

The Cultural Capital of Apple Growers in Upper Vinschgau

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Project report

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PJ 743702 - "General Topics of Environmental Management" Module

Master's Degree in Environmental Management of Mountain Areas

University of Innsbruck

23 April 2019

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1. Introduction

The cultural capital (hereinafter “CC”) is a form of capital that reflects the way people “know the world” and how they act within it, as well as their traditions and language (Emery & Flora, 2006). It is a community development tool that has been used for decades (Hogg, 2016), and it has allowed researchers of different fields to put culture and cultural processes at the center of analyses (Lareau & Weininger, 2003). To assess culture, however, one must first know its precise definition. Culture is a broad and intangible concept and assessing quantitatively a “cultural degree” is difficult. One must consider many factors and bear in mind that there could be different outcomes based on the approach used and the mindset of whom is conducting the analysis. Still, the CC is crucial to assess the development of a community.

Recent events occurred in the community of Upper Vinschgau (hereinafter “UV”) will likely bring the area to epochal and unique changes in the near future. Such events created a highly heterogenous, complicated and still-evolving situation and community. Therefore, to assess the CC of one of the main actors in this community (alias, the apple grower groups in UV), one should consider as many cultural aspects as possible. This was unfeasible in just some weeks, so the research did not attempt to precisely quantify “cultural degrees”, but rather to identify (if present) CC similarities and differences among apple grower groups. The methodological approach we adopted was mainly based on qualitative interviews, participative methods and assumptions that are ascribable to the chosen definition of CC. Finally, some context-related evidences were taken for granted a/o generalized to put some necessary limits to such a broad research.

1.1. Capital assets

Cultural capital is part of the Community Capital Framework (“CCF” - *Figure 1*), which puts together all the different forms of capitals that have been identified by Cornelia and Jan Flora in their work “Rural Communities: Legacy and Change” (Flora & Flora, 2016).



[Figure 1: The Community Capital Framework.
Image downloaded from the University of Nebraska-Lincoln website in February 2019.]

CCF is an approach to analyze communities and community development effort from a systems perspective. Focusing on community assets rather than community needs and deficits, allows to view the various elements, resources and relationships within a community and their contribution to the overall functioning of the community itself. Once the community capitals are

identified, they can be used as a tool for future planning (Mattos, 2015). Moreover, identifying the capital assets at different times allows to compare different stages of the community development, and understand development changes and their effects.

1.2. Definition of cultural capital

Many definitions of cultural capital can be found in literature. Most of them either refer to the definition by Flora & Flora (Flora & Flora, 2016) or by Bourdieu (Bourdieu, 1986). While the first gives a generic understanding of CC, the second one provides a more structured view by identifying different forms of CC and giving them a role in the individual/community development. According to Bourdieu, CC can exist in three forms: the embodied, objectified and institutionalized CC.

The embodied cultural capital

The accumulation of CC presupposes a process of embodiment and incorporation that forms what is generally called the “culture of a person”. This process is time and energy consuming for the subject and allows him to convert external wealth into an integral part of his person. That is into a habitus that shapes the way he thinks, talks, acts, takes decisions and looks at the world. The embodied CC reflects the degree of “cultural accumulation” and it is affected by the other two forms of CC: the objectified and institutionalized CC. The embodied CC cannot be transmitted instantaneously by gift or request, purchase or exchange, because it is not directly convertible into money or goods. It can be acquired depending on the period, the society and the social class, in the absence of any deliberate inculcation, and therefore unconsciously. Ultimately, it declines and dies with its bearer.

The objectified cultural capital

The objectified CC is represented by tangible objects and media, such as writings, paintings, monuments, instruments, etc., that are linked to culture. Therefore, this form of CC is transmissible in its materiality and derives from the personal cultural embodiment of its producer. Additionally, historical and regularly occurring events, such as festivals and community fests, and the traditional landscape can be considered as extensions of the objectified CC definition. Especially in rural communities, the traditional landscape can be seen as direct expression of the local citizens’ and farmers’ culture. Their personal view of the world and what it should look like, which is linked to the embodied CC, determine the way they shape it. Of course, this is also shaped by economic reasons, but it is not wrong to affirm that the traditional landscape can be considered as a collection of objectified CCs and that farming techniques and processes to handle the land are affected by it.

The institutionalized cultural capital

The cultural capital can also be academically sanctioned by legally guaranteed qualifications that are formally independent of the bearer’s personality. The institutionalized CC has a relative autonomy from the other two forms of CC. It is mainly linked to the educational degree of the bearer. Conferring CC a link to institutional recognition makes it easier to compare the CC of different actors.

1.3. Geopolitical and social context

The context of the research was the Upper Vinschgau Valley. UV is located in northwest South Tyrol and its main urban center is Mals (*Figure 2*). The lower area is occupied by the village of Laas, located at 886m a.s.l. In the South, the Stilfs National Park contains the highest mountains of South Tyrol (Ortles - 3,908m a.s.l. and Königsspitze - 3,857m a.s.l.). Other high mountains surround the borders of UV: the Otzaler Alps at East (Similaun – 3,603m a.s.l.) and the Sesvenna Group at West (Piz Sesvenna - 3,204m a.s.l.). In the North, the Reschenpass (Reschenpass – 1,504 m a.s.l.) ends UV and separates Italy from Austria.



