

**Zeitschrift:** Agrarwirtschaft und Agrarsoziologie = Économie et sociologie rurales [1980-2007]  
**Herausgeber:** Schweizerische Gesellschaft für Agrarwirtschaft und Agrarsoziologie  
**Band:** - (2006)  
**Heft:** 1

**Artikel:** Towards sustainable agriculture in the Alps : participative approach and social dynamics in Val d'Hérens, Switzerland  
**Autor:** Miéville-Ott, Valérie / Roque, Olivier  
**DOI:** <https://doi.org/10.5169/seals-966553>

### **Nutzungsbedingungen**

Die ETH-Bibliothek ist die Anbieterin der digitalisierten Zeitschriften auf E-Periodica. Sie besitzt keine Urheberrechte an den Zeitschriften und ist nicht verantwortlich für deren Inhalte. Die Rechte liegen in der Regel bei den Herausgebern beziehungsweise den externen Rechteinhabern. Das Veröffentlichen von Bildern in Print- und Online-Publikationen sowie auf Social Media-Kanälen oder Webseiten ist nur mit vorheriger Genehmigung der Rechteinhaber erlaubt. [Mehr erfahren](#)

### **Conditions d'utilisation**

L'ETH Library est le fournisseur des revues numérisées. Elle ne détient aucun droit d'auteur sur les revues et n'est pas responsable de leur contenu. En règle générale, les droits sont détenus par les éditeurs ou les détenteurs de droits externes. La reproduction d'images dans des publications imprimées ou en ligne ainsi que sur des canaux de médias sociaux ou des sites web n'est autorisée qu'avec l'accord préalable des détenteurs des droits. [En savoir plus](#)

### **Terms of use**

The ETH Library is the provider of the digitised journals. It does not own any copyrights to the journals and is not responsible for their content. The rights usually lie with the publishers or the external rights holders. Publishing images in print and online publications, as well as on social media channels or websites, is only permitted with the prior consent of the rights holders. [Find out more](#)

**Download PDF:** 08.02.2026

**ETH-Bibliothek Zürich, E-Periodica, <https://www.e-periodica.ch>**

# **Towards sustainable agriculture in the Alps: participative approach and social dynamics in the Val d'Hérens, Switzerland**

Valérie Miéville-Ott and Olivier Roque, Institut d'Economie Rurale - Antenne Romande, Zürich, Switzerland

## **Abstract**

IMALP is a European research and demonstration project with 4 partners of the Alpine area (Austria, France, Italy, and Switzerland). The project aims to implement, through a shared participatory approach, demonstrative actions for sustainable agriculture and rural development in four regions of the Alps. The objective is to compare the processes and the results in order to assess the abilities of local people to manage collective change towards sustainable local development and to provide methodological tools and policy recommendations to support them. This paper will first present the general design implementation of the project in the four study areas, then the intermediary results of the process in the Swiss area and finally discuss some general questions about actors' dynamics.

## **1. The Research and Action Context: A European Project of Research and Demonstration**

### **1.1 Methodological and theoretical issues**

IMALP is a research and demonstration project, based on a participatory approach (Fleury et al. 2004). Demonstration project aims generally at changing social practices (Hatchuel 2000) and participatory approach means changing social practices by and for the people concerned (Röling and Wagemakers 1998; Brydon-Miller et al. 2003). These two characteristics of the project imply methodological and scientific choices. As regards methodological issues, we have to think about the more adequate activation tools in order to obtain and maintain good participation, expression of all the opinions, transparency in decision making, and involvement in the implementation. From a sociological

point of view, we have to question the meaning of change and how change can be made acceptable to local people (Olivier de Sardan 1995). The scientific ambition is also to highlight the success or failure factors in the implementation of actions and to assess the role of social dynamics in the results. In order to analyse such a collective dynamics with growing and multiple relationships we need a flexible tool that allows first to illustrate what is happening really, and secondly to understand and analyse the nature of the dynamics. For that reason we refer also to the social capital and network theory (Granovetter 1973; Coleman 1988; Woolcock 1998; Burt 2000).

## **1.2 Four main stages of the project**

In all the project areas similar methodological steps have been followed to enhance the sustainability of agriculture at farm and territorial levels.

The first step was to constitute a local group of various relevant stakeholders. The role of this local group is quite central in a participatory approach in order to privilege endogenous perceptions, representations, strategies and objectives. The central goal is to make local points of view emerge about the present situation, the priority stakes and the actions to be engaged to improve local development. The participatory approach aims to get local people more involved and more active in the definition of their future.

