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# 11 Understanding the social context of monitoring

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## **Introduction**

Monitoring has, to a relatively limited extent, been concerned with social context, or the parameters that influence or even direct land use, both socially and economically as well as politically (Lindenmayer and Likens 2010). The focus of monitoring has instead often been the natural environment, based on historical assumptions on the environment as separate from society. Today, however, when the greatest impact on the environmental systems is inflicted by humans, it might not be possible to properly understand the monitored changes without also understanding the land use that affects them as well as the underlying drivers of land use change (see e.g. West 2016). As natural systems become increasingly impacted by humans, understanding social systems will play an increasing role in understanding land use change (e.g. Parr et al. 2003; West 2016).

This chapter aims to illustrate the importance of including social study techniques for the purpose understanding land use, allowing for an extension of the use and applicability of, as well as methods and data available for, monitoring. However, in addressing social issues, there are a number of factors that need to be taken into account. Among these is the need for a thorough understanding of issues relevant to social context and how these differ from a natural sciences context. Natural science may often consider social context in relation to direct participation on an individual level (for instance, in landscape studies, cf. Reed et al. 2016); however, social systems are so complex that it is almost impossible to conceive of them only on this level.<sup>1</sup> Instead, social systems comprise a number of actors from local to regional, national, and international levels – not least the legal drivers that are discussed in chapter 3. Further, social systems are interconnected. This means, for instance, that regulation on a higher level may delimit what can be done at lower levels – and consequently that the understanding of any one of these levels also requires an understanding of the other levels, including how any chosen lower-level case is impacted. Further, the monitoring activity itself is usually initiated and part of a system to inform policy and management (Parr et al. 2003), which is important to understand in order to contribute to it.

To correctly address social issues, it is essential to understand how individual stakeholders relate to each other as well as how they are integrated into different social systems (e.g., Keskitalo et al. 2016). Thus, this chapter will discuss the role of scale, the different actors in social systems, and the linkages between social actors or organizations and land use, while taking examples from different countries. In the chapter, the term *social* is generally applied in regard to social, political, economic, and cultural contexts, while also acknowledging that these contexts have been formed historically.

## Understanding the spatial and temporal scale of social context

Social science generally acknowledges the role of systems beyond the individual in steering individual action, which means that individuals cannot be understood outside their context. Thus, the organizations or institutions they are part of or relate to, which over time may even have formed what different individuals value, should be considered. As a result of this, individuals may also have naturalized certain – organizationally or even nationally used – decision-making procedures or understandings. Seeing them as a given, an individual may not even think to mention them in direct participation. In addition, frequently used terms, such as *environment*, also have no clear, unambiguous meaning but rather reflect a particular or dominant discourse (Parr et al. 2003). Though this may sound abstract, it has extremely practical implications; for instance, an individual may not think to mention all factors that might play a role if they are asked what the influences on their land use are (e.g. Manicas 2006; Thornton et al. 2012). Instead, it may be necessary to tailor one's questions to understand what they usually do, supplementing this knowledge with studies of policy or legislation, or the like (for instance, literature reviews).

In social science, a number of different terms can be used to address the multiple social functions that individuals or organizations can serve. The wider focus takes in not only stakeholders who are seen as affected (“holding a stake”) in an issue but also what actors may influence the issue. Who are the actors who can actually make decisions that influence the issue? The number and variety of groups that become relevant to, for instance, land use change thereby increase substantially from those included in the narrower focus on only those local stakeholders directly affected by an issue. Thus, there is much more to social context than merely acknowledging that a variety of actors may be stakeholders (cf. Keskitalo 2004).

Taken together, this means that applying direct participation methods among stakeholders is not sufficient for understanding social context – either on a sector level or elsewhere. What is more, the number and variety of groups that play a role in influencing land use change are seldom only local. More purely natural science studies and long-term ecological research (LTER) working at local scale may sometimes include only local actors, with a focus on, for instance, local co-management (cf. West 2016; Dick et al. 2018). However, seen from a decision-making perspective, very few decisions that affect larger-scale land uses are actually made at the local level. Though the local level, or any specific local case, may be one where problems manifest themselves, the solution may not necessarily be local (e.g. Keskitalo et al. 2016). Local co-management or local land use decision making is instead necessarily governed by, and will potentially also need to be analyzed on, higher levels. Most clearly, this can be illustrated in the types of legislative and policy drivers of land use also discussed in chapter 3.

