



# Principles for a landscape approach

Project title: Translation of OAP activities into acknowledged landscape approaches



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## Introduction

In this brief guide, the “landscape approach” is explained in the context of the specific project and a number of aspects that are of particular importance for the approaches followed in the different case study areas are then analyzed in more detail. We have tried to make this small introduction accessible to wider audiences. Along the text a number of publications are added to provide guidance and further reading. The authors are also available for further clarifications and explanations.

## Why do we need a landscape approach?

Landscapes are the interface of nature and society and express a tight interplay of physical features of the human environment with social structures and human ideas. The European Landscape Convention has defined it as “an area, as perceived by people, whose character is the result of action and interaction of natural and/or human factors” (EC 2000:3).

The term “landscape” has been used in discussions on where exactly nature ends and cultural landscape starts and how culture should be understood, whether it is human material input, valued environment, or something more. Today, the scientific discourse mainly revolves around four concepts:

1. Landscape as purely natural phenomenon,
2. Landscape as nature with human artifacts,
3. Landscape as cognitive representation of a space, and
4. Landscape as totality including both material natural and cultural dimensions, i.e., coupled social-ecological interpretation.

The spatial arrangements and governance of a landscape contribute to its unique character. Within a landscape, there can be various land use types, such as agriculture, forestry, biodiversity conservation and urban areas.

More and more often, different actors in areas, such as private farmers, forest owners and public agencies are finding it difficult to cultivate, conserve and manage common and often scarce resources without cooperating with other local actors. The objectives of the actors that manage these land use types may be very different, e.g. biodiversity conservation, agricultural productivity or livelihood security. According to Denier et

al. (2015), incorporating and planning at the broader landscape scale offers the opportunity to address a far greater composite of factors across sectors and stakeholders from the outset, which can increase the probability of successful outcomes.

## What is a landscape approach?

According to Denier et al. (2015), a landscape should be defined by stakeholders at a scale that is small enough to maintain a degree of manageability, but large enough to be able to deliver multiple functions to stakeholders with different interests. Its boundaries are set by experts and the stakeholders involved in landscape management, and may correspond to, or be a combination of, natural boundaries, distinct land features, socially defined areas such as indigenous territories, and/or jurisdictional and administrative boundaries.

Overall, six areas of landscape research emerge that shape the “landscape approach”:

1. Landscapes are shaped by the connections and disconnections between people and their environment;
2. Landscapes exhibit important biophysical structures and land use intensities;
3. Landscapes have experienced long-term histories, which have left land-use legacies that critically determine the functions and values of many contemporary landscapes;
4. Landscapes are undergoing change at different rates, with a multiplicity of driving forces, processes, actors, and outcomes;
5. Landscapes entail broad and diverse sets of values and meanings for people; and
6. Landscape governance can follow a preservation or a stewardship approach, with the latter becoming increasingly influential.

Bürgi et al. (2017) develop a “learning cycle” (Figure 1) that consists of four Pillars. Pillar 1 aims at understanding landscape functions based on analyzing composition, configuration, management and social capital of the landscape and the relevant land uses, by linking local ecological knowledge provided by local land users with institutional knowledge by government authorities and state of the art ecological knowledge derived from the scientific community.

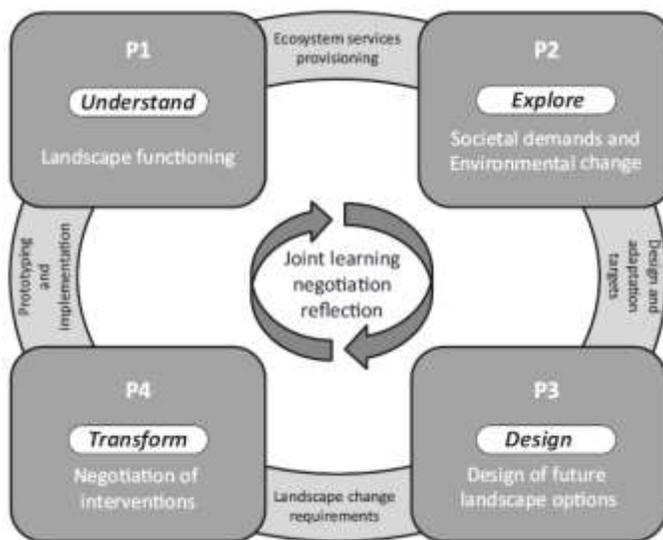


Figure 1. A learning cycle for Integrated Landscape Management (Bürgi et al., 2017, p. 4)

