

Papua New Guinea protected areas management effectiveness evaluation

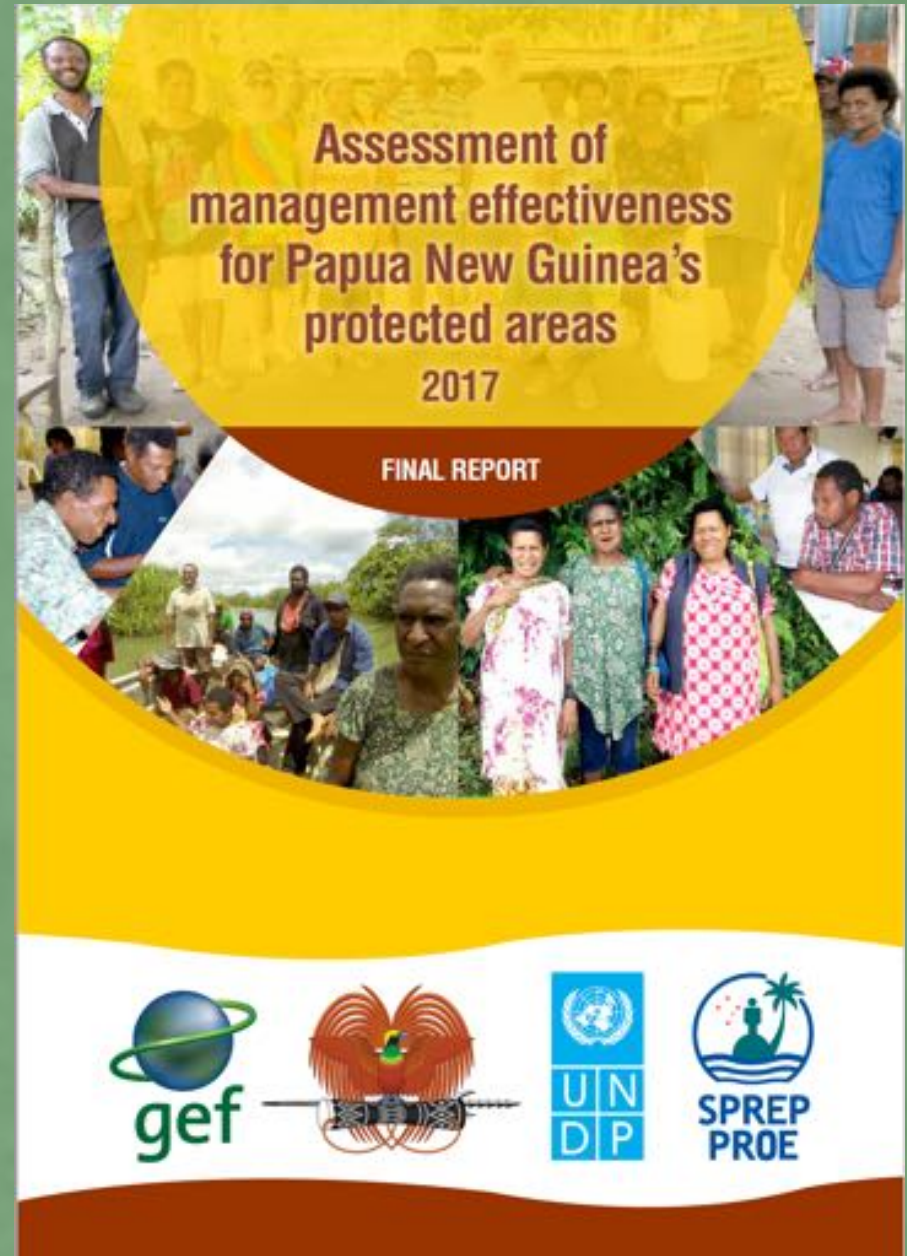
Samoa Biopama Workshop
June 2018



Project by UNDP, the Conservation and Environment Protection Authority (CEPA) and SPREP

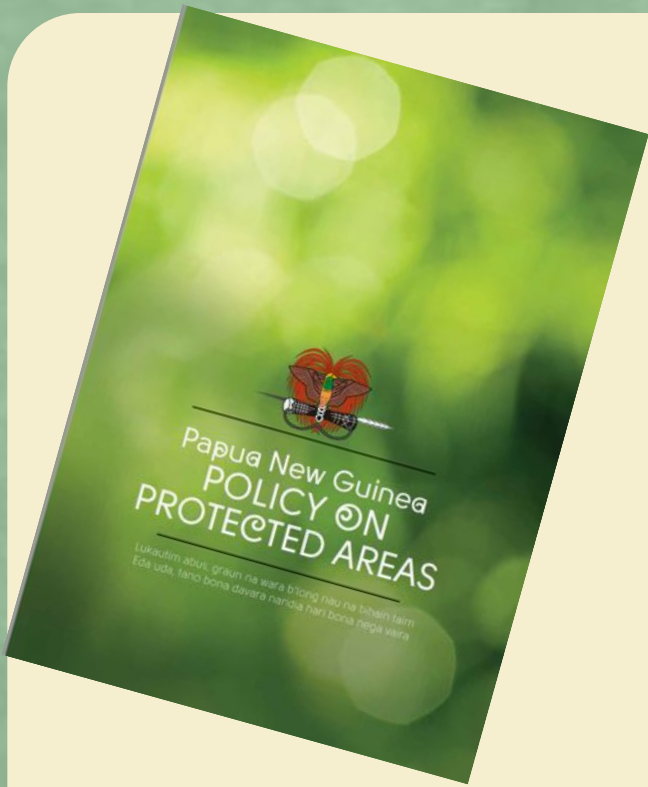
Funded by the Global Environment Facility-
Pacific Alliance for Sustainability (GEF-PAS)

Fiona Leverington, Ann Peterson and Gregory
Peterson with Warren Jano, James Sabi and
Amanda Wheatley – involvement of many CEPA
staff and information and huge efforts from many
Customary Landowners across the country





All the real work – the community members! Some travelled for days to reach the workshops



“Our protected area network across land and sea safeguards our precious and outstanding natural and cultural heritage.

Together we manage these areas effectively for all the people of Papua New Guinea.”

“[We will...] evaluate management effectiveness every three years to demonstrate the successes and challenges for each protected area in PNG.

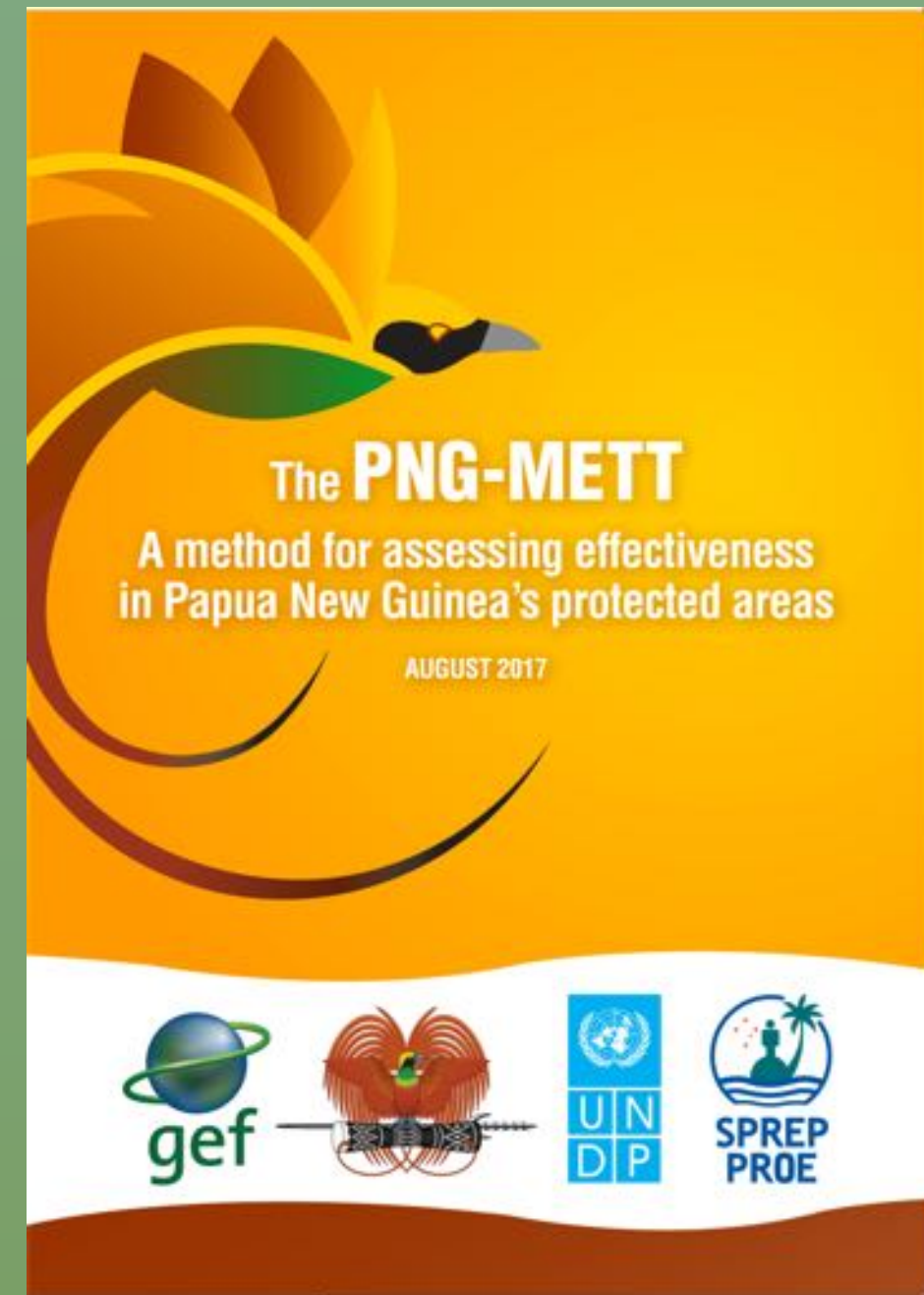
Protected areas in PNG

Part one

What we did

We assessed 58 protected areas – all the gazetted protected areas in PNG.

