

Implementing Sustainable Agriculture and Rural Development in the European Alps

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Implementing Sustainable Agriculture and Rural Development in the European Alps

Assets and Limitations of Local Projects Based on Multi-stakeholder Participation

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In current scientific and political discourses there is common agreement that the future of Alpine agriculture is a challenge not only for farmers, but also for society at large. What remains unclear is the question of how to adapt

agriculture towards sustainable development of the Alpine territory in a manner that takes sufficient account of local diversity. We propose to treat agriculture and rural development as a matter of local concern, starting with a definition of sustainable agriculture drawn up by local stakeholders. Based on a 3-year experiment, we examine the capacity of local people to take joint action to contribute in a consistent way to rural development and to sustainable agriculture. We discuss the assets and limitations of local projects based on multi-stakeholder participation, ie in relation to their capacity to initiate closer links between farmers and other stakeholders and renew the contribution of agriculture to rural development. Our paper highlights 2 main points: first, how social dynamics are initiated and how farmers and other actors take joint action towards sustainable development; second, we analyze the impact of such local projects on agriculture and rural development and the counterbalancing effects of global factors, including market trends and related policies. Finally, we discuss the consequences of our results for policies targeting sustainable rural development.

Keywords: Agriculture; rural development; collective action; local projects; sustainability; policy; European Alps.

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Introduction

In the Alps, farming has a major impact on land use, landscape, rural life, and development. Alpine agriculture is declining and to manage its future in accordance with rural development stakes is a key challenge if the natural and cultural value of the Alps is to be maintained and if they are to remain attractive to tourists and local people alike. Thus agriculture is not only a matter of sectoral concern but requires a territorial approach. In scientific and political discourses (O'Connor et al 2006), there is common agreement today that the future of agriculture is a challenge not only for farmers, but also for society at large. What remains unclear is the

question of how to adapt agriculture towards sustainable development of the Alpine territory in a manner that takes sufficient account of the complexity of social, economic, and environmental diversity.

We face 2 major difficulties. On the one hand, the standard approaches based on a set of measures applied at individual farm level showed some limits in the reorientation of agriculture. Research has revealed that despite the process of reforming the Common Agricultural Policy (CAP) and farmers' commitment in agro-environmental schemes, farmers often continue to intensify and specialize their farms (Walford 2003). On the other hand, there is an increasing awareness of the relevance of approaches enhancing mutual learning and cooperation (Heinz 2002; Wiesmann et al 2005). Thus the concept of local projects involving the principle of participation is often seen as a solution to handle local diversities and to reinforce solidarities between actors working towards sustainable development. But such approaches entail the difficulty of combining agricultural and rural development issues. Indeed, the limited integration of agriculture and farmers has often been observed in current assessments of rural development projects (Trouvé 2004). This could be related to the sectoral orientation of farmers and agricultural organizations. On the other hand there is also a lack of interest expressed by other stakeholders who consider mountain agriculture to be an activity on the decline, doomed to disappear without any major economic impact (MacDonald et al 2000). Bridging agriculture and sustainable local development therefore remains a key challenge for maintaining farming in mountain regions.

Based on a 3-year experiment, this paper analyzes the capacity of local people to take joint action to contribute to rural development and sustainable agriculture in the Alps. We discuss the assets and limitations of participative projects in initiating closer links between farmers and other stakeholders and in renewing the contribution of agriculture to rural development. After presenting the methodology, this paper focuses on 2 points:

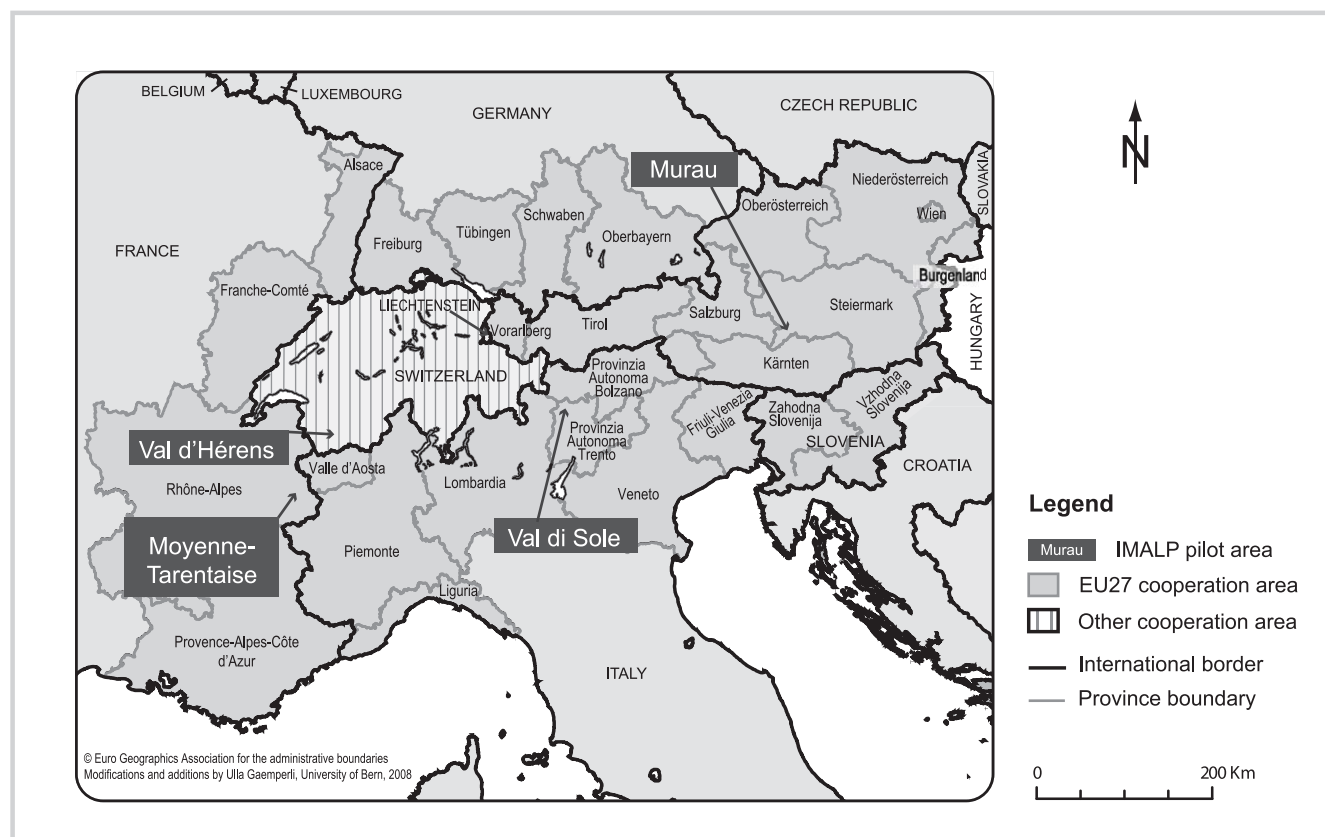
- How social dynamics between farmers and other actors are initiated and enable them to take joint action towards sustainable development;
- The impact of these local projects on agriculture and rural development and the counterbalance of global factors, including market trends and related policies.

Materials and methods

The IMALP project

IMALP (Implementation of Sustainable Agriculture and Rural Development in Alpine Mountains) was a research and demonstration project (2003–2006) which involved 4 pilot areas across the Alps (Moyenne-

FIGURE 1 Location of the 4 pilot areas in the European Alps. (Adapted by Ulla Gaemperli from: http://ec.europa.eu/regional_policy/images/map/cooperat2007/transnational/alpinespace.pdf, accessed on 14 August 2008; courtesy of European Commission)



Tarentaise, France; Val d'Hérens, Switzerland; Murau, Austria; Val di Sole, Italy; see Figure 1). IMALP initiated an experimental situation where a group of local stakeholders comprising around 20 people (farmers, elected officials, and NGO members) designed and implemented a consistent set of actions towards sustainable agriculture and rural development. This demonstration part was associated with a research part aiming at assessing this experience.

