

ENSURING RESILIENT ECOSYSTEMS AND REPRESENTATIVE PROTECTED AREAS IN SOLOMON ISLANDS

REVIEW OF RANGERS PROGRAM AND DOCUMENT FINDINGS



Photo: Sosimo Narasia

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ACRONYMS

ACMP	Arnavon Community Marine Park
CBC	Community-Based Conservation
CBO	Community-Based Organisation
CTA	Chief Technical Advisor
DSE	Development Services Exchange
ECD	Environment Conservation Division
EREPA	Ensuring Resilient Ecosystems and Representative Protected Areas
FGD	Focus Group Discussion
IUCN	International Union for Conservation of Nature
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
KAWAKI	Katupika (KA) Wagina (WA) Kia (KI)
MECDM	Ministry of Environment Climate Change Disaster Management & Meteorology
PA	Protected Area
PAA	Protected Areas Act
PAAC	Protected Areas Advisory Council
PMU	Project Management Unit
PPC	Provincial Project Coordinator
SICAN	Solomon Islands Climate Action Network
SIRA	Solomon Islands Rangers Association
SOP	Standard Operating Procedures
SWOT	Strength Weaknesses Opportunities Threats

1. INTRODUCTION

Globally, ecosystem services and biodiversity are critical for the wellbeing of millions of people around the world (IPBES 2019). However, global biodiversity is in decline (IPBES, 2019; Sanborn & Jung, 2021). This is a problem for communities who depend on the environment for sustenance (Cohen et al., 2016). According to the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) report, released in 2019, most ecosystem and ecological communities showed net decline in the last few decades. The report predicted the trend would continue. Diaz et al. (2019) reported that 75% of the land surface significantly altered and 66% of the ocean experienced increasing cumulative impacts resulting in serious decline in species abundance in both the terrestrial and marine biomes. The report signalled serious problems associated with biodiversity loss. First, the future scenarios contained in the IPBES report predicts significant impacts on human wellbeing (Karki et al., 2018; Diaz et al., 2019). Second, exacerbated by climate change, ocean acidification and exploitative depletion of resources, experts expect the dwindling state of biodiversity conservation to lead to scarcities in food and water, increase in infectious disease, and increased conflicts (Sanborn & Jung, 2021; Butler, 2018; Bowles et al., 2015; Pecl et al., 2017). Third, those communities that are already the most marginalised may be disproportionately affected (Adger et al., 2003). Ultimately, with climate change impacts, the demise of ecosystem and biodiversity conservation would see global poverty reduction efforts stall and environmental degradation worsen (Shin et al., 2022).

Nationally, Solomon Islands State of the Environment Report (2019) highlighted that terrestrial areas managed for conservation is in a poor state and showed a deteriorating trend, overall. The report found that while many rural communities actively engage in managing some forest and marine areas, logging and mining developments remained a threat. In 2019, Solomon Islands secured only 3% of land under conservation programmes. Only recently, communities declared terrestrial areas as formally protected under the Protected Areas Act 2010. In many ways, the report highlighted national strategies and legislative interventions to address biodiversity threats. One of the recommendations was the ‘implementation of GEF5 and GEF6 Projects which promote sustainable land-use planning, sustainable forest management and the establishment and management of protected areas’ (SOE, 2019, p.102). The same report recommended ‘review and update the Protected Areas Act 2010 and its regulation (2012) to

address gaps in enforcement (fines, incentives, for rangers/inspectors and management committees)’ (SOE, 2019, p.102).

Aligning with the above call, the GEF6 Project, titled ‘Ensuring Resilient Ecosystems and Representative Protected Areas in Solomon Islands’ (EREPA), responds directly to the issues highlighted in the State of the Environment Report, published in 2019. Component 2 of the EREPA Project plays a critical role to address biodiversity loss. This component focuses on formal declarations of terrestrial PA’s and their effective management. Specifically, the project focuses on declarations for at least 50,000 hectares of Protected Areas’ (PAs) in four provinces. Guided by the Protected PA process, supporting organisations play an important role in the development, management, and sustainability of PAs. One of the important supporting organisations and or individuals are rangers. Rangers’ are men and women who actively engage in protecting and conserving nature and the key species under threat. While rangers are the ‘heartbeat’ of conservation programmes, they also face marked shortcomings and challenges. It is therefore important to develop ranger programmes that ensure competent, well-resourced and well-led ranger programmes in Solomon Islands. This review uses a SWOT analysis to decipher lessons learnt and insights on formal and informal conservation initiatives to inform EREPA-supported ranger program in its PAs in the four provinces.

2. BACKGROUND

2.1 Environment Conservation Division

The Environment Conservation Division (ECD) is the principle administrator of three main laws. The one of interest to this analysis is the ‘Protected Areas Act 2010 and its Regulation 2012. Under this law, the main functions of ECD involves identification, establishment, management, monitoring, evaluation, reporting, enforcement, supporting, and facilitating ‘conservation and PA work in Solomon Islands’. ECD defines PAs as ‘areas selected and protected because of their recognised local, provincial, national and international natural, ecological and or cultural values’ (ECD Presentation, 2024). Amongst other reasons, PAs are set up to ‘conserve and protect an area’s rich, special, unique biodiversity, nature and wildlife’ and ‘support the sustainable use of resources to meet livelihoods of communities and customary

landowners'. The PAA 2010 promoted five categories of PAs: (i) nature reserves; (ii) national park; (iii) national monuments; (iv) resource management areas; and (v) closed areas. Rangers play a legal role in the Act. The PA Regulation 2012, Section 66 (1) (a) to (e) outlined the power of rangers, for which, appointment is done by management committee. To satisfy this appointment; rangers must be member of the local community, group or tribe owning or having an interest in the area; at least 18 years old; and current employee of, or engaged by, the organisation managing the area. To date, a total of six PAs have been declared, (one marine PA and five terrestrial PAs) and 11 are in the pipeline.

2.2 Solomon Islands Rangers Association

The Solomon Islands Rangers Association (SIRA), established in 2015, is an important organisation supporting the work of community-based rangers in the country. SIRA's aim is to promote professionalism and be a premier organisation providing expertise in managing natural resources in communities and harnessing the power of its extensive membership and networks to reach the furthest ends of the country. Current membership stands at 160 covering xx provinces. SIRA's core values include; respect, honesty, justice, equality, humanity and culture. SIRA operates to satisfy six main goals:

1. To provide capacity to its members
2. To provide quality information to registered rangers
3. To ensure communities comply to management measures in place
4. To advocate on conservation work across Solomon Islands
5. To provide training to its members on their roles and responsibilities to address environmental impacts
6. To ensure the organisation is governed robustly and financially sustainable.

SIRA provides a range of services to its registered members. Some of these services included capacity building in governance, leadership, networking, advocacy, and supporting community-based conservation initiatives, in basic technical training.

