

Theoretical basis for a coherent federal strategy for mountain and rural areas in Switzerland

Input paper 3 [*for internal use only*]

This is a preliminary version, which reflects the opinion of the authors. If parts are used in the strategy report, they will be adapted and reviewed by the strategy group.

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Abstract

This paper provides a theoretical basis for the development of the design of a federal strategy for mountain and rural areas in Switzerland. The paper reviews common attributes of mountain and rural areas as well as theoretical models for fostering economic development in these types of regions. Insights from this review are applied to an in-depth investigation of four types of regions: periurban regions, peripheral regions, alpine tourism centers and small and medium-sized towns. A qualitative system-dynamics model, the so-called NEXUS-model, is used to illustrate defining features, challenges, opportunities and threats for each type of region. In addition, a set of selected levers for the implementation of prosperity-oriented policies as well as the most appropriate development models and measures are identified.

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1. Introduction

On June 10, the strategy group for the implementation of the “Motion Maissen” held its 2nd workshop. In this meeting, the group discussed goals of existing legal foundations and possible normative orientations for a federal strategy for mountain and rural areas in Switzerland. The discussion culminated in three decisions:

1. The strategy-group agreed on a commonly shared “normative orientation”. This normative orientation might serve as the nucleus for a strategic vision. While the final vision of the strategy will be developed in more detail during the remaining process, the common point of departure was identified as follows:

The Swiss strategy for mountain and rural areas should aim to foster economic prosperity in mountain and rural areas through a focus on economic value creation, qualification of human capital and competitiveness. This normative orientation emphasizes the creation of economic opportunities based on the specific strengths of each region while ensuring the basic framework conditions through the appropriate provision of public goods and services. Achieving such a normative orientation, the appropriate multi-level governance structures have to be developed and existing policy instruments and programs have to be incorporated.

2. The remaining strategy development process was slightly changed. Instead of identifying generic strengths and weaknesses of rural and mountain regions, the strategy group decided to directly engage in a discussion of a potential strategy design. The strategy design, however, should be developed in two steps rather than in one step (as originally planned). As a consequence, an additional (short) workshop with the strategy group was held on September 19th, 2013.
3. The “territorial dimension” of the strategy should address (existing) ideal spatial types of mountain and rural regions. The main “territorial” units of analysis which should be used during the remaining strategy process ought to be types of regions rather than regions themselves (since they might be hardly discriminable from each other and the assumption is that regions have to develop their own strength-weakness profiles). The strategy group strongly recommends using the existing typology produced by ARE, i.e. periurban rural regions, peripheral rural regions and alpine tourism centres (cf. also input paper 1). Additionally, small and medium-sized towns/rural centres in mountain and rural areas should be considered as a separate spatial type (Ecoplan 2012).

This paper's purpose is threefold. *First*, the paper presents an outline of the process for the elaboration of a potential strategy design. To this end, this paper illustrates the required tasks for the development of the strategy until the workshops in September and October. *Second*, the paper provides the necessary theoretical basis for the elaboration of the strategy design. *Third*, the paper aims at providing the necessary baseline for a conceptual ex-ante evaluation of the chosen normative orientation (cf. above). This ex-ante evaluation is based on the use of a qualitative system-dynamics model, the so called NEXUS-models (Gløersen, 2012; Gløersen et al., 2006; University of Geneva et al., 2012). These models were developed for each of the four types of mountain and rural regions in Switzerland and might identify critical levers regarding a competitiveness-oriented strategy for mountain and rural regions as outlined so far. The elaboration of the NEXUS models is based on a systematic description of characteristic features, processes and causal connections within selected fields. The results from the NEXUS-models are given in a short, "factsheet"-style manner. They are complemented by effect diagrams for each type of region.

The paper is structured as follows: In the first section, the process for the development of a strategy design is illustrated. This is followed in the second section by a general discussion of the common attributes of mountain and rural areas. These characteristics are applicable to all types of mountain and rural areas as they highlight general attributes of non-core regions and their respective economic implications. In the third section, a short overview of three theoretical models for economic development in mountain and rural areas is presented. The fourth section presents so-called fact sheets for each spatial type of mountain and rural regions. This section applies the common characteristics of non-core regions to each type of mountain and rural region. Furthermore, the most appropriate theoretical models are compiled. This compilation is based on the application of the NEXUS models for each type of mountain and rural region in Switzerland.

2. Outline of the process for developing a strategy design

To develop the strategy design, a two-pronged approach is followed. This approach combines theoretical considerations on the design of a coherent strategy and ex-ante evaluation of possible development strategies for mountain and rural regions (Fig. 1)

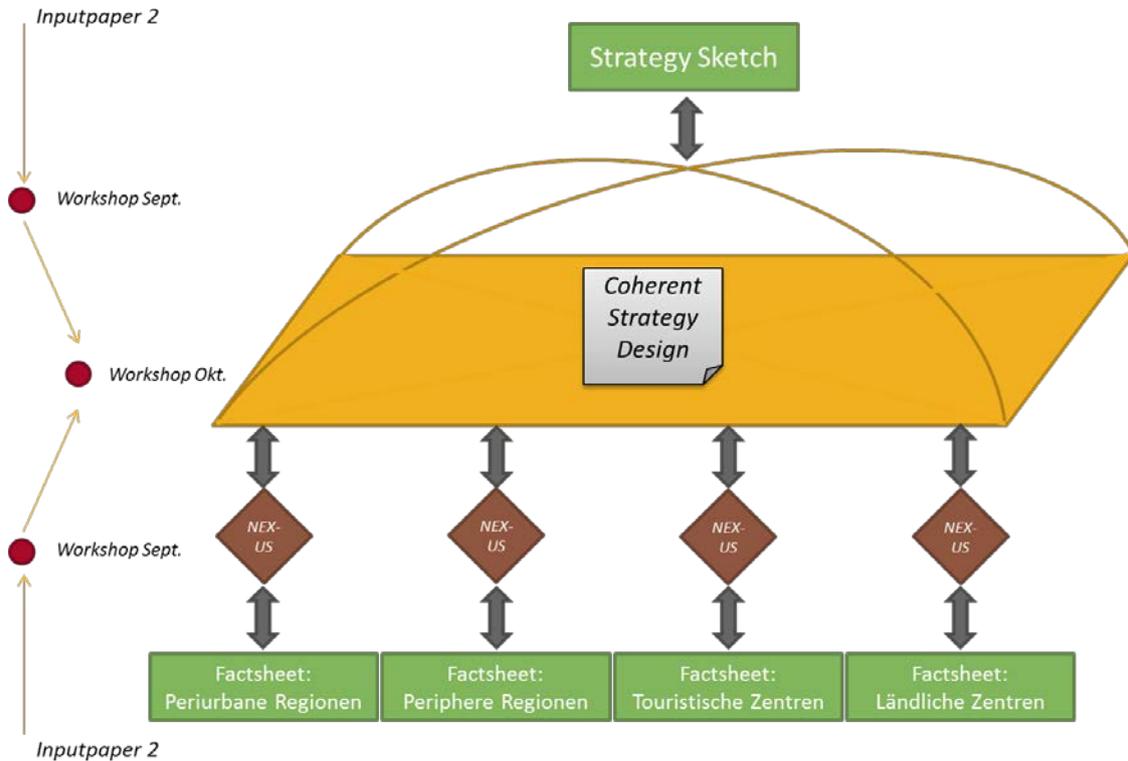


Figure 1: Workflow for input paper 3 (strategy design) to be presented in Oct. 2013 to the strategy group

The ex-ante evaluation of potential economic development strategies is taken up by NEXUS-modelling. In four NEXUS models, the situation in each of the four types of mountain and rural regions in Switzerland (cf. section 4) will be synthesised with the goal to identify critical levers for fostering employment, human capital and economic competitiveness. To lay a conceptual basis for the NEXUS models, this paper provides an overview of potentially feasible development concepts for fostering economic development in rural and mountain areas. Additionally, the key assets in terms of strengths and weaknesses of the four types of mountain and rural areas are compiled. These strength-weakness profiles provide the basic input for the ex-ante evaluation through the NEXUS models. Theoretical considerations on the design of a coherent strategy build on the results from NEXUS-modelling. In a first step, the critical levers and potential side effects for fostering employment, human capital and competitiveness for each type of region are discussed. In a second step, different models for designing a coherent framework at the national level are outlined. These models must be able to span a, ‘strategic glass dome’, i.e. a coherent frame over the specific development strategies at the regional level in each type of region.

Intermediate results of both workflows (ex-ante evaluation of regional development strategies and theoretical models spanning a ‘strategic glass dome’) were presented to the strategy group on September 19th, 2013. After the discussion, both workflows will be continued. Results of these continued discussions will directly be integrated in the draft of the final document “federal strategy for

mountain and rural regions in Switzerland”. As a consequence, Input paper 3 will not be developed further substantially after the September 19th meeting. The paper hence remains in a preliminary version and is not planned to be an integrated part of the final strategy document.

3. Theoretical foundations for the further strategy process

3.1 Common attributes of mountain and rural regions

Mountain and rural regions are characterized by a high level of physical, cultural and economic heterogeneity (OECD 2006; Ward and Brown 2009). Yet, in contrast to metropolitan centres, mountain and rural areas in Switzerland represent so-called “non-core” regions (Legendijk and Lorentzen 2007)¹. As the literature analysis shows, non-core regions might share the following attributes as outlined in Table 1.

