PRACTITIONER'S TOOLKIT

Monitoring Livelihoods in Transfrontier Conservation Areas - the KAZA Experience

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MONITORING LIVELIHOODS IN TRANSFRONTIER CONSERVATION AREAS - THE KAZA EXPERIENCE

February 2025

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Suggested citation:

Fabricius, C. and KAZA ARISE Project Team, 2025. *Monitoring Livelihoods in Transfrontier Conservation Areas - the KAZA Experience.* Version 1, February 2025. KAZA Secretariat and WWF Germany, Kasane and Berlin

ACKNOWLEDGEMENTS

We are deeply grateful to the local communities in our survey areas for their enthusiasm, participation, and invaluable feedback. Your willingness to engage and share your insights has been at the heart of this work.

Thank you to our ARISE project partners—ACADIR, Biohub, NNF, ORAP, University of Botswana, Victoria Falls Wildlife Trust, and WWF Country Office staff in Zimbabwe and Zambia. Your dedication to facilitate fieldwork, coordinate activities, and refine our methods has been instrumental in making this project a success.

We also extend our appreciation to the KAZA Secretariat, the KAZA Community and KIM Working Groups for their support throughout this initiative.

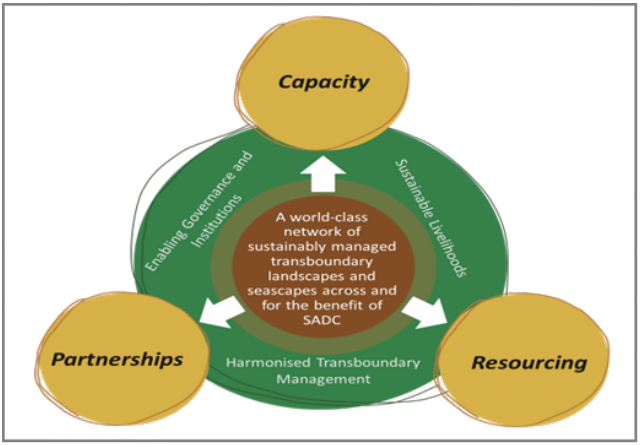
The work was supported by WWF Germany through a grant from the Federal Ministry of Economic Cooperation and Development BMZ .

Finally, a special note of gratitude to Brit Reichelt-Zolho for her inspiring leadership and pioneering contributions. Your guidance has left a lasting impact on this work.

Thank you all for being part of this endeavor!

PROLOGUE

One of the main goals of Transfrontier Conservation Areas (TFCAs) is to help communities living in and around these areas use natural resources in a way that supports their livelihoods without harming the environment. Sustainable livelihoods is a cornerstone of TFCAs[1], which aim to boost local economies, improve people's lives, and help them handle challenges like droughts or floods. In southern Africa, including the KAZA region, taking care of both nature and people is a top priority for transboundary protected areas.



1 Image from Collins and Masivila 2023 - https://www.ccardesa.org/sadc-unveils-revised-tfca-programme-2023-2033

WHY THIS TOOLKIT?

Continuous monitoring and evaluation are important for checking and reporting if a project or program is successful. Even more importantly, monitoring helps resource users and their supporters improve how we manage projects over time. It is a key part of learning when managing natural resources in a balanced and effective way.

The various KAZA Working Group members understand this and support the focus on regular monitoring and evaluation to help make decisions based on clear evidence.

Monitoring of livelihoods looks at changes in 4 main areas:
1. **L**ivelihood assets – the resources people have (like facilities and tools, natural resources, skills, money, or relationships).
2. **G**overnance systems – how decisions are made and who makes them.
3. **L**ivelihood strategies – the ways people earn a living.
4. **C**apabilities – the abilities communities have gained to improve their lives.

In KAZA, local resource users must be involved in choosing and collecting the information that is most important to them. They are also supported to care for this information and use it to make better decisions for their future.

The community-based livelihoods monitoring toolkit for KAZA has been created to help people track and improve their way of living over time. It is designed to use the same methods everywhere so that information can be compared between different places and across different years. This makes it easier to see patterns and understand changes happening in the community.

The toolkit helps gather reliable information that can be used to make smart decisions. By collecting good data, communities and leaders can adjust their plans based on real evidence rather than guesswork. This also helps when they need to report their progress to others.

A key goal of this toolkit is to give communities a bigger role in shaping how monitoring happens. Instead of outsiders deciding everything, local people can help design the process, ensuring it makes sense for their needs and priorities.

The toolkit also focuses on building skills within communities. This means that local people will learn how to monitor their own livelihoods for the long term, instead of relying on outside experts who may only visit once and whose work can be expensive and difficult to maintain.

Another important part of this effort is creating a network of experts and partners who can offer guidance and support in the future. This way, communities will not be left alone but will have access to help when they need it.

Finally, the toolkit is meant to strengthen the abilities of different groups, including local communities, conservation organizations, and universities in the KAZA region. By working together, they can share knowledge and improve the way they monitor and protect their livelihoods and environment.

The main goal is to build a learning network for monitoring and adaptive management. This network brings together local communities, the KAZA Secretariat, conservation organizations, NGOs, and academic institutions as partners working together.

DATA COLLECTED THROUGH MONITORING ISN'T JUST NUMBERS; IT'S THE STORY OF HUMAN LIVES COUPLED TO ECOSYSTEMS, GUIDING US TO MAKE BETTER DECISIONS FOR THE PLANET

The aim is to constantly refine and adapt the toolkit over time, by experimenting with different methods and tools and adapting them through practical application.

The participatory monitoring toolkit does not stand alone. It is part of a range of monitoring tools and methods used within the KAZA TFCA, integrated into the KAZA Impact Monitoring (KIM) platform, available at https://www.kavangozambezi.org/en/m-e

This toolkit is designed for groups and organizations involved in planning or interested in community-based monitoring initiatives, particularly for improving livelihoods and livelihood resilience. It is

useful for community facilitators who want to co-design, implement, or evaluate community-based monitoring programs with local communities engaged in natural resource management. It also supports non-governmental organizations, research institutions, and other local groups that aim to assist community members in planning and carrying out community-based natural resource management (CBNRM) initiatives.

Academics and students who want a quick introduction to community-based monitoring research can also benefit from this toolkit. Additionally, it is valuable for organized groups within or outside the community who wish to contribute to or stay informed about monitoring efforts. These may include farmer or self-help groups, cooperative societies, forestry departments, or other local government offices. While these groups may not always be directly affected by or involved in the initiative, they play an important role by providing feedback, advising active participants, and influencing the success of the project through their support and engagement.

PART 1.
UNPACKING COMMUNITY-BASED MONITORING

BACKGROUND AND PRINCIPLES

CHAPTER 1. MONITORING AS COMMUNITY SCIENCE

Community-based monitoring puts local people in charge, focusing on what matters most to them. It gives communities the power to make decisions and solve problems in their own way. The people and groups leading these efforts must be committed to fairness, social change, and respecting different ways of understanding the world. They make sure everyone's voice is heard. These projects can provide baselines or monitoring data, answer research questions, increase stewardship and awareness, and influence conservation actions and policies. It is of value to professionals, participants and policy makers (Figure 1).

For professionals, community science provides data to help answer questions, broadens the extent of data sets and ground truthing, helps to track changes over time, and can save costs.

For community participants, it increases awareness, promotes learning and informed action, can change attitudes, and involves them in finding solutions.

For policy makers, it can influence policy and management action and connects people to decision makers[2].

2 E.g. MacPhail, V. J., and S. R. Colla. 2020. Power of the people: A review of citizen science programs for conservation. Biological Conservation 249:108739. https://www.sciencedirect.com/science/article/pii/S0006320720307977

THE ROLE OF TECHNICAL EXPERTS

Technical experts such as researchers and subject specialists are most often involved in community-based monitoring, and should be conscious of the role they could play without controlling the process. Researcher's influence and control exists along a continuum, from complete control (externally-driven and executed monitoring, for example remote sensing) to leaving monitoring entirely to local people to drive, collect, analyse and interpret data (for example observing the condition of livestock or health of crops) (Figure 2 and Table 1)[3].

This book deals with Categories 3 to 5, where local people play an active role and are one of the primary users of the findings. Technical experts are involved in a supporting role, although they would also benefit from the data.

Collaborative monitoring also involves learning and capacity development - not just for the benefit of local people but also to include their realities in planning and adaptive collaborative management. Participatory monitoring can motivate local people to participate in in conservation programmes.

3 See Danielsen et al. 2009. Local participation in natural resource monitoring: A characterization of approaches. Conservation Biology 23(1):31–42. https://doi.org/10.1111/j.1523-1739.2008.01063.x

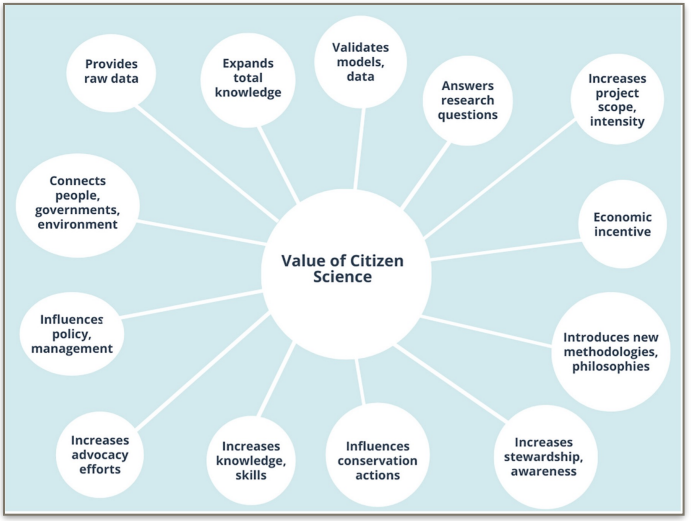


Figure 1. Value of citizen science (from MacPhail & Colla 2020)

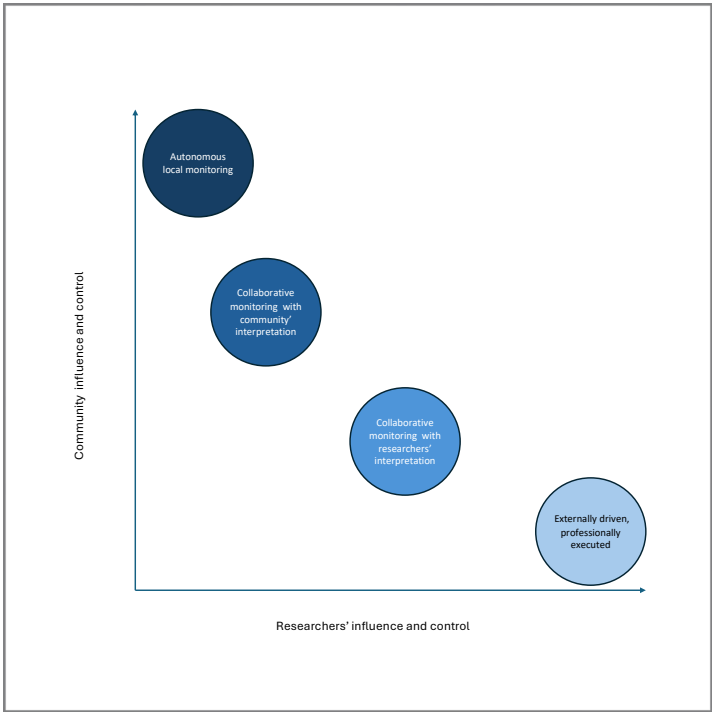


Figure 2. Influence and control of technical experts vs. local people in monitoring. The darkness of shading represents a gradient of local empowerment and autonomy

Table 1. Monitoring categories, based on control by technical experts vs. local people (Danielsen et al. 2009)

Category of monitoring	Primary data gathers	Primary users of data	Examples of monitoring schemes*
1. Externally driven, professionally executed	Professional researchers	Professional researchers	Forest inventory plots (Condit 1998; http://www.teaminitiative.org), remote sensing of forest cover (Mayaux et al. 2005), water-quality monitoring (http://www.gemswater.org/), water-flow assessments (Morishita et al. 2004), and World Database of Protected Areas (http://www.unep-wcmc.org/protected_areas/)
2. Externally driven with local data collectors	Professional researchers, local people	Professional researchers	Volunteers monitoring of water/air quality (Savan et al. 2003), vegetation (Brandon et al. 2003), weather and climate change (http://www.on.ec.gc.ca/canwarn/), mammals (Toms & Newson 2006), birds (Gregory et al. 2005; Greenwood 2007), amphibians (http://armi.usgs.gov), fish (Schmitt & Sullivan 1996), invertebrates (http://www.bugwise.net.au/involved; Roy et al. 2007), and invasive species (Boudreau & Yan 2004); fisher, angler, and hunter records schemes (Ericsson & Wallin 1999; Bray & Schramm 2001; Pauly & Watson 2005); data collection by paid local people in the Arctic (e.g., observing caribou Rangifer tarandus from helicopter in Greenland; Cuyler et al. 2002); in developing countries data collection by paid local people on scientific expeditions or at field observatories (e.g., Sangalaki marine turtle breeding station, Indonesia; http://www.bestari.org); ranger-based monitoring in Ghana (Brashares & Sam 2005); volunteer tourist monitoring of coral reefs (Mumby et al. 1995; Darwall & Dulvy 1996); experimental fisher/hunter records schemes (Marks 1994; Ticheler et al. 1998)
3. Collaborative monitoring with external data interpretation	Local people with professional researcher advice	Local people and professional researchers	Community-based monitoring of wetlands in Madagascar (Andrianandrasana et al. 2005) and BirdLife International's Important Bird Areas in Kenya (Bennun et al. 2005); bicycle transects of large mammals in Zimbabwe (Gaidet et al. 2003); hunter self-monitoring in the Bolivian Chaco (Noss et al. 2005); in developed countries, hunter- records schemes such as wildlife triangle monitoring in Russia and Finland (Lindén et al. 1996)
4. Collaborative monitoring with local data interpretation	Local people with professional researcher advice	Local people	Ranger and community-based monitoring of resource use and wildlife in China (Rijsoort & Jinfeng 2005), Laos (Poulsen & Luanglath 2005), the Philippines (Danielsen et al. 2005b; Uychiaoco et al. 2005), East Africa (Obura et al. 2002; Topp-Jørgensen et al. 2005), Namibia (Stuart-Hill et al. 2005), and Ecuador (Becker et al. 2005; Townsend et al. 2005); in developed countries, monitoring by volunteer wardens at nature reserves and by amateur naturalists (the Neighbourhood Nestwatch scheme; Evans et al. 2005)
5. Autonomous local monitoring	Local people	Local people	Customary conservation regimes in the Canadian Arctic (Ferguson et al. 1998; Moller et al. 2004), Indonesia (Mantjoro 1996), Laos (Baird 1999), Mexico (LaRochelle & Berkes 2003), Mongolia (Fernandez-Gimenez 2000), New Zealand (Moller et al. 2004), and the Pacific Islands (Johannes 1978, 1998); in developed countries, also fishing and hunter clubs monitoring of, for example, moose (Alces alces), bears (Ursus spp.), trout and salmon (Salmo spp.)

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CHAPTER 2. THE PURPOSE OF MONITORING

Monitoring is more than a mechanical process of collecting and analyzing data to populate logframes. It is a dynamic tool for tracking progress, improving decision-making, and enhancing outcomes. Monitoring has three main purposes that help make sure projects are effective and successful.

The first purpose is e*valuating outcomes and impacts*. This means checking whether a project is meeting its goals and creating positive changes. By measuring results, we can see if the efforts are making a real difference in people's lives and the environment.

