Action for a more sustainable future

Deliberate effort and design of governance approaches are needed if environmental resources are to be used to alleviate poverty. The processes of scientific and locally based discovery described above help to make the trade-offs explicit. Building on this knowledge base, processes of negotiation are required to navigate the trade-offs in ways that benefit society's most marginalised people instead of leaving them worse off.

The following sections focus on the tools and elements of governance for negotiating the trade-offs that have been scrutinised and proposed by ESPA researchers, and summarise key policy recommendations.

Recognising and granting rights

Affected local people need statutory rights to access, manage and govern environmental resources – among these, officially recognised tenure rights are among the most important.

'Rights-based' approaches have existed for some decades as an important commitment to ensure that all interventions identify and respect the rights of all affected actors. One of the most important institutions that determine the extent to which individuals and communities can control the benefits they derive from ecosystems is tenure. The 'bundle of rights' concept recognises that traditional tenure systems typically have layered rights to resources, ranging from the right to access a resource to the right to manage it and exclude others.[65] While over 2 billion people live in lands held under customary tenure,[66] only one fifth of these are formally recognised[67] and rural communities are particularly at risk of losing their customary lands.[68] In some countries, requirements that land must be actively used in order to be owned can discourage farmers from practising traditional long-fallow systems which may

otherwise provide many ecosystem services. One ESPA study recommended that changing the formal tenure of indigenous territories to enable local control over land use would help to redress the power imbalance and make relationships more equal.[69]

Inequitable tenure rights among women and men remain one of the most persistent injustices that undermine effective governance of environmental resources in many places – although inequitable rights among all social groups should be scrutinised and addressed. In the case of indigenous people, the process of free, prior and informed consent (FPIC) is supposed to protect their land and resource rights. However, there remains a lack of clarity about ownership by indigenous people of sub-surface minerals and stored forest carbon, for example. The FPIC process is applied variably in different sectors, and is least effective where it is arguably most needed, namely where communities lack full legal rights and capacity.[70]

Box 10: A framework for managing protected areas equitably

Protected areas provide important global, national and local benefits, such as conserving biodiversity, acting as a sink for carbon dioxide and providing clean water flows. By 2020, the Convention on Biological Diversity expects 17% of the world's terrestrial area, and 10% of coastal and marine areas to be conserved in protected areas of some kind.[71]

However, protected areas often impose a cost on local communities. For example, local people may not be able to continue with traditional land-use practices such as shifting cultivation, grazing their livestock, or hunting and gathering food items for their livelihoods.

As protection leads to an increase in wildlife, local people may suffer from increased conflict with wildlife, in the form of (for example) elephants or monkeys destroying their crops and people may even be injured or killed by protected species.

In some cases, people may be evicted from a protected area or prevented from accessing it for culturally important activities. Frequently, local people may not be properly consulted about the boundaries of the protected area and have very little involvement in management decisions.

Where compensation is provided, for example in the form of development projects or tourism income, these benefits may be too little too late and often do not reach those who need them most.

Research funded by the ESPA programme has developed an equity framework that can help to avoid the injustices caused by protected areas, whether these are managed by governments, environmental non-governmental organisations (NGOs) or communities themselves.

The framework has three dimensions: recognition, procedure and distribution. 'Recognition' means respecting the rights and values of local people. This can be particularly important for indigenous people who may lack the ability to make their voices heard.

'Procedural equity' means ensuring that all relevant people can participate effectively in decisions that affect them, that decisions are taken in a transparent manner and that there are mechanisms for resolving disputes.

'Distributive equity' means that negative impacts of protected areas should be mitigated and any benefits shared out fairly. Applying this equity framework is not only justified on moral grounds; it can also improve management effectiveness in protected areas. People are more likely to support management interventions if they consider them to be equitable.

Applying the equity framework can help ensure that protected areas are governed effectively and equitably, delivering benefits to both the local and the global communities.[72]

Accountability to affected people

Policies and programmes should be designed with mechanisms in place to ensure that actors working across scales (local, national and global) of environmental extraction and use are accountable to affected local people.

