



INTERNATIONAL BEST PRACTICES AND SITE OBSERVATIONS IN VIET NAM IN THE CONTEXT OF CIRCULAR 28

Inputs for SFM Plan Development for Protected Areas



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1 EXECUTIVE SUMMARY

‘If there is no general Management Plan, preservation, development and use activities in a park will occur in a haphazard basis, often in response to political pressures with little consideration as to the implications for the future. The result is likely to be lost opportunities and irreversible damage to park resources and values’ (Young and Young 1993).

To protect an area over a certain timeframe, managers need a guiding vision orientating every-day decision making. The sustainable forest management plan (SFMP) is a useful tool to lay out the fundamental management goals and an approach for their systematic implementation, accompanied by a framework for decision-making. To be meaningful, the SFMP should be complemented with operational documents and tools, e.g. conservation plans and financing strategies (Thanh An et al, 2018).

In Vietnam, in the context of the recently published Circular 28 under the new Law on Forestry (2017), VNFOREST has official requested the project on “Conservation and Sustainable Use of Forest Biodiversity and Ecosystem Services in Viet Nam” (short: GIZ-Bio¹) to support the development of an implementation guideline for Circular 28. Thus laying out steps for the SFMP development process.

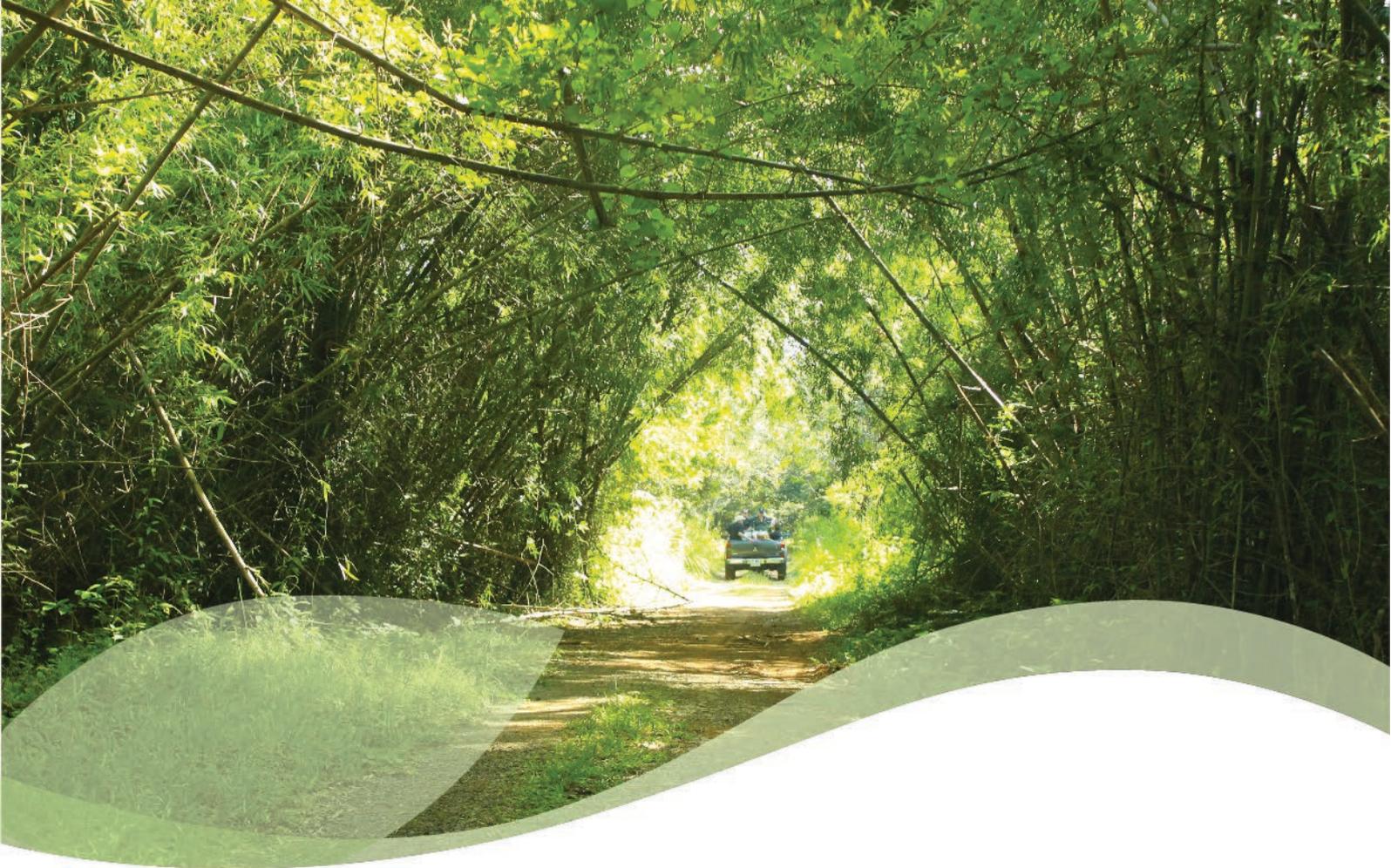
Hence, the document at hand summarizes international best practices and at the same time reflects project experiences from the four pilot sites. Designed to support the

¹ The project is financed by the German Ministry of Economic Cooperation and Development (BMZ) and implemented jointly by GIZ and VNFOREST/DOPAM. Among others activities, it supports several sites through the enhancement of information and data management for Special Use forests (SUF) and Protection Forests (PF) & setting up Sustainable Forest Management Plans (SFMPs)

development of SFMP development guidelines as per Circular 28, the document provides particular suggestions for two key topics, summarized below:

- **Working with and without relevant data:** The definition of management objectives is directly linked to available data and its quality. No management plan will fulfill all data requirements. Rather, the document proposes an approach on how to identify data gaps and how to handle these. This can be done by (i) accessing secondary data-sources, (ii) working with proxies or (iii) prioritizing data needs, in order to collect relevant data or highlight the need for additional data collection as an activity in the SFMP itself.
- **Stakeholder engagement:** With a tendency to move from centrally steered protected area management to more collaborative forms, the document lays out forms of more inclusive governance for SFMP development and implementation. This is done by moving beyond mere consultations: Firstly identifying relevant stakeholders, defining the level of engagement and actually implementing a stakeholder engagement process. Further, synergies of a well-executed stakeholder engagement process are laid out, most importantly the integration of gender differentiated local knowledge into the SFMPs. Allowing to better understand social and environmental impacts of the PA on its surrounding communities.

Summarizing international best practices and site observations, this document lays a basis for SFMP development guidelines as per Circular 28. Eventually, a realistic perception of what is possible, necessary and feasible is key to developing implementable SFMPs and ensuring strong commitment by the sites. Not only for SFMP development, but implementation.



2 THE MANAGEMENT PLANNING PROCESS

2.1 Overview

This document is structured according to the main steps identified during a management planning process. Section 2 provides a guideline for each of the steps identified in Figure 1, particularly focusing on data collection, but also briefly touching upon the other steps in the process. Section 3 provides a guideline on how to involve stakeholders during the management planning process.

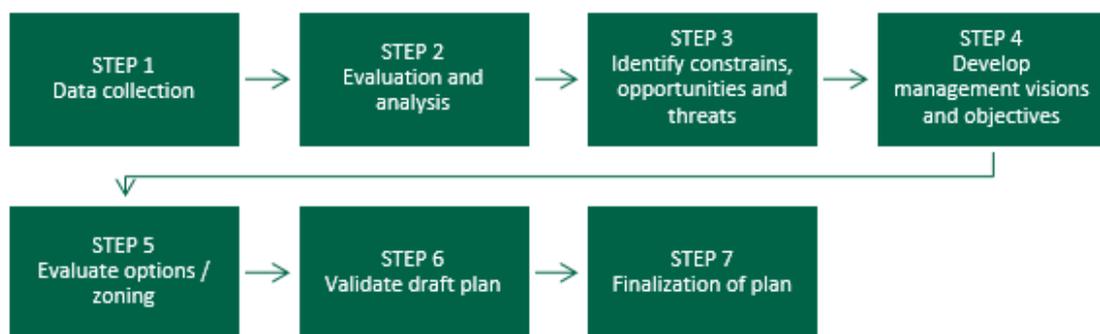


Figure 1: The management planning process

2.2 Data collection

Reliable data is key for effective management planning. The definition of management objectives is directly linked to the available data, its analysis and the resulting information. The PAs overall objectives are defined by law and this definition is based on

historical information (site historical conditions and political processes) that may or may not have persisted over time.