Methodology – a modified version of the METT (management effectiveness tracking tool)





Lots of talking!

Process can be as important as the reports and data.



Landowners finally get a chance to say what they think and want. Meet other protected area owners

Risk: creating expectations that can't be met



There could still be some improvements in clarity, topics and making sure it is all relevant, or at least comprehensible, to the landowners.

In spite of efforts by the organising team, gender balance was still a big issue, with some meetings 100% male.

Part two

What we found



2a Values and benefits

People from most (but not all) protected areas are enthusiastic about the values and appreciate the benefits provided by their protected areas.





First step: People drew and wrote about the values of their protected areas (no prompting)

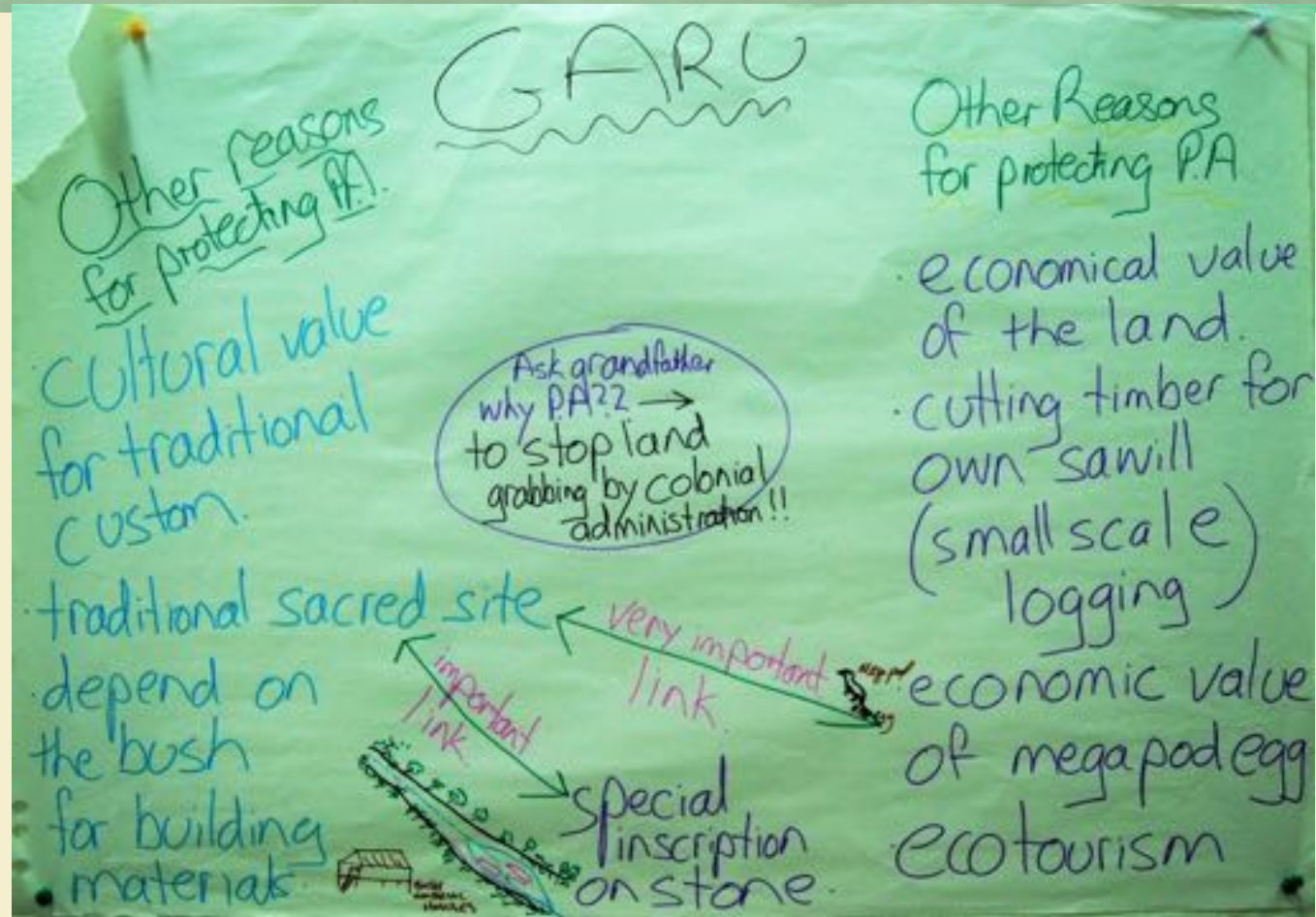
93% of the protected areas nominated natural values

88% listed socio-economic values (livelihood and commercial)

71% listed cultural values

10% had historic values

Many values overlapped these (artificial) categories. Natural resources are also cultural and economic.



“The main reason to establish the WMA was to stop land grabbing... We want to protect customary values and traditions and to use the WMA to obtain customary materials for ceremonies and other uses. Customary landowners rely on the forest and land for their everyday uses (build houses).”

There is a sacred place for the wallaby. Wallabies have a special meeting place and they have a leader (usually smaller than the other wallabies) and the wallabies gather and ‘listen’ to the small wallaby.



How important are the benefits of protected areas?

The **second** step is a checklist that prompts participants about a range of benefits. (This is adapted from the RAPPAM checklist)

| How important is the protected area for each of the listed values or benefits NOW? <i>Tick one box for each</i> | Very important | Important | Not important | Don't know | Comment |
|--|----------------|-----------|---------------|------------|---------|
| 17. Biodiversity – the presence of <u>many</u> different kinds of plants, animals and ecosystems | | | | | |
| 18. Presence of rare, threatened, or endangered species (plants and animals) | | | | | |
| 19. Presence of ecosystems (e.g. wetlands, grasslands, coral reefs etc) that are rare because they have been cleared or destroyed in other areas | | | | | |
| 20. Protecting clean, fresh water | | | | | |
| 21. Sustaining important species in big enough numbers so that they are <u>able to</u> survive here | | | | | |
| 22. Providing a source of employment for local communities now | | | | | |



The second step allows some comparative statistics

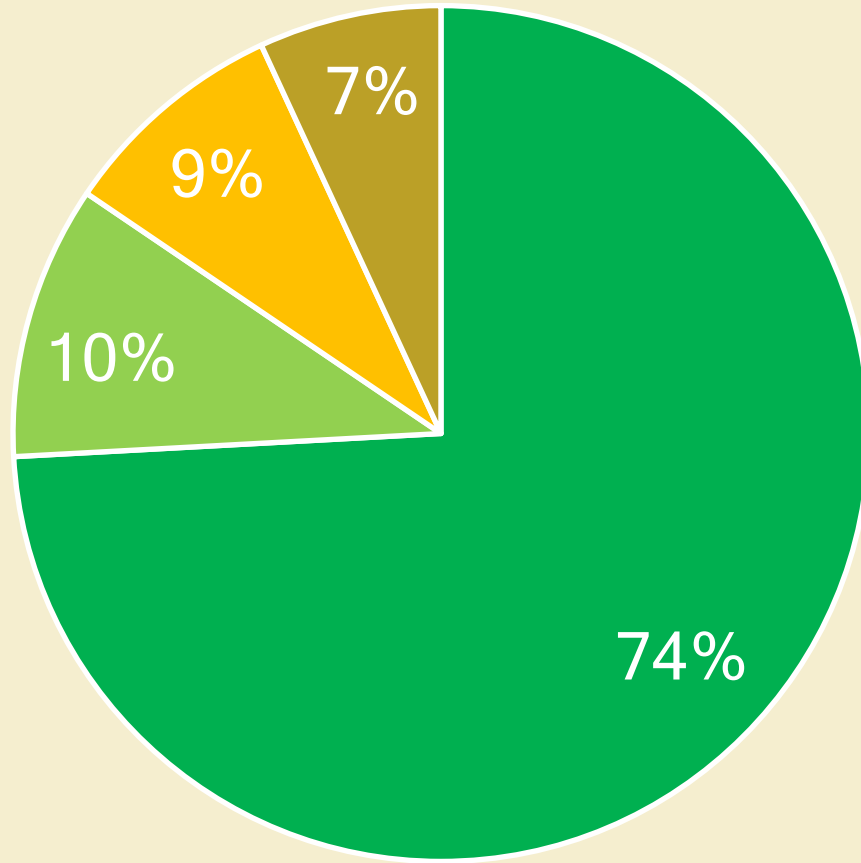
How important are the benefits of protected areas?

96% of protected area communities value **attractive scenery** as very important (86%) or important

96% say they are good for **science and education** (74% very important)

91 % value **biodiversity** (81% very important): 91% also value **rare species**

91% say they are very important (81%) or important for **culture and tradition**



- Very high (75-100%)
- High (50-75%)
- Medium (25-50%)
- Low (<25%)

Overall, $\frac{3}{4}$ of the workshop groups think the importance of protected area benefits are very high.

(Three of the lower scoring Pas are small military/ historic sites with low natural/ economic values)

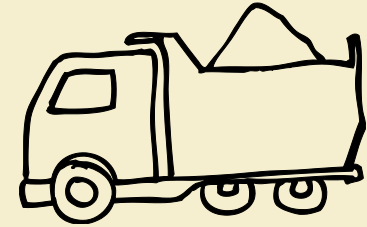
- **Third** step in values assessment – participants choose their most important values and describe them – used later to evaluate status and trend.

| Key values | Brief description | Endangered species |
|----------------------------------|---|--|
| Bird of paradise | The key species include raggiana, king, blue and superb. | PNG laws and UCN Red List |
| Mineral spring/pond | Salt used in cooking. Many birds and animals frequent these mineralised springs to eat salt -potential site for bird (or animal) watching. | |
| "Fu/mirake" tree | Common building material (post/stump)- supply is running low. | |
| Cassowary | Three species of cassowary (southern and northern; and dwarf) -used for bride price and other traditional uses. | vulnerable; dwarf cassowary – near threatened. |
| Tree kangaroo (3 species) | This includes <i>Dendrolagus goodfellowi</i> and <i>Dendrolagus dorianus</i> . Conservation of the species is important -population is decreasing. | (IUCN Red list) |



2b Threats to PNG's protected areas

'death by a thousand cuts'



We adapted the **IUCN standard threat classification** (Salafsky *et al.* 2008), in the standard METT, for PNG's context.