ESPA's work highlights the pressing need for improved accountability to local people – not only by more equitable participation in decision-making (as above), but also in active promotion of more equitable **outcomes**. ESPA research has highlighted the risks to resource-dependent people when environmental conservation programmes have stronger accountability mechanisms reporting to national or international bodies than to local people. For example, a study of forest management in Kenya found that the 'implementation gap' between Kenya's progressive 2005 Forest Act and participatory forest management on the ground is in part caused by forest officers having greater upward accountability (expressed in their role as forest law enforcers) than downward accountability as community facilitators.[73] Environmental conservation programmes aimed at promoting global benefit – such as carbon sequestration and storage in forests, agriculture and other land uses – demonstrate similarly mixed accountabilities and the need for streamlined mechanisms to track more equitable outcomes (see Box 11).

Box 11: Governing environmental resources fairly across local, national and international scales: A case study from Madagascar

Many of the examples given in this report of identifying the links between human wellbeing and the natural environment, the limits and thresholds between safety and danger zones for particular ecosystems, and the decisions over and management of resources for human wellbeing – involve multiple stakeholders operating at multiple scales of influence. Here we show how this works in practice.

The Corridor Ankeniheny Zahamena (CAZ) protected area in Madagascar illustrates the interlinked nature of community-, national- and international-level governance. The funds available to support communities around the CAZ are dependent on the level of income the national government can obtain through REDD+ (reduced emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks) agreements, negotiated with international funding bodies, which in turn is based on calculations of how much CAZ will reduce shifting cultivation by communities and hence carbon emissions.[74] A minimum level of skills, understanding and mutual trust is required among individuals and institutions at all these scales in order to achieve both environmental and poverty alleviation outcomes.

An ESPA research team studied intensively how different members of communities benefitted from REDD+ agreements. They found that wealthier and better-connected members benefitted the most. The researchers from Madagascar and partner institutions in multiple countries worked as knowledge intermediaries to present their findings and encourage responses. They convened discussions from the community level and with the aid of translated materials (including comic book strips and posters), to the highest policy levels of the Government of Madagascar.[75]

Transparency

The intended outcomes and beneficiaries of development and conservation interventions should be communicated transparently to all – and should be monitored and communicated regularly.

It is not enough merely to identify ecological thresholds and the social and ecological costs of different environment–development options. To negotiate the difficult trade-offs over stewardship and use of environmental resources, there must be transparency about the findings. Without transparent information-sharing, affected stakeholders cannot meaningfully participate in decision-making. ESPA initiatives have trialled ways of making the use of environmental resources more transparent, including with the use of information and communications technologies (ICTs) (see Box 12).

Box 12: Mapping the uses of ecosystem services

The ESPA-funded project Sustainable Poverty Alleviation from Coastal Ecosystem Services (SPACES) has studied the relationship between ecosystem services and the wellbeing of poor people living along the coast in Mozambique and Kenya. Ecosystem services are unequally distributed across social groups. The distribution of benefits is determined by gender, ethnicity/migrant status, wealth/assets and other factors. Culture and context influence how benefits are experienced and distributed to different types of people. This distribution can change over time as a result of social, cultural and economic developments, but change can also be directed and accelerated by policy and programme decisions.

The project's interactive, graphically based tool has demonstrated in a visual way how access to environmental resources affects different social groups. This allows the user to explore the proportions of household survey participants who met or did not meet their basic needs by site, gender, age and engagement in fishing.

Decision-makers can use the tool to examine the implications of proposed development interventions by:

- exploring how basic needs are met or not met by different development interventions
- looking at how ecosystem services and goods impact on basic needs
- comparing one site with another
- looking at who has access to an ecosystem service
- seeing the quality of the ecosystem.

A similar data visualisation approach could be adopted elsewhere to support public debate and decision-making processes.[76,77]

Participation

Socially marginalised groups should be empowered and actively supported to participate in environmental decision-making.

ESPA research teams have documented effective participatory approaches to environmental decision-making, which led to actions that achieved positive environmental and positive socioeconomic outcomes for the most vulnerable and socially disadvantaged people.