Pillar 2 aims at exploring societal demands and environmental change. Pillar 2 builds on participatory approaches to determine stakeholder demand and preferences for the services provided by the landscape, ranging from local land users, to government authorities providing information on regional and national priorities and to development agencies.

Pillar 3 refers to the design of future landscape options that identify future threats and potential responses to contextual changes (urbanization, market integration, etc.), model-based optimizations to identify the options space and minimize tradeoffs between the different functions of the landscape and a stakeholder co-design process, in which representatives from all stakeholder groups are involved in scenario building facilitated by foremost methodological input provided by the scientific community. Pillar 3 results in a discussed and co-designed set of options of landscape plans and interventions that aim at meeting the societal demands for alternative landscape development options, land change requirements and related specific interventions, which serve as input in Pillar 4.

Pillar 4 aims at transformation based on negotiated interventions. It takes the design process from Pillar 3 one step further by creating an enabling environment for transformations towards implementing sustainability solutions.

Within this context, the so-called Integrated Landscape Management (ILM) approach has been developed, which builds on four central characteristics:

- a) it promotes multifunctional land uses and fulfills a range of land use objectives, which means that we need to make sure that we take into account different and at times competing land uses or how different actors of/in the landscape expect and value different “functions” of the landscape, e.g. production space, recreation, identity, etc.;
- b) it works at the landscape scale and includes deliberative planning and co-design of management approaches, which scale is to be understood as the one that defines the particular landscape as a concrete socio-ecological unit and therefore it can differ among different landscapes, in fact one of the basic tenets of the ILM approach is that the scale of consideration *should* be flexible to the case study, while co-design indicates that both top-down and bottom-up approaches should be considered and in general local opinions and knowledge should matter in management decisions;
- c) it incorporates inter-sectoral cooperation and the alignment of activities, policies, or investments, acknowledging conflicts and interference with other policy sectors and actors; and
- d) it is participatory, in that it supports collaborative management within a social learning framework.

It is important to note that all these areas are partly overlapping and interconnected, but each one has a particular research focus. In this project, the “landscape approach” can mean many different things and indeed will be treated differently in the different case study areas. In the following sections four different aspects of this “landscape approach” will be presented that are considered of particular importance for the purposes of this project, namely how the so-called “traditional” land management practices contribute towards biodiversity and if and how these practices can be adapted into current socio-ecological systems. These aspects are:

- a) Dynamics of Landscape and of the practices that change landscapes

- b) Socioeconomic and policy drivers of landscape changes
- c) Landscape Governance - stewardship
- d) Multifunctionality of landscape and of its uses/users
- e) Landscape perceptions as a tool for acknowledging and recording different uses and values of the landscape

For each of these a very brief introduction of their content is followed by a section that discusses issues that need to be taken under consideration for the project, where very practical issues for these dimensions are presented and advice is provided.

*Does this mean that all approaches in the different areas have to be the same?*

No, not at all. In fact, the “landscape approach” allows a very high degree of different approaches, both theoretical and practical. This is precisely the purpose of this short leaflet: to demonstrate that despite these differences, all four case study areas and the approaches followed there share a common structure. This common structure will allow comparison among these sites and these approaches in the end with the use of the landscape approach guidelines.