Table 1: Social and economic attributes of non-core regions (Source: Baumgartner et al. 2013)

	Attributes of non-core regions	Implications
Economic environment	<ul style="list-style-type: none"> - Mostly small (often family-owned) firms; - Large share of firms in primary sector; - Limited export- and R&D/technology-orientation; - Missing specialization and (vertical) integration - Missing networking among firms 	<ul style="list-style-type: none"> - Low levels of productivity within the firm; - High dependence on public sector transfer payments in primary sector; - Less focus on growth - Fragmentation due to lack of networking and interactive learning
Physical environment	<ul style="list-style-type: none"> - Ecosystem goods and services are highly valued; - Intensive use of natural resources as production factors (i.e. land, water, landscape etc.) 	<ul style="list-style-type: none"> - High exposure to natural risks (i.e. climate change); - Increasing conflicts about use of natural resources
Social and institutional environment	<ul style="list-style-type: none"> - Few supporting institutions - Dense networks with mutual social control; - Fear of social exclusion if projects fail - Rich endowment with culture and tradition 	<ul style="list-style-type: none"> - Innovation system prerequisites are weakly developed and supported leading to “organisational thinness” - Missing “strength of weak ties”; - High risk aversion is common;
Human Capital	<ul style="list-style-type: none"> - Low formal qualification (tertiary education); - High levels of out-migration (brain-drain); - Traditional role models 	<ul style="list-style-type: none"> - Low labour productivity and limited high-tech innovation potential - Low labour participation rate;
Settlement structure	<ul style="list-style-type: none"> - Low residential density; - No or small urban zones (small towns); - Presence of cultural heritage sites/structures 	<ul style="list-style-type: none"> - Missing agglomeration economies; - Limited exchange of creative human capital

¹ The dichotomy of core vs. non-core might mostly be based on perceptions. From a statistical point of view, such a perception-based conceptualization might be much more difficult to illustrate than the rural-urban or the centre-periphery dichotomy for which well-established statistical frameworks exist (see, e.g., OECD 2010). Any analytical distinction may depend on the spatial scale of analysis (global-European-national-regional).

Accessibility	- Hindered connections to basic infrastructure (train, roads, ICT);	- Relatively high costs for information and transportation
“Aspatial” distances	- Cognitive and organizational distance to sectoral/market leaders	- High transaction costs in implementation of new products/processes

Not all attributes in Table 1 might fit the specific situation in a particular region. Taking into account the particularities of different types of regions, more specific strength-weakness profiles of the four types of mountain and rural regions defined by EcoPlan (2012) will be developed in section 4.

3.2 Theoretical models for fostering development in rural and mountain areas

In this section, a brief outline of recent theoretical approaches to fostering economic and social development in rural and mountain areas will be given. To this end, the framework proposed by Terluin (2003) is used to roughly classify existing theories and approaches. Terluin (2003: 330) distinguishes four models of rural development theories based on their assumed regional production function: *traditional models*, *pure agglomeration models*, *local milieu models* and *territorial innovation models*. We complement the discussion of these four models with additional theories of local and regional economic development.

Traditional models of regional and rural development are based on the analysis of the two classic production factors labour and capital. Besides the (spatially almost blind) neoclassical growth theory, the following theories can be subsumed under this model:

Table 2: Traditional models of regional and rural development and potential application in the Swiss case

Models	Critical issues for policy application in Swiss rural and mountain areas
- (a) <i>Export base theory</i> (Thibout 1956): in this theory, economic activities are divided into basic activities for export and non-basic activities for internal consumption. Growth in the basic activities enlarges the flows of capital into the region and increases the demand for goods and services within the region. This, in turn, causes an increase in the volume of non-basic activities.	The distinction between basic and non-basic activities is far from trivial at the level of individual mountain and rural communities. Depending on the geographic origin of their clients, public and private services can be qualified as “basic” or “non-basic” activities. More fundamentally, export base theory largely ignores the uneven distribution of income generated by export activities: income flows follow quite different geographic patterns than production activities.
- (b) <i>Migration based development theories</i> : although there is no coherent migration-	Migratory flows might not lead directly to economic growth. In rural and mountain territo-

<p>based regional development theory, several recent studies focus on in- or re-migration as part of the production factor labour. In these studies, regional output might be expanded by attracting new residents – through, for example, so called amenity migration (Walter et al. 2012) – , stimulation of re-migration of highly qualified employees (Rérart and Jeanerat, submitted) or directly attracting immigrant entrepreneurs (Stockdale 2006).</p>	<p>ries, substantially limiting factors for migration-based development are structural imbalances in migratory patterns: young people migrate out to attend higher education institutions, and tend not to migrate back. Furthermore, the lack of economic diversity might lower the attractiveness of rural and mountain areas for highly qualified.</p>
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Pure agglomeration models of regional development take the existence of (positive) agglomeration effects into account. This focus is found in the following theories:

Table 3: Pure agglomeration models for regional and rural development and potential application in Switzerland

Models	Critical issue for policy application in Swiss rural and mountain areas
<p>- (c) <i>Cumulative causation theories</i>, including <i>evolutionary approaches</i> (Martin and Sunley 2006, Boschma and Martin 2010): in these theories, regional output depends on the concentration of labour and capital in a specific location, which gives rise to external effects or scale economies over time. Once such scale economies come into existence, a self-reinforcing (or: path-dependent) process starts. This process might be shaped by new and expanding firms which – in combination with the already existing concentration of economic activities – enlarge the relatively large size of the market. This, in turn, enables additional scale economies, and causes an increased demand for labour. This expansion of demand results in an in-migration of (often high skilled) labour from outside the</p>	<p>Development dynamics in some small and isolated settlements can be usefully informed by cumulative causation theories, but they presuppose a transformation of these areas through population growth or through a functional integration in a wider area of commuting and economic exchange. When this does not occur, the emergence of a highly profitable activity may on the contrary lead to reduced economic diversity. This in turn reduces their adaptive capacity. This adaptive capacity is needed in times of crises when existing specialization has to be adapted to new technologies and/or markets. Missing adaptive capacity may lead to a negative path-dependent development and cause a “lock-in” of entire regions in uncompetitive economic activities. In other words, the economic integration of</p>

<p>region.</p>	<p>small and isolated settlements in wider systems of economic exchange can increase profitability, but also presents a risk of enhanced vulnerability. Their long term balanced development presupposes a strategy to help them cope with cyclical crises and (re)invent new competitive economic activities.</p>
<p>- <i>(d) New Economic Geography (NEG):</i> this mathematically formulated theory also analyses spatial concentrations of population and/or economic activity under conditions of increasing returns to scale and monopolistic competition (Fujita et al., 1999). Here again, an already big local market may induce additional cumulative processes of attracting firms and labour. In NEG, the key to accumulating disparities is often attributed to transportation costs that differ within and between regions.</p>	<p>New Economic Geography explanations of agglomeration processes and polarising trends, based on mathematical economic models, have tended to be reinterpreted in a normative way by policymakers. In this approach, the causality is reversed and agglomeration is treated as a factor of economic growth and development, rather than a result. In this perspective, mountain and rural areas are treated as areas where public efforts to promote growth and development will necessarily have a less favourable cost/benefit ratio.</p>
<p>- <i>(e) Exogenous development theories:</i> this theory assumes that rural and mountain development is transplanted into particular regions or sectors (such as, e.g. agriculture as a growth-pole) and thus is mostly externally determined. However, “by the late 1970s these policies fell into disrepute since they did not result in sustainable economic development of rural regions” (Terluin 2003: 332).</p>	<p>In practice, rural and mountain areas depend on diffusion effects from the nearest urban node. This implies, however, that development effects cannot be distributed evenly in all parts of the territory. As a consequence, areas beyond commuting distance from primary and secondary development nodes require specific policy attention.</p>

The third models of regional development are local milieu models. Local milieu models focus on the analysis of local endowments or factors that shape the local milieu, i.e. the “territory” as a resource (Pecqueur 2005), social and institutional structures, technology, culture, trust a.s.o. rather than on (positive) agglomeration economies. The following theories might be associated with the local milieu model:

Table 4: local milieu models for regional and rural development and potential application in Switzerland

Models	Critical issues for policy application in Swiss rural and mountain areas
<p>- (f) <i>Endogenous rural development theory</i> (Ray 2006; Tödtling 2011): Endogenous rural development theory conceptualises regional output as local development, produced mainly by local impulses and grounded largely on local resources. Endogenous rural development emphasises bottom-up approaches, support for local business, encouragement of local initiatives (commercially oriented or not), local enterprises, and provision of suitable training.</p>	<p>Autonomous design and implementation of development strategies in rural and mountain communities requires appropriate empowerment of local actors. This empowerment is multidimensional, as it not only encompasses institutional aspects, but also issues of self-perception, public service provision and regulatory framework conditions for local initiatives. A critical assessment of the potential capacity of local communities to design and implement their own development strategies is therefore critical. Otherwise, under the presence of equal treatment, policies based on endogenous rural development theory will accentuate disparities.</p>
<p>- (g) <i>Industrial district theory</i>: An industrial district can be seen as an ecosystem of inter-industrial relations which is durable in time and forms. This ecosystem is shaped by an inextricable network of positive and negative externalities (and) historical-cultural inheritances (Becattini 1987). In this system, an agglomeration of small and medium sized firms stays in close spatial co-opetition allowing an almost collective production process.</p>	<p>Industrial districts (IDs) do not offer the most evident basis for development in rural areas, even if some authors identify IDs in these types of territories (Boix and Vaillant, 2010, Fanfani, 1994). While the performance of IDs, and their capacity to generate resilient forms of economic development has been widely analysed, most authors agree that policies cannot create IDs artificially, but may support existing industrial networks (e.g. Morrison, 2003). Successful IDs are based on strong local networks with global connections. Such networks may also be of high relevance in mountain and rural areas (Murdoch 2000).</p>
<p>(i) <i>Residential Economy</i>: the residential economy approach focusses on “the importance of transfer income redistribution from the state, the mobility of households, pensions and tourism” (Segessenmann and</p>	<p>Theories of residential economy only contribute substantially to local development in mountain and rural areas when a wide range of transfers, including commuters, and the redistribution of tax income between regions</p>

<p>Crevoisier 2011). The effects of such redistribution effects mainly take place at the local level and might also serve as considerable contribution to the regional output.</p>	<p>and localities is incorporated. As such, they encourage a reappraisal of economic base theories, including a wider range of “basic activities”.</p>
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The last group of theories might be summarised as territorial innovation models (Moulaert and Sekia 2003). Territorial innovation models (TIMs) not only consider labour, capital and the local milieu as relevant production factors for rural and mountain development but also focus on innovation as a key driver of economic development. Local development depends on the capacity to convert traditional activities into new ones thereby producing innovations. The most prominent theories that are associated with TIMs are the following:

Table 5: Local milieu models for regional and rural development and potential application in Switzerland

