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Scoping protocol for operationalizing payment for ecosystem services for pastoralist rangelands

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CGIAR is a global partnership that unites organizations engaged in research for a food-secure future. The CGIAR Research Program on Livestock provides research-based solutions to help smallholder farmers, pastoralists and agro-pastoralists transition to sustainable, resilient livelihoods and to productive enterprises that will help feed future generations. It aims to increase the productivity and profitability of livestock agri-food systems in sustainable ways, making meat, milk and eggs more available and affordable across the developing world. The Program brings together five core partners: the International Livestock Research Institute (ILRI) with a mandate on livestock; the International Center for Tropical Agriculture (CIAT), which works on forages; the International Center for Research in the Dry Areas (ICARDA), which works on small ruminants and dryland systems; the Swedish University of Agricultural Sciences (SLU) with expertise particularly in animal health and genetics and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) which connects research into development and innovation and scaling processes


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Introduction and background

The report *Operationalizing Payments for Ecosystem Services for Pastoralists in Rangeland Settings* (the *Operationalizing PES report*, Pappagallo in press) finds that programs of payment for ecosystem services (PES) cannot alone be a solution for sustainable rangeland management. The analysis of the factors that influence the effectiveness of operationalizing PES for pastoralists in rangeland settings has revealed a complex picture. This complexity calls for careful investigation and strategizing on how national governments and other stakeholders can develop PES systems.

This document describes a protocol for scoping the possibilities for PES in rangelands. It is meant to guide national government agencies, and facilitators hired by them, to undertake a rapid, country-level assessment on the possibilities for PES implementation for pastoralists and agro-pastoralists in rangeland settings.

The information collated through such scoping studies will help identify key factors useful for policymakers to design PES schemes and mitigate trade-offs. It is important to bear in mind that this protocol is not an exhaustive guide and that it requires fine tuning and adaptation to particular contexts. Moreover, this is a preliminary version of the protocol and it is expected that it will be further developed in subsequent iterations through the integration of feedback from its implementation. The protocol describes an approach for a rapid (roughly thirty days) assessment of country-level contexts. With such a short time frame, it is unlikely that detailed information relevant to negotiation and contractual practicalities, assessment of payment levels, monitoring and evaluation plans, or assessment of costs would be completed. Rather, the scoping study guided by this protocol would be an initial part of national strategizing on practical considerations, possibilities and impediments for developing and implementing PES systems in the rangeland areas of particular countries.

- Section 2 of this document presents the framework of the protocol and outlines the objectives of the investigative process.
- The following section guides the facilitator through the three different phases of the investigative process.

Phase I: Identifying supporting conditions

- Political economy context: Policy and regulation, governance and institutions, land rights and tenure, knowledge base
- Social context: Cultural values and incentives, exploring relationships, gender and youth
- Environmental context

Guiding questions

For each element of the framework, we have provided questions in red text. These questions in red will help to guide the kind of information that is sought in relation to each framework element. Although it is advised to attempt to investigate all of the questions, they are meant as a general guideline—in a final scoping study report it may be that not all are explicitly answered.

Phase II: Analysing risks and challenges

- Equity: Gender, youth, landless and poor
- Perverse incentives
- Financial sustainability

Phase III: Defining PES strategies

- Identification of most valuable ecosystem service outputs
- Identification of stakeholders
- Identification of complementary solutions
- Section 4 describes how the scoping study can help to “pave the way” for the future implementation of PES within the country case by looking at relationship opportunities, piloting opportunities, and monitoring and evaluation.
- Section 5 provides guidance for the making recommendations and conclusions of the scoping study.
- The protocol also provides (Section 6 and Annexes) tools and resources that can aid in the compilation of the information collected.

I Process and procedures

Guiding principles for facilitators

The protocol is meant to be read as a non-exhaustive guide to collect useful information for a countrywide assessment of the opportunities and risks for implementing a PES scheme for pastoralists and agro-pastoralists.

The process must be seen as an investigation, which requires curiosity and creativity. Therefore, we encourage the facilitator to go beyond what is suggested here as local contexts will unearth different aspects of PES implementation. This requires various competencies such as:

- scientific and technical knowledge to understand the challenges and opportunities in monitoring, verification and documentation of ecosystem service provision;
- legal expertise, negotiation skills and contractual experience (including financial planning) to determine who has the rights to ecosystem services and the profits derived from them, if communities can legally take part in PES, offer advice on contract design and clauses; and
- an anthropological mind-set, for example when identifying supporting micro-level factors.

The structure of the protocol leads the facilitator through the key topics covered in the framework, with guiding questions highlighted in red text for each topic. At the end of some sections, a box contains suggested reading materials, useful Internet resources and relevant tools are summarized.

Obligatory background reading materials before undertaking the countrywide assessment include:

- *Operationalizing PES for pastoralists in rangeland Settings*
- *Environmental funds and payments for ecosystems services: RedLAC capacity building project for environmental funds*, by Herbert et al. (2010)
- *Lessons and best practices for pro-poor payment for ecosystem services*, by USAID (2007)
- *Payments for ecosystem services: getting started* (Forest Trends et al. 2008)
- *Evaluating the outcomes of payments for ecosystem services programmes using a capital asset framework*, by Hejnowicz et al. (2014)

