



## Shaping a global strategy for building capacity and performance of rangers in and around protected areas

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### Abstract

The ranger profession is rallying behind the need for change, driven by external and internal pressures to strengthen the occupation and its profile. We undertook a review of ranger capacity aimed at improving the capacity, performance, and alignment of the ranger occupation globally. With an international working group, we undertook an objective and structured problem-solving process to examine current issues and links between key variables. We identified several preferred outcomes for rangers and priority targets for change and proposed a simple model for building capacity and improving performance. The model highlights three key elements of capacity: competency (skills, knowledge, and practice), critical mass (right numbers in the right places) and strong supporting systems (organizational structure, systems, policies, resources, and management). Recommendations emerging from this study include a three-stage action plan with short-, medium- and long-term measures and suggest a collective leadership approach across the entire profession. Short-term actions include harmonizing the names, ranks, and roles of rangers, developing a global code of conduct and ethics, and systematic alignment of available training and support with demand. Medium-term actions emphasize regional knowledge hubs and communities of practice while enhancing exchange of knowledge and skills. They also encourage more recruitment of locals (especially women) to improve connections with communities and engage tacit knowledge of the area, cultural knowledge, and skills for managing natural resources. Longer-term actions focus on developing a centralized ranger support body to facilitate change, advocate for the profession, and promote the essential contributions of rangers to conservation of natural and cultural heritage.

### Introduction

This paper is part of a bigger response to a call to action issued by the global ranger community that gathered for the World Ranger Congress in Nepal 2019 to share experiences and knowledge. It resulted in the Chitwan Declaration, which articulated changes for rangers and their

occupation at many levels and was driven by both internal motivations and external pressures. The challenge of preparing a well-informed global response and future action plan was taken up by a group of international conservation bodies described in Singh et. al. 2020 (this volume) to

consolidate the commitment across the ranger community. This paper was prepared as part of that response.

### External pressures and need for change

The external pressure for change stems from a series of poor, and in some cases illegal, interactions that rangers have had with communities in several countries on different continents. The events involved human rights abuses and even led to deaths of some rangers and community members (Tauli-Corpuz et al. 2020). Recent stories of conflict and some excessive use of force by rangers and others may reflect an undue paramilitary approach by some ranger forces, lack of training in alternative approaches or how to work with communities, poor organizational support, or generally poor conditions exacerbating tensions between rangers and local communities (e.g. Massé and Lunstrum 2016; Moreto et al. 2016; Duffy et al. 2019). It is hoped that these issues can be largely addressed through thoughtful capacity building for rangers, improved organizational

frameworks and management support, and appropriate work with communities (Moreto et al. 2016; Massé et al. 2017; Cooney et al. 2018).

Internationally, the global extent of protected areas and other place-based conservation management solutions are set to increase both on land and at sea to 30% (UNSD 2015; CBD 2020). This is necessary to meet the growing threats to and demands on biodiversity at all levels. Consequently, there is demand for more well-trained rangers. In addition, it is important to engage effectively with Indigenous peoples and local communities (IPLCs) as full partners and local stewards of resources. This combination delivers the best outcomes for biodiversity conservation, protection of natural services, and preservation of the deep cultural knowledge embedded in these systems. This holds true for protected areas in all forms, including community conservation areas, private reserves, and Indigenous protected areas (Corrigan et al. 2018; Garnett et al. 2018; Courtois 2020).



Zambian ranger | NEIL EVER OSBORNE / WWF-US

On the frontline for all these protected areas are rangers in various roles and employed by a variety of organizations, including governments (at all levels), communities, non-profit organizations, and private businesses. Regardless of the system they operate within, the key skills and competences are broadly similar for each ranger role and level (Appleton 2016). The core skills may be enhanced by some special training and practice as educators, tourism operators, or wildlife researchers (Appleton et al. 2017) and enriched by their connection to IPLCs and the responsibility they have to apply cultural knowledge systems (Bauman and Smyth 2007; Miller and Woodside 2020).

In return, well-trained and well-supported rangers make important contributions as local members of communities, filling an occupation that offers positive future pathways for youth, important employment for women, incorporation or revitalization of cultural management systems, and a boost to local economics. Overall, the local protected area becomes more effective (Oldekop et al. 2016) and benefits to the environment and the community are high, expressed as returns for investors in all sectors (government, non-governmental organizations, wider civil society, and private). This has been convincingly demonstrated for investment in Indigenous rangers in both Australia and Canada (Ross et al. 2009; SVA 2016a, 2016b).

### **Internal motivation for change**

According to the WWF global survey of the working conditions of rangers, *Life on the Frontline* 2019, there are alarming gaps in the basic training for new rangers, a lack of regular training or upgrading of skills, low wages, and inadequate field support, transport, field equipment and communications (Belecky et al. 2019). The rangers feel they are no match for armed poachers, their sophisticated wildlife trafficking syndicates, or obstructive locals. It is a dangerous job, with at least 1,038 park rangers being killed in the line of duty over the past 10 years, mostly in Asia and Africa (44% by homicide and 14% through wildlife encounters, with accidents and other causes making up the balance). Adequate training,

equipment, and field support are clearly high-priority issues.

