

REGALP
Contract No QLK5-CT-2001-02329

ANNEX 7
to Work Package 4 Report

Pilot Region Scenarios
But Valley, Carnia, Italy

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Udine, December 2003





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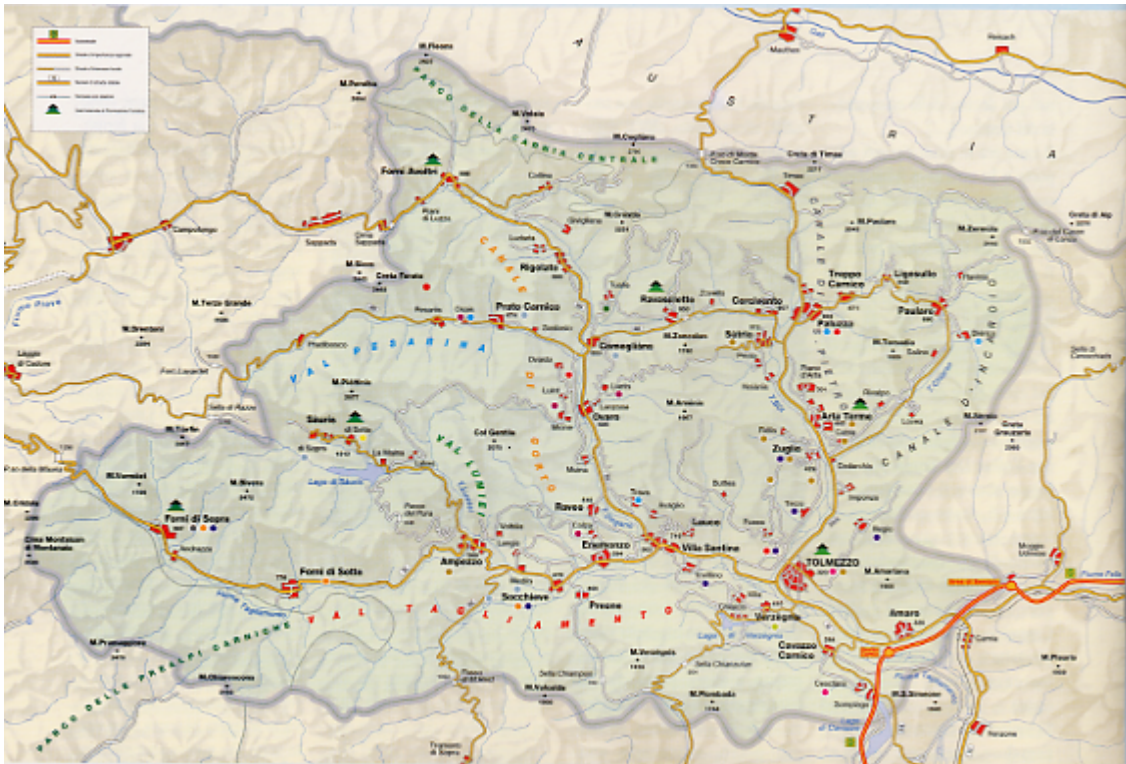
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Annex: Carnia scenarios maps

1. INTRODUCTION

Carnia is a mountain region of Friuli which includes the high valley of the Tagliamento river. The territory is perfectly acknowledged in the Channels of Socchieve (Tagliamento Valley), Gorto (Degano Valley), San Canciano (Pesarina Valley), Incaroio (Chiarso Valley, tributary of the But) and San Pietro (But Valley).

Fig. 1 : Map of Carnia and its different valleys



Quelle: own elaboration

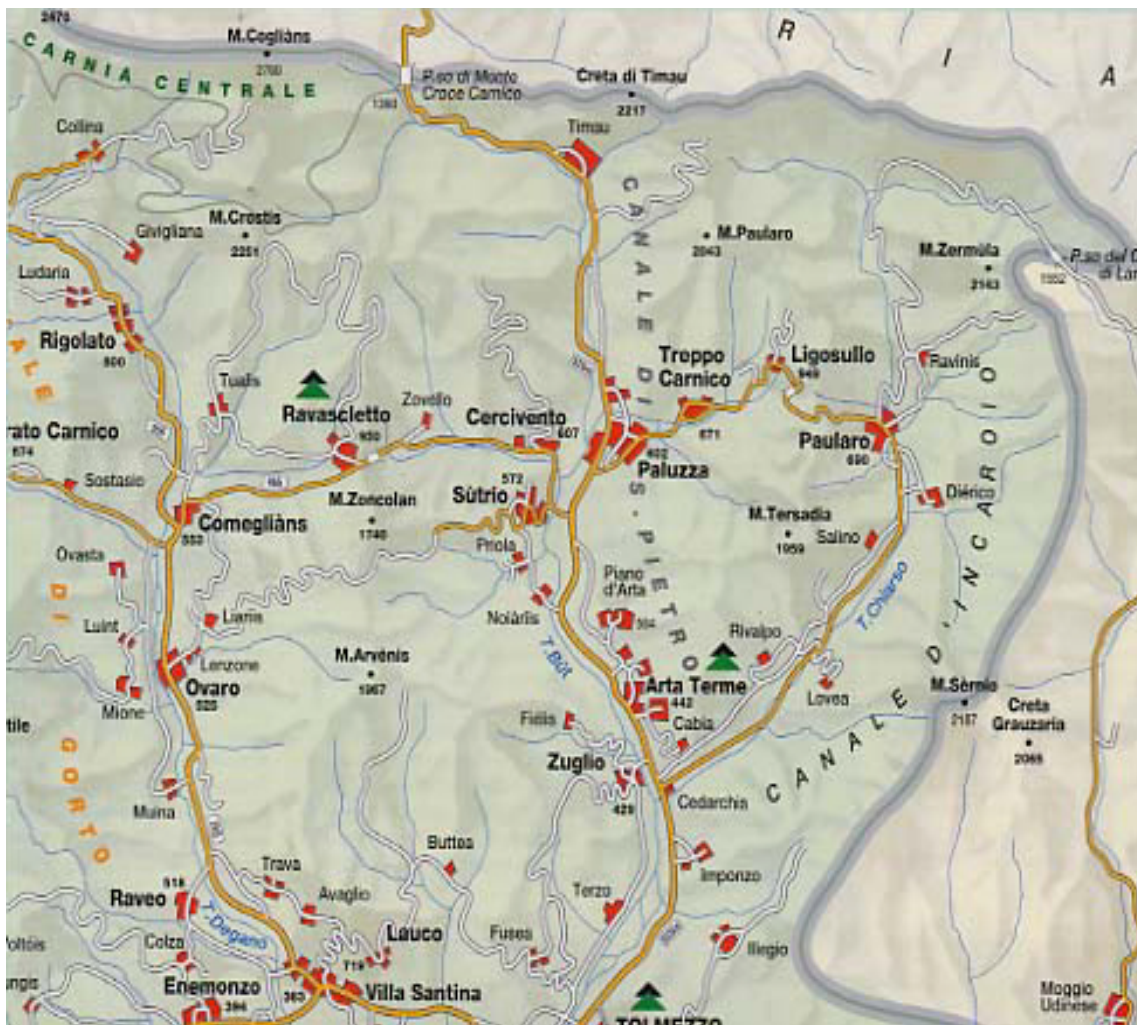
In the nine municipalities that belong to But Valley, over the last few decades, the progressive abandonment of the towns at high altitude as well as that of the centres down in the valley, in spite of the investments in small industries (e.g. wood industries in Sutrio), tourism (Ravascletto and Arta Terme), cattle rearing at high altitude (“malghe”), imposes a consideration on the efficiency of the politics aimed to endorse the mountain zones. The analysis of the extremely negative demographic trend since 1971 in the pilot region could help us to explain better the irreversibility of the phenomenon in the last thirty years.