## Legislative and policy drivers of land use

Land use is typically governed through national (sometimes provisional) frameworks of legislation, regulation, policy, and practices reflecting a historically developed system of rights distribution. As historically formed in the context of different interests, it is often not “neutral”: it may, for instance, favour one land use over another. Legislation as well as practices are also by their nature often difficult to change. Agreement and, indeed, political push from several types of actors on several scales, not least the national scale, may be needed to induce change. It is also often recognized that larger changes need to

be seen as urgent and topical, as well as needing to be pushed by different influential actors and with available solutions, if they are to take place (e.g. Kingdon 1995).

Regulation and policy, though potentially easier to shift than legislation, are also often in line with the general logics and assumptions that permeate legislation. Practices, or “the ways that people do things”, may sound simple to change but typically are not, because they are often historically developed and in line with other logics in the systems. They are often naturalized and taken for granted, which means that it is often difficult to conceive of changes to them (e.g. Thornton et al. 2012). Because of this, it is often also not possible for only some actors to change. Other actors and related systems or sub-systems that still act to preserve their original purpose or with the assumptions they have naturalized may not even accept or see changes as relevant and may even make the actors who are making changes seem incompetent or unknowing (e.g. Liebowitz and Margolis 1995).

Problems that manifest locally may also be created at higher levels because, for instance, international trade and market benefits may create the conflicts around land uses that manifest themselves locally (see Text box 11.1). In this regard, change, or solving a land use change problem, can seldom only be local but is rather embedded not only in legislative drivers such as European Union (EU) and national (and regional) legislation but also in policy and practice.

**Text box 11.1: The role of international trade in the local spread of invasive species**

Not only legislative drivers but also how an international or national organization is set up may influence the way in which biodiversity protection can be managed. In particular, international trade and World Trade Organisation (WTO) rules mean that it is difficult to exempt trade in plants as long as it is not proven that the specific plant and location of origin (for instance, the soil that accompanies the plant) may result in invasive species spread. This means that even if different actors want to limit the trade in live plants, they still need to work within WTO rules (Pettersson and Keskitalo 2012; Pettersson et al. 2016).

This was a limiting factor when the Montescarlos Declaration, forwarded by scientists, suggested that trade in live plants be halted. What was not recognized here was that no national trade was permitted to change on its own but was made subject to regulation at other – higher – levels in the system (cf. Mackay et al. 2017).

As a result, managing invasive species spread may in some cases need to place more emphasis on monitoring and detection as well as persuading people not to buy plants in soil from foreign countries (but instead, for instance, grow from seed or not grow at all). In this way, managing invasive species spread may, in some cases, rely more on softer or more localized actions (e.g. Klapwijk et al. 2016; Keskitalo et al. 2018).

The role of international trade in the local spread of invasive species can be seen as an example of how a trade regime that originally formed primarily for trade purposes can impact – and potentially also limit – emerging areas that were not even part of the original concern in developing the trade regime. It may then also limit effective larger-scale change on plant trade.

As a result, a range of actors, owners, and interest groups, from large-scale multinational companies to small-scale owners and users, may potentially influence a solution. These actors and logics – what they organize for and how they define themselves – may also greatly differ between countries. For instance, comparing an industry sector in one country with the same sector in another country, even if the labels used are the same, may not be possible. Due to the different history of forest ownership, for example, a comparison of specific forest owner categories between countries may have to include clarification of the actual meaning in each case (see Text boxes 11.2 and 11.3).

**Text box 11.2: Forest logics: forest industry and forest owners in Sweden in comparison with other countries**

Forestry is an industry that has developed largely within a national context, to the extent that forest use and the role of forestry in different countries will differ considerably. Influenced but not completely explained by differences in natural prerequisites, such as growing conditions, transport facilities by waterways, and frozen ground, the industrial structure has established a typical logic and logistic. Much has been written about how individual or family forest owners in Sweden, who possess half of the country's forest land, are far more integrated in a forestry framework than forest owners in other countries (Keskitalo 2017). One reason for this is that many of them, through membership in one of the major forest owner associations, are also part owners of wood processing industries and have access to a variety of management and advisory services (Lidestav and Arvidsson 2012). In addition, the large forestry corporations offer a range of forest services to both organized and non-organized forest owners to supply their industries. This interdependence between large-scale and small-scale forestry is further amplified through the current (but changing) forest policy and the authority (i.e. the Swedish Forest Agency) whose task is to both implement the policy and monitor its outcome.