The second step was to establish and share a common diagnosis of the area. This diagnosis takes into account the environmental, economic and social components of sustainability as seen by local people. This stage initiates the collective construction of representation of the local situation, of its stakes, goals and means to reach them. This collective construction of a diagnosis requires a legitimate and representative local group to be shared and accepted. So, in all areas, a variety of stakeholders have been involved in a local group: farmers, elected representatives of municipalities, environmental associations, representatives of economic branches concerned by agriculture (tourism, crafts).

Thirdly, central stakes have to be translated into real actions and in order to do this, the local group has to design an action plan. The applied methodology was inspired from "tree objectives". In each area, 4 to 5 central stakes were identified and translated into concrete actions. In Switzerland, for instance, four stakes were selected, corresponding to 10 actions. Some actions are common to all the areas, like the devel-

opment of the collective promotion and marketing of local agricultural products and the promotion of agro-touristic activities on the farm.

Implementation constitutes the core of the project in terms of duration and activation. It is an important phase during which potential conflicts can arise after the relatively consensual stage of the diagnosis. It is also an important step from a network analysis point of view. Implementing actions requires opening the existing network of local people to other stakeholders, for example operational actions holders, experts, financial holders. This stage is characterised by an important and progressive enlargement of the IMALP network. In Switzerland, the number of people involved has increased from 17 members of the local group to more than 50 persons involved in the different action groups.

This enlargement puts in debate some methodological questions. On the one hand, it is clearly a positive point in terms of social dynamics that illustrates an increasing motivation of local people. But on the other hand this dynamics can also have more delicate consequences: it can result in specialised and atomised groups, focusing only on one action, losing the overall consistency of the project. The local group, with the help of the local activator, has the task to prevent this possible evolution and to give sense and cohesion to the whole local project. Another challenge is to afford equal attention and responsibility to all involved actors, not only to the more dynamic ones.

A major task concerns both local actors and scientific experts: it is the scientific evaluation of the project that has to be done during all the duration of the project. This evaluation is conducted both quantitatively, with the implementation of a set of sustainability indicators, and qualitatively, with a sociological analysis of actors' dynamics and self-learning. A monitoring of the state of progress of the project is also conducted by the local group.

First, we will present intermediary results of the project in the Swiss area of the Val d'Hérens (Valais), and then we will discuss some more general remarks about local governance and its role in the path toward changing social practices.

## **2. Implementation of Actions in Favour of sustainable Agriculture in Switzerland**

### **2.1 Four action groups**

In the Val d'Hérens, four main stakes were selected with ten corresponding actions. Four action groups have been constituted and have been responsible for the designing and implementation of the actions. We will describe this dynamics and organisation with a special highlight on success and blocking factors.

#### **2.1.1 Meat chain group**

##### **Description of the process**

This issue emerged very rapidly during the first meetings of the local group. All the participants agreed to focus on the production, promotion and marketing of high quality local products. A meat action group was constituted around this central issue of valorisation of local meat. At the beginning, the issue concerned both cattle and lamb meat. But, after some investigation about the number of sheep breeders really interested, it was decided to focus first on cattle meat.

Different stages in the evolution of this group can be identified, both in terms of objectives and in terms of organisational process. At the beginning, the initiating group was composed of three farmers and one restaurant keeper interested in the valorisation of local meat. This was clearly not sufficient to initiate a meat chain and it was necessary to enlarge this first group. A letter was sent to all the breeders in the valley in order to inquire about their interest in participating at a local quality meat chain. Thirty breeders answered positively. After several discussions at individual and group levels, three butchers (out of the four ones buying and slaughtering cattle in the valley) joined the action group. Another letter was then sent to all the restaurant keepers of the valley. Fifteen answered but in the end only three did really participate, buying some meat from the butchers. Participation of the breeders is established progressively when the butchers need animals for the slaughtering.

Another important stage was the definition of production standards. First, it was necessary to examine and discuss a great number of propositions to ensure a good coherence of the local chain and quality of the production. Negotiating the construction and validation of the standards took one year: this shows the complexity of the process.

Finally, the local dynamics has resulted in the creation of an association, with an official committee and membership conditions in which the local activator is still involved for the transition phase.