The But-Chiarsò Valley, as many other “channels” in Carnia, is characterized by a dualistic situation with the more develop lowest part of the valleys (where some communities show a growth in the number of inhabitants) and the strongly marginal situation in the upper parts (with huge levels of depopulation). Besides the exceptional case of Ligosullo and Ravascletto that in thirty years lose more than $\frac{1}{4}$ of the population, high decreases can be noted in most of the



communities. The depopulation processes in But Valley, anyway, is still active due specially by decrease of births and definitive movements inside the region, from the fringe areas and from the upper parts of the valleys to the Tolmezzo and to its surroundings. This new allocation of the population cause a weakening of the areas more involved in the loss of its residents and determine not only a break down in the birth rates, but also a strong growth of ageing. This highest weak municipalities more distant from valleys and from the local centre of Tolmezzo were so deprive from the forces that eventually will be able to modify the negative conditions of this areas.

Fig. 2 : Map of But Valley



Source: own elaboration



Tab. 1 : Inhabitants 1971-2001: absolute data and % change

| Valle del But Chiarsò | Absolute data | | | | % change | | | |
|--------------------------|---------------|---------------|---------------|---------------|--------------|--------------|---------------|---------------|
| | 1971 | 1981 | 1991 | 2001 | 71/81 | 81/91 | 91/2001 | 71/2001 |
| Arta Terme | 2.398 | 2.344 | 2.236 | 2.230 | -2,3% | -4,6% | -0,27% | -7,0% |
| Cercivento | 982 | 922 | 817 | 770 | -6,1% | -11,4% | -5,75% | -21,6% |
| Ligosullo | 333 | 265 | 211 | 195 | -20,4% | -20,4% | -7,58% | -41,4% |
| Paluzza | 3.354 | 3.282 | 3.030 | 2.596 | -2,1% | -7,7% | -14,32% | -22,6% |
| Paularo | 3.672 | 3.520 | 3.207 | 2.907 | -4,1% | -8,9% | -9,35% | -20,8% |
| Ravascletto | 1.028 | 883 | 746 | 642 | -14,1% | -15,5% | -13,94% | -37,5% |
| Sutrio | 1.575 | 1.510 | 1.428 | 1.384 | -4,1% | -5,4% | -3,08% | -12,1% |
| Treppo Carnico | 922 | 854 | 744 | 660 | -7,4% | -12,9% | -11,29% | -28,4% |
| Zuglio | 769 | 741 | 679 | 641 | -3,6% | -8,4% | -5,60% | -16,6% |
| Totale | 15.033 | 14.321 | 13.098 | 12.025 | -4,7% | -8,5% | -8,19% | -20,0% |

Source: own computations

According to the Bätzing typology, in the 1980ies, the But Valley municipalities were mainly “balanced communities” (Arta Terme, Cercivento, Paularo, Ravascletto, Sutrio and Zuglio). Within the next decade, some of them have turned into outbound commuter communities (Arta Terme, Cercivento, Zuglio) or in-and-outbound commuter (Treppo Carnico), whereas most of them remain balanced communities (Paularo, Ravascletto) or turned into balanced (Paluzza). In the But Valley, according to the Bätzing tipology, Sutrio is the only municipality that belongs to communities with dominating II / III sectors: in fact, the village have a relatively great number of small wood enterprises. It’s necessary to state that local economic structure is based on tourism and traditional tertiary sector. The touristic policy is essentially dualistic: on one hand it can be distinguish a hard view, on the other hand a soft view. The first one fosters big investments in sky infrastructures (Zoncolan near Ravascletto that is one of the most important sky centres in Friuli) and promote so winter tourism; the second one tries to emphasize the local resources related to the territory. The hard view tends to develop limited areas in the region; the soft view, since it depends on the natural, cultural and gastronomic resources widely spread in the territory, concerns a more big space and tries to create a “cultural integrated tour”. The hard view is usually supported by strong economic subjects like Promotur e. g.; the soft view seems a net of interdependent activities. The contraction of agricultural and zootechnical sectors appear evident. The occupational sector mainly depends on external near areas (Tolmezzo basin and the town of Tolmezzo as a local centre) or distant areas (rest of the province and even the Friuli region): commuting average is high in all communities. We can truly imagine that commuters who live in the lowest part of the valleys and near Tolmezzo easily go to work outside the region, while commuters who live in the upper parts of the valleys go to work in Tolmezzo and in its surrounding.



As regards unemployment rate it is possible to notice that its level is similar as the Italian North-East average rate. Primary sector is enough developed, nevertheless its economical importance is limited. Zootechny is decreasing in spite of some regional policies that aim to develop "malghe" (huts) and Alpin haunts.