Models	Critical issues for policy application in Swiss rural and mountain areas
<p>- <i>The innovative milieu theory</i> (Crevoisier 2004) including the <i>learning region</i> (Morgan 1998; Florida 1995): in the innovation milieu theory, innovation includes product, process and organizational innovation in the firm as well as social and institutional innovation at the level of an industry, region and nation. The close interaction of different regional players for generating new products and services is seen as the key for sustainable regional development.</p>	<p>Considering mountain and rural communities as innovative milieus presupposes a broad approach to “innovation”, including non-technical aspects of innovation.</p>
<p>- <i>Porter’s (1998) competitive advantage of nation’s theory</i>: Porter’s concept on the competitiveness of nations focusses on the close interrelation between firm-internal and –external factors (the so-called “diamond”). Innovation, again, takes central stage for competitiveness, since – following Porter (1998) a local economy’s success depends on its capacity to transfer its resources from old activities to new ones. He emphasizes</p>	<p>While the existence of internationally competitive activities is of critical importance for national economies, the same does not hold true at the level of individual mountain and rural territories. These territories can play alternative roles in overall national economic performance, such as providing housing, agricultural products for regional and national markets and leisure areas. While there is no a priori reason not to seek to develop internationally</p>

<p>the role of industrial clusters in regional economic development.</p>	<p>competitive activities in mountain and rural areas, this should therefore only be considered as one option among others.</p>
<p>- <i>Smart specialisation (McCann & Ortega-Argilés 2013)</i>: smart specialization is an approach for prioritising regional innovation policy and the ideas are currently applied in the EU regional context. In this model, regional innovation policy should aim for strategic technology diversification around economic activities that are at the core of a region's economy. The goal is to encourage entrepreneurial activities around – ideally – general purpose technologies which then can be scaled and expanded.</p>	<p>Smart specialisation can be perceived as an attractive option for each individual community or region. Yet, it does not necessarily generate an added value for mountain and rural areas in general: without an overall coordination at the federal level, the concentration of certain activities in one location may occur at the expense of other locations. This might ultimately lead to increased regional disparities instead of contributing to economic competitiveness.</p>

According to Terluin (2003) the three models highlight that there are at least three different assumptions about what drives development in peripheral regions. Pure agglomeration models assume that development in mountain and rural areas is externally determined (e.g. through products that are exported to core regions, through import of capital and labour, etc.). Policies based on this assumption were popular in the 1970s, but did not prove to be successful in terms of sustainable economic development of peripheral regions. Local milieu models assume that development in mountain and rural areas is rooted in local resources, values and impulses. Policies within this line of reasoning are rooted in the community-led/bottom-up development paradigm and emphasize a community's self-help capacity (Terluin 2003). Such an approach requires a multi-level governance approach that connects local, regional, and national institutional structures. Territorial innovation models stress the interplay between exogenous and endogenous development dynamics and provide a perspective that combines local with national/global dynamics. The latter is increasingly important given the increasing mobility of production factors.

Table 6: Development dynamics and corresponding theoretical models (Source: Terluin 2003)

Development dynamics	Theoretical models	Implications for policy
Exogenous development	Pure agglomeration models	Entice outside investments (capital, labor, etc.) in non-core regions Increase opportunities for export
Endogenous development	Local milieu models	Strengthen local resources, values and capacities Mobilization of self-help capacity Strengthen local filières
Mixed exogenous/endogenous development	Territorial innovation models (TIM)	Strengthen local resources while at the same time building links with national/global economic networks (through, e.g., encourage local actors to engage in national/global networks/value chains)

Yet, as noted by Tödting and Trippi (2005), none of the theories listed above might “fit all” regional and local conditions. For shaping regional policies to foster economic development closer to local and regional needs, a closer look on local and regional perquisites is needed. In the following, we will take such a closer look on the basis of the four ideal types of rural and mountain areas in Switzerland and develop fact sheets for each.

4. Fact sheets for different types of mountain and rural regions in Switzerland

In the following sections, the most relevant characteristics in terms of strengths and weaknesses of four types of mountain and rural regions in Switzerland are compiled in a set of short fact sheets. These factsheets also highlight the levers that may be applicable for the implementation of development-oriented policies. These levers as well as the respective theoretical model(s) and leading policies are identified on the basis of NEXUS-models.

As for the four types of regions, these are derived from the classification of the Federal Office for Spatial Development (ARE 2005) and encompass periurban rural, peripheral rural and alpine tourism centres as well as small and medium-sized towns/rural centres. The four types of mountain and rural regions are well established categories used by the Federal office for spatial planning (ARE). Periurban and peripheral regions as well as touristic centres are the key entities of ARE’s

monitoring of rural areas (Ecoplan 2012). Table 3 and 4 compile basic descriptive statistics of peri-urban rural areas, peripheral rural areas and alpine tourism centres.

Table 7: Characteristics of rural areas in Switzerland (Source: Ecoplan 2012)

	Anzahl Gemeinden		Fläche in km ²	
	2010	%	2010	%
Periurbaner ländlicher Raum	1`322	80.8%	16`314	52.8%
Peripherer ländlicher Raum	292	17.8%	12`343	39.9%
Alpine Tourismuszentren (ausserhalb der Agglomeration)	22	1.3%	2`251	7.3%
Total ländlicher Raum	1`636	100.0%	30`908	100.0%

Table 8: Relative importance of rural areas in Switzerland (Source: Ecoplan 2012)

Anteile an:	Anzahl Gemeinden	Wohnbevölkerung	Zahl Arbeitsplätze
Gesamte Schweiz (100%)	2`550	7`856`000	3`398`000
Periurbaner ländlicher Raum	52%	22%	14%
Peripherer ländlicher Raum	11%	3%	3%
Alpine Tourismuszentren	1%	1%	1%
Urbaner Raum	36%	74%	82%

In addition to these three types, a strategy for mountain and rural regions has to also consider the role of small and medium-sized urban centres. These centres are of high political relevance for spatial planning in Switzerland. The Raumkonzept Schweiz distinguishes two types such centers:

- Small and medium-sized urban centres: 10`000 inhabitants at a minimum or they are the main centre of a canton.
- Rural centres: have more than 5`000 inhabitants, who can reach the next urban agglomeration within 15 minutes by motorized individual transportation. They also fulfill important service functions in education, health, administration, public service and economy.

Both types of small and medium-sized centres are treated in one single category in the remainder of this paper.

As for the NEXUS-models, these were set up on the basis of the identified strengths and weaknesses of each of the four types of regions.

4.1 Factsheet for periurban rural regions

Periurban rural regions encompass 52.8% of Switzerland’s surface. More than a fifth of the Swiss population (22%) lived in periurban rural regions in the year 2010. Periurban rural regions are characterized by short travelling distances to the next urban centre and mostly show high interdependencies (through, e.g. commuting, nearby-recreation, etc.) with adjacent urban or agglomeration areas.

4.1.1 Strengths and Weaknesses of periurban regions

From the common attributes shared by rural and mountain regions (cf. Table 9), the following characteristics in terms of strengths and weaknesses might be derived.

Table 9: Strengths and weaknesses of periurban rural areas (own research)

	Strengths	Weaknesses
Economic environment	<ul style="list-style-type: none"> - strong linkages with agglomeration and core-areas, e.g. through supplier-relationships - partially strong industrial tradition, including highly innovative companies - opportunities for diversification into new and emerging industries 	<ul style="list-style-type: none"> - low land prices, often host of firms with high negative externalities (noise, soil consumption, ...) such as, e.g., logistics, consumption - often SMEs in domestic-oriented industries, with low R&D-potential - decline in local embeddedness of export-/globally oriented SMEs
Physical environment	<ul style="list-style-type: none"> - high endowment with landscape amenities, high attractiveness for housing 	<ul style="list-style-type: none"> - High monetary and external cost for infrastructures
Social environment	<ul style="list-style-type: none"> - Dense linkages with urban and agglomeration areas (out-commuting) - Intact local culture and tradition 	<ul style="list-style-type: none"> - often eroded local networks, low participation in voluntary organisation (“Milizprinzip”), high share of newcomers
Human Capital	<ul style="list-style-type: none"> - often highly specialised local and regional workforce; - 	<ul style="list-style-type: none"> - Spatial mismatch of qualifications: highly qualified are often out-commuters - often low labour participation rate
Settlement structure	<ul style="list-style-type: none"> - Attractive conditions for housing (compared to urban areas) 	<ul style="list-style-type: none"> - Urban sprawl, eroding “rural” characteristics of village centres
Accessibility	<ul style="list-style-type: none"> - Good accessibility by public and individual traffic 	<ul style="list-style-type: none"> - Relatively high costs for information and transportation
“Aspatial” distances	<ul style="list-style-type: none"> - Leading firms often well embedded in international knowledge flows (if not even global leaders) 	<ul style="list-style-type: none"> - Tension between traditional, SME-oriented economy and specialised firms in the region

4.1.2 Defining features, opportunities and threats of periurban regions

The strengths and weaknesses outlined in Table 9 have been used as inputs for a NEXUS model for periurban regions. The model allows the identification of the major opportunities and challenges (threats) for periurban regions (see Figure 2).

Defining feature of periurban rural areas is their proximity to urban centres. This spatial proximity contributes to the sprawling of residential functions into nearby rural communities and landscapes. Development is closely linked to the dynamism of the urban centre. It is mainly based on residential attractiveness and, to various extents, on diverse activities such as shopping, industries and logistic centres. As a consequence, development strategies for periurban rural areas may have to be informed by and closely linked to the strategies of nearby agglomerations.

Common *challenges* of periurban rural areas are found in the low ratio of workplaces per inhabitants, as well as in the high share of low qualified jobs in agriculture and construction. Residential attractiveness mainly follows a low density pattern, which is highly dependent from individual motorized transport and thus fossil energy. This dependence threatens the traditional character of rural landscapes. An additional consequence is the diversification of the local population as a result of urban sprawl. This may in turn threaten social cohesion. Finally, if periurban areas are experiencing brain-gain, new residents may mostly be out-commuter, which results in deepening the dependence on nearby urban centres.

