



The Swiss National Research Programme “Landscapes and habitats of the Alpine Arc”

Bernard Lehmann and Paul Messerli



Electronic version

URL: <https://journals.openedition.org/rga/344>

DOI: 10.4000/rga.344

ISSN: 1760-7426

This article is a translation of:

Le Programme National de Recherche Suisse « Paysages et habitats de l'Arc Alpin » - URL : <https://journals.openedition.org/rga/336> [fr]

Publisher:

Association pour la diffusion de la recherche alpine, UGA Éditions/Université Grenoble Alpes

Printed version

Date of publication: 15 December 2007

Number of pages: 19-28

ISBN: 978-2-200-92331-0

ISSN: 0035-1121

Electronic reference

Bernard Lehmann and Paul Messerli, “The Swiss National Research Programme “Landscapes and habitats of the Alpine Arc””, *Journal of Alpine Research | Revue de géographie alpine* [Online], 95-4 | 2007, Online since 03 March 2009, connection on 08 December 2022. URL: <http://journals.openedition.org/rga/344> ; DOI: <https://doi.org/10.4000/rga.344>

This text was automatically generated on 8 December 2022.



Creative Commons - Attribution-NonCommercial-NoDerivatives 4.0 International - CC BY-NC-ND 4.0
<https://creativecommons.org/licenses/by-nc-nd/4.0/>

The Swiss National Research Programme “Landscapes and habitats of the Alpine Arc”

Bernard Lehmann and Paul Messerli

EDITOR'S NOTE

Translation: Brian Keogh

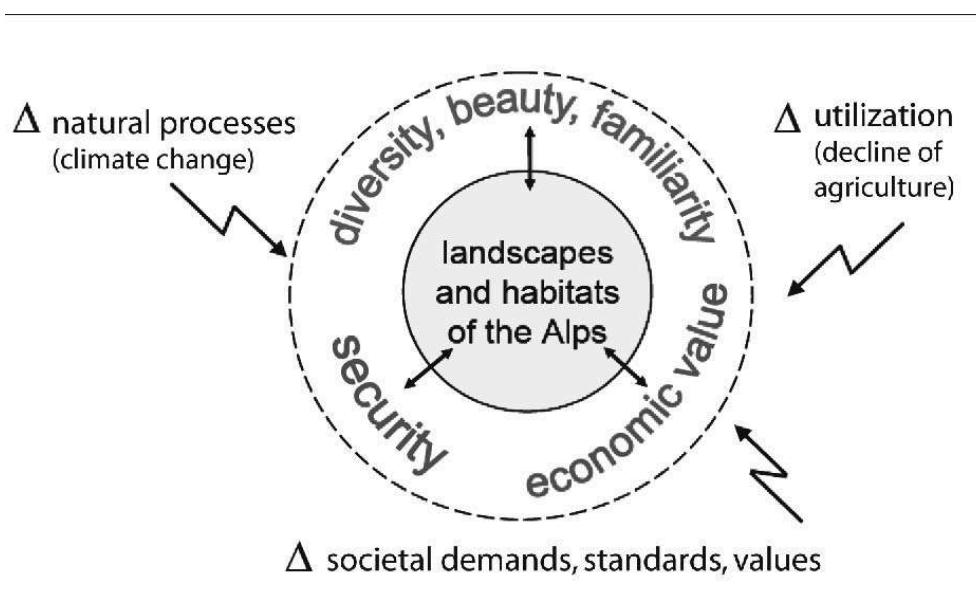
Identifying the problem and orienting research

- 1 In recent years, the landscape has become an important topic of discussion, negotiation and research in Alpine countries. The landscape is a concern that is just as great as, if not greater than, questions of environmental and natural resource management. The landscape has become an area of projection on which we are able to recognise our preoccupation with environmental matters. The need to preserve “valuable landscapes and habitats” is one of the prerogatives of landscape concepts at both the national and regional level.
- 2 It may also be observed that today there exists a considerable number of studies demonstrating the value of landscapes in monetary terms. This demonstrates the will to preserve the latter from possible deterioration. Willingness to pay on the part of citizens illustrates their readiness to make a financial commitment for a landscape of a certain quality. “Landscape” as a public good thus loses part of the attributes conferred on it by environ-mental economics (namely that of non rivalry).
- 3 The scientific community with research interests in the landscape has considerably expanded over recent years. The field of study that was traditionally the reserve of geographers and landscape ecologists has become equally familiar to biologists (for whom the landscape provides the habitat for biological diversity) as well as

environmental economists. The research programme "Kulturlandschaftsentwicklung" launched jointly by the Austrian Ministry for Education and Research and the Research Council provides a good example of this trend by including both the human and the social sciences.