- One study found that customary and community-based forest management approaches offered the greatest potential to deliver on both ecosystem health and poverty alleviation.[78]
- In coastal Kenya, around the Mombasa Marine National Park, multi-stakeholder workshops functioned effectively as a means of generating information and collaborative understanding necessary to underpin decisions regulating fishing activities. Here, the participatory approach revealed that plans to support at-sea fishing at the expense of land-based fishing would affect groups beyond the fishers themselves, including female fish traders.[79]
- An experimental social learning process in the Lake Baiyangdian catchment, China – a heavily polluted and degraded catchment – involved national government ministry and agency representatives and local officials in an intensive, three-workshop process, supplemented by field visits and consultations with villagers. This process built relationships and raised awareness of social–ecological dependencies among key groups of water managers. It provided the basis for developing a longer-term social learning platform and reframing 'water catchment management' (which implies a static approach) to 'water catchment managing' (a more dynamic and promising approach for restoring the area's degraded resources).[80]

A key point is that participation must be meaningful – as in the above examples. ESPA uncovered many instances of 'lip service' in which consultation with affected people was a box-ticking exercise and did not influence decision-makers' preconceived ideas. This has proved far from easy, as such participation challenges the power of government, the private sector and community members with greater social status and wealth. To make participation more meaningful may require challenging power relations and power dynamics across and within levels of governance.[81]

Capacity development

Programme managers need training in environmental and social literacy and facilitation skills.

ESPA looked at how local communities that are managing environmental resources may need to be educated or trained on larger environmental processes, trends and impacts. However, it is not only local people who may need support in order to participate meaningfully in programme design and implementation.

ESPA's experience shows that it takes skill to run inclusive processes to ensure that marginalised people genuinely have a voice. Whether decentralising resource management to the local level or establishing a reciprocal water agreement, both community members and the staff of facilitating government bodies or NGOs need training to initiate and support sustainable interventions.

Two types of capacity development are needed for programme managers. First, they may benefit from ongoing training on the science of social–ecological systems and its implications for management. An ESPA study found a high degree of willingness among African decision-makers for such engagement. Two thirds of decision-makers surveyed do not use ecosystem service models that could help

them with their jobs, due to a lack or a perceived lack of availability of capacity. Training in model usage could provide them with further, useful information.[82]

Second, facilitators or 'intermediaries' are needed to steer environmental management processes skilfully between the scientific and local realms of knowledge. Sometimes single individuals possess the skill and talent to act as an interpreter or bridge between these two different arenas. At other times, a dedicated intermediary institution needs to play the role. Either way, programme managers commonly need support and training to run effective, participatory and inclusive processes to govern environmental resources.

Recognising and rewarding contributions

Local people's stewardship of environmental resources and their contribution to flows of ecosystem services and goods – in their many forms – must be adequately recognised and sufficiently rewarded.

Where local people are providing environmental stewardship at some cost to themselves, and environmental benefits are enjoyed by groups in another locality, then their contribution should be recognised and it should be rewarded – both for the sake of intrinsic fairness, and to incentivise continued environmental stewardship. ESPA research has documented the successful use of cash transfers or the provision of in-kind materials (such as agricultural inputs) that are provided in exchange for environmental work as part of governmental schemes or for taking environmental measures on a landholder's property. With poverty alleviation as their starting point, such approaches are known broadly as 'conditional transfers'.

In Ghana, the world's second-largest cocoa producing country, cocoa production is in the hands of smallholder farmers who sell on their beans to companies for processing and sale. In central Ghana, the Ecolimits project has worked with farmers to help them understand the overall environmental condition of the cocoa-forest landscapes, so that they can avoid environmentally destructive practices and use a range of conservation techniques, including mulches and retaining shade trees on cocoa farms, to boost their yields. The private companies that procure raw beans recognise that these environmentally sustainable measures are good for their long-term profitability as well as the individual farmers' incomes, and the companies are now providing farmers with support packages in the form of subsidised agricultural inputs – to encourage further use of these measures.[83]

Market-based initiatives – 'payments for ecosystem services' schemes – designed to incentivise environmental stewardship by providing market-based rewards have received particular scrutiny in ESPA research and yield specific policy pointers. Although such initiatives provide financial incentives for sustainable use of environmental resources, they focus primarily on environmental outcomes. Typically, local people's wellbeing is not central in their design. For example, a review of the evidence on four certification schemes, focused on forests, fair trade and carbon, found that without deliberative efforts to support local access and benefit-sharing, these schemes tend to favour large-scale and/or high-capacity producers and reinforce existing market inequalities.[84] Unfair distribution of costs and benefits were also found in a case study of biodiversity offsets in Madagascar, governed by the Business and Biodiversity Offsets Programme and associated international standards.[85] Similar challenges are associated with payments for ecosystem services schemes, particularly when they are reliant on monetisation or marketisation of ecosystem services.