Methodology and framework

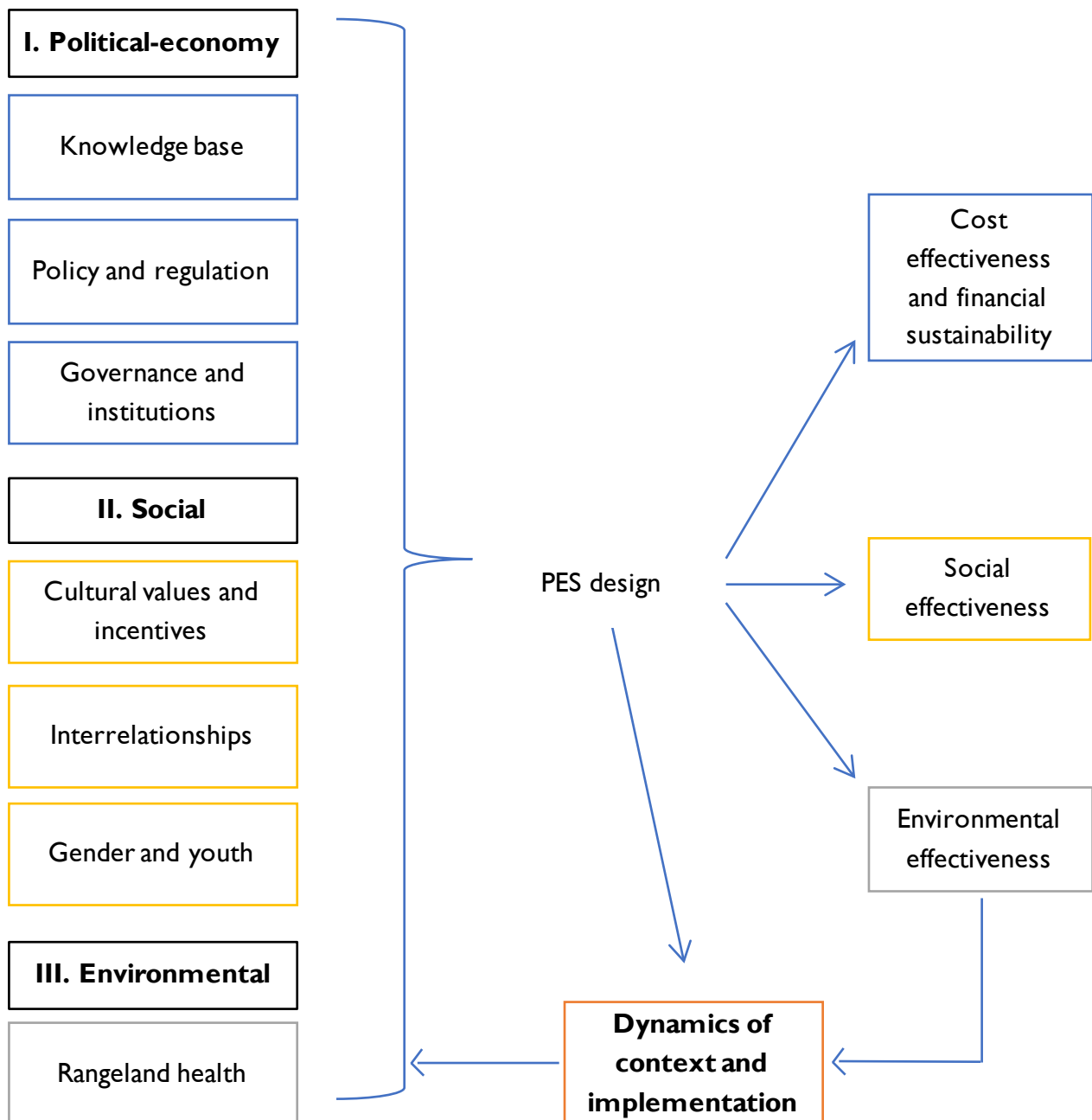
We recommend three levels of data collection: 1) desk-based research (approximately 40% of the effort), 2) interviews with stakeholders (institutions, knowledge providers) (approx. 40%), and 3) interviews with targeted pastoralists (approx. 20%). The relative weighting in percentage serves as an indication of the expected engagement with the different sources of information.

Given that it is likely that little context-specific information related to PES implementation for rangelands will be available through secondary sources, collecting data from primary sources of information is given more weight.

The rapid assessment should be carried out within a time frame of approximately thirty days.

With the understanding that each facilitator will have their preferred investigative methodologies, rather than providing guidance on the exact data collection methodology, we offer an overall framework of how context interacts with PES design to determine outcomes. This framework, inspired by Jack et al. (2007), helps facilitators understand what methodological *processes* are needed to unearth relevant information, and the protocol guides us through each aspect represented in Fig 1.

Figure 1: Protocol Framework - scoping for PES implementation.



This framework, used to inform the protocol, addresses four aspects of context: the political-economy context, the social context, the environmental context and context dynamics.

Assessment of each of these elements can help inform the program design which in turn aim towards environmental effectiveness, cost-effectiveness/financial sustainability, and social effectiveness of a PES system. These objectives are also discussed in more detail in the *Operationalizing PES* report.

To be environmentally effective, a PES scheme must deliver a set level of environmental benefits, as defined by physical measurements. To be cost-effective, a PES scheme must achieve the same level of environmental benefits at a lower cost than other possible policies. Furthermore, financial sustainability must be an objective for the “permanence” of PES schemes. To be socially effective, a PES scheme must be equitable.

Contributing strongly to all three of these dimensions is unlikely; instead it is more realistic to expect trade-offs which will depend on the design characteristics of a PES scheme and the context in which it is implemented.

Context dynamics help assesses how environmental, socioeconomic, and political contexts change over time and in turn how PES schemes must adapt to these changes in order to achieve the PES goals. This aspect can only be addressed through iterative processes where feedback, from monitoring and evaluation processes, is reintegrated within the framework.

As suggested in the previous section, through all of this, an anthropological mind-set is important. This certainly does not mean basing conclusions on preconceptions of pastoralist culture. What it does suggest, is a need to consider social and cultural context carefully, and to be prepared to learn about actual practice of pastoralists and of other stakeholders. This also implies that there is some need to understand how plans and decisions are actually made in the communities that would be the “suppliers” of ecosystem services. Overly simplistic assumptions about this may lead to unrealistic expectations about changes in herding and resource practices.

Outcomes and objectives

The overall objective of this protocol is to guide national level assessments of the potentials and constraints for incentive-based schemes to encourage sustainable rangeland management.

The specific objectives are 1) to assess contextual factors that can be expected to affect the feasibility, scalability, durability and impact of PES implementation at the country-level and within specific contexts 2) identify the institutions, buyers, sellers, intermediaries and knowledge providers which could be involved in the PES scheme, and 3) offer recommendations that help pave the way for future PES implementation.

In other words, these objectives aim to identify whether the preconditions exist to design PES schemes that incorporate the often-cited key pillars and concepts:

- **Voluntary:** stakeholders enter and agree to the program on a voluntary basis.
- **Direct payments:** payments are made by the beneficiaries of the ecosystem services directly to the ecosystem service providers.
- **Additionality:** payments are made for actions beyond those which land or resource managers would generally be expected to undertake.
- **Conditionality:** payments depend on the delivery of ecosystem service benefits.
- **Avoiding leakage:** securing an ecosystem service in one location must not lead to the loss or degradation of another ecosystem elsewhere.

Permanence: this refers to the continuity, and thus sustainability, of ecosystem service provision. This requires understanding of how ecosystem service provision is affected by an incentive scheme that is temporary. Permanence is achieved when ecosystem service provision continues even when incentives cease. If the ‘permanence’ of ecosystem service provision is not ensured by the scheme, the cumulated benefits of previous ecosystem service provisions are

compromised and the total expenditures for the incentive scheme could be seen as a 'waste'. (See United Nations (2009) for further discussion of these pillars.)

A final objective is "closing the feedback loop". That is, to document key lessons learnt that can help refine the protocol. Feedback from the processes and personal experiences must be incorporated iteratively to refine assessment methodology and to inform future implementation of PES for pastoralists.

