

Extract from:

BUILDING ON NATURE

**Area-based conservation
as a key tool for
delivering SDGs**



Sustainable and healthy societies

SDG 1: No poverty

1 NO
POVERTY



Summary for policy makers

Poverty remains an underlying cause of many of the wider environmental and social challenges that the SDGs seek to address, including many environmental problems. Therefore, contemporary approaches to conservation acknowledge that attempting to address these challenges without also addressing poverty is likely to be unsuccessful. On the other hand, the latest UN estimates conclude that the world is not on track to end poverty by 2030,¹ which means that additional approaches contributing to poverty reduction are needed, including those building on the conservation of natural capital.

While poverty is multidimensional and influenced by more than just money (e.g. subsistence, political, environmental, cultural and spiritual dimensions), this chapter focuses mainly on the economic aspects of poverty and discusses how effective area-based conservation can contribute to poverty reduction strategies, through:

- Tourism and ecotourism
- Direct and indirect employment
- Collection and sale of wild products
- Sustainable agriculture, grazing and agroforestry
- Maintenance of ecosystem services through Payment for Ecosystem Services (PES), including REDD+ and similar schemes for carbon and water

There is no one category or governance type of protected area that is most suited to supporting economic activity. However, tourism tends to be focused particularly in IUCN management categories II and III, and also in V, protected landscapes and seascapes. Collection of wild products within natural ecosystems fits particularly into IUCN category VI, sustainable use areas, and the category was designed explicitly for this purpose. Category V is the management approach most closely linked to the use of sustainable agriculture within protected areas. Additionally, many areas likely in the future to be recognised as OECMs provide a key role in supporting Indigenous people and other local communities and helping them to move out of poverty.

What is the challenge?

Poverty remains endemic throughout the world, both in rich and in poor countries. There are around three-quarters of a billion people – one person in ten – surviving on a daily income of less than two dollars (US\$1.90 is used as the standard definition of absolute poverty by the World Bank and in the SDGs). It is important to stress that poverty is not only about money, but includes other variables, such as unemployment, ill health, lack of education and social exclusion.² 1.3 billion people around the world live in what is known as “multidimensional poverty”;³ a definition that goes beyond income to look at issues such as poor health or malnutrition, a lack of clean water or electricity, poor quality of work or little schooling.⁴ The United Nations is clear in its conclusion that: “*The world is not on track to end poverty by 2030*”.⁵

Poverty affects women, and particularly children, to a disproportionate extent and is also geographically skewed; 80 per cent of people living in absolute poverty are in sub-Saharan Africa, and many are children.⁶ At least half the world remains “poor”, even if entry to the middle classes is assumed to start at an income per person of US\$11.00 per day,⁷ which most of the people reading this report would struggle to get by on. Poverty in rural areas is three times as high as in urban areas.⁸ Over half the population of the world have no access to social protection such as pensions or healthcare.⁹

There have been important changes, and the number of people in extreme poverty has fallen over the past decades,¹⁰ although some analysts question the extent to which these reductions mark real improvements in the condition of the poorest,¹¹ and the 2020 pandemic has been making the situation worse. Furthermore, poor rural dwellers in many parts of the world are finding themselves at an increasing level of insecurity. Poor people are vulnerable in multiple ways, including from hunger, from poor water and sanitation, from lack of healthcare and from lack of education. Poor people also generally suffer far worse effects in the case of natural disasters. Research shows that 80 per cent of the

poor in Latin America live on marginal land, with 60 per cent doing so in Asia and 30 per cent in Africa.¹² When disaster strikes, these communities are the first to take the brunt. For example, before the major tsunami hit Indonesia in 2004, a third of the population of Aceh and Nias Provinces lived in poverty; this was pushed up to almost half in the aftermath of the disaster.¹³

Many apparently intractable environmental issues such as deforestation, bushmeat hunting, land degradation and desertification are impossible to address effectively when many people lack the basic essentials of life. The poorest people do not have the luxury of considering long-term, and to them largely conceptual, issues of resource security and sustainable development when they face daily shortages of food, medicines and shelter. When poverty is associated with lack of land tenure, any incentives to manage land or water for its long-term benefits quickly disappear. Poor people are the foot soldiers in the massive illegal wildlife trade, taking the risks in poaching and trafficking endangered wildlife whilst enjoying few of the profits.¹⁴ They are more likely to migrate, in a desperate search for better living conditions, adding to social and environmental problems in cities already breaking under the strain of too many people and too few resources. Rural–rural migration is another important and often undocumented cause of environmental degradation.¹⁵ Social inequality is bad for the environment, which may in turn explain why societies with more inequality often appear to be less healthy.¹⁶