*Does this mean that all approaches are “landscape approaches”?*

No, not all. As already discussed, the “landscape approach” requires a number of conceptual, theoretical and practical considerations. In practical terms, the dimensions that follow are what we believe that is required for the particular case studies and the approach that each partner adopted to be branded as “landscape approaches” in the end. In fact, we would like to think that these dimensions and the practical issues discussed will help the different partners to enrich their research and management plans and provide a number of tools that can be used. Further clarifications can be provided on demand.

Some papers that clarify the context are:

Bürgi, M., Ali, P., Chowdhury, A., Heinimann, A. Hett, C., Kienast, F., Mondal, M. K., Upreti, B. R., and Verburg, P. H. (2017) Integrated Landscape Approach:

Closing the Gap between Theory and Application, Sustainability, 9, 1371, doi: <https://doi.org/10.3390/su9081371>

Denier, L., Scherr, S., Shames, S., Chatterton, P., Hovani, L., Stam, N. 2015. The Little Sustainable Landscapes Book, Global Canopy Programme: Oxford, available at: [http://globalcanopy.org/sites/default/files/documents/re-sources/GCP\\_LSLB\\_English.pdf](http://globalcanopy.org/sites/default/files/documents/re-sources/GCP_LSLB_English.pdf)

Mann, C., Garcia-Martin, M., Raymond, C.M., Shaw, B.J., Plieninger, T. (2018) The potential for integrated landscape management to fulfil Europe's commitments to the Sustainable Development Goals, Landscape and Urban Planning, 177, pp. 75-82, <https://doi.org/10.1016/j.landurbplan.2018.04.017>

Sayer, J., Sunderland, T., Ghazoul, J., Pfund, J.L., Sheil, D., Meijaard, E., Venter, M., Boedhihartono, A. K. Day, M., Garcia, G., van Oosten C., Buck, L. E. (2013) Ten principles for a landscape approach to reconciling agriculture, conservation, and other competing land uses, PNAS May 21, 2013. 110 (21) 8349-8356; <https://doi.org/10.1073/pnas.1210595110>

### **Aspect 1: Dynamics of Landscape and of the practices that change landscapes**

Although the different case study areas are diverse in terms of landscape structure and functions, we need to capture the dynamics of the different landscapes within similar timelines. For most of the Mediterranean, the 1950s are considered as a time when urbanization and population movement patterns on one hand and rapid changes in the intensification of agricultural systems (and those of animal husbandry) radically transformed rural landscapes all over the Basin. With this starting point for all case studies, different periods of higher importance for individual areas will provide a picture of landscape change dynamics, including the identification of the actors that were involved in each area and period (if possible). It is possible that past developments need to be taken into consideration for the different areas and landscapes and this is acceptable, but at least a basic reference period should be the same among all landscapes. Further identification of particular practices that these actors employed to shape and/or change the landscape will be of great use for a fuller visualization of the changes.

❖ *Issues that need to be taken under consideration for the project*

The identification of the different periods is not always easy of straightforward and great care should be taken to avoid over-simplification on one hand, but also to document periods of higher rates and/or importance for the particular area. This documentation can be based on (a) land use – land cover data that can be used to compare land cover and landscape structure changes; (b) official statistics at the lowest spatial – administration level available; (c) published research and unpublished or so-called “gray” research and studies. Decades are typically considered as good approximations for the smaller time units of these changes. An example of such timelines for different landscapes with the use of different types of data can be found in this paper:

Bürgi, M., Bieling C., von Hackwitz K., Kizos T., Lieskovsky J., Garcia-Martin M., McCarthy S., Muller M., Palang H., Plieninger T., Printsman A. (2017) Processes and driving forces in changing cultural landscapes across Europe. *Landscape Ecology*, DOI:10.1007/s10980-017-0513-z

## **Aspect 2: Socioeconomic and policy drivers of landscape changes**

The identification of drivers of landscape change is of major importance to unravel past changes and predict future ones, but the literature highlights the difficulties involved, in both the identification of actors and the interplay between proximate and distant drivers of landscape change and of “slower” (typically social) and “faster” drivers. Let us explore some of the complexities:

According to Hersperger et al. (2010) the three core components of any model we use to make sense of land use and landscape changes are: driving forces, actors, and land change. Driving forces form a complex system of dependencies and interactions and affect a whole range of temporal and spatial levels. It is not easy to analyze and quantify their contribution to landscape change. Five groups of driving forces are identified: political, economic, cultural, technological, and natural driving forces, which are made into six if population (or demography) is treated as a separate group and not part of the cultural driving forces group. According to Plieninger et al.