[Figure 2: Upper, Middle and Lower Vinschgau geopolitical borders. Image downloaded from: www.tourismus-suedtirol.net in April 2019.]

The main land-cover types in UV are forests (3,378ha) and grasslands, meadows or pastures (9,544ha), but the valley bottom is also covered by croplands (44ha) and orchards (22ha) (Istituto Provinciale di statistica, 2010). As a matter of fact, almost 14% of the workforce is involved in agriculture (Prov. Autonoma di Bolzano, 2013), which implies that farming is still nowadays an important source of income for the local population. The three main typical products are the South Tyrolean Speck IGP, the Stilfser GU cheese and the South Tyrolean IGP apple.

Apple growing is a highly developed farming activity in South Tyrol. Today, 19,000ha of its agricultural land are used for apple production, which supplies approx. 50% of the National market and 15% of the European market (de Meyer, 2014). South Tyrolean apple farming has been continuously changing in the last two centuries. Production increased strongly in the second half of the twentieth century mostly due to intensification and climate change. On the contrary, Mals (*Figure 3*) has long been excluded from apple orcharding due to its high altitude (1,050 m a.s.l.) despite its space suitability for intensive agriculture.



[Figure 3: Mals and the Stilfs National Park on the background.
Image downloaded from: www.sentres.com in February 2019.]

Apples have been cultivated for domestic consumption for years in farmers' gardens of LV and UV. Apple farming started to become a marketable activity thanks to the construction of the Brenner railway in 1867 and the large land reclamation of the Etsch Valley in 1880-1890. After that apple farming increased strongly and quickly in LV. Apple growers built the first storehouses and established the first fruit cooperatives (Mela Alto Adige IGP, 2018). In the second half of the twentieth century LV apple farming intensified dramatically thanks to the green revolution. Between 1975 and 1985, 90% of LV agricultural land was covered by dense orchards. Until the beginning of XXI century, the limit of apple farming was Schlanders at 720m a.s.l., which is the border between UV and LV. A couple of years later, however, apple orchards started to appear also in UV due to the annual mean temperatures increase. Climate change favored many UV cattle farmers (mostly part-time dairy farmers) to sell or rent their land to apple growers originally from LV or become themselves apple growers: apple farming provides higher incomes and requires less amount of work. Besides, the Roman heritage distribution of family farms in Mals¹ (Provincia di Bolzano, 2019) helped the land grabbing phenomenon of LV apple growers in UV.

This is the historical background that led to recent events that highly impacted the farming system in Mals. In 2015, a local movement, consisting of UV citizens and environmental activists, was able to convince the Mals town council to call a popular referendum to ban the use of pesticides within the municipality borders. The referendum passed with 76% of the voters and caused a shock in the South Tyrolean farming businesses and large media coverage. The "Mals Case", as first on Earth for its type, has become a case study for many researchers of the world and a symbolic example for movements against pesticides (Toppling Goliath, 2019).

Despite the awareness of the huge impact of these events in Mals, the present research did not focus on the pesticide-ban but rather on the cultural capital of UV apple growers. The influence of the pesticide-ban on the research is better analyzed in the discussion section.

¹ The Roman farm heritage refers to the equal subdivision of the family land among the male offspring to preserve the community demography and stability. The Roman heritage is not the typical heritage of the South Tyrol, which is the closed-barn heritage.

1.4. Three groups of apple growers in Upper Vinschgau

Because of the recent historical development, we split UV apple growers into three groups, following the suggestions of a social science researcher already operating in Mals.

Upper Vinschgau apple growers that converted from cattle farming of hay making

This group (hereinafter “Converted apple growers”) includes all the former cattle (mostly dairy) and hay farmers that converted to apple farming for economic reasons. According to our survey, they represent approximately the 30-40% of the total number of UV apple growers.

Upper Vinschgau organic apple growers

This group (hereinafter “Organic apple growers”) includes all UV apple growers who decided to grow apples by applying organic pest management. In this group there are growers that have been organic farmers for a long time and growers who recently switch to organic. This group represents the 10% of UV apple growers.

Upper Vinschgau apple growers originally from Lower Vinschgau

This group (hereinafter “LV organic growers”) includes all farmers originally from LV that bought land in UV to cultivate apples. They do either organic, integrated or conventional pest management and represent the 50-60 % of UV apple growers. This group is the most numerous.

To justify the assumption that three apple grower groups exist in UV, all interviewees were asked to confirm or deny its truthfulness. We received a unanimous assent to pursue with our assumption.

2. Research objective

The research objective was to understand, evaluate and compare the institutionalized and embodied CC of the three groups of UV apple growers.

3. Methods

To achieve the research objective, multiple systematic methods were applied. First, a stakeholder and Net-Map analyses were conducted to understand which actors mainly affected the culture of UV apple growers and get familiar with the world of Mals – UV. Then, a literature study was performed to collect information on those important actors identified through the stakeholder analysis and to detect signs of culture directly related to UV apple growers. Eventually, semi-guided interviews to members of the three apple grower groups were conducted to gather more precise information about their CC. Indeed, the interviews provided the most useful information. Findings were finally filtered and cross-validated to pull out research results and achieve the research objective.

