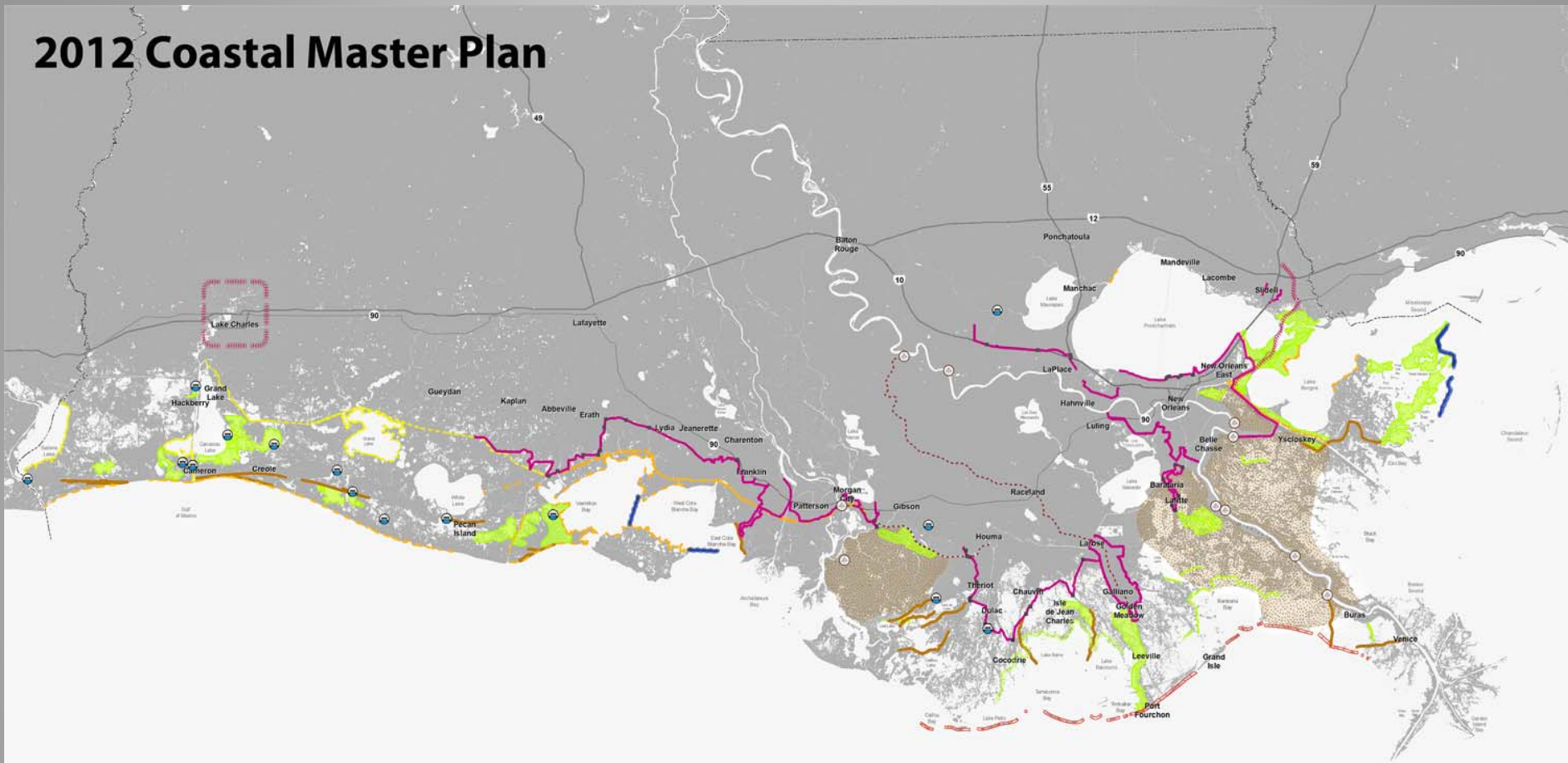
Predicted Land Change over the Next 50 Years