The demonstration part was organized in 2 phases. First, using the “future workshop” method (Jungk and Müllert 1996), the wishes and objectives of the so-called “local groups” for sustainable agriculture and rural development were determined in each pilot area in a collective process in which sectoral interests and points of view were diverse and were articulated in a particular way. This resulted in the elaboration of collectively defined action plans in favor of sustainable agriculture and rural development. Second, over a period of 3 years, a set of actions was initiated and implemented in a participative way. For each action, an “action group” of 5–10 people ensured its practical implementation. Throughout implementation, the “local group” was in charge of safeguarding consistency of the overall action plan comprising 4–8 actions. In total, 19 actions were

implemented in the 4 pilot areas, including the following: design and implementation of contracts for landscape maintenance, development of agri-tourism and educational activities, design of forms and means of communication about agriculture, establishment of a new food production and marketing chain, development of wood-based energy production, etc.

For the research part an interdisciplinary approach covering sociological and agronomic aspects was developed to better understand how stakeholders gradually design and implement their action plans.

Methodologies used in the research part

To survey the capacity of local people to take joint action, permanent monitoring of local and action groups was carried out in the 4 pilot areas. In each meeting the following data were recorded: participants, consensual and conflictual topics, interactions between members, methods of facilitation, ways of decision making, and major outputs (concrete actions, documents, etc.). To analyze this process we used a method derived from Actor Network Theory (Law 1992; Latour 2005). This is a constructivist theory. At its center is the concept of translation in which stakeholders attempt to create a network. During the process of translation, the

FIGURE 2 A services cooperative of farmers in Moyenne-Tarentaise, France. (Photo by Sandrine Petit)



identity of actors, the possibilities of interaction, and the margins of maneuver are negotiated and delimited (Callon 1986).

The impact of actions on the sustainability of agriculture was assessed at farm level using an interdisciplinary approach with 6 environmental, 6 economic, and 6 social indicators. This approach combines standard indicators, such as stocking rate and fertilization, and specific indicators, such as workload (Dedieu et al 2000), as well as farmers' perceptions about relations with the municipality, local people, and the food chain. To make a comparative analysis possible, the sampling is made up of farmers involved in IMALP (10 farms per area) and of farmers not involved (5 farms per area). We conducted 15 farm surveys per pilot area on 2 occasions, separated by a 2-year interval (T0: 2003 and T+2: 2005).

To evaluate the overall impact of the IMALP project on rural development and on local awareness of sustainability, we carried out a survey of local stakeholders. This survey was conducted at the end of the project and totaled 15–20 individual interviews per pilot area. In both demonstration and research parts, a special focus was placed on the implementation of actions, setting this study apart from the majority of existing approaches to participative projects which are mainly concerned with the design phase.

Results

Towards a concrete approach to sustainable agriculture

Although many political documents have been drafted to specify the basic concept of sustainable development, the debate regarding the meaning of the term “sustainability” remains open. An original aspect of IMALP concerns its association of two approaches to sustainability: the view of local actors on the one hand, and an expert assessment (Table 1) on the other. This combination results in a concrete approach to agricultural sustainability.