Documentation

Documenting findings throughout the investigation is key so that future facilitators can easily build on outcomes of the study.

Output documentation include i) an assessment report (see template in Annex 1), ii) a summarized version of the report (10 pages) and iii) an inventory of interview transcripts from stakeholder engagements and notes on informal interviews with pastoralists or other stakeholders.

Assessing opportunities for operationalizing PES for pastoralists

Phase I: Identifying supporting conditions

Our review and analysis detailed in the *Operationalizing PES* report, suggests that direct payments for environmental services are only likely to provide effective incentives maintain or improve sustainable management of rangelands when supporting conditions exist.

The supporting conditions can be divided into political economy context (legal frameworks, national-level funding, land tenure regimes, rangeland governance systems, institutional support, knowledge base), social context (relationships within local pastoral systems, cultural values attached to livestock rearing, and gender dynamics in pastoral livelihood systems) and environmental context.

Political economy context

Policy and regulation

Legal frameworks

Establishing legal frameworks help formalize PES schemes. Generally, these frameworks are prepared for national-level PES schemes where a centralized fund is established and a designated government agency allocates payments according to prescribed criteria. For example, they may determine the ecosystem services targeted and who is eligible to participate. These frameworks may provide an entry-point for funding or managing state-designed PES schemes on the ground. One issue that should be considered is that the legal frameworks for a national PES scheme meant to apply to various social settings and types of ecosystems might be too prescriptive for a tailored implementation of PES schemes for pastoralists.

Are there any 'establishing' legal frameworks that can be used as an entry-point for funding or implementation of PES for pastoralists and rangeland-related issues?

Regulating legal frameworks for PES are a relatively recent and novel development in environmental law. 'Regulating' legislation allows for PES schemes to be operated and funded by various parties but with an established regulatory oversight of the schemes, including a national registry. The law authorizes and promotes voluntary, decentralized development of PES within regulatory limits, supports monitoring and enforcement and provides legal certainty for the parties involved.

Are there any 'regulating' legal frameworks? How will these limit or aid PES implementation for pastoralists?

Enabling legal frameworks can range from the constitution to indirectly relevant laws.

- **Constitution:** While there is no need for constitutional regulation of PES, the constitution must not prevent the development of PES schemes. Most modern constitutions contain separate chapters, or at least provisions, regarding the environment and environmental management. The strong role of the state in managing ecosystem services might be interpreted as prohibiting any private engagement through PES.

Are there any pastoral or rangeland-related provisions in the constitution that would aid or thwart related PES implementation?

- **Specific PES laws:**

Are there any PES-specific laws that could be applied to design countrywide PES implementation for rangelands?

- **Sectoral environmental legislation:** sector-specific legislation such as water laws, forest laws, protected areas laws and biodiversity laws may not explicitly mention ecosystem services; however, they might provide frameworks for governing ecosystem services in rangelands for example. These may place long-term restrictions on the use or management of a parcel of land, or ensure commitment to specified rangeland management actions and monitoring arrangements. Sectoral environmental legislation provides the opportunity for PES-relevant provisions to be inserted through amendments, it can therefore be important for the future implementation of countrywide PES for rangelands.

Are there any sectoral environmental legislations that aid or thwart PES implementation for rangelands? Are there any opportunities for amendments that can facilitate future PES implementation?

- **Indirectly relevant laws:** PES programs can work in synergy with legal requirements, acting as a quid pro quo for legal restrictions. For example, laws which require mandatory investments in the extractives industry to limit ecosystem impacts could provide a potential source of funding for PES projects. Other examples of legal requirements in which PES schemes could be inserted include legislation on planning and data collection (such as environmental impact assessments) which provides the basis for the informed development of instruments for the governance of ecosystem services, and legislation regarding the ownership and use rights over land and its natural resources, which can influence the access to ecosystem services. Laws on public participation also play a role in decision-making processes regarding ecosystem services. It is likely that in developing countries most opportunities for PES implementation will be found through indirectly relevant laws, therefore a thorough analysis of these laws is especially important.

What indirectly relevant laws signal the utility of PES implementation for rangeland management?

See Annex 3 for template table to summarize above findings.

National-level rangeland incentive mechanisms and financial funds

The above analysis should be complemented with an assessment of existing national-level rangeland incentive mechanisms and available financial funds.

Examples of incentives for protection of grasslands include the following:

Regulatory incentives: national or sub-national legislation (e.g. land use and agricultural zonation laws, nature protection and environment protection laws), grassland and grazing laws, prohibitions on habitat destruction / vegetation conversion and land use planning.

Private law mechanisms: easements, covenants, private contracts for conservation etc.

Financial incentives: taxation policies, e.g. related to easements

Examples of funds linked to incentive schemes for improved management of grasslands:

Financial aid: credit policies

Grant aid: government cost-sharing grants (e.g. landcare grants), input subsidies, technical assistance (extension services)

Conditional payments: payments for specified practices, payments for specified ecosystem services, input subsidies, off-take subsidies, one-off grant payments, and recurring payments for ecosystem services

Product market payments: labelling for niche products (e.g. geographical indications), certification of products, ecotourism revenues

Are there any national-level incentive mechanisms related to rangeland management, livestock rearing, pastoral welfare or conservation (where pastoralists are also concerned)? What type of incentives are these?

What is the design of such schemes (in terms of target sellers, duration of scheme, funding sources)?

Governance and institutions

Governance

It is likely that in many developing countries, PES design for pastoralists will hinge on customary natural resource governance for rangelands.

What pastoral and rangeland governance practices, (whether active or not), have or are being used?

What are the ongoing changes and expected trends in customary rangeland tenure systems?

What are the expected challenges of integrating PES schemes with such governance practices?

Institutions

The institutional framework for the governance of ecosystem services has vertical and horizontal dimensions. In the vertical dimension, institutions are differentiated by a hierarchy of international, national, regional and local levels. The horizontal dimension distinguishes institutions by different sectors, such as ministries of environment, agriculture, water, energy, economy and finance.

Assessing institutions in a cross-cutting manner allows for a comprehensive and creative assessment of the opportunities for operationalizing PES. This is especially important for PES targeted at pastoralists given that the rangeland management and pastoralism in developing countries generally lack a cohesive long-term governance plan, and therefore solutions to operationalizing PES might be found in seemingly unrelated sectors.

There are different types of institutions that coordinate natural resource management in rangelands, encompassing the broad spectrum of actors on the governmental, intergovernmental, nongovernmental and private sectors as well as civil society. These can range from local pastoral governance frameworks such as pastoral units, self-developed, community-based institutions with respective hierarchies, to international institutions like the African Union's *Policy Framework for Pastoralism in Africa*, the Temperate Grasslands Conservation Initiative (TGCI), the EU Financial Instruments for the Environment (LIFE) and the Global Environmental Facility (GEF), etc.