The second purpose is f*ostering learning and adaptation*. Monitoring helps us learn from experience and improve strategies over time. If challenges come up, the information gathered can help adjust plans and make the project work better.

The third purpose is *testing assumptions and hypotheses*. Every project is based on certain ideas about what will work, but these ideas need to be tested. Monitoring helps gather evidence to confirm or challenge these assumptions, making sure decisions are based on facts rather than guesswork.

By fulfilling these three purposes, monitoring helps ensure that projects remain effective, adaptable, and based on real, proven results.

Monitoring provides critical evidence to document how sustainable livelihoods and natural resource conservation are interconnected. It explores the relationship between economic development and ecosystem health, providing data to answer the core question:

> *"How does ecosystem conservation in TFCAs contribute sustainable livelihoods? What works where, and when, for who?"*

This evidence base strengthens project design and demonstrates the value of integrated approaches to development and conservation.

Monitoring also plays an essential role in accountability and learning for organizations. It allows NGOs and agencies to report impacts and provide funders, stakeholders, and the public with clear evidence of progress and outcomes.

Far from being a static exercise, monitoring drives learning, adaptation, and accountability. It supports sustainable development and conservation by providing the data needed to make informed decisions and maximize impact.

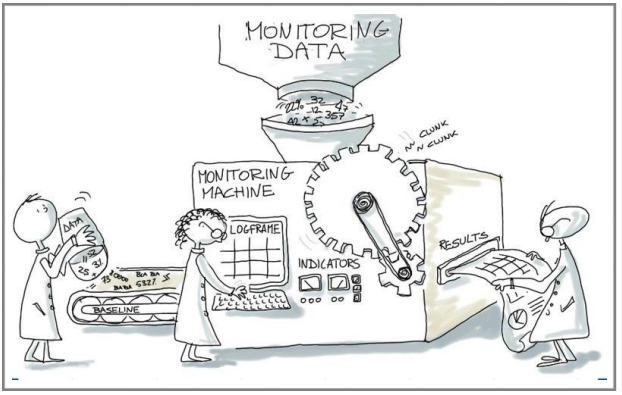

Figure 3. Monitoring and evaluation is more than just a data crunching exercise (image origin unknown)

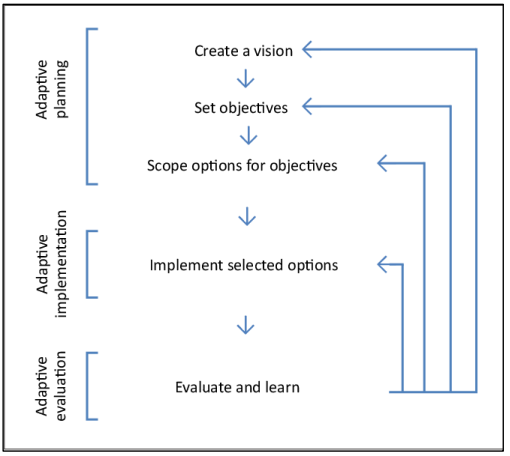

Figure 4. The three elements (planning; implementation; evaluation) of strategic adaptive management in South African National Parks (Roux & Foxcroft 2011).

One of the greatest benefits of monitoring is that it enables adaptive management (learning by doing) - by providing evidence of change. It's about adapting behaviour in a new direction as new knowledge emerges. It's a cyclical process. Management becomes more like an experiment than a blueprint.

Adaptive management starts with planning and setting a vision and objectives, then outlining options. Thereafter implementation takes place, with constant monitoring at appropriate intervals. The final step is to interpret and absorb the monitoring data to reflect, evaluate and learn (Figure 4). At this stage, it is important to ask key questions to ensure that monitoring is working effectively and achieving its goals.

It is important to constantly assess whether the monitoring process is adequate, cost-effective, and realistic. This helps determine if the method being used is practical and providing useful results without being too expensive or difficult to maintain. Has the intended plan of operation been followed? This means checking if the steps that were planned have actually been carried out as expected.

It is also necessary to review whether the choices made were the best ones for achieving the desired outcomes. And, were the consequences correctly predicted? If they were not, it is important to understand why. This helps improve decision-making and ensures that future predictions are more accurate.

Before monitoring begins, it is essential to identify thresholds or 'triggers' for action, and plan what steps to take if those thresholds are exceeded. This ensures that if certain limits are reached, there is already a clear plan in place to respond. Were the actual consequences of the intervention acceptable? Even if something worked as expected, it is important to check if the results were aligned with the community's needs and values.

Finally, even if everything has gone as planned and the predicted consequences were correct, it is crucial to ask if the overall objectives and long-term vision are being met. If they are not, adjustments may still be needed to ensure that the project stays on track toward its ultimate goals.

MONITORING TO COLLECT RELIABLE DATA TO TEST ASSUMPTIONS AND HYPOTHESES

Understanding how our actions affect people, nature, and communities requires careful thinking and solid evidence. Instead of guessing or making quick decisions, we need reliable data to guide us. By testing our ideas and looking at the bigger picture, we can make smarter choices that support both livelihoods and the environment. Bringing together knowledge from different fields helps us see connections, uncover hidden impacts, and create solutions that work in the real world.

Good evidence, even when it does not match our expectations, helps us make better and smarter decisions. Instead of making rushed choices based on guesswork, having reliable information allows us to act with confidence and make informed decisions. Collecting data is important because it helps us check whether our ideas about how things work are actually true. It also allows us to identify unexpected results or side effects that we might not have considered. Without data, we risk assuming the causes of a problem, which could lead to ineffective or even harmful decisions.

To make data useful, it must be linked to a clear plan or framework, such as a theory of change[4]. This means having a well-thought-out idea of how certain actions are expected to lead to specific results. By testing these ideas fairly, we can see whether they hold up in reality or need to be adjusted.

It is also essential to use knowledge from different fields, including science, economics, and social studies. Looking at livelihoods as part of a bigger, interconnected system helps us understand how people, nature, and economies influence each other. This broader perspective allows for more effective solutions that consider the relationships between communities, the environment, and financial well-being.

4 See Anderson 2006. 'The Community Builder's Approach to a Theory of Change'. https://www.aspeninstitute.org/wp-content/uploads/files/content/docs/rcc/rcccommbuildersapproach.pdf

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CHAPTER 3. COMMUNITY PARTICIPATION

Participatory monitoring is a way for local people, even without special training, to help gather important information. It's not just about collecting data—it's about working together, learning, and making sure the information is useful and meaningful for everyone involved.

When people are involved in designing and carrying out a project, they care more about the results than if someone else does everything for them. Collaborative monitoring can also teach us new things, like how governance (rules and decision-making) affects livelihoods.

By working together, trust can grow between different groups, and people feel more motivated to take care of their environment. It also helps communities feel in control, giving them the confidence to find their own solutions and speak up about their needs and ideas.

The Benefits and Challenges of Community-Based Monitoring

By recognizing both the benefits and challenges (Table 2), communities and organizations can work together to make monitoring a valuable and lasting tool for improving livelihoods and protecting natural resources.

Benefits

Monitoring brings several important benefits to communities. One of the key advantages is that it creates new knowledge and insights about livelihoods. By gathering and analyzing information, communities can better understand changes in their environment, economy, and daily lives. This knowledge helps them make informed decisions and adapt to challenges.

Another major benefit is that monitoring builds trust and strengthens motivation for protecting nature. When people see the results of their efforts, they are more likely to stay engaged and committed to conservation and sustainable practices. This sense of ownership encourages long-term participation and responsible stewardship of

natural resources.

Monitoring also encourages people to continue tracking progress even after a project ends. Instead of relying on outside experts, communities can take control of their own data collection, ensuring that the knowledge remains useful and relevant over time. This long-term approach helps in maintaining and improving local livelihoods.

Most importantly, effective monitoring helps communities feel empowered and involved in decision-making. When people have access to information about their own environment and resources, they can actively participate in shaping policies and strategies that affect their lives. This inclusion strengthens local leadership and promotes fairer, more sustainable development.

Challenges

However, monitoring also comes with challenges. Not everyone may be interested in volunteering their time for ongoing data collection. Some community members may be too busy with daily responsibilities or may not see immediate benefits from participating. Finding ways to encourage involvement and demonstrate the value of monitoring is crucial.

Another challenge is a lack of funding, which can make it difficult to sustain monitoring efforts. Without financial support, communities may struggle to maintain equipment, organize training sessions, or keep records updated. Long-term success often depends on securing resources or finding cost-effective ways to continue monitoring.

In addition, access to information and resources may be limited in some areas. If communities do not have the right tools or training, they may find it hard to collect and interpret data accurately. Making sure that people have the materials and support they need is essential for effective monitoring.

Finally, local people may need extra support to develop the skills needed for monitoring. Learning how to gather, analyze, and use data requires training and practice. Providing education and mentorship can help overcome this barrier and ensure that monitoring remains a useful and sustainable practice.

Table 2. Benefits and challenges of community-based monitoring

Benefits	Challenges
Increasing environmental democracy (sharing of information)	Lack of volunteer interest/lack of networking opportunities
Scientific literacy (Broader community/public education)	Lack of funding
Social capital (volunteer engagement, agency connection, leadership building, problem-solving and identification of resources)	Inability to access appropriate information/expertise
Citizen inclusion in local issues	Data fragmentation, inaccuracy, lack of objectivity
Data provided at no cost to government	Lack of experimental design
Ecosystems being monitored that otherwise would not be	Insufficient monitoring expertise/quality assurance and quality control
Government desire to be more inclusive is met	Monitoring for the sake of monitoring
Support/drive proactive changes to policy and legislation	Utility if CBM data (for decision-making; environmental management; conservation)
Can provide an early warning/detection system	

While participatory monitoring is not a perfect solution, it has great potential to bring communities together, improve stewardship of natural resources, and create lasting change. Balancing the benefits with the challenges is key to making it successful.

Whether people take part in community-based monitoring depends on their attitudes, social influences, and how much control they feel they have over their own actions. For example, someone might want to help with monitoring because they see it as important or feel encouraged by others in the community. However, if they don't feel capable or lack the tools and knowledge to participate, they might not actually get involved, even if they are willing.

Empowering people with the skills and resources they need is just as important as encouraging their willingness to participate (Figure 7).

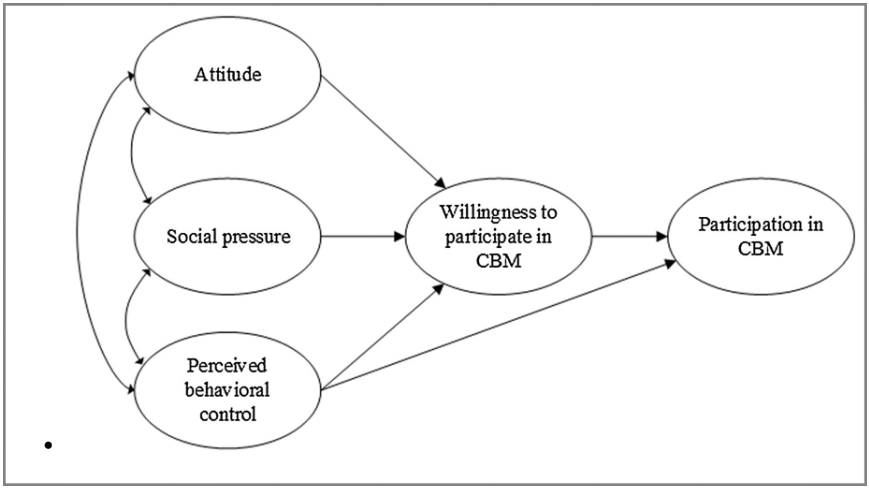

Figure 7. People's willingness to participate in community-based monitoring is influenced by attitudes and social pressure, while their sense of control over their own actions and behaviours influences their actual participation; I.e. someone can be willing to participate without actually engaging in monitoring if they don't have the capacity to do take action

ETHICS IN COMMUNITY-BASED MONITORING

Community-based monitoring often includes individuals and groups who are sometimes overlooked, like Indigenous people, women, and youth. This makes it especially important to handle these efforts with care, as there are potential ethical challenges and unintended consequences.

Local people may view facilitators, scientists, and NGO workers as more powerful or influential, which places a lot of responsibility on these external actors to act ethically and respectfully. Being mindful of this power dynamic is essential to avoid exploitation or harm.

Thankfully, formal procedures exist to help ensure that monitoring is conducted ethically. These include:

- Free, Prior, and Informed Consent (FPIC) – Making sure participants fully understand the process and agree to take part without any pressure.
- Environmental and Social Safeguards (ESS) – Protecting the rights, well-being, and environments of those involved.
- Ethics Approval Procedures – Ensuring academic research is reviewed and approved to meet ethical standards.

By following these guidelines, community-based monitoring can be conducted in a way that respects everyone involved and avoids harm, while still achieving its goals.

Free Prior and Informed Consent

FPIC is a way to make sure that Indigenous people and local communities are treated as equal partners in projects that affect them. It's their right to decide what happens to their lands, resources, and lives.

Here's what FPIC means (Figure 8):

- Freedom to Decide – Communities can say yes or no to a project. Even if they agree, they can change their minds and stop the project at any time.
- Working Together – Indigenous people can work with project leaders to design and check the project to make sure it fits their needs and values.
- Self-Determination – This means communities have the power to make decisions for themselves, protect their traditions, and take care of their land.

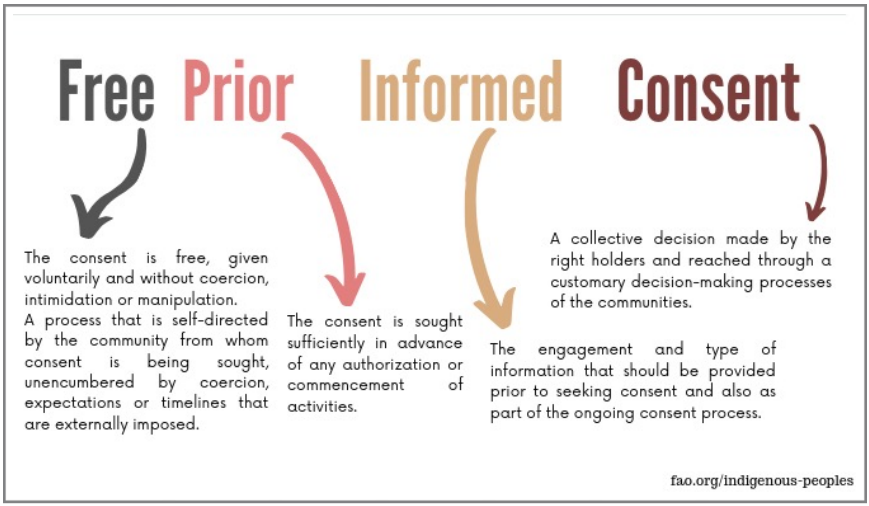

Figure 8. Elements of FPIC (from https://www.fao.org/indigenous-peoples/our-pillars/fpic/en/)

FPIC gives people the chance to weigh the good and bad of a project, helping to avoid problems and create benefits for everyone. By respecting these rights, projects can be fairer, safer, and more successful for all involved.

The World Bank has developed a range of good guidance and good practice notes, checklists and information sheets for each of these principles, available at https://www.worldbank.org/en/projects-operations/environmental-and-social-framework/brief/environmental-and-social-framework-resources.