- 4 Landscape research also covers the question of sustainability in a more comprehensive manner than the ecological approach, in the narrow sense of the term. The crucial question "Who does the landscape belong to?", for example, underlines the fact that the social and economic dimensions deal with new aspects, such as developing its full potential, the search for identity and recreation. Landscape management thus covers more aspects than simply biodiversity.
- 5 The landscape seems to have reached a turning point in its history. The quasi-automatic production of landscape through primary production activities is no longer entirely guaranteed from either a quantitative or qualitative point of view. Public authorities will now have to provide more systematic support for landscape production according to needs. This represents a divergence from observations made in the context of the "Man and Biosphere" Research Programme in the 1980s, which confirmed that landscape production by the primary sector corresponded quantitatively or qualitatively to the needs of the population. The conclusions based on these observations called for support for the primary sector in safeguarding our landscape heritage.
- 6 Since that time, however, conditions affecting the primary sector have considerably changed. Furthermore, other parameters, such as climatic change or the changing needs of society, will also have an impact on the development of the landscape (see Illustration 1).

Illustration 1. Requirements of Alpine regions with regard to landscapes and habitats.



- 7 Special challenges for landscape development will also result from a greater need for differentiation than before. This is expressed in a stronger tendency towards polarisation between urban centres and the periphery of the periphery.

- 8 To take into account the double dimension of the landscape notion – the material, physical dimension and the symbolic, mental dimension – the National Research Programme "Landscapes and habitats of the Alps" was designed to bring together all the relevant disciplines in this field. The aim of this was to create the best possible base for the future management of Alpine landscapes.
- 9 The research programme was launched in 2000. Several scientific establishments and nongovernment organisations suggested to the authorities concerned in the Department (Ministry) of Education and Research that they launch a research programme on landscape and habitat change in the Alps, the needs of society, the causes of changes and the means available to better control the latter.

Objectives of the National Research Programme

- 10 The five objectives of the research programme were as follows:
 - Define and analyse the changes that have occurred in recent decades and identify the main factors responsible for these changes.
 - Analyse the perception of these landscape changes, its determinants and the differences in perception according to people's function and socio-economic and cultural background.
 - Identify the different forms of institutional framework capable of formulating collective objectives, determining the need for action and implementing adequate measures.
 - Analyse the potential for creating value from the natural resources in the Alpine arc. This analysis should take into account conflicting interests as well as synergies in the use of resources and landscapes for both commercial and non-commercial needs.
 - Evaluate the possibilities for modelling landscapes and their components with a view to forecasting future changes with appropriate decision-aid tools.
- 11 We clearly identified five research modules, each of these being responsible for a particular objective in the programme (see above). These five modules are situated exactly at the points of friction that correspond to areas of conflicting interests in landscape management. This approach enabled us to target research questions in relation to practical needs with regard to landscape management.

