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"Marketing Sustainable Agriculture: An analysis of the potential role of new food supply chains in sustainable rural development"

SUS-CHAIN

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Rye Bread of Valais

Case study report

By
Sophie Réviron

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Foreword

This report has been prepared in the framework of the European project SUS-CHAIN : “Marketing sustainable agriculture, an analysis of the potential role of new food supply chains in sustainable rural development”, funded by the European Union (QLRT 2001-01349) and the OFES (02-0356) for Switzerland. This project is dedicated to the analysis of the scaling-up process of initiatives which market sustainable agriculture products. Special emphasis is given to the assessment of their commercial and organisational performance, and to their effects on Rural Development.

Each partner was invited to prepare two different case-studies, according to a common methodology that was built-up during the first part of the project. We present hereafter the “PDO Rye bread of Valais” Swiss case-study, which was elaborated according to these common guidelines.

The first part presents the main characteristics of the initiative, with a set of profile indicators related to marketing positioning and organisational choices. Rye bread of Valais is an artisan typical product that was sold until now only in the Valais regional market. The organisation is a classic PDO strategic alliance to co-ordinate collective action of the members (producers, mills and bakers).

In the second part, we analyse the story of the initiative from its birth to the present time, using a methodology that was developed for the project by Brunori (2004) from the actor-network theory. We show that the initiative has now achieved a complete “translation cycle” and made recently a very important strategic decision to scale –up, in order to enter the national market.

The third part is dedicated to the assessment of the initiative‘s performance, using a set of performance indicators, concerning:

- commercial performance and creation of added value
- marketing and communication
- scaling-up and nature of the organisation
- public support
- social embeddedness
- Effects on rural development. Concerning this point, the Swiss team went further in the analysis than the common guidelines, to measure the acknowledgment of the positive economic, social and environmental effects of the initiative on rural development by opinion leaders and funding institutions. A comparison is made with a set of competing products on the bread consumer market. We highlight the positive effects of the initiative regarding a large set of criteria.

Finally, we discuss the hypotheses that were made by the partners at the beginning of the project, concerning the effects of the scaling-up process.

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1. Introduction

The Valais region is a mountainous Swiss region, which is very well-known for its sunny climate, the diversity and the beauty of its landscapes and its quality of life, linked to a basket of typical artisan food products (wines, cheese, dry meat, fruits…). The valley of the Rhône forms the central axis of the region, which is enclosed by mountain ranges at an altitude of more than 4000 metres. Tourism is nowadays the first industry of the region.

For centuries, the valaisan peasants lived in virtual self-sufficiency. Bread was made from rye, the only flour-bearing cereal adapted to the rigours of the alpine climate. The rye bread had the great advantage of being suitable for keeping over long periods. The peasants could take the great loaves with them on their migrations with their cattle from the valley to the mountain pastures.

Those days are gone but the rye bread of Valais is enjoying a revival, which is linked to changing fashions in eating habits and the importance attached to whole traditional cereals in a healthy and balanced diet but also to an exemplar construction of a regional collective organisation.

Figure 1 : map of the Valais region

source :lexilogos

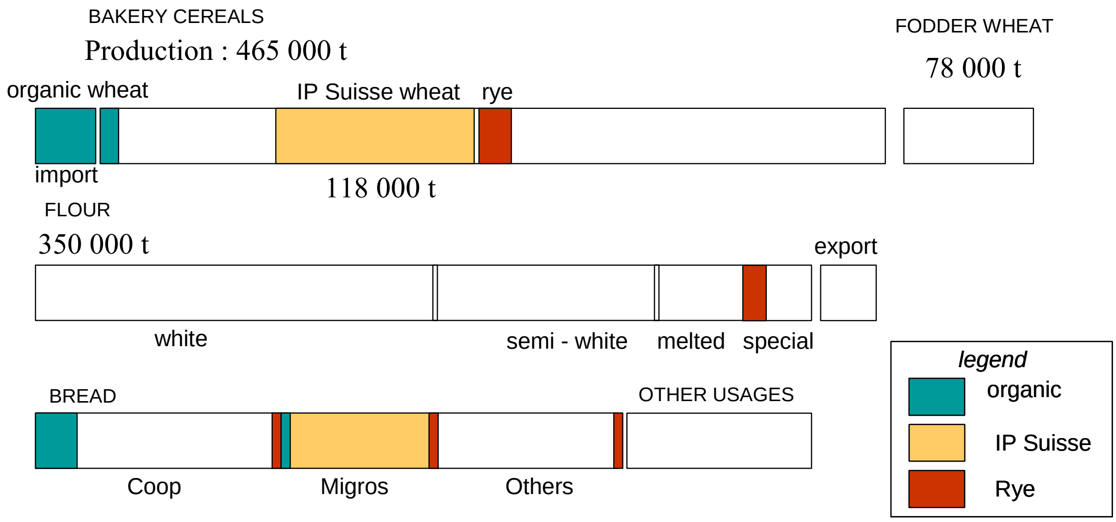
2. Main characteristics of the initiative

2.1. The context

The bakery market at the consumer level has changed in-depth during the last 10 years. The consumption of bread is decreasing but special breads, mainly whole flour breads, are developing. Competition between traditional bakers and retailer bakery shops in supermarkets is very strong and seems to lead to domination on the market of the two major retailers, Migros and Coop (with more than 68% of the Swiss bread market).

The white refined flour breads are still the core of the market but retailers try to develop new environmental and health promises to the consumer (Reviron, WP3 Switzerland report, 2004). The major retailer Migros sells white refined flour bread with the pest management label IP Suisse. His competitor Coop proposes special whole flour breads with its organic label (Naturaplan + Bio), Migros is still allowed to sell an industrial copy of Rye bread of Valais PDO. These different types of bread, which are competing with Rye bread of Valais on the consumer market (figure2), and the corresponding food systems upstream in the supply chain, will be studied in this report as "satellites" case-studies in section 5 (Performance).

Figure 2 : map of the bakery cereals sector



The rye production is strongly linked to the bakery wheat market conditions. Producers compare market prices and may decide very quickly to switch from one crop to the other.

The bakery cereals policy changed in-depth in 2001. Before, the State used to buy 390'000 tons of bakery cereals to the producers and to sell them back to the mills, which were obliged to buy at least 85 % of their needs. Nowadays, the market is liberalized. Producers, storage companies, mills and feed companies have to negotiate private contracts. An interprofessional association, Swissgranum, was created to improve market transparency, contract templates, quality norms and recommended varieties. The main public support results from the import regulation. Switzerland is almost self-sufficient for bakery cereals. Organic bakery cereals production is too small compared to demand and import is necessary

2.2. Marketing positioning of the initiative

The initiative markets a special rye bread in the bakers' shops of the Valais region. It is an artisan product, which is sold on short supply chains by a collective PDO organisation. This initiative is a typical small high quality origin labelled food initiative. According to the typology grid that has been constructed by Reviron & Damary for the Sus-chain project, the product has presently a clear "niche" strategy on a regional market (see figure 3).

The product differentiation (in column) is crossed with the sales channel (in line).

Figure 3 : Marketing positioning of the Rye Bread of Valais

channel / **product market segment**	long International *import, export*	long national *big retailers*	long national *collective housings*	long national *gastro with wholesaler*	medium *specialised shops*	short collective *restaurants, local shops farmers' markets*	Short individual *direct sales*	extra-short individual *family, relatives, friends*
conventional generic								
normalised								
eco-labels fair trade labels								
organic								
artisan (among them PDO/PGI)						Rye Bread of Valais		

S.Réviron (IER-ETH) & P. Damary (SRVA). Switzerland

The promise of sustainability is mainly linked to the origin (typicity, authenticity, artisan processing process). The rye production is a high standard integrated pest management production ("extenso") or organic (often without the label when some other productions of the farm are not organic) [1]. But this environmental argument is not transmitted to the consumers.

[1] In Switzerland, the agricultural policy links direct payments to ecological requirement. The "extenso" production is superior to the legal ecological requirements. A farm can use the organic label (BIO SUISSE) only if the whole farm production is organic.

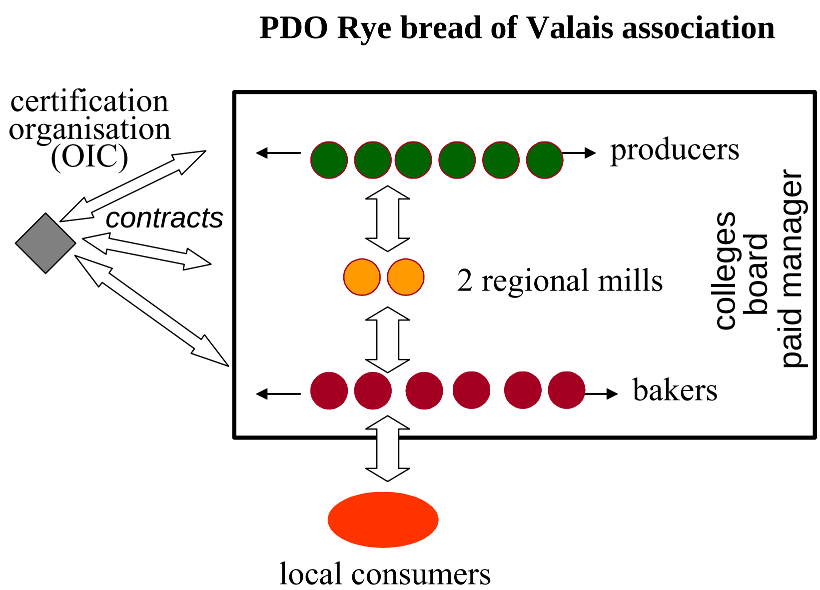
The following table presents the main characteristics of the initiative. It is a very small initiative with an impressive growth during the last years.

Size	very small	rye production : 484 t in 2003
Evolution	growth	230 t. in 2000 (+ 110 % in 3 years)
Geographic limits	regional	Valais region
Type of the collective organisation	vertical alliance	40 producers, 2 mills, 48 bakers
Date of birth	1997	eight years old

2.3. The organisational pattern

The organisation is a classic PDO alliance. The association of PDO Rye bread of Valais is composed of three colleges (producers, mills, bakers). It is piloted by a board and a paid partial time (20%) manager. Decisions are made collectively. Members accept to follow a specific code of practices. Certification is provided by an external organisation. Figure 4 presents the organisational pattern of the alliance.

Figure 4 : organisation of the initiative



3. The story of the principal initiative

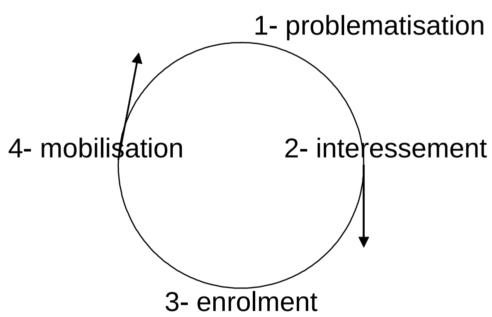
Methodology:

The actor-network theory offers us a very promising approach to understand and analyse the story of Sus-chain initiatives (Foster & Kirwan, 2004)[2]. According to the theory (Callon, 1986 & 1991[3], Latour, 1999[4]), a "network" is composed of heterogeneous material (such as machines, nature, money, policies…). An "actor" is an entity able to combine this material to act and form a "macro-actor". The theory focuses on the strength of "intermediaries" (the link that bind the actors and entities together) rather than the power of the macro-actor.