## **Actors**

The composition of the meat action group has evolved a lot. At the beginning, only four farmers declared being interested in the development of this local chain. After the decision was made to work only with Hérens cattle, one couple of farmers had to quit the group. It quickly became obvious that it was necessary to involve more farmers and other economic actors active in the meat chain, particularly butchers and restaurant keepers. Thanks to this enlargement, a female participant - a restaurant keeper - entered the group and was designed later as representative in the association.

## **Results and dynamics**

In terms of outputs, this group has obtained several concrete results. An intensive communication strategy has resulted in various marketing tools such as a logo, cards, table sets and in various newspapers' articles. The construction of standards of quality and the constitution of the Association were two other major results.

These results have required collective negotiation about different issues. The first important decision was to select Hérens cattle as the only breed of the meat chain. Several reasons explain this decision. This local breed is very typical and its image is well known not only in the Valais canton but also outside the area. It is a strong cultural and identity symbol and a focal point of identification for the region and this constitutes a very attractive marketing attribute that clearly distinguishes itself from similar products. But this decision was difficult to make and farmers already involved in fattening another type of cattle were obliged to quit the chain.

The definition of quality standards has also been the result of a complex negotiation between all the interest groups. The aim was not to disfavor or neglect any interest, in order to maintain all the members engaged in



the chain. Nevertheless, total agreement about the production standards was not reached. It has to be noted that this first agreement about standards of production, quantities and prices was established on a temporary basis and the objectives would be evaluated and negotiated regularly during the first years of implementation. It illustrates how difficult the process is and how every definitive decision is very hard to take. Members of the chain try to maintain the reversibility of their actions.

At the organizational level, the meat action group has evolved from an informal organization towards an official one (see figure 1). After one year, members of the action group constituted an official association that manages the meat chain in collaboration with the local activator. The relationship between the association and local activator will have to be discussed in the near future with the general objective to give more and more autonomy to the association.

At the institutional level, the meat action group has asked for financial support from the cantonal office for agriculture in order to facilitate the marketing of the meat food chain, the technical experimentation for the local fattening of calves with a scientific evaluation and the funding for a activator for the meat chain after the end of 2005 (when the IMALP will end). The cantonal office for agriculture have accepted these points but they will not support directly the local association but only cantonal organizations with the perspective to integrate producers from other areas in the meat food chain. Surely, the fact that the local meat chain actors met willingness from the cantonal agriculture service to develop a high quality meat chain constituted a positive factor. Local initiative can count upon financial and organizational support from the canton, and it was certainly an important success factor in the process. It is important to highlight the fact that the interactions with the cantonal administration could have been an obstacle too, with the risk for local initiative to lose its autonomy and motivation if involved in and subordinated to a larger scale scheme. But several meetings with representatives of canton permitted to clarify the agenda, the developing phases and responsibilities of each organizational level (local and regional) and so to take away the fears.

The objectives of this group have been progressively modified: the first objective was to better sell local products, i.e. meat of local Hérens breed, but this first objective led to another one, an organizational one, namely to create an association of high quality meat of Hérens breed. Excluding the other breeders was the result of a difficult negotiation that caused some conflict. A couple of breeders, members of local group, felt

totally rejected by this decision and joined another action group (agritouristic one). So the first objective was economical, but the central (non-human) actor was the Hérens cow, a key identity element in the valley. It plays a cohesive role between the three interest groups participating in the group. A more secondary objective was environmental, namely to maintain as much surface as possible clear.

The network evolution of this group shows a growth and enlargement to various actors and to various kinds of “bridging social capital” (Woolcock 1998). It is perhaps a criterion, among others, that explains its successful dynamics. The entire valley has been concerned by this dynamics. The existing social structure has not been questioned by this action. The change it induced is more on organizational than a social or technical level.

In spite of this quite successful dynamics, the group has to be careful about potential conflicts between the meat and milk chains. Some local actors fear that several milk breeders will switch to fattening activities, which would threaten the milk chain, already in a delicate situation due to the lack of milk, even further.

