

The Polarity Field Concept - A Structuring Approach for Integrated Regional Planning and Development Processes

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Key Words

Integrated Regional Development, Participation, Planning Methodology, Transdisciplinarity, Case Study Teaching, Polarity Field

Abstract

This paper presents a new approach for structuring integrated regional planning and development processes in the context of transdisciplinarity. Traditionally, the main working units in such processes are thematic workgroups. Definition and composition of these workgroups are key determinants for the outcome. In practice, most processes are organised around sectoral workgroups, i.e. with topics such as agriculture, transport, conservation, tourism etc., ignoring that the linkage between these topics is essential for integrated regional development. Alternative structuring approaches such as the value chain approach or the need field approach offer significant improvement in terms of integration, however, it is difficult to assign all development questions of a region to individual value chains or need fields.

The transdisciplinary project “Leben 2014 (= Life 2014): Perspectives for Regional Development in the National Park Region Oberpinzgau/Hohe Tauern” in the Austrian province of Salzburg was a combined research and teaching project, funded by the Austrian Cultural Landscape Research Program. It involved 18 researchers and 50 students from six disciplines at BOKU University Vienna, and the University of Salzburg, as well as more than 300 local participants.

In an extensive problem definition phase, key persons from the region were interviewed and meetings held with representatives from regional initiatives and the general public. This participatory process resulted in a very heterogeneous list of proposed topics for workgroups. Many topics indicated underlying fields of tension, which by some actors were also seen as fields of conflict. The term “polarity field” was finally chosen, as it does not have a negative connotation. All proposed topics were analysed for such polarity fields, of which finally six have been identified to be characteristic for the region. Each polarity field was named by a pair of apparent opposites, the integration of which was then the task of a workgroup: “wilderness and culture”, “young and old”, “fast and slow”, “single and together”, “tradition and innovation”, and “inside and outside”.

Due to a from the beginning both inter- and transdisciplinary structure of the workgroups, participants were brought together who had not communicated much before. This resulted in some unexpected innovative outcomes, which probably could not have been achieved with a traditional sectoral approach.

Introduction: Needs for structuring planning processes

Integrated planning and development processes at local and regional level, such as regional development plans or Agenda 21 processes, address a multitude of thematic areas and therefore also need to involve many different disciplines and viewpoints for problem solving and development of innovative ideas. The scale levels of local and regional development are those, where participation is particularly indispensable throughout the planning process, from the problem definition up to the realisation of planning measures. Input is needed not only from representatives of government authorities or stakeholder organisations, but also from the general public.

Transdisciplinary research and planning processes aim at involving a large number of actors, and such processes need to be structured adequately to achieve optimal integration of disciplines, representation of different opinions and identification of stakeholders with the results. Different stages of a transdisciplinary process require different degrees of openness and structuring: there are phases, when a maximum of openness is sensible, in particular during the problem definition phase, where techniques such as brainstorming or “Open Space” (Owen 1998) are appropriate to gain input from as many individuals as possible. However, there are also phases of focused work, when specific groups should operate in constant composition and with continuity, which means, that not all actors can work on every topic all the time. The same refers to the interaction between disciplines: Phases with a high need for interdisciplinary coordination and integration alternate with phases, during which the main focus is on detailed disciplinary work.

Important key factors in this context are (1) extent of participation, (2) thematic definition of tasks for workgroups, (3) workgroup composition, (4) timing of coordinative phases, (5) exchange of knowledge and opinions between groups, and (6) transparency of decision making.

This paper investigates in particular the thematic definition of workgroups (2) in its context to workgroup composition (3), assuming that both are major determinants for the results of transdisciplinary processes.

Project context “Leben 2014”

The research programme 'Sustainable development of Austrian Landscapes and Regions' was a cooperative initiative of the Austrian federal government, state governments and municipalities, initiated and coordinated by the Federal Ministry of Science. It started in 1993, and until 2004 it involved more than 500 researchers from 170 institutions, with a total financial volume of about €17 mill.