Data collection should aim at providing information that is relevant to inform the definition of future management option, as follows:

- An accurate and objective picture of the current physical state of the site
- An understanding of the historical evolution of the site
- An understanding of the legal and normative context that govern the sites resources

According to Thomas et al. (2003), the process is defined as follows:

1. Gather available background information and historical data
2. Identify data gaps and evaluate priority data needs
 - a. Which data is key to describe the need for specific management measures? (now)
 - b. Which data would enrich the current analysis but may not be necessary to develop a cohesive plan? (later)
3. Carry out field inventories to:
 - a. Check the accuracy of existing information through sampling
 - b. Gather additional data where necessary
4. Document it in the form of a description of the site

2.2.1 Identify potential sources of information

Written materials

Desk review is a low cost method of data collection. It requires limited resources and can be done by an individual or a small team. Since it is partially based on official or accepted data, it can be considered as a tool for knowledge consolidation, when combined with the information provided by other stakeholders. Following written material should be considered as valuable information sources:

- Government forest inventories, censuses, and other compilations of statistics
- Published laws and policies
- Grey literature, comprising governmental unofficial (or non-published) information. Includes licensing records, concession contracts, internal evaluations, progress reports.
- Statistics compiled outside of government by NGOs, international development partners, public opinion firms.
- Institutional information relevant to assess the capacity for PA management: Budgets, organizational diagrams, staff lists.
- Media reports as a source of anecdotes and illustrative examples
- Academic studies of forestry or government.

People

People provide an extremely rich source of information. When collecting data, consider using stakeholder's knowledge whenever suitable. Section 3 provides specific details

on how and why to design a stakeholder engagement process. Stakeholder engagement is fundamental for following purposes:

- **To ensure broad acceptance of the site's objectives and seek to address incompatibilities between stakeholders' objectives and management objectives:** Stakeholder engagement is a fundamental component of the SFMP process, particularly for those sites that have considerable social impacts. Stakeholders' visions and expectations must be considered during decision-making.
- **To provide or complement data on specific physical data:** Stakeholder involvement may also be valuable when existing physical data based upon expert inventories and surveys is insufficient. For instance, local people may help in providing information about local biodiversity through semi-structured interviews.

Physical evidence

Accurate data on the current state and historical trends of land use, the socio-economic context, ecosystems and biodiversity protected by the PA is important for well-founded decision making. This type of data usually consists of socio-economic surveys, forest inventories, biodiversity surveys and geospatial data. Because this type of data is usually expensive to collect, it is important to discern data that is fundamental from data that can be replaced by proxies and estimations.

Historical information

A SFMP needs to be placed in an historical and governance framework. The absence of this context may lead to question the selected information needs and the data collection methods. Furthermore, historical and governance data define regional milestones. These milestones (e.g. changes in the land use legislation, outbreaks of tribal conflicts, new land owner and subsequent land use changes) are useful tools to define the "expiration date" of data. Meaning, data collected before a relevant or transforming historical and governance point, may not provide accurate information. Common sources of background information are desk reviews and experts.

2.2.2 Working with data / information gaps

In Viet Nam, as in many countries worldwide, the information available may be outdated or inaccurate. In some cases, information related to certain topic may not exist at all.

For many PAs, there may be data and information gaps. Where this is the case, gaps in information should be highlighted within the description. Identification of gaps in knowledge is one of the main purposes of this stage of the process (Thomas et al, 2003). Once highlighted, managers need to prioritize data needs, and proceed as follows:

- Assess the feasibility of collecting priority data needs during the SFMP process (based on needs, budget & timeframe).
- Define the most practical and synergetic data collection approach for priority data needs.
- Define additional data needs to be addressed during the implementation of the SFMP.

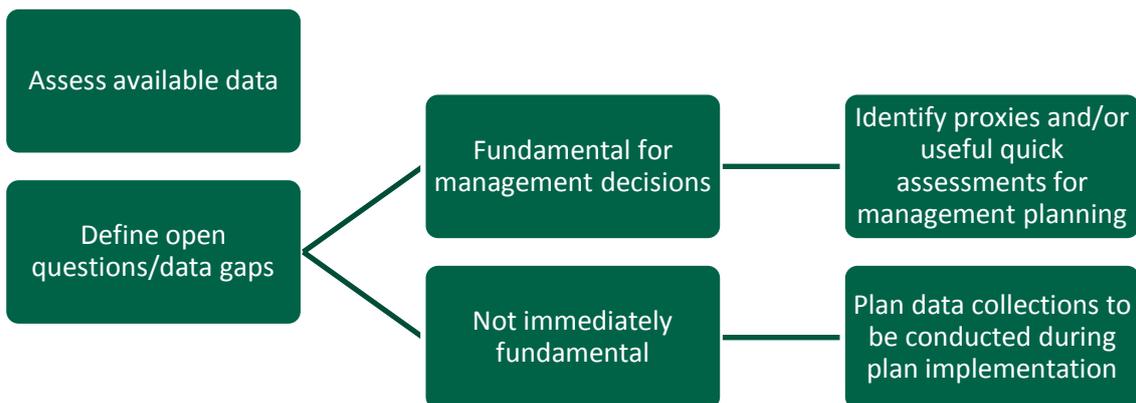


Figure 2: Working with data gaps

The decision on which data to collect must be a function of the relevance of data for management decision (e.g. To what extent will this data be decisive to take better decisions?) and the effort for data collection. High efforts should be invested in datasets that are highly relevant for decision-making. Otherwise, data gaps may be addressed differently. For instance, by using proxies and estimations, or by planning further data collection during the implementation of the plan.

The efforts for data collection are defined as follows:

- **Low:** Readily available information (such as laws, information about the owner).
- **Medium:** Historical data that has to be gathered, systematized and analyzed. Oftentimes, the systematization requires significant effort, but it does not require substantial expert knowledge.
- **High:** Extensive data collection in the field (surveys, inventories), often combined with analytics that require specialized knowledge (analysis of biodiversity surveys and forest inventories).

Table 1: Content based on international standards and the Vietnamese legislation and the effort for data collection

Content (IUCN) (Thomas et al., 2003)	Content (Circular 28)	Data gathering approach and effort
General information	<ul style="list-style-type: none"> ▪ Geographical location (latitude and longitude) ▪ Area (ha) ▪ National protected area management category ▪ International protected area management category (IUCN) 	Official information Low effort
Legal status	<ul style="list-style-type: none"> ▪ Legal status, e.g. designation (both of the site and features within it) and relevant legislation ▪ Legal ownership, conditions and restrictions 	Official information Low effort

Content (IUCN) (Thomas et al., 2003)	Content (Circular 28)	Data gather- ing approach and effort
	<ul style="list-style-type: none"> ▪ Status of national defense and security ▪ Political boundaries and identification of cross-boundary sites ▪ Identification of the site with other national and international designations (Important Bird Areas, Key Biodiversity Areas, etc.) 	
Information on forest owner	<ul style="list-style-type: none"> ▪ Contact information of forest owner ▪ Official tasks attributed to the forest owner ▪ Organizational issues 	Official in-formation and review of past docu-ments Low effort
Land uses and planning provi-sions of surround-ing land and any in-holdings or leases	<ul style="list-style-type: none"> ▪ Summary, assessment of the status quo of land use of forest owners ▪ Current occupancy and tenure, associated customary rights or land use conflicts and encroachments, if any ▪ Identification of land uses in buffer zones ▪ Identification of cities and villages within the site boundaries and the buffer zones 	Analysis of geospatial information, complement-ed with site visits Analysis of legal and his-torical docu-ments Medium ef-fort
Physical facilities (e.g. roads, build-ings, easements, power and water supply)	<ul style="list-style-type: none"> ▪ Geographical information of main roads, buildings, power lines, bridges ▪ Identification of easements or leases/ re-source extractions, water supply ▪ Services in and to the area 	Analysis of geospatial information, complement-ed with site visits Low/Medium effort
Ecological re-sources and their condition	<ul style="list-style-type: none"> ▪ Categorization of ecosystems according to natural features and their quality ▪ Categorization of forests and forest quality, forest degradation ▪ Assessment of floral and faunal biodiversity ▪ Identification of the categorization of spe-cies according to national and international lists ▪ Past interventions conducted in these eco-systems and effects/results, whenever pos-sible ▪ Past impacts registered (forest violations, 	Classification of general ecosystem strata to sat-ellite imagery complement-ed by site visits Revision of past invento-ries and bio-diversity sur-