2.3 EREPA Project

The GEF6 Project titled ‘Ensuring Resilient Ecosystems and Representative Protected Areas in Solomon Islands (EREPA) focuses on critical areas of biodiversity and land degradation. EREPA is a four years project, implemented by International Union for Conservation of Nature (IUCN), with the Ministry of Environment Climate Change, Disaster Management and Meteorology (MECDM) as its leading executing agency. The overarching project goal is to ‘establish an effective network of protected areas to achieve healthy, productive and restored landscapes’. To achieve this goal, the three main objectives are to: (i) support local communities to formally declare terrestrial protected area; (ii) promote the adoption of improved livelihood through improved agricultural practices and sustainable natural resource management; and (iii) establish an effective network of protected areas. The MECDM implemented EREPA Project in Guadalcanal, Temotu, Renbel and Malaita Province. EREPA project has three main components: (i) Component one focuses on enabling mechanisms for integrated terrestrial ecosystem management and restoration; (ii) Component two focuses on formal declaration of terrestrial protected areas, and their effective management; and (iii) Component three focuses on improved land management, agriculture practices and restoration interventions in rural production landscapes. The review of current rangers programmes falls under component two, output two, which specified, ‘a national Protected Area Network (PAN) including all PA sites and PA actors (e.g. rangers) developed.

3. METHODS

This review of current rangers programs adopted a qualitative method. Specifically, it drew on three main methods to collect data. They included: 1) workshop; 2) key informant interviews using a panel; and 3) Focus Group Discussion (FGD) as described below. Workshop organisers conducted the workshop consultation and interviews in Solomon Islands pidgin. The CTA identified participants through snowballing and request for participation made by email. SWOT analysis was used and further coding and categorisation into themes under SWOT themes. The FGD group responded to six questions and four for the key informant interview (in a panel style). The CTA selected key informants based on long-term experience and formal status in PA. The sections below provided the method details.

3.1 Workshop

The rangers' consultation was conducted in a workshop setting. The PMU team organised a whole day workshop on 14 May 2024, from 8:30 am to 4:30 pm. The three main sessions in the workshop were; (i) official remarks and background presentations; (ii) focus group discussions; and (iii) key informants interview (panel style). Director, Mr. Josef Hurutarau, officiated the workshop by giving the opening remarks.

3.2 Focus Group Discussion

The FGD groups responded to six questions (see appendix 9B). Participants were organised into three focus group discussion (FGD) groups for the one day workshop. The three groups were: (1) formal PA rangers; (2) proposed PA rangers; and (3) community-based informal PA rangers. FGD group's responses were recorded on flip charts. The questions focus on the role of rangers, changes in the role of rangers, strengths of current rangers programmes, shortcomings and challenges, opportunities and threats confronting rangers and rangers programmes.



FGD Group 3: Community-based rangers in informal PAs. Photo: Sosimo Narasia

3.3 Key Informant (Panel discussion format)

The key informant panellists included rangers from formal protected areas and two representatives from the Solomon Islands Rangers Association (SIRA). The panellist responded to four questions (see appendix 9C). The questions covered areas of decision-making role of rangers, behavioural transformation, codes of conduct and disciplinary matters and sustainability of ranger programmes in the future.



Key informants responding to questions in a panel discussion. Photo: Sosimo Narasia

3.4 Workshop Objectives

The objectives of the workshop were to:

- explore the rangers experience in implementing and supporting community based conservation initiatives and Protected Areas (PAs) and draw lessons learnt and insights
- put in place the key structure for the design of a rangers program in project sites in Guadalcanal, Temotu, Renbel and Malaita;
- implement the new rangers program in the new protected areas to ensure that responsible agents are in charge of conducting management activity and monitoring

3.5 Participants

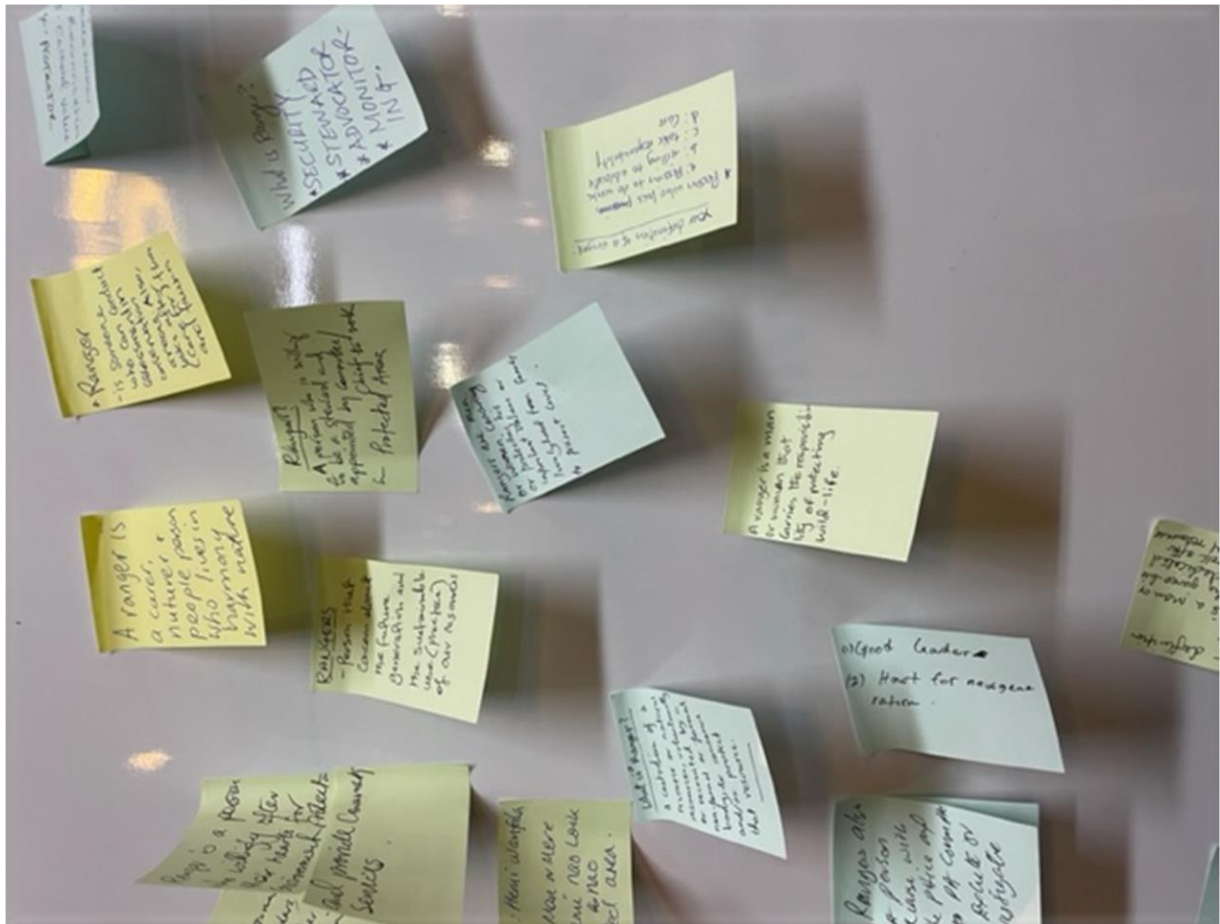
Excluding PMU staff, 24 participants attended the workshop and agreed to provide information for the purpose of analysis. The participants represented 10 conservation programmes. Four participants represented formal PAs and 20 participants represented informal or proposed PAs. Female participants accounted for 16% (four) while 84% (20) of participants were male. Participants experience in conservation programmes, as rangers or coordinators, range from four to 29 years. Participants' educational level range from high school leavers to university graduates. All of the rangers belong to tribes or clans, except for one participant from Wagina who is a migrant to Solomon Islands in the 1960s.