A salient feature is the importance given by the local groups to the social component of sustainability. The place of agriculture in the local area and the relations between farmers and other stakeholders were real concerns (41% of farmers were unsatisfied with their relations with other people). The action plans encouraged closer partnerships with local stakeholders such as schools or the tourism sector. In Moyenne-Tarentaise, for instance, the tourism office got involved in supporting agri-tourism projects; it provided its expertise to the local group to shoot a film presenting farming in mountainous areas; and it also contributed to forging relations between farmers and municipalities by designing a leaflet presenting the characteristics of farms and the possible services offered by farmers to municipalities. Indeed, better communication about the agricultural

TABLE 1 Scientific assessment of sustainability at farm level in the 4 pilot areas of IMALP. Peak days = days when daily obligatory work (eg milking) is longer than 8 hours + days entirely dedicated to seasonal tasks (eg hay making). The data were collected during 2 surveys conducted in 2003 (T0: launch of actions) and 2005 (T+2: 2 years of implementation) from a sample of 64 farms.

Sustainability component	Indicator	Threshold for “unsustainable performance”	% of farms with unsustainable performance	
			2003	2005
Social aspects	Level of satisfaction regarding relationships with municipality, local people, food chain, other farmers	Farmer unsatisfied or very unsatisfied with one or more of these relationships	41%	41%
Workload	Number of peak days and satisfaction regarding workload	More than 120 peak days per year or farmer unsatisfied or very unsatisfied with workload	58%	55%
Environment	Level of intensification based on stocking rate and fertilization	Fertilization higher than 100 nitrogen units/ha or stocking rate higher than 2 livestock units/ha	11%	16%
Economic aspects	Agricultural income/annual agricultural work unit	Income lower than the legal minimum wage: EUR 14,600 in France, same value in Austria (where a legal minimum wage does not exist), EUR 15,100 in Italy, EUR 22,000 in Switzerland (where a legal minimum wage does not exist)	41%	33%

sector was an objective of several action plans; this reflected farmers' preoccupation with being understood and recognized by other stakeholders.

The working conditions of farmers are a controversial matter. The expert assessment highlighted high workloads in 3 pilot areas (Val d'Hérens, Val di Sole, Moyenne-Tarentaise). However, in the local groups this diagnosis was only echoed in Moyenne-Tarentaise, where an attempt has been made to establish a collective structure for mutual help between farmers (Figure 2).

The term “environment” appears to have many meanings, despite a general consensus on the positive impact of agriculture on landscape. Farming systems in the Alps usually generate a positive impact: maintenance of permanent grasslands, contribution to plant and animal diversity, limited use of pesticides in livestock farms, etc. Only 11% of the farms in our sample presented an unsustainable performance in 2003, when we first assessed farm sustainability. High stocking rates and the related intensification of foraging (fertilization and purchased feeds for cattle) in certain farms are the major problems. When discussing the environmental sustainability of farms, stakeholders mainly interpreted it as a landscape challenge. Consequently actions to recover abandoned lands were undertaken in France, Italy, and Switzerland.

Agricultural income is a weak point for a high proportion of farms (41% at T0). Accordingly, we assessed the percentage of farms with an income lower than the legal minimum wage, considering this figure as a possible indicator of the number of farms at risk of closing.

The economic situation of farms is more dependent on external factors, such as market trends and support through policies, than on local-level initiatives. However, some actions had an impact on farmers' income, such as the development of on-farm tourism activities (France, Switzerland, Italy) and the establishment of a new marketing chain (for meat from Hérens cattle in Switzerland).

Implemented local actions towards sustainability: social dynamics requiring capacity building and network establishment

In all 4 pilot areas, we noticed that the local actors had considerable difficulties shifting from a common strategic project to the practical implementation of actions. In this section we analyze how they faced up to this challenge and how finally stakeholders took joint action. If we refer to concepts taken from the sociology of translation (Callon 1986), we can say that the translation of ideas or problems into action encompasses 4 major dimensions: 1) continuous refining of sustainability issues, 2) broadening the scope of actors, 3) sharing roles and duties, and finally 4) taking joint action.