Content (IUCN) (Thomas et al., 2003)	Content (Circular 28)	Data gathering approach and effort
	fire, poaching, logging)	veys High effort
Cultural resources and their condition / Aesthetic aspects	<ul style="list-style-type: none"> ▪ Identification of historical and cultural values or relics ▪ Identification of landscape values 	Qualitative, local knowledge Medium effort
Key features of the socio-economic environment	Describe, for the villages within the boundaries of the site and in the buffer zone: <ul style="list-style-type: none"> ▪ Demographic information: Number of households per commune, ethnic minority groups, data on population trends ▪ Livelihoods and labor: Sex-disaggregated data on labor, main livelihoods, cultivated area, average income ▪ Dependency on the resource managed by the site 	Results of past census and surveys, complemented by key informants High effort
Social impact	<ul style="list-style-type: none"> ▪ Impact of the site to community livelihoods / and impact of communities to site ▪ Past conflicts and current situation ▪ Projects conducted with communities (current/past) and results/evaluation 	Qualitative, local knowledge High effort
Projects and activities implemented in the past and influences on the site	<ul style="list-style-type: none"> ▪ Tourism: Visitor characteristics and influences on the protected area ▪ Scientific research: Main focus ▪ PFES: Areas under PFES contracts, payments to communities, evaluations to date ▪ Community projects ▪ Other 	Revision and analysis of past documented projects Medium effort

Land uses and planning provisions of surrounding land and any in-holdings or leases

Chapter II, Article 5, Section 1a of Circular 28: Assessment of the land use status

Efforts	Medium
Relevance	Land use and land use trends are highly relevant for management planning. It is worth-while to spend resources on a good geospatial analysis, as this will provide a framework for all other physical information, and therefore reduce the effort required to gather other data.

- Land use data are considered of high priority for planning. While exact accuracy may not be necessary, they must provide an up to date overview of the site. It is important to have geospatial information to produce a map.
- The land use map scale should not be lower than 1:50.000.

- According to the latest legislation, land use planning data may be available at a broad scale and may be a few years old. This may be used as a basis. Depending on the accuracy of the existing map, the analysis may only need to focus on the areas that have changed the most.
- For any boundaries or elements in the map that are unclear, the best available information should be used to conduct an update. This may be evaluated by a combination of following assessment tools:
 - satellite imagery
 - the use of drones
 - site visits
 - Involvement of local stakeholders in imagery analysis that are familiar with the site.
- Consider past events, such as fire and large encroachment to select the parts of the map that may need more sampling of field GPS data.
- Whenever possible, historical land use change should be conducted, to understand long- and short-term trends at landscape level. This assessment may provide a first approximation of threats and pressures on the protected area.

Box: Example of the use of geospatial data in Vietnamese PA's	
Bach Ma National Park	Ben Tre Coastal Mangrove Protection Area and Special Use Forest
Huong (2015) highlighted the initial results from a study aimed at producing a high-precision geo-database, which is very helpful for sustainably managing the Bach Ma National Park, in Viet Nam. This information helped stakeholders identify suitable actions to focus on the most important species, and ecosystems that are most vulnerable, and in the most important areas, which have the highest vulnerability.	Nguyen & Parnell (2019) used spatial data to assess the status of the Ben Tre Coastal Mangrove Protection Area and Special Use Forest (the Ben Tre CMPSUF). Satellite images from 2009 and 2015 were retrieved, and converted them in GIS layers. Information obtained from satellite images was crosschecked with data obtained from field visits, and semi-structured interviews.

Physical facilities (e.g. roads, buildings, easements, power and water supply)

Chapter II, Article 5, Section 1c of Circular 28: Assessment of the status quo of infrastructure

Chapter II, Article 5, Section 4k of Circular 28: Infrastructure development plan

Efforts	Low-Medium
Relevance	A notion of the infrastructure in the PA is important for management planning, to consider staffing resources, capacity for service provision (e.g. for tourist or research), and to understand the possible impact of infrastructure on the natural environment. As a minimum requirement, infrastructure should be delineated in a map, and described.

- The infrastructure should be clearly identified and outlined in the map above.

- Existing infrastructure should be described, as well as its current state, its use and suitability for the PA's activities and operations.
- In case environmental or social impacts related to the infrastructure are known, these should be described (e.g. in case of a dense road network).

Ecological resources and their condition

Chapter II, Article 5, Section 1d of Circular 28: Assessment of status quo of forest resources

Chapter II, Article 5, Section 2b of Circular 28: Regarding environment

Chapter II, Article 5, Section 3 of Circular 28: Identification of degraded forest areas and restoration needs

Chapter II, Article 5, Section 4 of Circular 28: Forest management, conservation, use and development

Efforts	High
Relevance	While the state of forest and biodiversity resources is highly relevant to management planning, gathering specific data is not always possible. For management planning, the manager should at least have a good notion of the distribution of different ecosystems in the PA landscape, their level of degradation, trends regarding ecosystem development, and the most important gaps in information.

- The starting point should be the use of satellite imagery with a spatial resolution of a minimum of 20-30 m per pixel. Satellite imagery should be analyzed with the aim of defining the different strata.
- After that, a minimum sampling size of field visits per strata should be planned, to confirm the accuracy of the classification and correct where necessary.
- The analysis should be complemented by existing forest and biodiversity data, such as past forestry inventories, biodiversity surveys, and forest quality maps. Historical datasets on forest impacts and violations (fires, poaching, logging) and past management activities (particularly silvicultural interventions) will be useful to complement the historical data on forest and ecosystem quality.
- To produce an up to date map, following options may be considered:
 - Through the quick approach defined above, it is likely that accurate data on ecosystem quality will be scarce. Therefore, managers must assess what can be concluded from available data and define the most important open questions.
 - For the most important open questions, and depending on the resources available, following assessment options may be considered:
 - Increase the density of quick field observations on priority areas.
 - Identify useful "quick assessments" through proxies and/or estimations that can be used during the process of management planning.
 - Conduct forest inventories and/or biodiversity surveys focused on key species or specific strata and compartments.



Box: An example of the use of proxies and quick assessments	
Proxies on forest degradation	Factors which might relate accessibility to forest by human beings may be good indicators for forest degradation. Four factors related to accessibility to forest stands, including slope, elevation, distance to roads and streams can be used as proxies to identify forest degradation.
Proxies on the quality of an ecosystem / high biodiversity	To serve as an effective conservation umbrella species, a species should have a wide enough habitat breadth to encompass a substantial part of each of the target species' habitat within its range (high degree of spatial overlap) and should share habitat attributes with the target group (niche overlap). Based on general information about the quality of an ecosystem conducted through satellite imagery and site observations, criteria such as the minimum range of an umbrella species, and the minimum quality of breeding sites may be used to assess the likelihood of its presence and, consequently, increase the qualitative depth of the analysis of ecosystem quality.
Complement the analysis with participatory data	The physical information available may be complemented through participatory methods. In sites identified as having high biodiversity, information about indicator species may be gathered through key informants from surrounding communities.