The main process analysed by the actor-network theory is the growth and extension of spheres of influence and power, through processes of "translation". According to Callon (1986), translation follows four stages : 1) **Problematisation** : an actor analyses a situation, identifies and defines the problem and proposes a solution; 2) **Interessemen**t : other actors become interested in the solution proposed and change their affiliation to a group in favour of the new actor; 3)**Enrolment**: the solution becomes accepted as a new concept and a new network of interest is constituted; 4) **Mobilisation** : the new network becomes established and operates to implement the proposed solution. This leads to the formation of a macro-actor that acts as one entity.

To present the story of our initiative, we have followed Brunori [5], who proposes the concept of "translation cycle"(figure 5). We agree that for our case-studies, which concern marketing food products, the four stages follow a step by step process and that the translation process is then diachronic and not synchronic.

Figure 5 : the translation cycle (Brunori, 2004 from Callon, 1986)



[2] Foster C. & J. Kirwan (2004), Applying Actor-network theory to SUS-CHAIN, working paper, May.

[3] Callon M. (1986) Some elements of a sociology of translation : domestication of the scallops and the fishermen of St. Brieuc bay, pp. 196-233, in J. Law (ed) : power, action and belief : a new sociology of knowledge ? London, Routledge and Kegan Paul.

Callon M. (1991), Techno-economic networks and irreversibility, pp. 132-161, in J. Law (ed) : Sociology of monsters : essays on power, technology and domination, London, Routledge.

[4] Latour B. (1999), On recalling ANT, pp 15-25, in J. Law & J. Hassard (eds), Actor-network theory and after, Oxford, Blackwell.

[5] Brunori G. & H. Wiskerke (2004), SUS-CHAIN case-study methodology, April.

The steps of the organisation construction have been identified by interviews of key professionals that have played an important role during the scaling-up process (the initiators and the present manager). As the initiative is rather recent, it was easy to get reliable written and non-written information.

The networks maps have been constructed according to the representation that was recently proposed by Brunori (Trondheim, 2004).

3.1. Identification of the starters

The initiative was launched in 1997 by a discussion group that gathered the two regional mills, two bakers of the Valais region (delegates of the regional bakers' association), the director of the Chamber of agriculture and a high rank officer of the Ministry of agriculture of the Valais canton. At this first stage, there were no producers in the discussion group. All the members of the discussion group knew each other before meeting.

3.2. Problematisation

The objectives of the initiators were quite different. The bakers were looking for a differentiation from the big retailers' supermarkets (which have important bakery departments and a high market share in the sector). The mills, which are producing different types of flours for the national market, thought that diversifying to special rye flour would improve their competitive position against their main competitors. The regional institutions were eager to help the regional enterprises to survive and were also worried by the quick decrease of the rye production in the region, with a high risk of decline and disappearing of the traditional production of rye bread.

At this time, the region was building its own PDO regulation and intended to develop a basket of typical food products to be registered as PDO, at the benefit of the region attractiveness (the Valais region is a main tourism destination).

The problem addressed by the initiative was clearly to <u>improve local capital</u> : survival of regional mills and villages baker shops; survival of the Rye production in the region, which was decreasing very quickly; survival of a typical regional product. The main outputs of the initiative were economic, cultural and there was a clear strategy of product differentiation, within the global PDO strategy of the region

The actors reached the following milestones:

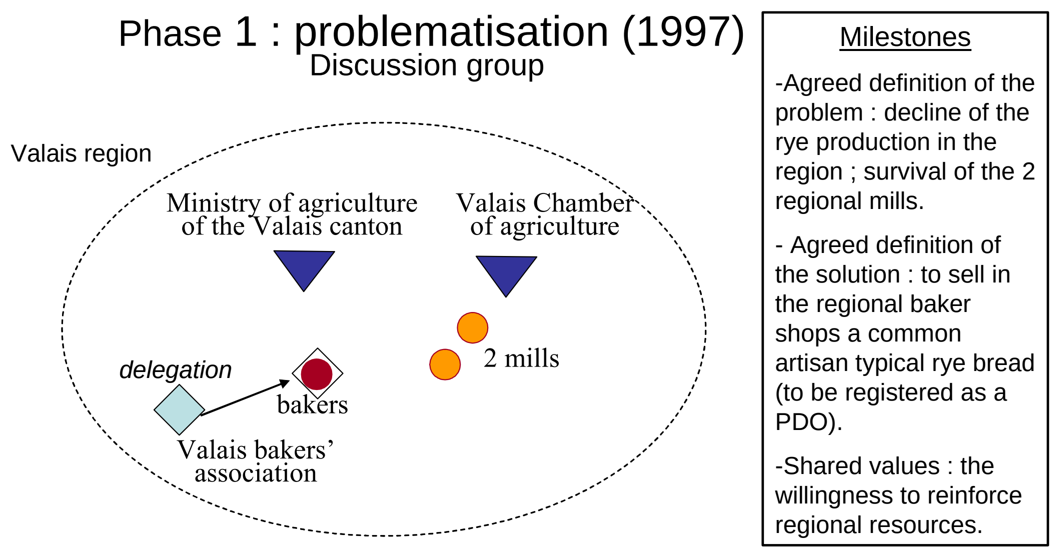
1- Agreed definition of the problem: to sell in the regional bakers shops a common rye bread (defined within a collective vertical organisation) to boost the whole regional supply chain. The strategic choice of a PDO registration was adopted at this very early stage of the initiative.

2- Identification of common social values by the initiators : the willingness to reinforce regional resources.

The organisation of the initiative may be represented by a network map, which highlights at this early stage the informal discussion group (figure 6). According to the Brunori representation guidelines (2004) [6], the blue triangles represent the official authorities, the light blue diamonds represent the private institutions (associations, foundations…), the orange and red circles represent the operators (producers, processors, retailers…).

[6] Brunori G. (2004), Post-rural processes in wealthy Rural areas : the consolidation of Hegemonic fields and the struggle over symbolic capital, presentation at the XI world congress of Rural Sociology, 29 July, Trondheim, Norway.

Figure 6 : map of the network during the phase 1



3.3. *Development of the initiative*

Interessement

The first step was to formalise the rye bread recipe and to align practices at the mill and baker level. These technical tests paid an important role for interesting and emulating the actors. They were realized without external expertise by a working group composed of two bakers, the two regional mills, two producers, the Director of the Chamber of agriculture and a high rank officer of the the Ministry of agriculture of the Valais canton.

During this phase, the initiative chose its organisational design and started to elaborate its working rules. The regional authorities were very active during this phase and provide support, without which the initiative should not have been able to start. The Ministry of Agriculture of the Valais canton delegated a high rank officer. The regional chamber of Agriculture played a major role in offering a very helpful assistance to the initiative (chairman, administration, housing, different types of services from legal issues to promotion). It still pays the manager's part time salary.

The initiative reached the following milestones:

- Arrival of the first producers.
- Objectives around which actors "align" : the code of practices
- First sketch of the organisation working rules.

Enrolment

The second step was to find producers and to convince them to enter the organisation. It was then necessary to align practices regarding rye production at the farm level. The main motivation for the producers to enrol has been until now the rye price compared to the conventional wheat market price. There is presently a premium of 12,5 CHF / 100 kg (8 Euros) . This means that producers are likely to have an opportunistic behaviour and may not share the common values of the initiators. This lack of concerns seems to be related to their absence in the discussion group, at the previous “problematisation” phase. They were represented by the Director of the Chamber of agriculture but this seemed not to have been sufficient to create a strong enrolment, motivated by social values and collective objectives. This shows that operators of each level of the supply chain, delegated by their peers, should be members of the discussion group.

At this time, the production was localized half in the central Valais (west French speaking part) and half in the Haut-Valais (east German speaking part).

Bakers were enrolled and it was necessary to align practices regarding the baking process of the bread.

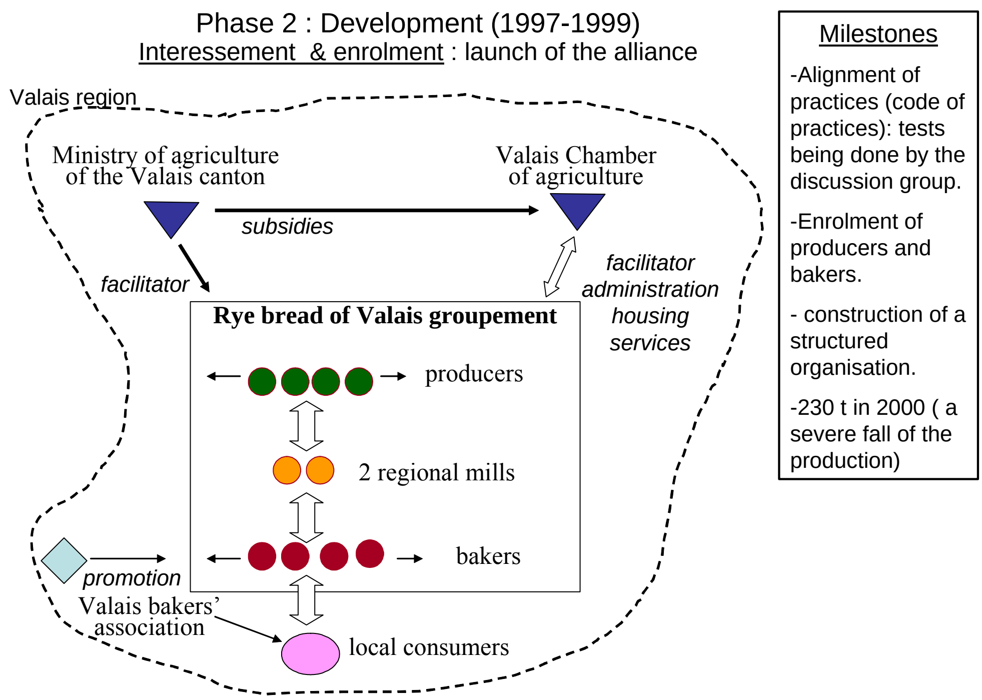
A lot of energy and time were given by the initiators to build up a structured organisation. At this time however the rye production was at it lowest historic level (230 t in 2000 to be compared with a rye production of 590 t in 1994). It is interesting to notice that there was at this early stage of the initiative a clear vision of the organisational pattern. The first key lines of the organisation architecture were already shaped. This new organisation is a combination of horizontal and vertical networks including various economic sectors and interest groups in the Valais region.

The initiative reached the following milestones:

1- Enrolment of regional cereals producers
2- Enrolment of regional artisan bakers
3- First sketch of the organisational design (vertical alliance)

The map below presents the network during the phase 2. Figure 7 presents the actor-network system.

Figure 7 : map of the network during the phase 2



3.4. Mobilisation

The first rye deliveries within the alliance occurred as soon as 1997 but developed from 1999. The promotion was ready with pictures and liflets for the bakers and important press coverage in the region. The formal organisation (an interprofessional association that is operating as a veritical alliance) was created in 2001, with the financial support of the State of Valais (35 000 CHF for three years: 2001 to 2003).