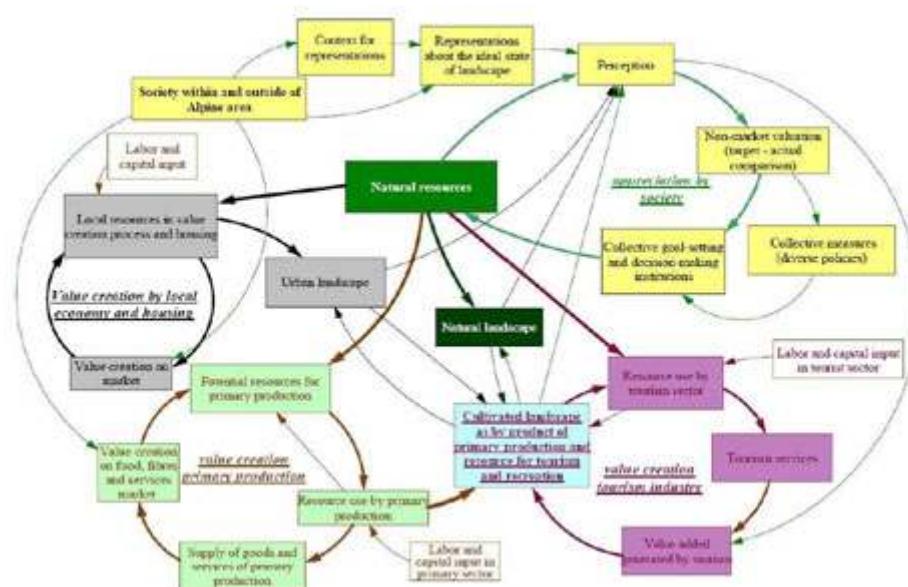
Management of research programme

- 12 Landscapes are a collective good, resulting from both natural resources and resources transformed by man. From the start, the main use of these natural elements has always been achieved through primary sector production, namely by agriculture and forestry. Use of these resources has led to a modification of their natural state. Cultural landscapes thus appeared virtually as a by-product of this primary production. Rural towns and villages were and still are closely linked with the cultural landscape. It is mainly since the second half of the 20th century that the modern habitat, together with the economic activities of craftwork, industry (secondary sector) and services (tertiary sector), has modified the landscapes of the Alpine arc. These activities will also have a strong impact on the Alpine landscapes of the future. The Alpine landscape may thus be divided into three categories: the virtually natural or unaltered areas, forming the

natural landscape; the cultural landscape, used by forestry and agriculture; the built landscape, with residential zones, zones of craft industries, tourism infrastructures and means of communication. The success of tourism is based in large part on the existence of natural and cultural landscapes or on their development. The properties of the landscape and habitat, as perceived and appreciated by visitors, constitute the economic foundation of this sector that is so important for the Alpine arc. The by-product, the “cultivated and cultural landscape” thus becomes a tourism resource in its own right. The cultural landscapes and the modern residential zones often maintain a close and reciprocal link. Thus the perceived landscape cannot generally be classified in a single category. Cultural landscapes and modern habitats can nevertheless be qualified as by-products resulting from human activities. The different users of alpine landscapes must consequently be aware of the decisive impact of their activities on the collective good, the “alpine landscape”. The transformations that result are not always welcomed by the residents of the valley areas. These subsidize the Alpine arc by financial transfers and increasingly demand services in return. The urban population thus makes specific demands regarding the “quality of alpine landscapes”; in particular, it would appreciate a recreation area close to its natural state. Research conducted within the framework of National Research Programme 48 underlined the need to act with regard to the financial transfers and the expected services in return. This involves first and foremost identifying the different interests and balancing them in the best way possible.

- ¹³ The systematic representation below juxtaposes and integrates the different sub-systems that constitute the subjects of analysis and research in National Research Programme 48. In particular, the three ways of exploiting the potential of local resources and their interactions with the natural environment may be observed along with the system of collective governance that overlies this.

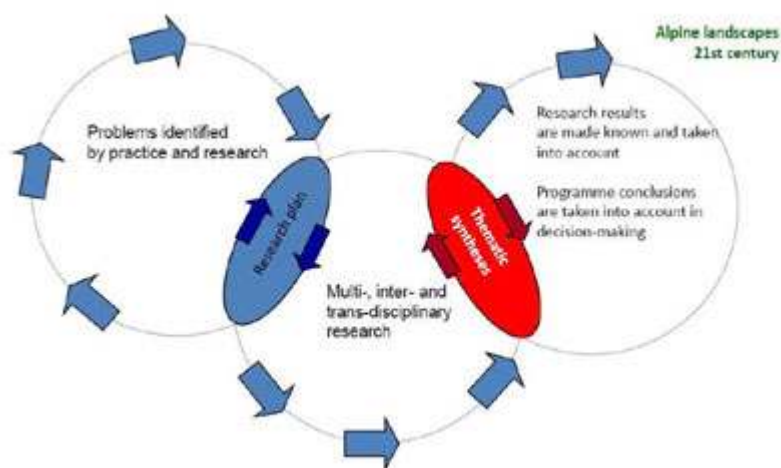
Illustration 2. The spectrum of research activities in National Research Programme 48 from a systems viewpoint.