Cultural resources and their condition / Aesthetic aspects

Chapter II, Article 5, Section 1a of Circular 28: Assessment of historical, cultural & landscape relics

Chapter II, Article 5, Section 2c of Circular 28: Regarding economy

Chapter II, Article 5, Section 4h of Circular 28: Ecotourism development, leisure activities

Efforts	Medium
Relevance	Cultural resources & aesthetic aspects play an important role to guarantee the site is respectful towards local communities and ethnic minorities. It may also be highly relevant for tourism development. As a minimum requirement, cultural resources and aesthetic aspects should be identified and mapped.

- For historical sites, cultural resources may be known by the management staff. Cultural sites should be placed in a map through geospatial data, whenever possible.
- Cultural resources should be listed and described. It is important to include for whom these resources have a value and what will be done by management to ensure these sites are conserved/respected.
- The efforts used for identification, listing and description must be commensurate to the importance of the resource. Most likely, important cultural sites will be already known by PA staff or local communities in existing PAs.
- The views and inputs of the people for whom certain sites bear a cultural/religious/sacred meaning are essential to define their value, and to understand what sort of management can be considered culturally appropriate. This aspect should be assessed through engagement with local communities.
- In case cultural sites are known, a quick validation with selected people may be enough. Otherwise this topic may be included in more comprehensive participatory assessments. See Section 3 for guidance.

Key features of the socio-economic environment

Chapter II, Article 5, Section 1b of Circular 28: Summary of characteristics of population

Chapter II, Article 5, Section 2b of Circular 28: Potential for creation of jobs, increase income to labourers; stabilization of livelihood of people living in the buffer zone

Chapter II, Article 5, ANNEX VII I) Formulation of the plan for supportive activities to residential communities and local people

Efforts	High
Relevance	It is very important for management planning to have a general understanding of the social values of the PA. An overview of the location of the local population, its general socio-economic situation, its dependency on local resources, and its ethnicity is relevant to design socially acceptable management objectives. Foundational approximation may be enough for planning, as complex socio-economic surveys may not be realistic to conduct.

- Socio-economic assessments require quantitative demographic data regarding population, labor, and income. Ideally, this data should be collected by surveys, which require high data collection efforts. In case no such survey is available or the latest one is outdated, conducting a complete new survey may not be feasible. It is important to evaluate whether a complete survey is relevant for decision making.

- In most cases, estimations and proxies may provide enough information for management planning. Most sites may have access to regional census conducted every 10 years. This information, in addition to regional population trends and income estimations for certain sectors should be used. Table 2 defines the most important information to be gathered about local communities.
- Punctual validations should be conducted using local knowledge, for instance, through key informants from local authorities and/or community leaders.

▪ **Table 2: Socio-economic assessment sheet**

Parameter	Example of information
Name of village	Name (official name, local name)
Geospatial location	Longitude and latitude Define if within site boundaries or buffer zone
Ethnicity	Approx. X % A, X % B, and X % C
Estimation of population/households	X inhabitants X households with an average of 8 people/household
Trends in population	Average growth of X % in the last X years. Growth includes high influx of immigrants and more need of land for agriculture.
Basic activity	Majority of population (> X %) depends upon agriculture (around X ha/household). Main production is rice.
Degree of dependence on resources managed by the site	High degree of dependence on NTFP collection and sales (> X % of population) Slash and burn cultivation is marginal (no quantitative information available)
Average income / poverty rate	High poverty rates of X %. More than X % of the population depends upon subsistence agriculture.
Basic services available	Running water and sanitation, electricity Primary school and health clinic in the village Difficult access through dirt roads

Social impacts

Chapter II, Article 5, Section 1b of Circular 28: Summary of characteristics of population

Chapter II, Article 5, Section 2b of Circular 28: Potential for creation of jobs, increase income to laborers; stabilization of livelihood of people living in the buffer zone

Chapter II, Article 5, ANNEX VII I) Formulation of the plan for supportive activities to residential communities and local people.

Efforts	High
Relevance	It is extremely important to understand the sites impacts on local livelihoods and society at large. This is one of the main factors determining social expectations towards the PA, and should be used to design socially acceptable management objectives.

- Socio-economic information is only helpful if it has implications for management planning and management outcomes. In Vietnam, many SUFs and Protection Forests are located in populated areas. Oftentimes, a number of local communities are located within the sites or its buffer zones.
- It is unwise to ignore the needs of community members during management planning. For instance, the protection of certain resources that communities depend upon is likely to fail, if communities do not have other livelihood options.
- The first socio-economic assessment sheet should provide enough information to conduct a first characterization of communities, in terms of their relevance to management planning.
- Section 3.2.1 summarizes a participatory approach to understand stakeholders' perceptions on the level of impact the site's management has on them, or the level of impact their activities may have on the sites resources.

Projects and economic activities implemented in the past and influences on the site

- *Chapter II, Article 5, Section 4 of Circular 28: Forest management, conservation, use and development*
- *Chapter II, Article 5, Section 6 of Circular 28: Solution for implementation*

Efforts	Medium
Relevance	A general understanding of the impact of past strategies and projects and their contribution to past and present management objectives is crucial to collect lessons learned and design appropriate management measures. This will also have direct implications on budget needs.

- Past projects and activities and their outcomes should be analyzed. This includes, for instance, PFES, tourism, research cooperation projects, and social projects.
- It is important to review the initial rationale and intentions of the project and/or activity implemented, and analyze its intended and realized contributions to management objectives. Lessons learned should be derived and fed in to future project and activity design.

2.2.3 Principles to prepare the description of the site

- **Synthesize and include only relevant information:** Avoid a long and cumbersome management plan. Focus on the relevant information for decision-making. The description should not be excessively detailed.
- **Quantify and qualify the facts and identify assumptions:** Point out which information is well recorded and documented, and identify sources. Transparently point out biases and assumptions. In case of uncertainty, use phrases such as “to the best of our knowledge”.
- **Keep it brief:** Use maps, references and appendices
- **Historical and future trends:** Look at past and future trends, particularly with regard to topics such as ecosystem quality, population trends, and forest violations.
- **Be consistent:** Triangulate data and review whether the data of each section is complementary and consistent when putting together all the pieces.

2.3 Evaluation and analysis

The purpose of this step is to, based on the above collected and described information, identify the values associated to the PA, and understand why the PA is important. The evaluation should specify the reason why the PA was designated in the first place, analyse the state of the features to be protected to maintain its significance, and identify its benefits to society. This phase of the analysis is crucial, as it will guide all other assumptions and decisions to be made about the way the site should be managed and used (Thomas et al., 2003).

It is important to have a mechanism through which the values that relevant stakeholders hold for the area can be identified and described (Thomas et al, 2003). For this analysis, understanding the perceptions and expectations of relevant stakeholders is fundamental. Section 3.2.1 provides details on possible approaches for stakeholder engagement. The result of this assessment should be the formulation of a succinct statement of significance differentiated by particular interest group.

An essential part of this step is to identify criteria by which to identify and measure its natural, cultural, and socio-economic values. A guideline for this process is provided by the **High Conservation Value Guideline of Vietnam**.

Box: Guidelines on criteria for exceptional value

- Outstanding examples of natural, scenic, scientific research, ecological, floral, faunal and recreational values.
- Unique biological attributes, vegetation types and landforms.
- Areas essential for protecting the ecological integrity of the site as a whole.
- Areas that are vital for communities.
- Areas and resources that provide essential services to people outside the site.
- Sensitive, threatened, rare or endemic habitats, plants and animals.
- Resources sensitive to human use.
- Outstanding examples of modified landscapes and evidence of sustainable use of natural resources.
- Major archaeological, cultural or historical sites.
- Features with world-wide recognition.



Box: Example statement of significance from Phong Nha - Ke Bang NP World Heritage Nomination

The karst formations of Phong Nha-Ke Bang National Park have evolved since the Paleozoic, over 400 million years ago, and are among the oldest as well as largest tracts of karst in Asia. This vast limestone landscape is extremely complex, with many notable and spectacular geomorphic features, including 104 km of caves, and what could be the world’s largest cave and longest under-ground river. These unique and rare habitats support a vast array of species, many of which are threatened both nationally and globally. There is a high degree of endemism in the property, as well as the broader region, and new species are being identified on a regular basis.