During the same years, the Swiss national PDO regulation was launched. The certification organisation (OIC) was created in 1998 and the association for the promotion of the PDO-PGI products in 1999. The rye bread of Valais was certified according to the code of practices in 2002 and PDO registered in 2004. There were strong oppositions during the legal process to registration mainly from Coop which was selling an industrial copy and was pretending that the designation "rye bread of Valais" was generic. The Federal Ministry of agriculture (OFAG) clearly defended the initiative and its support obviously helped to get a positive law decision.

The initiative decided to accept a partnership with the regional division of Migros, as an agreed baker. This decision, which was supported by the two mills in order to scale-up the initiative, was difficult to accept by the artisan bakers, who are in strong competition with the big retailer baking units. There was finally an agreement concerning the product presentation (it is sold in a paper bag at the artisan bakers' shops and wrapped in the supermarkets). This discussion opens the issue of the scaling-up commercial path and the issue of the negotiation power between the different professional colleges within the alliance (the mills, which seem to have a strong leadership position; the artisan bakers, which are the core unit for the initiative credibility; the producers, which seem to have developed a opportunistic free rider position).

This mobilisation phase was crucial and was a commercial success. The rye production jumped to 420 t in 2003. The network map and table highlight a complex organisation (figures 8 & 9)

Figure 8 : map of the network during the phase 3

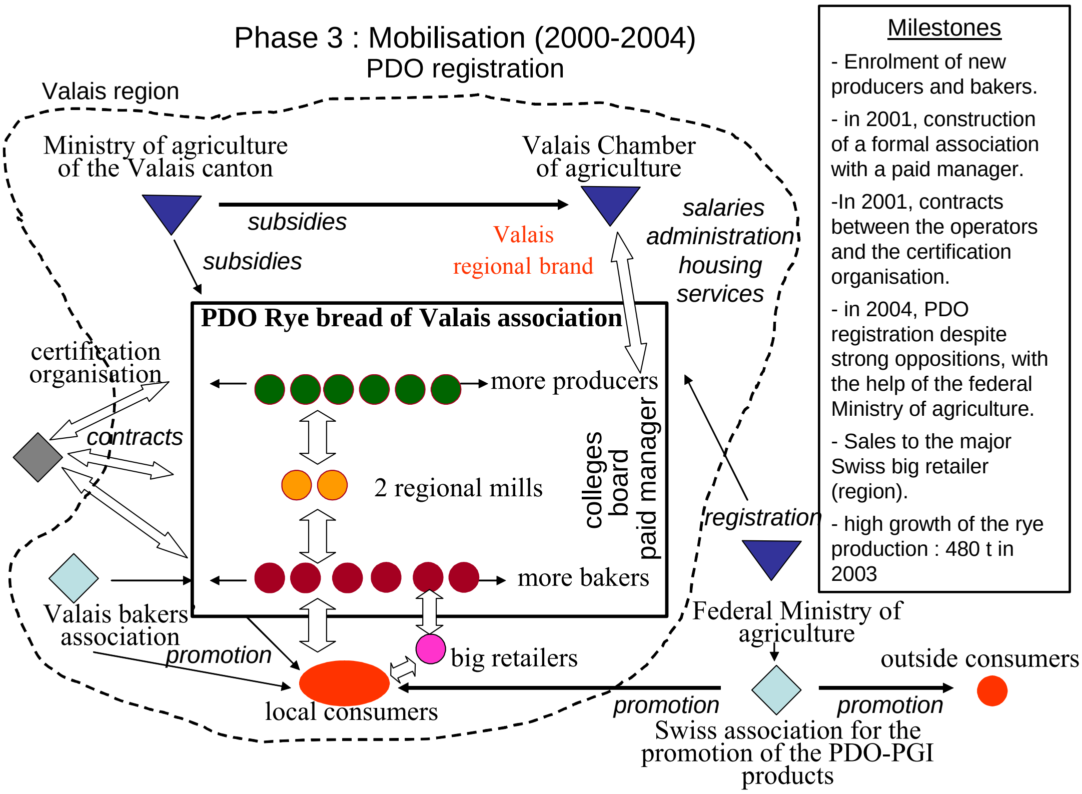


Figure 9 : table of the actor / network system (mobilisation stage)

Mapping of the network					
actor	classification	geographical scope	role in the network	stage	goals
mills	processors	regional	partners	from the beginning (1997)	Differentiation from national competitors
bakers	artisan processors / retailers	local	partners	from the beginning (1997)	Differentiation from the industrial big retailers' breads
Rye producers	producers	local	partners	at a later stage	Better income
Chamber of agriculture	regional institution	regional	- Coaching of the network (Centre of operations) - regional food products promotion	from the beginning (1997)	To boost a typical production and a product that were in danger of disappearing.
Ministry of agriculture of the Valais region	regional authorities	regional	- competences - financial support to the network at the beginning	from the beginning	To develop a line of typical PDO labelled products and a regional collective brand
Regional bakers' association	Regional association	regional	Financial support for promotion	From the beginning	To help the regional bakers to compete.
Association for the promotion of PDO-PGI products	association	national	promotion of all PDO-PGI products	at a later stage	To include a new product in the basket of Swiss PDO and PGI products
Big retailers (Migros, Manor)	Regional bakery units	Regional / national	partners	At a later stage	To include a high symbolic capital product in the assortment.

3.5. To a new translation cycle?

According to the objectives, the initiative is a success story. The first transition cycle seems to be almost achieved with very impressive results. The ancient product has been revisited to fit with new consumer trend and symbolic capital linked to notoriety, trust and reputation (according to Brunori, 2004) [7] has been built. Symbolic capital has been defended from appropriation with the PDO registration, which has provided a law decision concerning industrial copies.

The organisation faces now a difficult strategic problem: it has recently decided to continue to scale-up (and so it has to decide by which commercial path).

At the present time the alliance is still on the same track, achieving the mobilisation stage until the complete fill-up of the potential market (regional). This means to enrol the traditional bakers of the region who are not yet members of the alliance, to get the potential volume of the regional market (around 500 t).

But, because of the PDO registration and because of the tourism activity in the Valais region, there is now a demand from outside consumers for the rye bread of Valais. These consumers would like to find the product when they come back home. The intense and efficient promotion of the Swiss Association for the promotion of the PDO-PGI products reinforces this trend. Scaling-up the initiative, to answer to consumers' demand and increase the potential market, could be interesting because it would better secure the regional mills' activity and allow the initiative to be able to pay itself the organisation costs (that are presently largely covered by regional subsidies). It would be interesting to compute the processed rye production volume that would make the initiative self-financed.

But scaling-up the initiative means to start a new translation cycle, in order to build commercial links outside the Valais region. The alliance will have to make strategic decisions concerning the sales to retailers outside the Valais region and many problems may occur:

- Which partners should be chosen for selling the product outside the region? The big retailers offer the largest potential market but are their commercial positioning compatible with the product s' promise to the consumer, image and symbolic capital? What kind of packaging could improve the bread conservation without loosing its image attributes (at the present time, a wrap is used when sold in a supermarket, which does not relay the bread artisan character)? What kind of status should be proposed to these commercial partners and at what price?

- Who is going to bake bread? According to the PDO regulation, processing has to be done in the region. There is an exception with a mobile truck to bake bread during the external fairs. The village bakers' capacity in the region is very limited. Presently, the bread that is sold in the supermarkets in the Valais region is baked in the retailer s' baking units in Monthey, Martigny, Sion and Brig. Another smaller retailer (Manor) is also interested by the product and runs too baking units. But this would change the balance between artisan bakers and industrial ones.

If this strategy of sales outside the region is chosen, it could be interesting to reinforce the sustainability promise to the consumers, with insisting on the ecological and social concerns of the rye production. It would be a second rank message to the consumers, behind typicity, origin and quality. Selection of species seems to be necessary to complete the promise to the consumer (see section 4.4 concerning the effects on Rural Development).

The following figures (10 & 11) present a scenario for a second translation cycle.

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[7] Brunori G. (2004), Post-rural processes in wealthy Rural areas: the consolidation of Hegemonic fields and the struggle over symbolic capital, idem.

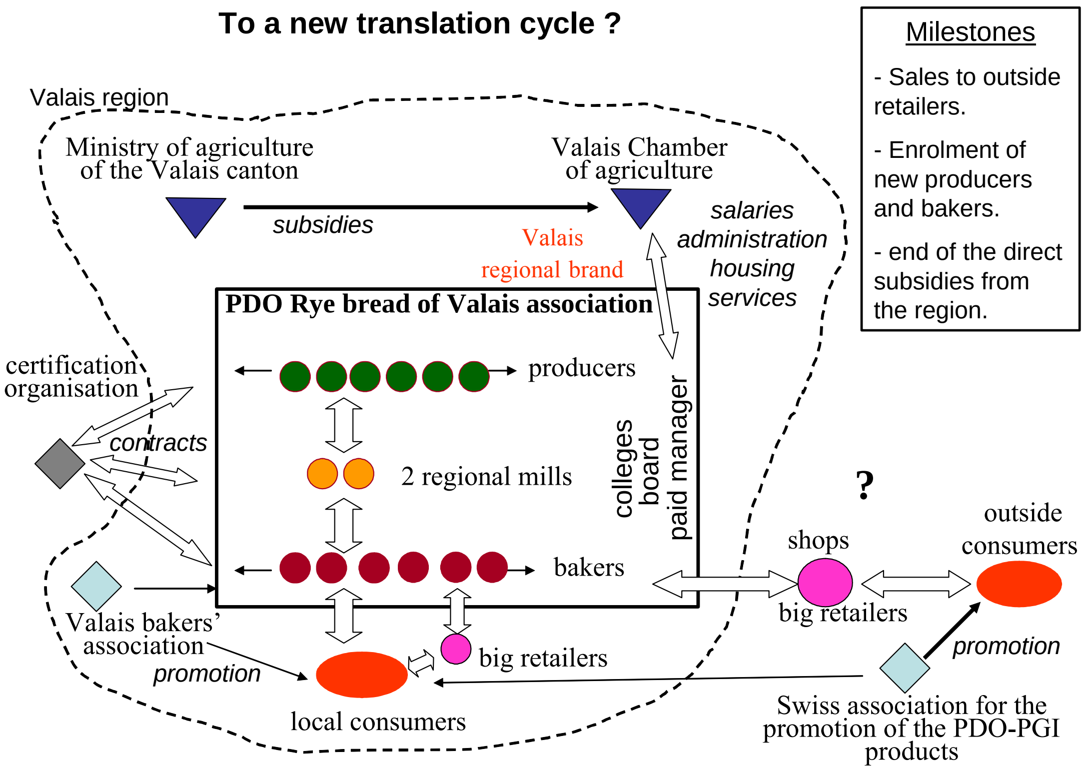
Figure 10 : strategic marketing questions concerning the evolution of the product positioning

transport ← volume

channel / product market segment	long International *import, export*	long national *big retailers*	long national *collective housings*	long national *gastro with wholesaler*	medium *specialised shops*	short collective *restaurants, local shops farmers' markets*	Short individual *direct sales*	extra-short individual *family, relatives, friends*
conventional generic								
normalised								
eco-labels ethic labels								
organic						?		
artisan (among them PDO/PGI)					? Rye bread of Valais	Rye bread of Valais		
new products								