Opportunities, nearby urban centres can serve as markets for food provision and may offer leisure/cultural activities. The rural heritage of these periurban areas can provide many opportunities particularly in regards to the proximity to urban centres. Additional opportunities exist in the diversification of the economic base of periurban rural areas in for example tertiary sectors. Other opportunities, like the development of service provision to residents or the localisation of activity zones, result from available space at attractive price that leads to (residential) attractiveness. Finally, commuters contribute to transfers of income taxes, which periurban municipalities can utilize for development.

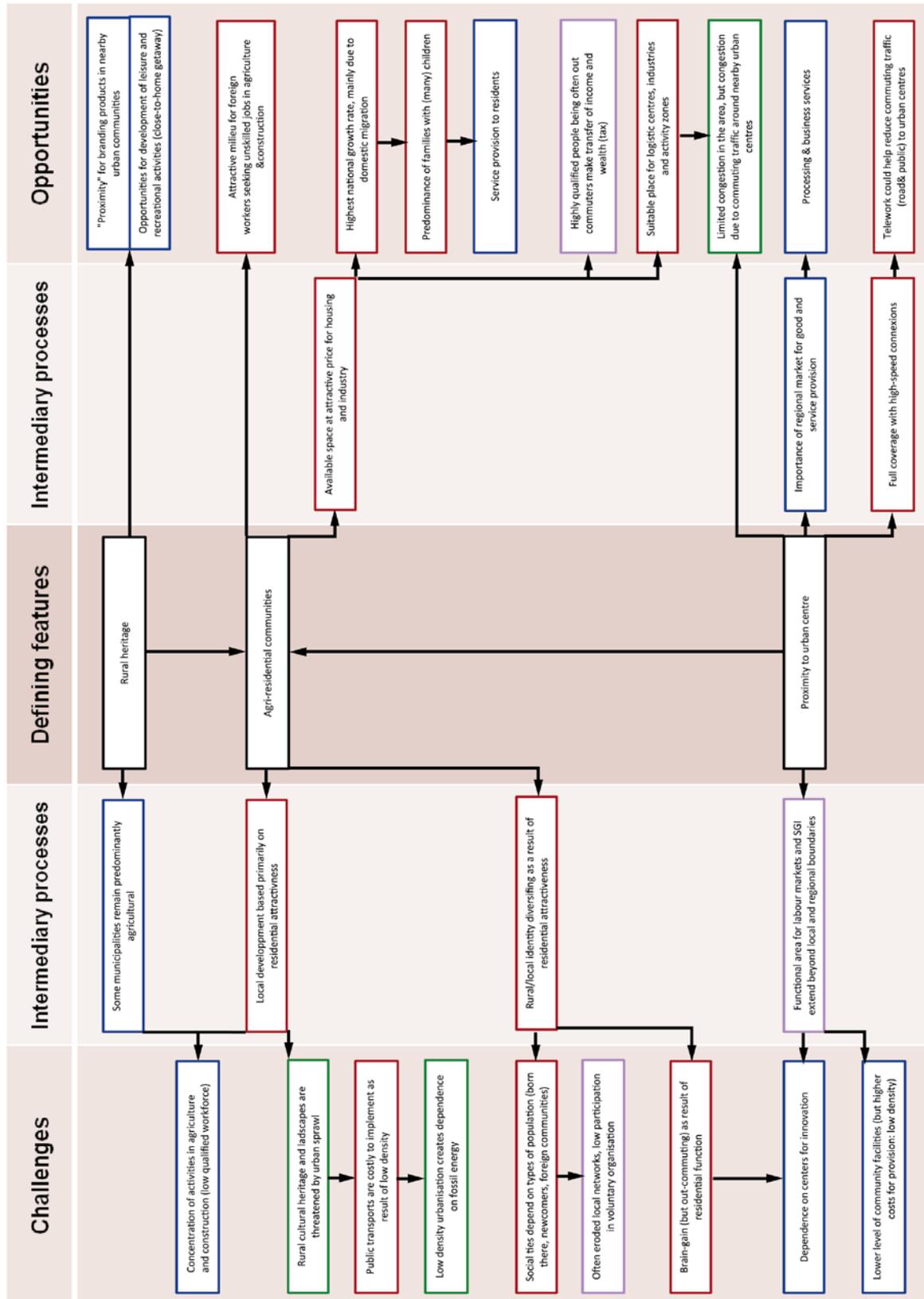


Figure 2: NEXUS-model for periurban regions

4.1.3 Levers for the implementation of prosperity-oriented policies

Levers for the implementation of prosperity-oriented policies are developed from the analysis of the intermediate processes outlined in Figure 2. The processes have been analysed regarding four main development dynamics, namely: structural change, innovation, entrepreneurship and human capital.

At first sight, the following levers for implementing a prosperity-oriented policy approach may be identified:

- Strengthen social networks to construct more cohesive communities, particularly toward new in-migrants (Swiss and foreigners). Promote local “patriotism” on the basis of local cultures and traditions;
- Encourage technical/social/organisational innovations that would limit the costs of information and transportation;
- Encourage telework;
- Identify groups of SMEs within similar activities that could be further networked and for which cooperation with corresponding R&D milieus could make sense.
- Encourage out-commuters to develop activities close to their place of residence, using their competencies locally;
- Promote decentralised forms of service provision to the residents.
- Create polycentric systems of secondary centres of service provision and employment in secondary and tertiary sectors. This may help with organising flows in a more energy-efficient way, reducing congestion and encouraging synergies between activities.

4.1.4 Most appropriate development models and potential key policies

Based on the intermediate processes highlighted in the NEXUS model, the most appropriate development theories and potential key policies may be derived as follows. Periurban rural regions have favourable initial conditions regarding further economic development. Yet, in order to improve their competitiveness, measures based on a *mixed endogenous/exogenous approach* to economic development should be considered:

- *Migration-based theories*. As a result of their proximity to an urban centre, including small and medium sized towns, one might expect exogenous based development. In order to attract commuting - or other - populations they will have to balance implementation of territorial innovation and local milieu models.
- *TIM-approach* in combination with *cumulative causation theories*: if relevant industrial traditions exist within the region, policy measures that are based on the TIM-approach might be viable. Favourable conditions for innovation and inter-firm cooperation should be created to ensure that existing firms are competitive in national and global markets. These conditions

should strengthen existing growth-poles and help assure their capacity to adapt to changing technological and macroeconomic framework conditions.

- *Residential economy theory*: if no industrial heritage exists, periurban rural regions might strengthen their position as agro-leisure-residential areas. This implies the need to become more attractive through the development of basic activities.

Most applicable theoretical models and identified levers for a prosperity-oriented federal strategy for mountain and rural regions so far are not treated by a particular federal policy for mountain and rural regions. In contrast, the identified levers and theoretical models are covered by a variety of sectoral policies affecting rural and mountain development (cf. Ecoplan 2012). However, not all of these sectoral policies might have equal priorities in all four types of mountain and rural regions. When combining most applicable theoretical models with the levers identified in the case of periurban rural areas, one might prioritise the following policies as *potential key policies* in periurban rural areas (hierarchically sorted):

- *New regional policy and innovation policy* may support periurban areas in two ways. First, by providing *incentives to entrepreneurship*, based on the identification of clusters and production chains connecting economic actors of periurban areas and of their wider territorial urban and metropolitan context. Knowledge of these interdependencies helps designing growth strategies building on the specific assets of these areas, such as availability of land and proximity to urban centres. Second, policy support for *services*, including *Services of General Interest* plays a key role in these areas, catering for a residential economy resulting from out-commuting and attractive living environments. The development of service activities can contribute to diversify local economies, and reduce transport volumes
- *Spatial planning and agglomeration policy* with new instruments focusing on travel to work areas and other areas of daily mobility and interaction (Funktionalräume), in particular agglomeration policy, to help solve infrastructural challenges and related costs in regional agglomerations. *Transport policies* focusing on bottlenecks around urban centres, including small and medium sized towns, play a key role in this respect. Measures to develop *telework* could help reduce commuting traffic.
- Coordinated measures in the field of *cultural, tourism and agricultural policies* may feed into a tourism strategy for these areas. Tourism products would need to be linked to heritage tourism and leisure activities help designing coherent tourism products around urban centres. These measures may strengthen *social cohesion* and *local networks* in periurban areas which in turn may help reinforce their endogenous growth potential. Cultural policies can be a component in this process. Agricultural policy, in turn, could help to establish labels for foodstuffs. These labels may contribute to the national and international promotion of niche and high added value products. Branding local produce can also be part of a strategy to en-

courage short circuits within the retailing and distribution industry, capitalising on local patriotism, aspirations to consume high quality products and to limit the environmental footprint.

4.2 Factsheet for peripheral rural regions

Peripheral rural regions encompass 39.9% of Switzerland’s surface. About 3% of the Swiss population lived in peripheral rural regions in the year 2010. Peripheral rural regions are characterized by longer travelling distances to the next urban centre. Within peripheral rural regions, small urban centres are important to ensure public goods and service provision.