In the final phase of this research program synthesis projects were commissioned to transfer results from the research program into practical applications. One of the synthesis goals was to develop methods for transdisciplinary cooperations between higher education and local and regional communities. A specific call was published for transdisciplinary case studies where students should be involved in regional development processes.

The case study “Leben 2014 (= Life 2014): Perspectives for Regional Development in the National Park Region Oberpinzgau, Salzburg“ was jointly conducted from 2002 to 2005 by BOKU University of Natural Resources and Applied Life Sciences Vienna and the University of Salzburg. The project involved teachers and students from six study programs: Geography, Sociology, Communication Sciences, Landscape Planning, Agriculture and Forestry (Glanzer et al. 2005).

The project methodology was based on the scenario technique (Albers, Broux 2001, Gausemeier et al. 1996), in particular on a scheme for application in transdisciplinary case studies as developed at the Swiss Federal Institute of Technology (ETH) Zurich (Scholz, Tietje 2002, Mieg 2000).

The study region Oberpinzgau is situated in the south-western part of the province of Salzburg and is characterised by tourism, agriculture and small scale industry such as timber construction and plastic

technology. The Oberpinzgau is part of the Hohe Tauern National Park region, which includes some of the most attractive natural and cultural landscapes in the Alps. The region consists of nine municipalities, which actively supported the project and also contributed to the funding. Other partners were cultural organisations, touristic marketing initiatives, the regional coordinator for EU projects, as well as some departments of the provincial government of Salzburg.

Theme finding as transdisciplinary process

One characteristic of the Austrian Cultural Landscape Research program was an adaptive approach to the definition of working goals for each working phase: Research goals once specified in the funding proposal were not inalterable but could rather be modified according to the course of a project. This offered researchers options to react to experiences and results in particular from transdisciplinary processes within each project, thus providing space for innovative solutions to unexpected developments without being tied to a proposal which had been developed years before and keeping to which would rather hinder innovation (see Tress et al. 2005).

The general theme of the case study was: “How shall landscape, land use and society in the region appear in ten years from now?”, hence the project title “Life 2014”, as the main working year was 2004.

It was an intention of the project team to initiate transdisciplinarity at a very early stage of the project in order to achieve a better quality of participation (“interactive participation”, Pretty 1995) by joint definition of project objectives (see also Antrop, Rogge 2005). Therefore, an extensive theme finding process was conducted in the region to detect the demand for action, to specify the research goals and also to establish the project in the region as well as to provide a basis for the communication between the universities and the public (Vilsmaier et al. 2005).

This process lasted for almost one full year, where numerous formal and informal interviews and meetings with key persons such as local politicians or government officials were conducted, a joint field trip of representatives from the universities and the region to a best practice example was organised and a workshop for the general public was held. In this phase, approximately 150 persons were actively involved. It resulted in about numerous different proposals for research questions, which would later define the tasks for mixed workgroups consisting of students, teachers and regional actors. The following citations shall illustrate the heterogeneity of the outcome of the theme finding process:

- “What has to be changed to make the region Oberpinzgau more attractive for both tourists and local inhabitants?”
- “What are the perspectives for alpine farming in the year 2014?”
- “Do we need better transport connections?”
- “How can we support cooperation and economic balance between municipalities?”
- “Which measures can be taken to support the dialogue between generations?”
- “How can equal access of women to the labour market be achieved?”

A key challenge of this project phase was to sort, group and synthesise the proposed topics. This categorisation was not only needed to reduce complexity, it was also a basis for the structuring of the whole planning process: Work tasks which are put into the same category are afterwards very often assigned to the same workgroup, thus there is an immediate link between the categorisation and the thematic focus of the workgroups. This itself has numerous effects on the outcome of a planning or development process, in particular in a transdisciplinary process which to a great extent is driven by the input of the local or regional actors, and where most of the work is done within clearly defined workgroups rather than in plenary meetings (see Magel et al. 2003).