From S.Reviron (IER-ETH) & P. Damary (SRVA). Switzerland

Figure 11 : organisational changes (scenario)



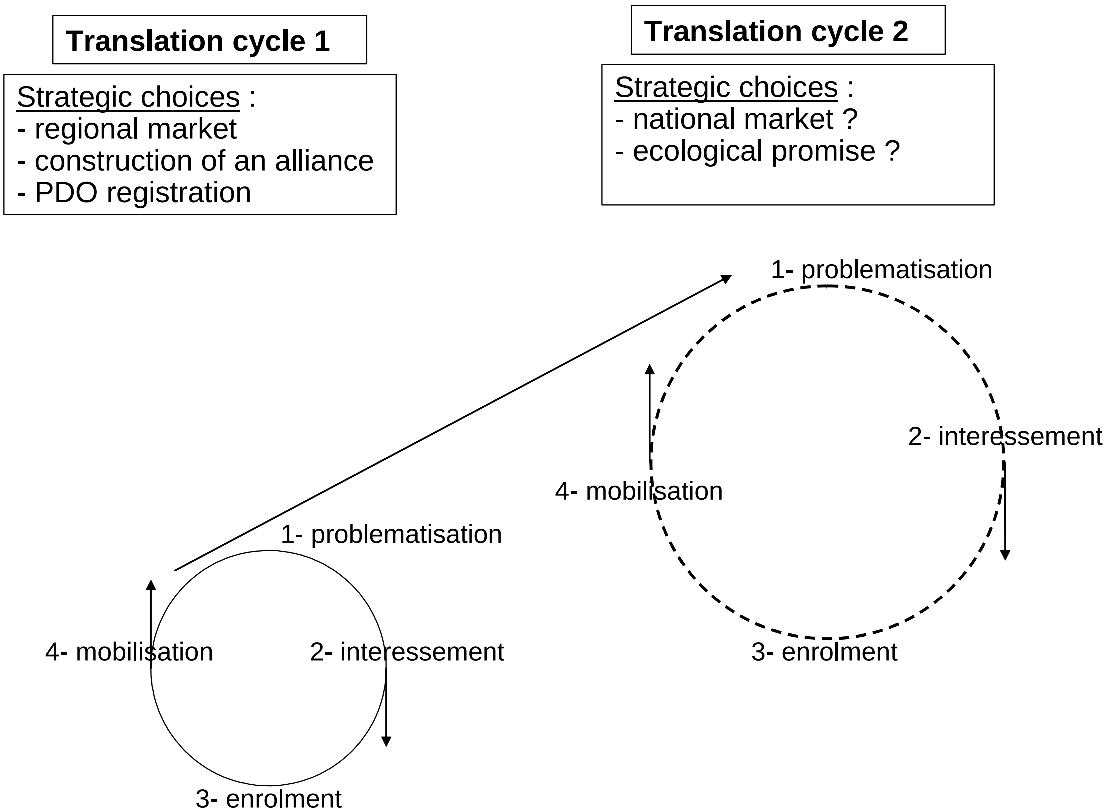
We have insisted on the distribution of decision power within the alliance, which may be changed by the arrival of new partners.

It will be essential to better involve the producers in the initiative to create more common values and try to repair the initial absence of the producers in the discussion group. It is of course absolutely necessary to work on the producer engagement (price fixing clauses) to secure the producers' benefit to produce rye, compared to other cereals. But it will be vital to avoid a strict economic opportunistic attitude among the producers. A lack of concerns and strategic vision of the producers should be a serious weakness of the initiative and a threat for the future.

Another challenge is the diversity of the rye fields location (central plain, lateral valleys, Haut-Valais), with an impressive development of the production in the German speaking part of the Valais canton, which doubled the production between 1999 and 2004. Around 2/3 of the production is now farmed in the Haut-Valais district, compared to 1/2 of the production in 1999.

According to the actor-network theory, connecting to the national market implies to open a second translation cycle to get access to new markets and increase the production volume. This scaling-up process is no more a linear process (as growth used to be during the first translation cycle) and may change in-depth the organization.

Figure 12 : to a second translation cycle : scaling-up, a non-linear process



The Italian case-study "Raw sheep milk cheese of Pistoia mountains" has a similar profile and meets a similar problem of connecting to national market. The following box presents their response to the scaling-up challenge.

International satellite Case-study

“Raw sheep milk cheese of Pistoia mountains” (Tuscany, Italy)

In the mountainous region of Pistoia province in the north of Tuscany, shepherds still breed a local sheep race (*Massese* sheep) which has a dual output, milk and meat, and is particularly suitable for extensive breeding, with high altitude grazing during spring and summer. They produce a local raw milk cheese at various stages of ripening: the soft cheese (7-20 days of maturing), the “abbuciato” (at least 35 days of maturing) and the “asserbo” (from 2-3 months up to 1 year of maturing). All the kinds of cheese have a round shape and a white paste. The colour of the rind changes from yellow to dark brown according to the length of the maturing period.

Over the last years, the shepherds had to face the increasing constraints posed by the health authorities, in order to comply with the European hygienic rules. At the same time, in Italy, the attention on food quality was developing, associated to the origin of the product, raw material use and artisan process, as shown by the Slow food movement success. Through the *Ark of taste* project, set up in 1996, the Slow food association started an activity aimed at saving typical and traditional products, which are bound to disappear because of industrial standardization, environmental degradation and hyper hygienist regulations. The project operational units are the *presidia*, through which the association provides technical and promotion support to the initiatives aimed at saving specific products. The initiative of valorisation of raw sheep milk cheese in Pistoia mountains was started in 2000 by the Director of the Pistoia A.P.A (Associazone Provinciale Allevatori) and by the local Slow food representative. The objectives around which these actors align were the following:

a) adapting traditional production techniques
b) enlarging the shepherds’ commercial circuit (mainly direct selling)
c) linking product valorisation to local development

In 2001, the Director of A.P.A: succeeded in defining technical arrangements allowing the shepherds to use raw milk, by writing a code of practices. This technical step helped to create a Slow Food Presidium, with the financial support of various institutions, such as the Chamber of Commerce. Later on the Director of A.P.A promoted the creation of the “Consortium of Pistoia Mountains and Valleys”, whose members are shepherds. The shepherds who entered the consortium are also supported in marketing activities, because through it they can participate to local fairs as well as Slow Food events (about 50 fairs per year). It was possible to give continuity to the traditional direct selling at the farm, to distribute the cheese in restaurants and agri-tourism units and to develop national and international commercial circuits.

At the present time, the consortium has XX members for a production of XX tons. About XX % is sold in the region (mainly direct selling) and XX % outside the region.

This case-study presents various similarities with the Rye bread of Valais case- study: survival of a traditional product in a mountainous area, problematisation by external actors with a low involvement of the producers at the beginning of the initiative, necessity to aligning techniques to build a common code of practices, answering to a consumer demand outside the region pushed by an external organisation (Slow Food in Italy, The association for the promotion of the PDO-PGI products in Switzerland), enlarging commercial circuits to connect to national markets. The Swiss initiative seems to be more in advance on the management of the initiative with a well structured PDO alliance. The Italian initiative seems to be very efficient on the promotion aspects to develop notoriety and symbolic capital outside of the region, with the support of the Slow Food association.

4. Performance of the initiative

This section presents the performance of the Rye Bread of Valais regarding various issues.

Methodology :

The performance indicators that are used in this section are the result of a long research process that involved all SUS-CHAIN partners (see Reviron & al., WP1 intermediate report 2003 [8] and progress report 2004). In 2003, the WP1 report had recommended partners to follow a step by step approach and to make decisions about the following points: (1) selection of a few relevant themes and, for each theme, (2) choice of profile indicators and (3) choice of performance indicators.

In 2004 and 2005, major progresses were made to finalise this work. Six relevant themes were chosen, which focus on the main research questions: 1) **Commercial performance**; 2)**Marketing and communication**; 3) **Scaling-up and nature of the organisation**; 4) **Public support**; 5) **Effects on Rural development**; 6) **Social embeddedness**. Discussion groups (one by theme) met during the meetings of Pisa (Italy) in January 2004, Martigny (Switzerland) in November 2004 and Riga (Latvia) in May 2005, debated and made decisions about the choice of relevant performance indicators. This section follows their recommendations.

According to the case-study guidelines, we have compared the Rye Bread of Valais system performance with its main competitors. These satellite case-studies are briefly presented in the following box.

Satellite Case-studies

Four alternative food systems have been selected, to be compared with Rye Bread of Valais, regarding performance. They are competitors on the Swiss bread market (see section 2.1).

- **Conventional bread** is still the reference of the market. 30’000 producers produce 390’000 t of bakery wheat. Because of the very specific Swiss agricultural policy, which links direct payments to ecological requirements, this standard production is environment friendly produced and could benefit an ecological label in other European countries. The supply chain is composed of 215 storage companies and 87 mills (2004).
- **IP Suisse** is a non organic ecological label that was launched in 1991 by an association of producers. At the present time, the association has 5 800 producers, who farm 22 500 ha of bakery wheat and produce 118 000 tons. There main commercial outlets are the retailer Migros (whose all breads are IP SUISSE labelled or organic), the bakery processor Hiestand AG, which sells bread and specialties mainly to restaurants and some small Coop shops, McDonald’s….
- **NaturaPlan** bread is an organic bread, which is sold in the COOP supermarkets. It bears the Coop Naturaplan retailer private label and the organic producer association BIO SUISSE label. Most of the breads are special whole flour breads, using Swiss and imported organic cereals.
- **Migros Bio industrial Rye bread** is a special organic bread produced by Migros in its industrial bakery units, using Swiss and imported organic rye.

[8] Reviron S., J-M Chappuis, D. Barjolle (2003), methodology : development and fine-tuning of performance indicators, SUS-CHAIN WP1 intermediate report, January.

4.1. Commercial performance

- **Potential for creating added value** (price premium at consumer level, Δ value added at producer level)

The Rye bread is sold in the Valais region on the regional market of bread, which includes a large diversity of composition and forms that are baked and sold in the village local baker shops or available at the supermarkets. The relevant market is the **regional** market of the whole flour breads. This market has a high attractiveness, because of the excellent image and nutritional recommendations in favour of whole flour breads.

As the other whole flour breads, Rye bread of valais is sold to the consumer with an important premium compared with the conventional white bread in supermarkets, even with the IP Suisse label. However, the premium is not so important when compared to the Migros organic industrial Rye bread, despite a higher typicity and taste (see figure 13).