WWF has adopted an Environmental and Social Safeguards Framework (ESSF) to ensure consistent comprehensive application of safeguards across the entire WWF network. The safeguards were designed as a risk mitigation management system but also to increase the positive impacts on communities (Figure 9). To ensure consistency and effectiveness, all WWF field-based work follows one set of standards. These standards create a unified approach, ensuring that all projects meet the same expectations and operate with a shared vision. Having clear guidelines helps maintain quality and accountability across different locations and teams.

A key part of this framework is clearly defining who is responsible for each aspect of the work. When roles and responsibilities are well

established, teams can work efficiently, avoid confusion, and ensure that important tasks are completed as planned.

In high-risk situations, additional measures are put in place to protect both people and the environment. These extra precautions help manage risks, ensuring that conservation efforts remain safe, ethical, and effective, even in challenging conditions.

To support field teams, a centralized unit provides training and assistance. This unit ensures that staff have the knowledge and skills needed to apply WWF's standards correctly. Ongoing training also helps teams stay updated on best practices and new developments in conservation work.

Another essential element is integrating monitoring and checkpoints into the project development cycle. Regular reviews allow teams to track progress, identify potential issues early, and make necessary adjustments. This continuous assessment process helps ensure that projects stay on course and achieve their intended outcomes. To maintain impartiality and build trust, WWF has an independent ombudsperson who oversees processes and ensures credibility. This independent role provides a neutral perspective, helping to resolve concerns fairly and transparently.

Figure 9. Elements of the WWF Environmental and Social Safeguards framework (https://wwfint.awsassets.panda.org/downloads/wwf_overview_social_policies_and_environmental_and_social_safeguards.pdf)

COLLABORATION AND PARTNERSHIP

Maintaining good relations with community leaders, local and district authorities and the police is a great advantage. Most countries within the KAZA region require researchers and community facilitators to obtain permits to do research in countries or districts.

Obtaining the permission and support from local traditional leadership, and acknowledging them throughout, is however, essential in all instances. Ensure positive and regular interaction with traditional leadership structures.

It may be necessary to report plans and activities to the local police and district authorities to avoid suspicion of political or social activism as well as to ensure the safety of field teams. The relevant KAZA representatives as well as government monitors and facilitators were also informed and invited to participate.

Ultimately, local community organisations should be the custodians of the data, collect it often and generate feedback. For sustainability of monitoring, the community should be eager to do it – not just 'go along with it'.

But working with local people is not just about actions and activities. Success often depends on building real relationships based on trust, respect, and understanding. Over time, experts have discovered ten important principles that can make these partnerships work better. These ideas help everyone—scientists, local leaders, and community members—work together, learn from one another, and create solutions that benefit everyone.

10 PRINCIPLES FOR BUILDING LASTING RELATIONSHIPS WITH LOCAL PEOPLE IN TFCA MONITORING

1. Listen with attention

Make a special effort to listen with respect and fascination and ask questions to try to understand, rather than just offering advice. When in doubt, ask.

2. Focus on learning

Productive engagement between local people, conservationists, authorities and scientists does not come naturally. Stakeholders often need to 'unlearn' damaging behaviours and assumptions about each other. They must also learn new technical skills grounded in participation, respect and mutual empowerment. Ticking boxes and following prescribed procedures is not enough: it takes a lot of learning on all sides to be able to work together towards common goals. Field workers and facilitators who work on the ground should be the first target group for this kind of learning and training.

3. Appreciate each other's knowledge and wisdom

Ensure that local people and their leaders are aware, from the outset, that there is appreciation for their efforts and the complexity of their day-to-day livelihoods. Appreciate and respect local customs, even if they do not resonate with our own. Have respect for people's time and understand that they too lead very busy lives - often under trying conditions.

Treat local people as knowledgeable peers, whose understanding of their local situation surpasses that of scientists and technicians.

4. Recognise the value of diversity

Knowledge held by different participants (for example: women, men, youth, the elderly, officials, project managers and scientists) create a rich picture of what is happening. It makes the information being collected more relevant, accurate and comprehensive.

5. Take enough time

Take it easy. It takes time to understand and find common ground. There are language barriers, differences in world views and differences in expressing knowledge that first need to be understood. History is important. Make an effort to understand the history of a

particular place or context. Postpone decision making until there is some level of common ground and trust.

6. Look for common interests

Seek common ground between the goals of conservation and local livelihoods. Be honest about the differences and celebrate the similarities.

7. Be clear and specific

Using relevant examples rather than vague generalisations and philosophical, meaningless, and insincere talk helps everyone to understand the essence of an issue.

8. Give feedback

Give feedback, with understandable updates about what was done before, findings and what was expected. Start by talking about what has happened in the past and go over earlier conversations and decisions. Creating timelines can also help everyone understand important events from the past that might affect how things go in the future.

9. Strive for true partnership

True partnerships are built on trust, equity and mutual respect for each other's wisdom, aspirations, context and motivations to participate. When local people participate as knowledge partners they co-own the knowledge being produced and therefore also have to agree to its publication. This applies to written text as well as audio-visual materials. Empowerment and self-determination are important intermediate outcomes for conservationists and the ultimate impact for local people. It should be monitored.

10. Agree how reports, information and data will be stored and used

- Village committees, schools or churches can help – ask key informants for guidance.
- At the very least, the team should provide appropriate local groups and other stakeholders with synthesized data and reports – soon after data collection, and in language and format they can understand.
- Posters and canvasses in local languages, with graphics, are more effective than technical reports.

FURTHER READING

Conrad, C., and K. Hilchey. 2011. A review of citizen science and community-based environmental monitoring: issues and opportunities. Environmental Monitoring and Assessment 176(1–4):273–291. http://dx.doi.org/10.1007/s10661-010-1582-5

FAO FPIC Toolkit https://www.fao.org/fileadmin/user_upload/faoweb/2018-New/Our_Pillars/FPIC_package_.zip is designed to provide guidance on how to implement the FPIC process. In contains both informative and operational documents.

FAO collection of policies, learning materials and principles is available on FAO's Indigenous People's web site https://www.fao.org/indigenous-peoples/our-pillars/fpic/en/

Wageningen University (undated). Multi-stakeholder partnerships (MPSP) - tools and methods. URL https://mspguide.org/tools-methods/

Wehn, U., and A. Almomani. 2019. Incentives and barriers for participation in community-based environmental monitoring and information systems: A critical analysis and integration of the literature. Environmental Science & Policy 101:341–357. https://doi.org/10.1016/j.envsci.2019.09.002

WWF standards on free prior informed consent https://consultation.panda.org/documents_by_topic/indigenous_peoples_and_free_prior_and_informed_consent/

World Bank guidance and good practice notes on Environmental and Social Safeguards: https://www.worldbank.org/en/projects-operations/environmental-and-social-framework/brief/environmental-and-social-framework-resources.

PART 2.
TOOLS FOR COMMUNITY-BASED LIVELIHOODS MONITORING

THE KAZA EXPERIENCE

CHAPTER 5. TOOLS FOR PREPARATION

"WISE MEN SAY...ONLY FOOLS RUSH IN"

Advance preparation can help facilitators get consent, explain what the initiative is about, and understand who else should be involved. A range of participatory tools can assist, for example:

Stakeholder analysis[5] - a way to figure out who is affected by a project or decision, how they might influence it, and what they care about. It helps ensure everyone important is included, so the project can be fair, successful, and well-supported.

Historical timelines[6] are visual tools that show the order of important events from the past in the order they happened. They help us understand how events are connected and how things have changed over time.

5 See Wageningen MSP Guide Tool 12 - https://mspguide.org/2022/03/18/stakeholder-analysis/

6 See Wageningen MSP Guide Tool 15 - https://mspguide.org/2022/03/18/timeline/

Participatory mapping[7] is a way for people to work together to create maps that show important places, resources, or issues in their area. It helps everyone share knowledge about their land or environment. Participatory mapping can be combined with transect walks[8].

Appreciative inquiry[9] is a method that focuses on identifying and building upon the positive aspects of a situation or organization to encourage improvement and change. Instead of concentrating on problems, it emphasizes strengths and successes to inspire progress.

STAKEHOLDER ANALYSIS - IDENTIFYING WHO SHOULD BE INVOLVED

Stakeholder Analysis is about identifying the people, groups, or organizations that have an interest in a monitoring initiative and understanding how their interests may affect success.
A stakeholder is anyone who cares about or is affected by an initiative. While they may not always take part in decision-making, their roles should be clearly identified to ensure their interests and expertise are considered. Stakeholders can include traditional leaders, individuals with deep knowledge of natural resources such as hunters, trackers, farmers, and traditional healers, as well as representatives of different community interest groups. Local government officials, government planners, conservation agencies, and tourism operators also play important roles, alongside agricultural extension officers, locally active NGOs and charities, teachers, and researchers. Recognizing these diverse stakeholders helps create inclusive and well-informed decision-making processes that benefit both people and the environment.
Stakeholder analysis helps identify the key stakeholders, understand what they care about, and assess how their involvement affects the initiative. By recognizing who plays a role, what their interests are, and how they influence the project, organizations can ensure better collaboration, address concerns effectively, and create more inclusive

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7 See Brown et al. 2016 - https://participatorymapping.org/wp-content/publications/marine_stakeholder_final.pdf

8 See Sustainable Sanitation and Water Management Toolbox SSWM https://sswm.info/humanitarian-crises/urban-settings/planning-process-tools/exploring-tools/transect-walk

9 See https://positivepsychology.com/appreciative-inquiry

and sustainable outcomes.

The information can be sensitive, like identifying someone who might block progress, so results should not be widely shared. When sharing this information outside the project team, think about your audience to avoid misunderstandings.

Participatory workshops are a great way to gather and analyze stakeholder information.

Why is Stakeholder Analysis Important?

Stakeholder analysis is valuable because it clarifies whose interests align with the initiative's goals, helping to focus on those most affected or influential. It also reveals potential conflicts, such as when key stakeholders have competing priorities, allowing for better planning to manage these challenges.

By providing a big-picture view, stakeholder analysis organizes all relevant stakeholders and their roles in one place, making it easier to understand their influence. Additionally, it highlights relationships between stakeholders, identifying connections and opportunities for partnerships that can strengthen collaboration and improve outcomes.

Stakeholder analysis tool

Step 1. Create a list of stakeholders

A useful way to organise a checklist is using the acronym 'STEEP' to list the various groups that should be covered:

- **S**ocial - education, legal
- **T**echnological
- **E**conomic
- **E**cological
- **P**olitical

Step 2. Create a table to describe each stakeholder's role and impact

Table 3. Stakeholder description template

Stakeholder	What they need from the initiative	What we need from them	Potential impact (high / medium / low /
S1			
S2, etc.			

Step 3. Create a stakeholder map

Write stakeholder names (organisational roles, not people) on cards, then place each stakeholder in an appropriate place in the matrix - depending on the level of their potential influence on project success, and interest in the process and outcomes, respectively (Figure 10).

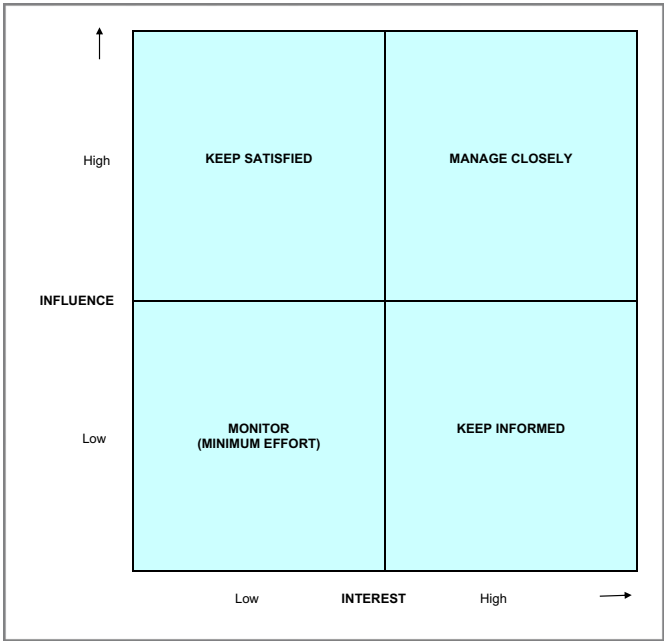


Figure 10. Template for a stakeholder map

INITIAL MEETING WITH KEY INFORMANTS AND COMMUNITY LEADERS

Initial meetings lay the foundation for good relations and should be carefully planned. It is here were the community's permission and commitment to cooperate is obtained, and where the purpose of the monitoring is explained.Explain the focus and intended purpose of the monitoring.

How to explain 'monitoring'

Metaphors and examples can help explain livelihood monitoring in a way that is easy to understand. It can be compared to a using a stick to regularly check how deep the water is in a well. Farmers already practice monitoring when they check how dry the soil is, and people can predict the future by observing which plants, insects, and animals are present or have disappeared.

Monitoring allows local people to assess how their community is making a living by tracking changes in their belongings, income sources, access to equipment, infrastructure, services, skills, education, farming products, and natural resources such as water, soil, forests, and grazing.

In short, monitoring helps people understand how well they are able to live in their local area from year to year. It allows communities to identify what supports and what limits their livelihood strategies by highlighting what is working well and what is not. This process involves creating written records, pictures, and documents that can be updated every few years to track progress and changes over time.

Motivation for participatory monitoring

Local people will likely ask: "*What is in it for us? Why should we devote time and energy to this?*". It can be tempting to make empty promises. Never do that - rather under-promise and over-deliver.

Here are 9 reasons one can give to local people to answer the question "*What is in it for us when we participate in monitoring*":

1. *Discovering new things*: Monitoring helps us find problems and solutions that we didn't even know were there. It's like lifting a blanket on valuable information about our community.
2. *Starting important conversations*: By monitoring, we can start talking

Figure 11. Participatory ranking of community's monitoring priorities (Chooma Village Action Group, Kafue)

with each other, and with outside organizations, about what's causing problems and how we can fix them.

3.*Improving decision making in the community*: Monitoring gives us proof of what's working and what isn't, so we can make smarter decisions to make our own lives better.

4.*Using evidence to motivate for support*: When we have monitoring results, we can show the government and other groups why we need support to improve how we live and work.

5.Training and skills development: Local facilitators selected by local organisations and leaders will be trained in monitoring skills, valuable for their personal development and in some cases to earn income.

6. *Learning and awareness*: Monitoring can help young people learn about their environment, mathematics and science, and help everyone notice slow changes happening around us that we might miss otherwise.
7. *Supporting fair and honest leadership*: Monitoring makes sure our leaders and the government make fair decisions, and it can encourage them to continue being responsible.
8. *Building trust with others*: Monitoring together with government officials or other organizations can help build better relationships and trust.
9. *Giving hope:* When monitoring shows good results it can remind us that our hard work is paying off and inspire us to keep going.

These points highlight why monitoring can be important for everyone and how it may lead to real benefits for the community.

Important questions to ask when introducing collaborative monitoring to local informants and leaders

- Which decision making structures exist inside the community?
- Which outside organisations (government; non-government;

private) have influence?[10]
- Has there been any monitoring until now? Can you explain?
- Who is responsible for monitoring and how are they organized?
- Is the community and its leadership interested in participating in livelihoods monitoring?
- If so, which livelihoods aspects are important to monitor?
- Which historical events are important, that everyone should be aware about? Recommend to couple this with a participatory timeline[11] exercise]

Table 5 offers a template to help conducting and record initial meetings with community leaders, key informants and other relevant stakeholders.

