

## The development of a Piedmont mountain area through the valorisation of black truffle

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### Abstract

The paper describes a valorisation process in a marginal territory of Piedmont and analyses the recovery process of Black truffles production, focusing on the importance of the associative forms of management. The objective is to describe the study-case of Valle Grana producers, analysing the distinctive aspects and evaluating its reproducibility in similar conditions, which are typical of Italian marginal lands. The valorisation action has started building a new territorial strategy of local actors, setting up black truffle plantations and taking care, in the same time, of surrounding marginal lands. The success of truffles valorisation has represented the background for the creation of a voluntary "land owner association" which involves as many as 64 private owners and a public administration and more than 100 hectares of surface. These lands will be recovered from abandonment thanks to controlled ovine grazing, ensuring fertility improvement and stability of lands and reducing the shrub invasion.

### Key words

Landowner association, black truffle, mountain area, valorisation.

### Introduction

Our paper deals with the management and valorisation of a marginal territory and analyses the recovery process of Black truffles production in Valle Grana, a mountain area of Piedmont, as activities aimed at promoting a process of land aggregation.

In this area, characterized by high marginality, the recovery of natural truffle trees and the planting of new ones, allowed to revive a local and sustainable supply chain, through the development of a traditional resource able to produce significant impacts, both on the local economy and on the land management. This happened thanks to the initiative of several local producers that took part in a "Interreg" research project with a real conviction, by acting as catalyst for a wider development.

Such activity was the initial phase for a further evolution, represented by the setting up of a "landowner association", aimed at overcoming the problem of "land pathology", which is particularly widespread in marginal mountains and foothills areas.

The objective of our work is to describe the initiative of Valle Grana producers, analysing its distinctive aspects and evaluating the reproducibility of the process in similar conditions, which are, undeniably, typical in marginal Italian areas. It is, indeed, an interesting example of endogenous development, which involves economic actors of the local *value chains*, through a valorisation path of products and territory, whose positive results may engage further growth strategies, not only in the agricultural sector, through a bottom up initiative.

## Method

The work is inspired by a concrete example of land development to solve a problem which is common to many marginal areas, through the methodology of the "study cases" (Stake, 1995). In this type of analysis, the program, project, people and involved structures are the subject of study. For a long time, this type of research has been considered a kind of "soft" research (of non-statistical nature, and not definable as a survey or experiment *sensu stricto*) and as exploratory stage of other research strategies. On the contrary, one of the fundamental aspects of the study cases is the use of multiple sources of evidence in an attempt to understand complex phenomena and deepen the knowledge of a process rather than its individual products. Furthermore, the study cases help the understanding of the context as a whole, rather than specific variables.

The "study case" is therefore an empirical study that aims to investigate a contemporary phenomenon in its real context, where the boundaries between phenomenon and context are not clearly defined, and where multiple sources of evidence are used (Yin, 1993). Briefly, the study case allows the search of records characteristics of real life events (such as life cycles, processes, changes) and is well suited for interpreting territorial phenomena.

In light of this, we proceeded through an analysis of the local situation, based on past researches, conferences and dissertations, and we then conducted a direct investigation, which took place in 2014, with the main public and private actors of the Valle Grana area.

Many difficulties faced by rural enterprises are related to the weakness of their structure, the lack of "value – chain" integration and the so called "land disease", so that "increased profitability / ... / is achieved mainly with the functional expansion of their size and the defence and valorisation of mount and hill products" (Cavallero, 2012).

In mountain areas, such difficulties are amplified because the land is extremely fragmented, often uncultivated and, consequently, abandoned. As evidenced by more than fifty years of failures, the tools of land consolidation, such as purchase, exchange and rent, cannot be used because of the high costs of transactions and related operations. Sometimes, the first problem is – even more simply - to identify the owners. These high transition costs are not compatible with the reduced profitability of marginal land, thus public incentives are often necessary to start any economic activity (*ibidem*).

In Italy, at present, forms of collective management can be realized through the constitution of "consortia" (e.g. consortia of management, consortia of land reclaim) based on Italian Civil Code, on so called "forest law" (Regio Decreto Legge 3267/1923), or on "mountain law" (Law n. 991/1952). This kind of organization, however, requires considerable establishment

costs which can only be faced by subjects with strong and structured interests (Giau et al 2009).