Referred to institutional policies, it is necessary to stress some benefit characteristics caused by community development measures (5b Project, Leader, Leader+, e.g.), especially increased capacity of Public Administration to stop the declining situation.

2. LOCAL FACTORS

2.1 Alpine remoteness

In But Valley, as in general in the rest of the valleys in Carnia, the situation of marginality is not only produced by kilometric distance, but also by difficulties in transfer (inconvenient roads, scarce public transport services offer i.e.), altitude, geographical position of a village (slope of its surfaces i.e.) and accessibility itself. Eventhough these causes could strongly influence the more or less marginality situation of a village, do not determine it. Marginality is also related to other outside and inside economic and social forces. The area is generally easily accessible by car. The A23 Palmanova-Tarvisio motorway do not cross the municipalities belong to the But Valley, but the 52bis provincial road reach the most important villages in the valley. Furthermore, the provincial road provides fast access to the motorway and to the city of Tolmezzo, the nearest local centre. Most of the people who work outside the valley daily reach by car Gemona, Udine, some other villages in the plain and specially Tolmezzo, that represent the main "working place" for inhabitants of But Valley. For outbound commuters shifting is facilitated by the presence of a relative good road network also for those who reach working places by bus. In terms of accessibility, less favoured areas are the villages which belong to the abandonment peripheral areas (except the main towns) and some (marginal) villages of steady peripheral areas. Ligosullo and Paularo e.g. are 22 km far away from Tolmezzo, but the bus takes between 53' and 50' to reach the local centre, the same time that takes the bus to reach Ravascletto (29km from Tolmezzo). Cercivento (steady peripheral area) and Treppo Carnico (abandonment peripheral area) are near (17km and 18km) and to cover the distance to reach Tolmezzo the bus take 32' and 38'. Arta Terme (commuter area with own activities), Zuglio (commuters residential area) and Sutrio (steady peripheral areas) are the nearest villages from the local centre (8km, 14km and 8km) and to cover that distance bus take less time (14', 18' and 27'). Roads links inside the region and between marginal villages are not good enough. Scarce public transport services offer do not help to reduced the problems of accessibility for the weak part of population (like ageing people) living in marginal villages.

Monte Croce Carnico pass (Plöckenpass, 1.360 m) linked Timau and the But Valley with Mauthen and the Gail Tail in Austria.



2.2 Presence and use of local resources

2.2.1 Nature and landscape

The cultural landscape may be summed up in few traits: the (solitary) parish churches belltowers (Pieve di San Pietro), the compact settlements down in the valley, the 15th and 16th century arched houses, the milkfarms and the deserted “houses of the people”, the small villages at high altitude which become lively only in the weekend, the cattlesheds either ruined or tourism adapted, the “malghe” (huts) brought to new life by external interventions. Zuglio (Iulium Carnicum) was centre of romanity in the whole Carnia: trough the village passed the Via Iulia Augusta, the imperial way that linked Aquileia with Austria.

The steep slopes, the wide riverbeds, the early absence of the vineyards and the lowering of all the forested horizons, the gentler morphology of the mountains in the middle between the main alpine range and the Carnic Pre-Alps make this portion of the alpine range different, explain by means of the edaphic conditions the amazing variety of its flora. The Timau wood (Bosco Bandito di Timau), a thick beech-wood, is protect as a natural monument of the Friuli region.

2.2.2 Tradition, cultural heritage and knowledge

The arrival of the Romans and the passing of Aquileia to a colony in 181 B.C., marks the beginning of a radical historical change in the life of the But Valley and Carnia in general. The successive foundation of Iulium Carnicum (Zuglio) is an example of a socio-political renewal.

Traditionally, But valley and Carnia is the typical landscape of “constant shortage”, and its clear that agriculture, cattle farming and the forestry activity were mere complements to the revenue coming from the base of the economy: temporary emigration. The But Valley forests were also exploited by the population and represent the main source of wood to use locally (wood processing) and also to deal with Venice. Nevertheless, up to the beginning of XIX sec. But valley (Paularo) was the centre of one of the most important industries, not only in Carnia but also in Friuli, the Linussio cloth mill. In the factory worked a great number of people who lived in all the near valleys. The industrial revolution put an end to the experience and temporary emigration became the only way to solve a precarious economic situation.

Historic and social characteristics of the valley (survive agriculture, temporary emigration and catholic church influence) strongly shaped tradition, cultural heritage and knowledge in all the nine communities belongs to the valley.

2.2.3 Economy and tourism

The once agriculture and forestry dominated economy is today predominated by tourism, handcraft/wood specialized industries and traditional services. In some communities, agriculture and forestry still play an important role, but its function is continuously declining. Currently, farms are small, fragmented and with little intensive cultivation. But Valley has the greater number of breeding farms. However, the consistency of cows is low. The high rate of out-bound commuters indicates an occupational structures that depends, basically, on external jobs. The Tolmezzo basin, Osoppo-Gemona area and the farther away city of Udine are the areas



commonly reached by the But Valley inhabitants. The tourist sector presents good potentialities and it's generally assumed that winter tourism is not far enough to generate a huge demand. But Valley have to exploit the cultural specialities of the territory like mountain paths, refuge, the various gastronomic sector, the marvellous local traditional architecture. The "Hotel Widespread Project" (Progetto Albergo Diffuso) set in Sutrio in 2001 (and also in other villages in Carnia region) was finalised to the creation of rural hospitality in private houses. It promotes actions deliver to the restoration of traditional houses and the valorisation of cultural heritage, to the support of a new enterprise involved in the management of the activity and to the improvement of professional skills. In fact the "Hotel Widespread Project" belongs to a wider territorial promotion process, which represents one of the best strategies of rural sustainable development in the area. Tourist facilities, agricultural products and handicrafts business are involved in a process of mutual support. That kind of activities seem to be one of the best strategy to increase the prosperity of the area.