Today, it is possible to purchase most services needed for forestry, to the extent that even inexperienced, sometimes called “new”, forest owners are able to carry out forest management. Because data on forest owners and holdings are available through Sweden's well developed forest data services, the service-offering organizations can search out and approach the new forest owners (e.g. Andersson et al. 2020). Through this system, forest management in Sweden has naturalized an essentially even-aged forest regime, with largely planted forest and large-scale final harvest (clear-cutting). The harvesting operations are largely carried out by contractors and mechanized methods. In planting and pre-commercial thinning, the methods are manual or motor-manual, meaning that forest owners can still engage in this work, although these services can be also purchased (Lidestav et al. 2017). In Sweden, forest ownership is also recognized as a primary role, with land management based in forestry, whereas in other countries forest ownership may often be seen as secondary to agricultural management, with forest management assumed to be only on a small scale (Keskitalo et al. 2017).

Though the Swedish forest owner may thus be far from typical, there are in fact no “typical” forest owners because the category differs so much between countries. The context of forestry also varies: the role of forest owners' associations

and the economic role of forestry, in a European context, are perhaps most pronounced in Sweden and Finland (Keskitalo et al. 2017).

However, taking this situation into account means that to understand much of forestry in Sweden, we need to understand it on both the local level and in the institutional or organizational context, as well as within the scope of the service provision that exists. For instance, it would be possible to cover all of the main organizational actors in Swedish forestry through qualitative interviews with some 15 actors (see Andersson and Keskitalo [2018] for an example). These actors include the large national and multi-national forest companies, forest industries and forest owners' associations, and forest management organizations. This means that qualitative interviews, for instance, can be a crucial instrument in understanding land use decisions (see chapter 14 on interview methodology).

### **Text box 11.3: The meanings of forest and ownership are ambiguous**

*Forest and ownership* may appear to be straightforward concepts; however, the understandings, definitions, and categorizations of these terms are often guided by the purpose for which they are used (Weiss and Nichiforel 2019). This means that the cross-country comparisons and overviews become complicated but also that longitudinal studies within a country can be challenging. In both cases it is important to be aware that concepts are not always applied consistently. In Sweden, for instance, forest is typically understood as “productive forest land”; that is, land that can produce an average of 1m<sup>3</sup> of timber per hectare per year. This corresponds to 23 million hectares, or 82% of all forest land according to the Forestry Act definition, which then also includes 5 million hectares of “unproductive forest land”. Because harvesting is not allowed on this land, it might just as well have been labelled “protected forest land”; however, along with “other wooded land”, it is regarded as unproductive. With history in mind, the Swedish timber production-oriented definition has been useful, but it apparently also has some drawbacks in relation to international reporting on protected areas. Yet, international reporting on forest available for wood supply (FAWS) – that is, similar to the Swedish definition of productive forest land – is increasingly emphasized, and a definition of FAWS has been established for harmonized reporting (Alberdi et al. 2016).

This means that it is important to understand this variety, where also “[f]orest ownership means that different tenure arrangements are based on various combinations of property rights, which can be attributed, formally or informally, to the legitimate holder of the resource or to other resource users” (Weiss and Nichiforel 2019). The most basic categorization and assessment used regarding forest ownership draws a distinction between public and private. However, property rights theory distinguishes five legal ownership categories, also described as “resource regimes”: state property, municipal or communal property, common property, private property, and open access property. Depending on the government, statistical bureau, or researcher in question, the resource regimes

are interpreted and used differently. For instance, in Bulgaria, the Czech Republic, and Latvia, municipal forests are categorized as private, whereas in Estonia, Poland, and Romania they are classified as public. The significant differences in the understanding of private forests in Europe are illustrated in a recent comparative property rights analysis by Nichiforel et al. (2018). Furthermore, property can be simultaneously owned by several entities, because property ownership is organized through a “bundle of rights” giving the legitimate holder of the resource or other resource users access rights, withdrawal rights, management rights, exclusion rights, and/or alienation rights (Schlager and Ostrom 1992). This means that not only what forest is but what owners can do with it in different contexts will impact who can be asked about what – for instance, in a survey – but also what recommendations based on monitoring may be relevant.