Furthermore, in most attempts to aggregate lands, the Italian initiatives started from scratch and came mostly from "outside", meaning not from a local demand, able to involve the actors which are mostly represented by land owners.

With these premises, in many cases, the initiative ended when public funding ran out: this is what happened in several forest consortiums, born with the past rural program funding, and closed after 4-5 years.

In similar situations, other countries such as France, have found interesting solutions, proposing the "unified management" of abandoned or underutilized areas, thanks to the creation of the "Association Foncière pastorale" and of "Groupements pastoraux", legal tools which are designed to achieve adequate territorial bases for pastoral uses in marginal lands. French law, in this regard, is very efficient and the initiative is promoted directly by the State with the support of local communities.

Nevertheless, the French form of associations is also suitable for Italian owners, through the establishment of "voluntary land owner associations" among owners of abandoned land. This can happen when, in a mountain or hilly village, land abandonment reaches levels so relevant to compromise territory usability, landscape and quality of life for residents. In such cases, the owners, assisted by a public authority and by a technician, may agree to make a voluntary association.

More precisely, a land owner association is a kind of organization that may be open to all people who share its statutory objectives, although it is primarily devoted to the owners of a well-defined territory. It is characterized by a democratic structure and, in particular, each member has the same rights (e.g. one person, one vote). In the early years of its life, the incomes (such as those obtained from renting land) are reinvested to improve environment and structures of the properties, and the organization doesn't have any profit. Afterwards, economic activities may assume greater importance, needing, as a consequence, changes in the administrative structure of the association.

It should be noted that membership to the association does not affect, in any way, the property rights and that conferred land are not subjected to usucaption. Furthermore, owners who do not wish to join the association, although included in the area, have the right to protect their lands from the collective use. Finally, there are no legal fees for the constitution of the association, while these are necessary for consortia and this is a strong point in favour of the voluntary association, especially in marginal areas.

### **The study-case**

The study area is the catchment basin of Grana Valley, with its 9 municipalities, for a total of about 20,000 inhabitants (<http://www.sistemapiemonte.it/>). Such area represents a characteristic valley of the Piedmont mountain, landlocked and with a territory marked by all the negative characteristics of marginality, as demographic weakness, limited services and a stagnant economy (Brun et al., 2005), but with high quality environmental resources. As it's usual in marginal territories, the main local economic activity is agriculture, with about

10,000 ha of UAA (ibid). Tourism is still underdeveloped, although present, thanks to the St. Magnus shrine, and industries are absent.

The principal agricultural activity of the valley is livestock, with 10,000 total UBA and the production of a prized DOP cheese: the "Castelmagno". In the lower part of the valley, farms mainly produce vegetables and fruits, among which a product candidate for the PGI certification: the "Pera Madernassa" (Madernassa Pear). Overall, the valley is a little populated area that has kept safe its peculiarities and natural landscapes and it can provide interesting development potential, as it is the case for the truffles. Concerning truffles, these are fungi symbiotically associated with tree roots (mycorrhizal association) that can develop only in specific environmental conditions and in association with specific trees.

Although in Piedmont region the white "Alba" truffle (*Tuber magnatum*) is the best known and the most typical one, such appreciated fungus is not present in Grana valley; nevertheless, black truffles are present and they are precious resources as well. In fact, since several years, a keen interest has raised for blacks truffles: the "Black Périgord truffle" (*T. melanosporum*) and the "Black summer truffle" (*T. aestivum*) - very popular in other Italian regions, in France and Spain. As a matter of fact, they are very different products, for availability, intrinsic characteristics, utilization and market. Indeed, Black truffles have lower prices than Alba White ones (in average Black Périgord truffle is retailed at around 500 €·kg<sup>-1</sup>, the summer Black ranges between 50 and 120 €·kg<sup>-1</sup>, while the Alba white prices are normally higher than 2'000 €·kg<sup>-1</sup>). Furthermore, black truffles have more potential uses, both for their ductility - as they can be easily stored and processed - and for a larger pick-up period. In addition, blacks truffles, unlike the white ones, can be cultivated in special plantations realized with mycorrhized broadleaves, with a technique introduced in Piedmont only some years ago.

This is the true starting point of the local development project, as the Grana Valley is one of the few areas of Piedmont suited for the production of black truffle (IPLA, Piedmont Region, 2007).