3.1. Stakeholder analysis (SDC, 2011)

A stakeholder analysis helps to identify relevant actors and understand their perceptions, interests and influence. Each actor involved in such a vast and complicated reality had his own perception and view of it and the events that occurred in it. This is why a well-structured tool like the stakeholder analysis helped us to get familiar with UV, its apple growers and the stakeholders mostly influencing them. The most difficult aspect was not to be biased by the “Mals Case” and to remain detached from our opinion towards the whole matter.

The goal of the stakeholder analysis was to direct us to the next steps of the research: the literature study and the interviews. To do so, each stakeholder affecting the culture of UV apple growers was given a relative degree of importance and assigned to one of the following three categories:

Primary stakeholders:

Actors who are directly related to UV apple growers and their culture either as beneficiaries from their activity, or because they compete with them to gain (or lose) power, economic resources and privilege, or because they are negatively affected by their decisions in some other way. For instance, if they must be resettled.

Secondary stakeholders:

Actors whose involvement in the lives and culture of UV apple growers is only indirect or temporary.

Key stakeholders:

Actors that crucially change, block, decrease or promote the CC of UV apple growers, and without whose support and participation, the activities and the decisions of them are totally unsuccessful.

First, all the possible stakeholders were identified, and their basic profile was delineated compiling the following fields:

- **Actor:** Name and function of the stakeholder
- **Agenda:** Actor's mandate and mission
- **Arena:** Field where the actor is active and present
- **Alliances:** Other actors with which the considered one is allied and how he is interconnected.

To differentiate primary, key, and secondary stakeholders, three core attributes were semi-quantitatively assessed. These attributes are crucial to hold a key position regarding an issue and are the following:

- **Legitimacy:** It refers to the institutional position of the key stakeholder, ascribed or acquired rights that are – for instance – underpinned by the law, the institutional mandate and public approval, the loyalty of other social groups.
- **Resources:** It refers to the knowledge, expertise, skills and material resources that enable the stakeholder to significantly influence the CC of UV apple growers, or to steer and control access to these resources.
- **Networks:** It refers to the number and strength of relationships with other actors who are obligated to, or are dependent on, the stakeholder. For example, key stakeholders are usually well-connected, i.e. they have many institutionally formalised and of informal relationships with other actors. Key stakeholders therefore wield significant influence on the participation of other actors, structuring some decisions as to whether certain actors will be included or excluded.

Our methodology consisted in attributing a score from one to three to each stakeholder and for each one of the three attributes. The total score was calculated as the arithmetical average of the attribute scores and the stakeholder category was assigned considering the following rule:

- Key stakeholder: Average score > 2
- Primary stakeholder: Average score = 2
- Secondary stakeholder: Average score < 2.

The results of the stakeholder analysis are shown in the following table.

Name	Key stakeholder	Primary stakeholder	Secondary stakeholder
Conventional oriented			
South Tyrolean farmers association (SBB)	x		
Consortium of South Tyrolean Fruit Growers (VOG)		x	
Laimburg research institute		x	
Vinschgau apple cooperative (VI.P Gen. landw. Gesellschaft)	x		
Farmer's future			x
Assomela			x
Neutral			
Farming schools		x	
Province of Bolzano - Department of Agriculture	x		
Interpoma fair			x
Farming machine sharing network (Maschinenring)			x
Italian Ministry of Agricultural, Food and Forestry Policies			x
Environment-oriented			
Environmental Protection Group of Vinschgau (Umweltschutzgruppe Vinschgau - USGV)			x
Alternative Agriculture Association (BAA)			x
EU (ERDF - European Funds for Regional Development 2014-2020)			x
Agrios			x
Locals			
Citizens' initiative Adam&Epfl			x
Major and local administration	x		
Community of Mals (citizens)		x	
Community of Vinschgau (citizens)			x
Families of Mals		x	
Church of Mals			x
Mals Environmental Advocacy Committee (spokesman pharmacist Johannes Fragner-Unterpertinger)		x	
Bioland - Südtirol		x	
Other			
Banks of Vinschgau			x
Insurance companies			x

[Table 1: Stakeholder analysis results.]