12 level one threats
59 level two threats

Asked for comments and
Three worst threats

Added for PNG

1. Housing and commercial development within the protected area

1. 1 Housing and settlement

1.1a Population increase in the protected area community

1. 2 Commercial and industrial areas

1. 3 Tourism and recreation infrastructure (e.g. structures)

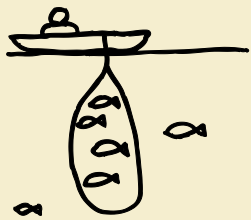


For each threat type, participants rate the threat, then nominate the three most serious.

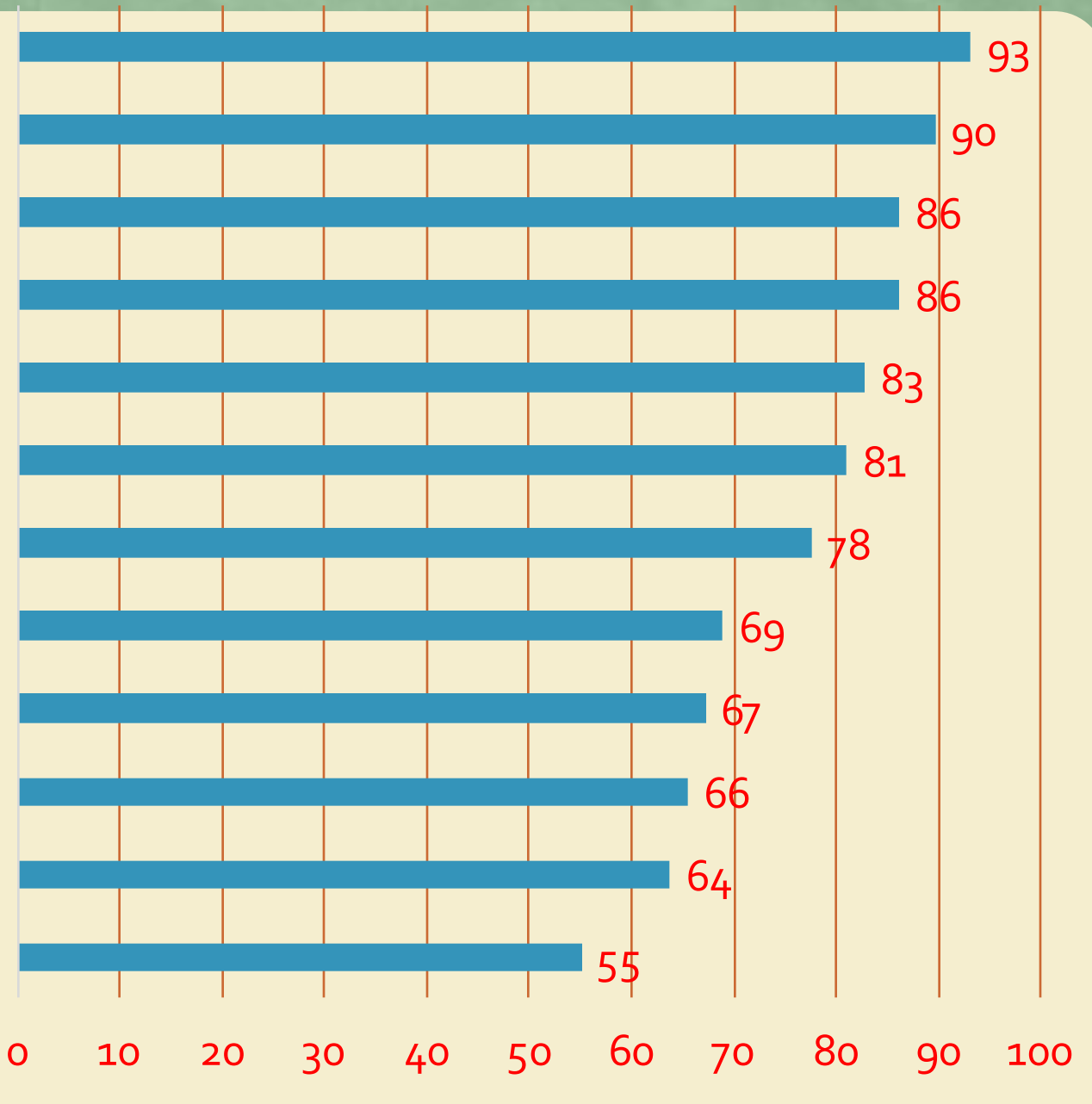
- ⚠️ **High** significant threats are *seriously degrading values*. This means they are badly damaging some value – it might be a kind of animal or plant, or your traditional gardens
- ⚠️ **Medium** threats are having *some negative impact* – they are damaging values but not so badly
- ⚠️ **Low** threats are *present but not seriously damaging values*
- ⚠️ **N/A** where the *threat is not present* in the protected area *or where something is happening but is not threatening the values at all*



Level one threats



- 11. Climate change & severe weather
- 5. Biological resource use in PA
- 8. Invasive & other problem species & genes
- 1. Housing & commercial development
- 7. Natural system modification
- 12. Cultural & social values
- 10. Geologic events
- 9. Pollution in/entering PA
- 4. Transportation & service corridors
- 6. Human intrusions & disturbance
- 2. Agriculture & aquaculture
- 3. Energy production & mining





Climate change – 93% of Pas

The coastal road to Pokili WMA has been eroded and the coastline has retreated many metres, threatening houses and infrastructure



© Ann Peterson

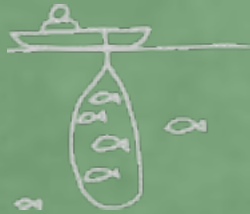
Torricelli Mountain Range proposed CA is typical of many protected areas: *“Everyone knows that climate change is happening – there are no sceptics in the community”*.

In Pirung WMA, *“people are talking about climate change - they are seeing it”*.

The most frequently reported aspects of climate change were **temperature extremes**, **storms and flooding**, drought, and **sea level rise**

“... Before there were seasons, but now everything is out of season. Storms and flooding can come at any time – unexpectedly...Saltwater is intruding into the wetlands. ...six to seven kilometres upstream (in the past it was only two to three kilometres)... The native fish are almost gone (no prawns) and the birds that eat them are gone” Tonda WMA

Biological
resource
use– 90%
of PAs



Decrease in sustainability
due to
population increase
poor law enforcement
outside influences
increased technology

Most common: Hunting/collecting terrestrial animals and fishing/harvesting aquatic resources

In Klampun WMA “hunting takes place, but is governed by traditional rules and the impact is low. There are allocated places for hunting and restrictions on the number that can be killed”.

The increasing human population is noted to result in greater hunting pressure and this is a threat to wildlife (Neiru WMA).

In Nuserang WMA, because there is no patrolling, people enter the WMA and hunt a range of wildlife.

In Tonda WMA, wildlife is poached and sold to merchants in Indonesia.

In Iomare WMA the use of guns has allowed hunters to kill more animals than using bows and arrows.



Invasive species
Pest plants and animals

88% of PAs

tilapia

climbing perch

carp

Giant snails

Wild dogs

Cane toads

Libano-Arisai: "We are catching plenty of tilapia and not so many native fish".

"Piper aduncum: spread by flying foxes and cuscus. This species can invade, dominate and cover plants, especially in regenerating forest and fallow areas, and is likely to have a high impact on both agricultural production and biodiversity"