See Annex 4 for a template table to summarize institutional frameworks.

What formal or informal institutions coordinate rangeland management?

Who are the most relevant stakeholders managing rangeland systems? What are their respective roles?

What national, regional and international institutions are relevant to local rangeland governance?

Initiatives

It is important to note that a further dimension to this analysis is identifying the **active and sustained** presence of such *institutions* and related *initiatives*. This is an indication of the institutional conditions within which PES projects will operate in, and therefore, it is a litmus test of the long-term sustainability of partnerships and relationship building (see Section 3.2 below).

Which of the institutions mentioned play an active role and have a long-term vision?

What relevant initiatives can be cited?

Land rights and tenure

Property rights are often cited as an important precondition for effective PES implementation. On the other hand, under the right circumstances, PES can be a means to help address the problem of unclear titles by facilitating the recognition of rights, strengthening claims and giving an opportunity to open up negotiation or renegotiation of rights.

Bear in mind that land tenure regimes and different types of common property rights in rangelands, including different types of property rights relevant for PES, are often informal (see *Operationalizing PES* report). A thorough analysis of country-level dynamics and changes in rangeland tenure regimes is key.

What are the changes and expected trends in customary rangeland tenure systems?

What are the expected challenges of integrating PES schemes with such land tenure regimes? For example:

- is there a possibility to have a right to use the ecosystem services without being the owner of the land?
- is there a possibility to have a right to derive income from the ecosystem services without being the owner of the land?
- is there a possibility to transfer the right to derive income to others, either permanently, or for a limited time (such as through a lease) which might enable continuity?
- if the land of each single individual is too small (to provide the ecosystem service), will they be able to enter into joint agreements?

Knowledge base

Various stakeholders may have knowledge that will be crucial for the design and implementation of a PES system. These may include knowledge derived from one-off scientific studies or from ongoing ecological monitoring.

What knowledge, data collection efforts, institutions or specific people seek to scientifically assess the livestock-pastoral-rangeland nexus?

Is the knowledge base credible and useful to inform PES assumptions?

Of all sources and types of knowledge that may be relevant, the indigenous, practice-based knowledge of pastoralists themselves stands out as essential. Land users may base their decisions on tradition, direct observations and generational rules of thumb in ways that may appear, to some, unscientific. In reality, this knowledge is based on empirical experience and is highly valuable. Indigenous pastoralist knowledge can offer a context-specific picture on the impact of livestock management practices on rangeland ecosystems.

Are there any projects or organizations working on pastoral indigenous knowledge?

Have there been efforts to document pastoralist knowledge and/or formally incorporate into policies, programs and formal management systems? If so, these past efforts might be built upon in developing PES systems.

Social context

Ensuring long-term participation in incentive schemes requires a “human-centred” approach. Assessing human dimensions such as cultural values attached to livestock rearing, relationships between herders and livestock owners and farmers, or gender dynamics within a pastoral household will help provide a more nuanced and complete awareness of local dynamics. This awareness will be essential for designing incentive schemes that are attractive, equitable and impactful. The objective at this stage is to assess the various context-specific factors that may help align external motives (i.e. payments) with internal motives (i.e. values relating to environmental stewardship) to ensure sustainable PES schemes.

The overarching objective is to answer the following question: **how can local human dynamics be leveraged to ensure incentives change or maintain resource management practices that result in ecosystem services?**

Although it will be difficult at the protocol implementation stage to investigate social and cultural factors deeply, it is important to begin developing this appreciation of the social context early on in the process of developing PES systems. These issues are often underrated, which reveal themselves to be important, enabling or inhibiting factors in PES implementation.

Cultural values and incentives

Assessing cultural values related to owning livestock, managing rangelands, money, social structures and community-based decision making can provide solutions to operationalizing PES schemes and designing incentives that are more sustainable. Pastoralist populations differ widely with respect to mind-sets, values and the social norms governing the use of their natural environment as well as their relationships with it. For example, the assumption that profit maximization and productivity are key drivers of pastoral livelihood systems may be misleading. Especially where climatic and market risks are pervasive, herd management may be oriented more toward risk management or saving than toward profit maximization. Furthermore, the fact that pastoralists often live in remote, marginal areas may mean that nonmonetary incentives may have a greater ‘value’ attached to them than cash incentives.

What are the predominant cultural values attached to livestock rearing? For example:

- is livestock mainly seen as a status-enhancing asset?
- does it hold commercial value?
- when is livestock most likely to be killed or sold?
- how is livestock used as a social safety net?
- are there any taboos or gender norms related to livestock management?

What are the major concerns for pastoralists? For example:

- why are pastoralists not engaging in the commercialization of livestock byproducts (dairy, hide)?
- what are the major barriers to accessing markets (transporting goods, bureaucracy and regulations on meat produce)?

What is the ‘value’ attached to cash relative to other goods and services? How would these influence incentive design?

The differences between local perceptions and understanding on PES implementation and rangeland management, and that of implementing partners and local institutions must be assessed.

Understanding some of these differences at this stage will help design a more effective PES implementation plan. For example, local perceptions and understanding on the concept of providing incentives for ecosystem service provision, overgrazing, access to water and land or transhumance may differ widely to that of implementing partners.

Of course, at this stage the sample size will not be significant, but informally speaking, to pastoralists from different sites, it can help build a useful picture on local perceptions.

How do the different stakeholders (pastoralists, communities, research institutions, implementing partners) understand PES objectives?

What are the different perceptions surrounding overgrazing, land governance and access to water?

What main differences in perceptions and understanding can be identified?

Exploring relationships

Human interactions, social pressures and context-specific spiritual values that have shaped the ethics of land management practices can play an important role in sustained ecological service provision.

The heterogeneity of relationships pastoralists have with rangelands depends on the types of rangeland products they rely on (forage, fuelwood, medicinal herbs, etc.), exploitation levels (herd sizes) and the nature of access, use, management and exclusion rights. These factors in turn affect the interrelationships pastoralists have with other livelihood systems such as crop farmers and landowners.

Furthermore, in order to understand who the PES scheme should target, it is important to make the distinction between herders and livestock owners. Herders may have different objectives and relationships to the livestock they manage compared to livestock owners. Herders' management practices are most likely to affect the level and quality of ecosystem provision in grazing lands. At the same time livestock owners may be able to impose grazing practices on herders that aim at maximizing profit or expanding herd sizes. Livestock owners may therefore have a larger impact on ecosystem service provision than herders. This assessment should also consider the increasing advent of absentee livestock owners which complicates livestock tenancy arrangements and risks eroding sustainable livestock rearing practices.

Are there any complementary relationships between herders and other stakeholders? How are these relationships defined?