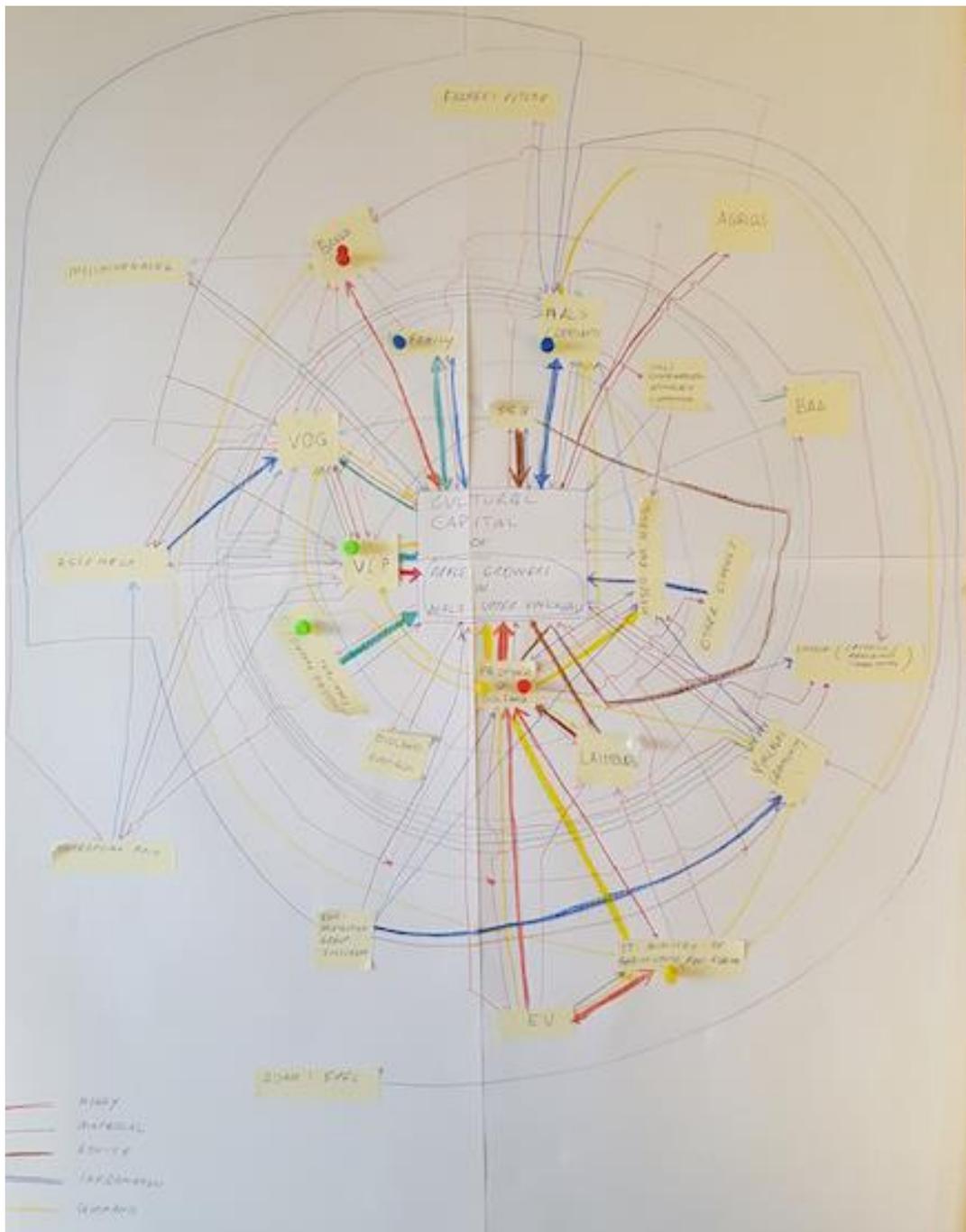
3.2. Net-Map analysis (Schiffer, 2007)

To deepen our knowledge about actors dealing with UV apple growers, we decided to use a second tool that helps to understand, visualize, discuss and improve situations in which many different actors influence outcomes. The Net-Map analysis is a participative mapping tool that individuals and groups can use for clarifying their own view of a situation, fostering discussion, developing strategic approaches. Thus, Net-Maps help to determine how actors are involved in the network, how they are linked, how influential they are and what their goals are. The process consisted in simply writing the names of the stakeholders identified during the stakeholder analysis on a big piece of paper. Each stakeholder was written in a different concentric circle depending on its relevance: key stakeholders in the innermost circle, primary stakeholders in the second circle, secondary stakeholder in the outermost. Then, the relationships between stakeholders were taken into account by tracing colored lines that represented different kinds of relationship fluxes: money (red), material (green), advice (brown), information (blue), command (yellow)

Moreover, “tower stakeholders” were identified. “Tower stakeholders” represented stakeholders that were particularly important for the number of fluxes they were involved in. In the final map, two “tower stakeholders” were identified for each flux (*Figure 4*).

3.3. Literature study

A literature study was conducted to collect information on those important actors identified through the stakeholder analysis and to detect signs of culture directly related to UV apple growers. Internet articles, papers, reports, books and newspaper articles found through various search engines were consulted and discussed together. Findings extracted from the literature study were reported on an Excel sheet which included: the title of the finding, its description, its source, the stakeholder(s) affected by it, its relevance to the CC of UV apple growers, the type of CC and the involved apple grower group. During the literature study a major risk was to be biased by the recent developments of the “Mals Case”. In any case, the literature study greatly contributed to the preparation of the following research step: the interviews.



[Figure 4: Net-Map analysis.]

3.4. Semi-guided interviews

The interviews were the main part of the research study. Gathering information directly from the apple growers and the key or primary stakeholders provided deep insights of the culture and attitude of UV apple growers. The interviews were semi-guided and conducted via phone call, Skype or e-mail and findings were extrapolated while preserving the anonymity of the interviewee. Overall, 12 people were interviewed: 5 apple growers belonging to the three different groups, 1 local forester, 1 local farmer, 3 schools, the Vinschgau tourist office and the Südtiroler Bauernbund (SBB) office.

- **Apple growers.** Interview questions referred to their social status, their school and cultural background, their main sources of culture.