Water hyacinth

piper

Mimosas

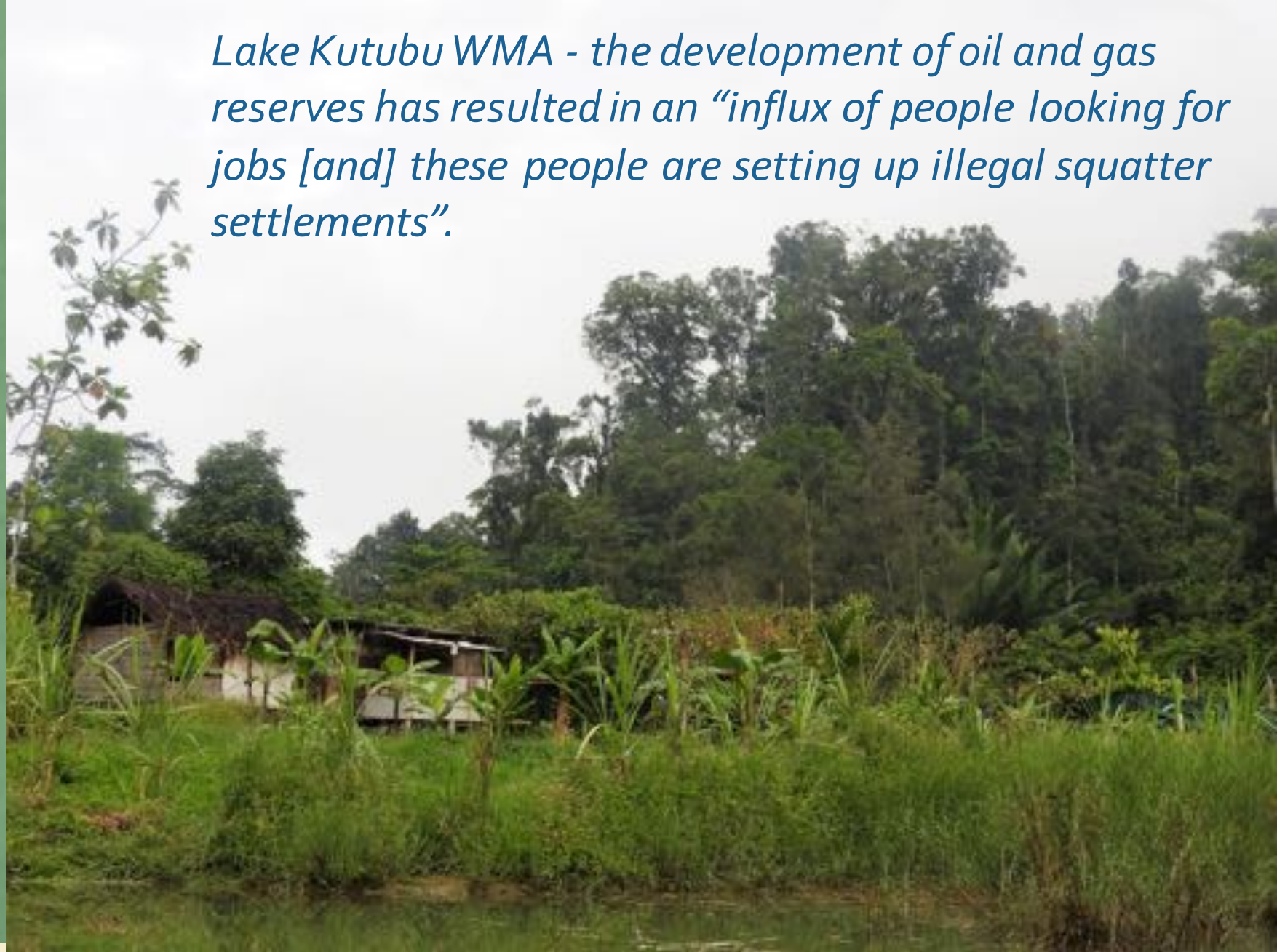
Invasive vines

Housing and commercial development – 86% of PAs

Increase of population main issue, combined with lack of law enforcement –

Threat from ‘outsiders’...

Lake Kutubu WMA - the development of oil and gas reserves has resulted in an “influx of people looking for jobs [and] these people are setting up illegal squatter settlements”.



...and populations increasing within the communities



“Most people have from four to 10 children and the increasing numbers are a threat to the marine resources. For example there is overfishing. ...This [housing and settlement] is a high threat because population is increasing and as a result the bush needs to be cleared for new houses.” (Laugum WMA)

Tonda WMA : “In the time of our fathers, people lived in a village, but now people are moving out of the villages to create their own settlements throughout the WMA (i.e. bush camps) and this is a problem especially with the expansion of gardens and hunting. This also creates disputes over land ownership.

Loss of culture and traditions– 81% of Pas



In Laugum WMA people spoke of “a loss of knowledge of the names of fish, corals and other species ... Tok Pisin is not good enough to communicate these values”.

Horseshoe Reef WMA “we have lost many of our traditions including our fishing methods, especially the taboo times for fishing ... and [there is] some decline in customary sports of canoe racing”.

Tonda WMA cultural practices and ceremonies associated with the yam season are dying out and this, as well as the loss of other traditions “makes us sad”.



Mining - threat or potential threat to 81% of Pas



At Lihir Island PA, a Special Mining Lease was granted after the gazettal of the protected area and the respondents reported that this has caused loss of vegetation, backfilling of the land and stockpiles.

In Crater Mountain, mining is undertaken within the WMA and there are several mining exploration permits over lands within the WMA: “these have been granted despite the area being gazetted as a WMA”.

Pollution– 69%

In some cases, this appears to be a very serious threat to people and the environment

Tonda WMA

respondents in relation to effluent from the Ok Tedi mine: “people call this the genocide of our people”.

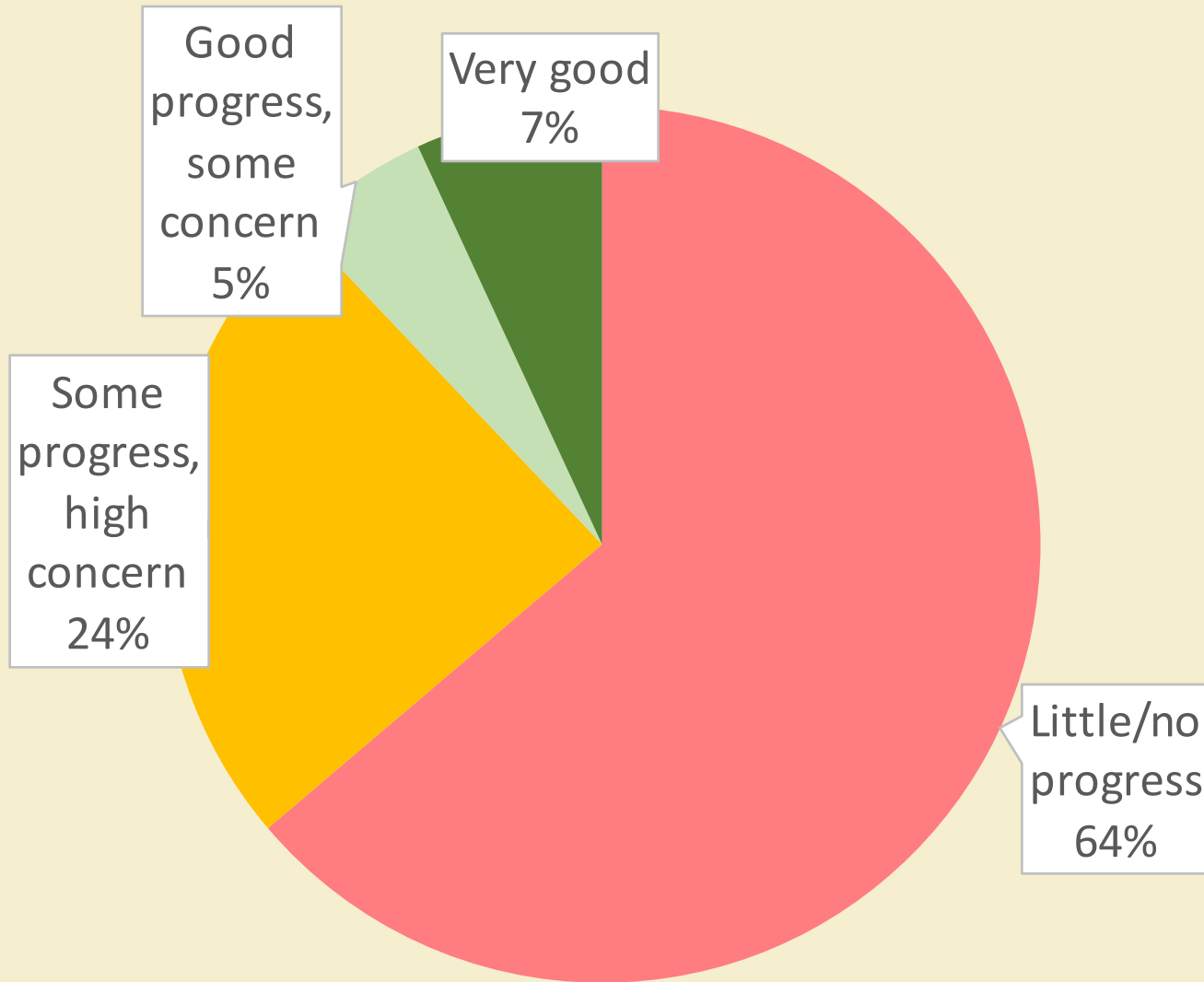
“The effluent is causing health issues ... arsenic, cadmium and other heavy metals... is in sediments and the fish and affects human health ...All young people in the 14 villages have severe problems in their joints – they think it is witchcraft.” (Maza WMA)

“Ok Tedi mine has effluent that enters the WMA. This causes health complications (e.g. birth defects and deformities and skin growths). There is a gas that comes up through the river (it bubbles) – it smells and kills prawns – we don’t know what it is. There needs to be a water management plan in place to minimise the impacts.” (Tonda WMA)

2c Management effectiveness

How is management doing?

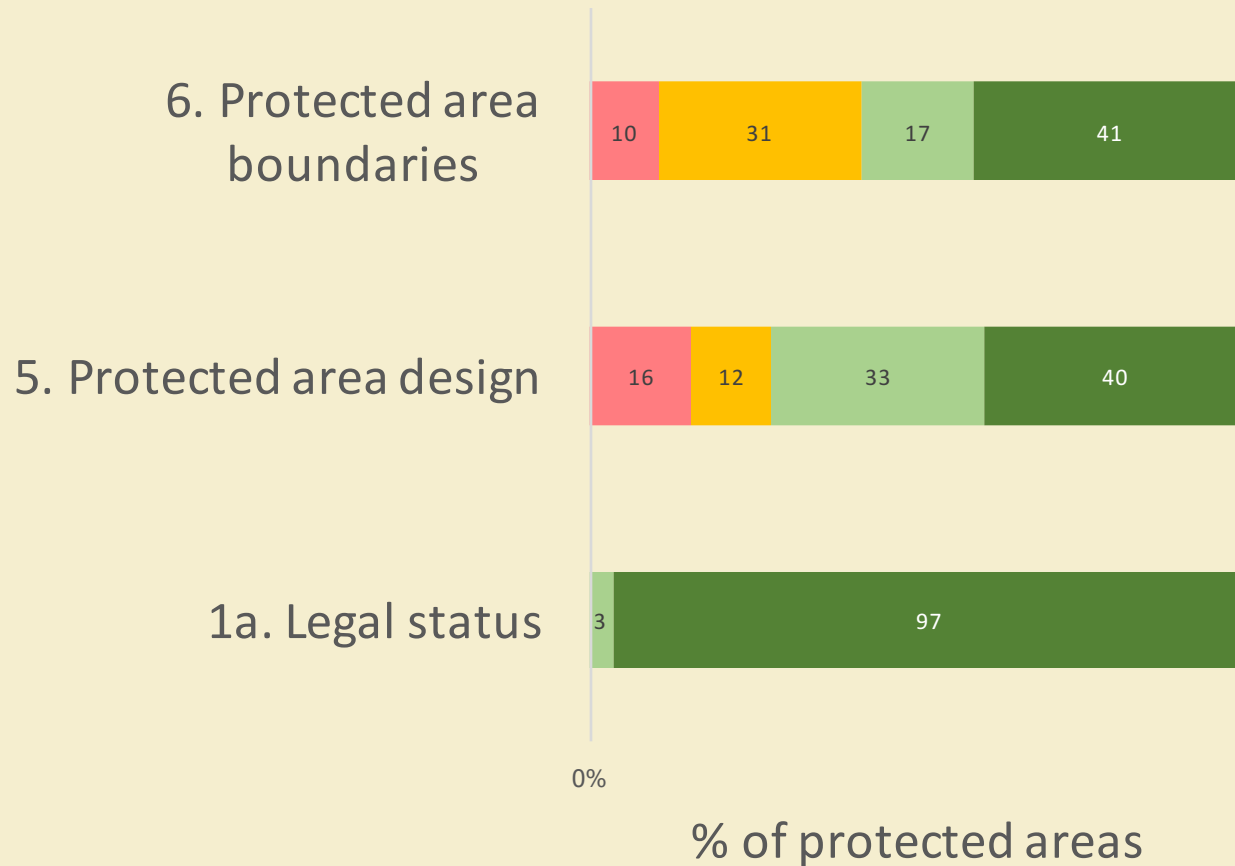




Most protected area have very little progress in management.