Figure 13 : price of breads on the relevant regional (Valais) market

	Consumer price	Bakery cereals origin	organisation	Cereals production process
Rye Bread of Valais	66 Swiss cents (42 Euro cents) / 100g.	Valais	Interprofessional association	Code of practices PDO
conventional	- supermarkets (Coop) – 37 Swiss cents (24 Euro cents/100g) - traditional bakers' shops 60 Swiss cents (39 Euro cents) /100g	Swiss	spot market (mainly Swiss)	legal ecological requirements in Switzerland. No premium to the producer
Migros / IP Suisse	38 Swiss cents (24 Euro cents) / 100g	Swiss	partnership between Migros and the IP Suisse producers' association	superior specific code of practices (pest management) Premium to the producer
Coop naturaplan / Bio	66 Swiss cents (42 Euro cents) / 100g	Swiss or imported	spot market of the organic flour (Swiss and international)	Organic Premium to the producer.
Migros industrial copy of the Rye bread of Valais (organic)	66 Swiss cents (42 Euro cents) 100g	Swiss or imported	spot market of the rye flour (Swiss and international)	Organic Premium to the producer.

The product creates a marginal increase of the economic activity of the operators because it is a small part of the activity for all partners. But it plays an important role at consolidating the commercial performance of the two regional mills, which face a strong competition on the national flour market, and of the village bakers.

Producers get a premium above the price of the conventional bakery wheat. This means that the premium is not linked to the consumer price but to the conventional cereals price at the production level. A premium of 12, 5 Swiss Francs/ 100kg (8 Euros) is presently necessary to convince the producers to farm rye.

- **Market share** (size and growth in number of producers, relative market share)

The initiative is very small but the growth rate is impressive and the competitive position is good. The market share in the Valais region is small (estimated 5 % of the total bread consumption in the region), because the product is festive and is not eaten daily. The competitive position is quite good.

Size	very small	Rye production : 484 t in 2003 40 producers
Evolution	growth	230 t. in 2000 (+ 110 % in 3 years)
Geographic limits	regional	Valais region

- **Degree of market differentiation**

The product promise to the consumer is clear and attractive. It is an artisan rye bread which respects a PDO code of practices and is certified. It answers to a consumer demand for healthy traditional whole cereal bread. It is completely approved by dieticians.

The product, because of its embeddedness in the Valais region has a real ability to create symbolic capital. It is able to valorise and to reinforce the region image attributes.

This market differentiation is recognized by competitors, who sell industrial copies.

The rye bread of Valais is at the present time a regional product with a strong image and a good positioning. It benefits from the global trend towards special whole flour breads. It shows that a very old style product for the poor farmers may be revisited and re-launched as a fancy healthy product. It has strong competitors, mainly the organic special breads that are proposed by the retailers (industrial process, often using imported cereals).The PDO regulation was a chance to differentiate and promote the product from these competitors but it may hamper the potential for innovation and diversification (because of the code of practices, which fixes some major items of the marketing mix and protects the name).

- **Communication of these values, codes and rules to consumers, and their sharing with / by consumers**

Promotion is selective because of the initiative size and concentrated in the region. The initiative benefits from the collective promotion for the regional products and the regional brand and from the collective promotion for the PDO-PGI products (with a common signature : “Valais, the taste of authenticity”).

The promotion insists on the typicity of the product, the link to the region, the mountain production process of the rye (which is very spectacular). The product meets higher needs and motivations of the consumers who are interested in low refined, tasty, traditional products.

Consumers are not directly involved in the organisation. But most of them are residents in the region (yearly or for vacation in their "chalets") and are concerned by the region identity. The regional newspapers give very often information on the regional food products. The registration of the Rye bread of Valais as a PDO was considered as a regional success. Proximity (mainly the village bakers shops) increases credibility among consumers.

For the tourists, the Chamber of Agriculture edited a booklet with many pictures and explanations about the regional typical products, with some pages about the Rye bread.

Regional events (sportive and cultural) are opportunities to stimulate consumers' knowledge and support.

4.2. Marketing and communication

The organisation is very small and the marketing competence is mainly intuitive. The main indicators of the commercial performance are the rye production growth (which is linked with the number of bakers that are partners), the price that is paid by the consumer and the premium that is received by the producers.

The alliance is too small to have its own marketing and promotion service. It uses the competences of the regional Chamber of Agriculture and the association for the promotion of the PDO-PGI products.

The marketing positioning and the promotion messages are clear. There is just a problem with the bread size. When this size was fixed in the code of practices, the initiative had not a clear vision of the socio-demographic profile of the consumers, because of a lack of data and a mix of permanent residents, Swiss visitors and tourists. The bread size was fixed 500 g, which is oversized for most of the Swiss households (65% of the Swiss households are composed of one or two persons and this proportion is increasing, due to demographic changes). As the result, families seem to be the core market. In the village bakery shops, the bread may be cut on demand to fit to the small households needs.

Considering the very small size of the initiative, which limits access to marketing tools, we may say that the marketing and promotion are well mastered.

- **Joint communication effort**

The alliance has a clear marketing vision, which is shared among partners (mainly mills and bakers) and within the network. This joint communication effort has led to a good image and very high notoriety all over Switzerland. However, we may notice a lack of producer awareness and support.

- **Unique Selling Proposition (USP)**

The selling proposition is clear and strong (quality, typicity, origin). This ability to meet consumer demand is attractive for retailers, which entered the alliance once settled. When sold in supermarkets, the rye bread is wrapped to distinguish it from conventional products and increase conservation. This packaging may alter the artisan character of the product.

- **Ownership of the brand and significance for the performance**

The association does not own the name and there is no collective brand. A PDO is a public quality sign, which leads to a protection of the name by law. An operator within the geographical limits who produces according to the code of practices is allowed to use the name and PDO label.

However, the PDO registration is a protection against usurpations and drifts toward a lower quality.

- **Degree of vertical integration and consequences of it for the marketing of the supply chain**

The association is a strong PDO vertical alliance that associates cooperation and competition. It is not a vertical integration with a strong leadership by one operator but a collective organisation that is looking for consensus and negotiated decisions. Quality is collectively built, commercial responsibility is shared and it is important to involve as much as possible partners in the common marketing effort.

- **4C (Competence / Coherence / Commitment / Co-operation) related to the implementation of the mix marketing into concrete actions,**

- **Competence (**grade**: 5 / 7):** the alliance is too small to have its own marketing and promotion service and marketing competence is mainly intuitive. But the result is quite good.
- **Coherence (**grade**: 7 / 7):** the marketing positioning is clear and well understood by consumers. It would be necessary to select Rye mountain varieties to reinforce the image attributes.
- **Commitment (**grade **: 5 / 7):** the two mills and bakers are very involved in the initiative. Producers and retailers seem to have an opportunistic approach.
- **Co-operation (**grade **: 7 / 7):** Management by a common centre of operations is very efficient to co-ordinate and implement the initiative marketing strategy.

4.3. scaling-up process and nature of organisation

- **presence of growth or scaling-up**

The initiative has grown-up until now passing the different translation steps of the first translation cycle. Rye production has increased from230 tons in 2000 to 423 tons in 2003 (46 ha in 2000, 94 ha in 2003). Until now, the objective was to associate the ¾ of the regional bakers (at the present time, ½ of the bakers are partners) and therefore to increase the rye production. Potential in the region seems to be now limited. To enrol the ¾ of the regional bakers (which is a realistic objective) would increase the volume by about 20% (around 500 tons). Nowadays, there are discussions about enrolling sellers outside the Valais region. But this would mean to open a new translation cycle and to scale-up the organisation.

- **Ability to choose the most relevant type of leading organisation**

The organisation is an interprofessional association with a common centre of operations, which operates as a "strategic vertical alliance" (Reviron & Chappuis, 2003). There are three colleges (producers, mills, bakers). The board is composed of six members, two elected persons per college. This means that the two mills are automatically members of the board. The discussion group shaped this organisation architecture at a very early stage. A formal organisation was constituted in 2001. But the organisational pattern (vertical alliance) did not change over time.

It is now known, according to a European case-studies analysis (Dolphins, 2002 [9], Barjolle & al., 2005 [10]), that this organisational pattern is very common and efficient for the PDO and other high quality origin labelled products.

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[9] European project DOLPHINS, 2002, "Co-ordination of supply chains" in WP6 meeting synthesis, Geneva, 16-17 September, p. 23

[10] BARJOLLE D., S. REVIRON, J-M CHAPPUIS, 2005, Organisation and performance of the origin labelled food alliances, in BELLOWS A: R: (ed), Focus on Agricultural Economics, Nova Science Publishers, New York, ch. 7.

According to the New Institutional Economics, this PDO alliance is an “hybrid form”, which associates cooperation and competition among its members. The members of the group preserve their financial autonomy, are owners of their assets, deal commercially with the partners of their choice within the group with a high frequency, benefit from a technical freedom within the limits of the common code of practice. On the other hand, they regroup certain tasks within a piloting centre, which they control, in order to benefit from industrial type services. They accept mutual dependence. Quality is fixed collectively by the members and practices are aligned thanks to a code of practices. The product cannot be redeployed easily on another market.

The governance structure presents the main features of a hybrid form, according to Ménard (2004)[11]:

- *Pooling*: activities are organised through inter-firm co-ordination and co-operation, so that key investment decisions must be made jointly. Choosing partners, joint planning and partner-specific communication are key issues.
- *Contracting*: each partner signs a contract with the certification organisation and the organisation has built-up commercial contracts templates for the transactions within the chain.
- *Competing*: partners compete against each other and they compete with other special bread brands producers. The mechanisms for delineating decisions to be shared, disciplining partners and solving conflicts while preventing free-riding and opportunism, are a central issue.

The figure 14 helps us to classify the diversity of hybrid forms. The issue of asset specificity is directly linked to who is fixing the product quality. Concerning food products, we believe that criteria concerning the way main decisions are made in the organisation and common values shared by partners should be better taken in account [12] [13].

Among the different types of hybrid forms proposed by Ménard (2004), we classify the initiative as a ‘relational network’ at the boarder of ‘leadership’.

- Product quality was fixed collectively and written in the common PDO code of practices.
- Main decisions are made democratically. However, there is a drift toward leadership, because of the weight of the two regional mills
- The initiative combines ‘domestic’, ‘merchant’, ‘civic’, ‘industrial values’ (according to the Boltanski & Thevenot meaning, 1987). The entry of big retailer bakery units may change this balance toward more industrial values.

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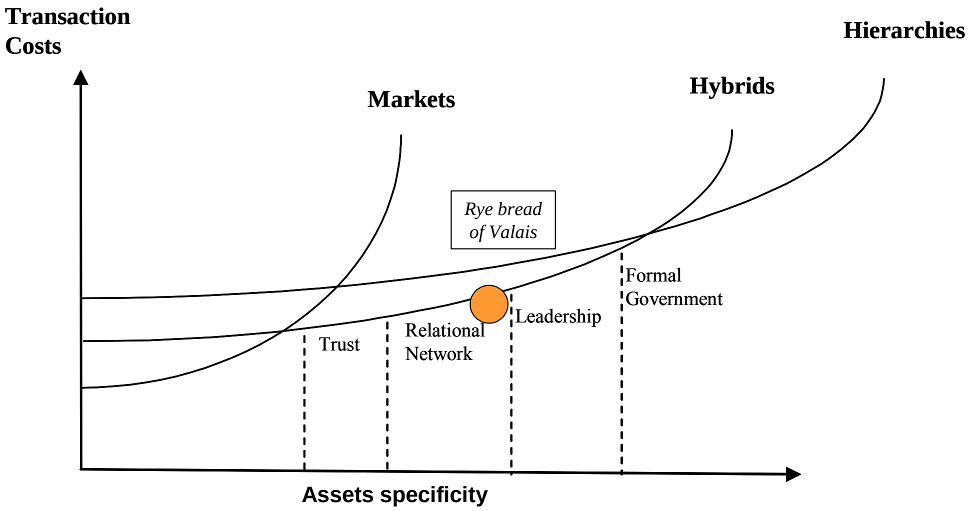
[11] Ménard, 2004, The Economics of Hybrid Organizations, Journal of Institutional and Theoretical Economics, volume 160, 3, September.