4. LESSONS LEARNT AND INSIGHTS FROM THE CONSULTATION

4.1 Categories of ranger based on participants definition

Participants were asked to define the term 'rangers' based on their experience and their role as rangers. There was no standard definition given by participants. However, three main strands emerged from participants definition of the term 'ranger'. The first strand captures a scientific and ecological view that resonates with a Western perspective as someone with practical skills to do monitoring, biodiversity assessments and scientific surveys on important species on flora and fauna. This perspective reflects the Protected Areas Act 2010's definition of a range. This definition focuses on the performative functions of rangers. The second strand captures a social-cultural perspective where a ranger is a protector of their land, peacemaker and reconciliatory. A ranger safeguards community livelihood while protecting wildlife simultaneously. This perspective evokes ranger's agency in the integral connection between humans and wildlife or nature. Under this strand, a ranger is a defender, a protector of both the land and the people. The separation of people from the environment or the weakening of this connection invites conflict. In such situation, a ranger's role is to main peace, reconcile and safeguard both people's livelihood and wildlife. This strand of definition focused more on dynamic functions of rangers. The third strand reflects a stewardship perspective, where a ranger is a; carer, nurturer and people-person who practices living in harmony with nature. A ranger is a person with passion and heart for community services, and the voice to the

‘voiceless’. A ranger ‘is a person who has passion, willingness to advocate, take responsibility to care’. The stewardship perspective is more philosophical, inward, and value-based functions of rangers. Ultimately, this demonstrated that rangers do not come in one-size. The categories have implications for ranger’s capacity building, recruitment and incentive structures.



Participants’ definition of the term ‘ranger’ based on their experiences in their PAs. Photo: Kristina Fidali

4.2 Evolving nature of the role of rangers

The role of rangers is not static. It appeared to evolve along with the development and growth trajectory of a PA. For example, rangers predominantly started with supporting, engaging and assisting scientists and technical specialists in baseline studies, biodiversity assessments, boundary mapping, community consultations and advocacy. These activities are episodic activities. These activities are one-off assessments and do not re-occur and therefore the role of rangers in this context is episodic. As development and growth in PAs continue to be built, the role of rangers becomes more focused on the operation of the PA and less on community

advocacy. Therefore, resources tend to be focused on a narrow range of activities. For example, resources tend to be used on operations of rangers equipment maintenance, operations for the administration of the work of rangers, monitoring activities, and less resources are committed to ensure continuity in community advocacy, engagement and awareness. These shifts occur overtime as the PAs become well established as institutions or organisations. They also tend to have a much bigger appetite for resources and shift in responsibilities become narrower. Their role becomes more about seeking funds, writing proposals, developing partnerships, networking. In the shift, an invisible competition emerged between addressing social needs (people's and communities) and ecological needs of species of interest and PA. These shifts may also create distrust, cynicism and scepticism. Resultantly, rangers' roles such as conflict management, peacemaking, building trust and strengthening community cohesion will prove to be critical for successful PA management.

Roles and responsibilities during the PA process	Roles post the PA process
<ul style="list-style-type: none"> • Involvement in PA process • Enforcement of management plan • Monitoring/patrolling • Assist scientists to do research <ul style="list-style-type: none"> - Marine surveys (A) - Terrestrial biodiversity surveys - Forest inventory - Boundary Mapping • Data collection • Awareness raising and advocacy • Support technical experts • Role model in environment • Socio cultural knowledge about land • Community communication from partners to the rural communities • Research assistant • Networking • Proposal development 	<ul style="list-style-type: none"> • School students field trip • KAWAKI involvement • Indigenous education • Retreat/holiday • Increase role in operations and less in community awareness • Leadership roles and management • Gender equality • Community educator • First aid knowledge and skills • Translate information into action • Gain new knowledge and skills • Networking • Proposal development • Tour guide • Eco-tourism activities • Turtle rodeo • Cruise ship visits

4.3 Strength of rangers programs

4.3.1 Traditional knowledge about land

Traditional knowledge about land is a core strength about ranger programs in conservation initiatives. Rangers identified traditional knowledge about land as an area of significant strength in rangers program. This comes from the fact that community people have drifted away from their traditional way of living due to modernity; living away from home; leaving home for work; and living home for education. Conservation programmes, for young rangers, are opportunities to reconnect to their land, environment and natural resources. The PAA 2010 requires tribes to consult dialogue and demarcate or map their traditional boundaries. Step seven in the PA process deals with boundary mapping. A young ranger from Kira PA involved in the process attested to the uplifting experience of better understanding of their land when dealing with their genealogy, history, landownership and sacred connection to the land and ancestors. Comparatively, extractive activities such as logging or agriculture farming, unlike PAs, do not have the same effect of delving deep into culture and tradition related to tribal lands. Traditional knowledge about land is therefore a core strength for rangers program in PAs - it pays dividend in restoring the younger generation's relationship to their land.

4.3.2 Trust building and confidence

One cannot build a rangers program without building relationships and trust between tribal members and non-tribal members in the PA process. The coming together of different stakeholders (core and supporting stakeholders) to develop management plans and conservation rules, mapping boundaries, and advocacy, requires trust building. The long PA process offers the chance to build relationships and enhance trust between stakeholders including rangers. Relationship building reconnects young indigenous rangers to their tribal lands. Acquiring knowledge about their tribal ancestry and practices increase their confidence and representation of their cultural values outside of their immediate PAs, making them trusted and confident ambassadors.

4.3.3 Better understanding of threats

Another strength in rangers program is in better understanding of threats. Under normal circumstances, tribal landowners use natural resources and may not necessarily require of them to understand the extent of threats to the biodiversity, society and people. Better understanding of threats in biodiversity, social ecological needs, climate change impacts and cultural barriers informs better decision making and potential adaptive management of threats. Rangers identified that threats always exist in one form or another and conservation efforts is never free of threats. Understanding the nature of threat, for rangers, is important to enhance manage interventions that build, manage or restore resilience in the PA system.

4.3.4 Behavioural change

An important strength of rangers program is individual transformation in personal behaviour. Some of the rangers started as rangers work to keep them busy and avoid delinquency. Young rangers who were guided, well-led and mentored experienced personal transformation in their attitude and behaviour towards life. They become useful leaders, inspiration to other young rangers and living testimony to life changing journey in conservation work. As such, the strength of a rangers program is to cultivate the opportunity to mould and influence young rangers to be the transformational leaders of PAs in the future. To achieve this, the role of mentors and conservation leaders are critical.