Four protected areas, all with external funding and assistance, are doing well.

Design and establishment



Protected areas have been legally gazetted and many have a design that doesn't impede management. Some communities would like their Pas expanded.

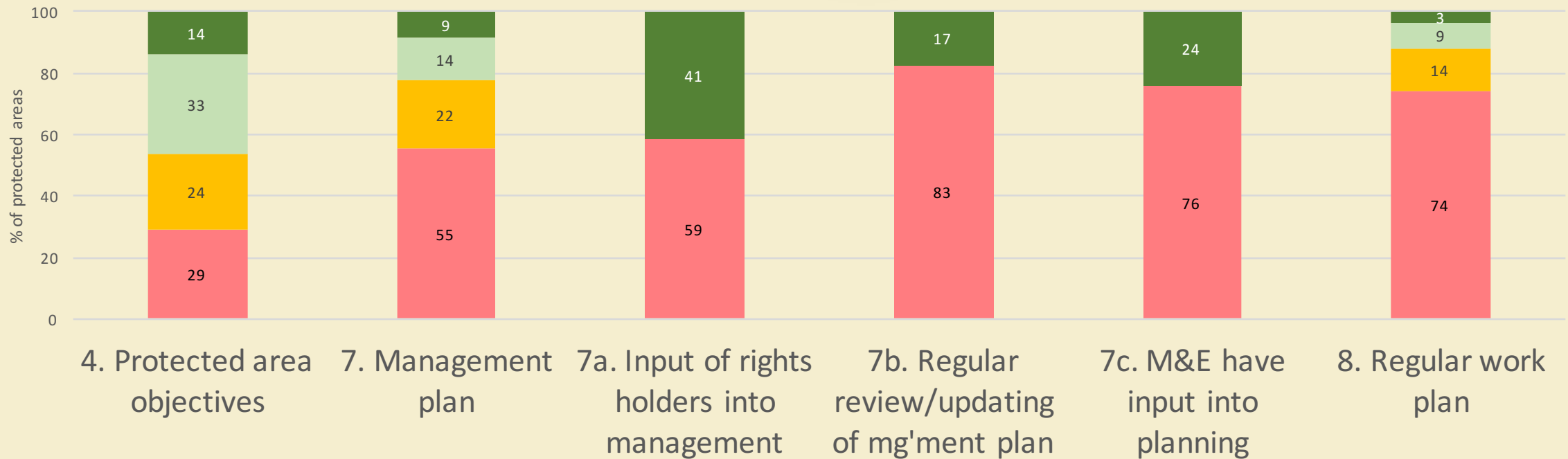
Overall this is the strongest part of management, but boundaries need work.

"CEPA may know the boundaries, but they are not marked on the ground and are not respected by the community. There are illegal settlers within the park." (McAdam NP)

Planning and objectives



Mixed results – most plans are old and out of date. Needs major effort.

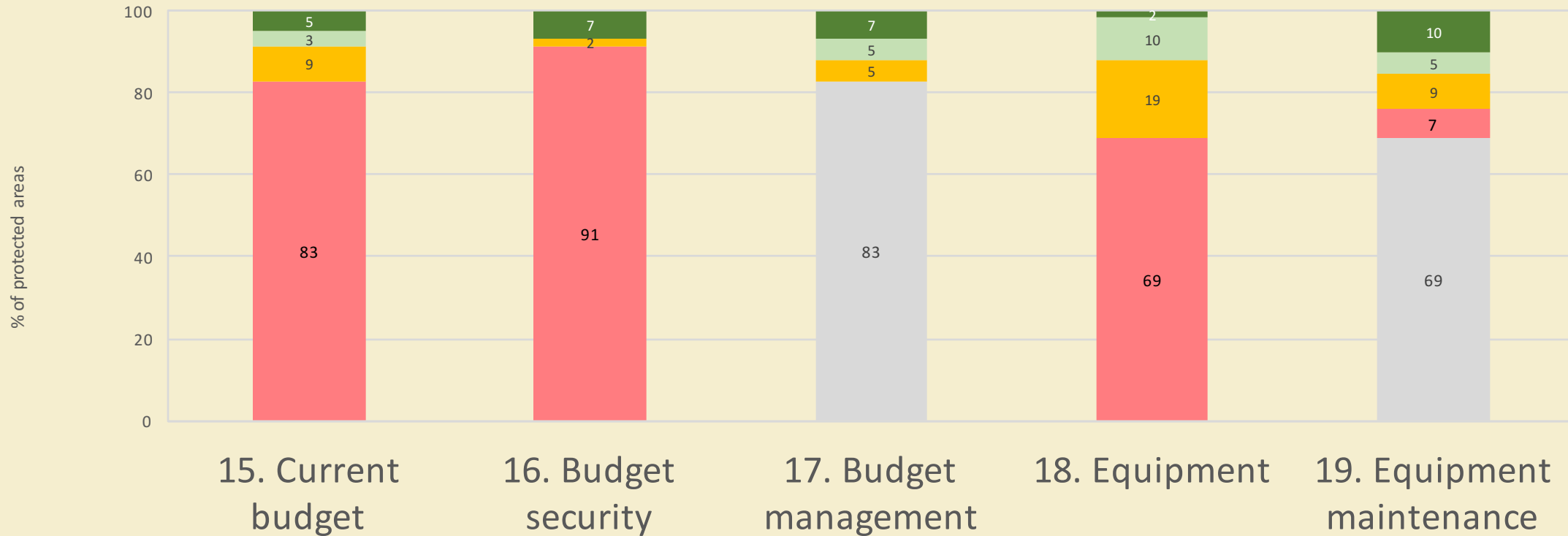


“The management plan was written in about 1973 (i.e. before gazettal in 1977).” (Balek WS)

Budget, infrastructure and equipment

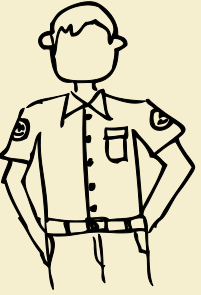


Overall, very poor. Most PAs have no budget and no equipment



“Lack of funding is an important constraint on achieving effective management outcomes.” (Mojirau WMA)

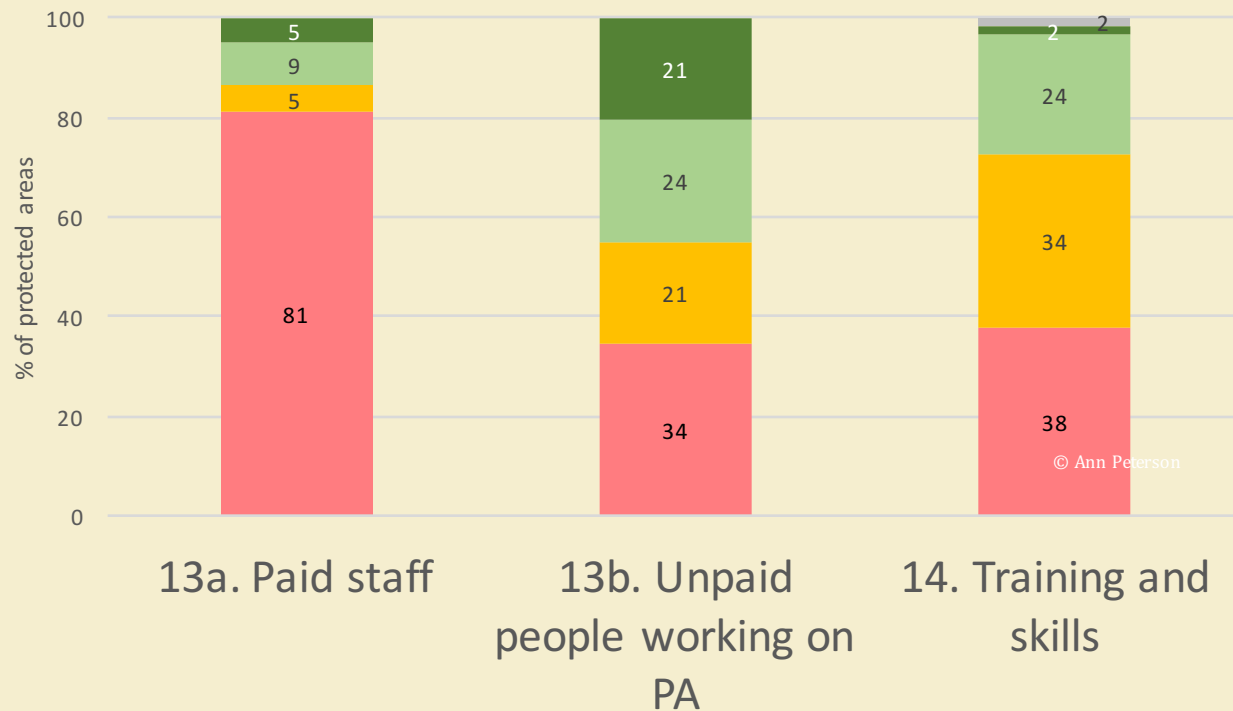
“The Kokoda Track HR receives annual funding from both the Australian Government and PNG Government to maintain the Kokoda Track and provide benefits to the local landowners”



Human resources

Most PAs have no paid staff

Many have community members doing some work on the protected area.
Training and skills mostly poor.