Existing models for thematic structuring of planning processes

Lieber Andreas, also Value war zu finden, aber bei sectoral und subregion approach tue ich mich schwer – das scheinen sehr spezielle Begriffe der Landschaftsplanung zu sein. Ansonsten würde ich bei need approach empfehlen, dass du direkt bei Mogalle in seiner Schwarte die literatur ansiehst. Ich werde in jedem Fall nochmals Michael dorninger zu den anderen Begriffen fragen, aber bislang war das ohne Erfolg. Allerdings sollten wir hier schon exakt methodisch abgrenzen können, denn es stellt sich schon die Frage worin wirklich die Unterschiede liegen. Da wäre eine Tabelle im Sinne von Tabelle 1 absolut klärend, sonst sieht das ein wenig gemogelt und unscharf aus.

Grüsse Bernd

Sectoral approach

Traditionally, regional planning or development processes are structured in a sectoral way: Based on a general problem analysis, specific workgroups prepare concepts from a sectoral viewpoint, such as agriculture, tourism or conservation. In a later synthesis phase, all these concepts are checked for compatibility, conflict areas are identified and solutions developed, ideally in an integrative and participatory way. This process design is very often the reflection of the organisational structure of the public authorities involved in a planning process, e.g. Department of Agriculture, Department of Tourism, Department of Conservation, each with a different underlying legal framework. This can be beneficial in the implementation of the results, as the clear responsibility of an existing government department makes it easier to support implementation steps beyond the project phase, when planning professionals or other consultants have already left the scene.

A significant character of the sectoral approach is the mono- or oligodisciplinary structure of the workgroups involved. Group members such as government officials, consultants or local stakeholders come from a similar professional and educational background, they speak the same language. This makes cooperation within the group easier: Even if individual group members pursue different goals, they all know what they are talking about, they use technical terms in the same way and, more generally spoken, because of the same professional socialisation they also mostly think in the same categories.

On the other hand, this makes integration in a later project stage more difficult: Only persons who are already professionally integrated at the beginning of a development process can contribute to a specific subject, the potential input from interested persons outside the traditional thematic spheres is usually excluded. This also means that very often an external reflection is missing, from the outside a sectoral workgroup appears like a “closed shop”. In the context of regional development, the application of the sectoral approach clearly hinders exchange between individual sectors of society or economy. This is nowadays more and more being challenged in the context of policy development: The per se integrative principles of sustainability contradict to the sectoral segregation of problem solving, however, the cross-sectoral character of sustainability is difficult to institutionalise (Brand et al. 2002).

In the context of the project “Leben 2014”, it would not have been easy to categorise all topics in a sectoral way, some very interesting topics, which had been proposed in the interviews and in the workshop could not be assigned to traditional sectors. These were for example questions relating to general aspects of cooperation between sectors or between municipalities or questions relating to the identity of the region in the context of culture and tourism.

Subregion approach

In regional planning processes it is often possible to categorise topics according to their spatial context. This means that workgroups are formed to discuss topics which are relevant for spatial subunits of a region. Regarding the input from local actors and their enthusiasm, this supports very well the participation of the general public, in particular if there is a high degree of identification at local (eg. village) level: People usually engage more with an issue if they are personally involved in it.

The disadvantage of this approach is that it structurally supports regional segregation and local uniformity, as participants will focus their discussions on the interest of their own community rather than having in mind the benefit of the whole planning region (Buchecker et al. 2003).

In the project "Leben 2014" it would have been possible to structure the process in this way, as there are three subregions in the Oberpinzgau with in some way different character: The four municipalities in the western part of the valley are primarily focused on nature based tourism and agriculture, the three municipalities in the central part with the largest city form the administrative core of the area, this is also where secondary schools, the regional hospital and shopping centres are located. The two municipalities in the eastern part of the Oberpinzgau are more characterised by small-scale industry.

However, as many of the proposed research topics explicitly referred to the lack of cooperation within the region, in particular between municipal administrations, this approach did not really seem promising for this study region.

Conflict-oriented approach

Another option is to identify explicit conflicts in the planning region and subsequently install workgroups around the most controversial topics, for example up-coming development decisions where there is no consensus within the region. Similar to the subregion-approach described above, the thematic focus on existing conflicts supports a high participation rate: Workgroup members are aware of the relevance of their input, in particular the main players of a conflict will have great interest to participate in the process.