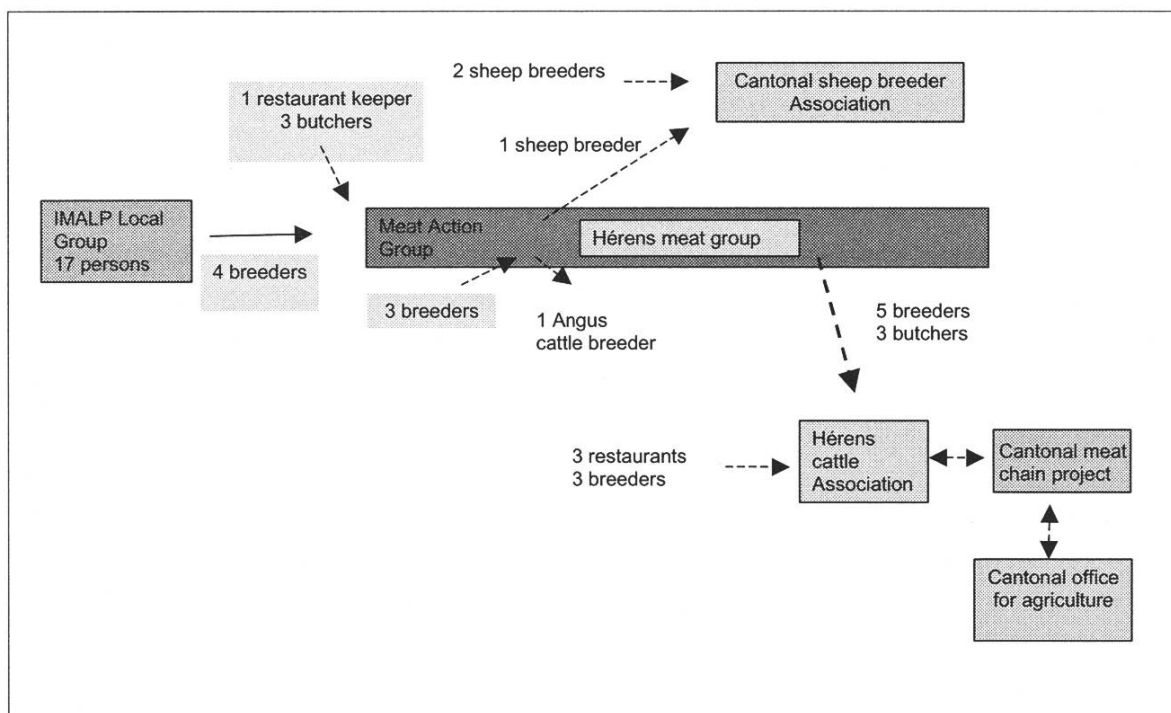


Figure 1: Example of network development in IMALP project – the case of meat action group.



### **2.1.2 Milk group**

Before saying anything about this group, it is necessary to describe the situation of cow breeders in the Val d'Hérens. Cattle breeders in this zone do not form one homogenous group. Some are part-time farmers, some full-time farmers, and more specifically, milking cow breeders (Hérens or not Hérens breeders) and fighting cow breeders (Hérens breeders only). This is due to the fact that the local breed, the Hérens cow, is a very well known breed for its combative disposition. This characteristic has been recognised for a long time and a very vivid cultural tradition exists around the organisation of cow fights. A farmer will be very honoured if one of his cows becomes "queen" of the alpine pasture or even more "cantonal queen". A very complex network of relationships is therefore organised around breeding activity. Traditionally, milk oriented practices are often seen as not compatible with fighting oriented practices. For example, a good fighting cow is considered as needing all its energy to fight, so producing milk during the fighting season is seen as a loss of energy and as diminishing greatly the chance to win the fight. The result is that a lot of cows are dried very early, often before they go to the alpine pastures. Milk collection during the summer is therefore very low and local dairies complain about this.

#### **Description of the process**

At the beginning three different objectives concerning the milk chain were identified by the local group: maintaining the global collection of milk in the valley, increasing summer milk production and improving the marketing of the dairies' products. This was the starting point of the action group. But it appeared quite quickly that to conduct all three objectives simultaneously was too ambitious. So the group first focused its work on the possibility of shifting the calving period to have more milk during the summer. Five farmers were interested in starting up a reflection about this topic. Three of them have made concrete changes but only with a few cows. Moreover, a general information meeting was organised to present the situation of one dairy of the valley and the need to maintain milk collection if the farmers and other local people wish to give a chance to such a collective structure to survive.

After this first phase of reflection about shifting the calving period, different field visits have been organised by the local activator. A first visit concerned an innovative farmer who uses a mobile milking machine with Hérens cattle and who lets his cattle outside during the night on the

alpine pasture. A second field visit was a two-day trip in the French Alps to see how the milk alpine pasture collection and marketing are managed and how decisions about it are made in other similar situations. Two other field visits, about different technical aspects of milk production, were organised..