2.2.4 Human resources

The weakness of the economic and social structure cause an impoverishment of the local human resources. One of the causes is related to the strong out-commuting flow that characterised the area in the last decade. The phenomena followed the definitive migration towards the rest of the Friuli region. In fact, the lack of working places in general and the shortage of highly qualified ones in particular, cause the moving out of the younger and more educated groups. Since the last decades the tendency toward overageing is clearly: on the other hand, the younger groups is decreasing with the same intensity. The percentage of 0-14 years old population is not higher than the 12,2%, while the "ageing index" (the difference between over 65 years old population/lower 15 years old population multiplied by 100) presents high values. In But Valley the average value is 177,1 but the differences in all the nine municipalities are significant: Ravascletto presents the higher number at all (243,1) follow by Paluzza (239,2), Zuglio (228,1) and Treppo Carnico (209,1). Arta Terme (140,3), Paularo (141,1) and Sutrio (143,8) shows the most lower values. The abandon process that characterised the alpine marginal areas could be also stressed by the relationship between adult and ageing population: in Ligosullo e. g. one of two adults is elderly; in Paularo, Arta Terme, Sutrio and Tolmezzo only one of four adults is elderly.

2.2.5 Policy and administration

But Valley and Carnia in general are not politically nor administratively independent, leaving apart the fact that the whole Carnia belongs to a single "Mountain Community" (Comprensorio Montano della Carnia). But Valley belongs now to the District of Udine. A long-lasting debate has been going on in the last years, animated by the proposal to separate Carnia and the other nearby mountain area (Canal del Ferro – Valcanale, corresponding to the watershed of Fella) from the district of Udine and create a "District of the Mountain" or "High Friuli Province" (Provincia dell'Alto Friuli). In fact, next March 21st will take place a referendum among municipalities belongs to mountain and carnic pre-Alps to know the population opinion about the institution of a new institutional subject.



3. THE INERTIAL SCENARIO FOR THE BUT VALLEY 2020

3.1 Population and settlement

Total population will generally maintain a constant trend. In some cases (areas at the centre of the polarisation) total population will also increase; on the contrary in peripheral areas moving out of some inhabitants (young people e. g.) will probably cause a light decrease. The working places offer, that will be higher in commuters areas with own activities and in steady peripheral areas (at least where tourism is exploit as an economy resource) and lower (constant or decrease) in commuters residential areas and in abandonment peripheral areas will also determine the ageing trend and the migration balance. In fact, ageing will be everywhere higher than national average, except in commuters residential areas where young people and immigrants will probably settled. There will be an increase of residential settlements especially in areas at the centre of polarisation. On the other hand, peripheral areas settlements will be increasingly abandoned.

3.2 Economy

Concerning the working places decrease of their number will concern quite all the areas. An increase or a light increase will be possible in commuter areas with own activities, especially in little industries (handicraft, wood process) and services (eventually in steady peripheral areas). Only in this areas the gross domestic product will increase (the income will be local generated); in the other areas GDP per capita will be constant or will decrease (abandonment peripheral areas). In those areas the income will be generated by commuting out in other areas above all Tolmezzo basin. Public expenditures will be reduce or constant, while in the more dynamic areas will eventually increase. Working places of high quality will decline, so commuting, mobility and changing of working places will become common habit.

3.3 Infrastructure and transportation

The valley do not have a rail network, so the area will not benefit from the improvements of TEN network. The existing road network will be conserved, main roads will be improved. The quality of peripheral roads will decrease because servicing expenses will be reduced. Road traffic will increase almost everywhere, especially in the areas at the centre of polarisation. Telecommunication system will increase and upgrading, the number of antennas for mobile phone network will increase sharply also because teleworking will probably widespread among local population. The public transport services will be reduced in the areas at the centre of polarisation and local bus services inside the region will be cancelled.



3.4 Services and cultural promotion

The social and educational services such as schools, hospitals, homes for old people will be reduced. Privatisation of health (old people's care e. g.) and education will be possible and will be probably concentrated in the near local centre (Tolmezzo). New forms of assistance (teleassistance, e-assistance) will be probably developed specially in marginal areas. The commercial services, especially retail and small outlets will decrease in peripheral and remote places; in commuters areas with own activities will probably also increase or be constant. In these areas new "agriturismi" (small taverns that elaborates what they produce in a biological way) will be established. Some kind of "agriturismi" will be set up also in steady peripheral areas. In future times recreational services like cultural, sport, religious, will reduced due to the concentration in the local near centre. The promotion of local cultural resources will be scarce; some initiatives to promote regional trademarks and labels will be probably developed in commuters areas with own activities, specially in those with tourist resources.

3.5 Tourism

The short-period (such as weekend holidays) and one-day trips tourists will increase. Soft and gastronomy tourism will probably developed especially in steady peripheral areas where bed and breakfast in private houses and "agriturismi" will take the place of traditional reception in hotels. The number of touristic beds will maintain relatively constant, except that in abandonment peripheral areas. In steady peripheral areas a light increase of touristic beds will be possible, because tourism could represent one of the usable resources (thermal baths). As a result overnights stays will probably increase and touristic infrastructure is expected to be enlarged and improved. On the contrary, in commuters residential areas (that have not touristic attractives) overnight stays will be constant or decrease because people go to the near local centre. The integration of tourism with agriculture will be weak; eventhough in some steady peripheral areas a high integration will be possible.

3.6 Agriculture and land use

The number of enterprises will decrease almost everywhere and a trend to part-time farming is expected. In areas at the centre of polarisation, few large full time enterprises will cultivate the area with machines and modern techniques. Large new stables will be probably built up and new intensive zootechnical activities will developed. On the contrary in peripheral areas traditional techniques will prevail and a trend to the abandonment of agricultural practices will began. Generally in both areas agriculture will not be the most important economic activity. Local high quality products will produce and a biological products will be further experimented. Conflicts between the different types of land usage will increase especially in areas at the centre of polarisation due to claims for housing. In abandonment peripheral areas land use conflicts will be improbable, while in steady peripheral areas the economic exploitation of some resources will generated some conflicts. Forest area will increased everywhere mainly due to



insufficient care and to abandonment of grasslands and arable land (particularly in the peripheral areas).

3.7 Environment

Air pollution and noise caused by traffic will rise. Waste disposal will probably be constant, and eventually increase due to tourism (in commuters areas with own activities and steady peripheral areas) The biodiversity will decline due to high usage of areas or advancing of wood and regrowing of forests. As landscape is not so much considered as a usable resource, protection of nature will not be satisfactory support. The risks of natural hazards such as landslides, floods, avalanches and mudflows will increase specially in peripheral areas as a result of an inadequate care of forests and rivers, climate change and due to abandonment of some agricultural best practices.