Implementation of research conclusions: a major objective of the National Research Programme

- 14 The results of 35 research projects have been published in scientific reviews according to the disciplinary or interdisciplinary character of the various projects. In the second phase of the programme we concentrated our efforts on making research results available to a wider public.

Illustration 3. Research results must be made available to a wider professional public.



- 15 Research results were condensed into five thematic syntheses. These are not directly intended for the scientific community but for a professional public of decision-makers:

1. Landscapes of the Alps. From representation to action

- 16 This thematic group examines the research results with regard to landscape perception by man. The analysis demonstrates how important it is to be aware of the context in which people live to understand expectations in relation to the alpine landscapes.

2. Land use and biological diversity in the Alps: Facts, perspectives, recommendations

- 17 This thematic synthesis brings together the research projects that focused on the interactions between exploitation of the land through primary production and the natural habitat, and in particular diversity.

3. Shaping the landscape together – Potential and limits of the participative process

- 18 This summary deals with questions of landscape management beginning with the linking of objectives by a public authority through to the proposal of a procedure for collective decision-making taking into account the different levels and types of individual interests.

4. Using the value of alpine landscapes

- 19 The wealth of the alpine landscape and its resources that provide numerous possibilities for creating value is the main point of this synthesis. However, there may be conflicts or synergies in the way a resource is used. The economic character (commercial good or collective good) plays a special role and must be taken into consideration.

5. Virtual worlds – real decisions ? The Alps in the simulated world (English and German)

- 20 The aim of this synthesis was to evaluate the possibilities of modelling landscapes and their components so as to be able to make forecasts of future changes using decision-aid tools. Climatic change and the need to model it have reinforced this point in the course of our research programme.
- 21 In the autumn of 2007, the management committee published a Final Report on **National Research Plan 48 under the title : Landscapes and habitats of the Alpine arc – Between added value and appreciated value. Reflections at the conclusion of National Research Programme 48 "Landscapes and habitats of the Alpine arc"**
- 22 The salient feature of this Final Report is the special emphasis given to recommendations for political and economic actors. Alpine landscapes constitute not only a large part of the national (Swiss) territory, they are also a major element of Swiss identity. This explains in part the value attributed to them, as well as to the inhabitants of the Alpine arc. The changes that have affected the economic and social conditions in this area have had an impact on the foundations of alpine added value: Initially based on the direct use of natural resources by agriculture and forestry, added value has little by little shifted towards more indirect forms of exploiting the potential of the alpine landscape. In the past, exploitation of natural resources by the primary sector had strongly contributed to shaping and preserving the wealth of the cultural landscape and the exceptional biodiversity of the alpine arc. A clearer duality may still be observed, however, with regard to use. On the one hand, there has been an over-exploitation of natural resources due to economic pressures, while on the other a decline, even abandonment, of farming has occurred. These two processes may result in the loss of precious elements of the landscape such as the diversity of species or the traditional cultural landscape. Consequently, it is crucial for sustainable development in the alpine arc to reach a balance between added value and appreciated value coming from the different forms of use. This is the objective of the following recommendations.

1. The importance of the landscape as a collective good must be reinforced

- 23 The landscapes and habitats of the alpine arc represent a central element of the "Swiss" brand name. The exceptional proximity of Swiss metropolitan areas and mountain regions already provides an initial location advantage. Apart from the supply of natural resources, exploited mainly by agriculture, and then forestry and hydraulic power, the alpine landscapes fulfil numerous societal functions such as a protection

against natural hazards, a reserve for species diversity, and an area for training and education, relaxation, contemplation and the search for identity. Change in the global economy as well as an increase in the demand for landscapes has meant that there is no longer a need to consider alpine landscapes as simply a welcome by-product of primary production. Instead, they should be perceived and managed as a major product of alpine space. A new relationship with the landscape is henceforth necessary, a relationship that takes into account their multifunctionality and is based on the complex links between added value and appreciated value.

