The landscape pattern of Negative Prospective Vision: a shared approach for professionals in agriculture

Claire Planchat-Héry

ENITAC, UMR METAFORT, Lempdes, France - metafort.planchat@gmail.com

Abstract: *In October 2007 AGRIDEA, a Swiss Agency for the continuous training of professionals in agriculture, organised a training course in environment and agriculture. The purpose was: ''assessment of the landscape: tools and methods for territories projects''. I was invited to develop a training course using participative tools. The landscape Block Diagram (BD) is one of the specific landscape architects' tools, intermediate between the bottom view (the map) and the inside view (the photography). The Negative Prospective Vision (NPV) approach consists in reconstructing on the block diagram the different points of view of landscape assessment. This mediation is facilitated by a negative question starting the debate: "what don't you want to see into 10 years of evolution of your territory?" Professionals must discuss and draw on the BD common objects they have an aversion. The players can easily discuss together about the changes, the kind of landscape they dislike for future, and the evolutions they would not appreciate for their territory.*
The negative approach can help professionals to find a common way of discussion more presided, better localized and apprehended between agricultural practices and municipal urban actions. With this methodology, we can study spatially explicit objects having a general interest and measure the impacts of activities on landscapes as well as consequences on intrinsic territorial dynamics. Environmental and agricultural consultants can translate more easily into landscape planning the problems introduced by general and specific land uses stakes.

Keywords: *landscape representations, participative approach, landscape planning*

Introduction

The environmental and agricultural consultants as well the local planners ask nowadays a box of tools concerning territories management and, on another scale, urban and landscape planning. Landscape planning, according to the Landscape European Convention (CoE, 2000), means "strong forward-looking action to enhance, restore or create landscapes". Thus, we can consider Landscape as "an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors". The territory is also a part of space socially constructed: "it resulted from interactions between inhabitants and their activities". It is the resources support. Stakeholders appropriate this space, valorise resources, as landscape, which influences activities development" (Benoît et al., 2006). AGRIDEA Swiss Agency for the continuous training of professionals in agriculture, wanted to take charge of this matter in a course entitled ''assessment of the landscape: tools and methods for territories projects'' (10-02-2007). The AGRIDEA's course aimed at teaching the environmental and agricultural professionals how to use and manipulate the different tools which can help them in their everyday activities. I was invited to present and test a tool developed as part of my PhD thesis called ''the uses of the representations of landscape into participative approaches to build territory projects''. The proposed tool is the landscape Block Diagram (BD) of Negative Prospective Vision (NPV). The BD is a schematic sketch of a part of space as an intermediate point of view between a bottom view (synoptic) and an inside view (tangential). First, I had used it as an educational tool to learn to decipher landscape as space components, stakes and values. Then, the NPV has been used to model mechanisms and processes of the 'forward-looking' spatial configurations in order to be analysed and discussed. At last, the BD NPV can become a tool of communication and mediation to facilitate the dialogue between farmers and local territory planners about their landscape planning. My hypothesis is that the materiality of the space, by a landscape pattern as the BD NPV, can help users debate about elements, values and processes which compose landscape.

Agriculture and Landscape assessment

AGRIDEA Swiss Agency's mission is to provide innovative ways, knowledge, tools and skills for farm business and stakeholders for the development of rural areas. Its project is also to improve efficiency, adaptability and quality of life, as a medium between agricultural and territorial development. The first Agridea's target about landscape has been the better understanding of this concept. According to the Agency, agriculture plays a crucial role in shaping and maintaining the rural landscape. This performance is part of the multifunctionality of agriculture, encouraged by the federal government under article 104 of the Federal Constitution. The importance of the landscape for the quality of life, recreation and tourism is increasingly recognised, but with difficulty. The second Agridea's target that coincides with my research target has been to help professional trainees to be able to analyse: several points of views about landscape conception, methods and tools of landscape assessment, applications and uses of landscape notions into territorial projects and policies.

The course proceeded over one day. Twenty trainees (11 advisers, 6 consultants, 2 teachers and 1 researcher), divided into two groups, so two sessions, have tested and debated on the BD NPV directly on the terrain studied in the Swiss country (Moudon - www.srva.ch/docs/cours/1402.pdf). In the morning, a plenary session indoors was necessary to explain objectives and examples of the NPV approach. In the afternoon, trainees could test the NPV method with diagram block on the field. For this course, I suggested two objectives. The first is to use the BD NPV to decipher the landscape with a constructivist reflexion about the spatial configurations development. The second relates to the training of the NPV method as a tool for mediation and debate about the land evolutions.