4.3.5 Traditional governance

Governance in PAs starts from a strong traditional governance setting as the point of departure. Steps two, three and four of the PA process is the build up to the formation of the governance structure in the form of the management committee. In the case of Kira PA, tribal chiefs dominated the management committee. In the case of ACMP, government, NGO, women leaders, community and tribal leaders, constitute the management committee or the board. Rangers' engagement in PA governance varies between the formal PAs (ACMP and Kira). For example, in ACMP, the Park rangers are not formal members of the board. The Park rangers' engagement in the board is only consultative and informative. This means board members consulted the Park rangers when needed and they provide information to the board when

consulted. However, recently, Park rangers in ACMP sought the decision of the board to become formal members of the board, considering recent development whereby the newly introduced KAWAKI Women's Network attained membership in the board. Unlike ACMP, Kira Resource Management Area (RMA) rangers are formal members of the board. Kira's RMA rangers have a decision-making role and engage in a cooperative manner with equal decision-making role. Both ACMP and Kira installed tribal chiefs as chair of their respective management committees. The chairpersons adopted cultural sensibilities in their decision-making. However, the way management committees operate is non-traditional. For example, meetings took a contemporary approach whereby the conduct of the proceedings follows a set agenda written on paper and minutes produced. The board made decisions by consensus. Tribal board members preside over non-traditional areas of responsibility including scientific assessments, finance, budgets, strategic planning and monitoring. Central to this new governance set-up as attested by Kira and ACMP rangers, tribal leaders embraced the powerful principle of 'unity and oneness' or 'hikua' (working together) as in the local dialect of Kira Indigenous people. This type of governance builds adaptive capacity in the system through the agency of tribal leaders, including rangers, who move forward in their vision for building resilient PAs with their communities, while simultaneously bearing sacrifices and adapting autonomously to challenges.

4.4 Shortcomings and challenges in rangers programs

4.4.1 Poaching

Participants identified poaching as a major challenge in PAs. Poaching is an example of conservation resistance. Poaching refers to resource use against management rules stipulated by law or by collective agreement. Poachers see rules as an act of separating people as non-entities to the environment, resources, or places they once freely accessed prior to PA establishment. Poaching carries a high cost when law enforcement is weak. Limited economic incentives or lack of alternative livelihood income could exacerbate poaching in PAs. In the case of ACMP, poaching has been an issue for the last 29 years despite alternative livelihoods and eco-tourism initiatives been introduced in the PA. The fact that poaching continues to persist showed that poaching is a complex threat. Its drivers are also external and therefore community interventions are still insufficient to eliminate poaching. Poaching begs

management to focus on maintaining stability, which requires adaptive management in the PA. In addition, ACMP rangers perceive poaching as a threat to their safety as poachers physically and mentally confront rangers with stones and abusive words. Although the law protects rangers, it is not protecting their mental wellbeing. In ACMP, the slow response to infringements deflates the confidence of rangers to use law to defend the PA. Poaching requires multiple interventions – legal, social, cultural and financial.

4.4.2 Lack of technical capacity

The ACMP and Kira's experiences showed that management committees recruited individuals who have been involved in the PA process, as rangers. Resultantly, management committees do not strictly focus on technical capacities as recruitment criteria although the PA process require high technical competence. Rangers recruited by management committees required technical upskilling to engage competently in baseline surveys and assessments, boundary mapping and management planning as required by the PA process. This trend of recruitment does not mean that rangers recruited based on non-technical criteria are less useful. Rangers who are not competent technically are highly competent socio-culturally. Technical capacity is critical in the PA process. However, as the PA progress towards creating alternative livelihoods in communities, rangers with strong socio-cultural skills are essential. Similarly, rangers who embody care, commitment to protect, and respect for nature as stewards become critical. During the PA process phase, lack of technical capacity may delay PA process. For the purpose of fulfilling the PA technical requirements, many workshop participants called for recruitment and capacity building of rangers to start as soon as possible in the PA process, before it gets to step 5 (Prepare the maps) in the PA process.

4.4.3 Lack of financial incentives

In the same vein as 3.4.2, lack of financial incentives may undermine the role of indigenous rangers. A woman ranger and community-based conservation Coordinator claimed that she has to pass her financial responsibilities to take care of her two children because she is working mostly as a volunteer in her role. Most if not all community-based conservation organisations, do not receive funds to do conservation interventions. While incentive structure may change in the future, currently, it affects the momentum to pursue PA process with total commitment.

Long term PAs like ACMP, the management committee acknowledged rangers work with a \$420/month salary. In the last 29 years, the amount increased to \$2,000 plus per month. Participants from community-based conservation also claimed that in instances where rangers work as volunteers, they anticipated the process of establishing PAs to be slow. Here, rangers and conservation leaders juggle their volunteer work with other paid responsibilities to take care of their families. However, after the PA establishment phase, the role of rangers could become permanent. Participants' experiences showed a variety of incentive structures - some rangers received monetary incentives while others, non-monetary incentives, such as trainings, capacity building, exchange programs and community recognition. These experiences point to the need to support a variety of incentive structures to meet the need of both rangers and PA management.

4.4.4 Weak management

Rangers described their work as the “heart of conservation success”, but weak management stands in the way of this claim. The consultation workshop revealed that some PAs excluded rangers in decision-making, except for operational matters. The role of rangers revolve around operations - taking lead in monitoring, data collection, surveys, for example. Some of the PAs do daily monitoring. Other PA's do monthly monitoring, depending on the type of PA and resource system. The focus on instituting the work of rangers is important to strengthen management, but this varies based on context. For example, it took 29 years for ACMP rangers to submit proposal to become members of the board. Weak management of rangers program may be a factor in the delayed recognition of rangers in ACMP. Although rangers have standard operating procedures to guide their work, it is not enough to look after their wellbeing and safety. Weak management demotivates rangers. Some PA rangers expect to be part of the decision making body in their PAs but were not. In the case of Kira PA, rangers are included in the decision making body, unlike the ACMP, who continued to make the case that they should be involved in ACMP board, the highest decision making body. The consultation workshop showed that the management committee is the pinnacle of decision-making with ultimate power to make PA decisions. Weak management could have implications for quality decision-making and undermine the development of resilient PAs.

4.4.5 High expectation from communities

The PA process stands to raise high expectations on conservation leaders and rangers to deliver on the PA and community livelihood. Participants identified that many community people may expect to establish livelihoods before PA process is completed. Managing high expectation from communities is critical. Clear communication with community members is critical to understand the process; what rangers can and cannot do.

4.4.6 Low literacy

Effective performance of the role of rangers require basic numeracy and literacy skills. Participants identified that some level of education is essential. The role of rangers as per the PAA 2010 is technical, meaning it is not the same as traditional ways of managing resources, which involves dataless management. Some participants recognised that it is difficult to be an effective ranger if one does not have basic reading, writing and mathematics skills. However, not only literacy and numeracy skills are important. Cultural literacy is also important to know the traditional names of key species, for instance. It is important for the recruitment or appointment of ranger to consider basic literacy and numeracy, including cultural literacy.

4.4.7 Lack of equipment

Participants in the consultation workshop acknowledged that lack of equipment is a major constraint to the work of rangers. The work of rangers is critical for the success of any PA. Well-resourced and well-led rangers program stands to raise the capacity of PAs to succeed. Participants identified basic equipment for rangers include; first aid kits, boots, raincoats, uniforms, sunglasses, protective gloves, torch, safety kits, and standard operating procedures to guide rangers. Ideally, basic equipment enable rangers to operate in any PA.