The action group decided also to engage in mutual information with different alpine pastures unions in order to discuss different strategies on alpine pastures and their advantages and disadvantages.

Simultaneously, the group has worked on marketing development, particularly on the production of a leaflet to present the products of the three dairies of the valley.

### **Actors**

At the beginning, three persons - two presidents of local dairies, also part-time breeders, and one cheese maker - initiated the debate about the improvement of local milk and cheese chains. Then, some more farmers joined the group, all from the upper part of the valley. This is due partly to the fact that the only dairy in the valley open all-year round is located there. The two other dairies are closed during the summer and therefore not interested in collecting summer milk. There is also a local willingness to maintain this collective structure and if possible to improve its situation. The cheese maker member of the group works in this dairy. Today, the milk group comprises between 8 to 10 persons but this number is not stabilized yet. Two women have accompanied their husband during the two-day trip in the French Alps.

### **Results and dynamics**

This group is clearly a difficult one. The starting objectives have been deeply questioned. After several months three farmers who had decided to try and change the shifting calving period gave up the action because of a too heavy uncertainty about the technical, economical and social consequences of this change. In the end we can only see one concrete result: the production of the leaflet for the presentation of the dairies' products. But it does not mean that the group has completely failed. We can observe now that it is trying to gain internal cohesion and confidence to be able to envisage concrete changes at middle-range. Activation consists above all in organising different field visits that can contribute to this progressive mental construction about changes and can contribute to making them more and more acceptable.

The general objectives of this group are clearly economical ones. But it appeared rapidly that this economical nature of the stake was much more complex. Economical objectives are related to a set of actions, as much on technical and organisational level as on a cultural and social level. For example, improving summer milk collection implies to question the traditional and technical organization of the herd, and especially the calving period, concentrated in autumn. But at the same time, this practice corresponds also to the social system that has been developed historically around the Hérens cow. The cow fighting takes place when the herds are mixed on the alpine pasture at the beginning of June. Farmers who are very involved in the fighting prefer to dry their cows for this period. Doing so, they give a chance to their cows to have more vigour. So, shifting the calving period is incompatible with the fact to dry the cows early. Another delicate issue is land management and work organisation on alpine pastures, relevant of collective committees. According to the strategies and choices of these committees, neither alpine pasture management nor the very often poorly-qualified workers are favourable to milking cows.

The whole system developed around the Hérens cows is put into question if some individual farmers introduce technical changes. It is for this reason that the three farmers who had agreed to test a new calving practice finally renounced it. It became obvious that individual changes are not possible if collective changes do not occur too. For that reason, the actions of this group have evolved towards a discussion with different unions of alpine pastures in order to think about the more efficient strategies to foster: no milk production, milk production and delivery to central dairy, milk production and on-site cheese processing. The stake is to reach a consensus but for this it is necessary to make the nature of the objectives explicit: economic, social, or cultural.

To conclude, we can say that the milk action group's stake is very complex. It demands not only technical changes, which can be already quite specialized, but also organizational and cultural changes, not only at an individual but also at a collective level.

### **2.1.3 Tourism and educational activities on farm group**

#### **Description of the process**

The first objective of this group was not, as for the previous two, economic. It was rather a social and "immaterial" one, with the members

wishing to get in contact and to inform each other about their existing touristic and educational activities. The aim was to identify all these activities in the valley and to create a network of the providers in order to have a common marketing strategy. One concrete action to realize this objective has emerged: the designing and printing of a flyer presenting all farmers who have touristic activities on their farm.

Simultaneously, three farmers have initiated their own individual project. Technical and administrative assistance has been provided to them by the local activator in order to submit an official request to the cantonal administration for the obtention of financial support.

Then different projects have emerged to improve both internal and external communication. A project of a study about the different touristic activities on the farm is forecasted, with a particular emphasis on equestrian activities.

Finally the group has worked about the design of a chart to formalise a little bit more the conditions of participation to the scheme and to enable the enlargement of the group without losing cohesion and confidence.