3.8 But Valley Inertial scenario chart

| Sector | Indicator | Areas at the centre of the polarisation | | Peripheral areas | | |
|--------|--|--|--|---|---|--|
| | | Commuters residential areas | Commuters areas with own activities | Steady peripheral areas | Abandonment peripheral areas | |
| 1 | Number of communities belonging to the cluster | Increase (Zuglio) | Increase (Arta Terme) | Constant or decrease (Sutrio; and Cercivento, Paularo, Paluzza, Ravascletto as towns) | Increase (Ligosullo and Treppo Carnico and some marginal villages of steady peripheral areas) | |
| 2 | Bätzing Types | P | PE, G or sectorial, T | G, sectorial change of T communities | G, P | |
| 3 | Population | Total population | Constant, eventually increase (dormitory villages) | Constant or increase | Constant or light decrease | Light decrease (Young people would have yet left this areas) |
| | Ageing | Ageing higher than national average: in these areas the number of working places and the most part of services is scarce | Ageing lower than national average: young people settled in these areas because there are working places | Ageing higher than the national average | Ageing higher than the national average and than previous peripheral areas | |



| | | | | | |
|---|---|--|--|---|--|
| | Immigration not EU | Constant or increase because who works in LZ settle in these areas (lower houses' price) | Constant or increase because working possibilities are higher | Constant owned to some possibilities of working in tertiary sector | Decrease because of decrease of working places |
| | Migration balance | Positive | | Light negative | Negative |
| | Density of population | Constant or increase, but higher than alpine average | | Lower than the national average with some seasonal exceptions due to tourism | The lowest in the carnia region |
| 4 | Settlements Residential settlements | Increase: many new residential settlement (lower houses' price) | Increase due to some new residential settlements and restoration of old ones | Constant with the presence of holiday houses due to tourism | Increase of abandoned houses |
| | Productive settlements | Constant | Increase | Constant or little increase | Decrease due to new localisation or closure of enterprises |
| | «Quality» of settlements | New family houses; scattered settlements, urban models prevails on traditional models | High density of settlements: | Some abandonment but also improvement of traditional settlements mainly due to tourist exploitation | Abandonment |
| 5 | Economy Working places (by sector if possible) | Constant or decrease in every sectors | Increase (handicraft, little industry, services) | Constant or light increase where tourism is important | Decrease |
| | GDP per capita | Constant | Increase | Constant or increase | Decrease |



| | | | | | | |
|---|----------------|---|--|--|--|---------------|
| | | Size of public expenditure | Decrease | Constant or increase | Constant or increase | Decrease |
| | | « Quality » of jobs | Mobility, out-commuting | Mobility, flexibility, in and out commuting | Out-commuting prevails, in-commuting due to touristic season | Out-commuting |
| | | Telecommunication systems | Increase and upgrading, many antennas for mobile phones | Increase, fundamental way of communication and working | | |
| 6 | Infrastructure | Rail network | Absence of rail network. Regions outside the centres will not benefit from improvements of ten network | Absence of rail network | | |
| | | Road network | Constant or increase of capacities of the road network (some improvements of the existing network) | Improvement of main roads, maintenance of secondary roads, tracks and forest roads | | |
| | | Energy: systems of production and transport | Constant or increase of transport network. Little increase in use of local sources (biomass); increase of energy consumption | Constant or little increase | | |
| 7 | Traffic | Motorisation (=cars / inhabitant) | Increase, more use of private cars | Increase | Little increase | |
| | | Road traffic (goods, persons) | Increase of freight traffic and passenger traffic | Constant or increase due to tourism | Constant | |
| | | Rail traffic (goods, persons) | Absence of rail traffic | Absence of rail traffic | | |



| | | | | | | |
|---|-------------------------------------|---|--|----------------------|--|--|
| 8 | Services for residential population | Public services | Constant or decrease. Privatisation of health and education, old people's care, etc. | | Polifunctional centres | Decrease or traditional services. Development of tele-assistance, e-health, etc. |
| | | Commercial services | Constant or decrease | Increase or constant | | |
| | | Recreational services (cultural services, sport, cinemas, theatres, religious services,...) | Constant or decrease due to the concentration in the local centre; increase for space-consuming activities like golf, etc. | | Constant | Decrease |
| | | Public transport services (inside the region and/or linking the region to other region) | Decrease (out-commuting uses in a large part private motorisation) | | Constant to avoid depopulation process | |



| | | | | | | |
|----|-------------|--------------------------------|---|---|--|--|
| 9 | Tourism | Touristic beds | Constant or decrease because of absence of touristic attractive | Constant or light increase because tourism could be one of the usable resources | Constant or little increase especially in some touristic areas | Decrease |
| | | Overnight stays | Constant or decrease because people generally go to Iz only for a day or for weekends | Constant or increase because some of these areas have touristic resources (thermal baths) | Constant or little increase during touristic seasons | Decrease |
| | | Touristic infrastructure | Decrease | Constant or light increase | Little increase to support touristic development | Constant |
| | | « Quality » of tourism | Some bed & breakfast in private houses | Short time and weekends holidays | New kinds of tourism (soft tourism, wine and food tourism, etc) | Transit tourism or short time holidays |
| | | Integration with agriculture | Decrease due to decline of agriculture itself | Decrease or constant due to decline of agriculture itself | High integration: development of “agritourism” and new value of local products | Weak integration due to general decline of economic system |
| 10 | Agriculture | Number of enterprises | Decrease | Decrease but less than in local centres and commuters residential areas | Decrease | |
| | | Full time / part time | Mostly part time because agriculture isn't the most important activity; few large full time enterprises | | Part time | |
| | | Livestock and plant production | Constant or decrease | Constant or increase because of new intensive zootechnical activities | Constant | Decrease |