Addressing poverty, then, is not just an urgent need from a moral or humanitarian perspective. The continued existence of global poverty affects everyone in myriad ways, not least through its role in degrading the ecosystem services we all depend on. Poverty reduction strategies are fundamental to many of the other issues examined in this report.

Poverty impacts on almost all the threats to well-functioning ecosystems discussed in this guidance.¹⁷ For example, population growth, urbanisation, refugees and poverty keep many city dwellers dependent on fuelwood for heating and cooking, resulting in rapid forest degradation, and sometimes deforestation.

Woodfuel supplies over 80 per cent of household fuel in Africa and accounts for over 90 per cent of harvested wood. This also impacts human health and the achievement of SDG 3: household air pollution from burning solid biomass caused more deaths than malaria in 2010.¹⁸ Population growth or an influx of refugees can lead to rapid increase in woodfuel use, as in Abéché in Chad and Kinshasa in the Democratic Republic of Congo, which are experiencing huge population increases due to conflict and rural poverty, creating rapid deforestation.¹⁹

Poverty is also by far the most important cause of hunger in the 21st century and thus interconnected with the achievement of SDG 2,²⁰ with poor people unable to afford enough food. Paradoxically, there is also an apparently perverse relationship between poverty and obesity: with lack of education coupled with aggressive sales drives meaning that many poor people are badly nourished on cheap foods and in consequence obesity is a problem now impacting virtually every country in the world.²¹ The risks of hunger amongst the poorest are also increased by climate change or other environmental disturbances, linking SDG 1 with SDGs 11 and 13. A bad harvest, inclement weather, pest attack or the vagaries of the market can suddenly leave people with insufficient food to eat or no surplus to sell for essentials like healthcare and children's education.

Climate change can further exacerbate poverty and undermine poor people's ability to manage land and livestock sustainably.²² It has long been recognised that the poorest people are the most vulnerable to climate change,²³ and yet for the most part they contribute the least to this threat. Swept up in rapid modernisation, often pushed further into inhospitable territory and with traditional kinship and land management systems breaking down in consequence, poor people are left with few options.²⁴

Finally, poor people tend to get pushed into the margins, where they are additionally disadvantaged. The "margins" may be the shanty towns surrounding major cities, or the least hospitable ecosystems in rural areas, places vulnerable to floods or landslides, or areas of conflict and rampant criminality.

Poverty in the drylands for instance is often made worse by long-term neglect of these areas, which are regarded by governments as being of "low potential", meaning that resources are channelled elsewhere leaving drylands starved of investment. Poverty levels in the drylands, measured in terms of literacy rates and health indices, are above average in many countries.²⁵ When desertification leads to lower food production, it contributes to national poverty and the vulnerability of the poorest communities. This creates a vicious circle since the poorest farmers also face the greatest challenge in addressing land degradation.²⁶

SDG 1 aims to eliminate extreme poverty by 2030. But true to the wider definition of poverty, it also has wider aims: to halve the number of people living below national poverty lines (Target 1.2), to reduce multidimensional poverty and to increase the number of people with social safeguards and access to basic services and secure land tenure (Targets 1.3 and 1.4) and reduce direct economic loss from natural disasters (Target 1.5). Goals related to subsistence, access to land and protection from natural disasters are addressed under SDG 2, SDG 10 and SDG 13 of this guidance, whereas this chapter focuses on the various ways in which area-based conservation, including particularly protected areas and OECMs, can contribute to economic, cultural and spiritual benefits helping to reduce poverty.

How can effective area-based conservation help?

Many protected areas can contribute to poverty reduction strategies directly, by providing employment and economic opportunities amongst resident and local communities.

