



Safeguarding biodiversity and livelihoods
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LOCATION and DEMOGRAPHICS

(2009 Household Income Survey)

KAYANGEL DEMOGRAPHIC INFORMATION

Number of Household	32
Average Household Size	3.0
Average Household Income	USD6,198.97

EMPLOYMENT

Public Sector	28
Private Sector	5

INCOME SOURCE

Social Security Benefits	12
Civil Service Pension Funds	5
Private Business	2
Other Source	3
Household Without Income	0

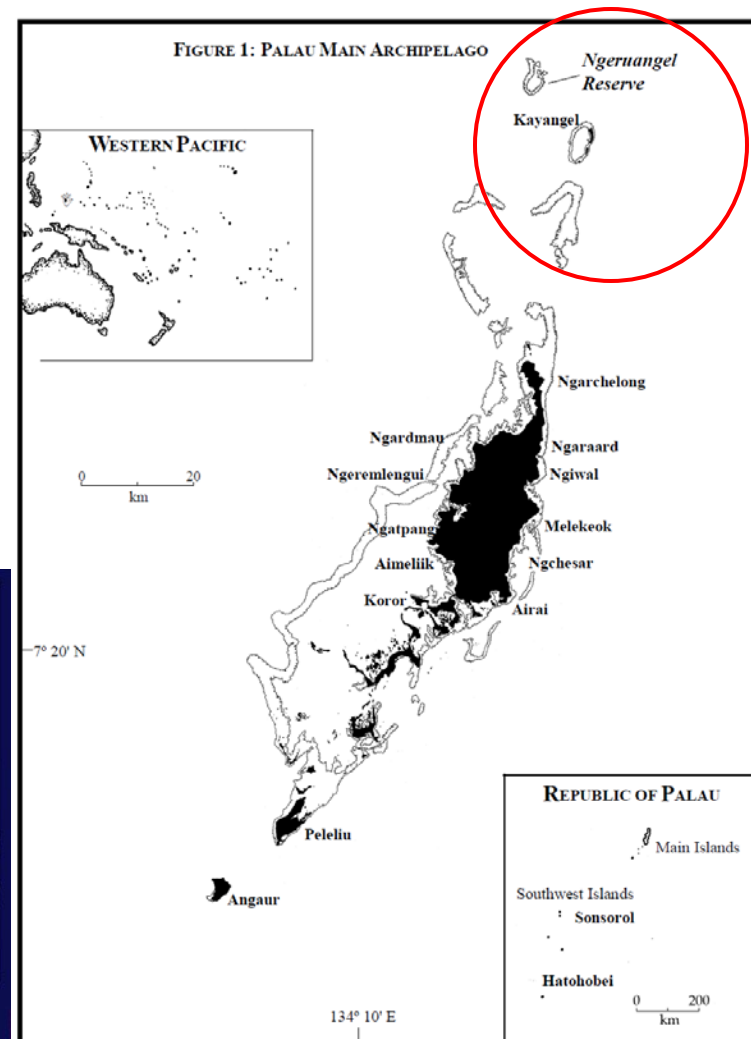
INFORMAL ACTIVITIES AS INCOME SOURCE

Fishing	1
Farming	10
Wood Carving	0
Food Preparation (Makit)	0
Weaving	2
Jewelry Making	0
Other Informal Activities	1
Not Reported	0

FARM TYPE

Dry Land	8
Wet Land	0

Where is PALAU?



Island Ecosystem Restoration

Eradication of Invasive Rodents and Feral Cats

Project Goals

- Protect habitats for the Micronesian megapode
- Remove threats for the Micronesian megapode
- Return Kayangel's ecosystems to original state (using birds as indicators)
- Remove risks to people's health
- Improve food and economic security



Some clear and immediate reasons

Save *Bekai* megapode (IUCN=EN)

- Only endangered bird in Palau
- Biggest population on a single island, Ngeriungs
- Used to be in CNMI, Guam, and Palau
- Now just on few islands north of Saipan and in Palau

Restore quality of life

- Reliance on catchment water
 - Leptospirosis
 - Scrub typhus
- Reliance on agriculture
 - Damage to crops from rats
 - Damage to fruit trees



National importance

- Kayangel's Atoll habitat is very rare in Palau – only 1% of Palau
- Home to big population of Micronesian Megapode
- Ngeriungs a globally IBA
- Cultural and spiritual significance of Chermall and Ngerusebek Sacred Sites
- Cultural and biological significance of Ngeruangel Marine Reserve
- Critical marine ecosystem
(Northern Reef Fisheries Region)