Research disciplines and approaches involved in these courses:

Several disciplines have been introduced during this course, the main of which is Geography of Representations (Lynch, 1959 ; Gumuchian, 1989 ; Antrop, 2003 ; Debarbieux, 2003 ; Bonin, 2004). Representation in geography means an image, immaterial (mental, social) or material (map, photographie, draw), individual or collective, of the “real” (Maurel, 2001 ; Debarbieux, 2003). Considering sciences of educational, communication and semiology (MacEachren, 1991), landscape is a cognitive triptych between: 1- the “real space” visible, creating signs, 2- how the signs as objects can be perceived and 3- understood. So the landscape is composed of various space scales of objects. Perception of these objects builds various mental images (social and technique). These postulates are the bases which I privilege for the analysis of the landscape representations.

Human activities can be read through the landscape (Kaplan, 1987). This landscape interpretation is different according to the interests of persons. People depend on information from many sources (Kaplan, 1987) as well as from personal and professional information. Both are intertwined. Thus, everybody has an opinion about landscape, even if few people know what landscape exactly is (Planchat, 2004). Different land practices and further injunctions also influence landscapes mental representations which contribute to improve conflicts and understanding. I consider this as a material wealth to debate and exchange. I estimate that during a course, particularly with professionals in agronomy, it is interesting to decompose with them the landscape from the field and surroundings. In this case, they not only explore their own knowledge of the landscape, which is more technical, but also have a more sensitive approach. The landscape becomes a good medium to translate representations of land practices and land images: “landscape is a knowledge, communicating and representation object” (Deffontaines, 2006). Dialogues about landscape changes can give birth to a better comprehension of the evolution of the land cover and its functions.

Another target is landscape planning and engineering: how to think in terms of land uses, land values and representation, not only production and statistics, how apprehend the field and analyse which land uses balance? So I propose to consider the Block Diagram as the synoptic-tangential method to bridge the gap between field and cartography. Indeed, professional use several tools to represent space and its changes. Maps and photos are frequently introduced into policy reports, but sometimes for non specialists they are difficult to understand, especially the first ones. For the second one, it shows a little part of the land and helps to understand territory stakes. So I propose the trainees to use the landscape “Block Diagram” (Michelin, 2000) as an intermediate view between a bottom view (synoptic) and an inside view (tangential) (Planchat and Loudiyi, 2006) In link with this target, agronomic and more particularly geoagronomic diagnosis tools are addressed. This method aims to clarify farming and urban activities as well the changes visible from landscape marks. The landscape

becomes a visual aid to comprehend, communicate and exchange. It contributes to the last target: participative approaches to match different technical points of view between, during this course, foresters, eco-consulting, environmentalists, farmers and technicians of the natural parks.

Methodology

The Block Diagram

To prepare a Block Diagram for this course I have used Google Earth® tools. They help in the recognition of the space and the relief pattern. Beside that, maps and statistics have been used to retrieve a current point of view of the territory's dynamics and the land cover. I have chosen to use drawings like synthesis to build our BD of Moudon country (fig. 1). The BD's characteristic is to be as a model of architect: each object of which it is composed (a crop, a house, a tree) can be considered independently. It helps to understand the singular or generic nature of each object or group of objects.

The BD supplements the cartography in term of visualization of the components of a space. Indeed, it provides a vision in perspective: the view in volume of the objects approaches human perception thus resulting to be more understandable and didactic than a map. This kind of representation simplifies the comprehension of interlocking of scales from an inside view to a bottom view. However, this method is not very used in rural landscape planning. This visualization of space offers a representation easily readable by the majority of people. It can thus be used during participative approaches as a support to convey conflicts and strategies according to the knowledge of the represented space that may be extracted and localized.