The response to the survey included 7,110 rangers from 28 countries in Africa, Asia, and Latin America, representing about one in six of the known ranger workforces in those areas (Belecky et al. 2019). Not surprisingly, the priority issues identified were training, pay, career development, personal security, and equipment. The level of need varied across the regions, but rangers everywhere identified the need for training and recognition as professionals. They all shared the desire to be seen as serving a valuable role in conservation.

Appleton (2016) developed a global register of competencies for protected area practitioners as a baseline for developing consistent training and reward systems for rangers globally. Appleton et al. (2017) considered aspects of individual and organizational capacities for protected areas drawing on Eastern Europe, and Chapple (2019) reviewed available training in the Asia-Pacific region.

The public's perceptions of rangers can be critical to obtaining the cooperation of the local community or visitors. This is especially true where the protected area comes at a cost to local communities, either directly, such as by limiting access to resources or places, or indirectly, by increasing the risk of unwelcome wildlife encounters or predation of stock. Such public perceptions have been reviewed for 132 protected areas by Allendorf (2020) with generally positive results, especially so in Latin America and Africa. It also has been shown that community engagement with the protected area leads to better social and ecological outcomes (Oldekop et al. 2016; Leverington et al. 2017). Consequently, a critical skill for rangers is to be able to engage with the public at many levels—but it is hard to do this if basic support structures are not in place.

At the recent World Ranger Congress in Nepal (WRC 2019), attendees identified the need to improve their capacity to work with communities, especially IPLCs. They also highlighted the need to

increase involvement of women and to educate and inspire youth. There is already great momentum among women rangers in some regions such as northern Australia, where they are developing compelling action plans and environmental knowledge networks to strengthen their current and future roles in managing their land and seascapes (Miller and Woodside 2020).

### **Taking an innovative approach to unpacking the challenges for rangers**

To gain the best possible insights into the global challenge of building the capacity of rangers, we engaged 14 ranger researchers, practitioners, and managers in a working group. Together we conducted a problem analysis that involved structured, in-depth interviews followed by objective content analysis. This provided 288 individual comments that could be further grouped into clusters of related issues.

We applied these results to a modified version of the problem analysis system known as Open Standards for the Practice of Conservation (Conservation Measures Partnership 2020). We also included results of formal ranger surveys conducted between 2016 and 2019 (WWF 2016a, 2016b, 2019; GWC 2018) to expand on the details in some key areas and verify some of the findings. As a result, we were able to establish groupings of issues affecting rangers and causal relationships between some key variables using a second and third level of analysis. This was collated into a flow chart, or road map, of key issues. From this we derived a suite of targets for change and prepared a vision statement describing the “preferred future” for rangers. The targets are useful as the focus for many planned interventions and capacity-building programs, and the vision statement is useful for aligning players engaged in the process.

### **Synthesis of issues arising through problem analysis and surveys**

We identified seven key targets for change when considering the results of interviews with experts and the surveys:

- Need for a central organizing program,

coalition, or other body to coordinate key services to the profession and standardize systems and professional frameworks

- Need for a career framework with personal development pathways
- Job security, benefits, and inclusivity (including women)
- Value, variety, and changing roles of rangers (including ways to attract women and youth)
- Sustainable funding and other resources
- Regional hubs and alliances for mutual support and training
- Knowledge management (acquisition, transfer, and retention)

In addition, rangers felt ill-equipped for the daily demands of their jobs, with insufficient training and equipment to do them effectively or safely. Rangers also felt poorly motivated and seriously undervalued. They indicated poor living conditions in the field and lack of critical materials and equipment. They desired job security, reasonable and predictable pay, and opportunities to progress. They reported enduring long periods of time in the bush and separation from family and community life. Given the dangers inherent in their jobs, rangers wanted adequate health, disability, and life insurance as some protection for their families.

### **Harmonizing naming for ranger job titles, roles, ranks, and competences**

There is currently no internationally recognized naming convention for the job title of rangers. This has led to misunderstanding of the variety of roles rangers play and their potential contributions to society and to conservation more generally. In turn this has affected recognition of rangers through reward systems, pay, and job security. The experience some communities have with rangers bearing guns while serving as law enforcement officers or as paramilitary troopers can be confrontational, thus limiting the support of those communities and causing reputational risk when something goes wrong. The broader contributions made by rangers are just as important through their work in community development, resource management, tourism, and wildlife research and recovery. These other roles may go unrecognized,

however, as they are variously named and generally reflect frontline needs, competences available, or structures imposed by government policy (Appleton 2016; Appleton et al. 2017; Bowman 2018).