Lessons about Preparation

1. *Plan Well in Advance* - Good preparation is essential. Spend as much time planning as you do conducting the monitoring activities.
2. *Use a Checklist* - Always follow a logistics checklist and update it regularly. (See Appendix 4 for an example.)
3. *Get Permissions Early* - Contact the necessary authorities in advance to secure permits and permissions, as this process can take time.
4. *Prepare for Emergencies* - Create an emergency plan with a map, important phone numbers, meeting points, and locations for food and water. Include safety procedures for encountering wild animals.
5. *Select Participants Carefully* - Choose participants ahead of time. They should be knowledgeable and represent different groups in the community. Work with local schools, teachers, and organizations.
6. *Avoid Duplication* - Check if other groups are already monitoring similar activities to avoid repeating work.
7. *Follow Community Engagement Principles* - When working with local communities and leaders, follow best practices for respectful and effective engagement.
8. *Start with Feedback* - Begin each session by discussing what has

10 You can couple this with the stakeholder analysis exercise described in the next section

11 Detailed descriptions in https://www.betterevaluation.org/sites/default/files/Final_CC-Tools.pdf; also https://mspguide.org/2022/03/18/timeline/

changed or happened since the last monitoring activity.

9. *Do Not Offer Cash or Gifts* - Avoid giving money, groceries, or mobile airtime to respondents. Only reimburse legitimate expenses like transport and food.
10. *Offer Non-Material Rewards* - Consider certificates of appreciation or recognition instead of cash rewards.
11. *Have Backup Plans* - Be ready to adjust plans if unexpected challenges arise, such as dangerous wildlife, bad weather, or health restrictions like COVID-19.
12. *Budget for Remote Work* - Ensure there is enough money for transportation, emergency costs, and logistics in remote areas.
13. *Choose the Right Timing* - Avoid busy times like planting, harvesting, community rituals, or political events.
14. *Provide Proper Meals* - Make sure participants are well-fed. End each session with a good meal, preferably prepared by local caterers. Budget accordingly.
15. *Train Facilitators Properly* - Facilitators need training and ongoing practice to collect data correctly. One training session is not enough.

SELECTING AND TRAINING LOCAL FACILITATORS

Involving local facilitators in data collection, participatory workshops, and site visit coordination offers several benefits. It helps develop skills for long-term monitoring and ensures a better understanding of local customs, languages, and conditions that may impact data collection.

Since local residents are involved in their selection, facilitators are more readily accepted than outsiders, reinforcing community ownership of livelihood monitoring. This approach emphasizes that the process is designed for the community's benefit rather than being controlled by external organizations. Most importantly, local facilitators should assist in feedback sessions and actively participate in workshops, with their skills developed during training.

Selection

Local facilitators who are eager, intelligent and adaptable can play an important role in collecting enough data of high quality, and promote local buy-in.

Choose Carefully - Work with local leaders or trusted community members to carefully select the best local data collectors.

Get Nominations - Begin by asking local leaders for recommendations.

Test Their Skills - Meet with each recommended candidate and give them a simple test. Check if they can read and write, use smartphones or tablets, and solve problems quickly.

Check Their Enthusiasm - Invite the candidates to join you on a trial household survey. Run through the survey with them as if they were respondents to see how well they understand it and how eager they are.

Plan for the Future - Involve several local helpers at different stages to ensure smooth progress. This is important because some facilitators may leave for better jobs, so having a plan for replacements is necessary.

Training

Basic Training - Local facilitators need to attend a one-day beginners' workshop organized by the project team. They will learn how to do household surveys, talk with community members and their leaders, and organize workshops.

Hands-On Experience - After the workshop, they should work with experienced team members for at least 3 days. First, they observe,

and then they gradually start conducting the survey with support.
Data Monitoring - The project team member should regularly check the data entered into the Kobo platform. Helpers must upload their data every day so that any mistakes can be found and fixed quickly.
Ongoing Support - It's important to keep in touch with the facilitators to ensure they stay motivated and competent.
Active involvement in Communication - Facilitators should be trained and encouraged to join follow-up meetings and participatory workshops, as they play an important role in community feedback sessions.

Motivation and incentives

The main motivation for local facilitators should be skills development and training. They should, however, also receive small stipends to cover their costs and effort. These payments should align with the daily pay offered by a country's government Public Works Programs or similar job creation initiatives.

But expectations should not be raised, even though monitoring assistance could pave the way for other jobs. Householders taking part in surveys should never receive physical rewards (such as cash, clothing, or food) for their answers. Doing so could affect the responses and affect future surveys which might not offer such rewards.

Table 5. Initial Meeting Reporting Template

Initial site visit report		
Date:	Locality:	Recorded by:
Steps	What we did (including pictures if appropriate)	What we discovered (including pictures if appropriate)
1. Introduce the monitoring project to community leadership *Consider providing them with a printed map or copies of previous or relevant publications, or notebooks and pens*	**Give feedback on previous surveys** * Ask: How have things changed since then? * Who else needs to know that? * How would you prove such change to them? * How would that help you, if you could?	* How was that received?
2. Which institutional structures exist?		
3. Who is responsible for monitoring and how are they organized?		
• To form basis for a monitoring focus group		
• With diverse livelihood strategies, and gender-balanced		
4. Is the community and its leadership interested in participating in livelihoods monitoring?		
5. *Demonstrate the ranking exercise tool and simultaneously find out what they want to monitor*		
• B: Governance	1. Relationships between different organizations and structures	
• C: Livelihood strategies	2. Livelihood diversity 3. Trends in livelihood assets	
• D Capabilities	4. Stewardship 5. Problem tree – for root causes	
Our agreed rules and ways of working	E.g. attendance; openness; responsibilities for e.g. time keeping; note taking; mutual respect for opinions; speaking in own comfortable language	
6. Get the leadership and focus group's comments on the monitoring tools (both the questionnaire and participatory tools)	**Which questions were asked?** • Record each question	**Your general assessment?**
7. Concluding questions to ask:		
• How does this link with existing monitoring activities in your village?		

THE SUSTAINABLE LIVELIHOODS FRAMEWORK - A SHARED FOUNDATION

Shared frames help everyone see monitoring through the same pair of glasses. A modified version of the Sustainable Livelihoods Framework was developed by the ARISE team and adopted by the KAZA Community Working Group to inform its livelihood strategy and monitoring (Figure 12).

Livelihoods monitoring looks at how people make a living and how their lives are affected by things like money, the environment, and government decisions. It uses a simplified version of a method called the Sustainable Livelihoods Framework (SLF), which was first created by a group in the UK called the Department for International Development (DfID). This version focuses on four main parts of how people live and survive, while also thinking about big influences like national policies, markets, politics, the climate, and new technology.

The framework has four interconnected components as indicated in Figure 12. These are:

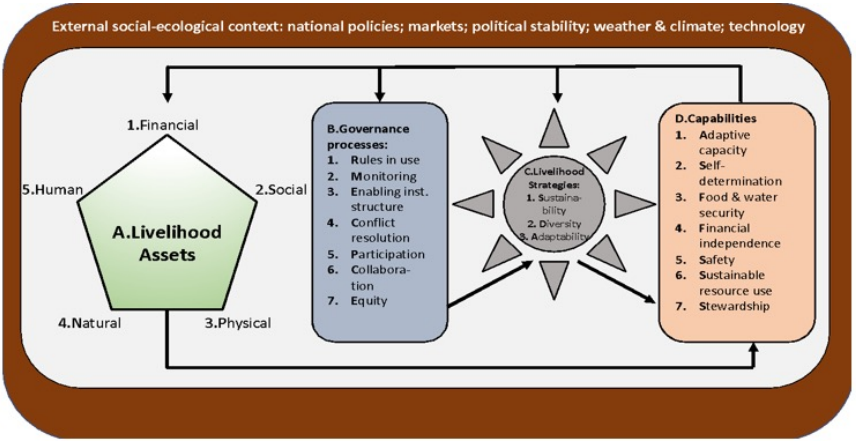


Figure 12. The Sustainable Livelihoods framework, modified for KAZA conditions

A. Livelihood assets

Livelihood assets are those things that people can use to make a

living. It consists of five elements: 1) **H**uman assets (namely, people, their education, skills and their labour); 2) **F**inancial assets (namely, money); 3) **N**atural assets (namely, nature and its services such as clean water, soils, wild resources, and agricultural products; 4) **P**hysical assets (namely, infrastructure and services); 5) **S**ocial assets (namely, good relationships, caring for each other).

B. Governance processes

These processes are the way decisions and rules are made and implemented. It consists of seven elements: 1) Rules in use (namely, codes of conduct, customs, laws); 2) Monitoring; 3) Enabling institutional structures (namely, organisations that can implement the rules and make decisions); 4) Conflict resolution mechanisms; 5) Participation by representative community members; 6) Collaboration (namely, working together with government, NGOs and the private sector; and 7) Equity (namely, fair benefit sharing).

C. Livelihood strategies

Livelihood strategies are the ways people make a living. It has three elements: 1) Sustainability (namely, whether the livelihood strategies can continue for a long time); 2) Diversity (namely, the full range income streams and other ways of making a living; and 3) Adaptability (namely, whether it's possible to modify or switch livelihood strategies).

D. Capabilities

Capabilities are people's accomplishments that they have developed to improve their quality of life. Seven capabilities that are important in KAZA include: 1) Adaptive capacity (namely, the ability to adjust, cope and bounce forward after setbacks); 2) Self-determination (namely, the ability to be self-sufficient and determine one's own future; 3) Food and water security; 4) Financial independence; 5) Safety; 6) Sustainable resource use; and 7) Stewardship (namely, taking care of nature, so nature can take care of us).

To understand these four parts, researchers used two main tools: household surveys, and standardised participatory activities that involve the community.

CHAPTER 6. LIVELIHOODS MONITORING TOOLS: A PRACTITIONER'S GUIDE

Livelihoods monitoring tools come in two packages: household surveys, and participatory monitoring templates and protocols. In both instances, the goal is to get a picture of livelihoods, and changes, at the community level by lumping data from randomly selected households, and participatory exercises, to get a reliable picture at the community level.

What is "a community"?

There are many different definitions of "community", and the term can easily be misused to generalise findings about groups that may in reality have a lot of variation among them. For the purpose of livelihood monitoring in KAZA, we conveniently view "community" as people living in the same area, who meet regularly to make decisions and fall under the same traditional and political leadership. For the purpose of analysis, household data were lumped into "communities" as follows:

- **Angola**: households belong the the same *Communa* as described in Oglethorpe et al. 2019 [12].
- **Botswana:** households belonging to the same Community-Based Organisation - often a Community Development Trust - as mandated under the Botswana CBNRM policy of 2007[13].
- **Namibia:** households belonging to the same Communal Area Conservancy Communal area conservancy Gazetted in terms of the Nature Conservation Amendment Act (No.5 of 1996)[14].
- **Zambia:** households belonging to the same Community Resources Board within the same Game Management Area as described in the Zambia Wildlife Act, 1998 [15].

12 https://rris.biopama.org/page/resources

13 https://faolex.fao.org/docs/pdf/BOT196849.pdf

14 https://meft.gov.na/files/files/CBNRM_20Policy%20Approved.pdf

15 https://www.land-links.org/wp-content/uploads/2023/08/CRB-Roles-and-responsibilities_508.pdf

- **Zimbabwe:** households belonging to the same CAMPFIRE District under a Rural District Council (RDCs), with traditional leaders as custodians [16].

Household surveys

The surveys ask families questions about their assets, e.g. their income, their homes, and the resources they have, in ways that the answers can be compared over time. These surveys should be administered to a randomly selected[17], large and representative number of households selected at the village level. Importantly, there should be no 'hand picking' of households based on wealth, household size or knowing some of the people living there.

Sample size: how many households per locality?

At least 30 households should be chosen randomly in each community.
The number of households depended on the community size, available resources, and time.
Large communities: A 3-5% sample is enough (e.g., 300 households for a population of 10,000 homes).
Smaller communities: 15-20% of households should be sampled (e.g., 30-40 households in a community of 200-300).
Random selection within villages is important - to avoid bias (e.g., selecting only large families or specific locations).
This method ensures the sample consistently and accurately reflects local conditions without incurring high costs.

These surveys focus mainly on changes in livelihood assets, namely, the resources people have at their disposal to form the basis for their livelihood strategies and ultimately leading to capabilities (see glossary). It is important to be consistent, to enable comparison between subsequent survey results, but also to adopt the methodology for implementation across KAZA and possible other TFCAs.

Participatory monitoring

The participatory community based monitoring activities, like drawing diagrams and looking at patterns, help us explore how people manage resources, make decisions, and adapt to changes. This is aimed at eliciting local and traditional knowledge about change. These methods focus mainly on governance systems, livelihood strategies and capabilities, and to a lesser extent on livelihood assets. Participatory community-based monitoring aims to three several important goals. First, it seeks

16 https://www.campfirezimbabwe.org/content/policy

17 Households could be selected by randomly picking a point on a map after closing one's eyes, and then selecting the nearest homestead in a random direction (N, S, E, W). In addition, a random number generator app called "Random" can be downloaded from the Playstore or App Store.

to empower communities by involving them in the design of the monitoring process, ensuring that it reflects their needs and priorities. Second, it focuses on building long-term capacity for integrated monitoring within communities, rather than relying on one-time surveys that can be costly and require a lot of effort. Finally, it helps uncover detailed, fine-grained local information by drawing on people's lived experiences and traditional knowledge. By achieving these goals, monitoring becomes more relevant, sustainable, and effective in supporting community decision-making and development.

By combining these tools, livelihoods monitoring also looks at how strong and flexible people's ways of living are. This information helps in planning ways to improve lives and ensure that communities can handle challenges in the future.

The next section focuses on guidelines and templates for applying the individual household and participatory monitoring tools in practice.

HOUSEHOLD SURVEYS USING KOBO TOOLBOX

Household surveys are used to assess, and monitor, the sustainability of people's livelihoods in a particular area. While it should be possible to monitor changes in fixed households over time, experience has taught us that this is a challenge because people move in and out of villages. It is therefore more reliable to select enough random households (see Page 49) to get a picture of changes at the community level. This means that data from all households sampled in a particular community is lumped when trends are analysed.

The household survey questionnaire consists of seven sections: 1) Generic information; 2) Human assets; 3) Financial assets; 4) Natural assets; 5) Physical assets; 6) Social assets and 7) Closure. Each section is expanded in more detail below.

1. Generic information

Purpose: to ensure replicability and good record keeping

- Introduction and Purpose
- Request to Participate
- Interview Details (Date, Number, Enumerator Name)
- Location Details (Country, Region/Province/District, Village/Area, GPS Location)
- Preliminary Questions (Participation, Gender, Age, Household Details)

2. Human Assets

Purpose: to determine, and track, available skills, health, education - as well as the household's ability to use their human assets to adapt

- Education (Highest Level, Skills in Household)
- Disabilities in Household
- Climate Change Effects
- Effects of Wildlife (Positive and Negative)
- Nutrition (Meals per Day, Meal Skipping Frequency)

3. Financial assets

Purpose: to determine levels, and sources, of income and track this over time

- Businesses (Types, Income, Expenses)
- Formal Employment (Income, Sector)
- Other Income Sources (Remittances, NGO Payments, Government Payments, Pensions, Compensations, Environmental

Payments, Rent, Other)
- Tourism Contribution
- Livestock Details (Ownership, Sales, Expenses, Losses, Predator Management)
- Farming Technologies
- Crops (Types, Land Use, Harvest, Sales, Sustainable Practices, Expenditure, Losses)

4. Natural Assets

Purpose: to determine the role of natural resources in the household's livelihood, how the use of land and resources is regulated, and track this over time

- Resource Collection (Types, Frequency, Sales)
- Water Harvesting and Usage (Methods, Quantity, Quality)
- Wild Resources (Access, Sales)
- Governance of Livelihood Assets (Regulations; Participation; Communication and Learning)

5. Physical Assets

Purpose: to determine, and monitor, the availability of things one can touch, that a household can use to make a living.