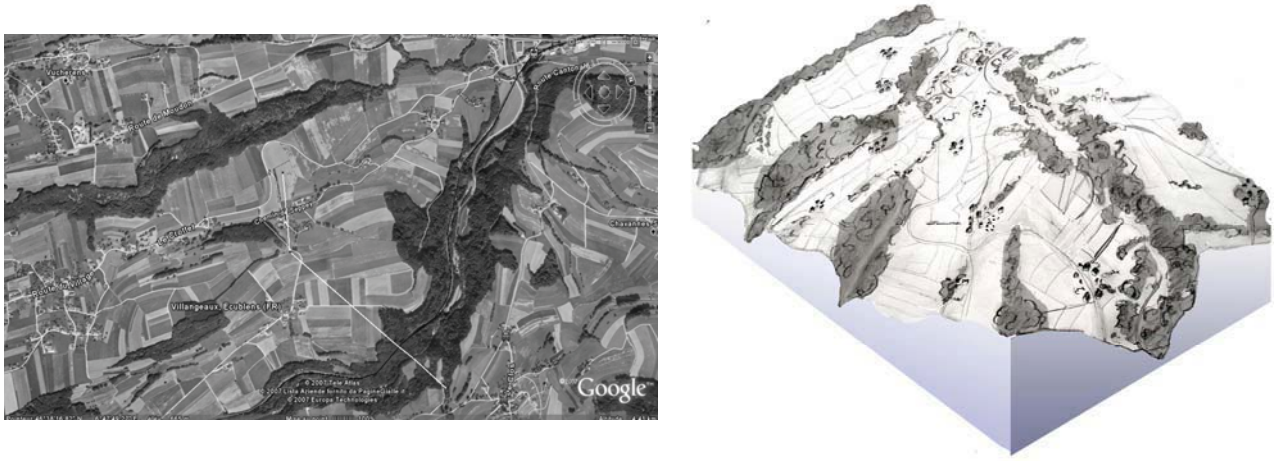

Figure 1. A sample of a Block Diagram: on the left the original map; on the right the resulting BD

The last target is to work with prospective. It helps to better understand the present and tendencies of evolution of the place. For example about urban fringes development, we can note today in the landscape a few marks of this tendency which are acknowledged. The participants will easily raise these landscape elements by characterizing them as negative for the future. The interest of the NPV is precisely to go further in the reflexion and to find possible alternatives in term of landscape planning, taking into account natural and agricultural space stakes.

"What I don't want to see for the 10 years to come", the Negative Prospective Vision

To facilitate the dialogue, I proposed the trainees to reflect starting from this BD on the elements of the landscape which they "do not wish to see within the10 years to come". It is the concept of the Negative Prospective Vision. My hypothesis is that we can speak more easily about what we dislike than what we like. This negative approach helps to reveal three targets. The first is to mobilise the constructivist perception. It is a sensory processes in cognitive psychology using sight, hearing, touch, smell,… but also colours, sounds, textures, etc. of the landscape at different scales (Kaplan, 1987 ; Verburg et al.,

2006). The second is to find words and mental representations of the space and its components. These representations reveal individual experiences and knowledge of a territory. It means to reveal resources and social strategies perceived on the space. The third is to assess elements of space which have priority in the negative values. These values can be analysed according to social groups and professional contexts. For example, a forester would have a more direct glance on timbering, an agronomist on crops, etc. Each element can be thus discussed according to more or less coherent interactions.

Activities and results

The outdoor session has taken place in three stages, for one hour. The aim of the first stage (fig.2 - Individual Landscape Interpretation) is an individual immersion in the landscape. For 10 minutes, trainees must observe the landscape, try to sketch it and note key elements they like and dislike, what is for them positive and negative.

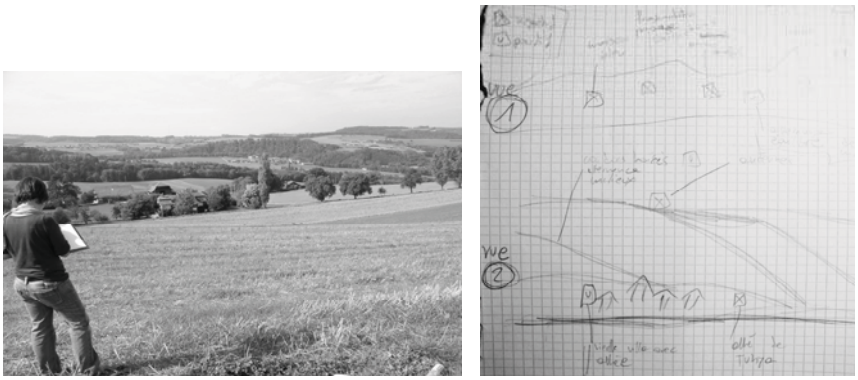

Figure 2. Individual Landscape Interpretation

Thanks to this exercise, the experts' glance and appreciations become more relevant. Trainers note themes and stakes of landscape elements. It also allows to build individual representations which will be subjected to debate.