The action is in fact originated by the restoration of natural truffle trees, together with the realization of new plantations, and it has been gradually structured around a network of relationships between a growing number of involved actors, according to a process of "active territoriality" (Dematteis e Governa, 2005), which is an inclusive process, started by some of the most dynamic subjects and then extended to the remaining players of the area. In this way, an innovative network has been realized, acting in a non-competitive frame, with advantages for the entire community.

## Results and discussion

Historically, in Grana Valley, spontaneous black truffles were collected by non-local "pickers" which sold them in the neighbouring French regions, with insignificant economic and social impact on the territory. Besides, this activity has nowadays disappeared, because of the sharp decline of natural truffle production, the lack of territory maintenance and, perhaps, the climate change.

Recently, a farmer has resumed this traditional practice, implanting the first truffle plantation and collaborating on a research project: this initiative has been successful and triggered the birth of a "truffle growers association" (Associazione tartuficoltori Valle Grana<sup>1</sup>, born in 2003) and the realization of numerous plantations, followed by cultural (conferences, guided visits) and touristic activities (gastronomic evenings, markets) in a crescendo of interests.

In this context, following the development of the truffle growers, and thanks to the numerous interviews with the heads of the association, we have estimated the economic feasibility of both the truffle production, the organization process and the transformations along the supply chain, discussing about the economic spillover and about the economic impact of the activity in more general terms.

The first result that was obtained is the success of the truffle plantation, which is not always obvious. In fact there is not a guarantee that mycorrhized plants may give significant productions; but the first plantations (which dates back to 2003) came soon in production, confirming the validity of the techniques and the potentiality of the territory. As a consequence, the plantations represented an important example to other farmers which undertook, in turn, the activity, by planting new stands and recovering lands otherwise abandoned. In this way the association improved its membership from initial 9 to current 24 and begun to act along the truffle "value chain". At the beginning mainly farmers were involved, but soon other operators entered, such as local restaurateurs and other stakeholders.

Since 2003, about 30 truffle plantation were realized, for a total of 7.5 ha and about 1900 mycorrhized plants, with a remarkable increase in the last five years. It is worth noting, in this regard, that the only contributions received by the association consisted in 360 free seedlings by a regional nursery and in a regional co-financing of 400 plants purchase.

From our evaluations, black truffle plantations are able to adequately remunerate investments. The breakeven point, at average prices and considering a prudential service life of 30 years, is a production of 9-10 kg·ha<sup>-1</sup> (Brun and Mosso, 2010), while the ordinary yields are about twice as high (Archimede et al., cit.), making thus the investment very attractive. By contrast, although the productions so far recorded were increasing and similar to those present in literature, as previously described, they are neither certain nor constant. For this reason, it is crucial to adopt appropriate cultivation techniques and carefully monitoring the plantations, in a context where these techniques are not yet very widespread. This is also the reason why one of the most important actions carried out by the association has been the dissemination and the promotion, addressed both to their members and to potential ones.

The association has also taken care of the natural truffle stands present in the valley, managing 550 ha of forest in which 101 plants were registered as "truffle producers". This action is particularly important for the positive effects on landscape and environment, and was carried out by association members and by workers of the regional forest team.

Besides the production activities, as anticipated, the Association promotes several marketing initiatives, also thanks to small contributions by local governments. These events are of a limited range, but they are able to attract the attention of traders and tourists, thanks also to

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<sup>1</sup> <http://www.tartufovallegrana.com/home.html>

visibility provided in several occasions by the media. Due to the success of first initiatives, since 2009, these happenings have become quite stable, ensuring, among other, tourist arrivals during the low season. It should also be noted that, although the truffle is always the main actor, at all times, all the local products were promoted and appreciated, with positive effects on the entire territory.

Briefly, the association activity has developed thanks to various internal and external factors: the success of the plantations, the presence of some local actors who drive the process, the stimulus of some external events, including participation in a research project and the cooperation with the university.

A decade of positive activity of the truffle association put the basis for a further development. This occurred in 2013, with the birth of the "land association", promoted by the same main actors, but able to involve as many as 64 private owners and a public administration, for a total of about 100 hectares and with more ambitious targets. In fact, the goals of this new association are the recovery of degraded pastures and, more generally, the territory management.