4.2.1 Strengths and Weaknesses of peripheral rural regions

From the common attributes shared by rural and mountain regions (cf. Table 10), the following characteristics in terms of strengths and weaknesses might be derived:

Table 10: Strengths and weaknesses of peripheral rural areas (own research)

	Strengths	Weaknesses
Economic environment	<ul style="list-style-type: none"> - Economic concentration in primary sectors (agriculture, forestry, etc.) and, to some extent, in tourism - Increasing demand for sustainable, eco-, health products and services may offer opportunities - Possibilities in newly emerging industries such as energy, cleantech, sustainable agriculture, etc. 	<ul style="list-style-type: none"> - Small economic base that is not diversified and largely not oriented towards high value creation - Decline in employment in primary and in secondary sectors; losses are difficult to compensate with new types of industries - Economic structure dominated by small-scale establishments (tourism, agriculture) which results in low levels of investments in technology, processes, organizations
Physical environment	<ul style="list-style-type: none"> - high endowment with landscape amenities, high attractiveness for agriculture, recreation, sustainable tourism, energy production 	<ul style="list-style-type: none"> - Increasing pressures on landscapes through both over- and under-utilization - Remoteness from urban centres
Social and institutional environment	<ul style="list-style-type: none"> - Strong identification of population with their home region and with cultural and social institutions and local values - Strong and diverse local culture and traditions 	<ul style="list-style-type: none"> - Few support institutions (particularly in education, innovation) - often eroding local networks, low participation in voluntary organisation (“Milizprinzip”), young people are leaving
Human Capital	<ul style="list-style-type: none"> - Specialization in the primary sector, tourism and related activities. 	<ul style="list-style-type: none"> - Brain drain and out-migration to urban centres, ageing of the population - Lack of educational and workforce training opportunities - Low labour participation rate

Settlement structure	<ul style="list-style-type: none"> - Traditional cultural landscapes including traditional village centres and agricultural/mountain hinterland 	<ul style="list-style-type: none"> - Low population and settlement densities - Decline of village centres; particularly in very remote areas - Some favoured regions are affected by sprawl, particularly with regards to secondary homes
Accessibility	<ul style="list-style-type: none"> - Transportation accessibility still high in comparison to other European countries 	<ul style="list-style-type: none"> - Relatively high costs for information and transportation
“Aspatial” distances	<ul style="list-style-type: none"> - Tension between external perception (“Ballenberg” and “Heidiland”) and local perception and ambitions 	<ul style="list-style-type: none"> - Tension between traditional sectors (agriculture, forestry, etc.) and newly emerging economic opportunities - Other types of distances (cognitive, organizational, social) to markets, firm leaders, suppliers, etc. are compounded by geographical distance

4.2.2 Defining features, opportunities and threats of peripheral rural areas

The strengths and weaknesses outlined in Table 10 have been used as inputs for a NEXUS model for peripheral rural regions. The model allows the identification of major opportunities and challenges (threats) for peripheral rural regions (see Figure 3).

Defining features of peripheral rural areas are a rural environment that is relatively remote (in European perspective) from urban or tourist centres. This remoteness, in association with declining agriculture and little residential attractiveness for young people and active age groups, results in most cases in the presence of small communities that have undergone decades of population decrease. Yet, these communities nevertheless play a substantial role in the constitutional objective of decentralised settlement, as well as for ecosystem service provision and for the image/self-representation of “Swissness”.

Challenges for peripheral rural communities might be the decline in agriculture and centralisation of services of general interest (SGI). Both processes lead to a shrinking economic base, (brain-)drain and a negative migratory balance. This process is reinforced by factors such as strong community identity that, together with little residential attractiveness and parochial attitudes, often acts as barrier for in-migration. Low productivity in primary sector favours multi-activity, but extra workload in summer makes it difficult to conciliate with the timing of rural tourism. Finally, remoteness along with smallness may cause higher costs per capita for infrastructures and services provision, incurring difficulties to address autonomous development opportunities.

Peripheral rural areas, however, face specific *opportunities* as well. A variety of labels for instance open new markets for traditional products. Further, national and regional parks strategies are sup-

porting agriculture as provider of a wide range of eco-system services. Moreover, voluntary work such as, e.g., Wwoofing provides new potential to connect urban residents with peripheral rural regions. Implementing a selected and accompanied migration policy to fill low paid agricultural jobs could help with reaching critical mass. The pensions of the ageing population can be turned into a potential resource. Lastly, good coverage with information and communication technologies can help ease the effects of remoteness.

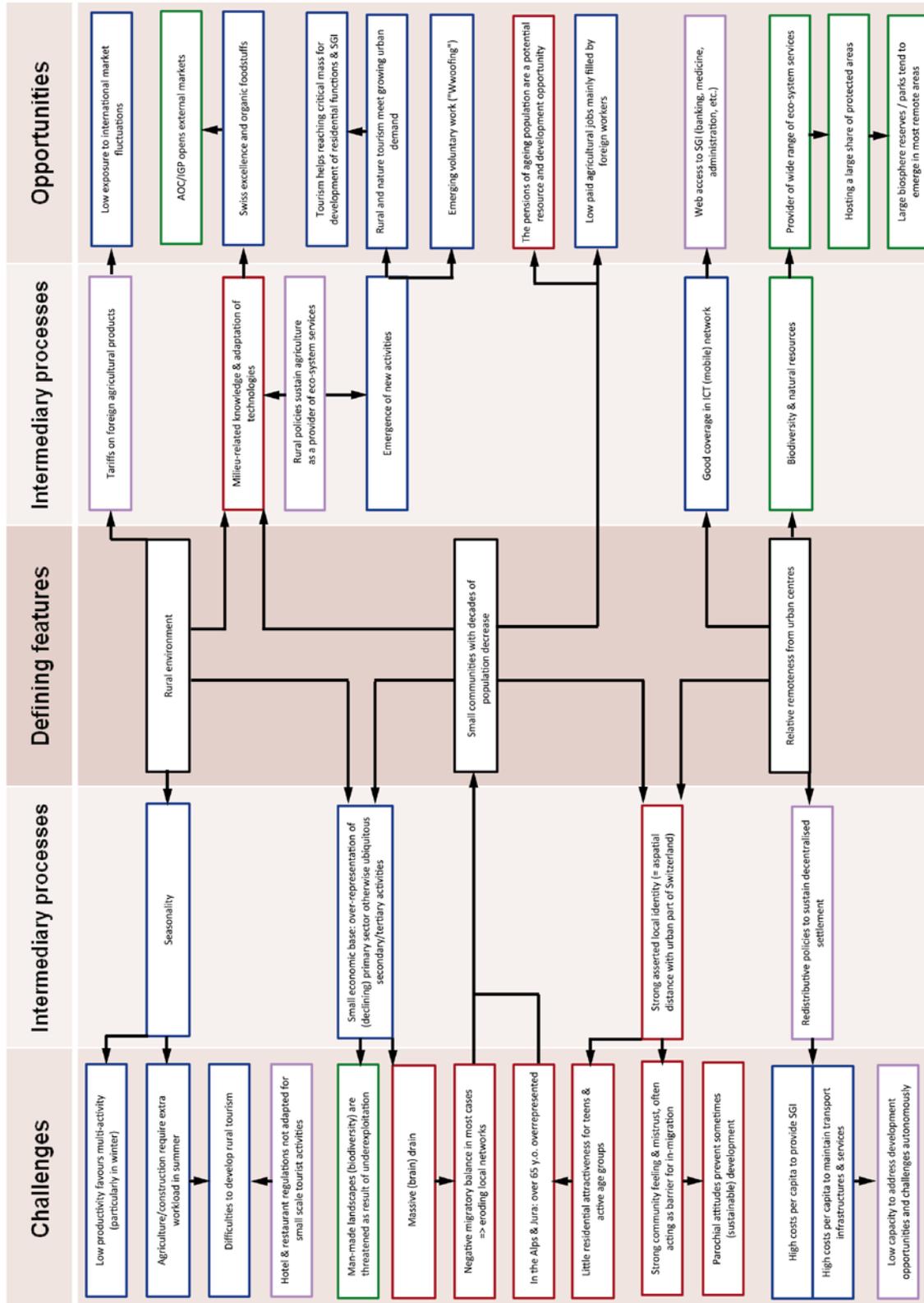


Figure 3: NEXUS-model for peripheral rural regions

4.2.3 Levers for the implementation of prosperity-oriented policies

Levers for the implementation of prosperity-oriented policies are developed from the analysis of the intermediate processes outlined in Figure 4. The processes may encompass dynamics like the following:

- Ensuring that a sufficient workforce is present during the summer period, when demand is the highest in agriculture and construction;
- Identify the potential impact of voluntary work in selected types of activities;
- Work on self-perceptions (internal branding) in areas that have been exposed to decades of population decline;
- Work on attitudes towards in-migration;
- Increase the attractiveness of the living environment for teens to encourage return migration after higher education.
- Promote more cost-efficient and qualitative methods for the provision of SGI;
- Favour innovation transfer/adaptation into mountain related activities
- Further encourage excellence in high quality foodstuffs and their marketing.
- Develop forms of rural tourism that meet demand, but also fit with the patterns of multi-activity in remote rural areas;
- Promote small-scale economic initiatives, including service provision, e.g. by reducing the administrative burden on small-scale entrepreneurs;
- Implement policies to facilitate multi-activity, making it easier to switch between multiple activities;
- When possible, seek to identify niche activities that would allow individual remote rural areas to assert themselves in national and international markets
- Identify demand for goods and services from local and regional tourism centres and analyse how local providers can meet demand;
- Increase local “economic circularity”, i.e. the propensity of incomes to be spent locally;
- Encourage small scale local energy production

4.2.4 Most appropriate development models and potential key policies

Based on the intermediate processes highlighted in the NEXUS model, the most appropriate development theories and potential leading policies may be derived as follows.

As result of remoteness and decline, most promising models call on *endogenous development*, in relation to regional environment. Due to wide-ranging challenges they are facing, the theories have to go beyond economic solutions and encompass societal dimensions.

- *Endogenous rural development theory*: Autonomous design and implementation of development strategies in remote rural areas requires appropriate multidimensional empowerment of local actors as precondition for local initiatives to succeed.

- *The innovative milieu theory*: Considering remote rural areas as innovative milieus presupposes a broad approach to “innovation”, including particularly societal aspects of innovation.
- *Constructive degrowth*²: In a few cases, where decline has exceeded a certain limit, solutions elaborated to ease negative effects of decline can be constructive and lead to innovative projects. Constructive degrowth provides then opportunities to question specific potentials of these territories. As a result of the solutions developed, remote rural areas could serve as laboratories, particularly with regards to sustainable socio-spatial organisation, quality of life and ecosystem services provision. Solutions should favour regional and local economic relationships and networking.

Combining most applicable theoretical models with the levers identified above, the main challenges lie in “re-internalising” the negative externalities of sectoral policies within these areas (sectoral efficiency vs. territorial efficiency). Again, since there is not yet a single nor coherent federal policy for mountain and rural areas, and hence a bunch of policies affects territorial development in peripheral areas (cf. Ecoplan 2012), one might identify the following sectoral policies as potential *key policies* in these areas:

- *Agriculture policy* particularly with regards to product labels, workforce development, volunteering, etc.
- *SGL-policy* (“*service public*”) with its challenge to tackle disadvantages of physical remoteness of peripheral areas with innovative solutions under budget restrictions in the future.
- *Natural resource policies* such as those associated with forestry, water, etc.
- *Energy policy* particularly in regards to ecosystem services and the economic potential of renewable natural resources
- *Social policy* particularly in regard to migration, health care, education, etc.
- *Tourism policy* may be applicable particularly if combined with agricultural policy

² The concept originated in declining cities in East Germany (cf. Herfert 2002). The ideas may be transferred into declining rural areas.