2.4 Identify constrains, opportunities and threats

The management plan shall provide a clear long-term vision. Therefore, it is important to identify potential threats and constrains, which are related to predictions and trends in local population growth and resource use, ecological and climate change, visitor and tourist flows, and political trends which may affect the enabling environment for conservation.

While future trends are uncertain, the exercise should be informed by past and current local and regional trends (summarized in the description), and consider phenomena that will likely increase its effects in the future (e.g. Climate Change). Table 3 provides an example of the analysis of threats/constrains, and opportunities.

Table 3: Examples of constrains and opportunities

Constrains/Threats	Example
Constrains of tenure	In-holdings of communities with customary rights on areas deemed for strict conservation/ encroachment.
Managerial constrains	E.g. low managerial capacity due to low budget/resources for biodiversity monitoring.
Prior usage	Mining operations/ agriculture.

Constrains/Threats	Example
Balancing out objectives	Discuss possible conflicts between different objectives, e.g. balancing out the opportunities and possible impacts brought about by tourism.
Decrease in PFES Funds	Evaluate the implications of a possible decrease in PFES Funds.
Opportunities	Example
The possibility of new research cooperation	Seek to close knowledge gaps through research cooperation / or establish monitoring systems.
New conservation civil society movements in the region	Possible new ways of collaboration with NGOs and/or companies to increase visibility and funding, and strengthen societal interest for conservation.
New public programs or funding sources	Evaluate new programs and funding sources that could be synergetic to the site's interests. For instance, if there are new governmental programs targeting livelihoods (possibility to reduce pressure on sites?).
Increase in sustainable tourism	Evaluate the benefits in terms of funding and visibility brought about by an increase in tourism.

2.5 Develop management vision and objectives

Vision statement

A vision statement answers the question 'what do we want to become?' (Lockwood 2006) and articulates an ideal condition for the future of the site. The vision statement describes the envisaged result/aspiration of policies for conservation, and should provide a coherent direction for the whole plan. According to Thomas et al. (2003), the vision statement should have following characteristics:

- It should be a long-term statement that is unlikely to change significantly over time.
- Describe the kind of protected area the plan is seeking to achieve in the long term, the reasons for this, and the most important strategies needed to achieve this.
- Consider the holistic value of the site (environmental, recreational, scientific, cultural, social and economic).

BOX: Example Kruger National Park (South Africa) vision statement

"To conserve, protect and manage biodiversity, wilderness qualities and cultural resources, provide a diverse and responsible visitor experience, contributing towards social, ecological and economic resilience and well-being whilst strengthening constituency within a unique regional land-scape".

Definition of objectives

The definition of specific objectives should be aligned to the vision statement. These should be more specific in intention, and address outcomes that are likely to contrib-

ute to the vision statement. Management objectives usually relate to the key features of a site and how to conserve/manage them, or to important areas of management activities, such as:

- Habitat and species management
- Research and monitoring
- Infrastructure
- Visitor management

The perceptions collected through the stakeholder engagement processes conducted are important to design socially acceptable management objectives (see Section 3.2.2). While ideally most/all stakeholder will agree upon the vision statement, it is likely they will disagree over the way to achieve this overall vision (Thomas et al., 2003). For instance, some groups may have interest in using a site for leisure, others for scientific research or strict protection. Therefore, objectives should clarify what takes precedence and where.

Objectives should be listed in a priority order to clarify precedence from the outset.

- Design overall management objectives
- Develop issue-specific management responses
- Prepare initial management options

The rationale for each objective should be described (e.g.: How is this indicator linked to an outcome that will contribute to the vision statement?).

Box: Characteristics of management objectives according to the IUCN (Thomas et al., 2003)

- Precise/specific
- Achievable and realistic
- Time-related
- Reflect site's purpose and significance
- Spell out ends desired, but not the means to those ends
- Adequately address the issues identified during the decision-making process
- Accompanied by a rationale
- Written in a priority order

2.6 Evaluate options/ zoning

By this point it relevant features of the site have been described through available and collected information and management objectives, based on these features, are in place. As a next step the management planning team should jointly identify options on how the objectives can be achieved.

According to Thomas et al. (2003), the planning team should consider:

- In what different ways might the objectives be achieved?
- What possible options exist?
- What combination of options fit together to form coherent plans?

This is an iterative process in which the management team revisits the information collected, the threats/risks for each option considered. The identified options should then be prioritized accordingly (not all options need to be included in the management plan):

- Which options represent the best value for money?
- Which options are most technically and financially feasible?
- Which options are most acceptable for relevant stakeholders?

A common tool for the management objectives is zoning. This practice enables the managers to give management objectives a spatial expression. Zoning is a useful tool to meet different conservation and use objectives in protected areas. However, poor planning and implementation of zoning may complicate the management, instead of simplifying it. Careful consideration of management objectives and site conditions is fundamental for a proper zoning.

2.7 Validation of draft plan and finalization

There is no standard format and content of a management plan, however they usually have a logical sequence, reflecting the thought process and logic followed during preparation (Thomas et al., 2003). Following aspects related to the writing process should be considered:

- It is beneficial to make the PA staff participate in the writing process, to increase ownership.
- The responsibilities for writing sections should be clearly designated. A coordinator should be assigned to edit the plan and make a cohesive document.
- The coordinator should organize an internal review process with the final draft, to ensure the sections reflect what has been discussed, and ensure there is a common understanding of the final document. This process should also be used to clarify any remaining uncertainties.

Regarding the style, the document should be clear and concise, and synthesize information as much as possible, using graphs and maps. Before finalizing the plan, the document should be validated through a public consultation process (see Section 3.2.4).

Box: Common structure of a management plan according to IUCN (Thomas et al., 2003)

- Executive summary

- Introduction
- Description of the protected area
- Evaluation of the protected area
- Analysis of threats and opportunities
- Vision and objectives
- Zoning plan
- Management actions
- Monitoring and review



3 STAKEHOLDER ENGAGEMENT

In the whole world, there has been a tendency to move from centrally steered top-down protected area management to more collaborative forms of management, based on partnerships and engagement. This is consistent with broader arguments regarding the role of citizens and the sharing of power and participation in political and policy decisions, and a move from direction by government to a more inclusive governance involving multiple parties.

There are different rationales as to why stakeholder engagement is desired in management planning of PAs:

- A PA should serve public interest, and therefore, involving different stakeholders is a way of proactively identifying societal values and interest related to PA management.
- Ethical concerns in PAs in which local communities are located within the Park's boundaries, and where traditional "hands-off" approaches are irreconcilable with the local reality, and non-resolvable land use or tenure disputes.
- The more utilitarian argument, which proposes that involving stakeholders will increase the level of success of management objectives, as they are based on broader support, and reduces the risk of threats.

Stakeholder engagement and collaborative management in protected area management planning may be:

- Mandatory required by regulatory agencies, for instance, during management planning. In Vietnam, Circular 28 proposes a mandatory consultation phase.
- Formal part of international agreements such as with World Heritage properties.

- Pursued by communities or agencies voluntarily to achieve certain management outcomes.

Stakeholder engagement should be planned in early stages of the management planning process. This will increase the likelihood of building up local ownership. It will also provide an opportunity to strengthen project integrity and design, and help to create problem-solving mechanisms among stakeholders.

Stakeholder analysis and engagement is key both for the development of the management plan itself, as well during the implementation of the plan.

3.1 Overview of stakeholder engagement planning

This section lays out and described the basic components of a structured approach to stakeholder engagement (see Figure 3). Section 3.2 described the specific stakeholder engagement processes recommended during management planning.