Continuous refining of sustainability issues: A first stage involves debating about different issues (landscape encroachment, shortage of labor, lack of communication with local authorities, etc) and then defining solutions. One of our main results is that formulating a problem does not end once a solution or action plan has been determined. It is an iterative process and often the problem can be reformulated several times,

FIGURE 3 On-farm educational activities in Val di Sole, Italy: A farmer shows schoolchildren how cheese is made. (Photo by Daniela Turri)



not only at the early stages when the group is defining objectives, but also later in the action implementation phase. There are a number of reasons for this. In the action implementation phase, concrete decision making modifies the problem, requiring new knowledge in that issues are taken into account that were initially ignored. Reformulation may also be related to changes within the local group and its network. Stakeholders from outside often initiate reformulation as they bring in new perspectives, new kinds of knowledge and networks. In Murau, for instance, the cooperative for wood energy changed its objective from selling wood chips to being a major actor of “Energy Vision 2015.” This project launched in the district of Murau in 2001 aims at achieving energy self-sufficiency for the whole district by the year 2015. Reformulation of the problem has gone hand in hand with a scaling-up of the group and a broadening of the partnerships forged at regional level.

Broadening the scope of actors: Taking action is a social process which calls for establishment of a network of different stakeholders. The initial actors thus have to solicit the participation of others. Stakeholders might be considered as relevant because they have special expertise, are key partners in a sector that the group cannot ignore, are sources of possible funding, or can carry out some of the tasks envisaged. One challenge may be to involve stakeholders from sectors other than farming. In Val di Sole, for example, in an action involving educational activities (Figure 3), the first stage was to arouse the interest of school representatives. The group thus contacted the director of the main valley school, a contact that turned out to be fruitful as that person later became the leader of the action.

Sharing roles and duties: If arousing the interest of new stakeholders is a key stage for action progress, obtaining their enrolment and continued participation turns out to be crucial. Indeed, participants have to become actors and individual strategies have to be articulated within a collective strategy. The handing over of individual responsibilities is a tricky stage. It requires an extensive appropriation of the process and a personal commitment to accepting the idea of change along with the risks of failure. Implementation succeeds when enrolment is extended to a consistent network of stakeholders and consolidated by institutionalized rules. In Val d’Hérens, for an action involving beef production and local marketing, the action group succeeded in setting up a working network of farmers, butchers, and restaurant managers. The creation of an association has allowed the roles of the various actors to be defined.

Taking joint action: When stakeholders form a consistent network inside and outside the local area and take joint action, the action can be considered to be at a successful stage. A spokesperson is designated and represents the group. Actions progress thanks to coordinated and collective commitment from all participants. Afterwards, success depends on the capacity to evolve and make adaptations enabling new actors to become involved while retaining the initial actors. However, success of an action is never assured, for it is an ongoing process and may fail due to changing conditions. Changes may result, for example, from internal causes, such as conflict between actors, or external causes, such as a downturn in the economy that can call into question the entire action.

Assessment of the impact of local actions in relation to major driving forces such as prices and policies

The IMALP actions had an impact on farm economies in the case of farms that changed their strategies, for example by starting a new activity to achieve diversification or by introducing direct sales of a new product: development of quality meat products, diversification of farms towards agri-tourism, and educational activities. These actions were successfully implemented and had appreciable positive impacts on farm incomes. For other farms (dairy farms), the economic impact of the project remained limited. Farm incomes are mainly related to global factors, including market trends and related policies. Our analysis showed that between 2003 and 2005 in each of the 4 areas some farms scaled up production by increasing herd size or raising the level of productivity per cow. This strategy is standard practice following a decrease in milk prices. Consequently, the economic component is only partially influenced by local projects, especially if they encourage alternative strategies such as new on-farm activities.