(2016), driving forces can be also distinguished between proximate and underlying drivers. Proximate drivers refer to human activities at the local level that result in landscape change, such as agricultural expansion or extension of settlements. Underlying drivers comprise the fundamental social and natural processes (e.g. human population dynamics, agricultural policies, markets, or culturally embedded attitudes and beliefs) that underpin the proximate drivers and either operate at the local level or have a more indirect impact from the national or global level.

These driving forces act upon actors. Actors make decisions, act accordingly, and influence other actors and the environment with their actions. Actors can be individuals, agencies, and institutions, representing the whole range of organizational scales. Actors can be distinguished between (a) those that affect driving forces (e.g. policies and markets, administrative entities, etc.) and are associated with underlying driving forces; and (b) actors that directly change land (e.g. farmers, industrialists, people that build in the land, etc.) who are associated proximate driving forces. The same actor can of course, be an actor in proximate causes (e.g., as an urban investor) and an actor of underlying drivers (e.g., through his/her political activities in the context of designing planning regulations). Generally, actors are to some degree autonomous and therefore control their own actions. They often share an environment through communication and interaction.

All these highlight the inherent complexity of unraveling underlying and proximate drivers of change. We cannot cover all driving forces and sometimes it is not even possible to assign specific driving forces to actors. It depends on our research goals, the temporal and spatial scales and the availability of data. Some concrete examples of the limitations and of possible ways forward are presented by Kizos et al. (2018).

❖ *Issues that need to be taken under consideration for the project*

The identification of drivers of landscape change is even less easy than that of the periods of landscape change. Typically, we use both expert analysis (in which experts suggest driving forces that can be associated with landscape changes) and ask the actors and the stakeholders of the forces that they consider as more important. It will also

be very useful to compare these drivers with the actual periods of changes that are identified.

Policies, spatial and agricultural ones are focal points here, but other drivers should not be ignored. Typical pitfalls are:

- a) To overestimate the importance of policies. Policy makers have typically a lot of faith to their policies and tend to overestimate their impacts. We should be asking questions such as “what would have happened if this policy was not in place?” and try to link policies together as they are in real life,
- b) To underestimate underlying drivers when discussing with direct – proximate actors, as these actors tend to have a rather limited view sometimes and focus too much on real or supposed particularities of the area; the result is that they consider typical changes and driving forces common for many areas as exceptional for their case only.

Some relevant papers are:

Hersperger, A. M., M.-P. Gennaio, P. H. Verburg, and M. Bürgi. 2010. Linking land change with driving forces and actors: four conceptual models. *Ecology and Society* 15(4):1. <http://dx.doi.org/10.5751/ES-03562-150401>

Kizos, T., P. H. Verburg, M. Bürgi, D. Gounaridis, T. Plieninger, C. Bieling, and T. Balatsos. 2018. From concepts to practice: combining different approaches to understand drivers of landscape change. *Ecology and Society* 23(1):25. <https://doi.org/10.5751/ES-09910-230125>

Plieninger, T., Draux, H., Fagerholm, N., Bieling, C., Bürgi, M., Kizos, T., Kuemmerle, T., Primdahl, J., Verburg, P.H. (2016) The driving forces of landscape change in Europe: A systematic review of the evidence. *Land Use Policy*, 57:204-214., DOI: <https://doi.org/10.1016/j.landusepol.2016.04.040>

### Aspect 3: Landscape Governance - stewardship

Another issue of great importance is the landscape governance framework. By landscape governance we refer to a set of rules (either explicit policies, but also implicit sets of rules, behaviors and cultural norms) and the decision- making processes of public, private and civic sector actors with stakes in the landscape that affect actions in the landscape (adapted from de Graaf et al., (2017)).