4.5 Opportunities

4.5.1 Community empowerment

Notwithstanding the role of traditional landowners, the work of rangers is a new way of managing, exploring, informing, taking control and leadership in relation to land and resources at the community level. It empowers rangers, who are both men and women who engage in the activities to protect, conserve, defend, reconcile and promote the work of communities in natural resource management and protection. Some remote CBC's introduced tour guide work as interest in CBC increase. Others offer the opportunity to schools to learn from rangers and the environment, biodiversity and ecosystems in the PAs. Women also involved in activities in the PAs, such as catering, and awareness or advocacy activities. New activities injected into communities demonstrated that at the core of conservation is a form of 'community development'. The flow of 'community development' amongst community groups (women, youths, men, etc.) empowers communities to engage in conservation efforts. Ultimately, community empowerment reinforces the vision for conservation and the mission to integrate conservation with community development as a twin goal for sustainable and resilient PAs. Community empowerment is a critical reinforcing mechanism that must be strengthened, reinforced or restored accordingly, to maintain community engagement and connection to conservation efforts. In the case of ACMP, community empowerment was strong initially but neglected after the conservation programme was instituted. Communities felt disenchanting and left out. This led to the decision to integrate eco-tourism development into the conservation programme to manage the threat of communities withdrawing their support for the conservation programme. The eco-tourism activities reconnected the communities to the conservation through the work of women in the communities.

4.5.2 Co-evolution towards sustainable development

Communities executed the PA process in a comprehensive and complex way, guided by the PAA 2010, allowing communities to consider a wide array of factors – ecological, social, institutional, political, financial, cultural and developmental factors. This approach placed people and communities at the heart of driving the PA process. The success of executing the PA process appears to enable co-evolution of sustainable development of natural resources or

environmental protection. For example, the ACMP has developed strong ecological and species protection on the one hand, and on the other hand, a thriving eco-tourism programme built around both local and overseas tourists. Co-evolution is the outcome of critical decision making by the board. Such decisions were only possible because the groundwork paved the way for the decision made by the management committee. This process is slow and requires patience. In the case of ACMP, co-evolution of sustainable development in the eco-tourism programme took 14 years. Co-evolution in sustainable development is not the same strategy as the use of 'livelihood', to reduce pressure on PAs. Livelihoods are popular with all the CBC's and the PAs including both Kira and ACMP but they serve different purposes. In the case of ACMP, co-evolution development has the ability to contribute to long-term sustainability beyond the PA, having multi-scalar capacity to influence family, tribe, community, provincial and even national level. If we take the role of rangers out of PAs, the opportunity to facilitate co-evolution may significantly reduce the opportunity to foster co-evolution in sustainable development.

4.5.3 Knowledge sharing

Knowledge is power. Knowledge sharing is an opportunity to tap into this power. This is important to devise plans, strategies and form networks to help move PA process and development with insight. More specifically, knowledge sharing allows rangers to learn from each other as a community of practice, and not feel isolated and alone in their role. All of the participants from formal and informal conservation initiatives, including government officials acknowledged that the PA process is long and slow. Hence, in many ways, the long process heightens the need for knowledge sharing between those who have successfully completed the process and those who are on the way to completing the process or those who wish to begin the process. Knowledge sharing is a powerful way of motivating others, giving advice, encouragement, finding better solutions, and connecting others to potential resources, support networks and also new information. However, as the rangers from ACMP have alluded to, knowledge sharing, particularly amongst local rangers is still limited. In the last 10 years, the field CBC may be too small and knowledge sharing is limited as the sector is still growing. Presently, the number of CBO with CBC programmes is growing. While knowledge sharing has its benefits, at some point, cooperation may also turn to competition as the same community of practice will increase in number, and this number will compete for funds from a limited

source. To stay competent, continuous learning is critical and as the representative from Kira PA echoed, some level of sacrifice is expected for forward movement in community-led conservation. As rangers from Kira and ACMP experienced, knowledge sharing can be between one PA and another PA. It can also be by way of ranger exchange programs over months or for a community of practice sharing in a workshop setting. All these mediums have advantages and disadvantages, such as timing, finance, learning objectives, and should be selected according to a CBC organisation's needs.

4.5.4 Policy learning

The consultation demonstrated the value of knowledge sharing and learning between policymakers and rangers, as conservation practitioners' for the purpose of strengthening adaptive governance and adaptive management. Presentation from ECD highlighted the important roles of rangers. Specifically, section 66 (1), (a) to (e) of the Regulations 2012 speaks directly to the role of rangers as legal actor in the enforcement of the PA Act 2010. Acknowledging that the PA Act 2010 came into effect when conservation programmes was at an infant stage, in terms of in-country conservation initiatives, policymakers have the opportunity to learn contextual lessons and insights that inform the policy design, monitoring and evaluation. When rangers are organised, actively document their experiences and share their knowledge, experiences and insights with policymakers, it enables discussions and dialogues to focus on making relevant institutional improvements. Such exchange enriches policy learning and community rangers could contribute to inform policies based on their experiences and narratives for sustainable and resilient conservation programmes. Such learning and knowledge exchange also allows for better understanding of gaps, some of which may warrant technical reviews of the law or point to the need for new ordinances. Here, an active ranger body, along with other legislated bodies such as the management committee, play a critical role in adaptive management from an institutional perspective.

4.5.5 Sustainable funding mechanism

The establishment of a PA and more so the sustainable operation of a PA as per the PAA 2010 requires extensive resources, both human and financial resources. Participants overwhelmingly raised the need for sustainable funding mechanism to be in place to support the operations and

management of PAs. Acknowledging that the PAA 2010 made provisions for the establishment of the PA Trust Fund, operationalisation of the trust fund would be an opportunity for PAs to access funding support. It is also critical that the trust fund supports capacity building for rangers preparing for PA declaration. Participants also acknowledged some rangers or conservation leaders sought other funding modalities to support their PA preparation, and raise their own funds. Raising the visibility of rangers and the significant yet difficult and long process of PA process will help garner support for accessing other funding opportunities for CBC and PA process.

4.5.6 Capacity building and networking

Participants from both formal and informal PAs considered workshops, trainings, scientific surveys, assessments, look and learn and building networks and affiliations such as with SICAN, SIRA, and DSE as important learning avenues – for technical upskilling, management, leadership, governance, knowledge building, social connections and resource sharing. Solomon Islands Rangers Association (SIRA) highlighted the need for strategic capacity building for its affiliated members as one way of keeping them motivated. The literature also underscored the essence of a “competent, well-resourced and well-led” ranger program that enhances overall professionalism of rangers as an association of like-minded nature workers. One of the participants highlighted that informal PAs considered networking as important for motivation, dealing with isolation, because it can be a lonely process for communities who are not connected. As a result, some CBO’s have members that are town-based, who can access networking opportunities. However, conservation leaders recognised that transmission of information between town-based and community-based rangers could be challenging. One of the areas discussed was the need to ensure some coordinated capacity building for rangers in the PA process that communities can access prior to the PA process stage (step 5) that involves assessments. SIRA can be the avenue that must be well-resourced to be able to offer capacity building to rangers-to-be to prepare them for PA roles in the community.