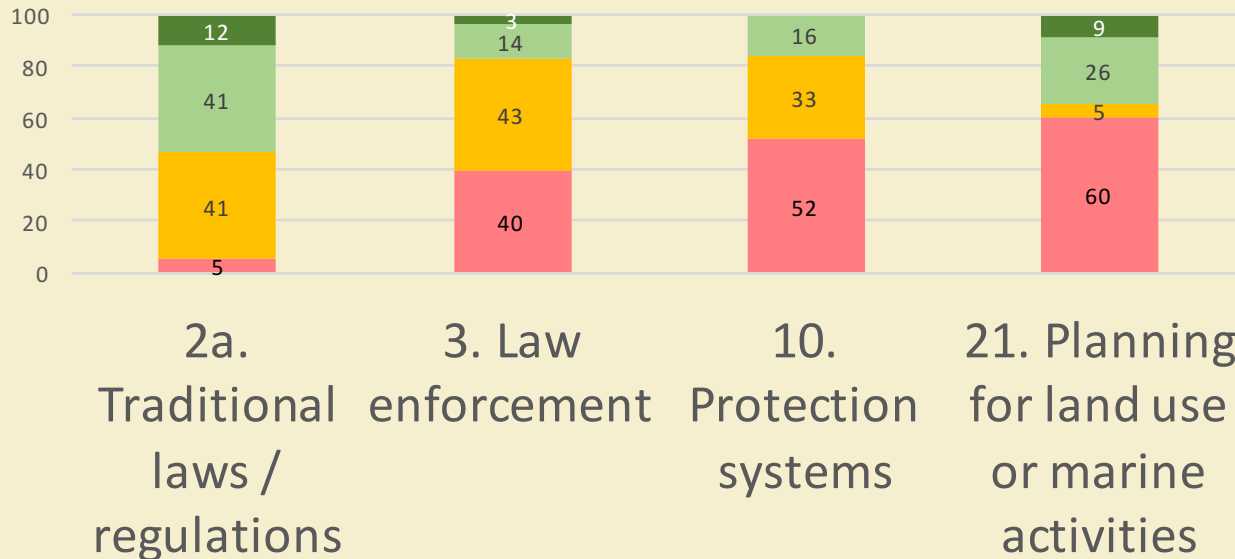
Legislation, enforcement and protection



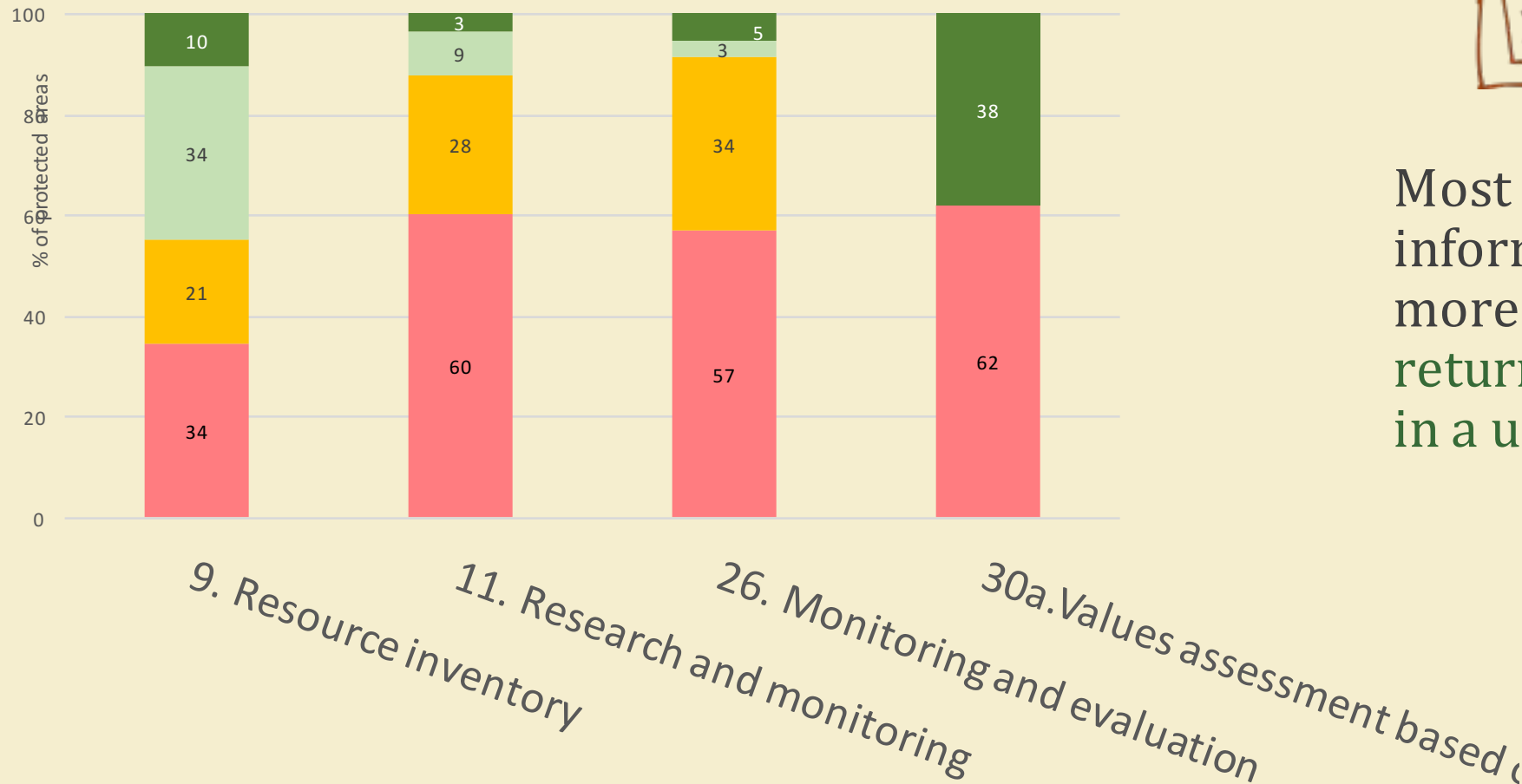
Most PAs have no capacity to patrol or enforce the laws within their communities or with outsiders.

This undermines effectiveness and causes frustration.

In Mt Kaindi WMA, rules “originally imposed a prohibition on lighting fires, cutting trees, killing fauna, developing new gardens, building new houses and mining for gold ... most of these rules are not adhered to due to the illegal settlers who garden, hunt and remove timber”.



Information, inventory and research

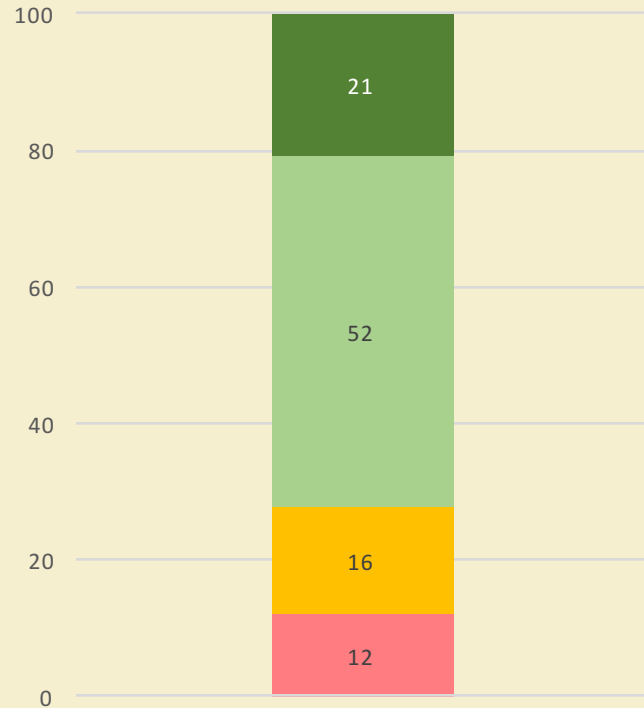


Most PAs have some information – but need more up to date research returned to the community in a usable form

Graphs for rest of the questions are in the report – most processes are rated poorly