The *Life on the Frontline* report (Belecky et al. 2019) points to the need to formalize universal definitions and categories for those working in this sector given the wide-ranging variation of position titles across the profession. The report provides a comparative table with names used across the sampling area showing their diversity (see Table

1). It is clear that a naming convention that covers the full range of roles, functions, and ranks could benefit all rangers, while allowing for some small adjustments to be locally relevant or reflect local terminology. This core structure could be initiated by organizations with a global remit such as the International Ranger Federation (IRF) with the International Labour Organization (ILO) and formalized at a regional level.

In Cambodia (and nearby countries), Bowman (2018) described a well-structured framework for ranger employment specifications that is

**Table 1.** Names used for ranger roles around the world (Belecky et al. 2019).

Position title (as rendered in English)	Countries in which term is used
Ranger	Australia, Belize, Bhutan, Brazil, Canada, France, Gambia, Japan, Kenya, Lesotho, Malawi, Namibia, Nigeria, South Africa, Swaziland, United Kingdom, USA, Vietnam
Guard	Albania, Angola, Benin, Bulgaria, Burundi, Cameroon, Colombia, Czech Republic, Democratic Republic of Congo, El Salvador, Ghana, Guatemala, Honduras, Italy, Philippines, United Arab Emirates
Officer/Official	Canada, Puerto Rico, Saint Lucia, United Arab Emirates, United Kingdom
Scout	Kenya, Malawi, Nigeria, Namibia, Zimbabwe
Supervisor	Angola, Mozambique, Slovenia
Agent	Côte d'Ivoire, France, Madagascar
Warden	Canada, Suriname, United Kingdom
Inspector*	Jordan, Latvia
Vigilante (ranger with powers)	Puerto Rico, Spain
Analyst	Brazil
Guide	South Africa
Manager	Belgium
Proprietor	Burkina Faso
Team Member	South Africa
Chief	Burkina Faso

\* This term, although recorded only twice in this survey, is known to be widely used across Eastern Europe and Central Asia, and is particularly common where Slavic languages are spoken.

operating successfully and is now supported by legislation. Similarly, there are basic elements of a naming convention in place in regions such as the US, Australia, Latin America, Europe, and other parts of Asia. Some of these roles are “hard-wired” in natural resource legislation or protected area legislation (e.g., in Australia for Indigenous Protected Areas). To be consistent across all sociopolitical systems, geographies, and ecosystems, the roles and functions need to be effective on land, at sea and in freshwater systems and easily translated into local terminology. To be most useful in capacity-building strategies, they should be linked to competencies (at various levels) and built from a common base of core ranger training.

Various training systems include these naming conventions, including in the US through Colorado State University, Argentina, Costa Rica, Europe through the European Ranger Federation, Asia through training programs of Freeland and others, southern Africa through the Southern African Wildlife College, and Australia. Ranger Campus, an NGO specializing in ranger training, uses a naming convention that reflects the competency register (Appleton 2016) and the Zoological Society of London online training works according to a similar system. In East Africa, the LEAD Ranger program supports a common naming convention for roles across several countries.

Our working group members suggest that there are seven broad roles for rangers, noting that rangers can progress through several levels, or ranks, within each role. Roles are potentially defined by key functions on the ground and supported by appropriate competences gained through training and/or practice. Consequently, each ranger role and/or function should be formulated around tasks, training, and field skills and levels of service. Although this is not an exhaustive list, the seven key roles identified by working group members are:

- Community engagement
- Ecotourism and visitor services (including general educational and interpretation)

- Research and monitoring/wildlife management in the field
- Enforcement (including law enforcement, compliance, and wildlife protection or “ecoguard” activities as they are called in some Francophone areas in Africa)
- General asset management (maintenance, construction etc.)
- Administration and support services (including training programs)
- Leadership (in the field and through management)

It has been suggested that any international naming convention contains two parts (binomial) to allow for allocation of both the ranger role and a level or rank. For example, “PA Ranger: Community Engagement, Level 1” would recognize role and rank and suggest there is potential room for progression. This would be motivational as well as providing clear identity of roles and rank. It is also possible that early entrants to the profession need to be more generally labeled as “PA Ranger: Trainee,” “Field Assistant,” “Auxiliary Ranger” etc. to accommodate a range of entry levels.

Our working group also noted that rangers’ capacity for or input into the tasks listed above also reflects on their own origins and motivation to become a ranger. For example, a ranger role may be filled by a local custodian or natural resource steward of some kind and their training may include both the formal skills of being a ranger as well as the cultural knowledge of the region passed on by elders. Recognition of this as “Custodian,” “Steward,” or a similar term may be important.