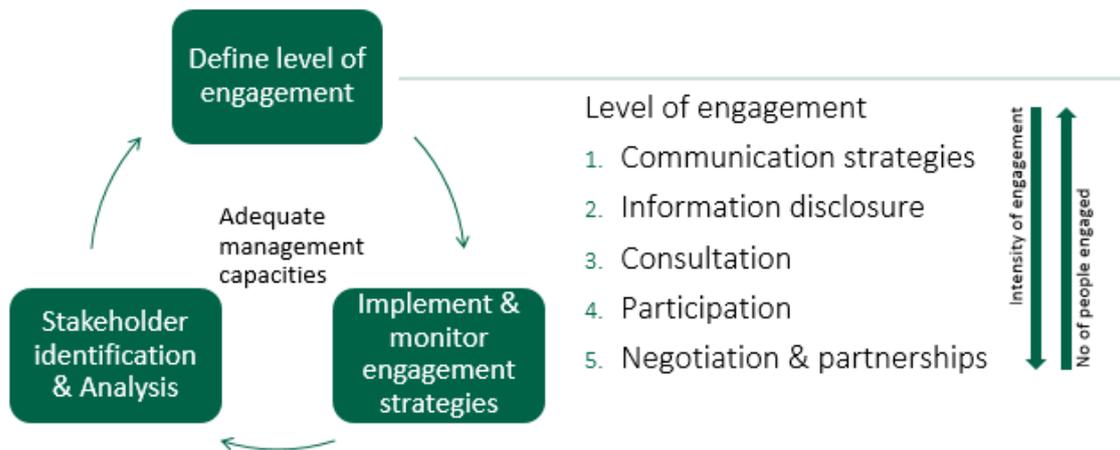


Figure 3: Usual stakeholder engagement planning process

3.1.1 Identify relevant stakeholders

Stakeholder engagement initiates with the identification of relevant stakeholders. In cases of historical PAs, PA staff will most likely be well aware of the relevant stakeholders.

For a newly established PA, however, stakeholder identification is key to get an understanding of the social context and the different interests. At the stage of stakeholder identification, the full scope of the project activities and potential stakeholders are not yet defined. Therefore, a preliminary identification of affected or influential stakeholders in the SFMP is the first step for their engagement.

An initial list of stakeholders is commonly assembled based on the general knowledge of PA managers. The initial list expands as the knowledge and the involvement of the stakeholders increases, unveiling a more complex social and environmental context.

The UNPD (2016) provides useful example for stakeholder identification (see Table 4).

Table 4: Useful questions to ask according to the UNPD (2016) for stakeholder identification

Questions according to UNPD	Target stakeholders
Who are the project's targeted beneficiaries?	<p>Specific PA protection goals may include:</p> <ul style="list-style-type: none"> ▪ the protection of the form of life and/or culture of vulnerable groups e.g. ethnic minorities. ▪ specific ecosystem services that will benefit certain groups, in which case beneficiaries may be local, regional, or even society at large (e.g. erosion control and spring water protection can ensure clean water supply for urban areas, forest protection can guarantee the persistence of certain NTFPs for local communities). ▪ scientific research, in which case beneficiaries are scientists, but also, in a wider sense, society at large. ▪ environmental education benefitting school children or tourists, but also, in a wider sense, society at large.
Who might be adversely impacted (directly or indirectly)?	<ul style="list-style-type: none"> ▪ Groups that depend upon, use, and/or have an interest upon the sites resources and may be negatively affected by restrictions imposed.
Will the project impact (positively or negatively) any marginalized groups?	<ul style="list-style-type: none"> ▪ Vulnerable groups that depend upon the sites resources.
How will the project affect women and men stakeholders?	<ul style="list-style-type: none"> ▪ This may be particularly relevant for local communities that use the site's resources. For instance, certain NTFP collection or fuelwood gathering are women's tasks.
Who are the projects main supporters and opponents?	<ul style="list-style-type: none"> ▪ Government ministries, regulatory agencies, regulators and consultants ▪ Local authorities ▪ Affected (positively or negative) community groups and traditional leaders/ community associations ▪ Civil society (NGOs and public interest groups) ▪ Organized interest groups (business, industry, trade) ▪ Donors and financing institutions ▪ Private companies ▪ Management staff and their representatives ▪ Academia and research institutions
Who is responsible for carrying out planned activities?	<ul style="list-style-type: none"> ▪ Management Board and its staff ▪ Private owner ▪ In case of co-management, other stakeholders may be involved (e.g. community groups conducting patrolling)

Following principles are useful during the identification of stakeholders:

- **Initial identification must be as specific as possible:** The lack of full scope of potential activities and engagement dimension must not be an obstacle to accurately describe the stakeholders involved. The use of overly general categories - such as “local communities,” “CSOs,” “indigenous people groups” - should be avoided, as they may denote a lack of outreach and engagement. Within these groups, there are different background, interests and rivalries that must be identified to conduct meaningful engagement.
- **Reach for typically unrepresented groups:** The identification of stakeholders must aim for the representativeness of all stakeholders involved, including those typically excluded in the engagement and subsequent decision-making process. These groups typically involve women, LGTB, physical or mentally disable individuals, and ethnic minorities.
- **Self-selection and self-representation should be encouraged:** Rights of key stakeholders, such as ethnic minorities, to identify and represent themselves in the engagement processes should be respected and encouraged.
- **Beware of conflict of interest:** Internal stakeholders (such as Park staff) must also be included in the stakeholder engagement process. At the same time, it is usually the staff implementing the PA’s stakeholder engagement plan. Oftentimes, the PA staff comes from local communities. Therefore, management should be aware of not putting staff in an uncomfortable position.

3.1.2 Define the level of engagement

Once relevant stakeholder has been identified, the next step is to understand stakeholder’s interests, and their level of influence on PA management. The UNPD (2016) provides a useful list of questions to ask, when analyzing stakeholders interest, as follows:

- What are the interests of these stakeholders related to the project?
- How will stakeholders’ interests be affected (positively/negatively) by the project?
- Which stakeholders are the most vulnerable and subject to potential adverse impacts?
- Which stakeholders wield the most influence to affect project outcomes?
- Whose capacity needs to be supported to enable them to participate?

The typical interest/influence matrix (Roseke, 2018) can be used to place the different stakeholders, and define the level of engagement (Figure 4).

The categories defined in the table are a function of:

- **Level of influence – the horizontal axis is a function of the level of influence, which, for PAs, is interpreted in two different realms:**
 - In terms of governance: Level of authority and/or power and/or resources and networks to significantly change the objectives of a PA.
 - In terms of impact: Level of impact stakeholders may cause on a PA due to the nature of their livelihoods, activities, and location when these are in conflict with management goals (e.g. vulnerable communities dedicated to slash and burn may have no formal influence on the PA, but impact the PA and compromise its management objectives through their livelihoods).

	solutions. Include stakeholder concerns and aspirations in the project analysis and design.	ject decisions.		Stakeholders.
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3.2 Stakeholder engagement during management planning

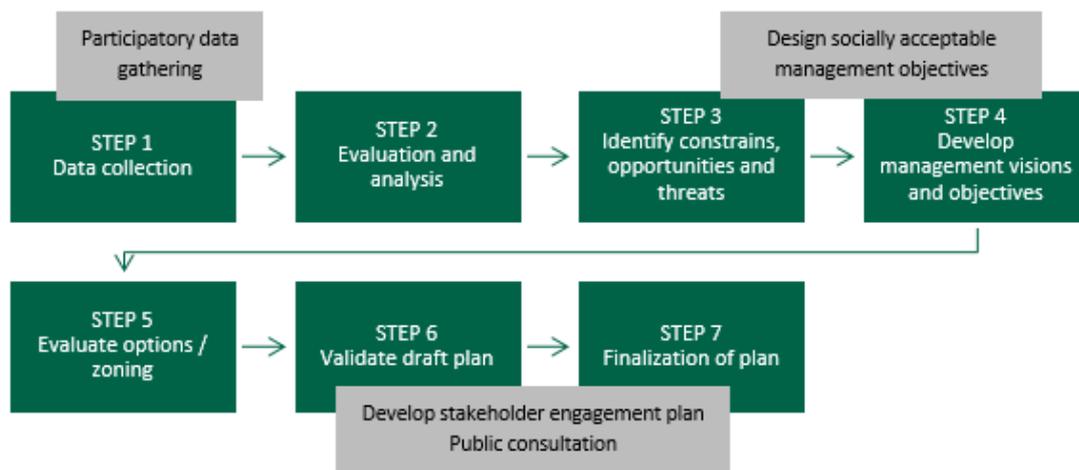


Figure 5: Stakeholder engagement during the management planning process

Participatory processes should be designed early on, and aimed at:

- a) **Participatory data gathering (STEP 1)** on social impacts, perceptions and expectations of vis-a-vis the PA.
- b) **Design socially acceptable management objectives (STEPS 3 & 4):** Consider stakeholder’s motivations, perceptions and needs (identified during Step 1) to design socially acceptable management objectives and strategies.
- c) **Define a stakeholder engagement plan (STEP 6)** to be followed during the implementation of the management plan.
- d) **Get broad acceptance of the management plan through public consultation (STEP 6)** providing all interested stakeholders the opportunity to comment (Step 6).