4.5.7 Youth engagement

Participants highlighted the work of rangers in conservation as a way of contributing to the bigger challenge of addressing youth bulge. This is particularly in areas of youth

unemployment, anti-social behaviours and disenchantment of youths and seniors in communities and disconnection that youths growing up in towns and even in communities feel towards their land and superficially connecting to their land only by virtue of their affiliation and not by experience and practice. Allan, who struggles with social issues as a youth, his story as a young ranger from Kira PA depicts the significance of youth engagement, and how conservation work plays a role in reconnecting him to his tribal land and moulding and mentoring him to become a passionate protector and leader, supporting conservation in his community. Moses Pema, a ranger with ACMP for 29 years, also started as a young student who struggled with school; was expelled; and found conservation work as a turning point for him to do well for nature, his tribe and the country by protecting the largest rookery of hawksbill turtle in the Pacific that nests on Arnavon Island. Such transformative behavioural changes may be far and fewer in between but they amplify the power of human adaptability when connected with nature, with the right support system.

4.5.8 Support alternative livelihoods

PA process, since it also involved community land use planning, has the opportunity to contribute to strengthen alternative livelihoods from the land. For example, assessment of soil forms and types may inform communities of crop suitability, and communities may make informed decisions on livelihood support programmes that matches their land characteristics. In addition, non-land based support livelihoods, such as catering, hospitality, sewing and lending support community livelihoods. This illustrate that success in conservation efforts at the community level must cover a broad base of options to better support resilient food security and family wellbeing. In this way, every opportunity to strengthen and support PA process is also an effort to build resilience in family livelihood, may trickle further to improve the health of people living in rural communities. This experience, in turn, reinforces sustainable resource management at the community level.

4.6 Threats in rangers programs

4.6.1 Anxiety and distress

Some of the participants who identify as conservation leaders expressed having experiences of anxiety and distress in their role and responsibilities and the state of reckless management of the environment. Rangers in ACMP identified anxiety and fear related to execution of their role as rangers when confronting poachers. Other sources of anxiety emerge from hopelessness, especially related to resistance to change attitude and behaviour even after continuous advocacy and awareness programs in communities. Participants acknowledged in the consultation workshop that issues related to mental wellbeing of rangers and conservation leaders have not been topical even though it holds significance to mental health of rangers. People, especially men, expect themselves to be tough and they could likely misjudged their emotions as a sign of weakness. Literature acknowledged that ecological grief debilitates conservationists and environmental enthusiasm, hence the need to raise the visibility of this issue for rangers.

4.6.2 Logging

Most CBOs recognised logging as a major threat to conservation efforts. Participants identified that current PAA 2010 is too lenient on its penalties for infringement of law. The use of penalties as form of deterrence does not work for powerful logging companies. Since communities have different interests; some pro-conservation and some pro-development, extractive developments such as mining and logging always attract interest for some community people. In many instances, conservation efforts suffer at the hands of unscrupulous development projects. Presently, logging remain a critical national revenue earner followed by agriculture and fisheries resources. The Director of ECD recognised that the way infringements applied to logging in the same bracket as other minor infringements under current law warrants review and possibly relevant amendment.

4.6.3 Lack of vision for future

Often tribal leaders claimed that conservation is not a new concept. Traditional practices have practised elements of conservation such as protection of certain areas, using taboos and excluding people to access certain places at certain times. Although aspects of cultural practice may resemble principles of conservation practice, in terms of management, the situation may be different. For example, in the PA process, designing a management plan is core to putting activities together to enable the achievement of the type of future the community desires. Participants voiced that lack of vision for the future is a threat for conservation enthusiasts. The PA process (step 8: prepare the management plan) is helpful for this purpose. It highlights that PA process activates and prompts traditional management and governance to incorporate other useful skills that combined with traditional knowledge, gives new responsibilities to tribal landowners. In this way, conservation programmes gives back to tribal landowners in terms of active engagement with their land than without it. Such engagement in the long term enables better visioning of community development in the future.

4.6.4 Conflicts and confrontations

ACMP rangers have experienced conflicts between rangers. These conflicts appeared to come from misunderstanding of culture and boredom in routine work. The board resolved some incidents at the community level. As in the experience of ACMP, rangers recognised the need to be trained in conflict management. In most cases rangers resorted to cultural practices to address conflicts between themselves. It could be useful if rangers are trained to avoid conflicts or reduce the occurrence of conflicts. Rangers also experienced confrontation with poachers. Such encounters were reported by ACMP rangers as a major treat for their safety, especially when poachers use dangerous ‘implements’ (stones, spears and fake guns) to demean, intimidate rangers.

4.6.5 Climate change

Climate change is a major threat to conservation efforts, both terrestrial and marine based PAs. This is experienced in many ways. Climate change exacerbate loss of biodiversity, loss of coastal beaches due to erosion and natural disasters and spread of disease in agriculture and

from species that could not change their ecological boundaries. Since it is an external and slow moving threat, it is difficult to manage at the community level, by way of mitigation. However, communities adapt to the impacts of climate change in ways that boost the resilience of nature-based solutions from both the land and sea. Nature based solution or ecosystem-based adaptations are not alien to communities. Communities' management of PAs is one way to adapt to climate change impacts on food security, biodiversity loss and strengthening agency of people, to protect nature.

4.6.6 Cultural loss

Although there is a resurgence in cultural interests and identities in the development sphere, our cultures in relation to biodiversity is weakening. In the future, this threat may escalate and cause major loss to communities – ecological, social, cultural and natural. Loss of physical place means loss of nature, loss of culture, loss of a way of life, besides loss of biodiversity. Promoting nature-based solutions is one way to tackle this issue in a rangers program.

4.6.7 Elitism

Elitism emerged as an issue especially in multi-ethnic PA models such as ACMP. A KAWAKI woman ranger highlighted that in a context of multi-ethnic communities, elitism is a main challenge. Elites with power are gatekeepers to community development. They tend to have influence in the board. Elitism in many ways, siphons resources that ought to go to communities. Elitism could challenge effective management of ranger programs. The workshop consultation identified 'family driven' conservation initiatives as a form of elitism, normally frowned upon by communities. Family driven initiatives may not enjoy the full support of community leaders, because it is perceived as private enterprise.

4.6.8 Lack of social safeguards for male and female rangers

In some PAs, women rangers faced social issues when working with male rangers. One of the problems female rangers faced is unwanted pregnancy. Women rangers felt vulnerable and their safety, not guaranteed. Other rangers claimed that rangers deserve payment of danger

allowance, the same way that law enforcers such as Police Officers receive danger allowance to do their work. If the work of rangers is non-negotiable in a PA, their well-being and safety is imperative.