4.3 Factsheet for Alpine tourism centres

There are 22 local jurisdictions that are considered as so-called Alpine tourism centres. In 2010, a total of 71`000 inhabitants lived in these tourist centres, which also account for about 35`000 jobs. Alpine tourism centres are characterized by their location in the Alps as well as their importance for the tourism sector (min. of 1`000`000 lodging nights per year). They are typically endowed with a high level of service offerings and infrastructure. Over the years, they have shown great stability in terms of residential population and employment and they serve as important centres for the surrounding low-density mountain regions. Urban centres that belong to this category are St. Moritz, Davos and Montana. These regions face the challenge to maintain their international competitiveness, maintain and renew a high-quality infrastructure while at the same time protect their environment.

4.3.1 Strengths and Weaknesses of Alpine tourism centres

From the common attributes shared by rural and mountain regions (cf. Table 11), the following characteristics in terms of strengths and weaknesses might be derived:

Table 11: Strengths and weaknesses of Alpine tourism centres (own research)

	Strengths	Weaknesses
Economic environment	<ul style="list-style-type: none"> - Globally recognized destinations with appealing brands 	<ul style="list-style-type: none"> - Dominance or even dependence on seasonal (winter) tourism - Agriculture is facing difficult challenge due to topography - Lack of innovative concepts and renewal in parts of the tourism industry
Physical environment	<ul style="list-style-type: none"> - Attractive mountain landscape - Strong mountain amenities that can be utilized in tourism - Importance of centre function for nearby peripheral rural areas 	<ul style="list-style-type: none"> - Increasing pressures on landscapes through over-utilization - Increase in secondary homes and respective regulations (second home initiative)
Social and institutional environment	<ul style="list-style-type: none"> - Diverse offerings in the social, cultural and recreational sectors - Public service offerings (education, health, social, cultural, etc.) 	<ul style="list-style-type: none"> - Difficulty of capitalising on increasingly heterogeneous population through immigration (seasonal workers, new highlanders, etc.)
Human Capital	<ul style="list-style-type: none"> - Specialization in (lower level skills suitable for) tourism 	<ul style="list-style-type: none"> - Diversification of skill base in other industries often difficult - Partially brain drain
Settlement structure	<ul style="list-style-type: none"> - Concentration of tourism infrastructure in these centres (hotels, secondary homes, ski lifts, etc.) 	<ul style="list-style-type: none"> - Urban sprawl and decline of traditional village character of these centres; increasing urbanization
Accesibility	<ul style="list-style-type: none"> - Transportation accessibility very high, primarily from metropolitan centres 	<ul style="list-style-type: none"> - Lack of efficient and attractive public transportation system in the surroundings of alpine tourism centres

“Aspatial” distances	- Strong connections with national and global markets through tourist flows, marketing campaigns, etc.	- Retaining knowledge of demands in emerging markets, staying in touch with changes in demand, etc.
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4.3.2 Defining features, opportunities and threats of Alpine tourism centres

The strengths and weaknesses outlined in Table 11 have been used as inputs for a NEXUS model for peripheral rural regions. The model allows the identification of major opportunities and challenges (threats) for Alpine tourism centres (see Figure 4).

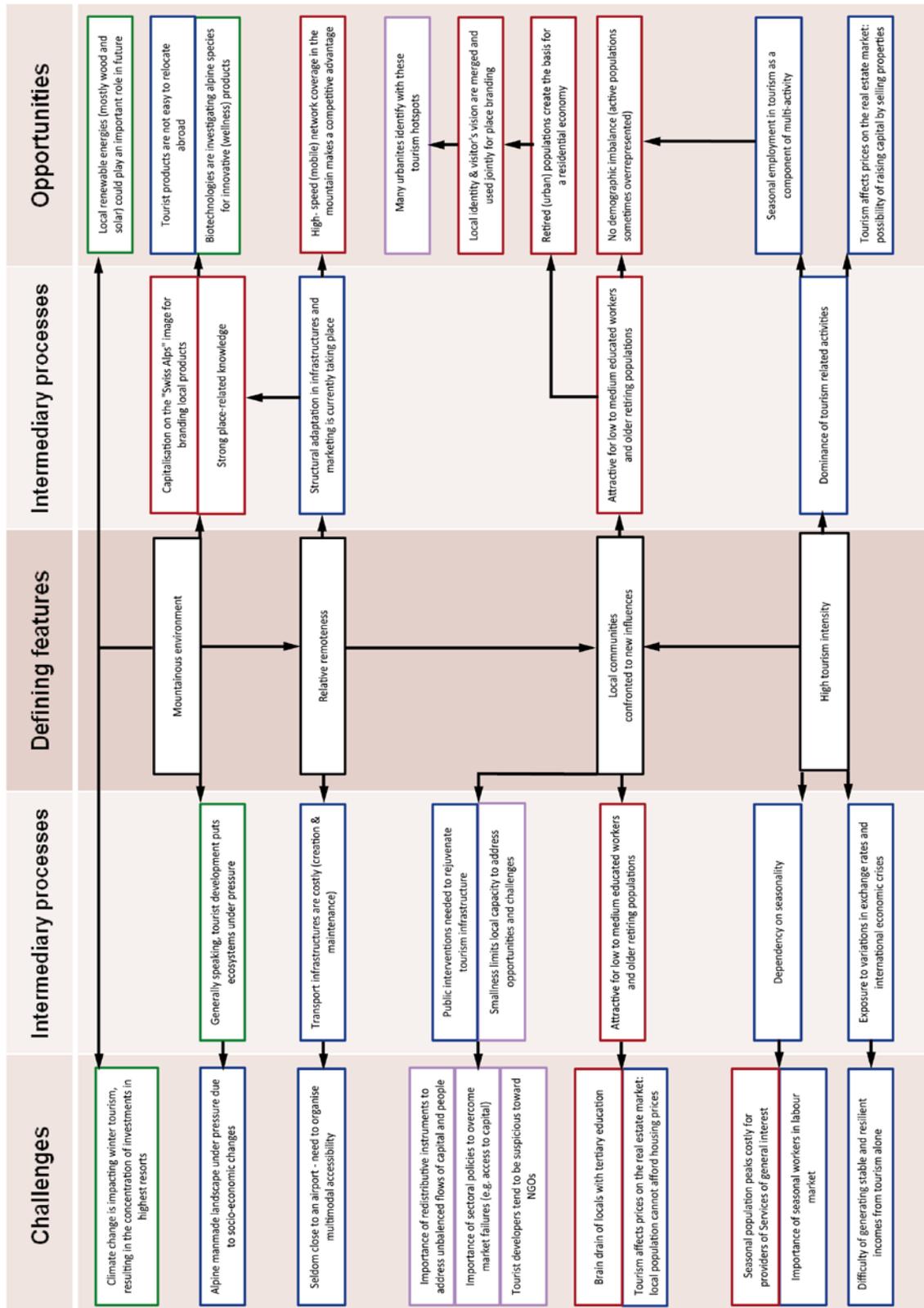


Figure 4: NEXUS-model for Alpine tourism centres

Common features of Alpine tourism centres are high tourism intensity combined with relative remoteness within mountainous settings. Often, local communities are confronted with new cultural and economic influences. Endowed with high level of residential, economic and SGI functions, they offer employment, service and leisure opportunities for surrounding populations.

Several *challenges* arise for small communities with high tourism intensity. First, the seasonal peaks of population raise the costs for SGI and infrastructure provision, while the exposure to global economy causes difficulties of generating stable and resilient incomes from tourism alone. Second, defining features make them particularly attractive to low to medium qualified workers and young retirees, while favouring brain-drain among well-educated young local populations. Finally, public intervention is often needed to rejuvenate existing infrastructure. Other challenges include costs and efficiency of transportation, adaptation to climate change and socio-economic changes in alpine manmade landscapes.

High tourism intensity, however, offers *opportunities* as well. Tourism effects on real-estate prices allow raising capital through the sale of properties. Seasonal employment in tourism facilitates multi-activity and makes the place attractive to low to medium qualified workers. Being attractive to young urban retirees as well, there are opportunities to develop the residential economy while strengthening networks with metropolitan regions. The structural adaptations currently taking place (high-speed mobile network, ICT based products and branding) open opportunities to gain competitive advantage in remote mountainous environment. Associated with strong place-related knowledge, innovative products and services allow for capitalisation of the “Swiss Alps” image in global markets. Finally, policies that promote an intensive use of local materials and renewable energies could generate added value (construction, forestry, specialised firms), while also offering the potential to meet sustainability goals.

4.3.3 Levers for the implementation of prosperity-oriented policies

Levers for the implementation of prosperity-oriented policies are developed from the analysis of the intermediate processes outlined in Figure 4. The processes to be addressed at the first sight encompass the following:

- Regulate the real estate market so that locals can stay in the area
- Combine place branding for tourism and measures to attract highly skilled workers
- Facilitate multi-activity to improve the capacity to cope with seasonality
- Promote the development of alternative/diverse types of tourism to extend year-round use of existing (infra)structures
- Facilitate the emergence of new forms of tourism in mid-mountain resorts exposed to climate change
- Regroup segmented ICT offerings and networking for place branding and creation of complex tourist products
- Improve access to capital in post-Weber context
- Develop residential economy, so as to attract more residents benefiting from a high quality living environment (especially focusing on young retirees)
- Focus on products for which the positive association with relaxation and leisure could be a good sales argument in a changing demographic (ageing) context;
- Encourage diversification, focusing on activities that could benefit from the proximity of the tourism sector, while improving the resilience of these local economies
- Use resorts as market place for selling and branding diverse regional products and services;
- Favour innovation transfer into mountain related activities

4.3.4 Most appropriate development models and potential key policies

Based on the intermediate processes highlighted in the NEXUS model, the most appropriate development theories and potential leading policies may be derived as follows.