This has led us to propose an overall grouping of the rangers and their allies, under a professional sector called “PARCS,” an acronym for “Protected Area Rangers, Custodians and Stewards,”

### **Pay rates and entry requirements**

A related concern affecting workforce capacity and capacity of individuals is rates of pay, linked to training, field knowledge, practical skills, responsibility, and risk. Using an apprentice-based

employment model would help to standardize alignment of pay and experience and go some way toward transferrable ranks and pay schemes.

There is considerable discussion around the issue of entry requirements for rangers and the need to value local knowledge, work with illiteracy, and embrace motivation, a valuable trait. There is a need to redefine early career roles to reflect field skills or practical knowledge and to find ways to reward tacit knowledge and local/community knowledge.

### **Recruiting women and youth**

There are some special considerations around suitable entry points to the ranger occupation by both women and youth. Women may be more attracted if they have options for development and are not restricted to paramilitary roles or activities that conflict with cultural norms. Women might be asked how they would redefine the role of a ranger. An example of this involves the Indigenous women rangers across northern Australia who are demonstrating that they bring special skills, including deep cultural knowledge that is passed on only through women in many cases. Their environmental and community leadership roles are special and their work as rangers is different from the work of men in many aspects. The women continue to argue the case for recognition, better work conditions, support for training, and roles that optimize use of their knowledge and “connection to country” (Miller and Woodside 2020).

### **Aligning the demand and supply aspects of ranger training and capacity building**

As introduced earlier, the concept of capacity has several components that are relevant to both demand and supply. We recommend a systematic analysis of both, with a view to aligning existing services and resources with demands that can be clustered around the themes of those services and resources. A standard supply chain or value chain analysis can be applied to help unpack the issues in time, space, value, and urgency. This challenge is similar to that faced in developing efficient allocation of educational services, designing

complex engineering systems, and preparing some government policies (Ludema 2014; Tsoulfas and Pappis 2006).

As a starting point for our brief analysis, we considered the working group comments and results of global ranger surveys regarding some of the critical demands that affect daily job performance and reputation. As well as day-to-day demands and core training, there are demands that affect the future development of each ranger and the shape of this professional sector. We have identified at least three to be considered in the demand and supply alignment:

#### **1. Field supplies and other resources**

- Critical field equipment kits—basic kits (including uniforms) for each of the different ranger roles
- Funding options and brokering opportunities

#### **2. Training programs**

- Training programs—for all levels, accredited and transferrable
- Core ranger training at early levels followed by specialization and optional training for career development at mid to high levels
- Online training products
- Apprenticeship system for early career rangers
- Short course training for professional development (Chapple 2019)
- Regional hubs—cluster training according to ecological systems, sociopolitical systems, language or culture, or likelihood of transboundary collaboration

#### **3. Organizational system**

- Templates and ranger force start-up kits—including essential value proposition material to present to decisionmakers, stakeholder analysis toolkits, outlines of basic job structures, position descriptions, and model employment contracts
- Models and templates for self-auditing organizational systems, training programs, performance evaluations, and lists of competences currently available and needed in the future



Bhutanese rangers | ROHIT SINGH / WWF

The supply chain for training programs, together with the demand side of the equation, is one of the most important items to be addressed early. There is a need to develop a list of training suppliers of all kinds for all levels of ranger work. In the time available to our team, we were not able to discern how much information is already known, although there has been a recent review of short courses (Chapple 2019) and a database of other training programs is being compiled by the same author.

A review of the supply chain would be most useful if it included both vocational and university-linked programs. The less formal methods of learning are often more locally relevant. They may reflect local protected area needs (competence and knowledge requirements) or include practical training that makes them more accessible to a wider array of recruits. This part of the supply chain can be augmented by embedding learning within organizations, combined with online training

(e.g. IUCN’s Program on African Protected Area Conservation, PAPACO).

The supply chain review should include university-accredited programs—there are examples in Argentina, Australia, Cameroon, Canada, Costa Rica, Kenya, South Africa, Tanzania, USA, and elsewhere. Vocational suppliers include national professional organizations, private tourism training vendors (e.g., &Beyond), not-for-profit independent operators (e.g., Ranger Campus) and coalitions of not-for-profit organizations, such as the Protected Areas Learning and Research Collaboration (PALRC) (Chapple 2019). As well as direct suppliers, we can look to some model training systems for on-the-ground, online, and short-course experiential training. Our working group compiled a valuable list of some of the most up-to-date services and programs (available in our full report on this topic).

Course offerings can be clustered by regions and shared languages to strengthen regional alliances, gain some efficiencies, and ensure that suppliers are targeting gaps. A regional approach may assist with design of programs for interagency exchanges, locums, or shared training programs delivered in-service. This approach is rapidly taking hold in Australia’s Northern Territory, where women rangers are keen to gain broader experience in new roles and support each other through periods of absence (Miller and Woodside 2020).

A strong online program geared to standardized systems of ranger roles, ranks, and competences could fill many gaps, if technology and literacy permits.