2. Landscape development must be approached and carried out in a determined manner

- 24 Just as development takes place over time, or in a temporal context, landscapes exist in space. The key question is to know whether landscapes and habitats in the future will still correspond to the expectations of society. Landscapes are subject to numerous requirements regarding use and protection imposed by different sectors of activity and without sufficient coordination. It is no longer automatic that the development of landscapes will necessarily meet society's requirements sufficiently well. Action must be taken now so as to deal with the diversity of landscape uses with the help of a common strategy. To do this it is important to give greater consideration to the different landscape characteristics and in a more explicit manner in the different use and protection policies. At the same time, this requires better integrating society's expectations of "landscape" as a collective good in all decisions that concern it. With this aim in mind, government departments, particularly at the cantonal level, should coordinate, organise and, if necessary, strengthen personnel resources.

3. When dealing with questions relating to the landscape, and when taking decisions affecting spatial development, the different points of view of all those participating and concerned must be taken into account. Such persons must be involved in the decision-making process in an appropriate manner

- 25 The ideal landscape only exists in our imagination. Landscapes are perceived in a subjective and selective manner, depending on the context, the way the observer is affected by them, and past experience. Consequently, there are qualitative differences in the way landscape values are perceived, resulting also results in different perspectives and expectations. Such perceptions, perspectives and expectations must be quickly identified and integrated in an appropriate manner in planning and decision procedures. Dialogue, moderation and mediation are tools that enable a successful outcome to be reached. It is a question of paying special attention to the way in which the different opinions and ideas of specialists are integrated in the process. Dialogue on the subject of landscape development is important not only with regard to particular projects but also in the regional context. At the national level, a platform for dialogue on alpine matters must be created so as to clarify the requirements, expectations and roles of the different actors involved, as well as the associated financial commitments. It is normal that basic conflicts surface between the different points of view. It is therefore necessary to look for negotiated solutions at every level.

4. At the national and cantonal levels, new instruments must be created – or existing instruments must be improved – with a view to facilitating coordination between uses and protective measures at the regional level

- 26 Landscapes and habitats in the alpine arc can only be shaped and developed in a sustainable manner in the future if different uses and requirements are coordinated. This is not the case at the moment. Current policies impacting on the landscape have different objectives and the ways in which the different elements of the landscape are dealt with vary considerably in both precision and detail. While good quality instruments exist for developing and structuring the landscape, efficiency is often lacking when it comes to implementing concrete measures. Very precise, and in some ways restrictive, provisions govern use of the space for habitat purposes, forestry and different protected areas (biotopes, heritage sites, etc.). This is only partially the case for landscape. The currently available integrated concepts (natural parks, landscapes of national importance, concepts of landscape development) were only devised for certain specific landscapes, or they have only had a limited impact since the instruments for their implementation are lacking. The aim of a landscape policy should be to promote these instruments and to coordinate them at the regional level, for example within the framework of an "agreement for services related to the landscape". This agreement should then provide the link between the services to be provided and public subsidies. In line with this type of thinking, the policy of agglomerations may be cited as a model that has managed to link infrastructure subsidies to programmes reconciling transport policy and environmental policy.

5. To ensure optimal use of the Alps, spatial development must focus more on regional potential and be structured in a differentiated way

- 27 Diversity is the most important characteristic of alpine landscapes and habitats. Local and regional differences in terms of cultural and natural areas constitute the essence of their value. The main aim of political measures introduced up to the present has been to reach an economic balance between centres and peripheral regions. This balance has in fact been attained in part thanks to considerable funding. The policy of "everything everywhere" has led, however, to a certain "monoculture" of use while at the same neglecting regional potentials. On the other hand, a strategy that generates added value based on regional potential requires a more pronounced qualitative differentiation of areas. This differentiation is expressed mainly through a combination of offers of marketable goods and collective goods. In the short term, some of the most peripheral regions will not have a sufficient working population to sustain or even re-launch development. In these regions, the disappearance of a human presence could consequently result in a new but modest potential taking the form of natural and wild landscapes. This involves creating legal guarantee mechanisms or systems for compensating between those regions with a potential for economic growth and those that have deliberately renounced growth.