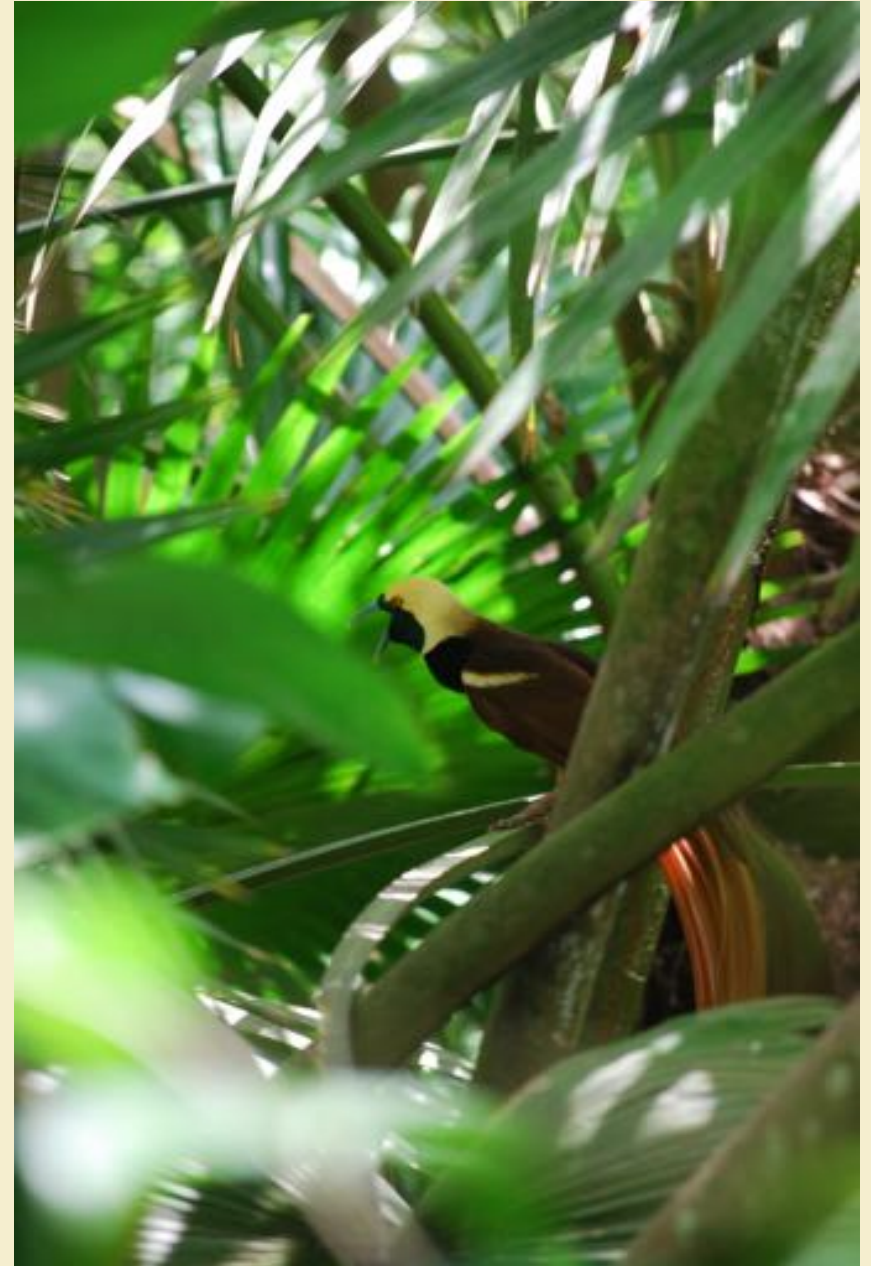
Condition of values



30. Condition of values

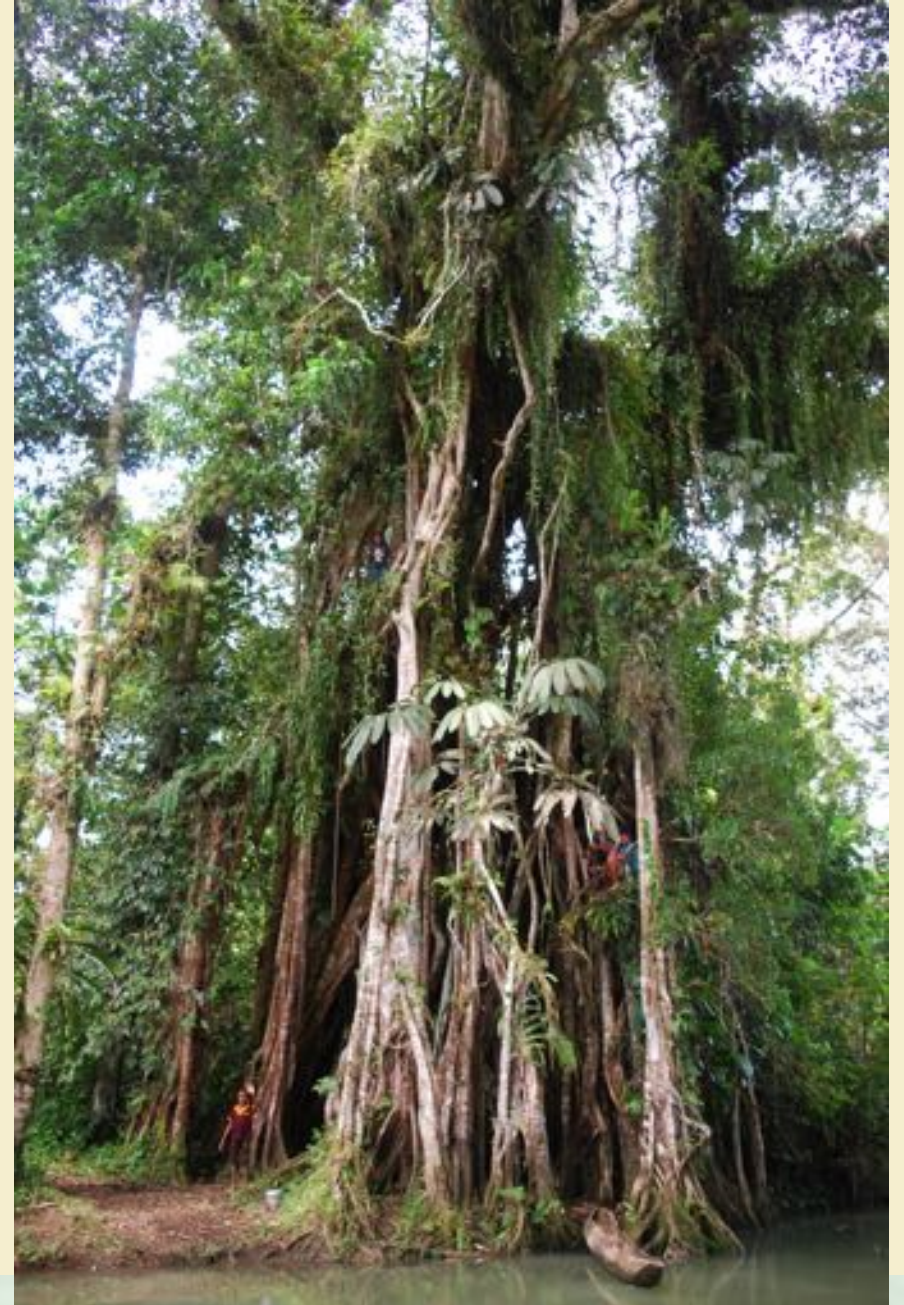
In spite of lack of management capacity, most protected areas were considered in good to very good condition.