- **Local forester.** Interview questions aimed to understand the view of an “independent” stakeholder on the state of art and recent developments of the farming system and community in UV.
- **Local farmer.** Interview questions aimed to detect cultural differences between “Converted” and “Unconverted” UV apple growers.
- **Farming high schools.** Farming high schools and families were clearly identified as the first main sources of culture for UV apple growers and farmers. As a matter of fact, all interviewed farmers attended a farming high school. Interview questions to schools aimed to quantify the number of graduated pupils from UV, understand which farming subjects and land management methods are taught, assess social and cultural differences between past and today’s pupils.
- **Vinschgau tourist office.** Interview questions aimed to find cultural sites and events related to apple growers and apple farming in UV. It was the only interview conducted via e-mail.
- **SBB:** Interview questions aimed to assess the role and relevance of the SBB in shaping the cultural background of UV apple growers in their adult life.

3.5. Findings list and cross-validation

All findings coming from the literature study and the semi-guided interview, were added to the Excel “Findings” sheet. Each finding was discussed and its relevance on the research objective was evaluated by the two research members separately. By cross-validating the two separate evaluations, the most relevant findings were selected, clustered and generalized. *Table 2*, provides details of this research step. Eventually, the final findings were summarized and analysed thoroughly to extrapolate the research results.

#	Title	Description of the finding	Stakeholder(s)	Relevance to cultural capital of Mals apple growers	Type of cultural capital	Farmer's group	Source
10	Vinschgau card includes a tour in an apple orchard and apple products tasting	Every Wednesday from April to October, a tour guide through an apple orchard in Scharnders is organized. The tour is guided by a local organic farmer and ends with an organic cider soup and apple strudel tasting in an old farm's cellar.	Mals community Vinschgau community	Apple farming is included in a cultural card such as the Vinschgau card. Also, apple farming is becoming (or they are trying to make it become) a typical, traditional, cultural, local economic activities. Especially in the eyes of the tourists	Objectified	All	https://www.vinschgau.net
27	Future workplace of Lainburg schoolers	After 3, 4 or 5 years of studying schoolers from Lainburg mostly go back to work in their farm or in a cooperative. Only a few go on to university	Lainburg school	The average degree of education is mostly 4th year of professional high school. Bachelor degree is rare	Institutionalized	Converted, lower Vinschgau and organic	Phone call with Lainburg school
36	Teaching of organic farming	The school teaches conventional, mixed and organic apple farming. Actually, the school's firm was converted to organic in 1989	Ora farming school	Schoolers attending Ora farming learn all types of farming practises. This helps them broadening their perspective and increasing their critical thinking.	na / Institutionalized	Converted, lower Vinschgau and organic	Interview with vice-head of Ora school
48	H.N. attended apple farming events	H.N. attended technical courses and events in upper Vinschgau (irrigation techniques, pesticide control, vegetation care, etc.) which were organized by the Beratungsring in Pradi and Latsch. Also, he went to a Volksevier in Scharnders that is similar to the one of Para Pale or Marilend&Marmor test.	Mals community, Vinschgau community, Beratungsring	H. is pretty new in the apple business but well integrated. He participates to the cooperative meetings and attends apple events (technical and folk events like „Das Besse rund um den Apfel“). Apple culture is important in Scharnders and influences those in Mals like H.	Embodied / Objectified	Converted	Phone call with H.N.
59	Family influence on schoolers	Many schoolers bring their own farming knowledge to the school and update it through the three years of studying. Most of the schoolers go back to their aim orchard after the third year. They are needed by the family. Those who have small aim orchards and their parents are part-time farmers, do an extra training (Ausbildung) to acquire competences in other work fields (fabbro, mechanic, carpenter, etc.)	Mals community, Fürstenburg farming school	Families highly influence the culture and future of the young farmers	Embodied	Converted, lower Vinschgau and organic	Phone call with school principal of Fürstenburg school
68	Differences between Mals and lower Vinschgau farmers	According to A.P., the main differences between Mals and lower Vinschgau farmers are: 1. Attachment to the land, both for the typical products and for the landscape 2. Awareness deriving from experts and from the observations of the areas under strong apple orcharding	Farmers, citizens of Mals	Cultural differences among Mals and lower Vinschgau people	Embodied	Organic and converted (?)	Interview with A.P.
74	Organic farming is a joke for many traditional farmers	It is not true that organic farming is better than traditional farming. They do more treatment (40 instead of 25) and they are often close to farmers that don't do organic farming. Moreover, organic farming doesn't allow the same yields and income as traditional farming.	Apple growers, traditional apple growers, bio apple growers	Point of view of traditional farmers towards organic farming	Embodied	Converted and lower Vinschgau	Interview with J.T.
75	Pollutants measurements push growers to change	G.F. is converting to organic farming since he found chemical pollutants in the neighbour's fields despite he tried everything to avoid it	Apple growers, organic apple growers	Reason for changing	Embodied	Converted, lower Vinschgau and organic	Interview with G.F.
79	Rizzi group is totally organic	Since 1990 Rizzi group converted to organic. Not only that, it also considers the distance from pastures and grasslands thoroughly (meters instead of 3meters).	Rizzi group GmbH, Vinschgau community	Lower vinschgau apple growers may be linked to organic farmers. This adds complexity to our 3-group subdivision	Embodied	Lower Vinschgau	Interview with Rizzi group
94	Local feeling towards the apple orchard invasion	For L.D. it doesn't really matter whether it is organic or conventional. Apple orchard are still ugly and they disturb the natural beauty of the territory. The pesticide ban was a good idea, but it wasn't applied a correct way.	Mals community	He likes the aesthetics of Upper Vinschgau and wants to preserve it	Embodied	Local dairy farmer	Interview with L.D.