### **A simple framework for addressing capacity and performance**

The concepts of capacity, capacity building, and job performance are linked but are best managed separately in planning and monitoring improvements. We have taken the simplest approach to separating these terms, and their functional elements. Personal experience of the lead author in many international development projects has reinforced the value of doing this.

Many issues have been thrown into a basket called “capacity” and can be usefully separated. This clarification became more important once we had interviewed all the working group members, and reviewed ranger perception surveys and relevant literature. To the frustration of many field workers, the issues often come down to good management training and resources—more reason to address them systematically.

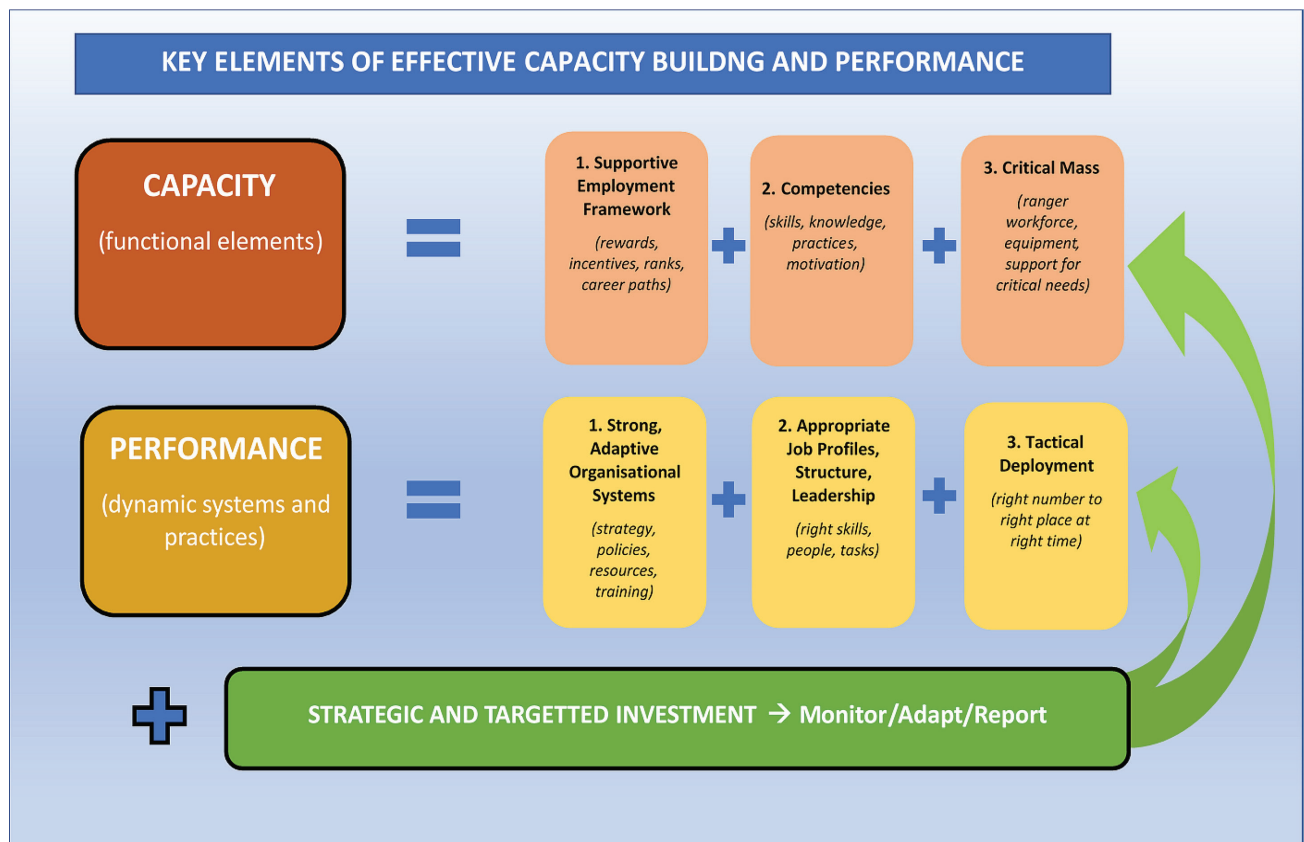
The following is a summary of the key aspects of each term used here and the value of unpacking the components (Figure 1):

- Our model of capacity has three elements (also Figure 1): workforce competences (i.e., skills, knowledge, and practice), critical mass (right numbers in right places at right time) and supporting systems (organizational structure, systems, policies, resources, and management).
- “Capacity” describes the building blocks of a workforce, while the related aspect of “performance” describes the execution or

application that maximizes capacity. These are co-dependent aspects of an effective workforce and relevant strategic planning.