Institutional arrangements in landscape governance vary widely from very top-down regulated landscapes, to uncoordinated institutions that issue conflicting policies, there are very diverse sets of actors, policy makers and styles of local participation in landscapes worldwide. According to Kozar et al. (2014), there is no single formula for “good” landscape governance, but it is inherently multi-level, multi-sector and multi-actor in nature, and therefore requires strategies and mechanisms for aligning rules and coordinating decision-making processes among these different levels, sectors and actors. So, landscape governance is not necessarily a defined process where all actors are known and they know each other, but often it may seem like a chaotic and uncoordinated set of actions of different actors, both distant and local ones.

In any landscape, the interests of stakeholders can both connect and conflict, often at the same time. This is exactly why the landscape approach may be very useful for finding, highlighting and understanding conflicts between stakeholders and actors. The literature from different socio-economic, policy and stakeholder participation settings around the world seems to point that the higher the level of local involvement in landscape governance, the more “successful” in terms of the goals determined.

Landscape stewardship is another idea that has gained importance in theory and practice. It introduces the idea of landscape “stewards”, people or groups of people that manage bigger or smaller parts of the landscape according to a management idea or ideal. Policies often support this type of stewardship by providing incentives or financing stewardship and/or stewards.

#### ❖ *Issues that need to be taken under consideration for the project*

As already discussed, the issue is of great importance. The diversity of the different cases in the case studies of the project does not allow again a uniform approach, but there are some basic steps to be taken:

- First, we need to describe the process: who participate and how.
- Second, we need to define the spatial levels of each of those that participate and the power over the final decisions.

- Third, we need to consider a more representative and inclusive governance structure (this is an optional step, depending on the objectives of the landscape approach in each site)
- Fourth, we need to consider what “landscape stewardship” would mean in the particular socio-ecological context of the area.

These are issues that need to be addressed in the greatest detail possible.

Some typical pitfalls in the process are:

- (a) Stakeholders that have very little power over the decision and/or the process may be underrepresented in all types of meetings, workshops, research we will do;
- (b) The opposite is true for actors and stakeholders that may have a lot of power over decisions for landscape governance. They should be included, but effort should be made to make the process more inclusive to all stakeholders.

Stewardship may be related in the end with some form of policy making, e.g. financing “stewards” (e.g. farmers, foresters, etc.) to conserve some features of the landscape through their actions or practices. This should always be placed within the broader landscape governance framework.

Some relevant papers are:

de Graaf, M., Buck, L., Shames, S., Zagt, R., (2017) Assessing Landscape Governance: A Participatory Approach Manual, Tropenbos International and EcoAgriculture Partners, available from: [https://www.researchgate.net/publication/322209661\\_Assessing\\_Landscape\\_Governance\\_-\\_a\\_participatory\\_approach](https://www.researchgate.net/publication/322209661_Assessing_Landscape_Governance_-_a_participatory_approach) [accessed Jul 27 2018]

Kozar, R., L.E. Buck, E.G. Barrow, T.C.H. Sunderland, D.E. Catacutan, C. Planicka, A.K. Hart and L. Willemen. 2014. Toward Viable Landscape Governance Systems: What Works? Washington, D.C.: EcoAgriculture Partners, on behalf of the Landscapes for People, Food, and Nature Initiative. Available from: [https://www.researchgate.net/publication/263300482\\_Toward\\_Viable\\_Landscape\\_Governance\\_Systems\\_What\\_Works](https://www.researchgate.net/publication/263300482_Toward_Viable_Landscape_Governance_Systems_What_Works) [accessed Jul 27 2018].