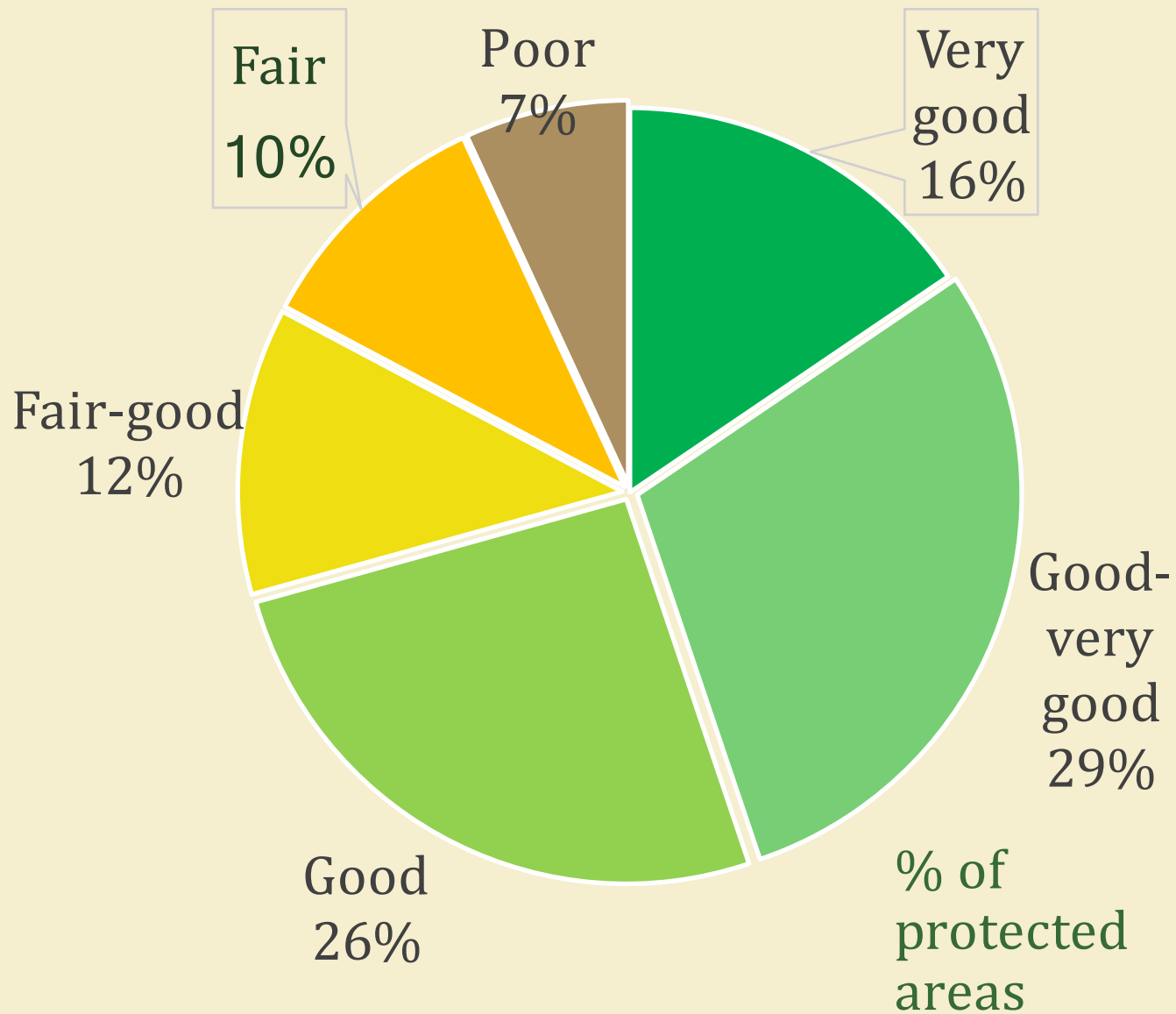
More detailed analysis to follow



2d Condition of values

*How is the state of the protected areas?
Natural and cultural values*



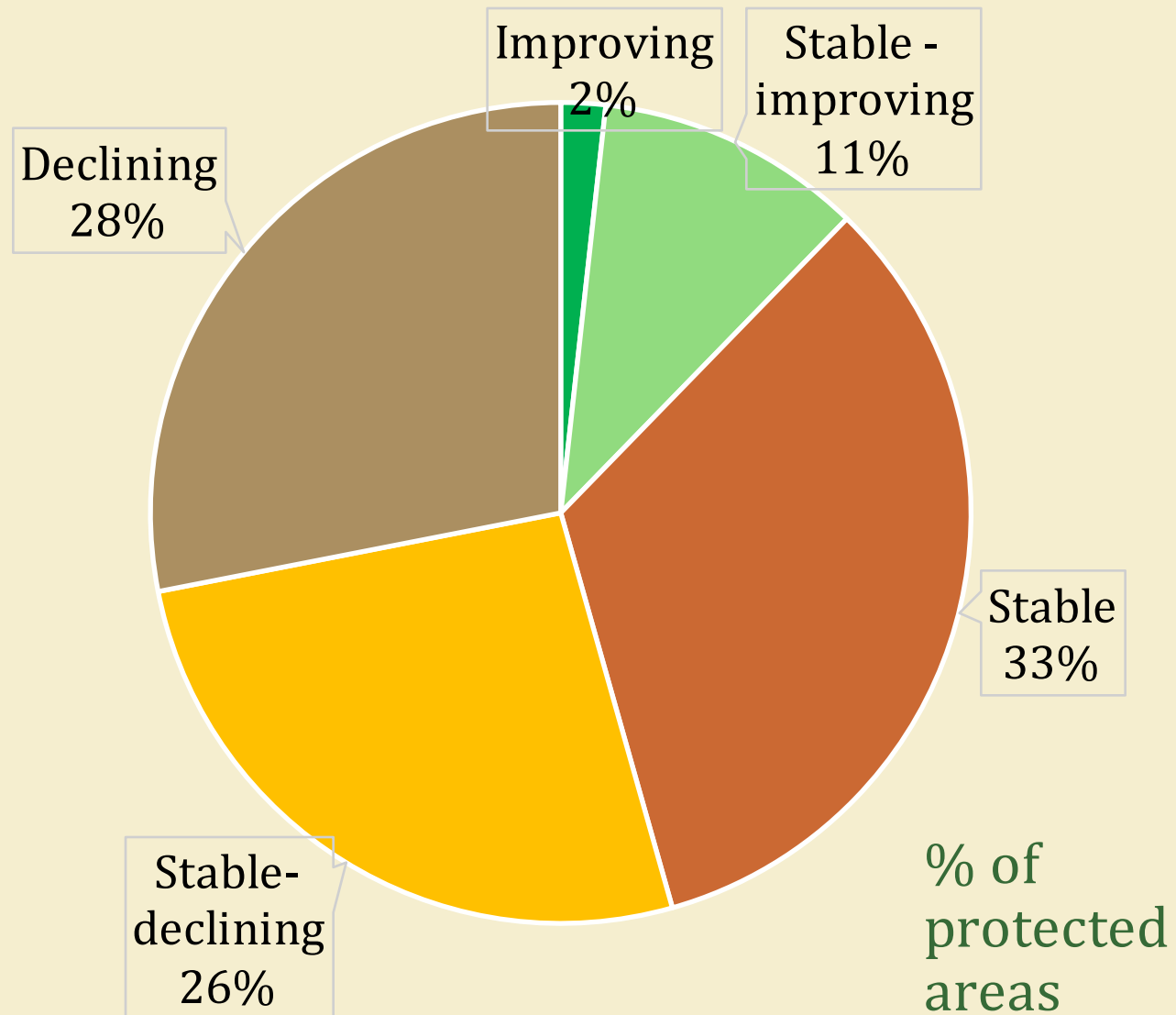


Individual values were 'rolled up' to give an overall picture for the status of each protected area.

71% of protected areas estimated in good – very good condition (closely matches question 30)

BUT

by area only 45% in good to very good condition. Two major, large PAs (Tonda and Maza WMAs) rated as only in fair condition, due to multiple threats and lack of law enforcement capacity.



Trend – mixed but slightly more than half the protected areas have at least some values that are declining.

3a Recommendations from the participants



1. Increase input from all levels of government

2. Implement management actions, including management plans

- management committees,
- on-ground ranger workforce,
- clarifying boundaries
- providing basic facilities and equipment;



3. Develop skills and capacity of protected area managers

4. Implement awareness raising and education programs to build support for the protected area;

5. Improve communication among all relevant stakeholders

6. Improve protected area legislation and improve enforcement capacity.

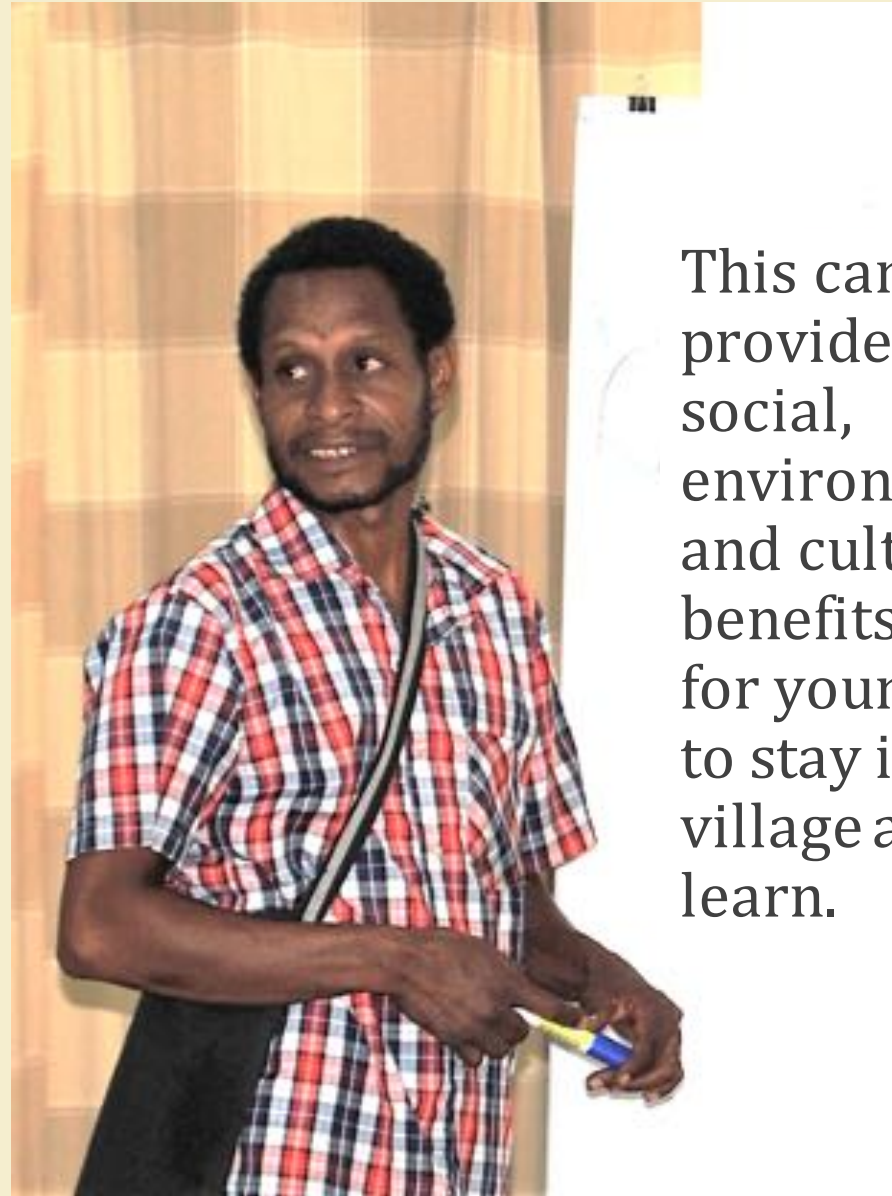
Great concern for the future of the children and future generations

Wish lists from the field

- “Provincial and local level governments should be involved and provide funding (e.g. from strategic improvement funds).” (Garu WMA)
- A small investment of money by government would encourage the community “to make more money to help the WMA”. (lake Lavu)
- “CEPA needs to provide guidance and advice on linkages and networking in relation to funding opportunities with potential donors.” (Kamiali WMA)



- *“... a great need to employ full time staff to manage the people’s WMA and ensure the people’s environmental conviction is defended, protected and materialized.” (Klampun WMA)*
- *“Seek support to employ full-time ground staff within the WMA ... My long experience with management committee members and a community-based enforcement structure is that **these people want to be paid or accorded some recognition by the state.**” (Crater Mountain WMA)*



This can also provide big social, environmental and cultural benefits – jobs for young people to stay in the village and learn.

“Training is needed : conservation training (basics of conservation, ranger training to enable people to explain what is happening in the environment)

- ecotourism training (hiking, trekking, birdwatching, safety)*
- hospitality training and food provision for the proposed tourist facility; administration skills*
- IT; finance, budgeting.” (Mojirau WMA)*
- “... consider training in first aid, emergency procedures, radio communications and map reading and consider the development of a peer mentoring program. Consider the introduction of a porter accreditation scheme to provide basic training and qualifications for porters” (Kokoda Track/IPZ)*





People did **not** expect the government to do everything –they came up with many actions they had to do themselves. But they are asking for sustainable support, advice and resources.

Key outcomes for CEPA

- Better understanding of all protected areas and their management
- Be able to set management priorities for the future; and
- Better understanding of what makes for a successful protected area.

3b The way forward



KLAMPAH WILDLIFE MANAGEMENT AREA

- Uphold & MAINTAIN CULTURAL VALUES (Core Values)
 - > Special species of trees (eg: kamri pine)
 - > Caves & Masala, place
- Promote Sustainable and Self-reliant's livelihood.
 - > Traditional Knowledge for survival based lifestyle
 - > Gardening, housing, fishing, etc skills and abilities.



Our conclusion:

In spite of many threats and impacts, most protected areas still contain many of their original values in **good to very good condition**, and **most customary landowners are supportive** of the protected area model over any other form of land/sea use.

Hope remains, and there are models of effective interventions on the ground. However, **clearly defined and enforced protected areas must be backed by active management committees and a reliable ranger workforce**, and establishing this must be the responsibility of all levels of government with CEPA playing the key role.

Tenkyu