In this second situation, the private owners have no direct economic incomes, but they participate in a project aimed at valorizing their territory, with long term spillovers. In more detail, these lands will be recovered from abandonment thanks to controlled ovine grazing, ensuring at the same time, fertility improvement and stability of land and reducing the shrub invasion which is generally followed by landscape degradation.

## Conclusions

As a matter of fact, the associative initiatives in Valle Grana represent a successful experience, and a very interesting study case, with a two phases development and a great potential, not yet fully expressed.

The first phase, involved the recovery and the valorisation of truffle stands and has been realized rather quickly, with limited resources. The second phase consisted in the building of the *land association*, which occurred thanks to the solid bases created by the truffle experience. In fact we believe that the key to success lies exactly in this *progressive growth* of dimensions, activities, knowledge and interests, which have been possible only on the foundations established by the first association. This inclusion in an existing and working context made the difference, compared to what happened in other areas of Piedmont, where numerous initiatives have been arrested in the bud.

One other reason for the success of the valorisation process can be identified in the development of a new *territorial strategy*, based on small economic activities, but able to act continuously in promoting the dialog and the aggregation of the actors. The result has been the naissance of a local new profession, the "truffle grower" which is not necessarily a farmer and has deep relationship both upstream, with the territory management and downstream with the market and the tourism.

Obviously, to effectively overcome the marginalization, which characterizes the local economy, it is necessary to set up an integrated and long-lasting project, including the participation of numerous economic operators and with the support of local governments.



This is what happened in Grana Valley, where, thanks to the truffle, since 2003 it has been possible to overcome the structural handicaps, turning them into a strength, and valorising natural resources not fully exploited previously. The association of truffle growers showed positive economic results, confirmed by the continued expansion of managed areas and of new plantations and this fact has been strategic for the realization of the bigger land owner association, which will have a much broader impact on land management in the future.

This process, indeed, confirms the theory explaining that mountain areas should not be defined as “disadvantaged” *tout court*. On the contrary, they have unique resources and distinguishing characteristics which can be preserved and developed in a sustainable way, through appropriate territorial policy and practices (Maxwell and Birnie, 2005).

Currently, however, the success of this “rural” activity is largely dependent on its integration with other economic sectors, such as crafts, trade and tourism: this is why the completion of the value chain is essential to ensure full results and to allow that the bigger part of the value-added generated goes back to its producers.

It is worthy, therefore, to identify the “keys to success” and to consider the possibilities for replication in other similar conditions.

Summarizing, the characteristic elements of the study case are represented by the existence of a quality product, which was not adequately valorised, by some local and dynamic entrepreneurs, and by a project that involved them and generated a kind of catalyst, for a series of initiatives focused on the truffle, on the value chain and on the land aggregation.

In more general terms, *specificity*, *territorial cohesion* (European Commission, 2008) and *identity* (Governa, 1997) are the core of such development processes, which are mainly based on the valorisation of the “differences”.

As it’s well known, the beginning of these activities is the most difficult step, because it involves the aggregation of interests for the initial investment, with all the consequences this implies, in a legal context which does not always facilitate the course. This step only occurs in the presence of true shared interests, as in the case of the truffle, which is the *specificity*, the local resource to valorise. But such process, especially in marginal lands, must be achieved in a non-competitive framework, involving the *territorial cohesion*, in a context of mutual support among all interested actors, which must then recognize themselves in the process (*identity*).

According to this view, mountain areas can become more integrated with the urban nodes, taking advantage of the many strengths compared to the city conditions (quantity and quality of resources, social security, cultural identity, the possibility of a sustainable development), which make them strategic territories.

Therefore, the Valle Grana process can be acknowledged either as a first step in a larger action, and as a study case to be exported to other areas, where natural conditions and socio-economic structures are present and ready to play.

Without doubt the Valle Grana activity may get significant benefits from public funding, even small contributions, such as the provision of free or discounted nursery material, as repeatedly reported by the Association in our interviews: in fact, propensity to build new plantations is very limited by the initial investment, even if all other inputs are available. In the same context, the birth of the land associations would have been considerably encouraged by public funds, even by small helps, sufficient to avoid initial costs to the

owners, such as the purchase of the infrastructures for the grazing activities. The draft law on land associations, that Piedmont Region seems to be planning, would create strong incentives to similar initiatives.

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