At the second stage, the trainees gather and quote one after the other the elements they have noticed. A first objective is to confront space elements and landscape scales which instinctively struck them (tab.1). A second objective for the trainees is to start to share their opinion. The different objects raised can be analysed according to four categories: objects, groups of objects, landscape units and concepts. In this way, we consider that from the moment when an element of space is revealed according to a positive or negative value, it becomes a landscape element on which one can discuss. The raised elements and vocabulary are different according to the group. That's why in the second group the trainees were either professor and had a strong influence on the others, or some trainees were more general practitioners in the environment and other expert in a speciality.

The analysis of the scales of the landscape perception shows us that certain scales of elements are apprehended only for positive values and others more particularly for negative values. During this exercise, trainees have only found positive values for the units, describing more symbolic values. Indeed, the object scale is easier to describe with negative values. We can thus obtain a first scale of landscape components on which it seems more pertinent to launch a debate. The units scale seems to be fundamental and recognized by all as the Landscape. The group of objects scale carries more territorial mechanisms. The passage from one scale to another is one of the objectives of the following stage. It is indeed a question for the trainees to include these scale transfers in a territory and/or a landscape planning project.

		Group 1		Group 2	
objects	+	▪ churches ▪ built inheritance ▪ isolated ▪ tree		▪ isolated tree ▪ castle ▪ churches ▪ alignment of trees ▪ poplars	
	-	▪ antenna GSM ▪ maize fields ▪ villas ▪ pylons electric ▪ hedges of thujas		▪ antenna GSM ▪ asbestos roofs ▪ hangar ▪ villas	▪ silo ▪ factory ▪ blue houses ▪ agricultural buildings
groups of objects	+	▪ heterogeneous timbering		▪ village cores ▪ wooded cords / hedges	
	-	▪ residential frame ▪ divided agriculture ▪ clear limits of conifers		▪ heterogeneous extensions of the frame ▪ balance between old and modern frame ▪ allotment	
units	+	▪ natural shapes of the plantations ▪ topography ▪ undulation ▪ forest	▪ distribution of agricultural spaces ▪ mountain / peaks horizon ▪ balance between ▪ agricultural spaces and built	▪ mountain ▪ balance of undulations	
	-	▪		▪	
concepts	+	▪ forest prevalence ▪ quality of the heterogeneity of the frame ▪ mosaic		▪ harmony balance	
	-	▪ wasting of space		▪ intensive agriculture more and more of forests	

Table 1. Words and scales of landscape reading

The last step of these activities aims at matching points of view and thinking about what kind of land use strategies and particularly values can be or not mobilised for a landscape planning. Thus, we continue in the field in front of a Block Diagram attached on a board. Here group must collectively draw the elements of landscape which it does not wish to see in 10 years (fig.3). The inscription on the block of the elements emitted during this final debate enables us to obtain a landscape model of co-built trainers' representations of landscape objects and stakes. Positioned on the block, they can thus be localised and easily put on a map projection. The NVP approach helps read a "negative" vision of the space, showing a scenario of the worst. It then becomes possible to produce, according to a synoptic sight, the "positive" vision of what ones would wish to see or make for a rural planning project for example.

Figure 3. The BD NPV on the field - Moudon

The goal of this exercise is to draw on the Block Diagram what one does not wish to see, what seems ugly, stupid or incoherent (fig.4). With premium access passing by the negative one makes fear and can block the debate. But from the technical speeches, elements which are not necessarily linked with trainees' professional knowledge of this place will emerge.