However, for the development of long-term perspectives, this approach can also be detrimental, as conflict lines, which may have been existing for a long time, might be extended into a newly formed discussion forum. The history of a conflict could therefore block the view towards future developments, as conflict partners would very often not be ready for open discussions. Further, regional actors, who do not want to be involved in such controversies, might be deterred from participation.

In the project area Oberpinzgau there were a few actual planning conflicts at regional level, mostly concerning development projects in winter tourism and the competition between municipalities in attracting investors from outside to create new businesses. However, these conflicts were not included in the proposals for work topics. Thus the key players themselves signalled, that they would like to keep existing conflicts out of such a future-oriented process.

Value chain approach

One of the disadvantages of the sectoral approach is the negligence of linkages and dependencies between individual sectors. For example, in the sectoral approach agriculture would be discussed separately from food processing, food marketing and gastronomy, thus also neglecting the cooperation potentials between agriculture and tourism. The value chain approach particularly aims at describing and analysing this integration of production and distribution processes from the producer to the consumer. Value chains are strategic networks of independent economic organisations. The approach follows a long-term strategic vision (Hobbs et al. 2000, cit. in Lundy et al. 2004, 30). The value chain is oriented by demand and not by supply, and thus responds to consumer needs. Regional value chains are therefore often used as the focus of development projects (Mayer-Stamer 2004), usually with the

objective of improving the regional interweaving of businesses and reducing external dependencies. Close to the value chain approach, we have also to mention the production chain, which differs to the first one especially in six factors (see Table 1).

Table 1: Enterprise relations: Production chain versus value chain

Factors	Production market chain	Value market chain
Information flow	Little or none	Extensive
Principal focus	Cost / price	Value / quality
Strategy	Basic product (commodity)	Differentiated product
Orientation	Led by supply	Led by demand
Organizational structure	Independent actors	Interdependent actors
Philosophy	Competitiveness of the enterprise	Competitiveness of the market chain

source: Hobbs et al. (2000) (zit. in Lundy et al. 2004, 30)

In the case of “Leben 2014”, it would have been possible to group the proposed topics around value chains such “agriculture – food production – food marketing – gastronomy” and “forestry – timber production – timber processing – timber construction”, as quite a few proposals referred particularly to unused cooperation potentials along these value chains. On the other hand, this would have led to a mere concentration on economic aspects of the region, which would not have reflected the input concerning social and cultural aspects.

HOBBS, J., COONEY, A. & M. FULTON (2000): Value market chains in the agrifood sector: What are they? How do they work? Are they for me? Department of Agricultural Economics, University of Saskatchewan, Canada.
http://www.usask.ca/agriculture/agec/publications/value_market_chains.pdf; zit. in Lundy M,

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Need field approach

The basic assumption of the need field approach is that research or planning questions focused on sustainability should be derived from the real-life perspective of the participants in a transdisciplinary process. A reduction of the complexity is achieved by using human need fields such as nutrition, health or housing and living, as the focus for the framing of the problem (Mogalle 2000). The need field approach clearly addresses the perspective of local actors: For example, in a sectoral administrative view the various aspects of housing and living are dealt with under separate categories such as spatial planning (zoning), infrastructure provision (e.g. energy and water supply, waste management), building construction (heating, plumbing), gardening etc. For the local actors, however, all these separate issues are just different facets of the one single issue, which is their need field of housing and living. Hier empfehle ich, nochmals bei Mogalle nachzusehen

The need field approach can in some way be seen as an alternative to the value chain approach from the local residents' perspective, it is therefore very well suited for stimulating participation by local actors, e.g. in Agenda 21 processes. For the implementation of results into practice it will however be necessary to transform the outcome back into the respective administrative (= sectoral) responsibility of government authorities.

Many of the topic proposals for the project “Leben 2014” could be related to the need fields health and education. However, it was difficult to apply this approach to all topics, as some of them clearly addressed economic issues which could only with great difficulty be associated with a human need field.