The environmental components of sustainability raise the same issue: balancing factors that are outside the control of the local area and factors easily influenced by local stakeholders. In general, components depending on factors outside the control of the local area (such as global climate change) were not tackled by stakeholders. Landscape upkeep contracts between farmers and municipalities are major issues well addressed and managed by local projects. The contracts in the IMALP project specified the areas to be recovered and the agricultural practices to be used (mechanical or manual clearing, grazing). Biodiversity and manure management remain delicate issues. In Moyenne-Tarentaise, just one farmer signed a contract with an environmental NGO to test a type of farm management meeting strict requirements in terms of biodiversity. Regarding manure management, not many farmers were interested in the use of a manure curing machine proposed in Val di Sole. Energy use was only addressed in Murau. Possible reasons for this lack of involvement include environmental concerns being perceived as external debates (as with biodiversity) or, in the case of manure management, latent conflicts between farmers and village inhabitants or within the farmers' group that make them reluctant to address this issue. As regards biodiversity management, there was a mutual lack of trust between farmers' representatives and the environmental sector. Obtaining the involvement of farmers, municipalities, and the environmental sector requires relevant methods of activation. Despite these difficulties, local and regional agreements in the field of environment and nature preservation are of major significance in preserving the natural heritage in the Alps (Wiesmann et al 2005).

Finally, the main output concerns the social component of sustainability and the dynamics for rural development. A comparative analysis of the 4 pilot areas involved in the project shows that IMALP has helped to link agricultural sustainability and local development in 2 major ways. First, by developing both empowerment and skills of local stakeholders: In the final survey we noticed a greater awareness of the principle of sustainable development and of the links between agriculture, the economic activities of the local area, and the future of its inhabitants: for instance, stakeholders declared that the IMALP project had encouraged a common feeling of being part of a group and a territory. Farmers realized that they were not as marginal as they had often assumed and that agriculture remained important for the future of the local area. Second, by extending social capital and creating an efficient working network of stakeholders: We noticed the development of new relations between agriculture and other sectors such as environmental protection, tourism, handicraft, and energy production. In addition, it is also necessary to

point out the establishment of new links between various farmers and certain types of agricultural production in the local groups (eg between goat/sheep and cow breeders, between meat and cow milk producers).

Conclusion

The results of the above analysis lead to the following conclusions regarding the assets and limits of participatory multi-stakeholder projects and appropriate support through policies.

Combining general agricultural support and orientation policies with supportive policies for local action

The impact of local participation projects is counterbalanced by the influence of major economic driving forces that are often outside the control of the local area: CAP, milk prices, food sector strategies. These forces create uncertainties which induce farmers to adopt standard strategies such as scaling-up and intensification. Thus, to ensure a minimum of stability in farm income and in the strategic orientation of farmers, direct payments are a pre-condition for maintaining Alpine agriculture. However, they are not sufficient to promote sustainable development based on local resources and collective initiative. To reinforce the capacity of local and collective initiatives, it is important to combine existing support, mainly at farm level, with supporting policies for local projects. This concerns both training of facilitators, technical advisors, extension services, and local leaders and providing the necessary means for local activation.

Revisiting the concept of action in policies for sustainable agriculture and rural development

Conventionally, the design and implementation of projects is analyzed as a linear process, with successive phases of management such as definition of objectives and risks, planning of actions, implementation, adjustments, and evaluations of results according to the extent to which objectives have been achieved (Europe Aid 2004). Our main assertion is that implementation of the "local governance" principle (multi-stakeholder and participative approaches) in small-scale projects requires an alternative view of the phases of project management (IMALP project© 2006).

Conception and action are intermingled phases. Collective action towards sustainability is a process where goals, values, knowledge, and relations are re-constructed continuously (Hatchuel 2000). Our results emphasize 2 major points. First, action always starts without full knowledge of a problem and action produces knowledge. Second, social concerns such as involvement of stakeholders, definitions and breakdowns of duties and responsibilities are of major impor-

tance for the success of an action. As a consequence, the problem and the objectives are constantly re-examined and the outcome is not known in advance.

In a project, output is both non-tangible and tangible. Examples of non-tangible results include exchange of knowledge between stakeholders, mutual learning through joint efforts to specify actions, setting-up of networks, and increases in capacity building. Such results are difficult to measure in a precise manner. Projects also produce tangible results, though: a leaflet reflecting the collective dynamics of farms involved in diversification, signing of contracts for landscape up-

keep, works for land recovery, setting-up of a new meat production chain, etc.