#### Aspect 4: Multifunctionality of landscape and of its uses/users

Landscapes serve many different functions for different users. The European Landscape Convention recognizes this fact and assigns “value” to all landscapes, even those that are considered as “ordinary”, “vernacular”, or “everyday” landscapes and not only “special” ones. This value may be related to landscapes being parts of local identities and societal well-being, as well as economic gain. This multiplicity of the landscape has increased the emphasis on the many different functions that landscapes may serve for different groups of users, both “locals” and “outsiders” – visitors. Multifunctionality is therefore an inherent feature of all landscapes and this has raised as we have seen the importance of local participation in all landscape issues, including land use planning and landscape management.

❖ *Issues that need to be taken under consideration for the project*

Some general guidelines include:

- (a) Define the users – actors – stakeholders of the landscape: should be easy if the guidelines for the previous issues are followed.
- (b) Define – record (if possible) – the different values and uses that each group has of the landscape and/or of specific areas – features of the landscape. See also Aspect 5 that deals exclusively with perceptions.

Some relevant papers are:

Kizos, T., Plieninger, T., Iosifides, T., García-Martín, M., Girod, G., Karro, K., Palang, H., Printsman, A., Shaw, Nagy, J., and Budniok, M.A. (2018) Responding to Landscape Change: Stakeholder Participation and Social Capital in Five European Landscapes, *Land*, 7, 14; <https://doi.org/10.3390/land7010014>

#### Aspect 5: Perception of the landscape

One of the most important aspects of the multifunctionality of landscapes is that they are perceived in different ways by different groups of people, with differences apparent on features such as age, gender, nationality, incomes, familiarity and many others. Sometimes these perceptions are so diverse that they correspond to “different” landscapes and definitely different values for its characteristics. Especially for smaller scale

landscapes, such perceptions are becoming more and more important in prioritizing and valuing land uses and affecting local and regional planning. Recognizing and mapping these values is therefore important in order to build a common language towards the landscape and assist policy formulation and implementation. It also helps in defining boundaries and understanding relationships between different actors in a landscape.

❖ *Issues that need to be taken under consideration for the project*

Research demonstrates that the selection of the groups is often of importance, as internal differences within the groups may be equal or greater than differences between groups. Therefore, special care should be given to the selection of the groups. Simple and transparent criteria are always preferable (e.g. age, familiarity, etc.). Of importance is also the need to recognize “hidden” groups, whose voice may not be heard through “official” channels (e.g. teenagers, women, foreigners, workers, etc.).

The dynamics of a landscape have an immediate effect on its perception, as what today seems “abandoned” can be an important element of historical value for some users.

Some general guidelines include:

- a) Define – record (if possible) – value the different values on the landscape that each group acknowledges along with characteristics, aspirations, and needs it attaches to it;
- b) Assess the interaction – spatially and conceptually – of these values;
- c) Identify possible critical areas that represent conflict and need to be addressed specifically.

Some relevant papers are:

Garcia-Martin, M., Fagerholm, N., Bieling, C., Gounaridis, D., Kizos, T., Printsman, A., Muller, M., Lieskovsky, J., Plieninger, T. (2017) Participatory mapping of landscape values in a Pan-European perspective. *Landscape Ecology*, <https://doi.org/10.1007/s10980-017-0531-x>

Grete Lillehammer (2007) The Past in the Present. *Landscape Perception, Archaeological Heritage and Marginal Farmland in Jæren, South-western Norway*, *Norwegian Archaeological Review*, 40:2, 159-178, <https://doi.org/10.1080/00293650701708891>

K.M. Morin, (2009), *Landscape Perception*, Editor(s): Rob Kitchin, Nigel Thrift, *International Encyclopedia of Human Geography*, Elsevier.

Papayannis T., Sorotou A. (2008) *Cultural Landscapes of Mediterranean Islands*. In: Vogiatzakis I., Pungetti G., Mannion A.M. (eds) *Mediterranean Island Landscapes*. *Landscape Series*, vol 9. Springer, Dordrecht

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