Tourism or ecotourism is the commonest source for raising income from protected areas and remains a critically important value.²⁷ It has been estimated that protected areas generate over US\$600 billion per year in revenue from visitors.²⁸ Tourism is the largest source of foreign exchange for a

number of countries, for instance in Rwanda.²⁹ Sometimes the benefits are spread widely across society,³⁰ in other cases they only benefit a minority. The most secure forms of tourism income are probably those that draw mainly from domestic tourism, as in the case of South Korea where around 97 per cent of tourists to national parks come from within the country,³¹ being much more resilient in the face of sudden economic downturns or similar changes. A single species can be the driver of a whole local industry: the return of the osprey (*Pandion haliaetus*) to a reserve in Scotland created the equivalent of 87 associated jobs and over US\$3 million a year.³² Ranthambore National Park was the first designated tiger reserve in India and remains one of the most visited. The surrounding area supports 3,000 tourist beds and tourism revenues are over half a million US\$ per year, increasingly from domestic tourism.³³ Associated industries are also important, such as handicrafts and locally collected products sold in and around protected areas, hotels,³⁴ guest houses, homestays, cafes, guiding and associated activities.³⁵ However, tourism is also particularly sensitive to disruption. A single act of terrorism can undermine national or regional tourism strategies for years and the COVID-19 pandemic has thrown tens of millions of people involved in ecotourism out of work.

Direct and indirect employment

by and investment generated by protected areas can also be significant, particularly in rural communities where other opportunities may not exist. For example, employment created by China's panda reserves is an important contributor to rural income in parts of Sichuan. A 2017 study of almost a thousand households in 16 reserves found that employment increased mean household income by US\$140 inside reserves where the average income per capita is US\$930.³⁶ Sichuan's 46 giant panda reserves employ over 2,800 staff as rangers, guards, etc.³⁷ Protected areas can also bring in significant investment and create jobs related to biological and other forms of research.

Unfortunately, the success of protected areas in reducing poverty through protected area related employment and investment – and also tourism – is closely tied to the quality of

governance and the rule of law in a country. In places where corruption and illegality are rife, money generated through protected areas is often siphoned into the pockets of the most powerful, while poorer or politically weaker groups are left out of the bounty.³⁸ Consequently, good governance is a key for ensuring that the benefits materialise in practice.

Collection and sale of wild plant and animal products

in processed or unprocessed form support local economies in both developing and developed countries. An increasing number of protected areas are managed in a way that facilitates local sustainable collection of products, ranging from nuts,³⁹ honey⁴⁰ and other non-timber forest products,⁴¹ through high-value items like turtle eggs⁴² and medicinal products.⁴³ Perhaps the largest of all is the support marine and freshwater protected areas provide for fisheries,⁴⁴ described in detail in the chapter on SDG 14.

Sustainable agriculture, grazing and agroforestry

remain major land-uses in many protected areas where such activities are allowed (IUCN category V),⁴⁵ including the *Satoyama* sites in Japan,⁴⁶ in conservancies throughout southern Africa, and elsewhere. Some areas under sustainable agriculture may also qualify as OECMs, if they support high levels of biodiversity, such as low-level grazing on natural pastures. If managed carefully, domestic livestock and wild animals can co-exist in the long term and this can be a way of reducing social and economic tensions around conservation. Additionally, some traditional forms of production, such as cork oak forests in the Mediterranean⁴⁷ or traditional vineyards,⁴⁸ may also support high levels of biodiversity. However, this does not imply that all forms of sustainable agriculture are also OECMs, but only the subset that meets all the requirements of an OECM.

Maintenance of ecosystem services

are supported by economic compensation via **payment for ecosystem services** (PES) schemes including particularly carbon through REDD+ schemes⁴⁹ and water through agreed PES schemes⁵⁰ often associated with municipal water suppliers or private water companies. This is a rapidly developing field, with many schemes still in the process

of development, and is addressed in more detail under chapters on SDGs 6 and 13. It potentially offers a lifeline for many protected and conserved areas; giving local communities an incentive to conserve and covering management costs, but the practical problems of running such schemes are sometimes considerable. Ecosystem services can also have direct economic benefits. In the Azores Islands, part of Portuguese territory, the Pico de Vara/Ribeira do Guilherme protected area has improved water quality, so that it now exceeds legal requirements for potable water. Previously many people bought bottled water, so improved water quality has led to important savings; total benefits from water quality are estimated at €110,000 (US\$127,000) per year.⁵¹

Approaches that support SDG 1

Research shows that any category or governance type of protected area can play a role in generating economic returns, and all have roles in addressing some of the wider interpretations of poverty discussed above. However, some types of protected and conserved areas are more closely linked to particular activities and we outline these below.