- Land (Total, Usage)
- Infrastructure (Electricity, Toilets)
- Accessibility (Walking Time to Facilities)

6. Social Assets

Purpose: to determine, and monitor, community relations and how people can rely on each other for support.

- Community Groups and Organizations (Membership, Roles, Benefits)
- Volunteering and Community Support

7. Closure

- Final Remarks
- Thank You and Next Steps

How to set up and use Kobo Toolbox

Why use Kobo toolbox?

KOBO Toolbox is a free, open-source platform that allows multiple users to access a single account. It supports a wide range of question types, including multiple choice, GPS, and audio recording, making it a versatile data collection tool (more details here). KOBO also offers extensive online support to assist users with any questions (support resources available here). Additionally, it is highly customizable using an XLS form and includes features like locking profiles for enhanced security.

Step by step instructions

Preparation Stage

Check if the existing survey covers everything you need: https://ee.kobotoolbox.org/x/a0HoDJhF. To avoid unnecessary repetition, standardised questions were carefully selected and adapted. While new questions can be added, existing ones cannot be removed. If additional questions are needed, they should be prepared in advance before moving on to the creation stage.

An XLSForm version of the questionnaire can be downloaded from Google Drive and from the KAZA monitoring and evaluation platform (Low Bandwidth Library button).

Creation Stage

Log into https://www.kobotoolbox.org using the **kaza_kobo account – pw: WWFKoBo#3.** "Clone" (i.e. copy) the KAZA SE Survey (locked) and give your copy a new name. Existing questions should remain unchanged as modifications could impact KAZA's ability to compare results across locations and years. If it's essential to add additional questions, in edit mode, scroll to the bottom of the survey and add new questions, keeping the survey as short as possible to respect respondents' time constraints. Remember to save your work.

Testing stage

Use the preview function to review the format and verify the questions. Enter possible answers, including decimal points or negative numbers if relevant. Once finalized, save the changes, deploy the survey, and test the link online. Finally, add the survey to a device for further testing.

Implementation Stage

When the survey is fully tested, share the link online with team members and data collectors. Upload survey onto devices using the KoBo Collect App, available on Google Play - Android devices only. Help for setting up devices is available here.

Managing the Household Survey Data

To efficiently manage data and prevent confusion, loss, and duplication, the team should follow best practices. This includes using standard storage formats with regular backups, storing data appropriately for consistency, and maintaining version control to avoid duplication or overwriting. Adhering to a specified data management guide ensures data is well-organized, searchable, and easily retrievable. By following these steps, data remains findable, accessible, and useful for both current and future collaborators.

KoboToolbox allows you to download the data you have collected in several different formats. There are also a number of customizations you can make to your export settings.

To download your data:

- Open your project and navigate to DATA -> Downloads
- Choose your export setting as either XLS (Microsoft Excel).
- Click EXPORT. This will generate an export which will be shown in a table below. Note that a new export can take between a few seconds and several minutes to be created (depending on the number of submissions, size of the form and current load on the servers) and will be shown below in the Exports section of the page.
- Click DOWNLOAD to download the exported file.

Uploading data files

Household Survey and Participatory Rural Appraisal data folders were created in Google Drive for each country and only accessible to team members with permission, within an umbrella folder. At the time of writing, these folders reside on Google Drive.[18] A more permanent home on the KAZA monitoring platform is being created, under the 'Low Bandwidth Library' button.

18 There is, however, a considerable risk that the Google Drive folders will not be permanently accessible. For that reason, a more permanent solution of the KAZA Monitoring and Evaluation platform is being created.

Once a country data file is accessed and downloaded from its Kobo Toolbox site, uploads may be done according in each subfolder or sub-sub folder such as for pictures by choosing either the Household Survey or PRA sub-folders.

Files should be clearly and consistently labelled using the protocol *Country-Locality-Date uploaded.xls*, e.g. *Namibia-Zambezi-Linyanti-15Jan2025.xls*. When files are updated, the new version should be numbered

Uploading pictures

In the same folder, use the filename to describe the file. and provide context and relevant details which would help someone to use the picture in communication: <Data Collector-Activity-Locality-date>, e.g. *Achinyama-householdinterview-Zambezi-Sangwali-25Jan2025.jpg.*

Upload high-resolution photos that are well-exposed and in focus. Use JPEG or PNG at the highest resolution possible. Note: WhatsApp compresses photos to lower resolution, so always upload the original files, not the ones sent via WhatsApp.

Data analysis

Data should be analysed by trained experts who are familiar with Microsoft Excel analysis and data interpretation. Results should be presented in graphic format, using the same headings and format presented in the 2025 baseline survey report currently hosted on Google Drive.

Lessons about data entry, analysis and storage

1. Facilitators have an important role in entering data and quality assurance, and using the template data sheets provided.
2. Imagine the data sheet as a permanent and official monitoring record to be stored and used by the community and others for decision making, and to report back to the community at large. It is, therefore, important to complete all parts, and particularly take clear photographs. Shortcuts can be costly when exercises need to be repeated.
3. Arrangements for local data storage and custodianship are crucial and should form part of the discussion. Local schools can plan an important role in that regard.
4. Print-outs and A1 sized posters with summarised findings are a useful way to make data accessible at local levels. This does, however ,require a dedicated budget.

5. Local communities should ultimately continue monitoring livelihood impacts in the absence of NGO support. Therefore, a paper-based system, with files and data sheets that can be completed manually, may be the best solution for continuity. Digital cameras to capture and store pictures are a useful addition to local capacity for self-monitoring.
6. In addition, the completed data sheets should also be indexed and stored as part of the KAZA M&E system.

PARTICIPATORY MONITORING

Participatory monitoring is a critical tool for conservation managers working in transboundary conservation areas in Africa. By integrating local knowledge, combining participatory techniques with structured surveys, and addressing key challenges, conservation initiatives can be more effective and sustainable. With careful planning, capacity building, and collaboration, participatory monitoring supports both biodiversity conservation and sustainable livelihoods, fostering a balance that benefits both people and nature.

Understanding Participatory Monitoring

Participatory monitoring is a practical approach that engages local communities, conservation practitioners, and key stakeholders in data collection and assessment. Instead of depending solely on external researchers, this method enables those directly affected by conservation activities to document and evaluate environmental and livelihood changes. By incorporating local knowledge into decision-making, participatory monitoring enhances the relevance, effectiveness, and sustainability of conservation initiatives.

In transboundary conservation areas participatory monitoring is particularly useful. It strengthens cooperation across borders, ensuring that local communities play an active role in conservation

while addressing their priorities and concerns.

Practical Applications in Sustainable Livelihoods Monitoring

Participatory monitoring plays a key role in tracking sustainable livelihoods in transboundary conservation areas. Communities in these regions depend on natural resources, and conservation measures can directly affect their way of life. This approach helps assess these impacts and ensures that conservation policies support, rather than disrupt, local livelihoods.

In KAZA, participatory monitoring has been used to measure the effects of conservation policies on local livelihoods. Communities document changes in resource access, income-generating activities, and food security. Tools such Venn diagrams, Pie charts, Problem and solution trees, and Joint Assessment of Agroecology Practices informs decision-making. Elsewhere, local trackers contribute to wildlife monitoring by recording poaching incidents, human-wildlife conflicts, and ecosystem changes.

Integrating Participatory Monitoring with Conventional Questionnaires

While structured questionnaires using Kobo Toolbox offer quantifiable, comparable data over time and across locations, participatory monitoring adds valuable qualitative insights. Combining it with standardized surveys enhances data reliability.

For example, participatory techniques such as focus groups and storytelling, recording conversations and debates that happen during the participatory monitoring exercises will help identify key livelihood challenges, while household surveys validate and quantify these findings. This integrated approach ensures that monitoring reflects real-life conditions while maintaining scientific accuracy.

Challenges in Participatory Livelihoods Monitoring

Despite its advantages, participatory monitoring faces several challenges:

Limited Capacity and Resources -Many communities lack training in data collection and analysis.

Language and Cultural Barriers - Differences in language and cultural perspectives can complicate communication and data standardization.

Trust Issues - Some communities are skeptical of conservation efforts,

fearing restrictions on resource use or even persecution.

Data Management Challenges - Organizing and analyzing community-collected data for decision-making can be complex.

Cross-Border Coordination - Differing legal frameworks and governance structures across countries complicate collaboration.

To address these challenges, monitoring programmes should focus on capacity building, ensure clear communication in local languages, and promote community participation in decision-making to build trust and cooperation. Because results should be comparable between years and localities, standardisation is vitally important. Templates, carefully tested and refined in all 5 countries in 26 localities, are therefore provided.

Managing Risks in Participatory Livelihoods Monitoring

There are several risks involved in community-based monitoring. One major concern is data bias, where communities might exaggerate or underreport information based on personal interests or expectations. Another risk is community fatigue, where repeated data collection without clear benefits can cause people to lose interest and stop participating. Transparency about why data is being gathered and how it benefits the community helps build trust. Providing training, small payments to facilitators, or certificates can motivate people to stay involved.

Political sensitivities can also pose challenges, especially when conservation efforts overlap with land rights issues or political disputes. Additionally, security concerns must be considered, as community monitors may face dangers from wild animals or criminal activities. Keeping monitors safe by having them work in teams and follow security guidelines is essential to ensuring their well-being while carrying out their tasks.

PREPARING FOR PARTICIPATORY MONITORING WORKSHOPS

Introduction to Good Facilitation

Facilitation means helping a group work together to make decisions, solve problems, and reach agreements. A good facilitator does not tell people what to do. Instead, they help people communicate, listen to each other, and find solutions together. The goal is to create a space where everyone can share their ideas and feel respected. Effective facilitators help groups solve problems together, guiding them toward fair and practical solutions that benefit everyone involved (Table 6).

One of the most important skills is being neutral, meaning they do not share personal opinions or take sides in a discussion. Instead, they focus on listening carefully, making sure that everyone feels heard and understood. Giving helpful feedback encourages participants and helps them improve their communication skills.

A skilled facilitator also knows how to ask good questions that encourage deeper thinking and help participants consider different viewpoints. Additionally, they play a crucial role in helping people express their ideas clearly so that their thoughts and perspectives are communicated effectively.

Facilitators must also be skilled in managing discussions by ensuring that everyone has a chance to speak while keeping the conversation focused. Creating a safe space is essential so that people feel comfortable sharing their thoughts openly. A good facilitator is also flexible, willing to adapt their approach as needed to keep the group engaged and discussions productive. Planning is another critical skill —facilitators must ensure that meetings have clear goals and structured steps to follow (Tables 7 and 8).

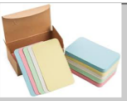
Table 6. Tips and Traps in workshop facilitation

Tips for Good Facilitation	Mistakes to Avoid
Build trust with the group.	Taking sides in discussions.
Use simple and clear communication.	Letting one person talk too much.
Keep the discussion on topic.	Allowing the conversation to go off track.
Make sure everyone has a chance to speak.	Ignoring quiet or shy people.
Adapt to the group's needs and energy.	Being too strict with the agenda.
Balance power differences in the group.	Letting strong voices dominate.
Give clear instructions and guidance.	Assuming people know what to do.
Help the group take ownership of ideas.	Telling people what to think or do.
Address conflicts in a fair way.	Avoiding or ignoring conflicts.
Allow time for reflection and learning.	Rushing through the process.

Table 7. Checklist for Organising Participatory Workshops

Mile	Action	Check	No
		✓	X
A	Four weeks before: have authorities been contacted and necessary permissions been obtained?		
	Has local facilitator been recruited and briefed?		
	Are documents, graphics or maps of previous projects or meetings available to start the session with feedback?		
	Have all team been trained in using the methods, and practiced using them?		
	Community enumerator / facilitator involved in the above?		
B	Three weeks before: community leaders contacted about dates for a community meeting?		
	Do community leaders agree to cooperate and open the meeting?		
C	Two weeks before: relevant local and national officials, other NGOs and important interested and affected parties invited and asked to saved the date?		
	Has facilitation equipment been obtained? (See acccompanying table for an equipment list)		
	Local enumerator briefed and agreed to be point of contact for arrangements?		
D	One week before: village visited to assess logistics, meet with local leadership and identify venue and facilities?		
	Has accommodation for facilitation team been booked?		
	Travel lostistics in place: vehicle; cash advance; permissions to travel and, accommodation		
	Community enumerator / facilitator involved in the above?		
	Is the venue appropriate?		
	If not: necessary to hire a tent and tables?		
	Are there ablution facilities?		
	If not: is it necessary to hire some?		
	Is a local caterer available who can provide meals?		
	Is there a written agreement with the caterer about number of meals, type of food and timing?		
E	Five days before: are all materials ready to give feedback?		
	Meeting agenda ready?		
	Meeting agenda sent to local leaders and invited interested and affected parties?		
	If there's electricity: data projector, laptop, extension cable and double adapter		
F	Two to three days before: team meeting to clarify roles and responsibilities		
	Facilitator(s)		
	Presenter		
	Note taker		
	Logistics person		
G	Two days before: confirm participatory workshop date, time and place with community leaders, the caterer and invited participants		
	Two days before: go through the checklist to make sure all is in order.		

Table 8. Checklist for Workshop Equipment

Field Equipment for Participatory Monitoring		
1. Report-back posters or reports		
2. A1 'flipchart' sheets& flipchart stand	2 packs	
3. Wide masking tape	2 roles	
4. Thick markers	30-40 in assorted colours	
5. Notebooks and pens	15	
6. Blank attendance registers	5-10	
7. Cardboard cards (assorted colours) – can be cut from A4 sheets 	100	
8. Pre-cut carboard circles	12 of each size	
9. A stapler with staples		
10. 'Stick stuff'	2 packs	
11. A bag of 100 pebbles, marbles of similar size	e.g. concrete stone can work	
12. Participant nourishment: Bread, fillings(processed meat) snacks	For 15 people	

PARTICIPATORY MONITORING TOOLS

Through trial and error, considering people's time constraints and the value of different monitoring tools, the KAZA ARISE team arrived at four participatory monitoring tools that everyone should use alongside the household questionnaires.