Status quo in practice

The sectoral approach is the most common structure for regional planning processes in the province of Salzburg. In all regions where formal regional development concepts have been developed, workgroups have been installed for the same six thematic areas, namely: economy, tourism, traffic, social affairs, nature/environment and future residential development. This can be explained by the fact that regional development concepts are formal planning instruments and that the province government wants to achieve a certain homogeneity in the structure of these concepts.

Even in informal processes such as local or regional Agenda 21, the sectoral approach is prevailing. The “Leben 2014” project team analysed the structure of more than 30 processes in the province of Salzburg as well as in the neighbouring German state of Bavaria. In almost all of them the sectoral approach was applied, which in some way is contradictory to the per se integrative intentions of Agenda 21. In an extensive evaluation of Agenda 21 processes in Bavaria (Magel et al. 2003), the lack of communication between the (usually sectoral) workgroups has actually been identified as one of the major shortcomings of the current practice.

The polarity field approach

Principles

Many topics which had been suggested by the regional actors indicated underlying fields of tension, which by some actors were also seen as fields of conflict. However, the term conflict does not really reflect the nature of such a field of tension: For example, many suggestions for topics were related to aspects of agriculture in the context of a national park region. It is obvious, that alpine agriculture is relying on the natural resources of the region, and vice versa, that the attractiveness of the national park region is the result of continuous human intervention, which resulted in a very diverse cultural landscape. Therefore, most discussions between agriculture and conservation can hardly lead to either/or-decisions, but rather to a positioning between two poles, in this case “wilderness” and “culture”. A big challenge for regional development processes is to communicate to the actors that very often such polarities actually form the identity of a region.

The term “polarity field” was finally chosen, as it does not have a negative connotation which would have been the case with the terms “tension field” or “conflict field”. Rather, both in Western and Eastern philosophy, the existence of polarities is often seen as a necessity for the functioning of systems on different scale levels. A practical example for the application of this principle in medicine, where this term is explicitly used, is the “polarity therapy” concept developed by Randolph Stone (Seidman 1999).

Practical application in the project “Leben 2014”

All the input from the interviews and the workshop was analysed for underlying polarity fields, and finally six such fields could be identified, which were most relevant for the region Oberpinzgau:

„Wilderness and Culture“: Alpine agriculture has been positioned for centuries in a polarity field of wilderness and culture. The continuous struggle against wilderness has eventually made human life in the harsh alpine environment possible, and today many of the elements of the alpine cultural landscape such as alpine pastures or hay meadows are actually perceived by many visitors as being natural. Since

the Oberpinzgau is part of the Hohe Tauern National Park region, this polarity field has a special significance, offering new opportunities for future developments. The acceptance of the coexistence of wilderness and culture in the Oberpinzgau is therefore necessary for the generation of sustainable land use concepts.

„Single and Together“: Many contributions in the theme finding process referred to the lack of cooperation between the individual sectors of economy and in particular to the lack of cooperation between the nine municipalities of the Oberpinzgau, which compete for potential investors rather than trying to optimise the benefit for the region. While it is always easy to advocate cooperation in regional development projects, also the other end of this polarity field has to be considered: Individual units such as municipalities or enterprises need to maintain their character, and in particular within cooperations they need to develop and sharpen their specific profile.

“Inside and Outside”: Regional identity is a key topic for regional development: How does a region see itself, how is it seen from outside, how does it want to be seen from outside, and finally, how does the outside world want to see the region? This is particularly relevant in the context of touristic marketing, where identities can be communicated in many different ways. This means, that the polarity field “Inside and Outside” does not only have a cultural dimension, but also a solid economic dimension which have to be dealt with simultaneously.

Another important aspect of this polarity field is the range of options for independent regional development: To which extent can a region manage its own development, how much is being influenced from the outside? How much input from the outside is actually needed to generate innovation inside the region?

„Fast and Slow“: This polarity field is of course primarily associated with questions of transportation, however, it goes beyond this: Regional mobility patterns are influenced by many different factors, such as allocation of residential and commercial areas, distribution of employment opportunities inside and outside the region, access to services etc. Eventually, also the multi-faceted aspects of personal life styles and their mobility implications need to be considered in this polarity field.