| | | | | | | |
|----|-------------|----------------------------|---|---|--|--|
| | | « Quality » of agriculture | Extensive, re-growing of forest especially on the slopes; few or no local products of high quality are produced | New specialized agriculture, biological or extensive agriculture | Extensive production, abandoning of mountain pastures, biological production, local products cultivation | Extensive production and abandonment of agricultural practices |
| 11 | Land use | Forest area | Increase (re-growing of forest in abandonment areas); under use of forests, insufficient care of forest | Constant or increase (re-growing of forest in abandonment areas); under use of forests, insufficient care of forest | Increase mainly due to abandonment of grasslands and arable land | High increase |
| | | Arable land | Decrease | Constant or decrease | Decrease | |
| | | Intensive grassland | Decrease | | Constant | Decrease |
| | | Extensive grassland | Increase or constant | Increase | Constant | Decrease |
| | | Settlement area | Increase | | Constant | Decrease |
| | | Land use conflicts | Land use conflicts caused by claims for housing; planning is not very careful | | Some conflicts due to necessity of nature conservation and economic exploitation of the some resources | Improbable |
| 12 | Environment | Pollution | Constant or light increase of air pollution and noise caused by traffic; increased of soil sealing | | Increase | Constant |



| | | | | | |
|----|---|--|--|---|----------------|
| | Waste disposal | Constant or increase (selling off of solid wastes system improvement) | Little increase due to tourism | Constant | |
| | Biodiversity and ecological features | Loss of biodiversity (meadows). Advancing of wood. Presence of wild animals near to houses. | Loss of biodiversity mainly due to re-growing of forests | | |
| | Protection of nature | Landscape is not so much considerer as an usable resource: nature protection is in a rather weak position. | Constant nature protection | | |
| | Natural hazard | Risk of landslides, floods, avalanches, mudflows | General increase of landslides due to inadequate care of forests, rivers and abandonment of some agricultural best practices | | |
| 13 | Promotion of local cultural and environmental resources – local identity, local pride | Regional trademarks or labels. | Some initiatives to promote | Some initiatives | |
| | | | Local activities (cultural or leisure clubs). | Scarce; some initiatives to promote but cultural and leisure offer decrease | No initiatives |
| | | | Other | Scarce | |



4. THE SUSTAINABLE SCENARIO FOR THE BUT VALLEY 2020

4.1 Population and settlement

In this scenario population will be constant or increase, with the exception of abandonment peripheral areas in which the trend will show a decrease, mainly due to inexistence of economical opportunities. The ageing will be generally high. Maybe a lower rate than the national one will be notice only in the areas that will be able to use local resources to create working possibilities. In fact, in these zones young people will work and live with their family in these areas. The immigration phenomenon will be constant or little increased, due to some local working places opportunities. The migration balance will generally be positive or constant as institutional supports will help local people to develop economical activities. In some profitable economic enterprises will be necessary to engaged additional workers. The density of population will be constant or insome cases will notice a decrease, which will be concentraded in the most marginal areas (some Ligosullo and Treppo Carnico villages). The existence of some new economical opportunities will develop the construction or renewal of productive settlements and the construction of residential houses or the renovation of the abandoned ones, which will be use also for touristic aims.

4.2 Economy

As regard working places, some opportunities will increase the number of workers only in the areas which have own activities and in the areas where tourism will be developed. It is necessary to underline that, expecially in But Valley, tourism will be a great opportunity to develop whole economic sistem synergisms. The per capita GDP will grow as local economic development rate. The institutional financial intervention will be constant or will increase to avoid depopulation or to support economic activities. The mobility and flexibility will characterize all working possibilities, as in the national tendencies. The information technology will help marginal areas on one hand to create new economic opportunities, on the other to use public services or other essential services (tele-working, e-health, e-commerce, etc.).

4.3 Infrastructure and transportation

The absence of rail network will permian. The existing roads will be improved to permit better accessibility and transitivity. The motorisation will increase mainly due to increased used of private transportation. Generally public transportation will be constant, with the presence of integration transport forms. New tipologies of energy resources will be developed, in particular to save energy. The cost of energy will be reduced expecially in marginal areas. The telecommunication development will continue to improve enterprises information tecnology, but also to guarantee a better quality of life standard to mountain inhabitants.



4.4 Services and cultural promotion

The information technology will give more possibilities to use public services. In fact, there will be an increase of e-governance. E-health and e-school will consent also to people who live in marginal areas to use the same services and at the same quality level than that used by urban inhabitants. E-commerce will avoid long distance movement especially to ageing people. Due to institutional financial supports and to some economic opportunities (mainly tourism) local commercial activities will be maintained. There will be little polifunctional commercial centres which will provide several services to local inhabitants: the pub will be a recreational centre, but it will also offer the possibility to find some food articles, postal services, banking activities, chemist's products, etc. New promotional activities will be developed to value local products (food products, wood and textile production, etc.), but also to promote cultural, historical and environmental resources.

4.5 Tourism

There will be an increase of short period tourism (daily tourism or week end holidays). The thematic tourism will be the mainly typology. Food tourists will increase. They will be attracted by the local product and resources offer: environmental characteristics, cultural and historical estate, food products, handcraft goods, etc. will give to tourists a good opportunity to spare time. There will be a general high grade of integration among tourism, agriculture and handcraft. More local products exhibitions will attract people. The number of touristic beds will be constant or a little increased. There will be an increase of bed and breakfast offer. In particular, there will be developed some new initiatives of traditional buildings renewal to touristic aims ("albergo diffuso"). There will be some new touristic infrastructures in the areas with touristic opportunities.

4.6 Agriculture and land use

The decrease of the number of agriculture enterprises will be present in all the areas with the exception of the municipalities with own activities in which the number will be constant or little decreased. The part time farm will prevail, but there will be some biological full time farms. The agritourism will be an important source of profitability. The rinaturalisation of slopes, the increase of biological methods and integrated cultivation will be the most important primary technological tendencies. The farmers will be mostly old people, only in some cases (biological methods and agritourism) young farmers will prevail. The number of cows will be constant (financial support) or decrease. There will be some attempts to maintain local species (financial incentives). The multifunctionality of primary sector will be promoted and supported: environmental services provided by farmers will receive more financial incentives, especially to avoid natural hazards. In the abandonment peripheral areas there will be a "residual" agriculture. Arable land will decrease and forest surface will be constant or little increased.