1. Venn diagram

Tool Name:	VENN diagram
Purpose:	To understand most important institutional structures in the community, and the relationships between them
Who should use this tool?	Community monitoring committee; facilitators
How is it used?	• Write down all of the institutions that are mentioned and give each organisation a symbol that everyone can understand. • Ask the participants to draw a big circle in the centre of the paper or on the ground to represent an organizational structure, e.g. committee, club, etc. • Ask the participants to draw important institutions or organisations as big circles and the less important ones as smaller circles. • Ask the participants to compare the sizes of the circles and to adjust them so the sizes of the circles represent the relative importance of the institution, organisation or group. • Additional step: the THICKNESS / WEIGHT of the circle's outside line may be adjusted to reflect the effectiveness of a particular committee
What does it assess?	Relative importance of different organisations over time; their effectiveness (if thickness is included)
How is attribution (cause vs. effect) assessed?	Link to e.g. conflict resolution and HWC

How is attribution (cause vs. effect) assessed?	Link to e.g. conflict resolution and HWC
Practical feasibility	Very easy to use once understood.
Equipment needed:	Cardboard circles of different sizes; lint; flipchart; different coloured pens.
Preparation and training requirements:	This activity should take approximately 1.5 hours. One hour is needed to complete the diagram, and 30 minutes for discussion.
Strengths of this tool:	Easy to use; intuitive.
Challenges:	Courage and agency to challenge existing structures. Dominance by certain group members -> biases. A challenge to explain.
How to use this tool:	1. Either draw and write with a stick on soft ground or work on paper. If you decide to use paper, people should write in pencil so changes can be made if needed. Another option is to cut circles of different sizes from coloured paper and let participants decide which size of circle represents each institution. The weight or thickness of the outer line could be adjusted to indicate EFFECTIVENESS or STRENGTH of that committee. 2. If people find it difficult to understand this tool, it may be helpful to draw a simple example. 3. Ask the participants which organisations/institutions/groups are working with them, whether present in the village or outside it. Encourage them to think about informal groups and community-based organisations too. 4. Write down all of the institutions that are mentioned and give each organisation a symbol that everyone can understand. 5. Ask the participants to draw a big circle in the centre of the paper or on the ground to represent their group or community. 6. Ask the participants to draw important institutions or organisations as big circles and the less important ones as smaller circles. Ask the participants to compare the sizes of the circles and to adjust them so that the sizes of the circles represent the relative importance of the institution, organisation or group. 7. Every organisation / group should be marked with the name or symbol. 8. The degree of contact / co-operation between the community members and institutions is shown by the distance between the circles. Institutions with which they do not have much contact should be placed further away from the community circle. Institutions that are in close contact with the participants, and with whom they co-operate most, should be placed inside their own circle. 9. Ask people to discuss in which way they benefit from the different organisations. 10. Ask them to describe how important each organisation is to them. 11. Take photographs of the activity as well as the tree itself. 12. Complete the data sheet on paper (see 'Forms' section below), and online in Google Forms that evening.
When the diagram is complete, ask the group members the following questions:	• Do any of the organisations shown provide privileged access to men or women? • Are there any other groups that are excluded from working with or using the services of the organisations identified? • Do any of the organisations offer support in times of crisis? • How do you receive information from the different organisations? • How do you communicate with the different organisations? • Complete the data sheet on paper, and in Google Forms that same evening.
Key references (hyperlinks):	https://insights.careinternational.org.uk/publications/participatory-monitoring-evaluation-reflection-and-learning-for-community-based-adaptation-a-revised-manual-for-local-practitioners
	http://www.managingforimpact.org/tool/venn-diagram

2. Pie chart

Tool Name:	Pie chart
Purpose:	To identify existing ways of making a living, the relative importance of different livelihood strategies, and livelihood diversity.
Who should use this tool?	Facilitators and community monitoring committee.
How is it used?	1. The tool represents the slices of a cake or pie, drawn on the ground in a large open space with participants circled around it. Walking sticks or knobkerries can be used to delineate slices. 2. Lables can be either written on carboard or can be 3D objects, e.g. a brick for construction, a piecce of animal skin for hunting, a piece of firewood or thatch for wood or thatch collection. 3. People gather around the circular pie and debate the types of livelihood strategies (slices) and the relative size of each slice. 4. Afterwards, a percentage is assigned to each slice. The facilitator's role is to demonstrate a slice representing 50%, 25% and 10%, and to calculate whether percentages add up to 100. 5. Take photographs of the activity as well as the pie itself. 6. Complete the data sheet on paper (see 'Forms' section below), and online in Google Forms that evening.
What does it assess?	Diversity and relative importance of livelihood strategies

How is attribution (cause vs. effect) assessed?	Attribution is assessed through facilitated discussion, and drawing 'problem trees' on large flipcharts. The conceptual framework (Sheet 1) can be used to develop influence diagrams on large flipcharts (four flipchart sheets taped together) on the floor.
Practical feasibility (cost, time, complexity):	Easy to implement.
Equipment needed:	Flipchart sheets, walking sticks, pens, large bare open space.
Preparation and training requirements:	Very little training needed.
Strengths of this tool:	Easy to implement. Can be quantified by calculating relative sizes of 'slices', as well as livelihood diversity as a proxy for resilience.
Challenges:	Quality assurance; ascertaining that views are representative of the village; gender and age balance.
Key references (hyperlinks):	https://www.ngoconnect.net/sites/default/files/resources/Tools%20Together%20Now%21%20100%20Participatory%20Tools%20to%20Mobilise%20Communities%20for%20HIV.pdf

3. Problem and Solution Tree

Tool Name:	Problem and solution tree
Purpose:	Problem trees can help to 'determine the root causes of the main problem', identify the effects and also possible solutions.
Who should use this tool?	Community monitoring committees; scholars and teachers; facilitators.
How is it used?	1. The first step in the process of developing a problem tree is to reach agreement on the specific starting problem to be addressed. 2. The main word used to aid the development of a problem tree is 'why', why does that situation occur. 3. The process should continue until the analysis reaches a point where solutions become apparent, or when a certain number of levels, commonly three, have been detailed. 4. The impacts of the problem are also identified (represented as branches and leaves). The entire tree can be displayed as a stylized tree drawing, or as a series of boxes interlinked by lines or arrows (see below). 5. Once the roots and branches have been completed, the final check is done to ensure that it 'works', that the statements are logical and reasonable, and that identified factors do lead to the starting problem being discussed. 6. Once the problem tree has been completed, the solution or objective tree can be developed. 7. Take photographs of the activity as well as the tree itself. 8. Complete the data sheet on paper (see 'Forms' section below), and online in Google Forms that evening.
What does it assess?	All the known causes and effects to an identified problem as well as the possible solutions.

Appropriate scale: individual/ household / community	Household and Community
How is attribution (cause vs. effect) assessed?	Against a baseline (before and after).
Practical feasibility (cost, time, complexity):	Needs preparation time. Facilitators must be trained.
Equipment needed:	Flipcharts; pens; sticky notes.
Preparation and training requirements:	Intensive training needed.
Strengths of this tool:	Helps the planning of a project. Multi-disciplinary. Integrated. Participatory.
Challenges:	Be clear and specific about the main problem (trunk of the tree) being addressed. A 'problem' framing may lead to negative thinking and being paralyzed by obstacles, as well as possible manipulation to solicit aid. Therefore the solution tree approach is essential.
Similarities to other tools, and complementarities:	Causal loop diagrams / influence diagrams.
Key references (hyperlinks):	https://doi.org/10.1093/heapro/dan027
	https://cogent.co/blog/the-opportunity-solution-tree/
	http://evaluationtoolbox.net.au/index.php?option=com_content&view=article&id=28&Itemid=134

4. Joint Assessment of Agro-ecology Practices

Tool Name:	Joint Assessment of Agro-ecology Practices
Purpose:	To assess the adoption of agro-ecology practices.
Who should use this tool?	Facilitators and farmers, especially in localities where agro-ecology has been promoted but also elsewhere, to act as a reference point.
How is it used?	1. Use the following scoring system: 0 = Action is **never** taken. 1 = Action is **seldom** taken - it's an exception to regular behaviour. 2 = Action is **sometimes** taken - when it suits farmers. 3. = Action taken **most of the time -** it's the norm. 4. = Action **always** taken, it is a priority.
	2. Assess the following elements of agro-ecology, using the 4-point scoring system:
	1. Use of animal dung or compost for fertilizer What is preferred? Instead of, or in combination with, chemical fertilizer? 2. Use of natural pesticides To what extent? What natural pesticides are being used? Instead of, or in combination with chemical pesticides 3. Digging of basins to gather rain water How are they dug and maintained? Who does the work? 4. Manual weeding Who does the work? When during the year? 5. Low or no tillage 6. Cover crops E.g. which cover crops? What do you use them for afterwards? 7. Intercropping Which crops are combined? What are the advantages? 8. Crop rotation What is rotated with what? When? 9. Crop residue preservation How? Keeping livestock out of harvested fields? No burning of residues? Complete the data sheet on paper (see 'Forms' section below), and online in Google Forms that evening.
What does it assess?	The extent to which agro-ecology practices are being adopted / implemented at a locality.

Appropriate scale: individual/ household / community	Farmer groups.
How is attribution (cause vs. effect) assessed?	By comparing the agro-ecology scores against crop yields, over time at the same locality, and between different localities with similar climatic and soil characteristics.
Practical feasibility (cost, time, complexity):	Easy to implemented. Facilitators must be trained.
Equipment needed:	Flipcharts; pens; pebbles or marbles.
Strengths of this tool:	Helps to assess the impact of agro-ecology interventions. Multi-disciplinary. Integrated. Participatory.
Challenges:	Only applicable in areas where crop production is taking place. Avoid bais towards lead farmers.
Similarities to other tools, and complementarities:	Stewardship tool. Link to problem and solution tree.
Follow-up questions for discussion:	• Which scores must improve? • For this to happen, what must we *continue* to do? • What must we do *differently*? • What must we *stop* doing? • Who must be involved? • By when do we want to implement these changes?
Key references (hyperlinks):	Tools for Agroecology Evaluation (TAPE) - https://www.fao.org/agroecology/tools-tape/en/ FAO Agroecology Knowledge Hub - https://www.fao.org/agroecology/overview/overview10elements/en/

Additional Resources to Support Participatory Monitoring

- "Tools Together Now - 100 participatory tools to mobilise communities." https://www.ngoconnect.net/resources-tools
- Wageningen University MSP tools: https://mspguide.org/tools-methods/
- UNEP toolkit to support conservation by local people and indigenous communities: https://resources.unep-wcmc.org/products/WCMC_RT285/access?option=9&endpoint_id=1130382

TEMPLATES FOR DATA ENTRY AND STORAGE

Online forms in Google Forms are available for duplication and printing (including .pdf versions) here. All data must be entered into Google Forms after duplicating a number of copies (one of each for each locality).

1. Venn diagram

Basic Information

Email*: [_____]
Date*: [_____]
Facilitator*: [_____]
Data Capturer*: [_____]
Geographic Coordinates: [_____]
Latitude*: [_____]
Longitude*: [_____]
Country*: [_____]
District*: [_____]
Village*: [_____]
Traditional Leader Name*: [_____]
Traditional Leader Designation*: [_____]
Participants*: [_____]

Influencing Organizations (List the most important organizations that influence the community, ranked by importance)

Internal Organizations (within the community)

Organization 1*: [_____]
Organization 2*: [_____]
Organization 3*: [_____]
Organization 4*: [_____]
Organization 5*: [_____]
Organization 6*: [_____]
Organization 7*: [_____]

External Organizations (outside the community)

Organization 1*: [_____]
Organization 2*: [_____]
Organization 3*: [_____]
Organization 4*: [_____]
Organization 5*: [_____]
Organization 6*: [_____]
Organization 7*: [_____]

Relationship Strengths (Rate the relationships with key organizations from strongest to weakest)

Strongest Relationships (1 = strongest)

Organization 1*: [_____]
Organization 2*: [_____]
Organization 3*: [_____]
Organization 4*: [_____]
Organization 5*: [_____]

Weakest Relationships (1 = weakest)

Organization 1*: [_____]
Organization 2*: [_____]
Organization 3*: [_____]
Organization 4*: [_____]
Organization 5*: [_____]

Discussion Notes

What caused the weak links to be weak? (Refer to problem tree tool)
[_____]
What caused the strong links to be strong? (Refer to solution tree tool)
[_____]
What must be done to strengthen the important weak links?
[_____]
What will improve if this has happened? [_____]
How will this affect the community's livelihoods?
[_____]
Who must be involved? [_____]
What are the community's responsibilities? What can you do?
[_____]
By when will this be done? [_____]

Files and Pictures

Files submitted: [_____]
NB: Pictures of Venn diagram: [_____]
Image number (on disk): [_____]
Picture of activities: [_____]

2. Pie Chart

Basic Information

Email*: [_____]
Date*: [_____]
Facilitator*: [_____]
Data Capturer*: [_____]
Geographic Coordinates:
Latitude*: [_____]
Longitude*:[_____]
Country*: [_____]
District*: [_____]
Village*: [_____]
Traditional Leader Name*: [_____]
Traditional Leader Designation*: [_____]
Participants (Can also add a picture of attendance register)*:
[_____]

Livelihood Strategies

Livelihood Strategy 1*: [_____]
Percentage Contribution*: [_____]
Livelihood Strategy 2*: [_____]
Percentage Contribution*: [_____]
Livelihood Strategy 3*: [_____]
Percentage Contribution*: [_____]
Livelihood Strategy 4*: [_____]
Percentage Contribution*: [_____]
Livelihood Strategy 5*: [_____]
Percentage Contribution*: [_____]
Livelihood Strategy 6*: [_____]
Percentage Contribution*: [_____]
Livelihood Strategy 7*: [_____]
Percentage Contribution*: [_____]
Livelihood Strategy 8*: [_____]
Percentage Contribution*: [_____]
Livelihood Strategy 9*: [_____]
Percentage Contribution*: [_____]
Livelihood Strategy 10*: [_____]
Percentage Contribution*: [_____]

Discussion Notes

Which livelihood strategies are vulnerable to change?
[_____]
How can vulnerability be reduced? [_____]
What will improve if this has happened? [_____]

How will this affect the community's livelihoods?
[_____]
Who must be involved in actions to reduce vulnerability?
[_____]
What is the community's responsibility? What must you do to help yourselves to be less vulnerable? [_____]
By when will this be done? [_____]

Files and Pictures

Files submitted: [_____]
NB: Pictures of pie chart:[_____]
Image number (on disk): [_____]
Pictures of activities: [_____]

3. Problem and Solution Tree

Basic Information

Email*: [_____]
Date*: [_____]
Facilitator*: [_____]
Data Capturer*: [_____]
Geographic Coordinates:
Latitude*: [_____]
Longitude*:[_____]
Country*: [_____]
District*: [_____]
Village*: [_____]
Traditional Leader Name*: [_____]
Traditional Leader Designation*: [_____]
Participants (Can also add a picture of attendance register)*:
[_____]

Problem Identification

Which problem is being analyzed?* [_____]
What exactly is the problem? (The trunk of the tree)*
[_____]
What are the consequences (end branches)?* [_____]
What are the symptoms (main branches)?* [_____]
What are the immediate causes (shallow roots)?*
[_____]
What are the ultimate causes (deep roots)?* [_____]

Discussion Notes

Which causes are within our power to address? [_____]
How will our livelihoods change if we address them?
[_____]
What must we continue doing or do more of? [_____]
What must we do differently? [_____]
What must we stop doing? [_____]
Who must be involved? [_____]
What are the community's responsibilities? What can you do for yourselves?
[_____]
By when do we want to implement these changes?
[_____]

Files and Pictures

Files submitted: [_____]
NB: Pictures of problem trees: [_____]
Image number (on disk): [_____]
Pictures of exercise: [_____]

4. Joint Assessment of Agroecology Practices

Basic Information

Email*: [_____]
Date*: [_____]
Facilitator*: [_____]
Data Capturer*: [_____]
Geographic Coordinates: [_____]
Latitude*: [_____]
Longitude*: [_____]
Country*: [_____]
District*: [_____]
Village*: [_____]
Traditional Leader Name*: [_____]
Traditional Leader Designation*: [_____]
Participants*: [_____]

Scoring: (0 = never, 1 = exception, 2 = sometimes, 3 = most times, 4 = always)

1. Use of animal dung or compost for fertilizer* [_____]- What is preferred? Instead of or in combination with chemical fertilizer?

2. Use of natural pesticides* [_____]- To what extent? What natural pesticides are being used? Instead of or in combination with chemical pesticides?