## **Actors**

At the beginning eight participants got involved in this group. Progressively this number increased to twelve, with an addition of female participants and representatives of tourism local associations. With four women upon twelve participants this is clearly the most feminine group in the IMALP project. Three couples are belonging to this group. Another interesting point is the presence of several persons not originally from the valley or with a non-straight professional background. Most members of this group are full-time farmers and have already innovative strategies (direct sales on the farm, farm processing of cheese, suckle cows breeding and fattening, other breed than Hérens cattle).

## **Results and dynamics**

Generally speaking, it is a very dynamic group. It has succeeded very rapidly with a concrete result, i.e. a jointly designed flyer presenting touristic activities on the farms of the valley. This quite motivating result gave impulse and confidence to this group. The meetings taking place in turns at each participant's home reinforced the cohesion and mutual knowledge between participants. Other successful results are the acceptance of the three individual projects supported by public subsidies.



A project of a pedestrian tour linking the different farms is currently being elaborated.

The principal stake of this group now is to design the way future collaboration of the members will be established. Till now the group has functioned on a very informal basis. The meetings at each participant's home have created a good dynamics with increasing involvement and confidence. However, the question is how to transform this dynamics in something more institutionalized to maintain involvement and to make it less dependent from particular persons. A charter is being discussed at the moment to define common objectives, criteria to belong to the network, rights and duties of the membership.

The group has to be cautious about the integration of various strategies of its members. The three individual projects supported by public subsidies have induced a good impulse but at the same time it is important to keep all participants involved around clearly identified objectives. The project of a didactic trail linking the different farms can play this cohesive role.

## **2.1.4 Land management group**

### **Description of the process**

Land management has been the only stake identified by the local group in the environmental field. At the beginning, this topic was related to mutual work help between farmers, the decreasing work force being seen in mountain agriculture as one of the biggest enemy of satisfactory land management, i.e. to maintain cultivated land clear.

Another important point is that this group almost never existed as one group. It split very rapidly into three distinct groups, clearly related to different municipalities. This is due notably to the Swiss territory and administrative divisions. In Switzerland, the relevant regional level for decision making in spatial issues belongs is the municipality level. That explains that it is very difficult to have inter-municipality land management because of the desire of the municipalities to maintain their prerogatives in this domain. We will present the dynamics of one of the action group, those of Vex municipality.

The first stage of this action group was to decide on which scale and space to work. The decision was to work only on landscape around the village, avoiding other zones where the problem of land management



was too complex. One representative of the municipality, with the assistance of the local activator, took the initiative to invite all the farmers managing plots in the municipality territory to a meeting in order to assess their interest in land management. With the help of aerial photographs, a first map of the abandoned plots potentially interesting to clear was made. Twenty-three farmers attended the meeting and five of them showed interest in participating in the action group.

Afterwards, it was necessary to give more precise information about the selected plots to be cleared: acreage, level of reforestation and landowners. During the second meeting, the map was presented to the farmers and they were asked to confirm their potential interest. Then, contacts have been organized with the three other interested actors: the landowners, the forest office and the land improvement office that can provide subsidies for the clearing.

The forest officer has been contacted and allowed the clearing of most of the plots and the farmers have been invited to a new meeting in order to delineate exactly the location, the acreage of the plots and to discuss the cost in order to submit a request for subsidies to the land improvement office. Five farmers have proposed to clear twenty hectares. This request was accepted but with an important reduction of the required amount (1000 euros instead of 5000).

The next stage will be to inquire about the interest of the landowners about this action and to get their agreement in order to sign the contract. The municipality will send a letter to all the landowners, explaining the project, locating the plots and giving the names of the farmers potentially concerned.

## **Actors**

One clear leading actor is a representative of the municipality, belonging also to the IMALP local group. The action has then gathered several farmers potentially interested in such an activity. These two kinds of actors were the operational ones. However, they cannot intervene alone. They have to obtain the agreement of the representative of the forest administration, and of course of the landowners. Moreover, it is necessary to obtain financial public support to effect the clearing.

## **Results and dynamics**

This action results into a contract to be signed by five farmers for the clearing of 20 ha. The group has worked on one specific zone, the agri-

cultural zone around the village. Doing so, it avoided negotiating with other spatial actors, like secondary residents or environmental associations. To gain confidence and success with a few stakeholders is a first step before undertaking more complex multi-interest negotiation, and it can have an encouraging effect for further similar processes.

### **3. General Questions**

We will now discuss more general points about the dynamics we have described above. As the project is still ongoing, we will just suggest some hypotheses that still have to be confirmed.