“Tradition and Innovation”: This is again a polarity field which characterises the region Oberpinzgau: Traditional technical skills are standing next to innovative technologies, and old cultural traditions need to be in contact with new initiatives in order to avoid ossification of society. It is obvious that the two poles are only seemingly opposites: Everything which makes up tradition now, was once innovation.

„Young and Old“: Young and old people often have different interests, sometimes even in conflict to each other. However, young people of today are tomorrow’s adults, and therefore it is not only necessary to look for compromises between different demands, but also to investigate the options for inter-generational cooperation.

For each of the above mentioned polarity fields, workgroups have been installed, consisting of seven to ten students from different study programs, two to three teachers and six to twenty-four local actors, depending on their specific interests. As the polarity fields did not have a clear disciplinary context, participants from various different professional and social backgrounds were brought together. These groups then formed the core working units of the project; exchange between them was managed via integration meetings where general thematic or methodological issues have been discussed.

Discussion

Acceptance by regional actors

Internal communication rules of the project required that all major structural decisions such as the use of the polarity field approach had to be discussed in a steering committee where the most relevant

regional institutions were represented. Many members of that committee had been involved in sectorally structured planning processes before and had also experienced the shortcomings of the sectoral approach. Therefore there was a high willingness to apply the polarity field approach.

All six polarity field groups had a very mixed composition of regional actors. The non-disciplinary orientation made the integration of participants with little professional expertise quite easy, as expert knowledge and experiential knowledge were equally valued. In a final evaluation, many group members specifically mentioned that the polarity field approach had supported this integration and that they particularly enjoyed the unusual structure and group composition.

Effects on communication processes

Due to the from the beginning inter- and transdisciplinary structure of the workgroups, participants were brought together who had not communicated much before. This refers not only to the local actors but also to the participants from the universities, who came from six different study programs at two different universities. The usual dialogue situation in academic case study projects where students are seen as one homogenous group confronted with a seemingly homogeneous group of local actors was soon overcome, as both sides realised that there is a high degree of heterogeneity and a large spectrum of different experiences, opinions and visions in both groups.

One of the characteristics of the polarity field approach is its orientation towards integrating different perspectives. While the poles form the name of a polarity field, the middle is also included (see Max-Neef 2005). A wording such as “Wilderness and Culture” instead of “Wilderness or Culture” implies from the beginning that both poles are accepted and ways are explored to integrate both of them. This is a good foundation for communication in a workgroup, as no representative needs to justify his/her position.

Outcome of the group work

The results of the group work showed some unexpected innovative outcomes, which probably could not have been achieved in a traditional sectoral approach. The main focus of the workgroups was the development of scenarios for the future of the region. In the final phase they also designed practical implementation projects. One such example is the implementation project “KunstVerjüngung” (arts in forest rejuvenation), which was developed by the polarity field group “Wilderness and Culture”. There was a huge windfall damage in the forests of the Oberpinzgau in the year before “Leben 2014” started. As most of these forests are owned and centrally managed by the Austrian Federal Forests, there was little discussion on the development perspectives after this windfall at local level, forestry is usually seen as a typical “closed shop” with little input from outside. The polarity field group “Wilderness and Culture” brought together students and local actors with interests in arts and regional tourism marketing and confronted the local forest administration, which was also represented in that group, with the idea of combining the necessary afforestation works with an arts project, using afforestation with trees in different colours and placement of root plates of the wind thrown trees and to create both a visible attraction in the landscape and a site for environmental education. This project will actually be realised in the year 2006 in cooperation between local artists, students and teachers from secondary schools and the forest administration.

Generalisability

The project “Leben 2014” was a very special process, as it combined academic case study teaching with a real life regional development project. In this case, the polarity field approach proved to be very suitable. However, it is very difficult to assess the general applicability of this approach to other local or regional planning processes, this obviously needs further testing. We believe that the polarity field

approach could be successfully applied in informal processes such as Agenda 21 processes, however, it would also be interesting to test it as well in formal regional planning processes, where challenges would definitely be higher, in particular concerning the involvement and integration of many different government agencies.

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