In addition to this, social studies need to take into account the temporal as well as geographical scales. Temporal scale can be seen as being included particularly in disciplines such as history, anthropology, and archaeology. However, it is also well known in monitoring that the way in which specific land uses have developed is often largely dependent on historical factors. For these reasons, it may be very difficult to develop not only monitoring regimes across countries but also comparative studies – for instance, surveys (chapter 13) – across countries. Thus, for the purpose of land use-related research, it is crucial to understand the ways in which different systems have developed in different ways in different countries. Any attempt at direct comparison that ignores differing understandings or definitions of terms (such as *forest owner*) may in fact be like comparing apples to pears (e.g. Keskitalo 2017; see Text box 11.3).

### **Tailoring the means to the goals**

To understand the social side of land use means to be aware of the properties of the systems as they have been described above and then to tailor the means to the ends. Though choices of scale or level in the social sciences, both geographically and temporally, are often made on a disciplinary basis, for monitoring purposes the choice of what levels to focus on – as well as what stakeholders to include – might need to be based on what groups most influence specific choices of land use. The forest management in a given country might then, for instance, also need to include the industry and national or even international levels (as shown in Text Box 11.2), whereas for local cases greater focus may be placed on local forest owners. However, the local case might also need to include a focus on the policy and legislative drivers and actors at higher levels.

To take into account this breadth, the study of social systems comprises both quantitative and qualitative approaches, which are both useful and equally valuable, and the choice (or combination) of which should depend on what one wants to study.

The following chapters in this book will provide examples from different types of social science studies. However, beyond the more specific methods described there, to develop an understanding of the systems, literature review will generally be important to know what has been written on the land use case and sector in focus. Policy documents by the different organizational actors can also be a useful source, although these are used more by some disciplines than others.

Quantitative approaches are regularly described in the literature as being more useful when one knows the exact parameters one is interested in, when they are clearly measurable, and when one knows how to obtain information about them. This would mean that quantitative approaches may be more useful when, for instance, the term or information sought is identified in the same way among those subject to investigation (including potential lay subjects) and when it is possible to measure clearly using more limited parameters. Thus, the following chapters will discuss, among other topics, the use of register data to understand property owners (chapter 12). Another common approach to gaining statistical information on groups is the use of surveys. These regularly aim at statistical sampling (but can also be used for smaller populations) and can generally be a way to understand priorities; for instance, in land use across a population (chapter 13).

Along the same lines, qualitative approaches are more usable when one is dealing with issues that may be identified differently by different participants in or subjects of research, who may then speak about them in different ways. A later chapter will discuss the use of interviews to obtain direct information from stakeholders in a way that, for instance, strategically selects groups or individuals who are the most relevant to a particular study (chapter 14). The focus here is not on generalization to a population but rather to theory; that is, on identifying the main factors that, for instance, influence land use decisions. For this reason, qualitative studies can be undertaken prior to quantitative studies, to ensure that all of the relevant factors one wants to cover in a larger survey are included and not missed (which might otherwise bias the results). However, qualitative studies can also be undertaken to gain a deeper understanding of specific experiences – and what is meant by specific factors, for instance – than quantitative studies allow for.

Text box 11.4 discusses the choice of approaches depending on what one wants to study with an application in the Swedish case, and Text box 11.5 contrasts the Swedish case with the Italian case in relation to how the forestry sector is organized.

**Text box 11.4: Designing a study of the forestry sector in Sweden: different approaches depending on aim**

In the Swedish case (see Text box 11.2), the forest industry sector can be seen as comprising relatively few organized actors with great influence. Because these are highly organized, they can be understood by reference to legislation, regulation, and policy. They also produce their own policy papers that can be analyzed. The small number of actors means that selected functions can be interviewed in their entirety (full study of all relevant interviewees/functions in the country). Such a study has been undertaken by, for instance, Andersson and Keskitalo (2018).