[12] Reviron S., J-M Chappuis, 2004, **“**Effects of the Swiss retailers' strategy on the governance structure of the fresh food products supply chains**”,** *Agribusiness,* special issue vol.21 (2), Wiley ed., p. 237-252.

[13] Verhaegen I., Van Huylenbroeck G., 2002, *Hybrid governance structures for quality farm products*, Shaker Verlag.

Figure 14 : classification of Rye bread of Valais governance as a hybrid form (from Ménard, 2004, following Williamson, 1991)



quality fixing	seller		collective	buyer
decision making	seller	+	democratic -	buyer
social values	market	+ market, domestic, civic, industrial +		industrial

- **Ability to control the organisation and the scaling-up process**

- Ability to control the organisation : the network is managed by a centre of operations with a hired manager who has no commercial links with the actors (this pattern is very common in the PDO alliances) [14].

The missions of the Centre of operations are the following :

- definition of the code of practices
- search and selection of new partners (bakers and producers)
- quality control (in relationship with a certification organisation)
- technical assistance to partners
- promotion
- relationships with other high quality food initiatives (cheese, wines…)
- relationships with the regional institutions

The management coordinates the technical and commercial strategic decisions and allows the small operators to get access to high scale services (technical assistance, promotion). The quality control is very efficient for avoiding opportunistic behaviour and cheating.

[14] Reviron S., J-M Chappuis, 2004, "Vertical alliances for origin labelled products : what is the most relevant economic model of analysis ?", in Van Huylenbroeck G., W. Verbeke and L.Lauwers (ed), *Role of Institutions in rural policies and agricultural markets*, Elsevier, p. 239-254.

The product is certified by the Organisme intercantonal de certification (OIC), which signs a contract with each operator (producer, mill, baker). The quality control is organized by the alliance and paid by a fee on each flour quintal.

The costs of quality control, secretary and promotion (around 130 000 CHF/ year) are mainly covered by a fee paid by the bakers of 28 CHF / kg of flour (corresponding to 10 CH cents / bread). The salary of the manager (part time), the housing and administration costs are still paid by the Chamber of agriculture.

- Ability to control the scaling-up process : the code of practices is the only tool for selecting new members who must be located in the delimited geographical area (according to the PDO regulation).There is no entry fee.

There were until now no difficulties to insert new bakers and new producers. The vertical alliance is well designed to welcome new partners. The entry of retailer baking units is more complicated, because of the alliance spirit to be protected and because of the symbolic capital value that cannot given for free to a large company. The recent entry of a big retailer is a threat to maintain the cohesion of the organisation. To open to new sellers outside the region would increase dramatically the potential production volume, oblige to scale-up the initiative and may change in-depth the organisation. The ability to control the scaling-up process will be linked to a good power distribution between the different members. It will be essential to verify the common vision of these different members, regarding the values and objectives of the initiative.

The two regional mills sell a set of different flours and compete on the national market where competition is very strong. Their survival is essential to the initiative. If one of the mills goes out of business, it would create very serious problems.

The producers' engagement is essential. Presently, it is linked to the price that is paid by the mills for the rye, compared to other cereals. This short view approach creates a threat for the initiative. In 2004, the number of producers decreased dramatically from 39 to 17 and it was necessary to increase the premium over the bakery wheat price from 10 fr/100kg (6,5 Euros) to 12, 5 Fr/100kg (8 Euros) to convince 46 producers to produce. This mechanism leads to an irregular rye production. It links the initiative future to the evolution of the conventional commodities market, which is not coherent with a PDO strategy.

The artisan bakers are very important actors, because they have a direct link with consumers and create trust, according to a "regard convention" (Kirwan, Tronheim 2004) [15]. It will be crucial to keep an eye on the retailers' bakery industrial units, to protect the artisan character of the product. Temptations to change the code of practices in order to industrialize the bakery process should be systematically banned.

Big retailers may be great partners to get access to new markets. But they must agree with main objectives of the initiative, which are to develop the regional resources.

- **Outcomes of the growth / scaling-up** (change in distribution of power, economic /non-economic objectives…)

Until now, sales within the regional market have grown quite smoothly. Scaling-up in order to enter the national market is more risky. It is the only way to increase volumes because the

[15] Kirwan J., 2004, The interpersonal world of direct marketing : conventions of quality at farmers' markets, paper presented Paper at the XI world Congress of Rural Sociology, Trondheim, Norway, 25-30 July, 33 p.

regional market is almost satisfied with a potential demand estimated at 500 tons of Rye. But the choice of the commercial partners will be crucial to avoid a drift in the image attributes of the product.

On another hand, new comers may increase the industrial and merchant values at the detriment of the initiative present spirit and regional embeddedness.

4.4. Effects on Rural development

Methodology : Assessment of the effects of an initiative on rural development was the most difficult problem that the SUS-CHAIN partners had to solve. It appeared very quickly that the scope and means of our project made impossible to measure sustainability with objective indicators.

It was finally decided to ask to each team to grade a set of items, with a comparison of the initiative with the conventional competitor in the country. It is obvious that comparisons between countries are not possible, because of a different context regarding agricultural strategy and rural development policy. These grids are presented in annex.

The Swiss team decided to explore further on this topic and we propose a more elaborated method, based on the acknowledgment of externalities by those who have the power to ban or to support initiatives. We consider that the opinion that some key persons have on the effects of an initiative on rural development has crucial political consequences and my lead to essential financial and non-financial support. We do not intend and do not have means to judge if this opinion is correct or not. It could be interested later on to compare with objective tools – when possible - some items. However, we believe that opinion leaders may have a good perception and intuitive reliable knowledge, based on education, discussions with experts and experience.

Positive and negative externalities have been assessed by interview of stakeholders that have the power to support the initiative (regional, local and national authorities) or are opinion leaders (tourism resorts, environment associations and foundations, journalists…). We used Likert scales, which are confirmed tools for the measurement of attitudes [16]. A Likert scale consists of a series of declarative statements and the subject is asked to indicate whether he agrees or disagrees with each statement. This method was already applied to assess the positive externalities of regional agri-food supply chains in the Valais region, Switzerland (Lehmann, Stucki and al., 2000) [17].

The interviewed persons were invited to grade statements by sticking a coloured circle on a grading grid from -3 to + 3. The statements were the following:

“The initiative has positive / negative effects on :

Economic effects

- creation of added value in the supply chain
- Price premium to producers
- Producers access to market
- Marginal areas development
- Processing and retailing activities in marginal areas
- Tourism

[16] Developed from Likert R. (1932), ”A technique for the measurement of attitudes”, *Achieves of Psychology*.

[17] Lehmann B. & al. (2000), Vers une agriculture Valaisanne durable (Towards sustainable agriculture in Valais), report to the State of Valais (306 p.) and booklet (36 p.) in French and in German.

Social effects

- Food product typicity
- Consumer trust towards food (in general)
- Healthy food product
- Landscape aesthetic
- Social and cultural identity
- Social farmers integration
- Development of new competences within the supply chain
- Creation of new incomes (from agri-tourism…).

Environmental effects

- Pest management (per ha)
- Biodiversity of wild life
- Awareness of ecological issues
- Transport of products within the supply chain
- Preservation of regional species
- Farming of difficult areas.

Likert scales allow us to compare various initiatives. We have decided to compare final products that are competing on the consumer market, to take in account transport issues and food miles strategy within supply chains. The survey compares Rye bread of Valais AOC to its main competitors: Mi-blanc standard Coop, Mi-Blanc Migros / IP Suisse, a special whole flour organic bread Coop Naturaplan, industrial organic rye bread Migros-bio.

We present hereafter provisory pilot results, which have been provided by interviewing the 13 opinion leaders who attended the 2nd Sus-chain national seminar in Lausanne (8 June 2005). These first results will be completed soon, to get a larger sample.

Rye bread of Valais obtains the best grades considering almost all items and highlights the positive effects of a well positioned PDO initiative, with a good consensus among interviewed persons. IP Suisse breads get also impressive results with a very high impact considering the concerned acreage (22 000 ha, a quarter of the bakery cereals acreage in Switzerland). Organic breads are quite well rated, but are penalised by the importance of organic cereals import. Opinions diverge about the effects of the industrial organic copy of Rye bread, which seems linked to a fuzzy image and marketing promise.

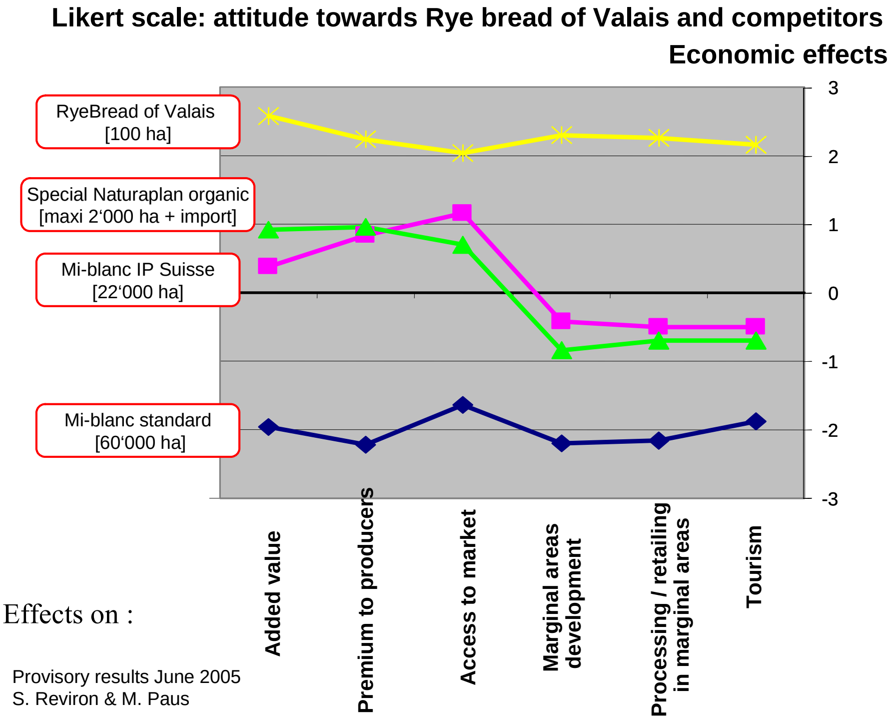
- **Economic effects**

The Rye bread of Valais initiative gets high grade for all items (figure 15). It creates added value, provides a premium to producers, is crucial to the two regional mills and village bakers survival. The initiative plays an interesting role in the global regional strategy to offer the regional consumers (residents and tourists) a basket of high quality PDO artisan food products. It is an active member of the regional brand Valais, which promotes high synergies with other regional products (cheese, dry meat, wines…).