6. The provision of landscape services should be compensated by an efficient incentive system

- 28 Public authorities support development of the alpine arc by means of considerable subsidies, coming from a variety of sources. Financial support, however, is poorly coordinated and in some ways remains a little like an income supplement? There are also conflicting objectives when the different funding is allotted. The amount of the subsidies made to the alpine arc reflects the substantial solidarity that exists with the alpine regions. This solidarity is beginning to change however. On the one hand, the amount of funding is being questioned and, on the other, an ever-increasing number of demands for services in return are being formulated and requested. First there are demands related to the collective goods that the alpine arc provides for the urban agglomerations, particularly the landscape services such as space for recreation and relaxation, biodiversity, aesthetic qualities, protection against natural dangers, the cultural landscape and heritage sites. These services at the moment are only marginally provided for when compared with the overall subsidies. Consequently, more effort should be focused on financial means that encourage the provision of more clearly defined landscape services. In this way, society's expectations will be better satisfied and funding more efficiently allotted. The New regional policy is in line with this objective. It is a question of extending measures beyond strictly economic aspects and, in particular, of reinforcing the orientation of direct agricultural payments towards ecological services.

7. It is through ongoing training and education that the conditions for exploiting the full potential of alpine landscapes and habitats can be improved

- 29 Economic change within the alpine arc calls for considerable capacity for adaptation and substantial innovation on the part of the local population. If this is lacking, the full potential of the alpine arc cannot be exploited and the changing expectations of visitors, hosts and society cannot be satisfied. The abandonment by the State of generalised structural financial aid implies that the regions must assume greater responsibility for their own development. Lower population densities in peripheral regions mean that the exchange of ideas is less intense there than in the more densely populated urban areas. This constitutes a considerable handicap. Consequently, means must be provided in the form of training and perfection programmes to stimulate and reinforce personal initiative in these regions. In addition to conventional training courses, possibilities for Internet access must be provided along with the creation of places for learning that encourage exchanges on experiences and the transmission of promising strategies and projects. Those people responsible for innovative projects in the villages or valley areas can be supported by coaching and insertion in a network. Discussion groups such as think tanks within the alpine arc could also take on a more important catalytic function and contribute to greater general awareness.

8. In the future, alpine research should focus more on current development trends in the "living space" and the landscapes of the "Alps"

- 30 A key result of National Research Programme 48 was to identify the way in which the conscious development of alpine cultural landscapes can be achieved through different strategies. It requires taking a step back from the homogenous representation of development and envisaging the challenges and possibilities in a manner that distinguishes between regions. The regional cultural and socio-economic context is also crucial. This regional differentiation – which would have been necessary for a realistic implementation of the strategies analysed – could not be used, however, in a systematic manner within the framework of the NRP 48. In the future, alpine research will have to focus more on the heterogeneous development trends: concentration of capital in the tourism sector, the Alps as a residential and commuting area, the rural exodus and alpine fallow lands. Alpine research will also have to be directed towards the impact of the New regional policy.
- 31 The recommendations resulting from the five thematic syntheses and the final report have been presented on numerous occasions within the framework of the implementation of the research programme.

ABSTRACTS

The aim of the Swiss National Research Programmes is to carry out scientific research to identify, analyse and "find solutions" to problems that are perceived by the scientific and political communities as a national challenge. This article, which deals with landscape resources in the Swiss Alpine arc, shows the stages and measures taken in managing such programmes. The article focuses on the objectives and questions underlying the research, the integration of knowledge acquired and the ways results are used in the political sphere.

Les Programmes Nationaux de la Recherche (PNR) du Fonds National Suisse ont pour but d'engager la recherche scientifique pour identifier, analyser et « résoudre » des problèmes qui sont perçus par les milieux scientifiques et/ou politiques comme un défi national. Le cas particulier décrit dans l'article montre les étapes et mesures prises dans la gestion d'un tel programme, qui s'occupe des ressources paysagères de l'arc alpin suisse. L'accent est mis sur les objectifs et questions qui ont lancé la recherche, l'intégration des connaissances produites et la valorisation des résultats sur le plan politique.

INDEX

Mots-clés: habitat, interdisciplinarité, paysage, recherche orientée, synthèse scientifique, valorisation politique

Keywords: habitat, interdisciplinarity, landscape, political implications., research orientations, scientific synthesis

AUTHORS

BERNARD LEHMANN

École Polytechnique Fédérale de Zurich, président du comité de direction du Programme National de Recherche "Paysages et habitats de l'arc alpin" du Fonds National Suisse de la Recherche Scientifique.

PAUL MESSERLI

Institut de Géographie de l'Université de Berne, président de la division recherche orientée du Fonds National Suisse de la Recherche Scientifique.