Most applicable theoretical models for development of tourism centres may base on endogenous development approaches, such as:

- *Residential Economy*: As results of a wide range of transfers, including the redistribution of tax income among international, national and regional visitors and new residents, residential economy theory is likely to suite for parts of the development of alpine tourism centres.
- *Cumulative causation theories*: Theories related to cumulative causation may help to improve the resilience of these communities to international economic crises or other shocks such as currency rate changes. Their long term balanced development requires a strategy that helps them cope with cyclical crises and reinvent new competitive economic activities when needed. This implies that tourism centres also need to function as balanced living environments, with a variety of activities beyond tourism.

After a first review of most applicable theoretical models with the levers identified above, one might prioritise the following sectoral polices as *potential key policies* in alpine tourism centres (hierarchically sorted):

- *Regional and tourism policy* with tools such as Innotour to foster innovation in order provide a competitive edge in global tourism industry
- *Spatial planning* with particular attention to the effects of the Weber initiative in term of investment capacity for local entrepreneurs as well as induced structural changes in the tourism industry
- *Financial equalisation policy* recognising high costs for infrastructure provision
- *SGL-policy* (“service public”) has to provide cost-efficient models for maintaining seasonally used infrastructure.
- *Migration policy* to promote the integration of seasonal workers in order to strengthen the residential basis
- *Forest policy*, along with energy and construction policies, in order to promote the use of regional resources
- *Natural dangers prevention* as Alpine tourism resorts are facing many environmental threats
- *Parks and rural development policies* in relation with tourism centres which should be considered as important sources of demand
- *Housing policy* to elaborate solutions for affordable housing for seasonal workers and local populations while at the same time reinforcing residential attractiveness.

4.4 Factsheet for small and medium-sized towns and rural centres

The Raumkonzept Schweiz identifies two types of smaller urban centres. They are the small and medium-sized towns (Klein- und mittelstädtische Zentren) and the rural centres (Ländliche Zentren). Both types of urban centres fulfil important central place functions for their surrounding areas. Small and medium-sized towns play an important role in periurban rural areas as they ensure connections to the metropolitan centres. Rural centres play an important role in peripheral rural areas as they provide important services to their hinterland. The Raumkonzept Schweiz emphasizes the importance of a polycentric urban network consisting of metropolitan regions (Zurich, Basel, Geneva, Bern), small and medium-sized towns and rural centres.

4.4.1 Strengths and Weaknesses of small and medium-sized towns

Commonly shared strengths and weaknesses of small and medium-sized towns in mountain and rural areas might be summarised as follows.

Table 12: Strengths and weaknesses of small and medium-sized towns/rural centres (own research)

	Strengths	Weaknesses
Economic environment	- Industry and service centres for their respective regions and peripheral hinterlands	- Retail industry in town centres is struggling to maintain competitiveness
Physical environment	- Immediate access to hinterland with high endowment with landscape amenities	- Increasing land use conflicts between landscape conservation and development
Social and institutional environment	- Dense linkages with metropolitan centres - Intact local culture and tradition	- Increasing heterogeneity of population through in-migration (seasonal workers, new highlanders, etc.)
Human Capital	- Diverse population and workforce - Diversity of skills and talent - Concentration of basic social infrastructure	- Provision of educational offerings (tertiary education and skill training)
Settlement structure	- Tradition as market towns	- Growing and shrinking towns are in danger of losing their identities - Danger of negative consequences of urban sprawl
Accessibility	- Good accessibility by public transportation to and from metropolitan centres	- High level of individual mobilized transportation
“Aspatial” distances	- Leading firms often well embedded in international knowledge flows (if not even global leaders)	- Tension between traditional, SME-oriented economy and specialised firms in the region

4.4.2 Defining features, opportunities and threats of small and medium-sized towns

The strengths and weaknesses outlined in Table 12 have been used as inputs for a NEXUS model for small and medium-sized towns. The model allows identifying the main opportunities and challenges (threats) for small and medium-sized towns (see Figure 5).

Defining features of small and medium-sized centres are concentrations of populations and various economic and other socio-cultural functions within generally sparsely populated areas. Small and medium-sized centres concentrate a high proportion of the regional labour supply. Moreover, they often host research and education facilities that support industries and services specialised in selected branches. Yet, they remain dependant on metropolitan areas for advanced services.

Challenges for small and medium towns firstly arise from negative aspects of polarisation of economic activities and populations. Effects of polarisation include urban sprawl, congestion as well as asymmetric relationships with the rest of the region. Indeed, small and medium-sized towns are bearing high costs for infrastructure of regional importance, while part of the tax income is transferred to neighbouring municipalities due to commuting. Secondly, specialisation in selected branches favours (selective) brain-drain and underlines the need to reinforce networking with metropolitan areas.

Opportunities for small and medium towns include service provision, job opportunities and a high quality of social ties. Concentration of administrative functions and SGI, along with political and financial weight, provides them with high level of empowerment in the federal system. Over time, functions associated with being a focal point have provided them with important assets allowing for the development of heritage tourism, which may contribute to the regional tourism portfolio. The combination of activities targeting regional and external markets makes these economies quite resilient, while attracting a large and diversified labour force. Moreover, the concentration of industries, research and education in selected branches offers innovative capacity within branches of specialisation. As a result, leading firms are often well embedded in international knowledge flows and are critical for international market connections of the region.

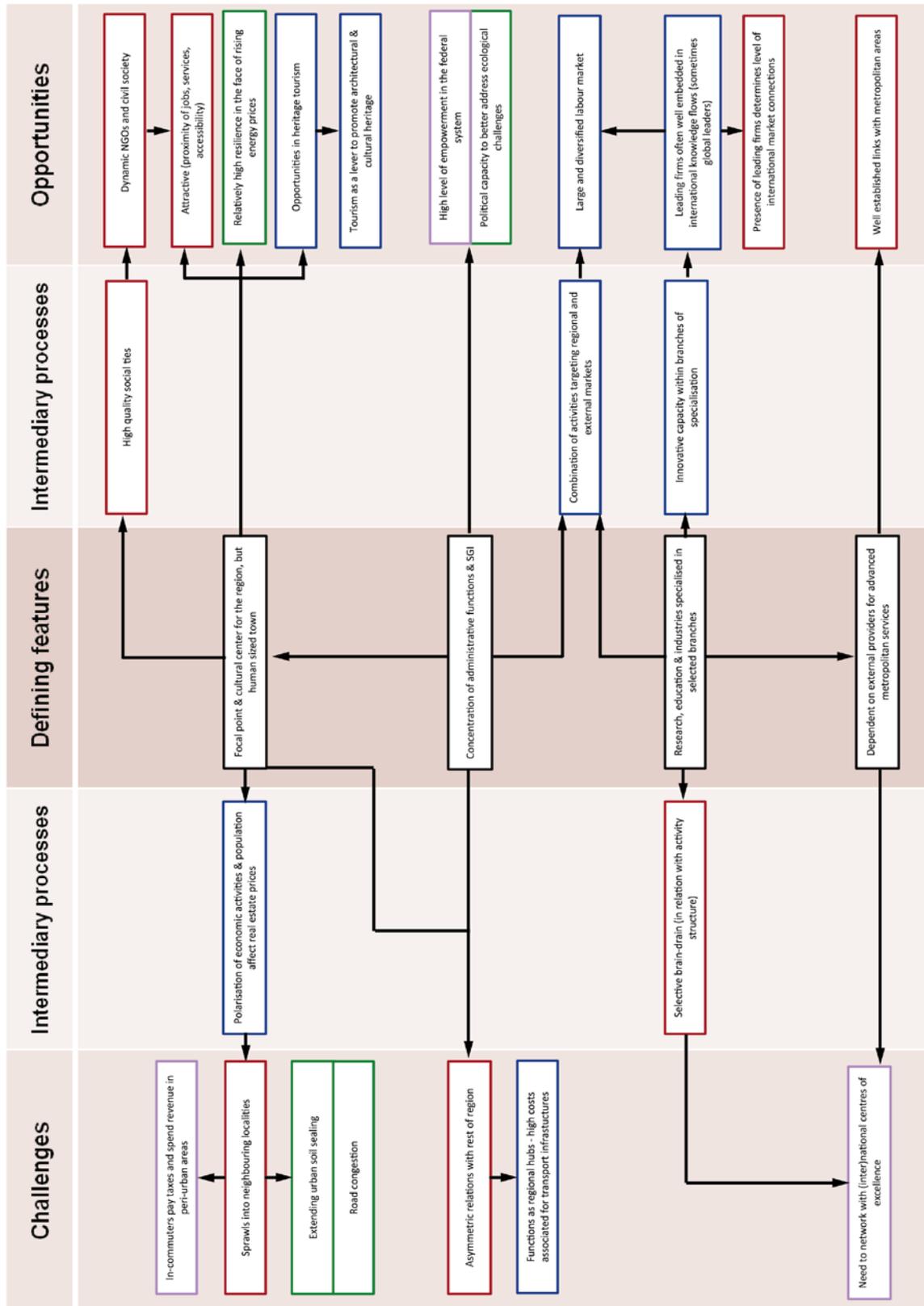


Figure 5: NEXUS-model for small and medium-sized towns

4.4.3 Levers for the implementation of prosperity-oriented policies

Levers for the implementation of prosperity-oriented policies are developed from the analysis of the intermediate processes outlined in Figure 5. The levers that take centre stage may encompass the following:

- Identify existing “clusters of expertise” within selected branches of activity in local industries and research and education centres; assess their potentials and vulnerability in view of accompanying their development.
- Using the high quality social environment and access to leisure areas to attract highly skilled workers.
- Encourage innovation within established fields of expertise, on the basis of an identification of obstacles such as the insufficient size of individual actors, difficulty of establishing cooperation, limited networks between education and research institutions and industries.
- Facilitate spin-offs from activities of local education and research institutions
- Identify specific needs within locally important branches of activity that could be further developed; support development of service providers for the renewed needs of these branches.
- Possibility of strengthening the tourism sector in these areas, by focusing on their architectural and cultural heritage
- Identify strategic/specific sectors of activity within locally important branches of activity.
- Seek to establish balanced networking with national and international centres of excellence, drawing on their services and expertise while maintaining local high value added activities

4.4.4 Most appropriate development models and potential key policies

Based on the intermediate processes highlighted in the NEXUS model, the most appropriate development theories and potential leading policies may be derived as follows. Small and medium-sized towns are often well-equipped with residential activities and offer a combination of activities targeting regional and external markets. This combination calls for policies that focus on a mixed endogenous/exogenous approach to economic development:

- *Smart specialisation* strategies focussing on select sectors that are critical for the regional and national economy. It is important to note that besides endogenous activities aiming at the provision of services and goods to the region – therefore replicable among other regional centres - concentration of certain activities in one location may occur at the expense of other locations. This might ultimately lead to increased regional disparities instead of contributing to economic competitiveness.