5. GENERAL CONCLUSION

The analysis deduced the following general conclusions:

1♣ The strength of the rangers programme centres on the inseparable interconnection between ‘people and nature’ or ‘people and environment’ supported by strong governance (informal and formal). These inseparable connections carries the ability to transform rangers and build trust and trusting human relationships, enriched by knowledge of their land, and deeper understanding of the impacts confronting land-people survival. It seemed that land care, connected in the right way, is the bedrock for sustainable community conservation and sustainable PAs.

2♣ The shortcomings and challenges in the rangers programmes are introduced by way of newness of an organised ‘conservation programme’ to the communities. Mostly, the shortcomings are capacity related, including levels of resistance from non-conservation interests. The analysis underscored capacity building as critical to the interventions to manage the feedbacks and ensure resilient management in areas of weakness.

3♣ The opportunities in the rangers programmes centred on multi-scalar capacitation of rangers through interactive actions. Although governance and resource systems in the PAs are less of ‘opportunity’ areas for rangers, they remained core strength upon which rangers built and harnessed opportunities. It means safeguarding and protecting the ‘people-nature’ connection as fundamental basis for conservation programmes, is imperative. Changes in governance and people-nature relationships will affect the opportunity landscape in an undesirable manner.

4♣ The threats confronting rangers programme that needed attention are related to the resource system and rangers emotional well-being. These variables are the bedrock of rangers programme and any significant change in these areas would have an undesirable consequence for the rangers programme. Hence, such threats are prioritised for management interventions and warrant adaptive management. Threats related to resource system are due to climate change and land disputes. Threats related to the emotional wellbeing of rangers are unavoidable ‘burdens of deep connection’ that rangers could learn to unburn and adapt accordingly, by way of capacity building.

6. GUIDANCE FOR EREPA-SUPPORTED RANGERS PROGRAM

This section, based on the lessons and insights gleaned from the workshop consultation, offers guidance to the EREPA Project to inform its support towards ranger programs in its PAs. This analysis recommended that the Management Plan for PAs cover these aspects of rangers program to ensure it is well-resourced, well-led and sustainable. This section covers 10 key focus areas as follows: (1) vision; (2) roles and responsibilities; (3) recruitment; (4) Governance; (5) Operations and management; (6) Capacity building; (7) Incentive structure and finance; (8) Plan of action; (9) Monitoring; and (10) Equipment.

6.1 Vision

The vision for EREPA Project support is to establish professionalism and increase the capacity of rangers through a well-resource, well-led and competent ranger program, held at the core by respect and oneness for the goals of the PA and fellow rangers.

6.2 Role and responsibilities

Roles and responsibilities of rangers spans beyond those specified in the PAA 2010. Rangers showed tendency to develop specialised interests (technical and developmental, socio-cultural, and stewardship). Hence, the roles and responsibilities of rangers must go beyond the technical roles and responsibilities stated in the PAA Regulation 2012, to develop holistic development

of capacities. The PA rangers’ demonstrated three categories of skills and interests: i) technical and developmental (ii) socio-cultural; and (iii) stewardship. These categories do not mean one group of rangers performed exclusive of another. In addition, it does not mean that one category of rangers’ interests and competence are more important over others. Rather, it illustrates that rangers do develop specialised skills and interests. Some rangers may possess all three interests in good measure, while others may show specialised interest towards one area. All three categories, combined, present a holistic approach to competent development and recruitment of rangers in a PA programme. The combined skills and interests stand to optimise competency for ranger programme sustainability. The terms of reference for rangers’ recruitment or appointment ought to be informed by these three categories to ensure holistic development of ranger competency for sustainable PAs. Table below summarise these categories:

Category of skills and interests	Description
Technical and developmental	Rangers are interested in biological surveys, assessments, monitoring, data collection, reporting, research assistance, developing proposals, management planning, boundary mapping, inventories (social and ecological)
Sociocultural	Rangers are interested in conflict management, community dialogue, building relationships and trust, and fostering cultural cohesion of the community. Rangers advocate for tribal ownership, community development for livelihoods that benefit people, knowledge of the local nomenclature of flora and fauna
Stewardship	Rangers are interested in nature for the sake of nature, its beauty, the need to protect, nurture, care for, sustain, maintain and defend. Ranger promotes peacemaking, collective action, reconciliations and restoration of ecosystem and nature as a critical role in PAs.

6.3 Recruitment and power of rangers

The number of rangers, whether recruited or appointed will be the prerogative of respective Management Committees decision as required under Section 65 (1) of the Protected Areas Regulation (2012). Section 66(1) (a) - (e) specified the power of rangers. Based on this section, a ranger shall, for purposes of ascertaining whether provisions of the Act or these regulations have been contravened, or breached, have the power to:

- stop board and or search, whichever is the case, any person vehicle or vessel suspected of transporting removing or in possession of, whether within or outside a protected area, any specimen, species, plant, artefact, object or similar material;
- seize any specimen, species, plant, artefact, object or similar material which he or she has reasonable ground to believe has been removed from a protected area in contravention of the Act and these Regulations;
- arrest without a warrant any person believed to have committed an offence and, without unnecessary delay, handover such person to a police officer or take the same to the nearest police station;
- require any person committing a minor breach, whether of the Act Regulations bylaws or condition of a permit, to rectify or remedy such breach within a reasonable time;
- order a person to stop or cease a specific activity if such activity is carried out in contravention of the Act and these Regulations;
- issue infringement notices and receipt any fixed penalties payable thereto; and or,
- seize detain or confiscate any equipment or gear used in the commission of an offence and issue a receipt for such seizure detention or confiscation.

However, noting the broader interests and skillsets of rangers (see 6.2), recruitment is best served, by considering the holistic skillsets and interests of rangers when selecting or appointing rangers. PPC's are in a position to provide guiding information in this area to management committee in their PAs.

6.4 Governance

Depending on the context, there are number of ways that rangers could engage in the PA governance. The table below outlined the different levels of engagements that is possible: (i) instructive; (ii) consultative; (iii) cooperative; (iv) advisory; and (v) informative.

Levels of engagement in the board	How to engage
Instructive	Minimal information exchange between rangers and the management committee for decision-making. Rangers are not members of the board or management committee
Consultative	Consultations exist between rangers and board members for purpose of gathering information to inform decision-making in the board. Rangers are not formal members of the board or management committee
Cooperative	Rangers are equal partners in the board or the management committee and have a decision-making role. Rangers are members of the board or management committee
Advisory	Rangers provide advice to the board to inform its decision-making in relevant areas. Rangers are not members of the board or management committee
Informative	Rangers provide information to the board only for the board's information as an authoritative body, not particularly for decision-making. Rangers are not members of the board or management committee.

While it is the management committee's prerogative to appoint or recruit rangers, PPC's could use these categories to provide guidance when needed.

6.5 Operations

Rangers must operate, guided by a standard operating procedure (SOP) that outlines key processes to follow, the governance, the reporting lines, the use of equipment and safety procedures and maintenance of equipment and materials. This analysis recommended that EREPA Provincial Project Coordinators (PPCs) coordinated the development of a standard operating procedure, ideally, in a consultative and participatory manner with rangers, management committee representatives and community representatives in the PA of interest to inform the SOP.