[Table 2: Extract from the findings sheet.]

4. Results

Results were extrapolated from the cross-validated (groups of) findings. They were subdivided in three different categories based on the type of CC they were referring to.

Results referring to the institutionalized CC alluded to the educational degree of apple growers in UV and which farming practices they learned. Results referring to the embodied CC alluded to the type of land management they internalized, their perception of the landscape, their attitude towards alternative farming practices, their updating (through seminars, books and magazines), their viewpoint about innovation, their integration level in the apple business, their involvement to apple events (fairs, folk festivals).

Additionally, some (groups of) findings referred to the objectified CC. As this was not part of the research objective, it was only partially accounted and was defined as “Traces of objectified CC”.

4.1. Institutionalized cultural capital results

The institutionalized CC of UV apple growers mainly alluded to their educational degree.

4.1.1. Farming schools and families as sources of institutionalized CC of future apple growers

In UV, most apple growers attended either the farming high schools of Fürstenburg (Mals), Laimburg (Ora) or Laives (Laives). Most pupils at Fürstenburg and Laimburg (“farm production” curriculum), reach the 3rd year and 4th year of school. Only a small minority reaches the 5th year and can take the State Exam (professional high school diploma). At these schools the priority is to teach practical farming skills to apply in the field along with solid farming theories. At the technical institute of Laives (“production and innovation” and “farming and environment” curricula) all pupils reach the 5th year of school when they take the State Exam (technical high school diploma). Only 1/3 of the pupils continue to University.

At all three schools, pupils are taught both conventional, integrated, organic and biodynamic pest management. All schools offer the possibility to do internships at apple farms or cooperatives in other parts of South Tyrol (and even abroad) and have developed new teaching strategies to adapt to today’s society needs (e.g. project week, first-aid courses, etc.). The schools also offer short (from half-day to a week) technical courses for adult apple growers (e.g. pruning courses).

UV apple growers build their farming culture not only through the farming schools but also through the media and farming consultancy meetings, from their internships at cooperatives and their families. Indeed, families are the as important as farming school. Typically, pupils acquire farming basics during their childhood, helping parents and relatives in the field. They then broaden and deepen their knowledge at the farming schools and other personal experiences, which they can eventually put into practice in their farm once they finish their studies.

4.1.2. Educational degree as indicator of the institutionalized CC of current apple growers

The apple growers that were interviewed attended Fürstenburg and Laimburg farming high school. The apple grower that represented the group “Organic apple growers” attended the 3+2-years production curriculum at Laimburg. He later followed some courses on organic farming at the University of Innsbruck. The two representatives of the group “Converted

apple growers” have a 2-year and 3-year farming high school diploma. Later, they attended additional technical courses at Laimburg. The representatives of the group “LV apple growers” have a 3-year farming high school diploma.

4.1.3. Institutionalized CC assessment of UV apple growers

The collected data helped us perceive the magnitude of the institutionalized CC of all apple growers in UV. Nevertheless, the link between the educational degree of pupils at the three farming high schools (as source of institutionalized CC of future apple growers) and the educational degree of the interviewed apple growers (as indicator of the institutionalized CC of current apple growers) is missing. Thus, we cannot clearly estimate the status of the institutionalized CC of UV apple growers. Nor can we clearly differentiate, determine and compare the institutionalized CC of the three groups of apple growers. Nevertheless, we can affirm that, although the studying sample is statistically insignificant, the institutionalized CC of apple growers in UV is at least a 2-year farming high school degree. Also, there is no evidence that it differs between the three apple grower groups. Finally, farming high schools and families have given the farming culture basis to most UV apple growers.

4.2. Embodied cultural capital results

The embodied CC alluded to the integration level of apple growers in the apple business, their updating, their involvement to apple events, the type of land management they internalized, their viewpoint about alternative farming practices and innovation, their perception of the landscape.

The three apple grower groups were given three separate estimates of embodied CC.

4.2.1. UV apple growers that converted from cattle farming of hay making

Integration in the apple business, updating and involvement to apple events

Converted apple growers have inherited a cattle farming (especially dairy farming) or hay making culture but have fully or partially embodied the apple farming culture quite well. They are well-trained in apple farming and well-integrated in the apple farming system. They are part of apple cooperatives and follow the guidelines provided by the consultancy service “Beratungsring”. Many of them regularly participate to technical seminars (e.g. on irrigation techniques, pesticide control, disease treatment) to stay up-to-date with the best farming practices and consult the Südtiroler Bauer Bund (hereinafter “SBB”) for tax and insurance matters. Converted apple growers often attend and are influenced by folk events in LV that are connected to apple farming. For example, *Das Beste rund um den Apfel* is an apple festival in Schlanders that includes apple fests, guided tours in orchards, apple and apple products tasting.

Land management and viewpoint on alternative farming practices

Most converted apple growers manage their orchard by conventional or integrated pest management (“IPM”). Some of them switched to or are thinking of switching to organic.