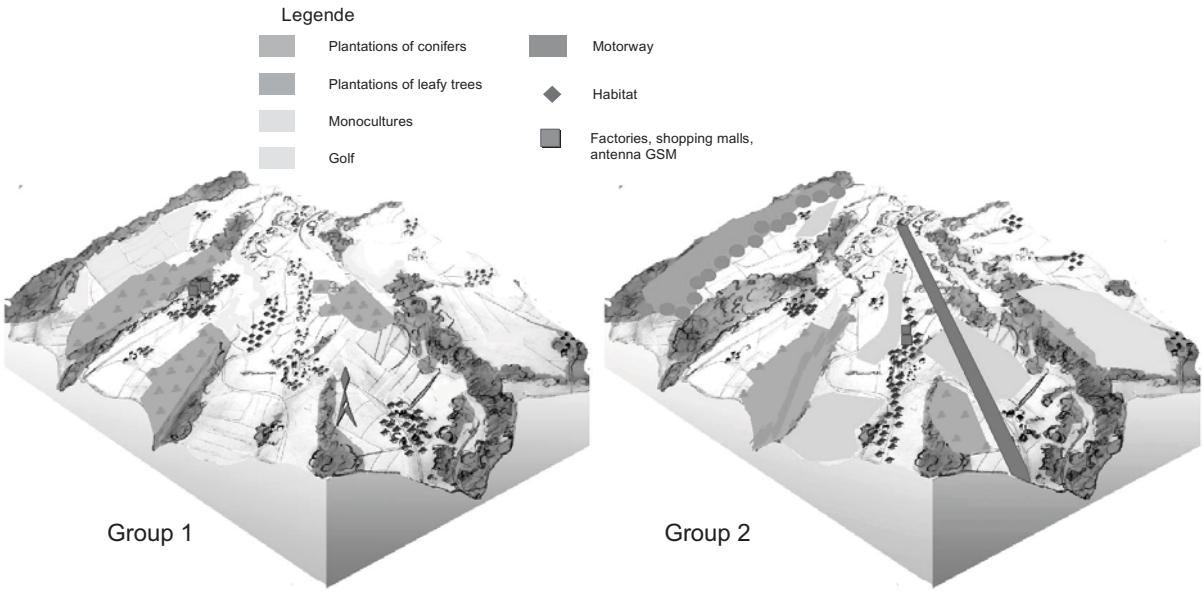

Figure 4. BD NPV Results

Finally to imagine the worst tendencies however seem easy for them. During the course, the two groups had similar and different answers, more or less ambitious. They were both more concentrated on plantations of conifers which present very symmetrical shapes contrary to the plantations of deciduous trees. They also agree to underline the risk of imbalance related to the development of the allotments and the individual habitat. Some highlighted the development of monocultures impact such as not respecting the orientations of the slopes. Starting from this type of remark the group understood the interest of the method and started to propose various solutions. One of the stakes of this method is to manage to draw on the block collectively accepted proposals. Indeed, one of the risks is that a person of the group monopolizes the conversation and makes make his proposals prevail on the others. The method then reveals, on the one hand, certain characters, certain competences, and farmhouses also, certain power struggles and authority. In other cases, the negative method sets up problems on other lands. It allows to imagine them on the landscape pattern and to subject them to the group. It happened with one group for example, with a proposition to create a motorway and golf.

I can read, through these results, the emergence of generic positive elements, specific to the European landscapes, such as: churches, village cores, isolated trees, etc. It's similar for negative objects, such as villas, residential frame unaccepted on rural-urban territories. Indeed, this exercise highlights a main issue on behalf of the experts in agronomy and landscape planning: the importance to know or not a territory in order to better reveal its singularities. Experts' techniques of landscape planning implement too general practitioner methods and concepts of spatial diagnosis. The BD NPV use allows to localize the stakes and to give a scale to the landscape representations. Because of this kind of intermediate view, results drawn and discussed can be easily translated on a map which is one of the favoured material representations used in landscape planning studies.

Conclusion

In conclusion, the AGRIDEA agency could instruct the BD NPV tool as an interesting communication tool to environmental experts. A challenge of this tool is for the agricultural professionals to recognise the landscape, but also the role of the landscape as a support for the reading of land issues. Finally, in a forward-looking approach, a last challenge is consider impacts which can be detected in this landscape. With this methodology, we can teach and spatially explicit objects having general impacts of human activities on landscapes as well as consequences on intrinsic territorial dynamics. These tools have been essentially mobilized with trainees working ever employed and not specifically with students. However, according to them, they can be more easily seen as landscape planning actions problems introduced by general and specific agricultural, forestry and rural development stakes. I note nevertheless that the landscape approach for rural development relates practically each time to the

question of the individual habitat development and this fear for professionals not to be able to control individual acts.