Are there any additional uses of rangelands aside from livestock grazing?

Do herders typically own the livestock they herd?

How are herder-livestock owner relationships defined?

What stigmas are attached to (mobile) pastoralists locally?

How significant is the advent of absentee livestock owners?

Gender and youth dynamics

In some countries, the role of women and youth in pastoral-related activities is primordial. The division of labour within households and communities is not static through time so these dynamics must be re-evaluated periodically.

Assessing womens' roles in pastoral societies not only helps inform more equitable PES schemes (in terms of process and decision making, access and outcomes relates to the distribution of benefits), but it also offers an opportunity to integrate womens' knowledge systems for rangeland ecosystem impacts.

What roles do women/youth play in livestock management?

How have the roles of women and of youth in pastoral-related activities changed through time?

What womens' rangeland management-related knowledge can be integrated in PES design?

What are the interrelationships between women, men and youth in pastoral societies?

Environmental context

Assessing the countrywide environmental context, in terms of geographical distribution of rangelands, identification of hotspot areas for rangeland conservation or restoration and the primary environmental pressures rangelands are facing can help isolate the key ecosystem services that might be targeted. During the countrywide assessment, the preliminary assessment of environmental context will involve a literature review and interviews with the country-specific rangeland/grassland experts.

What are the rangeland conditions? How are rangelands geographically distributed?

What are the primary environmental pressures rangelands are facing?

What ecosystem services might be targeted in new PES systems?

Resources related to assessment of context

Land tenure:

Collective action and property rights for sustainable rangeland management http://dlc.dlib.indiana.edu/dlc/bitstream/handle/10535/3683/brief_dryl.pdf

<https://dlc.dlib.indiana.edu/dlc/bitstream/handle/10535/7713/customary%20land%20tenure%20in%20the%20modern%20world.pdf?sequence=1>

Governing tenure rights to commons institutions: <http://www.fao.org/3/a-i6381e.pdf>

Improving governance of pastoral lands: <http://www.fao.org/3/a-i5771e.pdf>

<http://www.uvm.edu/~jfarley/EEseminar/readings/Vatn-institutional%20PES.pdf>

Land tenure reform and the drylands: <http://www.undp.org/content/dam/undp/library/Environment%20and%20Energy/sustainable%20land%20management/The%20Global%20Drylands%20Initiative-2003-04%20Challenge%20Paper-%20Land%20Tenure%20Reform%20and%20the%20Drylands-1.pdf>

Gender/youth:

This ESPA presentation focuses on gender dynamics in perceptions of ecosystem services: http://www.espa.ac.uk/files/espa/Kate%20Brown_gendered%20chains.pdf

Environmental context:

<https://globalrangelands.org/inventorymonitoring>

Rangeland systems: p. 527- <https://link.springer.com/content/pdf/10.1007%2F978-3-319-46709-2.pdf>

Phase II: Analysing risks and challenges

As the *Operationalizing PES* report highlights, because of the marginality of (mobile) pastoralists, land tenure and governance structures, and broader political, policy and governance pressures; PES implementation for pastoral systems and rangeland management is particularly challenging.

This phase will investigate the expected challenges, highlighting the key issues of concern. The risks and challenges table (see Annex 5) can help rank and identify the key issues for concern. This information will help provide recommendations on whether PES implementation is feasible, and if so, how to creatively overcome risks and challenges. This guidance is not meant to be exhaustive, and other types of risks may be identified through the process.

Equity: Gender, youth, landless and poor

Even when PES are “pro-poor” this might not mean equity is achieved. Depending on how PES are designed for pastoralists they can either disempower or empower marginalized groups.

Simply targeting women through incentives will not ensure more equitable land tenure outcomes. Other supporting factors—for example, formal recognition of land rights for women—will have to work in parallel to PES schemes and

this will take time. With this understanding, PES systems should, at the very least, not result in women, youth, the landless and the poor being left worse off. These following questions indirectly assess equity concerns by looking at the structures that represent the marginal social groups.

Imagine the identified sellers of the PES schemes are community-based conservancies, pastoralists/agricultural unions or other types of community-based governance systems; how representative are these structures of women, youth, landless and poor?

How transparent and accountable are these structures?

How are these governance structures self-organized? Is there 'space' for equitable distribution of PES outcomes?

Financial sustainability

PES programs can suffer from financial inefficiencies when: transaction and fixed costs for the implementation schemes are too high, sustainable practices would have continued or been adopted anyway without incentives or when incentives do not result in the intended changes in practices or ecosystem outcomes. These situations essentially mean that less environmental service is generated per dollar spent, posing a risk to the sustainability of the PES program.

By looking at other similar initiatives and insights from desk research and interviews the following questions can be answered, albeit superficially given the short-time frame envisioned for the scoping study.

What successful experiences are there related to incentive schemes in rangelands and in other areas such as forestry? Are these deemed financially sustainable?

Is PES a priority in the national, regional or local agenda?

Are there any significant inefficiency that can be identified that would increase fixed or transaction costs significantly?

Phase III: Defining PES strategies

Once a systematic assessment of supporting conditions and complementary solutions is conducted, the next phase is to identify stakeholders that need to be targeted. Furthermore, this phase also identifies complementary solutions to PES schemes that can work synergistically with incentive schemes to deliver targeted ecosystem outcomes. This phase helps build a picture of context-specific PES strategies.

Identification of stakeholders

The aim of this section is to produce a countrywide stakeholder map, which maps possible buyers, sellers, intermediaries and knowledge providers connected to 'rangelands' as well as the interrelationships. This is also the stage where contact and alliances with various institutions can begin to be forged. This mapping exercise will help identify the primary institutions and actors involved in rangeland management (see Annex 2 for map and table template). The relative importance of each relationship or actor should be highlighted to help prioritize the course of action for operationalizing PES schemes at the country level:

Buyers: different types (NGO, government, private) and levels (local, national or regional) of potential buyers of ecosystem services can be identified. The "buyers" of environmental services are sometimes motivated less by demand for the services themselves and more by a desire to maintain relationships with government regulators and branding. Thus, it is important to bear in mind that willingness to pay (or willingness to finance PES schemes) may not simply reflect the value of the environmental services.

Sellers: as already discussed in the *Operationalizing PES report*, identifying sellers of ecosystem services is particularly challenging when there are multiple users of rangelands with overlapping rights—when, in other words, there is not a single, clearly identified rights holder for a clearly identified parcel of land that is providing the services. This is compounded in situations in which it is hard to identify a specific ecosystem service ensure that its provision is conditional on a particular management practice. Across the country it may be easy to identify pockets or hotspots where a seller’s relationship to rangelands and other stakeholders is better defined. In any case, sellers need to be defined, whether based on location or type of activity/role. Qualities such as ‘activeness’ and ‘willingness to participate’ will help further define sellers in future implementation, however, at this stage all is needed is a basic definition of the appropriate sellers of ecosystem services and of whom PES schemes are trying to target.