- “Capacity building” (or “capacity development”) is the strategic process by which individuals and organizations obtain, improve, and retain the skills, knowledge, tools, equipment, and other resources needed to do their jobs competently.
- Critical attributes in the capacity-building process are empowerment and motivation (Saeed and Asghar 2012). These attributes featured in the problem analysis with working group members since both are difficult for rangers when they don’t feel fully supported through training, career development, strong supervision, or access to field equipment. The results of the ranger perception surveys concur in this.
- There are differences between the ranger workforce capacity (skills, knowledge, and practice) and organizational capacity (sound management, governance, resources, and support systems).

Figure 1. A framework for linking building both capacity and performance.



- Effective organizational capacity includes:
  - **Leadership:** The ability of the leadership team to develop a vision, set priorities, and inspire others in order to achieve the organization’s mission. Evidence of success is a dynamic leadership team.
  - **Operational support:** The ability to obtain and maintain the resources—including human resources—to carry out the organization’s institutional and programmatic activities. Evidence of success includes having the right people, skills, space, funding, and field resources.
  - **Management systems:** The ability to use resources in an effective and efficient manner. Evidence of success includes laws, policies, and procedures that support staff and result in the cost-effective delivery of programs and services. In addition, there should be program services that aim to integrate into local infrastructure and create strategic partnerships with communities.
  - **Adaptiveness:** The ability to use resources in an effective and efficient manner. Evidence of success includes regular assessment of the operating environment, staff capabilities, and community support. Ongoing performance management is key to employee engagement, reward systems, and adaptiveness of the workforce.

**Developing a stepwise action plan to address key targets for change**

Following the problem analysis in the Open Standards, the next steps are to build on the identification of a new vision, practical targets, and action targets. The methodology generally uses the key threats to this vision and targets as a starting point for looking at potential actions and relationships that would bring about change.

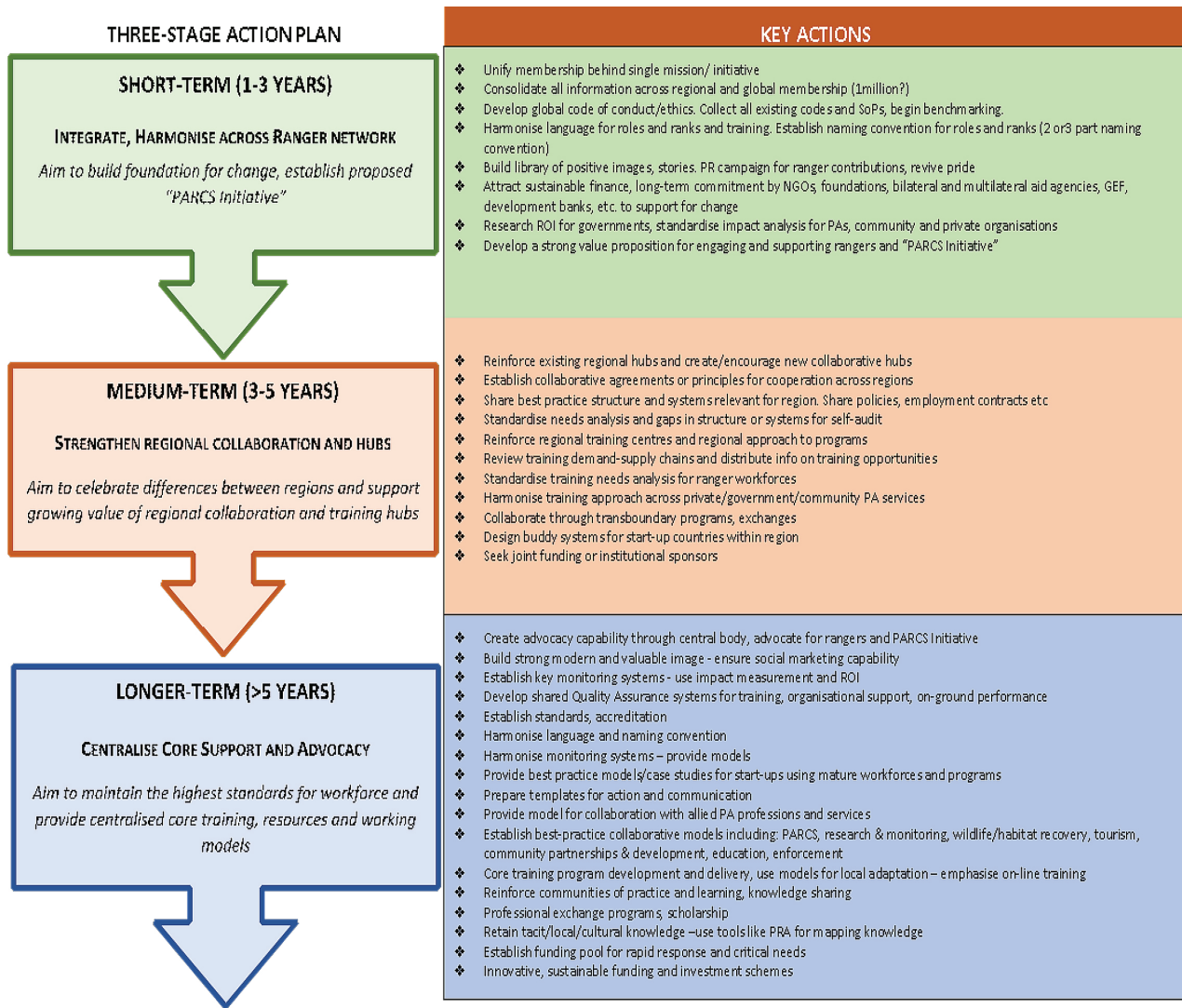
We have presented the various changes that are needed in clusters relating to urgency, potential impact, and the capacity of the global sector to respond by realigning current resources and systems. Determining the root cause of the