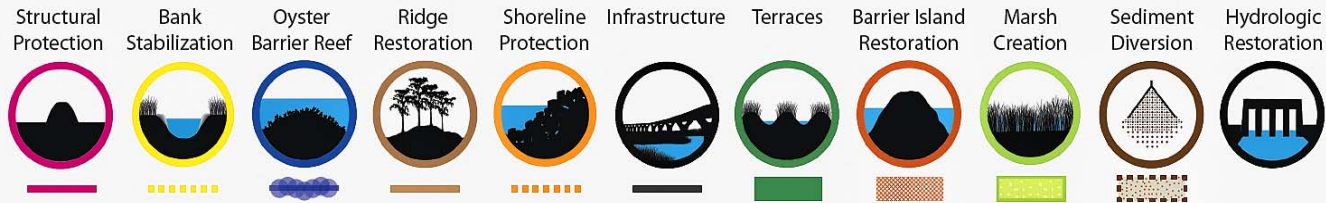
What Continued Land Loss Means



2012 Coastal Master Plan



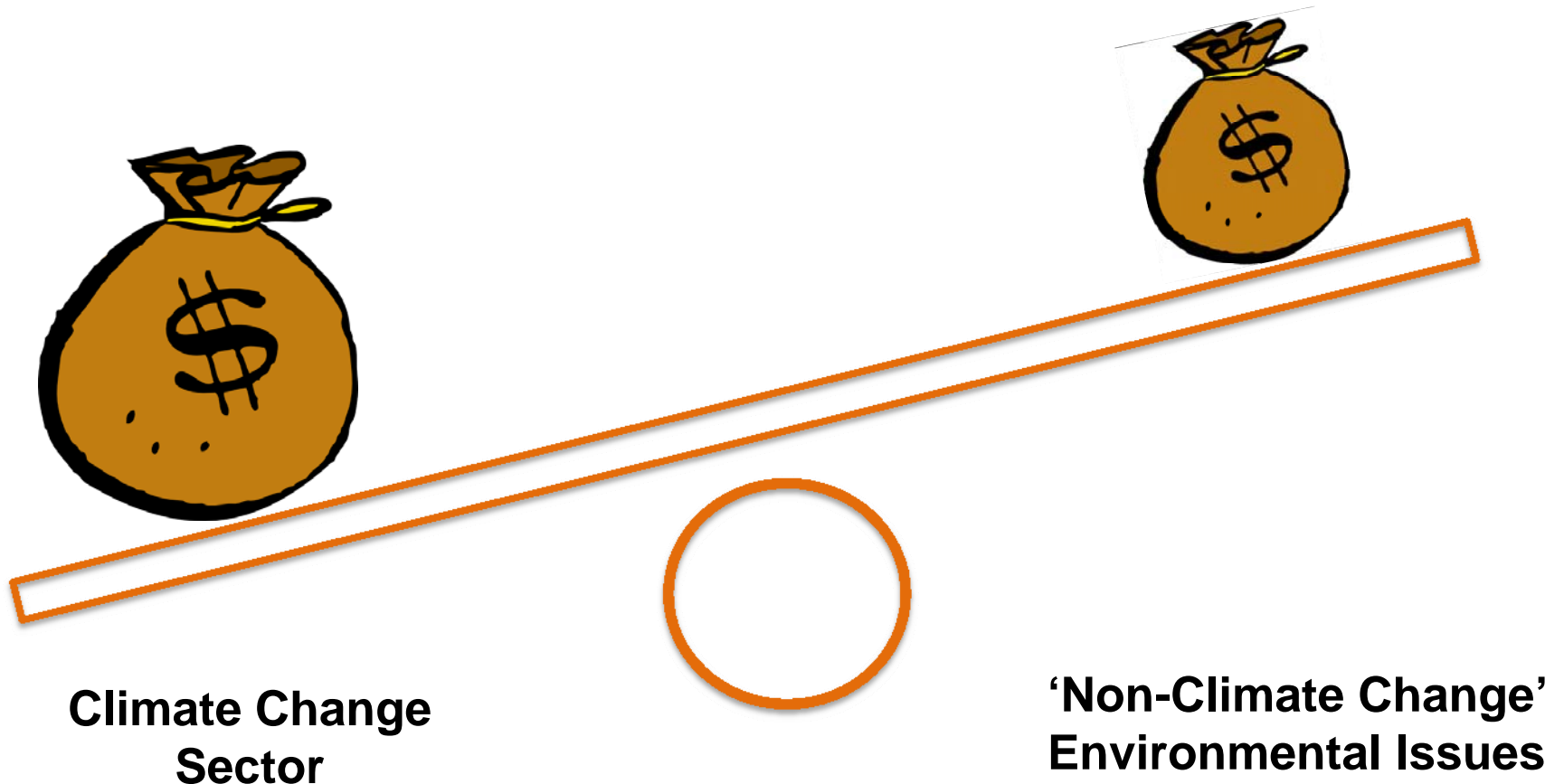
Project Types



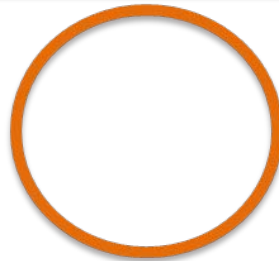
Projects for Further Planning:

- Lake Pontchartrain Barrier
- Lake Charles Protection
- Terrebonne Bay Rim Marsh Creation
- Channel Realignment (Not Shown)

Balanced Approach to Funding

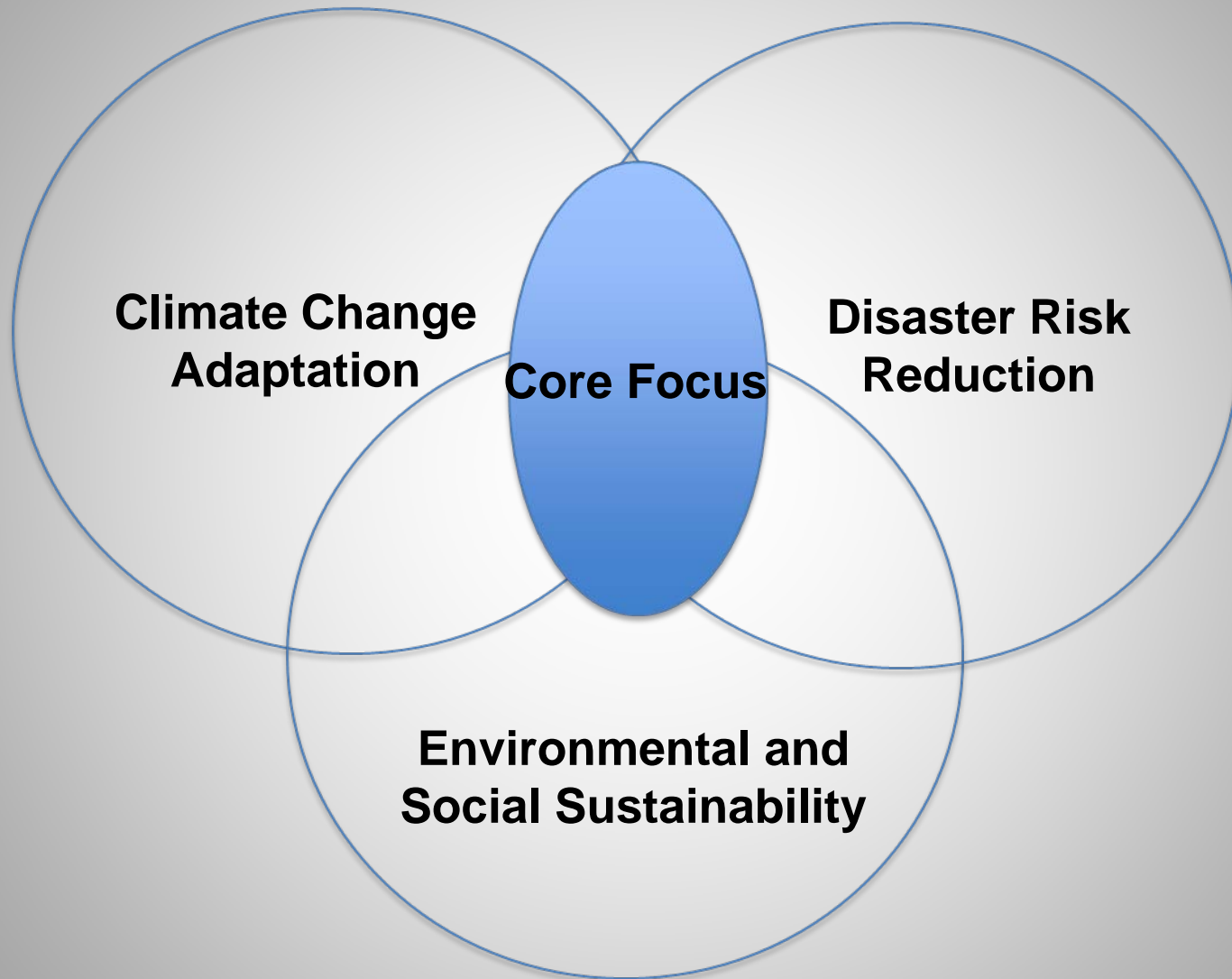


Balanced Approach to Funding



**Integrated Approach:
Climate Change Adaptation + DRR +
Environmental Sustainability**

ECOSYSTEM APPROACH





Thank You!



Solomon Islands: 57% < 24 yrs age

37% 0-14 yrs