Intermediaries: these are actors linking buyers and sellers in a PES scheme who can help with scheme development and implementation. They are often associated as the relationship builders and trust enhancers facilitating the delivery of PES schemes.

Knowledge providers: we distinguish knowledge providers from intermediaries in that the former are not necessarily involved in project management. Instead, knowledge providers such as local land planning agencies, national information systems, local municipalities, universities and environmental monitoring agencies can play a role that significantly lowers the cost of monitoring and evaluation as well as tapping into different sources of knowledge—which will help guide the assumptions on how rangeland management practices impact ecosystem service provision at the country level or within the specific contexts.

Who are the possible buyers, sellers, intermediaries and knowledge providers?

What role does each of these stakeholders play?

What relationships exist among these stakeholders?

The expected outputs are i) stakeholder map, ii) a list of relevant stakeholders and contact information, and iii) recommendations and notes from interviews.

Complementary solutions and local initiatives

One of the major conclusions from the *Operationalizing PES report* is that it is unlikely that market-based PES schemes alone will change behaviour or maintain practices that produce favourable ecosystem outcomes. PES schemes may benefit from being linked to complementary solutions, for example, by linking PES schemes with pre-existing conservation and rural development projects with established procedures, can help reduce transaction costs.

Are there any incentive or offset programs (similar to biodiversity offsets) linked to high-impact industries?

What local socio-ecological safety net practices (related to livestock and rangeland management) are used?

What possibilities are there of linking pastoral practices to conservation projects?

What possibilities are there of linking PES schemes to access to niche markets?

What possibilities are there for PES schemes to be implemented at the community or landscape level?

What examples of in-kind or nonfinancial incentive schemes are there?

Paving the way for future PES design

The following section identifies the key elements associated with ‘context dynamics’ (see Fig 1), where iterative feedback processes can be constructed through a deep understanding of root causes, relationship building, piloting and monitoring and evaluation.

Identifying root causes

When framing a PES scheme, it is important to identify the root causes of rangeland degradation or particular natural resource management behaviour. For example, understanding the root causes of overgrazing – often a symptom of broader governance or policy decisions—will help in the design of more effective incentive schemes.

The political ecology of pastoralism is something to keep in mind when investigating PES opportunities at the country level. Analysis of root causes must be interwoven in the narrative of the final report to provide context. This may mean tracing how political and economic changes have influenced pastoral systems, particularly in relation to rangeland management.

What historical, political or economic factors (local or national) explain current rangeland management practices?

Relationship building with stakeholders and closing the feedback loop

Building and maintaining relationships is also an essential aspect for effective PES implementation. It is important to realize that the stakeholder mapping exercise, in which a wide spectrum of intermediaries is identified, can also help to identify opportunities and threats that these intermediaries would bring to the table. Different stakeholders have different interests, and intermediary functions and actions are not always positive or allied to local sensitivities. Building on the stakeholder mapping exercise, this part of the scoping study is an opportunity to begin to identify local and national perceptions surrounding the different stakeholders, how the relationships would aid or thwart PES development, and how to best leverage these relationships.

Feeding back information on a PES program, its timelines, implementation, outcomes and impacts is an important component to building relationships and trust over time. Thus, a second aspect in this part of the scoping study is identifying approaches for ‘closing the feedback loop’. This is often an overlooked aspect but it is relatively simple to implement and has important impacts, and therefore, it should begin to be addressed even at this early stage of doing the national scoping study.

What kind of feedback do the different stakeholders want to hear?

How can they be engaged in the feedback process?

How can this be done creatively and cost-effectively?

Identifying piloting opportunities

Piloting PES schemes can provide proof of concept, begin to build trust and relationships with institutions and generate significant practice-based knowledge to inform upscaling at the country level such as operational procedures for prior informed consent, contracting, monitoring and enforcement, capacity building needs, or the changes required to create enabling financial, management, policy and legislative conditions. At this stage, the purpose is not to design a piloting plan but rather begin assessing what aspects of PES implementation would need to be piloted in the specific country.

What aspects of the PES framework need to be specifically piloted within the country context?

What opportunities are there to pilot PES schemes for pastoralists in the country?

Monitoring and evaluation plan

Experience shows that one of the weak aspects of PES project implementation is the lack of systematic evaluations monitoring effectiveness and measuring socio-ecologic impacts.

As discussed in the *Operationalizing PES report*, monitoring and evaluation efforts for PES can be divided into three broad categories: status assessment, management effectiveness and performance measurement, and impact evaluation. Each of these has different associated costs, produce different data outputs and require different data collection frequencies. The aim here is not to design a monitoring and evaluation plan—this will require a more in-depth analysis; rather, it is to begin assessing the practicalities of operationalizing monitoring and evaluation efforts by drawing on local experiences.

Are there any local experiences of baseline assessment of rangelands?

Is there any relevant database that can be tapped into?

Given that monitoring performance and management effectiveness may require high-frequency data; can mobile technology be effectively used? What are mobile penetration rates? Are there any other initiatives locally using mobile technologies to collect data?

What opportunities are there for implementing an impact evaluation?

Measuring and monitoring ecosystem services at the site scale: building practical tools for real-world conservation: This booklet introduces a new 'toolkit' for measuring ecosystem services at the site- scale which is accessible to non-experts and delivers scientifically robust results. It explains some key concepts including the need to consider a 'plausible alternative state' to measure differences resulting from changes in land management and use, and the importance of identifying beneficiaries. http://www.conservation.cam.ac.uk/sites/default/files/file-attachments/Ecosystem%20Services%20Toolkit%20booklet_0.pdf

Recommendations

The last stage of the scoping study is to summarize findings through recommendations for moving forward with the design and implementation of PES systems. Returning to the original objectives of the protocol, recommendations should explicitly discuss:

- whether there is a need for incentive-based schemes to encourage sustainable rangeland management;
- the contextual factors that can be expected to affect impact, feasibility, scalability and durability of PES implementation at the country level and within specific contexts;
- the institutions, buyers, sellers, intermediaries and knowledge providers which could be involved in the PES scheme, including a discussion of the related challenges and opportunities of establishing relationships with such institutions and
- recommendations for next steps toward PES implementation.

Recommendations should explicitly recall the elements of Figure 1 and tackle environmental effectiveness, cost-effectiveness/financial sustainability and social effectiveness. Also, they should provide feedback and suggestions on the procedures used through the protocol. This feedback will be incorporated in successive iterations of the protocol and help update the reading materials and useful resources section.