3. Digging of basins to gather rainwater* [_____]- How are they dug and maintained? Who does the work?

4. Manual weeding* [_____]- Who does the work? When during the year?

5. Low or no tillage* [_____]- Explain what this involves.

6. Cover crops* [_____]- Which cover crops? What do you use them for afterward?

7. Intercropping* [_____]- Which crops are combined? What are the advantages?

8. Crop rotation* [_____]- What is rotated with what? When?

9. Crop residue preservation* [_____]- How? Keeping livestock out of harvested fields? No burning of residues?

Discussion Notes

Which scores must improve? [_____]-
For this to happen, what must we continue to do?
[_____]-

What must we do differently? [_____]-
What must we stop doing? [_____]-
Who must be involved? [_____]-
By when do we want to implement these changes?
[_____]

Files and Pictures

Files submitted: []- NB: Pictures of scoring sheet / flipchart: []- Image number (on disk): []- Picture: []

CHAPTER 7. COMMUNITY FEEDBACK

Engaging communities in feedback sessions is essential for ensuring that monitoring findings reflect their lived realities and concerns. When communities are given a voice in the process, they not only validate findings but also contribute valuable insights that might have been overlooked. Listening to their perspectives fosters trust, encourages transparency, and ensures that recommendations are practical and responsive to real needs. Furthermore, incorporating community feedback empowers local stakeholders, strengthens ownership of initiatives, and enhances the likelihood of sustainable solutions. By prioritizing two-way communication, facilitators can bridge the gap between research and real-world action, leading to more effective and impactful outcomes.

Flexibility and Preparation

Facilitators should be adaptable, ready to think on their feet, and able to adjust plans during feedback sessions. Proper preparation is key.

This includes meeting with community leaders at least a week before the session and holding a team workshop to familiarize everyone with methods and results. The local facilitator and selected community members who participated in earlier sessions should be involved in both preparation and the feedback meeting.

Encouraging Community Involvement

Community members should be encouraged to give feedback and help facilitate meetings to create engagement and enthusiasm. Documenting people's responses is essential as these records help verify findings and inform policy recommendations. Meetings should include a mix of traditional leaders, men, women, older people, youth, and sector leaders, especially those who can validate key findings. When groups are large, with more than fifteen participants, it may be helpful to divide them into smaller groups focusing on specific topics, each with a facilitator and reporter. It is important that breakout groups stay focused on feedback findings rather than veering into unrelated discussions.

Language and Accessibility

Using the local language ensures inclusivity, preventing dominance by English speakers and allowing elders to contribute their traditional knowledge. Translating key materials into the local language fosters community ownership. Involving educated community members in this process strengthens engagement. Final posters summarizing findings should be printed in at least A2 format, as A3-sized posters are less effective (example below).

Logistics and Session Management

Basic amenities such as seating arrangements, shade, and ablution facilities should be considered. Observers and external participants should remain in the background, avoiding interference in facilitation. Government officials should be briefed before the meeting, encouraged to listen without interruptions, and assured they will have a chance to speak at the end. Once translated, key documents and posters should be printed in A1 format and given to community leaders for continued discussions.

Process Flow When Presenting Findings

The first step is to present each finding clearly and seek validation from the community, ensuring that the enumerators and key

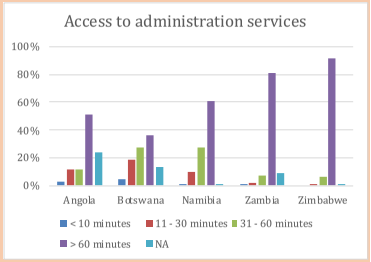
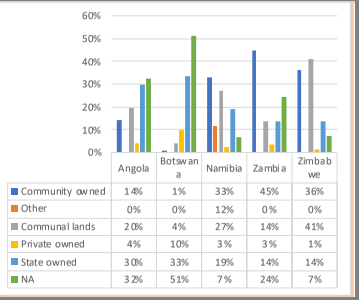
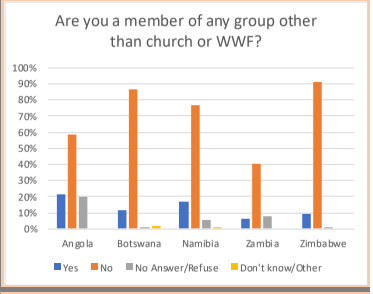
community members take active roles. If necessary, the group can be divided into smaller focus groups, each addressing a specific component of the feedback. When probing deeper into findings, facilitators should use the Three WHYs approach. For example, if a finding states that there is limited water for agriculture, the first WHY might ask why there is no infrastructure to supply water. The second WHY would then explore why previously installed infrastructure was vandalized, and the third WHY could reveal that the community was not involved in construction decisions. This method helps uncover root causes and meaningful solutions.

Findings should be presented as a two-way conversation to ensure that the community understands them and finds them relevant. Drawing key conclusions should involve summarizing the findings in the community's own words and understanding what actions the community plans to take based on them. Recommendations should be validated with community members to ensure agreement and support. During the sessions, facilitators should take detailed notes, documenting all discussions, feedback, and additional insights.

Encouraging further discussions can help gather more information beyond the structured feedback. External participants such as government officials should be briefed beforehand, encouraged to listen without interruption, and given space to provide feedback at the end. After translation, key documents, canvasses, and system diagrams should be printed in the largest possible format and handed over to community leaders for ongoing discussions.

By following these steps, community meetings can be more inclusive, engaging, and effective in leading to meaningful action.

Example of a feedback poster

Key Insight:	Stronger community institutions are evident to support sustainable natural resource management		
Evidence			
	• Across all countries, most households need more than an hour of walking to access administrative institutions (police, agriculture extension, post office and district government)	• **Diverse Land Ownership Patterns:** Varied land ownership patterns across countries. Namibia and Zimbabwe: 33% and 36%, respectively, Zambia 45%. • **State-Owned Lands:** Angola and Botswana have the highest proportion of state-owned lands at 30% and 33%, respectively. • **Private Owned Land:** Private ownership is relatively low across all countries, with the highest in Botswana at 10%.	• Overall, 81% of the households belong to groups and most of these groups are either religious (73%) or WWF beneficiary groups (30%). • Membership outside church or WWF groups is very low with only Angola and Namibia having considerable proportions at 22% and 17% respectively. • Natural resource organizations are also key players in KAZA and they are frequently mentioned
Implications	• The low participation in groups has implications which could include missed opportunities for collaborative benefits, such as shared knowledge, resources, and support systems that often come with group membership. Encouraging the formation or joining of community groups could be beneficial for social cohesion and collective action. • Low private ownership and high communal/state ownership may impact land tenure security, affecting investment in land and resources. • The high proportion of community and state-owned lands implies a need for effective community-based and governmental land management strategies.		
Recommendations	• **Strengthen Community Land Management:** Enhance community-based land management practices, especially in countries with high community and communal lands, to ensure sustainable use and conservation. • **Land Policy Harmonization:** Develop and harmonize land policies that consider the diverse land ownership patterns to improve land tenure security and encourage investment in sustainable land use.		

GLOSSARY

- Accountability: the belief or understanding that a governance group and each individual within the group is a) required to fulfil certain responsibilities and b) is seen to fulfil those responsibilities. Most importantly the governance group must be seen to be downwardly accountable for their actions and responsive to the interests of natural resource users and rights holders.
- Adaptive capacity (also see resilience). The property of a system to adjust its characteristics or behaviour, in order to expand its coping range under existing social, technological, economic, environmental or political variability, or future climate conditions. Actions that lead to adaptation can serve to enhance a system's coping capacity and increase its coping range thereby reducing its vulnerability to climate hazards. The adaptive capacity inherent in a system represents the set of resources available for adaptation, as well as the ability or capacity of that system to use these resources effectively in the pursuit of adaptation
- Asset Pentagon. The Asset Pentagon is an important component in the SL Framework. It is a visual representation of information about people's livelihood assets. It brings to life important inter-relationships between the various assets.
- Asset Status. This refers to an individual's or group's access to livelihood assets. A change in Asset Status may involve an increase or decrease in access to livelihood assets or a change in the composition of the livelihood assets to which there is access.
- Assets are the resources on which people draw in order to undertake their livelihood strategies. They include financial, human, natural, physical and social capital. Assets do not necessarily need to be owned by the men and women who use them but they do need to have access to the assets that they require for their livelihood strategies.
- Authority: the perception of natural resource users and rights holders that a governance group genuinely represents their interests and has legal or custo- mary jurisdiction to govern "their" natural resources.
- Benefits Refers to both financial and non financial benefits.
- Capability refers to the freedom or ability of individual to achieve 'functionings' (i.e. what people are, or do), which range from being healthy or well nourished to being happy or having self-respect. As such, capabilities constitute people's freedom and opportunities to achieve well-being (Sen, 1981).
- Capacity: the knowledge and skills to decide what to do and the financial and technical resources to implement those decisions.
- Capital = Assets. In the sustainable livelihoods framework it is best understood with reference to the following five categories: human capital, natural capital, financial capital, social capital, and physical capital. These are also known as livelihood assets. Outside the sustainable livelihoods framework the term Capital is used in a variety of ways. In economics it is commonly defined as being one of three factors of production, the other two being labour and land.
- CBNRM - CBNRM is about local people coming together to protect their land, water, animals and plants, so that they can use these natural resources to improve their lives and the lives of their children and grandchildren.
- Conservancy - Gazetted in terms of a particular Act or Policy.
- Community Means a group of rural area residents on State land, that have formed a legal entity, which has a defined membership, defined boundaries, and an elected body which represents the interests of the members.
- Cross-Sectoral Links. The connections between different sectors, such as agriculture, health, infrastructure, etc, particularly, the way in which livelihoods span these sectors.
- Diversity: the explicit inclusion of women and minorities in the decision-making process.
- Donor Agencies - These are usually international organisations who want to assist rural communities to look after natural resources and develop work opportunities.
- Economic Sustainability. It is usually associated with the ability to maintain a given level of income and expenditure over time. It can be defined in relation to expenditure by individuals, households, projects, programmes, government departments, countries etc. Maintaining a given level of expenditure, necessarily requires that the income/revenue which supports that expenditure should also be sustainable over time. In the context of the livelihoods of the poor, economic sustainability is achieved if a minimum level of economic welfare can be achieved and sustained. Economic sustainability is one of a number of dimensions of sustainability that also include environmental sustainability, institutional sustainability and social sustainability.
- Effectiveness of natural resource governance: when decisions made and rules enforced by a governance group actually result in better natural resources governance (i.e., long-term ecological and economic productivity). Effective long-term sustainable management of natural resources is predicated on governance that is representative and democratic.

- Empowerment. Occurs where people take greater control over the decisions, assets and Policy, Institutions and Processes that affect their livelihoods.
- Entitlement refers to the ways in which people gain access to assets, including, for example, access to social services such as education and health. The ability to command entitlements derives from, for example, legal rights, access to financial resources, or relationships with other groups and individuals. The concept of entitlement has been specifically used to examine how individuals and households are able to access resources during periods of change and poverty (Dreze and Sen, 1989; Sen, 1981).
- Environmental Sustainability. Achieved when the productivity of life-supporting natural resources is conserved or enhanced for use by future generations. By productivity we mean its ability to produce a wide range of environmental services, such as the supply of food and water, flood protection, waste management etc. Environmental sustainability is one of a number of dimensions of sustainability that also include, institutional sustainability, economic sustainability and social sustainability.
- External Environment. A very general term that refers to the environment outside a person's immediate influence. Within the SL framework trends, shocks, and seasonality are part of the External Environment. Many policies, institutions and processes (PIPs) may also be treated as part of the external environment, although people may have more influence over some of these than over trends, shocks and seasonality.
- External Shocks. Shocks emanating from the external environment.
- External Support. Support provided from outside, e.g. government support for a village community, or donor support for a government department etc.
- Facilitators - Facilitators are people who assist communities to set up and manage a project and who work most closely with a community until the community no longer needs their assistance.
- Fairness: the perception by natural resource users and rights holders about the degree to which they feel that rules regulating access to and use of natural resources are equitable in terms of who benefits and who incurs the costs and that the enforcement of these rules is applied equally across all individuals and groups.
- Financial Assets. A category of livelihood assets. Within the SL framework, it is defined as the financial resources that people use to achieve their livelihood objectives. These resources include: • Available stocks: Savings are the preferred type of financial capital because they do not have liabilities attached and usually do not entail reliance on others. They can be held in several forms: cash, bank deposits or liquid assets such as livestock and jewellery. Financial resources can also be obtained through credit-providing institutions in which case liabilities are attached. • Regular inflows of money: Excluding earned income, the most common types of inflows are pensions, or other transfers from the state, and remittances. In order to make a positive contribution to financial capital these inflows must be reliable – while complete reliability can never be guaranteed there is a difference between a one-off payment and a regular transfer on the basis of which people can plan investments. It should be noted that this definition is different from a strict economic definition of financial capital as it includes flows as well as stocks. (Economists would look only at stocks).
- Governance – Governance in CBNRM refers to the ways in which power and responsibilities are exercised, how decisions are taken, and how ordinary people have a say in the management of natural resources. The form and quality of government systems – structure, power, effectiveness, efficiency, rights and representation. Key governance concerns include: • Is political power exercised fairly? If not, who is disadvantaged? • How efficient and accessible are local service providers? • Are government organisations honest, efficient, effective and accessible? • Are basic human rights protected and enforced through the rule of law? • Are property rights clear and enforceable? • Do all have equal access to the formal justice and legal system? • Do informal/traditional justice systems discriminate against certain groups? • Accountability. • Decentralisation.
- Human assets are the attributes that men and women need to undertake productive and reproductive tasks - principally: skills deriving from formal and informal education, and health. Human capital is necessary to be able to make use of the other four types of livelihood assets.
- Human-Wildlife Conflict Any event in which wild animals harm, destroy or damage human life or property (including damage to or destruction of crops), or in which wild animals are injured, captured or destroyed as a result of a perceived threat to humans or their property.
- Institutional framework: the set of formal government rules, regulations, and policies that enable a governance group's ability to sustainably manage natural resources. Absent this national enabling legislation the governance group lacks formal authority to govern.
- Institutions: the formal or customary norms, policies, rules, and regulations, all of which are tools that are available to a governance group to define access to and regulate the use of natural resources within their jurisdiction. See Box 'Institutions versus governance groups' on page 13.
- Institutions. The term 'Institutions' can be used in a number of different ways. In the SL framework it covers two important elements: (a) organisations or agencies that operate within both the public and private sector; and (b) the mechanisms, rules and customs by which people and organisations interact with each other (i.e. the "rules of the game").