Protected areas

- **Category II, III and V protected areas, privately protected areas and ICCAs involved in ecotourism:** Category II protected areas – the classic national parks of North America and Africa, are designed in part to provide places for people to explore nature and many deal with mass tourism, which itself can if not properly managed be a conservation threat. Countries are increasingly building rural development strategies around such places. In Europe, where the national park model has developed with significant differences, category V protected areas are generally cultural landscapes complete with settled human communities that nonetheless have important nature conservation values. Again, these areas are almost all a major focus for ecotourism. Category III, natural

monuments, are generally smaller and based around one specific feature, and many also cater for tourists in a major way.

- **Category VI protected areas used in the collection of wild products:** Category VI, sustainable use areas, emerged from the concept of “extractive reserves” in Latin America,⁵² developed explicitly to combine the collection of one or more, usually high value, natural products from an otherwise natural ecosystem. Initially this was rubber, but nuts, berries and fish are all common factors in the designation of category VI.
- **Category V protected areas for sustainable agriculture:** Experience with mixing agriculture and conservation are mixed; in some cases, the results are disastrous for wildlife and natural vegetation while in others co-existence has proven mutually beneficial. This is a rather grey area, where protected and conserved areas blend gradually into sustainable use, but it is clear that many protected areas do include large areas used for grazing and also some areas of agriculture. In some cases, such as the interaction of nomadic pastoralists with protected areas, the agricultural elements become an integral part of conservation strategies.⁵³

OECMs

- **OECMs for sustainable agriculture, wild food collection, etc.:** Including some areas outside protected areas where management supports high levels of biodiversity. The IUCN guidance recognises: “*Traditional management systems that maintain high levels of associated biodiversity. These could include certain agricultural or forest management systems that maintain native species and their habitat*”.⁵⁴ This does not imply that all forms of sustainable agriculture are OECMs.
- **OECMs associated with ecotourism:** Including many conservancies, privately run nature areas and buffer zones of protected areas that provide useful income for local communities, and also serve to relieve pressure from designated protected areas.

Case study



Co-benefit
SDGs



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based on a case
study provided
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Supporting area-based conservation as a means to reduce poverty and improve food security

Multiple protected areas, Lao



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Background: Laos is one of the most biodiversity-rich countries in south-east Asia, with high levels of endemism. There is still a great deal to be learned about the distribution and status of species, with new discoveries happening all the time. Laos has an estimated 8,000-11,000 plant species, between 150-200 species of reptiles and amphibians, 700 species of birds, 90 species of bats, over 100 species of large animals and 500 species of fish. Fish diversity in the Mekong River is estimated to be roughly three times that of the River Amazon, and several indigenous species are considered suitable for aquaculture. There is no list of fungi despite their nutritional importance in diets, little known about invertebrates and all species lists are incomplete. It is estimated that 40 per cent of species depend on forest ecosystems. Some 319 species are considered to be of global conservation significance: including 67 per cent of large animals and 53 per cent of bats.⁵⁵

Protected areas listed on the World Database on Protected Areas cover 3.86 million hectares (16.7 per cent of land cover).⁵⁶

The Laos legal system recognises Conservation Forests for nature and biodiversity.⁵⁷ Twenty National Biodiversity Conservation Areas have been designated, but no complete inventory exists for provincial or district protected areas. Two national parks – Nakai-Nam Theun and Nam Et-Phou Louey – were both designated in February 2019, being the first such reserves in the country. Hin Nam No National Park was designated in January 2020, a site protecting Indo-Chinese karst which is being assessed for natural World Heritage site designation.

With the exception of a small number of introduced fish used for aquaculture, almost all of the fish species caught in the Lao PDR are indigenous species. About 500 indigenous fish species are reported for the Mekong River and its tributaries in the Lao PDR and, of these, nine species are threatened, and 25 species are suitable for aquaculture.⁵⁸

Sustainability challenge: Habitat loss and degradation are the primary threats to the survival of wildlife in Lao PDR and are mostly caused by the expansion of agricultural land, forest product extraction,

infrastructure expansion and fires. Snaring is particularly intensive in the Annamite mountains, bordering Vietnam. This threatens both wildlife and human livelihoods. Finding the balance and adopting a path of truly sustainable development are urgent priorities.