ERADICATION TIMELINE

2006 Feasibility Study

2009 Project launch

Trial monitoring

2010 Baseline monitoring

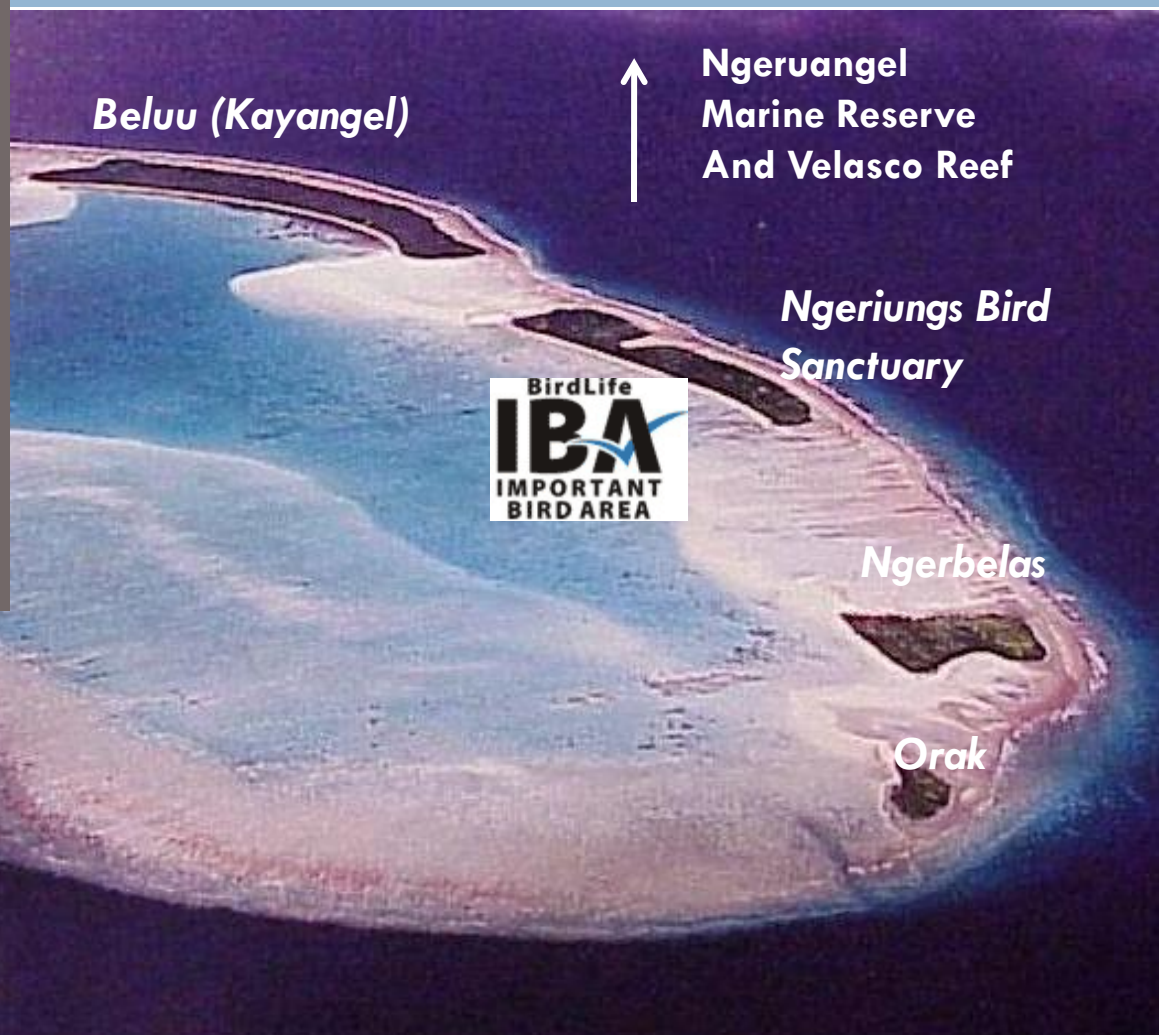
Bait secured

Megapode research trial

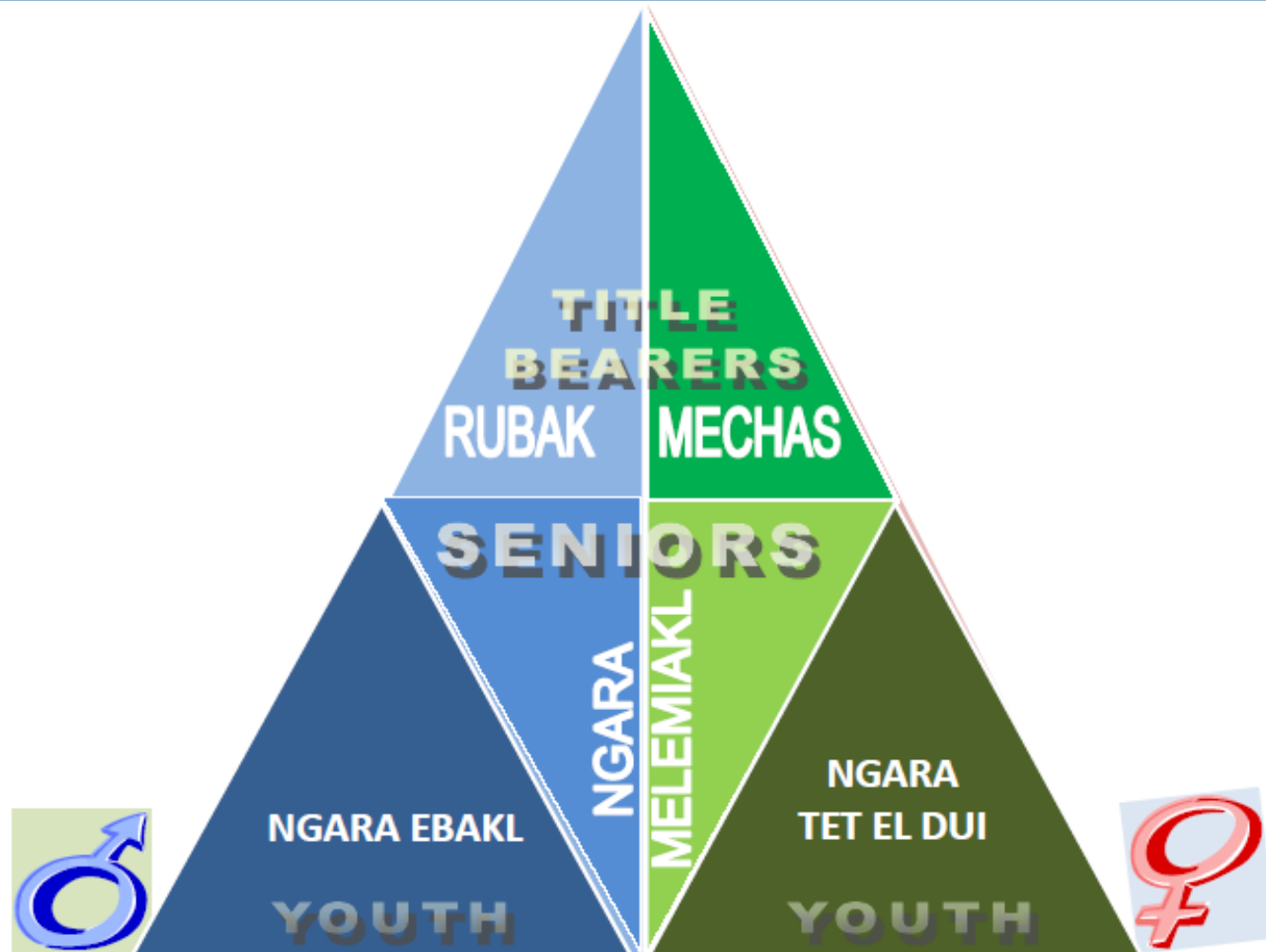
(with USDA)