- Iterative Process. A process involving the continual refinement of goals and objectives as new knowledge and questions generated by investigation and analysis feed back into the investigative cycle. See also Process Approach.
- Key Informants. Individuals who are approached for their views on particular issues, such as those relating to livelihoods. Useful for acquiring information quickly as well as for investigating sensitive issues. Key informants are chosen for their particular knowledge (e.g. as a teacher, nurse, poor farmer etc). Care should be taken not to interpret their information as representative of a wider sample.
- Knowledge and skills: the basic understanding of a) the biological, economic, historical, socio-political, and managerial factors that put in jeopardy the longterm sustainability of natural resource use; b) the policies and practices that would need to be put in place to remedy the situation so that valued resources are conserved and used sustainably; and c) the ways to monitor the effectiveness of conservation actions
- Legitimacy: the governance group is recognized formally (i.e., legal - de jure) or informally (i.e., traditional - de facto) as having jurisdiction over determining what resource or practices are permissible, defining who can access certain resources or implement certain land use practices, and establishing what sanctions can and will be imposed for infractions of these rules. Legitimacy is both a formal perception: people recognize that under law the governance group has the right to make and enforce decisions; and a social perception: people recognize that the governance group understands and is acting in their interests.
- Livelihood - The various ways in which individuals or households make sure that there is enough food on the table, and provide the basic necessities for a good life, such as clothing, a house, blankets and so on.
- Livelihood (s). One could describe a livelihood as a combination of the resources used and the activities undertaken in order to live. The resources might consist of individual skills and abilities (human capital), land, savings and equipment (natural, financial and physical capital, respectively) and formal support groups or informal networks that assist in the activities being undertaken (social capital).
- Livelihood Assets. A key component in the SL framework, they are the assets on which livelihoods are built, and can be divided into five core categories (or types of capital). These are: human capital, natural capital, financial capital, social capital, and physical capital. People's choice of livelihood strategies, as well as the degree of influence they have over policy, institutions and processes, depends partly upon the nature and mix of the assets they have available to them (see Livelihoods Asset Pentagon). Some combination of them is required by people to achieve positive livelihood outcomes – that is, to improve their quality of life significantly on a sustainable basis. No single category of assets on its own is sufficient to achieve this, but not all assets may be required in equal measure. It is important to note that a single asset can generate multiple benefits. For example, if someone has secure access to land (natural capital) they may also be able to get better access to financial capital, as they can use the land both for productive uses and as security for a loan.
- Livelihood Capabilities / Goals / Outcomes. The objectives pursued by people through their livelihood strategies. I.e. the achievements – the results – of livelihood strategies. Outcome categories can be examined in relation to the following categories: • more income • increased well-being • reduced vulnerability • improved food security • more sustainable us of the natural resource base • social relations and status • dignity and (self)respect The term 'outcome' is used – as opposed to 'objectives' – to focus attention on two key issues. These are: • Sustainability: DFID is concerned with promoting a particular type of livelihood – sustainable livelihoods. Problems can occur because people very often have objectives that lead them to 'unsustainable livelihoods'. The word 'outcome' is used to indicate that DFID is not concerned entirely with people's own objectives but also with the sustainability objective. • Orientation to achievement: The word 'outcomes' helps focus attention on results and the progress that is made towards poverty elimination rather than thinking only about what people are trying to achieve.
- Livelihood Strategies. The term used to denote the range and combination of activities and choices that people make in order to achieve their livelihood goals. Livelihood Strategies include: how people combine their income generating activities; the way in which they use their assets; which assets they chose to invest in; and how they manage to preserve existing assets and income. Strategies may reflect underlying priorities, such as to diversify risk. Livelihood Strategies are diverse at every level. For example, members of a household may live and work in different places, engaging in various activities, either temporarily or permanently. Individuals themselves may rely on a range of different income generating activities at the same time, and are likely to be pursuing a variety of goals.
- Local and District Municipal authorities - These are the government bodies closest to the community and they are generally responsible for carrying out government policies on natural resources, on local economic development and on reducing rural poverty.
- Monitoring - To watch, to keep track of, or to check something - usually for a specific reason.
- Motivation: the level of willingness of individuals within a group to do their jobs, commit time, struggle with adversity, and advocate for their group's interests in an effort to implement their group's plans and achieve their group's objectives and goals.
- National and Provincial Government Departments - Local people often approach national or provincial departments to assist the community to start a CBNRM programme. Sometimes the departments go directly to rural communities and assist with starting up a CBNRM programme.

- Natural Capital. Natural Capital is a category of livelihood assets. It is the term used for the natural resource stocks (e.g. trees, land, clean air, coastal resources) upon which people rely. The benefits of these stocks are both direct and indirect. For example, land and trees provide direct benefits by contributing to income and people's sense of well-being. The indirect benefits that they provide include nutrient cycling and protection from erosion and storms.
- Natural resource governance: the concept of who makes dtecisions (the governance group) about regulating access to, and use of, natural resources; and the process by which a governance group decides and defines what is, and what is not, acceptable behavior in terms of natural resource use in a given area; and how the group ensures that people comply with the policies, rules, and regulations for acceptable behavior.
- Natural resource management: the implementation of rules and regulations defined by a governance body or group. Natural resource "governors" are those individuals or groups that establish, and are accountable for, the implementation of natural resource access and use policies and norms (institutions). "Managers" are those individuals or groups that are responsible for executing the policies, rules, and regulations (institutions) established by the "governors."
- Natural resources - The land, the soil, the water, the air, the plants and the animals.
- Organizational process: The operational system that a governance group agrees to put in place and adapt over time to make and implement decisions in pursuit of its objectives (i.e., defines why the group exists, who the group represents, how the group engages its internal membership, and how the group communicates its decisions).
- Participation: the extent that different natural resource users and rights holders are able to take part and have their voices heard in establishing policies that restrict access to and use of resources, and in adjudicating sanctions against those that fail to comply with accepted norms.
- Participation. Occurs when decision making and development activities are participatory. The quality of an approach to development and/or government in which the underlying principle is that the key stakeholders (and especially the proposed beneficiaries) of a policy or intervention are closely involved in the process of identifying problems and priorities and have considerable control over the related activities of analysis, planning and the implementation of solutions. To facilitate this approach there are a variety of participatory methods or techniques that can be used.
- Participatory Methods. These are methods that are used to encourage people's participation in the processes of identifying/analysing livelihood opportunities and problems, setting priorities and planning, implementing solutions, and monitoring and evaluating changes and impacts. They are very important for understanding livelihoods and are designed so as to promote learning and empower people in their dealings with external agencies and institutions. There are several visualisation tools for group discussions which enable a large number of people, including illiterate people, to contribute views and see the results. These include timelines, seasonal calendars, transect walks, resource maps, preference ranking, matrix ranking, wealth ranking, and venn diagrams. These are often called 'rapid appraisal' or 'participatory rural appraisal' Depending on how they are used, they may only promote participation in information gathering (if the information is used by outsiders), or they may be used as tools for participatory decision making. Both uses have a role. Either way, the methods can be used within an SL approach to investigate a wide range of factors in a relatively open-ended way, such as: • income and wealth distribution within a community or neighbourhood; • the historical, social and environmental context of livelihoods; • trends, forces of change, influence of policies; • pros and cons of different livelihood strategies, reasons behind people's choices, what they wish to see being done by local authorities, etc.
- Partnerships. Refers, in the SL Approach, to Partnerships in the development process. The SL approach stresses the importance of partnerships at all levels including: • Partnerships with poor people; • Partnerships with both public sector and private sector implementing agencies and stakeholders in developing countries – the SL approach explicitly recognises the important role that the private sector plays in development; • Partnerships between different departments within DFID; • Partnerships with other donors; • Partnerships with research organisations. It is hoped that the dialogue around the development and implementation of the SL approach will provide the basis for deeper and more meaningful development partnerships. Such partnerships will only be possible if care is taken to ensure that the approach builds on the accumulated experience of all partners and is not imposed on any partner.
- People-centred approach. An approach that involves a focus on people, i.e. • what matters to people; • what distinguishes one group of people from another group; • working with people in a way that fits in with their current livelihood strategies, social environment and ability to adapt. One of the core principles of the sustainable livelihoods approach is that it should be people-centred.
- Physical Capital. Physical Capital is a category of livelihood assets. It comprises the basic infrastructure and physical goods that support livelihoods. Infrastructure consists of changes to the physical environment that help people to meet their basic needs and to be more productive. Key components of infrastructure include: affordable transport systems, water supply and sanitation (of adequate quantity and quality), energy (that is both clean and affordable), good communications and access to information. Shelter (of adequate quality and durability) is considered by some to be infrastructure, while others would consider it to be a private physical asset and

somewhat different from infrastructure. Other components of physical capital include productive capital that enhances income (e.g. bicycles, rickshaws, sewing machines, agricultural equipment), household goods and utensils and personal consumption items such as radios and refrigerators. Most of these are owned by individuals or groups. Some, such as larger agricultural equipment or processing units, can be accessed through rental or by paying a fee for the services used.

- Policy. Policy can be thought of as a course or principle of action designed to achieve particular goals or targets. These tend to be broader and less specific than those of the programmes and projects used to implement Policy. The idea of policy is usually associated with government bodies, but other types of organisation also make policies – for example a local NGO's policy about who is eligible for its programmes. Policy can be divided into macro policy – affecting the whole country – or micro policy – affecting particular sectors, districts, neighbourhoods or groups. Also meso policy. It can also be strategic – designed to create a long-term framework for action – or quite short-term and temporary.
- Power: the ability of a governance group to exert their authority and to do so without being regularly or repeatedly undermined by other more powerful groups.
- Private Sector Partners - These are private businesses.
- Remittances. Money that is sent home by family/household members living and working away from home.
- Resilience - is the capacity to deal with change and continue to develop. The capacity of a system, community or society potentially exposed to hazards to adapt, by resisting or changing in order to reach and maintain an acceptable level of functioning and structure. This is determined by the degree to which the social system is capable of organizing itself to increase its capacity for learning from past disasters for better future protection and to improve risk reduction measures. Resilience refers to three conditions that enable social or ecological system to bounce back after a shock. The conditions are: ability to self-organize, ability to buffer disturbance and capacity for learning and adapting
- Resources: the physical (office space, cars, boats, camera traps, GPS, computers, phones, tents, fuel, etc.), financial, and staffing assets needed for a governance group to be able to put its plans into action within their jurisdiction and monitor and report the outcomes and impacts of their efforts.
- Rights Holders: unlike many other stakeholders, these people deserve specific attention as they have specific rights related to the ownership and use of resources and lands that other stakeholders do not. Rights holders are often customary landowners, but can also include hunters or fishers who have rights to access particular resources.
- Sampling: This is a tool for investigating the characteristics of a particular population – the population may be one of households, individuals, farms, villages, animals or any other unit of study. To facilitate the investigation a sample of the population is surveyed and studied. Usually, though not always, the sample is selected at random to increase the chances of it being representative of the whole population.
- Seasonality: Seasonality is a key element in the vulnerability context. It refers to seasonal changes, such as those affecting: assets, activities, prices, production, health, employment opportunities etc. Vulnerability arising from seasonality is often due to seasonal changes in the value and productivity of natural capital and human capital (through sickness, hunger etc). The poor are often more vulnerable to these changes than wealthier groups.
- Shocks: Shocks are a key element in the vulnerability context. They are usually sudden events that have a significant impact – usually negative – on livelihoods. They are irregular and vary in intensity and include events such as natural disasters, civil conflict, losing one's job, a collapse in crop prices for farmers etc. They can be classified into the following categories: • Human shocks (e.g. illness, accidents); • Natural shocks (e.g. floods, earthquakes); • Economic shocks (e.g. job losses, sudden price changes); • Conflict (e.g. war, violent disputes); • Crop/livestock health shocks. Shocks and trends may be linked. For example some changes that appear as trends at a national or even regional level (such as increased infection rate for diseases such as AIDS and malaria) can impact upon a household or individual as severe shocks (i.e. death in the family).
- Social Assets: Social Capital is a category of livelihood assets. It relates to the formal and informal social relationships (or social resources) from which various opportunities and benefits can be drawn by people in their pursuit of livelihoods. These social resources are developed through investment in: • interactions (through work or shared interests) that increase people's ability to work together; • membership of more formal groups in which relationships are governed by accepted rules and norms; • relationships of trust that facilitate co-operation, reduce transactions costs and sometimes help in the development of informal safety nets amongst the poor. Critical benefits of social capital are access to information, to influence or power, and to claims or obligation for support from others.
- Social Sustainability. An initiative is socially sustainable if it rests on a particular set of social relations and institutions, which can be maintained or adapted over time. One of a number of dimensions of sustainability that also include economic sustainability, institutional sustainability and environmental sustainability.
- Stakeholder Analysis. Stakeholder analysis involves a) identifying key stakeholders in relation to any initiative: i.e. groups who have a similar interest (or 'stake'), and which differs in some way from others' interest b) analysing the perspective of the key stakeholder groups: their role, views, needs, etc. and their relationship with other stakeholder groups.

- Stakeholder Any individual, group of individuals, organization or Government department or agency that is affected by the management and existence of protected areas. People who are affected in some way or another by an activity. Can be divided into primary stakeholders and secondary stakeholders: • Primary stakeholders are those who are directly affected by an activity, as beneficiaries, losers or implementing agencies or those with a direct influence the activity. Also called 'role-players'.
- Stewardship. Environmental stewardship as the actions taken by individuals, groups or networks of actors, with various motivations and levels of capacity, to protect, care for or responsibly use the environment in pursuit of environmental and/or social outcomes in diverse social–ecological contexts.
- Survival strategies: The tactics that people use in order to 'get by'. The concept is similar to that of livelihood strategies, but the implications of survival strategies is that they are generally short term and reactive, unlike livelihood strategies which also take account of long term aspirations and use proactive approaches in an attempt to realise these aspirations.
- Sustainability (1) When referring to livelihoods, sustainability refers to the capacity to withstand shocks and stresses while, at the same time, not compromising the environment. Sustainability (2) When referring to development interventions, sustainability refers to the scope of projects and programmes to continue to function after the withdrawal of external support. Sustainability is one of the core principles of the sustainable livelihoods approach.
- Sustainable Livelihoods Approach. An approach to development in which people's livelihoods are the focus of attention and which adopts the core principles of the sustainable livelihoods approach.
- Sustainable Livelihoods Framework. DFID's sustainable livelihoods (SL) framework is its version of a visualisation tool that has been developed to help understand livelihoods. It is intended to help users think through the different aspects of livelihoods, and particularly those factors that cause problems or create opportunities. The framework does not attempt to provide an exact representation of reality. It is a simplification and it should be adapted for use in any given circumstance.
- Sustainable Livelihoods. A livelihood is sustainable when it is capable of continuously maintaining or enhancing the current standard of living without undermining the natural resource base. For this to happen it should be able to overcome and recover from stresses and shocks (e.g. natural disasters or economic upsets).
- Transactions Costs. The costs associated with making, monitoring and enforcing agreements/transactions/ contracts etc. The agreements may be formal or informal and transaction costs may be incurred before and after an agreement is made.
- Transparency: the openness with which a governance group carries out its work.
- Trends. Trends are a key element in the vulnerability context. They can have either a positive or a negative effect on livelihoods and involve changes that take place over a longer period of time than is the case with changes brought about by shocks or seasonality. Examples of trends include the following: • Population trends (e.g. increasing population pressure); • Resource trends (e.g. soil erosion, deforestation); • Economic trends (e.g. declining commodity prices, development of new markets); • Trends in governance/politics (e.g. increasing accountability); • Technological trends (e.g. the development of more efficient production techniques).
- Triangulation. Seeking confirmation or better understanding of a subject or question by getting information from a variety of independent sources (e.g. soliciting the views and opinions of a diverse range of individuals, or using different methods to gain information on the same topic).
- Venn Diagrams. Diagrams of circular (often overlapping) areas used to represent relationships. They are a useful means of showing the links between different types of groups, in a clear, graphic format. They can also be used to summarise the roles that different groups play and what people's expectations are about how these groups will function. One of a number of different participatory methods.
- Vulnerability / Vulnerability Context. A key component in the SL framework, the Vulnerability Context refers to the shocks, trends and seasonality that affect people's livelihoods – often, but not always, negatively. The key feature of all the factors within the Vulnerability Context is that they are not controllable by local people in the immediate or medium-term.