problems is another approach and should also be considered in a problem analysis at a later stage.

The plan has three stages that reflect the urgency and complexity of structure needed to deliver on the targets (see Figure 2). Initially, the organizational structure required to support the action plan is largely built around collective leaders (coalitions of players that agree to a suite of shared values, principles, and preferred outcomes) until the third, long-term stage, when a new central organization should be formed to consolidate the changes and build a future.

The key features of this three-stage action plan can be summarized as follows.

- It suggests a broad naming of the sector as PARCS to embrace the allied roles and engagement of local community players and their knowledge.
- It suggests labelling this action plan as the “PARCS Initiative” to galvanize internal forces and attract investment. The name “PARCS Initiative” may be improved upon, but the concept of a consolidated initiative is what is most important. This creates a new start date for change and professionalization of the sector with a clear vision for the future. This builds the necessary emotional commitment, recognition, and on-ground capacity from the start.
- It addresses current critical issues by realigning existing demand and supply and reallocating resources where possible.
- It is based in a problem analysis that embraced survey results from rangers on the ground as well as the wisdom of a working group with 400 years of collective experience and strong motivation and vision.
- It stratifies the activities and clusters them so that they easily lead to development of a strong business plan led by a collective rather than one body in the first instance. The host organization(s) should market that plan at all levels and seek new innovative investments.
- It relies on a collective leadership approach to solving this large ranger capacity problem and



**Figure 2.** Summary of the proposed three-stage action plan with recommended actions at each stage. PA: protected area; PARCS: protected area rangers, custodians, and stewards; SoPs: standard operating procedures; GEF: Global Environment Fund; ROI: return on investment.

a willingness to join coalitions (of some form) based on some shared values and principles for action. Importantly, this is not the creation of a new international authority. Instead, the initiative should be built around the need to strengthen regional hubs and form more formal coalitions. Any central body would exist to support the developments across the hubs, much like a decentralized business structure, partnership, or network (see Figure 2).

**Summary recommendations**

The challenge of improving ranger capacity at a global scale is enormous and complex but not insurmountable. As shown by the collaborative problem-solving approach undertaken as part of

this review, the issues can be unpacked, usefully clustered into groups, and addressed according to priority. There are generalities that apply as well, such as the need for collective leadership rather than central control and strengthening of regional collaboration to guide change that is relevant to regional cultures, politics, and ecosystems. It is also essential that the change process effectively engages, motivates, and rewards rangers along the way. The following recommendations are consistent with these themes and aim to provoke some innovation in the follow-up planning.

1. **Adopt and promote a three-stage action plan to address ranger capacity.** The proposed three-stage action plan is summarized in Figure

2. It addresses short-term issues such as critical capacity shortages and on-ground support needed, medium-term issues such as alignment of existing capacity-building programs with demand and gaps, and longer-term issues such as the development of a central ranger hub that will accredit and advocate for rangers in the future. This stepwise plan highlights the need for the following:

- Building momentum through immediate action on critical issues and realignment or redeployment of existing resources to priority areas where possible.
- Consolidating the ranger sector so it is future-focused, unifying, and motivating while also capturing future roles for rangers, custodians, and stewards. We suggest the name PARCS (Protected Area Rangers, Custodians and Stewards) to begin discussions.
- Ensuring the change process is led by a collective or coalition (i.e., not by a single body in the first instance). Collective leadership will require strong support systems and willingness to join a coalition based on some shared values and principles. The coalition would jointly market the plan and the value proposition for change, while seeking innovative investment.

**2. Adopt the proposed model for capacity building based on an integrated framework for capacity and performance.**

- Encourage use of the framework shown in Figure 1 to assist planning, management, and investment by relevant authorities.
- Develop a suite of templates for planning and monitoring capacity-building efforts so that existing ranger management systems are improved, and better support offered to rangers.