Rapid development is destroying natural ecosystems and putting species at risk, including those used by many of the poorest members of society for subsistence. The Lao Red list was last updated in 2009 with the highest level of protection identified as necessary for 44 mammal species, 34 birds, eight reptiles, one amphibian and seven fish species. Examples of species on this list for the highest level of protection include the Irrawaddy dolphin (*Orcaella brevirostris*), saola (*Pseudoryx nghetinhensis*), great hornbill (*Buceros bicornis*), Siamese crocodile (*Crocodylus siamensis*), Mekong stingray (*Dasyatis laosensis*) and the Lao salamander (*Paramesotriton laosensis*).⁵⁹

Laos still has large areas of forest although the rate of conversion is increasing, particularly to annual crops (maize, cassava, sugarcane) and to commercial perennial plantations (rubber, coffee, cacao, pepper) for both regional and global markets.⁶⁰ Shifting cultivation is practised by nearly 70 per cent of the population; it is not a significant driver of deforestation but causes forest degradation,⁶¹ which is itself often a precursor to conversion.^{62,63} When plantations are established on fallow lands, communities often go further into forests to clear land for farming.⁶⁴ The logging ban has been augmented by two Prime Minister Orders; namely PMO 15 controlling the harvesting of timber (2016)⁶⁵ and PMO 05 on controlling wildlife trade (2018).⁶⁶ However, illegal logging continues and sometimes granting of agricultural concessions has been used as a mechanism to get around the ban.⁶⁷ Around half a million hectares of industrial tree plantations have been established in Laos,⁶⁸ although these are legally allowed only on degraded or barren land, in reality they are often established on forested land.⁶⁹

Although there is a protected area system, management capacity and thus management effectiveness remain low, and the need for a

major capacity building programme has been identified.⁷⁰

Although developing fast, Laos remains a poor country, with the majority of the population still at least partly dependent on subsistence from natural resources. Almost half the rural income in 2009 came from sale of non-timber forest products and most households also rely on them for subsistence.⁷¹ While the proportion may be reducing, recent detailed surveys in four villages found “environmental income” averaging 23 per cent across all wealth classes, and loss of natural ecosystems was thus being contested by local communities.⁷²

Conservation solution: There is a need to establish a management framework that secures a sustainable and equitable access to natural resources in Laos. A secure and well-managed system of protected areas is seen as the cornerstone of efforts to maintain natural ecosystems and their associated benefits, with benefits in terms of a wide range of ecosystem services. Many of these protected areas contain human communities, so effective conservation necessarily involves working with these people, supporting their livelihoods and promoting development pathways that do not undermine long-term conservation objectives.

The Second Lao Environment and Social Project is a US\$38.83 million World Bank (IDA) and Global Environment Facility (GEF) funded project, aimed at strengthening management of protected areas, wildlife law enforcement and environmental protection systems, notably by improving the capacity and coordination between public institutions, civil society and concerned communities to manage protected areas and to enforce wildlife laws.

It supports 11 protected areas in seven provinces that cover 1,297,000 hectares and provides further support to the Lao-Wildlife Enforcement Network (Lao-WEN). This includes assisting community-based conservation across 190 villages. These communities are extremely diverse, with 28 languages from four major linguistic groups recorded in just one of the protected areas.

Case study

Through an inclusive and participatory approach, communities suffering from high poverty and malnutrition rates are provided livelihood support in return for voluntary agreements to eliminate hunting of threatened wildlife species and felling trees in some areas.

The project is also supporting the development of the first environmental curriculum for the National Academy of Politics and Public Administration (NAPPA) to raise awareness of Lao's environmental policies and international best practice, thus, reaching high-level decision makers in an unprecedented way.