The special organic Naturaplan bread (sold in Coop supermarkets) and the IP Suisse breads (sold in the Migros supermarkets) have a very similar profile. The interviewed persons acknowledge their positive effects at the producer level to increase added value, provide price premium and improve access to market. The effects on marginal areas are on the contrary negative.

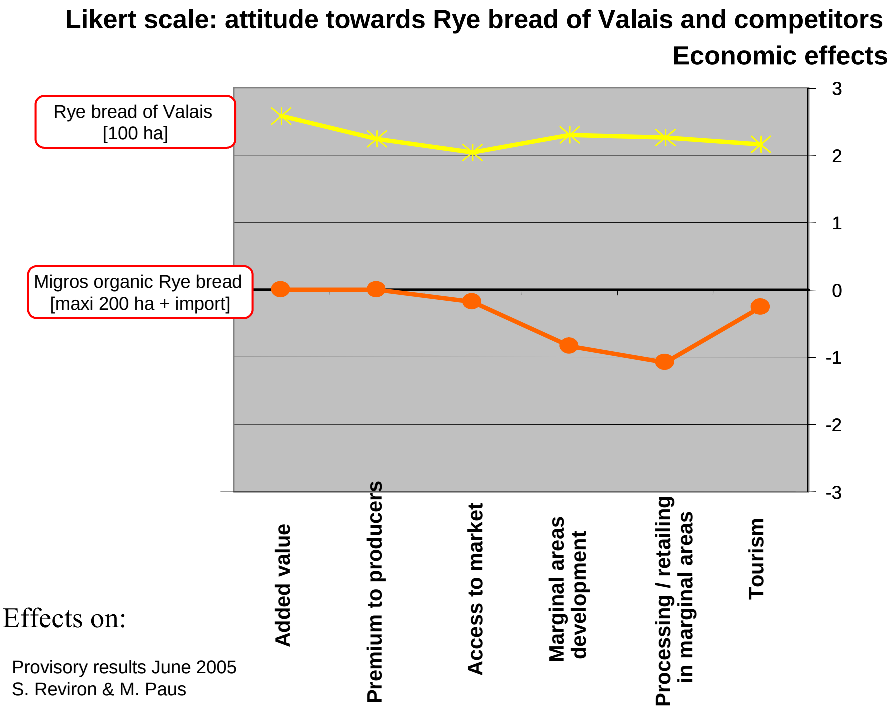
Conventional bread gets negative grades for all items (around -2).

Figure 15 : acknowledgement of economic effects of Rye Bread of Valais (1) – provisory results



It is interesting to compare Rye bread of Valais to its industrial copy sold by Migros, which is made with organic rye, mainly imported (figure 16).

Figure 16 : acknowledgement of economic effects of Rye Bread of Valais (2) - provisory results.



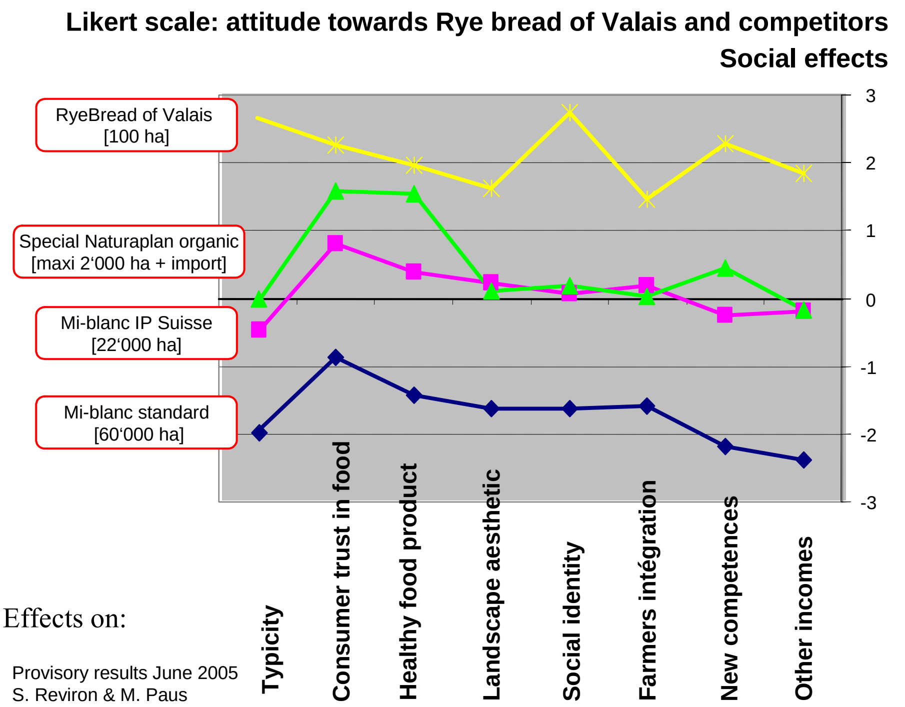
This comparison highlights the positive differential economic effect of the PDO artisan product, with a strong territorial effect. There is a strong consensus about rye bread of Valais and a high divergence of opinions about its industrial copy, whose image seems to be very fuzzy. The organic quality of the product is put in balance with the low level of Swiss origin for rye. According to their preference (organic product versus Swiss product), the interviewed persons have rated very differently.

- **Social effects**

The Rye Bread of Valais initiative gets good grades concerning social effects (figure 17). It contributes to the preservation of the regional strong social and cultural identity. It improves the whole offer of regional high quality and convivial food products (in association with mountain cheese, dry meat, wines, fruits…). The effects on landscapes are still limited but could become very attractive for residents and tourists, during summer. Rye production is very spectacular at the harvest time, especially when farmed on terraces, and provides a new type of outstanding mountain landscapes.

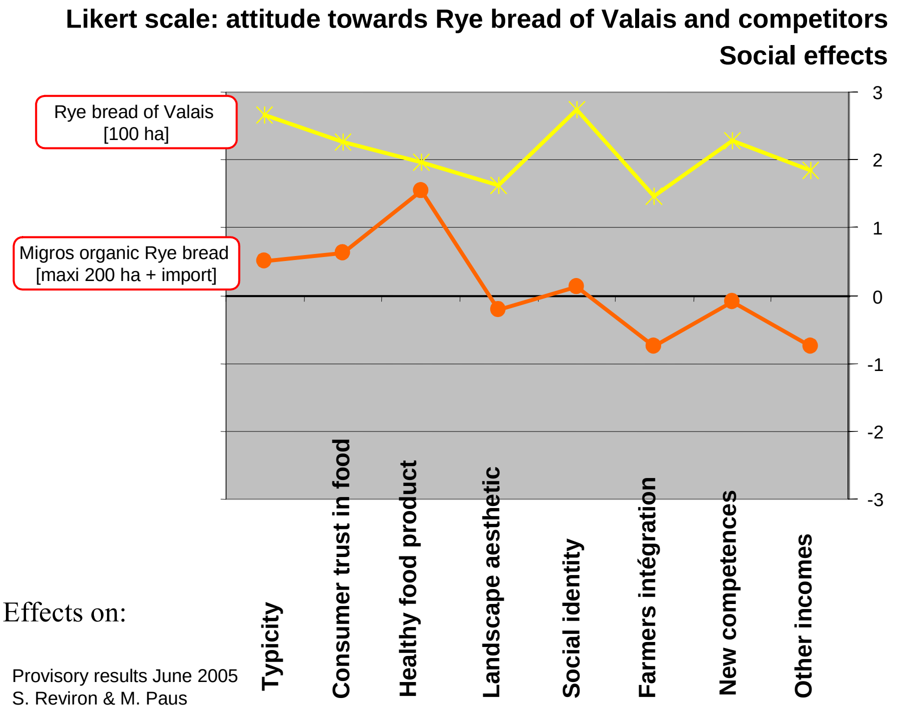
The organic bread gets high grades concerning increasing trust in food safety and quality. IP Suisse bread is neither very positive nor negative. Conventional bread gets negative grades for all items.

Figure 17 : acknowledgement of social effects of Rye bread of Valais (1) – provisory results



The industrial organic copy of Rye bread of Valais is acknowledged as healthy food (with a consensus among interviewed persons) and this may be related to the good image of whole flour rye breads and organic products. (figure 18).

Figure 18 : acknowledgement of social effects of Rye bread of Valais (2) – provisory results



- **Environmental effects**

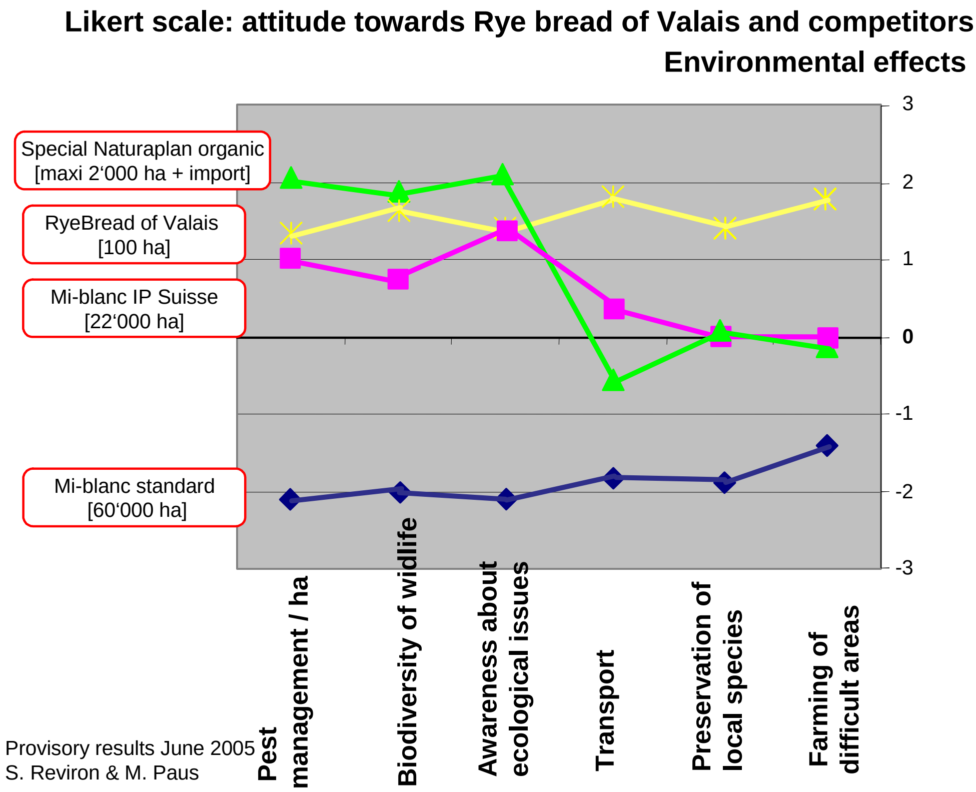
The rye production of Rye brad of Valais PDO is a high standard integrated pest management production “extenso”, superior to the legal requirements or organic (often without the label when some other productions of the farm are not organic). But this environmental argument is not transmitted to the consumers. However, the grades concerning are quite good, compared with organic Naturaplan organic bread. This may be linked with the excellent image of extensive farming of a PDO product in the mountain areas (figure 19).