2011 February, Eradication

March Monitoring Survey



A SOLID COMMUNITY FOUNDATION IS NECESSARY FOR SUCCESS



Community Survey

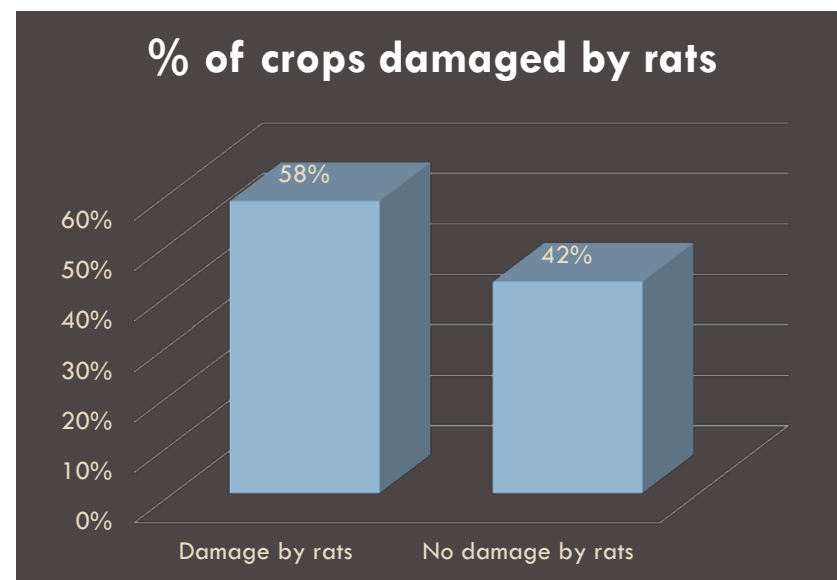
- 33 People
- Questions about effects of rats on disease, crops, awareness of invasive species, status of forest, birds, crabs, protected areas

April -implementation of community safety education and awareness

July – community trained on hand broadcast

August –trapping feral cats and voluntary biosecurity measures

September- eradication concluded



Main crops damaged by rats:

Corn
Sweet potato
Banana
Papaya
Tapioca
Coconut

the nature of the eradication work with high engagement from residents led to even stronger outcomes and valuable lessons

Opportunity served as awareness increased

- ❑ Livelihood: Virgin Coconut Oil Enterprise
- ❑ Protected Area Management Plan



Big Meaningful Lasting Outcomes



Biodiversity, Livelihood, Economic, Social and Cultural, Capacity, and Sustainable Funding for Conservation

biodiversity

Outcomes thus far,

- 3 out of 4 islands are rat free, most importantly Ngeriungs Bird Sanctuary
- Megapodes and other birds are safer
- post-project biological surveys suggested a 68% increase in megapodes on the main island
- Formal designation, Kayangel Conservation Act of 2012
- Membership in the Palau Protected Areas Network

Results from Pre-Post Eradication SE Survey

Increased % support for protected area status	% responding yes to the question: Should other areas in Kayangel be protected	Pre	Post
	<i>N</i>	76%	87%
		34	23



LIVELIHOOD

Outcomes thus far,

- ❑ Secured local agricultural crop stock
- ❑ Increased crop yield
- ❑ Reduced risk of water-borne diseases
- ❑ Protection of sacred natural sites
- ❑ New income opportunities:
virgin oil coconut mill
- ❑ New employment:
Kayangel Protected Areas Network
Authority



ECONOMIC

- ❑ Increased tourism
- ❑ Increased local product supply (handicraft)
- ❑ Population increase



SOCIAL and CULTURAL

- Community member donates land for coconut mill project
- Chermall and Ngerusebek, both natural sacred sites are nominated to the PAN as Atoll Forest Preserves
- Land owners in Ngeriungs Bird Sanctuary consent to giving up their land to formal designation of PA status to the PAN

CAPACITY

homegrown skills and talent developed



Outcomes thus far,

- Kayangel community members were trained in and actually implemented monitoring, the eradication operation, and biosecurity. Many more people than were targeted (60 versus 12) built capacity in island restoration as part of this project.
- 32 CBO members, complete Business Planning and Financial Projections Workshop and draft business plan for the KC Coconutmill
- DNRCS staff, acquire skills and ability to meet PAN reporting requirements

Sustainable funding for conservation

- Sustainable financing from the PAN Fund
- Builds upon existing revenues from fees and licenses
- Builds upon existing national budget allocations
- Creates new revenue stream
- Leverage outside development assistance



2013- major setback



Community remain and rebuild



Commitment to full recovery



Moving forward

- Strengthening biosecurity
- Continue biological and social monitoring
- Livelihood opportunities:
 - Restore coconut mill operations
 - Alternatives in fisheries



Financial and technical support



Regional:
PII
CI
PILN
NZDOC
USFWS

Local:
Kayangel Leaders and Community
EQPB
Division of Environmental Health (DEH)
Bureau of Agriculture
National Invasive Species Committee
Quarantine Office
Sonsorol State Government
Ngardmau State Government
Koror State Government



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Ke kmal mesulang