In general, the view of converted apple growers on organic farming is diverse. Some laugh about it because it is less reliable and more time-consuming, others criticize its hypocrisy: to achieve the same aesthetic, quality and safety results, it requires far more chemical treatments. On the other hand, some of them are willing to switch to a more

environmentally friendly land management. Still, they disapprove the pesticide-ban proposal because it implies an abrupt and expensive change of farming practices. They would rather change in a more progressive way.

Perception of the landscape

Converted apple growers appreciate the traditional grasslands and forests landscape of UV. Yet, they believe that the economic sustainability of a community and of family farm is more important. That is why, they prioritized the economic reasons over the landscape appreciation and conservation when they decided to convert to apple farming from cattle farming or hay making.

This result slightly clashes with those media channels that highlighted the wish of ALL local farmers in UV to preserve the traditional landscape and that claimed that landscape change was only performed by farmers from LV.

Other elements of embodied CC

Families of converted apple growers backed up the decision to convert and supported them after it.

Converted apple growers gained more independency after the conversion because dairy farming and hay making requires more social and economic ties than apple farming does. On the other hand, more independency could lead to weaker social bonds and isolation. That is why, some apple growers may start to rely more on their own skills and exchange less information. Consequently, farming culture exchange may deteriorate in the future.

4.2.2. Upper Vinschgau organic apple growers

Integration in the apple business and updating

In the second half of the 80's the first organic apple growers in UV started experimenting organic pest management in their orchards. Back then, schools did not teach organic farming and finding sources of knowledge was hard. A course on organic farming was firstly held at the University of Innsbruck and some books on the topic eventually arrived to Vinschgau. The first organic apple growers studied them on their own, experimented their advices on their fields and spread the knowledge to other farmers. At the beginning, they were ridiculed by their colleagues. They had to be resistant and independent. The local cooperatives were not able to sell their apples separately from the conventional ones, so allowed them to do direct selling.

Today, UV organic apple growers are integrated in the cooperative system and up-to-date with the newest organic farming practices. Yet, some of them feel "outsiders" of the apple business because they are still a minority, their view on the environment and their environmental conservation philosophy is significantly different from the one of their conventional colleagues. Besides, some conventional farmers still make fun of them.

UV organic apple growers tend to have more acumen to understand the apple tree's behavior and needs. They must promptly understand what, how and when they should treat an apple tree, as they cannot rely on easy chemical solutions.

Land management and viewpoint on alternative farming practices

The group “UV organic apple growers” is becoming more numerous and diversified. Some have embraced the environmental-friendly philosophy, others are organic farmers only for economic reasons.

In recent years, some conventional or IPM apple growers of UV have decided to switch to organic farming because the organic market is booming. On the other hand, others have decided to switch because an increase of environmental and health awareness. This was brought up by the pesticide-ban movement and by chemical tests that found pollutant residuals in farmlands of Mals neighboring conventional apple orchards.

Perception of the landscape

Based on the interviews, UV organic apple growers tend to have a higher attachment to their land and respect to the local products of UV. The traditional landscape of UV is more appreciated and must be preserved. That is why apple orchards must have a minimal impact on it.

4.2.3. Upper Vinschgau apple growers originally from Lower Vinschgau

Integration in the apple business, updating and involvement to apple events

LV apple growers have been farming apples for a longer time than those born and raised in UV. They are very well-integrated in the apple business, well-trained and up-to-date. They attend technical seminars, apple fairs (e.g. Interpoma fair in Bolzano-Bozen) and regularly pay the subscription to the SBB “Landwirt” magazine. Many of their friends are apple growers like them.

Land management and viewpoint on alternative farming practices and innovation

Generally, LV apple growers are more open-minded and innovative than those originally from UV. Some growers are partners of the Laimburg Research Center and experimentally grow new and innovative apple varieties in their fields.

Many of them are open to alternative farming practices but know their limits. Some others are skeptical: to achieve the same results of aesthetic, health and safety, organic farmers must treat apple trees with the double amount of pesticides and fertilizers. Still, some LV apple growers do organic farming and some others are willing to switch to it progressively.

Perception of the landscape

LV apple growers tend to see the landscape as a workplace to change in order to increase jobs and wealth.

4.3. Traces of objectified cultural capital

The objectified CC alluded to guided tours dedicated to apples, food delis in UV selling apple products, accommodation places in UV offering apple products, events related to apple farming in UV and LV and to the landscape.

Guided tours

Regular guided tours in an apple orchard in Schlanders and apple tasting experiences are included in the *Vinschgau Card*. This Card offers tourists a collection of cultural sightseeing attractions. Apple farming is one of them. Regular guided tours at apple facilities are also offered by the local cooperatives GEOS and MIVOR, which are part of VI.P.

Food delis and accommodation places selling and offering apple products

In UV, plenty *hofs* and farmers' markets directly sell local self-grown apples. For example, the Bauernladen Pobitzer in Mals, the Dorfladen Trafoier and Talerhof in Schluderns and the Migihof in Schleis.

Apples and apple products have been part of the cosine of UV since the '60s. Fresh apples, apple juices, apple strudels, etc. are very often included in the menus of agritourism, alms, *hofs* and *buschschanks* in UV. Many of these accommodation places grow their own apples and self-prepare the apple products to add to their meals or sell to tourists.