The interviewed persons appear to believe that the initiative is aimed at preservation of local rye species. In fact, at the present time, the producers are free to select their species in the federal catalog of approved species. However the species requirements are now in discussion. The initiative has started agronomic tests with the Federal research Institute of Changins to select the species the most adapted to a mountainous climate and try to reintroduce traditional ancient species. This re-introduction of ancient traditional rye species, even partially, seems necessary to fit practices with stakeholders’ beliefs (which are probably shared by consumers).

Organic Naturaplan gets high grades for pest management per ha, biodiversity of wildlife and awareness about ecological issues in the supply chain. But the transport issue of imported cereals lowers the performance. There is too a low territorial impact, because production is perceived as delocalised. IP Suisse gets quite good grades concerning pest management per ha and awareness about ecological issues, with a high consensus.

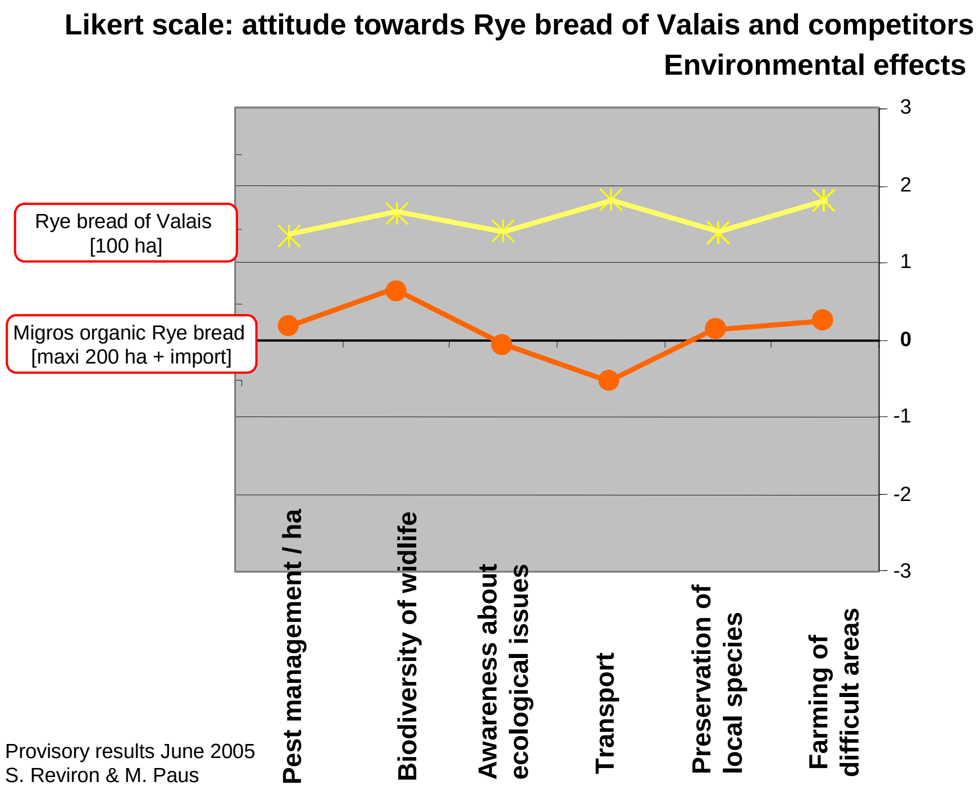
There is a consensus among interviewed persons about low grades for conventional standard bread. This is surprising because bakery wheat production respects ecological requirements because of the Swiss agricultural policy. However, import of conventional wheat is suspected, because there is no information on the packaging concerning the cereals origin. This means that the high environmental quality of the standard Swiss cereals production is lost when batches are mixed with imported products that offer no guarantees concerning the production process.

Figure 19 : acknowledgement of environmental effects of Rye Bread of Valais (1) – provisory results



Rye bread of Valais gets better grades than its industrial copy (figure 20). The Migros bread is made with organic cereals, but mainly imported, which leads to a divergence of opinions among the interviewed persons.

Figure 20 : acknowledgement of environmental effects of Rye Bread of Valais (2)- provisory results



4.5. Public support

Public support has been decisive from the beginning. Competences and financial support have been provided by the Valais region authorities, with an excellent phasing of support.

- **Importance of public financial support** (as a proportion of total investment)

A start-up financial support was given to the association (35 000 CHF – 22 000 Euros) from 2001 to 2003. At the present time, the Chamber of Agriculture pays the salary of the part time (20%) manager and various costs.

- **Removal (reduction) of constraints / hindrances**

The PDO regulation was an opportunity for the product, because it was an incentive to building a strong organisation.

The Federal Ministry of Agriculture clearly defended the initiative during the PDO registration process, when competitors were arguing that the product was generic and the name should not be protected.

- **Targeting / phasing of support**

The regional authorities were very active during the phase of problematisation and interessement and provided support, without which the initiative should not have been able to start. The two facilitators are still present and caring but were able to let the operators appropriate the initiative.

- **Importance of non-financial support (NGOs)**

Non-financial support from the State of Valais and the Chamber of Agriculture was essential during the phase of problematisation and interessement. Since then, various organisations and institutions have provided non-financial help for promotion (Valais bakers' association, Swiss association for the promotion of PDO-PGI products) or technical aspects (certification organisation for quality control, Federal Research Institute of Changins for selecting specific mountain species).

4.6. Social embeddedness, local networks, locality

The initiative is strongly embedded in the region and may relay on efficient external networks.

- **Use of own / local resources** (soil, breeds, skills and knowledge, processing, retail outlets…)

The territorial and local resources at the basis of the considered initiative are:

- a traditional product and recipe (the Rye bread)

- a pre-existing rye production. The initiative is now working at re-introducing rye local mountain species, to protect ancient varieties and improve biodiversity.

- existing mills

- a strong regional agriculture policy with a clear strategic vision and financial resources that are easily mobilised.

It is a very small initiative but it supports the rural economy in the cereals sector (survival of the regional mills, the village bakers, the cereal producers). At this time, it has avoided some enterprises (mills) to close, with positive effects on employment (30 persons). It is more difficult to estimate the positive effect on the bakers or the producers.

It contributes also to the global strategy of the regional agriculture to maintain a profitable agriculture in a marginal mountainous region at the benefit of tourism and residents' quality of life. The development of the rye production in the Haut-Valais may create a local development process.

The initiative strengthens local and regional capacity to self organization and self governance. The rye bread of Valais initiative is now a reference for other products. The initiative has improved the capacity of rural communities to react to problematic events. It showed that a decline of a production can be faced and turned into a success story The initiative has been able to adjust to sectoral crisis. The global bread consumption is decreasing very quickly but there are good market opportunities. Regional isolated mills may resist on special flours niche markets. The traditional bakers may resist to competition if they highlight their human artisan skills and differentiate their products. The PDO registration may help to negotiate with big retailers and avoid symbolic capital jeopardizing.

- **Level of participation of all actor groups in the initiative**

Regional authorities are major partners of the initiative and the regional institutions' clear strategy played a major role in accompanying the initiative. There are no relationships with the environment associations, which is not surprising because environmental quality was not a specific objective of the initiative. The interested communes should be associated to the initiative.

- **Existence of shared values, codes and rules within FSC**

From the beginning, the main objectives and outputs of the initiative were market driven and the PDO alliance was very active to build-up codes, rules and a common strategic vision. The partners' alliance has been formalised and strengthened. The certification organisation's contracts have been introduced and have shaped the organisation.

- **Communication of these values, codes and rules to consumers, and their sharing with / by consumers**

The local population purchases the product and have then the power to encourage or discourage the production. The local consumers meet daily the village bakers.

5. Discussion of the hypotheses regarding scaling-up

The hypotheses that were formulated by the Sus-chain partners are verified for the Rye Bread of Valais case-study.

5.1. Central hypothesis. Scaling-up an initiative in the field of new food supply chains changes the nature of the organisation (network structure, rules, values…) and its sustainability performance

The hypothesis is clearly verified. The initiative is at the present time finishing a first translation cycle and should scale-up very soon. It is obvious that the connection to national market will change the equilibrium of forces and powers within the organisation. Sustainability performance should not be affected too much, thanks to the PDO code of practices, which obliges to bake bread in the region and should avoid quality drifts. On the environmental point of view, transport will increase but the introduction of specific mountain rye varieties will improve domestic biodiversity.

5.2. sub-hypothesis 1 : Scaling-up depends on commercial performance and appropriate public support

The initiative is a commercial success : volume has doubled in 4 years. The decline of Rye production in the region has been stopped. This commercial success is essential to think of scaling-up, in order to enter the national market.

The support of the Regional authorities and the Chamber of Agriculture has been decisive from the beginning. The initiative costs are still partly paid by institutional support. Scaling-up the initiative should lower dependence from public support.

5.3. Sub- hypothesis 2. Nature of organisation changes with scaling up as an effect of growth in market power and of the increased pressure of economic constraints and logics

The collective organisation has been designed very early and the organizational pattern (a classic PDO alliance) is efficient.

The initiators shaped the organisation. There were no producers in the discussion group. They joined later and are not so engaged by common social values.

Scaling-up increases the power of the 2 regional mills. The entry of the big retailers bakery units may lead to more industrial values.

The organisation made recently a strategic decision about scaling-up. The main scaling-up problem is “connecting to global markets”. There is a risk of loosing the spirit of the initiative with the entrance of new partners.

5.4. Sub- hypothesis 3 : New food supply chains have a positive effect on rural sustainable development

The interviews that we have been realized among high rank officers and opinion leaders, with a likert scale approach, show clearly the acknowledgment of the positive effects of the initiative on rural development (see point 4.4).

6. Conclusion

The PDO rye bread of Valais was a very interesting case-study to analyze according to the common SUS-CHAIN guidelines.

Firstly, it is a rather recent initiative and it was possible to meet with the initiators to write the effective story of the initiative, with a low risk of “legend” making. We have diagnosed that the initiative is presently at the end of a first cycle of translation, just before scaling – up, and respected the four steps identified by Callon and ordered by Brunori. We had then the opportunity to be spectators of a very crucial time of the scaling-up process, which is the core research question of the project. We were able to confirm that scaling-up is not a linear process. Changing scale changes the organization. To enter new markets may be valuable and may be necessary to pay the organizational costs. It is often risky and may lead to a loss of social values and spirit.

Secondly, it is a very pure PDO alliance with a high ability at creating symbolic capital linked to notoriety, trust and reputation, and a high ability at building-up a strong local network. We were able to assess its positive effects on rural development compared with its main competitors. This approach will probably be extended and developed, within a more global discussion regarding the PDO benefits.

The second Swiss case-study, +Naturabeef+, is very different and we invite the reader to discover it. It is a very large size initiative to market suckling cows beef meat and we diagnosed that it is now at the end of a third translation cycle. The analysis highlights the global performance of this type of initiative. Globally, the 14 case-studies elaborated for the Sus-chain project offer a very interesting diagnosis about very diverse strategies to market products with a sustainability promise to the consumer, following common powerful guidelines. The comparison should lead to important lessons both to scientists and professionals.