For the research, the course permitted to test BD NPV tool with other people than regional stakeholders. It improves its interest in the easy and significant use to better understand land structures, meanings and stakes. Professional trainees are interested in mobilising different scales of signs and elements recognised and assessed during these exercise. They were quite surprised that they could constructively speak and share about agronomy, forestry and territory from landscape patterns without conflicts. After an audit of the course, these professionals have proposed to use the NPV approach in their own projects, such as the revision of the plans of urban documents, project of fighting against erosion. The tool Block Diagram is also much alluring, even if its development is held for the geographical and landscape designer's technical knowledge. Nevertheless, they wish to use it as a tool for visualisation of development project of networks and urbanization, but also within the framework of consultation of the stakeholders and discussions with other inhabitants, particularly farmers, into new landscape planning project.

References

Antrop, M., 2003. Continuity and change in landscapes. Ü. Mander, M. Antrop, (Eds) *Multifunctional Landscapes,* 3, WIT Press, Southampton, UK, 1-14.

Benoît, M., Deffontaines J.-P., Lardon, S. (Eds), 2006. *Acteurs et territoires locaux*. Paris, INRA.

Bonin, S., 2004, Au-delà de la représentation, le paysage. *Strates* n°11

Debarbieux, B. Lardon, S. (Eds), 2003. *Les figures du projet territorial*. La Tourd'Aigues, Editions de l'Aube.

Debarbieux, B. (Eds) 2003. Neuf enjeux de l'iconographie de projet et de prospective de territoire. in Debarbieux, B. Lardon, S. (Eds), *Les figures du projet territoriales*. La Tour d'Aigue, Bibliothèque des Territoires , 13-36.

Deffontaines J.P., 2006, Analyse du paysage, in Benoît M., Deffontaines J-P, Lardon S., *Acteurs et territoires locaux, vers une géoagrinomie de l'aménagement*, Paris, Quae ed. , 69-84.

Gumuchian, H. (Eds) 1989. Les représentations en géographie, définitions, méthodes et outils. *Représenter l'espace*. Paris, Antropos. 29-42.

Kaplan, S. 1987. Aesthetics, Affect, and Cognition, Environmental Preference from an Evolutionary Perspective, *Environment and Behavior*, Vol. 19, No. 1, SAGE Publications, University of Michigan, 3-32.

Lynch, K. (Eds) ,1959. *The image of the city*. Mass., The MIT Press.

MacEachren, A. M. 1991. The role of maps in spatial knowledge acquisition. *Cartographic Journal,* 28.152-162.

Maurel, P. 2001. Les représentations spatiales : concepts de bases et éléments de typologie. in Lardon,S.Maurel, P. Piveteau,V. (Eds) *Représentations spatiales et développement territorial*. Paris, Hermes.75-108.

Michelin, Y. 2000, Le bloc-diagramme : une clé de compréhension des représentations du paysage chez les agriculteurs*?, Cybergeo* n°118 [online] URL : http://www.cybergeo.eu/index1992.html

Planchat, C., 2004, Les chartes Locales Architecturales et Paysagères: outils, territoire et politique, Le cas du PNR des Volcans d'Auvergne, in Pernet, A., le Centre du Paysage (Eds) Les chartes Locales Architecturales et Paysagères en Auvergne, Lavoûte-Chilhac, 97-110.

Planchat, C., Loudiyi S., 2008. Objets et représentations paysagères des territoires en périphérie d'agglomération. Illustration à partir du Pays de Billom St-Dier. (Puy-de-Dôme). in programme ACI *Vers les paysages de demain: outils iconographiques et ressources territoriales. Des représentations à la valorisation*, ENITA de Clermont-Ferrand, 10-12/04/2006, under press.

Verburg, P.H. Rounsevell, M.D.A., Veldkap, A., 2006. Scenario-based studies of future land use in Europe. Agriculture, Ecosystems & Environment, 114, 1, 1-6.