By contrast, the small-scale private forest owners in Sweden are many and varied. Owning about half of all Swedish forest, the ways in which forestry is practised on their properties can potentially be studied or understood with reference to forest industry practices (as discussed in Text box 11.2). Their roles can also be understood with reference to legislation, regulation, and policies in which their roles are determined, as well as in relation to practices influencing land use through, for instance, questionnaires or interviews. Official data may be available in registers (see chapter 12), and questions addressed to the forest owner



could be asked in generalized questionnaire studies. However, because the variation among forest owners is considerable, some may not even see themselves primarily as forest owners, meaning that some land use descriptors may not be familiar to them (see chapter 13).

If we are instead interested in the values forest owners hold, why they retain their properties even if they do not live on them, or the like, we may – for instance, by drawing from potential registers of forest owners – design interview studies for a maximal diversity in a given region (see chapter 14). An example of an interview study targeting individual forest owners in two areas of Sweden, with maximum variation in each, is Bergstén and Keskitalo (2018).

### **Text box 11.5: Contrasting the Swedish and Italian forestry systems**

If Sweden is very much a forestry-oriented system, Italy is perhaps less so. Forest holdings are regularly far smaller there than in the Swedish case and are perhaps much more often focused on values other than forestry per se, such as the food value of forests. The economic role of forestry in the country's gross domestic product is also comparatively far smaller, which has perhaps historically provided less of an impetus for developing the full forestry production system that is apparent in Sweden (see Text box 11.3; cf. Keskitalo et al. 2013, 2015).

As a result, developing an understanding of the forest-relevant occupations, forest use and values people may attach to forest, as well as the organizational context that governs this, might need to relate to far different actors in Italy than in Sweden. Social study in this context would need to be aware of these differences and not assume that solutions or policy recommendations in one context would be transferrable to the other – as is also illustrated in other chapters in regard to the integration of monitoring systems across countries.

### **Summing up**

This chapter has been dedicated to showing why it is important to understand the social context with regard to, for instance, scale or variation between countries or land use systems in how they have developed. Stakeholders often cannot simply tell you about their system, because they may have naturalized it and will not know what to say. Social scientists, on the other hand, specialize in the description and analysis of these types of systems and in drawing out the type of information people within the systems may simply see as given. Direct stakeholder interaction without connected social analysis is thus no substitute for comprehensive social analysis using the tools that will be discussed in the following chapters in this volume. Designing social studies – or using existing social data – would thereby preferably take in knowledge of land use change drivers from the variety of social levels that influence the case. Designing this type of study or identifying the relevant social data would also need to be based on an understanding that one case may differ greatly from another.

## Key messages

- It is important to understand how land use is governed and where decisions are taken to include all relevant levels for understanding land use. Local stakeholder studies should thus often be added to by including information from larger-scale studies and contexts.
- Cases will often vary widely due to their historical development. This both makes it difficult to design comparative monitoring programmes and means that social study or country comparisons need to be sensitive to how different terms are used in different countries (to avoid comparing apples to pears) and to how social context and land use drivers may differ. Being aware of these differences is key to developing comparative approaches that are sensitive to these variations.
- Making use of social studies and data may include reviewing what micro- or statistical data may be available, as well as what survey or interview data in specific areas may be available or working with social scientists in different disciplines to design studies.

## Study questions

- 1 What are the types of factors one would need to take into account when designing a study of biodiversity in forests, to cover both spatial and temporal levels or scales from a social perspective?
- 2 Why is it important to not only speak with local stakeholders to understand what actions could be undertaken, for instance, to increase biodiversity?
- 3 Why it is important to be aware that basic concepts – for example, *forest* and *ownership* – are not always understood in the same way by different stakeholders or applied consistently in different surveys or monitoring programmes?

## Note

- 1 This type of problem has been highlighted by Beck (2011) and Durant (2015), among others.

## Further reading

Beck, S. (2011) Moving beyond the linear model of expertise? IPCC and the test of adaptation, *Regional Environmental Change* 11(2), 297–306.

**This article problematizes some of the assumptions that have often been made on social knowledge in relation to decision making.**

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