Lessons learned:

- The National Protected Areas receive US\$5,000 /year from government funding streams, while government staffing levels to each protected area rarely exceed eight personnel, and on occasion can be none. Consequently, site selection of targeted donor assistance needs to be carefully considered.
- Multi-level collaborative management systems – linking the provincial authorities, district authorities and individual villages – were much easier to establish and implement in the smaller provincial managed reserves than in the two national parks, which overlap two or more provinces.
- The establishment and mobilisation of “district technical teams”, which combine government staff with district partners, has proven a main-stay of all protected area activities at the field level, in all sites. It very probably is a critical institutional body for blending the technical expertise of the protected area, with the existing administrative management system of the government, but is poorly understood in international conservation literature.
- Selection for development assistance in the targeted national parks and protected areas is based upon three criteria, namely (i) enclave villages, (ii) villages with overlapping lands with the protected area and (iii) villages with their boundaries abutting the protected area.
- Biodiversity threat assessments should be undertaken with the target district authorities and target villages prior to village assistance delivery. This orientation facilitates understanding that the limited livelihood assistance will be directly linked to threat mitigation of the priority threats within each reserve in question.
- Village and forest land use planning is an important field activity in which to embed any meaningful livelihood development assistance. The activity is most effective if it is conducted in a phased process, to strengthen village ownership and understanding of the village plans developed.
- Village conservation agreements were used to strengthen village commitments to conservation values. However, the far more significant aspect should be the monitoring of changes in attitudes (through pre- and post-attitude testing), and behaviour, within the target villages.
- Village grant development assistance might be more effective if it involved delivery mechanisms as tranches, or as revolving funds, as opposed to single grant payments, but were constrained by the short project duration (generally three years in the 11 sites).
- The village development grants, if targeted into the buffer zones of protected areas, can assist with (i) poverty alleviation, (ii) biodiversity conservation; (iii) protection of tourism assets and climate-change mitigation simultaneously. Hence this development assistance should be promoted with rural development NGOs in the country, and internationally.
- Outreach is one of the most important technical fields of protected area management, and is particularly significant in collaborative management, where villagers, district partners and other stakeholders are intimately involved in management. Outreach can be tailor-made targeting villagers, schoolchildren and law enforcement partners. The country has extremely limited expertise in this field, which is possibly a regional phenomenon.
- Guidelines were formulated for different aspects of protected area management by the leading experts in the country in these respective fields, including: (i) participatory management planning, (ii) village and forest land use planning, (iii) outreach, and (iv) livelihood development



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linked to conservation. They proved very useful to guide the national consultants providing technical assistance as well as the government staff and district partners.

- An evaluation should be undertaken towards the end of project implementation, in order to clarify the lessons learned – both positive and negative – for the final phase.

Next steps: The management of the nascent national park system should be centralised to shift towards technical assistance being provided by central level (through training of trainers) in (long-term) preference to the ongoing site-level technical assistance. A Master Plan for Protected Areas (2020-2025) should be developed to assist prioritising the protected areas sites to be assisted with limited development assistance; often donors have prioritised sites of very low conservation values. Factors for determining site selection should include (i) international biodiversity values; (ii) the potential of tourism concessions (economic factor) and (ii) capacity building values – at the national level. Protected areas situated close to Vientiane should be prioritised, to strengthen decision-makers’ support for the national park movement, and the profession of “national park rangers”. The development

of guidelines should be expanded to cover all aspects of protected areas management (and the questions in – and outside – the METT tracking tool¹). These guidelines should be individually augmented by the development of practical field manuals to assist implementation at the field level. Target sites should be selected for protected area management assistance with a seven-year time-line. This time-line will ensure improved understanding of these complex protected area management systems, including embryonic buffer zone management, and offer a much higher likelihood of delivering sustainable protected area outcomes. These issues outlined above have all been incorporated into the design of the proposed Lao Landscapes and Livelihood (LLL) Project.

¹ The Management Effectiveness Tracking Tool (METT): <https://www.protectedplanet.net/en/thematic-areas/protected-areas-management-effectiveness-pame?tab=METT>

Case study



Co-benefit
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RESEARCH**



Indigenous protected areas helping to rebuild communities in Australia

Warddeken Indigenous Protected Area, Australia



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Background: Indigenous Protected Areas (IPAs) are a system of land and water tenure designed to help Australia’s “closing the gap” policy,⁷³ addressing hundreds of years of discrimination against Indigenous Australians. IPAs first emerged around twenty years ago⁷⁴ and are self-declared protected areas on Indigenous lands, which aim to combine biodiversity conservation and the provision of ecosystem services with poverty reduction, policies to reduce inequalities in wealth, improved healthcare, education and employment. IPAs have grown dramatically over the past twenty years⁷⁵ and now cover 46 per cent of Australia’s National Reserve System (over 740,000 km² well over 20 per cent of Australia’s landmass).⁷⁶ Along with Australia’s closely related Indigenous Advancement Strategy (IAS), IPAs generate important opportunities for training and employment, as rangers, wildlife officers, scientists and tour guides. Importantly, IPAs have a high employment retention rate, at approximately 80 per cent, bringing much-needed stability to isolated and disadvantaged communities. IPAs also provide important and often large-scale conservation areas in

parts of the country often missed by the state protected areas system.