With regards to REDD+ programmes, researchers have highlighted how an excessive focus on 'technical' issues related to carbon measurement and accounting (which lies at the core of performance-based payments for emissions reductions) obscures power imbalances and favours the interests of external actors and investors over local communities. These findings demonstrate that although market-based type instruments may deliver on efficiency, they do not necessarily deliver on equity and poverty alleviation.[86]

ESPA research suggests that both the 'conditional transfer' model and also the market-based 'payments for ecosystem services' model have the same starting point: the assumption that direct, conditional incentives are the most effective way to change behaviour. However, conditional transfers, with their focus on social protection, have had limited environmental impact, and payments for ecosystem services schemes have struggled to engage the most economically marginalised people and to alleviate poverty. There is significant scope for developing hybrid programmes that take advantage of the best of both approaches (see examples in Box 13).

Successful conditional transfer and payments for ecosystem services schemes have common enabling conditions: high-level political support, sustainable financing streams, lean institutional set-ups, tools and systems for effective implementation, and a clear ability to demonstrate impact.[87]

Box 13: Rewards for environmental measures, and how they can benefit the poorest members of society

'Watershared' scheme in Bolivia, with extension to Colombia, Ecuador and Peru. This approach is a type of hybrid scheme based on in-kind transfers such as bee hives and fencing materials, rather than money, to strengthen and formalise pro-conservation social norms. The programme publicly recognises individuals who contribute to the common good by conserving their 'water factories' in upper catchments. It started with the community of Los Negros in Bolivia and spread. Fifty Bolivian municipalities had adopted the model by 2017 – involving 5,635 upstream farmers and 245,000 downstream water users, transferring around US$500,000 per year.[88]

Mikoko Pamoja community carbon project in Kenya. In this scheme, payments from carbon sales go towards supporting conservation and rehabilitation of mangroves, environmental education and community development activities. Carbon credits (offsets) are sold by communities under the Plan Vivo Standard. The project generates about US$38,000 per year. Some of this income is being used to supply water to 75% of community members.[89]

Learning and adapting

As environmental resources continue to be used over time and the physical sustainability of their use and replenishment is monitored – so must social impacts and responses be measured and monitored, and governance goals and management should be adapted.

We live in a dynamic world of constant change: of local places that change continuously; and of national, regional and global events and pressures that have local consequences. This means that the institutional and governance arrangements for use of and access to environmental resources must be kept under frequent review, including who benefits, and who may be harmed by the arrangements.

Governance systems must be adaptive and able to cope with often rapid changes in the local context. Sometimes these rapid and unexpected changes are biophysical or ecological changes where a tipping point or threshold in the natural environment is suddenly reached – or alternatively, when a natural disaster occurs (e.g. a storm, flood, drought, heat wave or earthquake). Sometimes political and economic decisions by influential actors have deep impacts on the distribution and use of environmental resources, calling for further responses by others.

For instance, ESPA researchers have written about how – in river catchments – the dynamics of land and forest management and their knock-on effects on hydrological processes, and the complex interactions within communities and between upstream and downstream actors, call for adaptive water management strategies that respond to "changing knowledge and political developments".[90] In one example, the town of Palampur in the Himalayan foothills was negotiating a reciprocal water access agreement with upstream communities – when proposed expansion of electric pylons through the forested upper catchment by a power company disrupted the social and political status quo and put the reciprocal water arrangement on hold – calling for new strategies.[91]

It is impossible to predict the vagaries of politics and the potential of political developments to change patterns of environmental resource use and impacts on the poorest people. It can be difficult to secure and sustain political commitment to sustainable, fair approaches to resource management. However, the good governance strategies discussed in this summary – ranging from transparency, participation, recognition of rights, and reward for environmental contributions, to accountability to local people across scales of governance – help to create momentum towards fairer and more ecologically sustainable forms of environmental resource use and management. They create systems that are more resilient and resistant to political change. Why is that? Applying these good governance principles can nurture civil servants, programme managers, technical specialists, non-governmental allies and affected people (environmental resource users) who share a common **environmental literacy** and a common **social sensitivity**. ESPA's research findings provide new emphasis on a long-recognised issue: by showing that learning and adaptive processes are **necessary** but **not sufficient** for environmental and social sustainability. They must be underpinned by good governance, as described in this summary and shown in Figure 3, to increase the likelihood of sustainable outcomes in the long term.

FIGURE 3: Good governance and an adaptive, learning approach for fair, just and more sustainable outcomes