Useful resources and reading material

Online platforms

The Katoomba Group (<http://www.katoombagroup.org/>) is an international network of individuals working to promote, and improve capacity related to PES implementation. The facilitator may find the following documents useful:

A Step-by-step approach to developing payment for ecosystem service deals: Getting started <http://www.katoombagroup.org/documents/publications/GettingStarted.pdf>.

Legal contracts: http://www.katoombagroup.org/regions/international/legal_contracts_care.php.

Guiding questionnaire for country assessments: https://www.iucn.org/downloads/guiding_questionnaire_for_country_assessments___final.pdf

Contract design:

<http://www.katoombagroup.org/regions/international/contracts/PES%20Transaction%20and%20Contract%20Design%20Brief.pdf>

Ecosystem marketplace publishes newsletters, breaking news, original feature articles and major reports about market-based approaches to conserving ecosystem services. <http://www.ecosystemmarketplace.com>.

Ecosystem services for poverty alleviation (ESPA, www.espa.ac.uk) is a global development research program with funding from the Department for International Development (DFID), the Natural Environment Research Council (NERC) and the Economic and Social Research Council (ESRC). ESPA is one of the most comprehensive research programs exploring the linkages between ecosystem services and human wellbeing. ESPA aims to provide new world-class research evidence demonstrating how ecosystem services can reduce poverty and enhance wellbeing for the world's poor. They offer grants for impact evaluations and research related to PES and provide a plethora of policy and practice briefs, region-wide assessments and scholarly publications and impact stories that can be researched by region, country, ecosystem type, ecosystem services, theme and poverty type. It is an important source of contacts and institutions working in the PES research field. Example of relevant projects include: the Biodiversity, ecosystem services, social sustainability and tipping points (BEST) programme in East African drylands (<http://www.espa.ac.uk/files/espa/ESPA-Evidence-Note-BEST-ESPA-PFG.pdf> and <http://www.ucl.ac.uk/best/materials.htm>) or ensuring participatory and pro-poor payment for ecosystem services (pes) schemes: Insights from ESPA research (<http://www.espa.ac.uk/files/espa/ESPA%20PES%20Brief.pdf>).

The Cambridge Conservation Initiative (CCI) (<http://www.conservation.cam.ac.uk/collaborations>) is collaboration between the University of Cambridge and leading internationally focused biodiversity conservation organizations. For example, the Toolkit for Ecosystem Service Site-based Assessment (TESSA, <http://www.birdlife.org/worldwide/science/assessing-ecosystem-services-tessa>) is developed by such collaborations. CCI represents a critical mass of expertise at the interface of research and education, policy and action, for the conservation of biodiversity and ecosystems. Several doctoral research initiatives related to PES have been initiated so the CCI offers a pool of relevant contacts.

Landscapes for people, food and nature initiative is a collaboration to strengthen integrated landscape initiatives. It is a useful portal (http://peoplefoodandnature.org/?s=PES&post_type=tool) for innovative landscape-based monitoring and evaluation toolkits to investigate potential partnerships and for background information on landscape-based management.

Biocultural landscape is a holistic approach to conservation; this portal offers ideas on how to link PES services with a variety of bio-cultural initiatives. <https://www.christensenfund.org/experience/biocultural-landscape>.

Global Agenda for Sustainable Livestock: <http://www.livestockdialogue.org>

Vétérinaires Sans Frontières International: <http://vsf-international.org>

International year of rangeland and pastoralists, 2016: <https://globalrangelands.org/international-year-rangelands-and-pastoralists-initiative>

FAO pastoralist knowledge hub: <http://www.fao.org/pastoralist-knowledge-hub/en>

Reading material

The following suggested reading material is categorized from most relevant and useful (+++) to important but not required reading (+):

(+++)

Operationalizing payments for ecosystem services for pastoralists in rangeland settings

Pappagallo, L. In press. *CGIAR Research Program on Livestock Discussion Paper*. **Nairobi: International Livestock Research Institute.**

This report focuses on the practicalities of operationalizing PES in pastoralist and agro-pastoralist rangeland production systems in developing countries. The emphasis is on what aspects must be assessed and what practical steps might be needed to move PES systems from theoretical proposals to effective functioning systems.

Jindal, R., Kerr, J., Dillaha, T. and Colby, M. 2007. *USAID PES Sourcebook*. Department of Community, Agriculture, Recreation, and Resource Studies, Michigan State University. Office of International Research, Education and Development.

This PES Sourcebook focuses on conceptual and design issues related to payments for environmental services (PES). The Sourcebook is meant to serve as both a ready reference and a repository of useful knowledge on PES. Because it is meant for managers and practitioners, it is not intended to be dense or technical. The sourcebook consists of a series of briefs on selected topics. These include practical examples and graphics to explain various concepts. The aim is to make each brief a stand-alone document so that practitioners can directly access a particular section without necessarily reading earlier sections. At the end of many briefs, further relevant readings are suggested.

[Forest Trends](http://www.katoombagroup.org/documents/publications/GettingStarted.pdf), The Katoomba Group, and the United Nations Environment Programme. 2008. *Payments for ecosystem services. Getting started: A primer*. URL: <http://www.katoombagroup.org/documents/publications/GettingStarted.pdf>.

Kuncoro, S.A., van Noordwijk, M. and Chandler, F.J.C. 2004. *Rapid Agrobiodiversity Assessment (RABA): A Tool to Capture the Understanding and Knowledge of Stakeholders on the Benefits of Agrobiodiversity*. Bogor, Indonesia: World Agroforestry Centre (ICRAF).

This tool is a helpful guide to stakeholder analysis, including both buyers and sellers involved in PES agreements and includes a framework for a SWOT analysis that is useful in making decisions.

Hejnowicz, A.P., Raffaelli, D.G., Rudd, M.A. and Piran C.L. 2014. White, *Evaluating the outcomes of payments for ecosystem services programmes using a capital asset framework*

This paper assesses the extent to which PES programs represent effective environmental management tools based on their effects on social, environmental, financial and institutional capital assets. By systematically collating PES literature describing specific programs, the paper provides ideas of appraising PES studies to improve scheme design, and implementation.

Herbert, T., Vonada, R., Jenkins, M., Byon, R. and Frausto, J.M. 2010. *Environmental Funds and Payments for Ecosystems Services: RedLAC Capacity Building Project for Environmental Funds*.

This book focuses on the potential of PES to mobilize resources for conservation projects. It is important background material as it covers many of the key factors discussed in the protocol. It includes guidance on how to develop a PES project, key case studies and relevant background information on the role of environmental funds for PES projects.

International Fund for Agricultural Development. 2009. *Livestock and pastoralists: Tools for project design*. Livestock thematic papers. Rome, Italy: IFAD. <https://www.ifad.org/documents/10180/0fbc4134-4354-4d08-bf09-e1a6dbec3691>.