Sustainability challenge: Social inequality in Australia has led to major differences of health, wealth and opportunities between Indigenous and non-Indigenous Australians, with the former experiencing dramatically lower life expectancy and a range of social and health challenges. “Poverty” in these circumstances is a complex concept that includes financial situation and economic opportunities but is also influenced by issues relating to people’s ability to live the life they choose.⁷⁷ Access to land is particularly important here and is a critical part of moves to improve the social conditions of Indigenous Australians. Changes in land tenure have in turn led to a switch in some areas from extensive pasture management back to more traditional uses, including protection.⁷⁸ At the same time, Australia is amongst the countries responsible for the highest losses of biodiversity,⁷⁹ exacerbated by increases in fire frequency,⁸⁰ and there is an urgent need for additional protection and management changes over large areas.

Warddeken is a typical example of an IPA,⁸¹ registered under the ownership of the Nawarddeken people in 2009 and managed by the Indigenous owned Warddeken Land Management Ltd (WLML). Covering around 1.4 million hectares of stone and gorge country in West Arnhem Land, Northern Territory, the land is of high biodiversity significance and contains important cultural, rock art and archaeological sites.⁸² However, like many IPAs the resident people face economic hardship and there is a high level of unemployment. Here, the protected area is already in place, but the challenge is to provide enough financial resources and incentives to ensure that it continues to be well-managed over time.

Conservation solution: The IPA estate includes many of the highest conservation priority areas in Australia.⁸³ The IPA concept will only work if it simultaneously provides support for communities – economic and social – alongside conservation. The solution here is to use existing government funds to create management and other jobs for local people and to develop Payment for Ecosystem Services schemes, in this case particularly related to carbon abatement and sequestration, to generate additional funds. Moreover, studies indicate Indigenous Australians working “on country” (i.e. in nature through programmes like IAS) have improved mental and physical health,⁸⁴ and often reduced risks of diabetes and kidney disease and lower blood pressure.

Measures in place: The IPA provides support for the community through jobs, thus helping increase conservation effectiveness whilst simultaneously addressing social including financial issues within the community. In Warddeken, Indigenous rangers, funded by IAS, manage fire risks, invasive plants and feral animals, and monitor threatened species. In 2018/19 for instance, aerial culling of feral animals included 2,061 buffalo, 369 pigs and 81 cattle to preserve freshwater sites. Prescribed burning took place over 5,476 kilometres of mosaic fire lines. Perhaps even more importantly for the community, many lost sacred sites have been rediscovered.⁸⁵ Biological surveys have been carried out that led amongst other discoveries to the description of a hitherto unrecognised

frog species.⁸⁶ During the same period, the IPA increased staffing levels from 50 to 131 (22 of which were permanent) – building to 4,208 person days per year, 58 per cent being from full-time staff. In total, the IPA employed 253 Indigenous people, with 47 per cent women.

Business case: Carbon offsetting has also been developed as a way of generating additional income. Between 2007 and 2021, Warddeken earned Aus\$12.57 million from carbon sales. They have also become role models in the community, playing an important role in generating social cohesion and increasing collective esteem, which itself has many knock-on effects in terms of building a vibrant community.⁸⁷

Lessons learned: Investment in jobs within IPAs has positive payback both in terms of rebuilding communities in remote areas and in reducing a range of social problems amongst people who otherwise have no job and few prospects. The broader conservation programme has been largely successful, showing for instance that aspects like collaborative monitoring of biodiversity is possible between local communities and outside specialists.⁸⁸

Next steps: These initiatives need to be rolled out more widely and there is increasing discussion about extending the IPA concept into marine ecosystems as well.



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Endnotes

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