The scope and depth of the participatory process needed to gather this data depends upon the experiences and level of engagement already conducted.



3.2.1 Participatory data gathering

Social impacts and perceptions

The goal of this exercise is to understand the impacts (positive and negative) of the PA on stakeholders, stakeholders' perceptions and interests' vis-à-vis the PA. To get a nuanced perspective, it is important to engage with relevant stakeholders. It is not the aim to get a statistically representative information, but rather to have an in-depth and nuanced understanding of the array of situations and impacts, and how these are perceived by stakeholders.

This must be gathered through participatory approaches involving sample of stakeholders that represent these different situations. The steps to take by PA managers are laid out as follows:

- Based on the PA managers' knowledge and on informal interviews with key informants, broadly analyse stakeholder categories using the parameters defined in Table 7 below. Depending on the history of the PA and the level of communication and engagement in the past, this first assessment may more or less detailed. At this stage, the PA manager may only use approximations and estimations.
- In cases where a PA has a large number of communities living within PA boundaries or in the buffer zone, and the depth of information required by Table 6 is not detailed enough to differentiate among similar communities, these may be clustered beforehand according to their similarity in terms of the criteria presented in Table 7.
- The clusters resulting from this analysis (e.g.: a cluster may be a group of 5 communities in the eastern border of the Park with similar ethnicity, needs, structure, and livelihoods) should also be broadly analysed according to Table 6.
- The stakeholder needing high level of engagement (categories A and B) should be considered for participatory data gathering. The participatory process should aim at enriching the first approximation of the criteria laid out in Table 6, and bringing in a nuanced perception of selected stakeholders.

Table 6: Approach and examples to define the interests and influence of stakeholders

Questions according to UNPD	Example 1: Village	Example 2: Mining company
Perception of negative impacts	<ul style="list-style-type: none"> ▪ Decreased access to firewood access ▪ Decreased access to NTFP ▪ Decreased access to farmlands ▪ Loss of access to bush meat access ▪ Wildlife-human conflict ▪ Inter-village conflict, as the PA only employs people from one village 	<ul style="list-style-type: none"> ▪ Closing on one mine where the company was extracting minerals.
Perception of positive impacts	<ul style="list-style-type: none"> ▪ Income of PFES. 	<ul style="list-style-type: none"> ▪ None
Expectations	<ul style="list-style-type: none"> ▪ Support with the improvement of public service provision (water, roads, schooling, and education). ▪ Access to farmland and secure land tenure. ▪ Increased PA income through employment and PFES contracts. 	<ul style="list-style-type: none"> ▪ Come to an agreement to keep exploiting the mine during the next 2 years.
Potentially affected rights	<ul style="list-style-type: none"> ▪ Customary land rights of ethnic minorities 	<ul style="list-style-type: none"> ▪ According to the company's perception, they had a 5-year permission for exploitation, which initiated 3 years before company establishment. ▪ While the Government should pay compensation to terminate the contract, the process is on-going.
Conflict of interest with management goals	<ul style="list-style-type: none"> ▪ Encroachment and poaching in core protection zones. 	<ul style="list-style-type: none"> ▪ Large scale exploitation of a stone quarry in the sustainable use zone. The logistics associated to the loading of trucks and road use are incompatible with management objectives.
Level of vulnerability of the stakeholder	<ul style="list-style-type: none"> ▪ High (see Table 7 to provide guidance to define level of vulnerability). 	<ul style="list-style-type: none"> ▪ Low.

Questions according to UNPD	Example 1: Village	Example 2: Mining company
Level of interest	<ul style="list-style-type: none"> High, due to dependency on PA resource and low opportunities to change livelihoods. 	<ul style="list-style-type: none"> High, as the mine in the PA currently represents more than 25 % of the company's turnover.
Level of influence	<ul style="list-style-type: none"> Low/Medium: The impact of land use change by the communities is estimated at 25 ha/yr, which corresponds to 0.01 % of annual land use change in the core zone. However this may pave the way for increased encroachment in the future. 	<ul style="list-style-type: none"> High: The Company has good networks in Government and access to resources.
Level of engagement	B) Anticipate and meet needs (due to vulnerability the category was ascended from C to B)	A) Manage most thoroughly

- The participatory process needed to engage the different stakeholders and for specific purposes are described in Section 3.3.

Table 7: Approach for clustering villages according to vulnerability

Parameters for clustering	High / Critical	Medium	Low
Vulnerability/ Score on social and socio-economic indicators (e.g. literacy, education, access to health, employment).	Significantly lower than average regional or national. High part of the population may consist of vulnerable ethnic minorities.	Lower than average regional or national. Part of the population may consist of vulnerable ethnic minorities.	Close or equal to the regional or national average.
Level of dependency on resources managed by the site.	A large part of the population depends upon local resources for food security, such as NTFPs, local water resources, slash and burn agriculture.	The share of population critically dependent of natural resources is lower. The income base is more diversified.	Most of the population is integrated in other regional economic flows, or secure agricultural activities.
Dependency on projects managed/offered by the site.	Social projects or transfers managed by the site are a major source of	Social projects or transfers managed by the site are an additional income	Social projects or transfers consist of an additional income for a small

Parameters for clustering	High / Critical	Medium	Low
			
	income for a large part of the population (e.g. PFES).	for a relatively large part of the population and/or important for a small group.	group. Overall, the importance may be marginal.
Conflicts or disagreements in the past between site staff and community members.	Conflicts were or are regular and/or long-lasting and/or unresolved.	Conflicts were or are rare and/or punctual but may still be unresolved.	There were or are no conflicts or these date back a long time and have been solved.
Level of restriction of site management.	The population occupies an area and/or is dependent on an area where resource use is forbidden and/or highly restrictive.	The population lives adjacent to and uses an area where resource use is forbidden and/or highly restrictive.	The population occupies areas where resource use is allowed and/or is dependent on other areas without restrictions.
Relevance of the community for management planning	=>2 High =<1 Low	=<2 High =<2 Low	=>2 Low =0 High

3.2.2 Design socially acceptable management objectives

The perceptions of stakeholders and the impacts perceived should be considered when defining the management objectives of the PA. Following aspects should be considered:

- Through the analysis of stakeholders' expectation, impacts perceived, and past conflicts, systematize and cluster stakeholders objectives in terms of:
 - The amount of stakeholders' objective with similar goals
 - The relative importance of these goals for each stakeholder
- Identify all cases in which stakeholder expectations are in conflict with the management objective of PA management, or where there are possible synergies between the PA management goals and stakeholder goals that could be potentiated.
- Rank management objectives according to their priority as understood by PA management staff. Evaluate the hierarchy of objectives and seek to consider the different expectations of stakeholders whenever possible.
- For cases where stakeholders' objectives are incompatible with primary management objectives, evaluate possibilities to compromise or negotiate with relevant stakeholders. Design an action plan (define actions, responsibilities, and timelines) to address the issue, commensurate to its level of complexity.

- For particularly complex and long-term issues, evaluate different scenarios and implications in terms of cost-benefit (e.g. what is the most likely outcome in 10 years if nothing is done vs. if strategy A or strategy B).