4.7 Environment

The pollution will be constant in all areas. There will be some increase of waste disposal managing mainly due to tourism. The biodiversity will decrease. The protection of nature will increase and there will be a stronger policy legislation to maintain environmental resources. Especially in the areas where tourism is the most important economical resource, the protection of landscape will be very high. Nevertheless, the natural hazard will be a threat due to environmental deterioration.



4.8 Sustainable scenario chart

| Sector | Indicator | Areas at the centre of the polarisation | | | Peripheral areas | | |
|--------|--|---|--|--|--|---|--|
| | | Commuters residential areas | Commuter areas with own activities | Growing peripheral areas | Steady peripheral areas | Abandonment peripheral areas | |
| 1 | Number of communities belonging to the cluster | Constant (Zuglio) | Constant or increase more than residential commuters areas (Arta Terme) | Increase (Sutrio, Paularo, Paluzza, Ravascletto and Cercivento) | Some villages (frazioni) of growing peripheral areas | Ligosullo, Treppo Carnico | |
| 2 | Bätzing Types | P | PE, G, T | G, sectorial | G, sectorial | G, sectorial | |
| 3 | Population | Total population | Constant or increase more than in the inertial scenario | Increase more than in the inertial scenario and in commuters residential areas | Little increase | Constant | Decrease, but less than in the inertial scenario |
| | | Ageing | Ageing as national average or more | Ageing generally lower than national average | Ageing as national average | Ageing more than national level | Ageing more than national level |
| | | Immigration not EU | Increase because of low cost of residential building | Constant or increase because of more working possibilities | Light increase due to some new working opportunities | Constant | Very few or not present |
| | | Migration balance | Balanced or positive because of low cost or residential building and better quality of life than in the local centre | Positive because of more working possibilities | Slightly positive due to working opportunities | Constant, but outbound commuting prevails | Outbound commuting prevails |



| | | | | | | | |
|---|-------------|----------------------------|--|--|--|---|---|
| | | Density of population | Constant or increase probably more than in inertial scenario | Constant or increase (in some places more, in other places less than in inertial scenario) | Constant | Little decrease | The lowest in the But Valley |
| 4 | Settlements | Residential settlements | Some new residential settlement (lower houses' price) | Increase due to immigration and more working places | Constant | Constant | Constant, but with many under-used settlements and abandonment houses |
| | | Productive settlements | Constant or decrease | Increase | Increase (new polyfunctional centres) | Little increase or constant | Decrease |
| | | « Quality » of settlements | New apartments building and single and family houses; some renovation of traditional settlements | New family houses and productive settlements. Renovation of traditional residential settlements; productive and tertiary sector (alimentary and tourism e.g.) Buildings sometimes modern | Traditional buildings are used especially for touristic aims, public settlements became polyfunctional centres (business centres, post office, bar, bank office, etc.) | Improvement of traditional buildings for touristic aims | Abandonment of traditional settlements |
| 5 | Economy | Working places | Constant | Increase (services, handicraft, little industry) | Little increase due to tourism development | Constant | Decrease |
| | | GDP per capita | Constant | Increase: more opportunities to use endogenous resources for development | Little increase | Constant | Decrease |
| | | Size of public expenditure | Constant or light increase but more selective expenditure | Increase but more selective expenditure | Little increase to support new enterprises especially as regards tourism development | Constant or little increase to avoid population decline | Constant or decrease |



| | | | | | | |
|---|--|--|--|---|---|--|
| | « Quality » of jobs | Mobility, out-commuting | Mobility, flexibility, in and out commuting | Flexibility, mobility, inbound commuting prevails | Little inbound commuting, relevant outbound commuting | Outbound commuting |
| | Telecommunication systems | Increase; improvement of diversified uses | Increase; improvement of infrastructure, more | Increase | Increase | Constant or increase |
| 6 | Infrastructure Rail network | Absence of rail network. Regions outside the centres will not benefit from improvements of TEN network | Absence of rail network. Regions outside the centres will not benefit from improvements of TEN network | Absence permains. Constant | Absence permains. Constant | Absence permains. Constant |
| | Road network | Constant or increase and improvements of existing network | Constant or increase and improvements of existing network | Improvement of existing roads. Constant | Improvement of existing roads. Constant | Deterioration of secondary roads. Constant |
| | Energy: systems of production and transport | Constant or increase of transport network; increase in use of local sources (biomass); increase and improvements of measures for saving energy | Constant or increase of transport network; increase in use of local sources (biomass); increase and improvements of measures for saving energy | Increase of transport network, especially in some periods. Increase of local sources use and development of projects to save energy | Constant | Constant |
| 7 | Traffic Motorisation | Constant or light increase but probably less than in inertial scenario | Constant or light increase but probably less than in inertial scenario | Increase of private motorisation | Little increase of private motorisation | Constant |
| | Road traffic (goods, persons) | Constant or increase, but probably less than in the inertial scenario | Constant or increase, but probably less than in the inertial scenario | Increase mainly due to touristic development | Constant or little increase | Constant or little decrease |
| | Rail traffic (goods, persons) | Absence of rail traffic in the area | Absence of rail traffic in the area | Absence of rail traffic in the area | Absence of rail traffic in the area | Constant |
| 8 | Services for residential population Public services | Constant or decrease, privatisation and improvement of some services | Constant, increase in efficiency, privatisation of some services | More use of e-governance, e-health, etc. Privatization | More use of e-governance, e-health, etc. | More use of e-governance, e-health, etc. |



| | | | | | | |
|---|---|---|---|--|-----------------------------|---|
| | Commercial services | Constant or light increase | Constant or increase | Little increase | Constant | Decrease |
| | Recreational services | Constant or decrease | | Little increase due to new touristic development opportunities | Constant or little increase | Decrease |
| | Public transport services (inside the region and/or linking the region to other region) | Constant or increase because people must to go out commuters residential areas and to move to local centres | Constant or increase because of growing importance of these areas and because people have to move to local centres | Little increase to touristic aims | Constant or little decrease | Decrease |
| 9 | Tourism | Constant or decrease because of absence of touristic attractive | Constant or increase, soft and tourism could develop (thermal baths) | Little increase | Constant | Constant (wilderness is still a touristic attraction) |
| | Overnight stays | Constant or decrease | Constant | Little increase | Constant | Constant |
| | Touristic infrastructure | Decrease | Increase might be possible because of improvement of touristic resources of these areas and development of soft tourism | Little increase or improvement of the existing ones | Constant | Decrease |