Apple events

The *Pala pear festival* is a festival that is yearly held in Glorenza. It is dedicated to the traditional local pear variety "Pala", which has been cultivated in Vinschgau for more than 300 years. Apple festivals that resemble the Pala pear festival are now organized in other parts of Vinschgau. For example, *Das Beste rund um den Apfel* festival in Schlanders and the *Festa della raccolta* festival in Meran include apple fests, guided tours, apple and apple products tasting. Such festivals in LV influence apple growers in UV.

Landscape

The landscape can be considered as a collection of objectified CCs. In LV, the landscape is mainly shaped by the multitude of apple-orchards. In UV, by the diversity of landscape patches: grasslands, forests, apple and cherry orchards, crop and horticulture fields.

5. Discussion

5.1. Landscape changes the perception of normality

Landscape features not only affect the attachment of apple growers to their territory but also their perception of normality. That is, apple growers that were raised and lived in apple-orchard rich landscapes may perceive normality differently from those raised in apple-orchard poor landscapes. In other words, apple growers originally from LV may unconsciously think that it is normal to have a landscape mostly covered by apple-orchards. This may lead to lock-in effects: apple growers "grabbing" land in UV may recreate the same landscape they are traditionally familiar with in LV. That means, transforming an apple-orchard poor landscape into an apple-orchard rich landscape.

5.2. Follow-ups

Further and deeper research should focus on the embodied CC through additional interviews to apple growers and farmers. Among the roughly 2,000 farming families in Vinschgau, a solid number of families should be interviewed to reach results that are statistically significant. The research could be then integrated with studies on other capital assets (social, human, financial capital, etc.) in UV. This could provide a full picture of the Community Capital Framework in Mals and UV.

5.3. Possible actions

The farming situation in UV is delicate. The ongoing landgrabbing phenomenon, the pesticide-ban proposal in Mals and its large coverage by the media have caused discontent and raised conflicts. Some believe these are necessary side effects for a good purpose, some others believe they have been intentionally brought up by the media to create chaos. In either case, the situation is delicate and the topic “apple farming” is sensitive. While some interviewees were very happy to help with the research, others were not at ease about answering our research questions. One denied his availability at being interviewed. All in all, the sensitivity of the topic restricts the possibility of taking actions: many of them might be inappropriate and counterproductive. Nevertheless, there was high interest in the research and two interviewees deliberately asked to receive a copy of our work. We tried to be *super partes* and the results should reflect our neutrality. As a matter of fact, they could help local readers understand the perspective of the three apple grower groups in UV and think of actions to minimize conflicts.

5.4. Strengths and weaknesses of the research

The research has achieved its objective. It has adopted plenty valid systematic methods (participative stakeholder and net map analysis, literature study, semi-guided interviews and findings-cross validations) to try to determine an intangible concept, such as the CC. At the same time, the research has been very practical and based on a controversial real-world case.

On the other hand, the research has suffered from an initial vague research question, which was shaped in the course of the work. Also, we initially struggled to fully comprehend the meaning of CC and applying it on UV apple growers. The stakeholder and net map analyses were not very participative (only the two of us were involved) and they were slightly biased by the pesticide-ban proposal. The interviews also had two weak points: they were not enough (12 overall) to make results statistically significant and were not made face-to-face. Yet, they provided relevant information regardless of the communication mean that was adopted (skype, e-mail or phone call). Finally, some aspects of CC were left out and some findings were approximated due to time restrictions.

6. Conclusion

The research has confirmed the presence of three apple grower groups in UV. That is, UV apple growers that converted from cattle farming of hay making, UV organic apple growers and UV apple growers originally from LV. The belonging to one group or the other and the type of land management apple growers opt is quite influenced by economic reasons.

As regards the institutionalized CC, not enough evidence was found to affirm that it differs among the three apple grower groups. Further research must find correlations between the educational

degree of farming school pupils and the one of current apple growers. However, we can affirm that farming school and families have given the farming culture basis of UV apple growers. They all have at least a 2-year farming school degree.

As concerns the embodied CC, the research depicted three different embodied CCs for the three apple grower groups.

Converted apple growers are well-trained, up-to-date, well-integrated in the apple business and involved to apple events. They have different land management types and diverse opinions on alternative farming practices. They are somewhat attached to the traditional landscape but prioritize the farm economic sustainability. They also gained more independency after the conversion but could lose cultural exchange in the future because of it.

UV organic apple growers are now integrated in the apple system but tend to see themselves different from the other conventional growers. They are well-trained, up-to-date and tend to understand the single apple tree's behavior and needs better than conventional growers do. Some UV organic apple growers have a higher environmental awareness, other do organic farming only for economic reasons. They are also attached to the traditional landscape of UV and respect its local products.

LV apple growers are well-trained, up-to-date, very well-integrated in the apple business and involved to apple events and seminar. Timewise, they have more experience about apple farming and are more open to new apple varieties and farming innovation. They tend to see the landscape as a workplace to increase jobs and wealth.

Unfortunately, these results of embodied CC cannot be confirmed statistically as the data sample size (number of interviewees) is too low.

As far as the objectified CC goes, the presence of apple guided tours, delis, accommodation places that offer apple products and events related to apple farming confirmed that apple farming is fully or partially part of the culture of LV and UV. In either way, it affects the lives of UV apple growers. The apple-orchard rich or poor landscape (considered as a collection of objectified CCs) affects the perception of normality of LV and UV apple growers.

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