IFAD's Engagement in Pastoral Development, 2016

McGahey, D., Davies, J., Hagelberg, N. and Ouedraogo, R. 2014. *Pastoralism and the green economy – a natural nexus? Status, challenges and policy implications*.

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Natural justice. Community protocol toolbox. <http://naturaljustice.org/publication/community-protocols-toolbox>

Obala, E., Garduno Janz, F., Jenet, A. and Leggett, C. 2012. *Holistic grazing planning and reciprocal grazing agreements: Enhancing sustainable natural resource management in pastoralists dry lands areas.*

Jack, B.K., Kousky, C. and Sims, K.R.E. 2007. *Designing payments for ecosystem services: Lessons from previous experience with incentive-based mechanisms*

Smith, S., Rowcroft, P., Everard, M., Couldrick, L., Reed, M., Rogers, H., Quick, T., Eves, C. and White, C. 2013. *Payments for ecosystem services: A best practice guide.*

This guide offers the basics of developing PES. It is mainly focused on PES implementation in developed countries (UK) so it may not be relevant to developing PES in country settings. However, it is an excellent resource to help frame recommendations and understand the challenges of operationalizing PES.

Pastoralism, nature conservation and development: A good practice guide. Secretariat of the Convention on Biological Diversity

This document provides important information for pastoral-related dynamics related to conservation and biodiversity in developing countries.

Pagiola, S. 2005. *Payments for environmental services and the poor: Initial lessons and guidelines*, <ftp://ftp.fao.org/es/esa/roa/ppt/May05-Pagiola.pdf>

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Upton, C., Dorligsuren, D., Dulmaa, D., and Gantsogt, G. 2015. *Pastures, conservation and climate action, Mongolia: Plan vivo project design document.*

Blomley, T. and Richards, M. 2011. *Community engagement guidance: Good practice for forest carbon projects.* In Ebeling J. and Olander, J. (eds.). *Building forest carbon projects.*

Annex I Report structure

The following provides the structure for main output documentation, a report detailing main findings from the scoping process as a result of this protocol.

1. Executive summary
2. Background
 - 2.1 Country context
 - 2.2 Pastoral legacy
 - 2.3 Rangeland management
3. Political economy context
 - 3.1 Legal frameworks
 - The constitution
 - Establishing laws
 - Regulating laws
 - Enabling laws
 - Summary
 - 3.2 Governance and institutions (related to pastoralists and rangelands)
 - Governance
 - Institutional framework

3.3 Land tenure

Land tenure status of rangelands

Land tenure changes

3.4 Knowledge base

4. Social context

4.1 Cultural values and incentives

4.2 Relationships

4.3 Gender and youth

5. Environmental context

5.1 Environmental/rangeland policy and regulation

5.2 Countrywide rangeland health

5.3 Geographical distribution of rangelands and identification of hotspot areas

6. Analysing risks and challenges

6.1 Equity: Gender, youth, landless and poor

6.2 Perverse incentives

6.3 Financial sustainability

7. Defining PES strategies

7.1 Identification of stakeholders

7.2 Complementary solutions

8. Paving the way for future PES design

8.1 Potential sources of financing

8.2 Local incentive-based initiatives

9. Summary and recommendations

9.1 Key findings

9.2 Identifying opportunities

9.3 Fine-tuning the protocol

10. Annexes

10.1 Stakeholder map

10.2 Interview transcripts

10.3 Contact list

Annex 2 Mapping stakeholders and relationships

The following figure and table are templates which will help map stakeholders and relationships.

Categories	Link with rangeland resources	Decision	Expectations and perceptions
Buyers			
Sellers			
Intermediaries			
Knowledge providers			

Link with the resource: Identification of the link(s) which the category of actor has with rangelands, both as a resource for pastoralists and others and as an ecosystem. For example, control, arbitration, development/investment, regulation, legislation, policies and strategies, coordination, use of the resource, advocacy of users and rights holders, organization, capacity building, lobbying, land owner, investor, mediation, land clearance and coordination

Decision: the power held by the category of actor or its weight in the decision-making related to rangelands; this is estimated by assigning two scores of 1 (very low) to 5 (very strong), the first (numerator) to characterize the current situation and the second (denominator) to characterize the expected evolution in the near future.

Expectations and perceptions: Defining key perspectives on perceptions and expectations from rangelands.

Annex 3 Summary of establishing, regulating and enabling laws for PES implementation

	Title	Article	Content or comments
Establishing			
Regulating			
Enabling			

Annex 4 Summary of vertical and horizontal dimensions of relevant institutions

	Governmental	Intergovernmental	Nongovernmental	Private sector	Civil society
International					
Regional					
National					
Local					

This table is used to fill in name, description and contact information of relevant institutions for PES implementation for pastoralists in rangeland within the country.

Annex 5 Identifying risks and challenges

Statement of risk	Rank	Comments
PES will not gain traction locally.		
Legal context not able to support incentive-based mechanisms		
PES will erode traditional rangeland management practices.		
PES will erode pastoral social structures and tradition.		
Long term financial sustainability		
Leakage (unsustainable rangeland practices practiced elsewhere)		
PES will erode intrinsic motivation for sustainable rangeland management.		
Local institutions do not have enough capacity to enforce PES.		
Pastoral policy and rangeland management is not a national priority.		
Overlapping or fuzzy land tenure regimes		
Other (specify): _____		
Other (specify): _____		

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The International Livestock Research Institute (ILRI) works to improve food security and reduce poverty in developing countries through research for better and more sustainable use of livestock. ILRI is a CGIAR research centre. It works through a network of regional and country offices and projects in East, South and Southeast Asia, and Central, East, Southern and West Africa. ilri.org



CGIAR is a global agricultural research partnership for a food-secure future. Its research is carried out by 15 research centres in collaboration with hundreds of partner organizations. cgiar.org



Established in 1977, ICARDA is one of the 15 centres supported by the CGIAR. ICARDA's mission is to improve the livelihoods of the resource poor in dry areas through research and partnerships dedicated to achieving sustainable increases in agricultural productivity and income, while ensuring efficient and more equitable use and conservation of natural resources. ICARDA has a global mandate for the improvement of barley, lentil and faba bean, and serves the non-tropical dry areas for the improvement of on-farm water use efficiency, rangeland and small ruminant production. In Central Asia, West Asia, South Asia, and North Africa regions, ICARDA contributes to the improvement of bread and durum wheats, kabuli chickpea, pasture and forage legumes, and associated farming systems. It also works on improved land management, diversification of production systems, and value-added crop and livestock products. Social, economic and policy research is an integral component of ICARDA's research to better target poverty and to enhance the uptake and maximize impact of research outputs. www.icarda.org