Each group is facing the challenge to negotiate a consensus about the objectives, the means to reach them, and to construct collectively the meaning of change. Moreover, at some moments, it has to deal with a change of scale that can be geographic or organisational. It has to integrate different strategies and projects, were they individual, collective, private or public. To make the rules explicit - the phase of institution building - is also a key point, particularly in a situation of growing dynamics. We can observe that groups with more concrete results have succeeded in several of these challenges.

For example, when we observe the dynamics of the meat group, we can highlight several points. The starting objective proposed by local IMALP group has been progressively translated by the members of the action group, in order to become more operational. To organise the action around the Hérens breed allowed linking the different actors involved around a strong, cultural and meaningful symbol. Initiated principally by breeders, the action has opened itself very quickly towards other groups of interest. This results in an open network that has been able to extend its external relationships and to have access to more diverse resources. For example, external relationships have been established with the cantonal administration that allowed obtaining technical and organisational support to the new meat chain. This organisational and territorial enlargement puts into debate the collective construction of the rules, agreed upon by all the stakeholders. It became necessary to clarify and to formalize these rules in order to maintain a consensus about the starting objective and the means how to reach it. This result has been obtained by the elaboration of the production standards and by the creation of the association. The challenge is to gain cohesion and confidence enough in the group to be able to integrate new relationships and

constraints without losing consistency. According to network and social capital theory (Granovetter, 1973; Woolcock 1998), performance is related to a good balance between closure - a dense network connecting people inside the group - and openness - access to external resources and skills - of the network. The role of the local activator is very important to reach this good balance.

The first results highlight the fact that innovation processes can be activated with a participatory short-term project at local level. But this is to articulate with the current European Union and Swiss agricultural policies of individual subsidies and direct payments. Effectively, these kinds of policies have impact on individual strategies and choices but without guaranteeing the consistency of this impact at a larger scale. In order to give sense to these strategies at local and territorial level, it would be necessary to implement a collective activation processes involving all representative local actors. This requires specific resources for activation means.

## 4. References

- [1] Fleury P. et al., 2004. "Constructing sustainable Agriculture at local level. Insights from small-scale farming in the Alps", European Farming and Society in Search of a New Social Contract: Proceedings of the 6th European IFSA Symposium, held in Vila Real (Portugal), April 4-7, 2004, 243-258. Vila Real, UTAD.
- [2] Hatchuel A., 2000. "Intervention Research and the production of knowledge", in: Cow up a Tree, Knowing and Learning for Change in Agriculture, Case Studies from Industrialised Countries, LEARN Group (eds), 55-68. Paris, INRA.
- [3] Röling N.G. and Wagemakers M.A.E. (eds), 1998. Facilitating Sustainable Agriculture: Participatory Learning and Adaptive Management in Times of Environmental Uncertainty, Cambridge University Press, Cambridge, UK and New York, USA.
- [4] Brydon-Miller M. et al., 2003. "Why action research?", Action Research 1(1), 9-28.
- [5] Olivier de Sardan J.P., 1995. Anthropologie et développement: essai en socio-anthropologie du changement social, Paris, Karthala.
- [6] Granovetter M., 1973. "The strength of weak ties", American J. of Sociology, 78 (6), 1360-1380.
- [7] Coleman J., 1988. "Social capital in the creation of human capital", American J. of Sociology, 94, pp 95-120.
- [8] Woolcock M., 1998. "Social Capital and Economic Development: Towards a Theoretical Synthesis and Policy", Theory and Society, Vol.27, pp 151-249.
- [9] Burt R.S., 2000. "Structural holes versus network closure as social capital", Pre-print for a chapter in Lin N., Cook K.S., Burt R.S. (eds) Social capital theory and research. Aldine de Gruyter. 2000 (downloadable at: (<http://gsbwww.uchicago.edu/fac/ronald.burt/research/SHNC.pdf>)).

### **Anschrift des/der Verfassers/In:**

Olivier Roque  
Institut d'Economie Rurale  
Antenne Romande  
CH-8000 Zürich

[olivier.roque@iaw.agrl.ethz.ch](mailto:olivier.roque@iaw.agrl.ethz.ch)

Valérie Miéville-Ott  
Institut d'Economie Rurale  
Antenne Romande  
CH-8000 Zürich

[valerie.mieville-ott@iaw.agrl.ethz.ch](mailto:valerie.mieville-ott@iaw.agrl.ethz.ch)