Consequently, accepting redefinition of the objectives of a project, associating the design and the implementation of projects in a holistic way, giving priority to a progressive learning path are the major recommendations that emerge from our research. Despite the difficulties and the uncomfortable situation for policymakers, these are some of the conditions which need to be met to reinforce the ability of participative local projects to reach concrete results towards sustainable local development.

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REFERENCES

- Callon M.** 1986. Eléments pour une sociologie de la traduction. La domestication des coquilles Saint-Jacques et des marins-pêcheurs dans la baie de Saint-Brieuc. *L'Année Sociologique* 36:169–208.
- Dedieu B, Serviere G, Jordan A.** 2000. Work organization and livestock management: Lessons from “Bilan Travail” studies. In: Gagnaux D, Poffet JR, editors. *LFS: Integrating Animal Science Advances into the Search for Sustainability*. Proceedings 97. Posieux, Switzerland: The European Association for Animal Production, pp 374–377.
- Europe Aid.** 2004. *Project Cycle Management Guideline*. http://ec.europa.eu/europeaid/multimedia/publications/documents/tools/europeaid_adm_pcm_guidelines_2004_en.pdf; accessed on 14 August 2008.
- Hatchuel A.** 2000. Intervention research and the production of knowledge. In: Cerf M, Gibbon D, Hubert B, Ison R, Jiggings J, Paine M, Proost J, Roling N, editors. *Cow Up a Tree: Knowing and Learning for Change in Agriculture. Case studies from industrialised countries*. Paris, France: INRA Editions, pp 55–68.
- Heinz I.** 2002. Co-operative agreements to improve efficiency and effectiveness of policy targets. In: Brouwer F, van der Straaten J, editors. *Nature and Agriculture in the European Union*. Cheltenham, United Kingdom: Edward Elgar Publishing, pp 233–251.
- IMALP project.** 2006. *Guidelines for Promoting Sustainable Agriculture in Alpine Mountain Regions: Insights into Handling Social Dynamics in Project Management* [available in English, French, German, and Italian]. Chambéry, France: Les éditions de la page blanche. <http://www.alpes-du-nord.com/malp/handbook.html>; accessed on 14 August 2008.
- Jungk R, Müllert NR.** 1996. *Future Workshops—How to Create Desirable Futures*. London, United Kingdom: Institute for Social Inventions.
- Latour B.** 2005. *Reassembling the Social—An Introduction to Actor-Network Theory*. Oxford, United Kingdom: Oxford University Press.
- Law J.** 1992. Notes on the theory of the actor-network: Ordering, strategy and heterogeneity. *Systems Practice* 5:379–393.
- MacDonald D, Crabtree JR, Wiesinger G, Dax T, Stamou N, Fleury P, Gutierrez Lazpita J, Gibbon A.** 2000. Agricultural abandonment in mountain areas of Europe: Environmental consequences and policy response. *Journal of Environmental Management* 59:47–69.
- O'Connor D, Renting H, Gorman M, Kinsella J, editors.** 2006. *Driving Rural Development: Policy and Practice in Seven EU Countries*. Assen, The Netherlands: Royal Van Gorcum. <http://www.ucd.ie/bioenvsci/documents/Rural%20Dev.pdf>; accessed on 14 August 2008.
- Trouvé A.** 2004. Les régions, acteurs des politiques agricoles. Analyse comparée entre la Bavière et le Schleswig Holstein. *Economie Rurale* 282:9–21.
- Walford N.** 2003. Productivism is allegedly dead, long live productivism: Evidence of continued productivist attitudes and decision-making in South-East England. *Journal of Rural Studies* 19:491–502.
- Wiesmann U, Liechti K, Rist S.** 2005. Between conservation and development: Concretizing the first World Natural Heritage Site in the Alps through participatory processes. *Mountain Research and Development* 25:128–138.