Table 8: Objective hierarchy and possibilities of commitment

Management objectives as defined by PA staff	Ranking of objectives by PA management	Impact of the main stakeholder objectives on management objectives		
		Community A	Local authority	Mining company
Habitat and species management	Primary	Negative: Poaching		Negative: Seeks to influence policy makers to prolong concession in the PA
Research and monitoring	Primary		Negative: Cut public funding	
Visitor management	Secondary	Positive: Employment opportunities		

3.2.3 Define a stakeholder engagement plan

A stakeholder engagement plan is a formal strategy to engage with project stakeholders, build trust and achieve a cooperative environment. The stakeholder engagement plan should be included in the management plan, and briefly outline the frequency and type of engagement, media, contact persons, and platforms for exchange.

It may only consist of a simple table, however it is important to clearly define the resources this will require to include them in the operative budget. For instance, many PAs have Community Liaison Officers that are continuously communicating with local communities, implementing social projects and coordinating participatory monitoring activities.

Different stakeholders may be engaged in different platforms, as follows:

- **Through input into management plans** constructed within a broader policy process.
- **Through representation on advisory boards** tasked with advising government on policy or management in a particular area.
- **Through inclusion on statutory management boards and commissions:** Many protected areas have advisory boards or community representative committees and similar bodies providing input, commentary or collaboration in management. These vary in the degree of engagement and influence over management.
- **Through participation in community-based monitoring:** Groups and programs, whether community-led or government-led, or mixed may get actively involved to

target certain issues and collaborate with local/regional agencies in data collection, monitoring (e.g. park care groups, ornithological clubs, game associations).

Table 9: Level of engagement according to Dovers et al. (2015)

Timing and regularity	Rationale	Examples
One-off or ad-hoc	For specific purposes that arise at irregular or unpredictable intervals	Consultations over tourism, development proposals, control programs for an unexpected pest outbreak
Regular but occasional	An issue that is not constantly on the agenda but arises with predictable regularity	Review of management plans Evaluation of PFES contracting
Ongoing	Matters that are constantly on the agenda	Visitor experience surveys or feedback sheets Meetings of management or advisory committees Planning with community monitoring/ patrolling groups

3.2.4 Get a broad acceptance public consultation

The predetermined public consultation process includes placing public notices to inform interested parties that the draft plan is available for viewing and commenting.

The notice must also provide following information:

- The deadline by which comments and contributions may be received.
- Indications on channels to provide feedback.
- Contact details of an officer providing assistance or information.

Accessibility to content must be facilitated. The information disclosed must be understandable and available to the range of stakeholders involved. Materials must be adapted to social and financial context of target groups, in order to secure equity in information access.

Several strategies can be used to disseminate the information contained in the management plan among stakeholders, such as:

- Printed, electronic, oral copies
- Scholarly papers and conferences
- Traditional press strategies
- Radio, television broadcasted announcements
- Electronic media strategies: websites, blog entries, social media, e-mails
- Talks, presentations, or briefings
- Workshops aimed at particular targets

For stakeholders such as experts and authorities, sending a note with the draft management plan per E-mail or per post may be sufficient. For stakeholders such as communities, the accessibility to content may be more difficult, particularly when facing budget constraints.

Economic and effective dissemination methods for communities include:

- Radio broadcasts in the local language.
- Selecting one or two “communication officers” per community, conduct a meeting with them to guarantee their understanding of the document and the consultation process, and commission them to act as communication and facilitating agents from within the community.

Box: Principles that should be applied during public consultation

- Identify of all the stakeholders
- Approach stakeholders on the basis of equality and transparency
- Produce informative, clear and user-friendly materials
- Include a variety of culturally appropriate means to seek participation
- Emphasise the draft nature of proposals and be ready and willing to revisit any proposal
- Be free of external manipulation, interference, coercion and intimidation
- Review all the feedback, regardless it is adopted or not
- Feedback the results of consultation to all who commented

3.3 Participatory data gathering methods

Schreckenberget al. (2013) have conducted an extensive review of participatory methods tailored to PA needs. The most important data gathering methods are briefly described below.

3.3.1 Key informants and expert interviews

Recommended for gathering information or enrich existing information on specific topics as laid out in Section 2, or providing a first general idea of the situation of a community.

Interviews with key stakeholders (such as local authorities, community representatives and experts) are usually helpful to gain a general understanding of issues and/or cross-check findings from other sources.

Open questions and semi-structured interviews (i.e. based on an interview checklist) are most useful when there is no previous baseline and the expected answer for the questions formulated are rather unknown. Open questions help yielding unexpected information and have a less noticeable influence in the interviewee’s answer.

3.3.2 Participatory well-being ranking

Recommended for gaining an understanding of local perceptions of well-being

The aim is to divide households (based on a village register) into well-being categories used as a sampling frame for household surveys.

3.3.3 Household surveys

Recommended for socio-economic assessment or perception on PA impact

To assess PA impacts and stakeholder's perceptions, the household interview consists of a questionnaire based on the sustainable livelihood framework with four main sections:

- a. Background information on the interviewee, including name, age, position in the household, ethnic group and well-being group
- b. Identification of significant direct and indirect effects of the PA that local people perceive to generate benefits or impose costs at the community or individual household level, involving:
 - i. Specific issues relating to natural, physical, social, human, and financial/ economic capital;
 - ii. A rank of the relative impact on household well-being
 - iii. An indication of which gender in the household is affected most
- c. A summary of the overall impacts, using several indicators for triangulation, including:
 - i. Rating of overall impact (summarising results of previous section);
 - ii. Comparison of overall impact to livelihood factors and income sources
- d. Opinion survey on attitudes to the PA:
 - i. Is formation of the PA perceived as a good thing?
 - ii. Relationship with PA management authorities
 - iii. Does the PA offer local people a fair deal?

Household interviews can take up to 1.5 hours depending on the experience of the enumerator. The process requires about 2 national researchers with knowledge of the local culture and language.

The participatory data gathering will yield information which will be further evaluated and analysed to feed into the participatory analysis of impacts. The information analysed will enrich many sections of the management plan and be fundamental for the design of socially acceptable management objectives.

This approach may also be used to gather socio-economic data. In this case, closed questions are applied, designed to gather data on demography, wealth, social structures, health, household perceptions, etc.

3.3.4 Rapid Rural Appraisal (RRA)

Recommended for participatory impact assessment

RRAs use set of visual tools but with a different emphasis. RRA focused on studying impact assessment typically use some of the following tools:

- Participatory mapping and transect walks
- Village or intervention timelines
- Seasonal calendars (e.g. of activities, income, expenditure)
- Matrices (e.g. to rank or score the perceived significance of different impacts)

- Spider or radar diagrams (to integrate different measurements of well-being and capture change over time)

BOX: Examples of participatory impact assessment

Catley et al. (2008) provide examples on how to assess impacts during participatory processes, as follows:

- Ranking or scoring: Participants are asked to either rank or score different contributing factors to each impact mentioned, in terms of their importance.
- Tally tables: A number of people are asked to list all the factors that contributed to a particular impact and the responses tallied. Assuming that the frequency of mentions is related to importance, the most important factors can be determined.
- Matrix scoring. A matrix can be used to score the importance of different factors for different impacts.

3.3.5 Focus groups

Recommended for getting an early understanding of impacts, or at a later stage gain in-depth understanding of results from questionnaires or surveys.

Discussions around specific topics (often using an interview checklist) with a small (4–10) group of people, sometimes selected to be representative of certain social groups (e.g. women, elderly, poorer community members).

In planning focus groups, group interactions can strongly affect the responses of the interviewees. Groups should be formed according to the goal of the exercise bearing in mind power dynamics, and with the aim of including the views of the most vulnerable stakeholders, such as women, youth, poor, disabled, or ethnic minorities.

When interviewing focus groups, usually more structured approaches are used, i.e. providing questions with specific procedures to answer them. The answering procedures include individual responses, voting exercises, and agreed-upon single responses for the whole group. The structure allows collecting precise information while being time-efficient, by avoiding open discussions. However, open discussion can be promoted when the topic/situation compels for it.



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