| | | | | | | | |
|----|-------------|---|--|---|---|------------------|--|
| | | « Quality » of tourism | Scarce transit tourism | Second houses, hotels and bed & breakfast; all season tourism but for brief periods; some slight touristic flows of emigrants living outside the area | Thematic, soft tourism prevails, especially food-tourism connected to handicraft activities (wood, textile, etc.). Bed and Breakfast opportunities. | Thematic tourism | Daily tourism |
| | | Integration with agriculture | Scarce | Increase of agritourism | High integration | High integration | High integration |
| 10 | Agriculture | Number of enterprises | Decrease but less than in the inertial scenario | Constant; in some areas may be a slight decrease (but less than in the inertial scenario) | Little decrease | Decrease | Decrease |
| | | Full time / part time | Increase of part time because agriculture isn't the most important activity; slight decrease of full time but less than in the inertial scenario | Increase of part time because agriculture isn't the most important activity; some full time experiences in specialised or biological agriculture | Part-time farms prevail. Some full time enterprises, especially as regards biological production and breeding. | | |
| | | Livestock production and plant production | Constant or decrease | Constant; in some areas breeding could be one of the new resources to be exploited | Constant | Little decrease | Decrease |
| | | « Quality » of agriculture | Increase of rinaturalization of slopes | Strengthen of biological production | Strengthening of biological and integrated production, increase of environmental services | | "Residual" agriculture, ageing farmers |



| | | | | | | | |
|----|-------------|--------------------------------------|--|--|---|--|---|
| 11 | Land use | Forest area | Decrease | Constant | Constant | Little increase | Increase |
| | | Arable land | Decrease | Decrease | Constant | Little decrease | Decrease |
| | | Intensive grassland | Decrease | Constant or increase | Constant | Little decrease | Decrease |
| | | Extensive grassland | | | Constant | Little increase | Constant or decrease |
| | | Settlement area | Increase | Constant or increase | Constant or little increase | Constant | Abandonment of some peripheral settlements |
| | | Conflicts for land use | Constant or decrease. Local planning policies avoided landscape deterioration; better management than in the inertial scenario | | Decrease due to higher environmental consciousness and to exploit landscape to touristic aims | | No conflicts due to the absence of new land uses demand |
| 12 | Environment | Pollution | Constant or light decrease | | Constant or little increase due to the presence of more touristic activities | | Constant |
| | | | Waste disposal | Some problems of waste disposals; modern waste management system | | Constant: environmental preservation is fundamental to maintainance of tourism | Constant |
| | | | | Loss of biodiversity less than in the inertial scenario | | Little increase, especially during seasonal periods | Little increase |
| | | Biodiversity and ecological features | Loss of biodiversity, but less than in the inertial scenario | | | | |



| | | | | | | | |
|----|---|--|--|---|--|--|---------------------------------|
| | | Protection of nature | Improved measures and instruments to protect nature outside protected areas | Increase of policies to protect nature outside protected areas; increased of protected areas; co-operation with agriculture and tourism | High protection especially in some protected areas. Nature protection is important to touristic aims | High protection of environmental resources | Better management of wild areas |
| | | Natural hazard | Deterioration of landscape is possible, due to abandonment of agricultural activities; risk of floods and landslides | Deterioration of landscape is possible due to residential, touristic and productive settlements even the existence of policies to protect nature; the risk is lower than in the inertial scenario | Public policies and interventions to avoid natural hazards, but presence of high risks of floods and landslides due to increased abandonment of primary activities | | |
| 13 | Promotion of local cultural and environmental resources – local identity, local pride | Regional trademarks or labels. | Scarce | Strong increase; creation of a local label for agricultural quality products; cultural and environmental resources used for tourism sector | Support of existed label by using marketing strategies in particular by creating touristic networks with other national or international areas | Increased interests of local population | Little public intervention |
| | | Local activities (cultural or leisure clubs). Other | | Many initiatives to promote | | | Constant or decrease |



5. CONCLUSIONS

As the scenarios for total Alps could be considered a sort of “average” of different regional scenarios, those ones allow to verify how the theoretical proposition of the clustering model faithfully represent the different future situations (inertial and towards sustainability) in a small part (the pilot region based on the different “tessereae”) of the alpine territory (the entirely “mosaic”).

In the case of But Valley, the more positive development trends that define the towards sustainability scenario do not stop the weakening process that seem to characterize the abandonment peripheral areas. Even if in the next future wilderness of alpine territory remote abandonment areas could play a very important ecological role this decline is evident.

On the other hand, the better perspectives that in an inertial scenario distinguish the commuter areas with own activities and the steady peripheral areas, are higher in a towards sustainability scenario. In this scenario steady peripheral areas become growing ones. It is important to stress that in these areas the presence of endogenous resources is significant and plays an important role. Furthermore, the more or less effectiveness of the local policies could eventually speed up or slow down a positive development process. In a towards sustainability scenario the efficiency of local policies is also very important in steady peripheral areas: the positive effects of the local policies, the favourable local attitudes and the use of endogenous resources could eventually improve the situation in some villages (“frazioni”) of the abandonment peripheral areas.

The phenomena of metropolisation trend that generally distinguish the alpine area, do not take place in the pilot region. Nevertheless, the high influence that the near local centre (Tolmezzo) exerts to all the nine But Valley municipalities affects the different futures of the area. In fact, the municipalities near Tolmezzo benefit from a positive development trend that occurs in the local centre.

Areas situated at the highest altitudes and specially linked to winter sports are not present in the But Valley pilot region. Tourist resources, anyway, are widely widespread but only few of them are strictly linked with winter sports or other typical “alpine” sports like hiking, climbing, etc. In fact, the success of the local tourist initiatives is based on those projects that are able to emphasize the cultural and environmental peculiarities of the area. The “hotel widespread” is an example of a new soft tourism and represents an innovative model of development in a marginal area. At the same time, gastronomic tourism could be a good occasion to develop the economic situation in some villages of the valley. In order to benefit social and economic conditions, it seems important to develop an integrated territorial model that involves all the areas and the different economic sectors of the valley.



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