**3. Harmonize naming of ranger roles, ranks, and expected competences.** A common terminology for the core functions of rangers

should be developed as it will be the central framework for systematically addressing the capacity of this sector. We suggest that the coalition of leaders:

- Work with the ILO to review pay rates for each of the roles with minimal indexation, set minimum work conditions and benefits, and create a scheme for the protection of wages in the event of the insolvency of the employer.
- Collate a simple register of current ranger roles, job titles, levels (or ranks or grades), and brief position descriptions (including responsibilities and relevant pay).
- Convene an international working group to develop a common naming convention (possibly a binomial nomenclature) that includes role and rank (e.g., “PA Ranger: Law Enforcement, Level 3), applying job descriptions using the competency register as a guide (Appleton 2016). Test the system and adapt it for best fit in local languages or cultural scenarios.
- Ensure that the nomenclature can be applied to recruitment of some locals who may be non-literate yet locally very knowledgeable, and that it acknowledges other special roles, such as cultural advisors or community stewards and young rangers and women.

**4. Review the supply chain for providing training and seek to align supply options with demand.**

- Take a regional approach to analyzing training needs and comparing them with available supply—strengthening existing supply chains and identifying gaps. Include urgent and non-urgent, start-up, and in-service training needs and aspirations.
- Build a register of training programs available to serve all levels and roles of rangers, including online programs. Standardize the naming convention for relevant training programs, crosslinked to the existing protected area competency

register. Use recent reviews as a starting point (e.g., the PALRC short course review; Chapple 2019) and materials provided by our working group (Woodside et al. 2020).

- Align regional training demands with regional ranger associations to assess gaps and broker opportunities. Bolster efforts to develop online training programs to suit the needs of literate rangers for continuing professional development.
- Identify a minimum recommended amount of training for rangers (base-level training requirements and entitlement).
- Develop a crisis response fund and a range of rapid deployment services to address critical capacity or other urgent needs. The fund could work through regional structures and operate within ethical management guidelines and safeguards. A taskforce should be assembled to consider the best structure at both regional and global levels.

5. **Establish (or strengthen existing) “regional hubs” for ranger development, possibly under the umbrella of IRF.**

- Strengthen existing regional ranger hubs or associations to support shared training programs and develop training centers and communities of practice that ultimately lead to better governance and operations, and more resources.
- Encourage transboundary collaboration, especially where there are shared IPLCs and shared ecosystems.

6. **Pursue sustainable funding options that are innovative and collaborative.**

- Establish a task force or working group of conservation leaders willing to engage with the leaders of the PARCS initiative. Explore new approaches to funding, including impact investment, public-private partnerships (Bishop and Thomas 2006), pooled investments, and leveraging of smaller funding sources from not-

for-profits and other non-governmental organizations (NGOs), for-profits, and crowd funding.

- Urge all protected area planning processes to include ranger workforce planning with ongoing training. Organizations such as IUCN and the UN Development Program can assist.
- Develop a brokering function (possibly sponsored by NGOs at a regional level) to help match needs and opportunities. Develop templates to assist smaller organizations and start-ups to attract fundamental support and create appropriate reporting systems.
- Create a basic support fund that ensures essential support is available to all ranger forces (perhaps sponsored by a major NGO at regional level). Funds might be sourced through small nature-based tourism levies and administered by a consortium of tourism companies aligned with ranger federations or a central ranger body.
- Use return-on-investment information (available from Australia, Canada, and elsewhere) to build arguments for support by governments and other agencies.

7. **Nurture ranger pride, motivation, and personal development.**

- Design programs to bolster pride, share stories, demonstrate and reward motivation on the ground, and support personal development of rangers.
- Design programs to realistically address change, build better support systems and provide resources. Ensure that expectations for change are similarly realistic and monitored.
- Develop a basic information package about the value of ranger services for communities, local economies, and biodiversity conservation.
- Establish (or revive) a core code of conduct and ethics (to be translated into local languages, with some elements tailored as needed) to help align attitudes

and performance and contribute to motivation for change.

8. **Address workforce gaps and create opportunities for women, youth, underrepresented groups, and Indigenous people and local communities.**

- Include targets for inclusivity as a matter of principle in all capacity-building programs and management plans for protected areas. The key targets should include women, youth, and Indigenous and underrepresented communities. Monitor progress against goals in the plan.
- Encourage awards or some other recognition for achievements in this arena, possibly connected to the next World Ranger Congress. Participating in an award scheme will help encourage an exchange of information around improved recruitment practices, support services, operational plans, and templates for change.

9. **Share knowledge, best practices, and integration of cultural knowledge systems.**

- Recognize tacit and local knowledge of all rangers and allies. Use tools such as knowledge mapping or participatory rural appraisal to document local knowledge of cultural and environmental assets.
- Develop opportunities to formally recognize cultural knowledge systems and integrate into natural resource planning. Examples include “cultural colleges” for sharing traditional knowledge.
- Develop knowledge-sharing systems, networks, and information platforms for rangers, including communities of practice and learning.

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