6.6 Capacity building

EREPA Project could support rangers in capacity building in preparation for their role in the PA process. Capacity building also involved mentoring. A well-led rangers program builds a transformative capacity in the program. Important training needs identified include: (i) technical capacity training; (ii) leadership training; (iii) awareness and advocacy training; (iv) standard operating procedures; (v) governance; (vi) mental health and emotional well-being; (vii) relationship & trust building; (viii) conflict management. Other emergent areas of training can be requested to EREPA PMU for consideration.

6.7 Incentive structures

It is important to incentivise rangers, recognising the difficult socioeconomic conditions that rangers confront to remain passionate and engaged as rangers. Rangers will be on duty and carry out monitoring and other PA activities. EREPA Project can select from five categories below: (i) Non-monetary incentive – for students; (ii) Non-monetary incentives – for individuals; (iii) Non-monetary incentives – for groups; (iv) Monetary incentives – short term for individuals; and (v) Monetary incentives – long term for individuals. The Table below outlined the categories of incentives that PPC's could consider in providing advice to management committees:

Category of incentives	Description
Non-monetary incentive – for students	Incentives can be in the form of organised mentoring, certificates for participation, and getting endorsement and sponsorship for scholarship
Non-monetary incentives - for individuals	Incentives that support accessing of trainings, workshops, exchange programs and opportunities to be consulted on the work of rangers as indigenous resource person
Non-monetary incentives - for groups	Incentives can be design by way of providing alternative livelihood to support rangers
Monetary incentive – short term for individuals	Incentives can be designed by way of allowances for work done by rangers especially when they work is not done on a daily basis
Monetary incentive– long term for individuals	Incentives can be designed for long term in the form of monthly salary especially in the case that the work of rangers is required on a daily basis for monitoring and data collection and maintenance of operation.

PPC’s shall provide guidance to the management committees to craft appropriate incentive structure for rangers in PAs of interest.

6.8 Plan of Action – short term, medium and long term

EREPA Project supports the development of Plans of Action for the short term, medium term and long term for rangers program. The plan of actions should be able to progress sustainable PA activities, establishing the ranger programme and its incentive systems and the long-term

co-volution in the PA. The Plan of Action should be a living document, subject to revision and update as more information is at hand.

6.9 Monitoring

The Plan of Action is subjected to monitoring. It is an area that rangers will make update to the board and narrate and discuss their success, challenges and progress. This can be done for purpose of informing stakeholders, providing advice or decision-making purposes as a cooperative agent in the management committee. The head ranger communicates the monitoring outcomes to the PAAC in relevant reports and to the management committee through the relevant engagement mode.

6.10 Equipment

Rangers need equipment and materials to boost their professionalism and facilitate their roles and responsibilities effectively. A well-resourced ranger program is an effective program. EREPA Project will resource rangers in its PAs by supplying basic equipment to support and maintain their work. Recommended equipment include but not limited to the following:

No.	Equipment and materials
1	<ul style="list-style-type: none"> • Boot
2	<ul style="list-style-type: none"> • Raincoat
3	<ul style="list-style-type: none"> • Torch
4	<ul style="list-style-type: none"> • GPS
5	<ul style="list-style-type: none"> • Life jacket
6	<ul style="list-style-type: none"> • First aid kit
7	<ul style="list-style-type: none"> • Sunglass
8	<ul style="list-style-type: none"> • Uniform
9	<ul style="list-style-type: none"> • Travelling bag
10	<ul style="list-style-type: none"> • Hat

7. NEXT STEPS

The rangers consultation workshop derived lessons and insights informed by the SWOT analysis. The analysis has implications for PA rangers; vision, role and responsibilities, recruitment, governance, incentive structure, equipment, capacity building, plan of action and monitoring and sustainability plan. The next steps are to devise a resource mobilisation plan for EREPA-supported ranger programs in its PAs

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9. APPENDICES

A. Summary of SWOT

<p>STRENGTHS</p> <ul style="list-style-type: none"> • Traditional knowledge about your own land (RU) • Confidence and trust building (A) • Knowledgeable about environmental issues/impacts (RU) • Positive behavioural change towards the environment (A) • has structure in place (G) 	<p>SHORTCOMING/CHALLENGES</p> <ul style="list-style-type: none"> • Poaching caused by relatives/tribal members • Lack of technical people • Lack of financial incentives • Weak management • High expectation from community/tribal members • Low literacy • External influences • Commitment to the roles of a ranger due to financial obligations to meet safety of rangers • Funds required to purchase equipment, fund workshops and medical supplies • Poaching is a challenge • Land disputes with neighbouring tribal land • Safety equipment • financial support
<p>OPPORTUNITIES</p> <ul style="list-style-type: none"> • New skills & knowledge (workshops/look and learn trips) • Empowering of community/tribal members • Pave way for new sustainable development initiatives • Create study opportunities for school leavers • Job opportunity (entrepreneurship) • Knowledge sharing through training, workshop, e.g. SIRA • Look and learn • Trust Fund – Rangers being employed • Government support – RCDF, WDG • Formal and informal education • Capacity building • Involvement of youths • Level of literacy • Look and learn with specialised training • Equipped with skills and conservation knowledge • Access training programs • Exposure to overseas training • Scholarship awards 	<p>THREATS</p> <ul style="list-style-type: none"> • Distress • Climate change • Human threats • Cultural influences • Logging/mining • Personal safety • No clear direction for future • Social protection e.g. police, clinics • Self-interest of leaders in communities e.g. logging accepting bribery • Economic. social development (e.g. mining companies wanting to mine in conservation sites) • Family obligations • Political interests (e.g. leaders approving logging and mining) • Lack of support and equipment • Climate change, e.g. sea level rise • Physical confrontation with poachers • Different tribe differences (Conflict) • Family driven

<ul style="list-style-type: none"> • exchange schemes • building up partnerships • livelihood programs for rangers • Link with eco-tourism • Opportunity to re-evaluate the role of rangers in PAA 	
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B. Focus Discussion Group Questions

1. Describe the main roles and responsibilities of rangers in the conservation initiatives you represent?
2. Have your roles evolve since you started? If so what are some of the new roles that you take on?
3. What are the **strengths** of the rangers programme in your conservation initiative
4. What are the **shortcomings or challenges** you faced professionally and personally in your work?
5. What **opportunities** do you foresee that could boost the work of rangers in community conservation?
6. What type of **threats** do you face in your work as rangers?

C. Panel Discussion Questions

- Do rangers have a decision-making role in the conservation committee? If not, why not?
- Does the work of rangers contribute to influence decisions made at the executive management level?
- What are some of the disciplinary measures in place and who makes the decisions?
- How do you see the sustainability of rangers' programmes in the next 10 years?

D. Rangers Informant Profile

Do you agree to provide your personal information for the questions below? YES/NO

1. Your name?	
2. Your gender?	
3. Your age?	
4. Your religious affiliation?	
5. Your marital status?	
6. Your level of formal education?	
7. Name of your PA or conservation initiative?	
8. Your position (senior ranger, inspector, ranger)	
9. Your community?	
10. Your tribe?	
11. Your main motivation to become a ranger?	
12. How long have you been working as a ranger?	
13. Do you represent a formal or informal conservation initiative?	