- *TIM* when regional specialisation in selected branch is strongly established (watch valley in Jura). This model however should be carefully implemented in order not to get to a point where overdependence on one export activity would challenge the resilience of the local economy.

Combining most applicable theoretical models with the levers identified above, the following sectoral policies might be further analysed as potential *key policies* for implementing a prosperity-oriented policy approach in small and medium towns in mountain and rural areas (hierarchically sorted):

- *Agglomeration policy*: A combination of regional integration and supra-regional networking with advanced metropolitan services is required to foster innovation and entrepreneurship, by allowing these centres to act as gateways.
- *Regional policy*: With their diversified labour markets, generally high levels of competence and many internationally leading firms, these areas offer the best conditions for growth based on endogenous dynamics, with public authorities simply steering and facilitating existing processes.
- *Spatial planning* is particularly important to ensure a continued positive development in these areas, through measures limiting urban sprawl and to its negative effects on road congestion, and soil sealing. As these processes occur both at the level of individual medium-sized towns and at a wider, regional scale in the vicinity of metropolitan regions, multilevel approaches are needed.
- *Cultural and tourism policy* may help with the promotion of heritage tourism.

5. Outlook on key topics for horizontal and vertical cooperation

The claim for a territorially differentiated bottom-up approach calls for concrete models to implement effective co-operation between federal and regional/local authorities. Such vertical co-operation on one hand may be embedded in a coherent institutional framework. On the other hand, vertical co-operation may be focussed on specific topics to be addressed in each of the four types of regions outlined in this paper. While the first issue – a coherent institutional framework for co-operation – will be treated separately, in the following, a first outlook on the latter – key topics for vertical co-operation – is given.

Key topics for vertical co-operation have been identified by using so-called effect diagrams or *Wirkungsketten* (Haarich and Berg, 2012). Four effect diagrams have been elaborated for each type of mountain and rural area in Switzerland. Effect diagrams are used to describe the organisation of the effect system (outputs, short-term results and intermediate impacts) which leads to the overall intended impact of policy measures. The mode of representation chosen in the present paper is directly inspired by a paper produced by Spatial Foresight GmbH as part of the ex-ante evaluation of the ERDF programme in Thuringia (Haarich and Berg, 2012). Effect diagrams are an established component of the intervention logic approach developed by the European Commission. The mode of representation chosen combines

- an objective diagram, showing the objective to be achieved and its intended impacts;
- an effect system, with the interaction between expected results, effects and impacts;
- a preliminary suggestion of output, effect and impact indicators.

The centre part of the model describes the logical chain leading from a “need” to an “expected impact”. The “need” has been identified based on the empirical observation of situations in different types of territories, as reflected in the NEXUS model. The “measures” are chosen in relation to this need, so as to lead to outputs, effects and impact that address the identified issues.

The top row describes the preliminary suggestions for output, effect and impact indicators. Some outputs and effects are not directly quantifiable, but may nonetheless be measured through surveys among involved stakeholders.

The bottom row describes a set of underlying hypotheses and external influences that may influence the extent to which measures lead to outputs, and in turn create effects. The underlying hypotheses describe the underlying logic of the hypothetical causal connection. The external influences correspond to factors that may interfere with this process unless they are factored in and addressed.

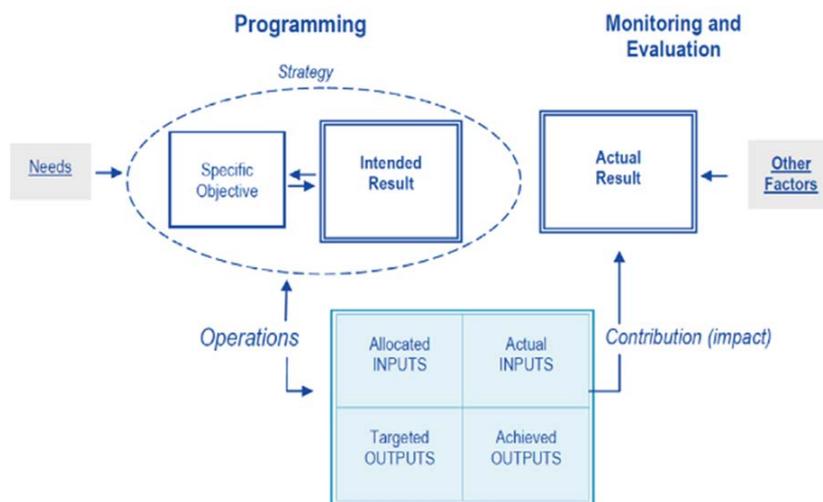


Figure 6: Conceptual scheme of effect diagrams (Haarich and Berg 2012)

In this paper, assumptions on potential allocated inputs, actual inputs, targeted and achieved outputs as well as needs and underlining factors have been deduced from the NEXUS-models for each of the four types of mountain and rural areas in Switzerland. For each of these four types, an effect diagram is illustrated in the following. Based on these effect diagrams key topics for vertical co-operation between federal and regional/local authorities are highlighted.

5.1 Key topics in periurban rural regions

For periurban rural areas, the lack of autonomy and resilience in local development processes is the key challenge. This can be addressed by branding the specific assets of these areas, e.g. in terms of access to a qualified workforce, living environments, price of land and external transport connectivity. The focus of these branding efforts is both internal – changing self-perceptions – and external.

The resilience of periurban areas in the face of rapidly evolving framework conditions in national and internal markets can be addressed through economic diversification. However, their development strategies can only be designed in close interaction with neighbouring regional centres. A critical economic mass is not reached viewing periurban areas in isolation, but in the functional urban area to which they belong. In many situations, periurban areas can try to develop interactions with regional centres other than the ones with which they are traditionally associated, so as to benefit from a wider range of services and more diverse business networks.

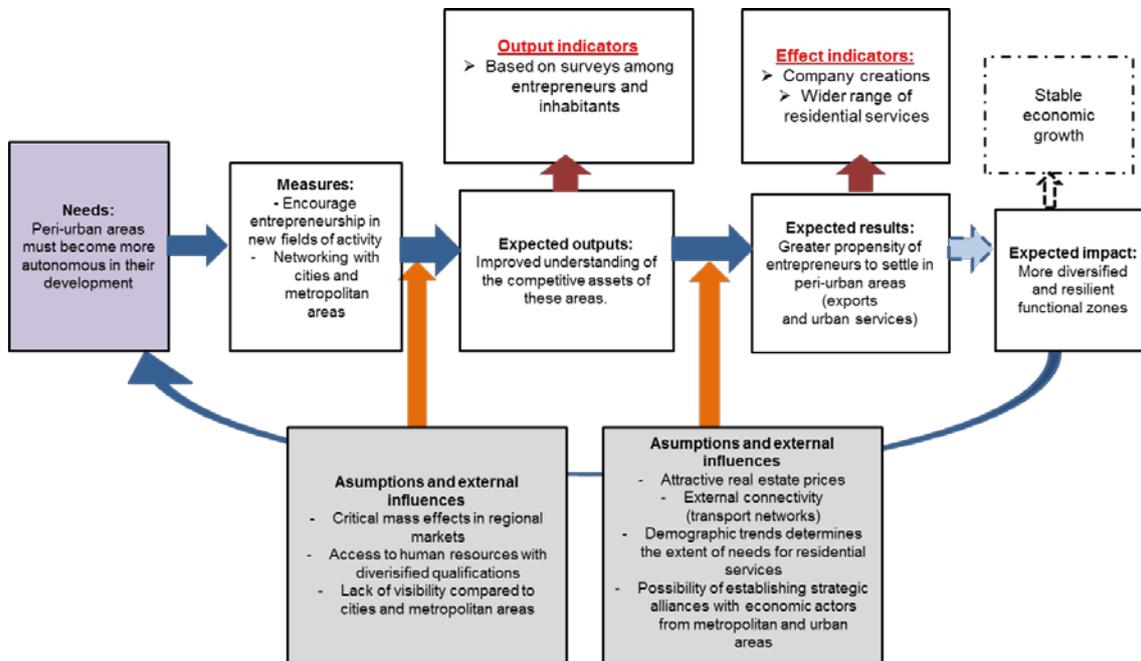


Figure 7: Effect diagram for periurban areas (own research)

A challenge for periurban areas is their lack of visibility which may result from their position as are- as “in between” nodes of the urban networks. As a result, it is important to identify how specific assets in the local milieu could be combined to select a limited range of branches within which efforts are concentrated to establish a competitive position. Such a form of “smart specialisation” can create notoriety within selected sectors of activity and thereby partly compensate for the lack of “geographical visibility”.

Finally, some forms of residential activities do not need to be concentrated in the regional centres, and can be developed in the periurban areas. The objective is to create a diversified local economy with a combination of specialised export-oriented activities and more ubiquitous service provision for the local area and for the region.

5.2 Key topics in peripheral rural regions

In areas generally characterised by demographic stagnation or decline and by sluggish local economies, remote rural areas are too often thought of as places “that fail”. Sectoral policies have often proved unsuited to reverse these trends, as they fail to take into account the social and economic specificities of these areas. However, this has often been interpreted as a sign of these areas’ inability to adapt to new framework conditions, both outside and within their borders.

Therefore, generating a positive self-perception and external image of remote rural areas is the most important need identified in the effect diagram. As a result, the effect diagram identifies measures focusing on the following:

- self-perception,
- local governance,
- local attitudes toward innovative actions.

These measures are expected to lead to renewed modes of governance, allowing these communities to embrace new ideas and envisage a wider range of development opportunities.

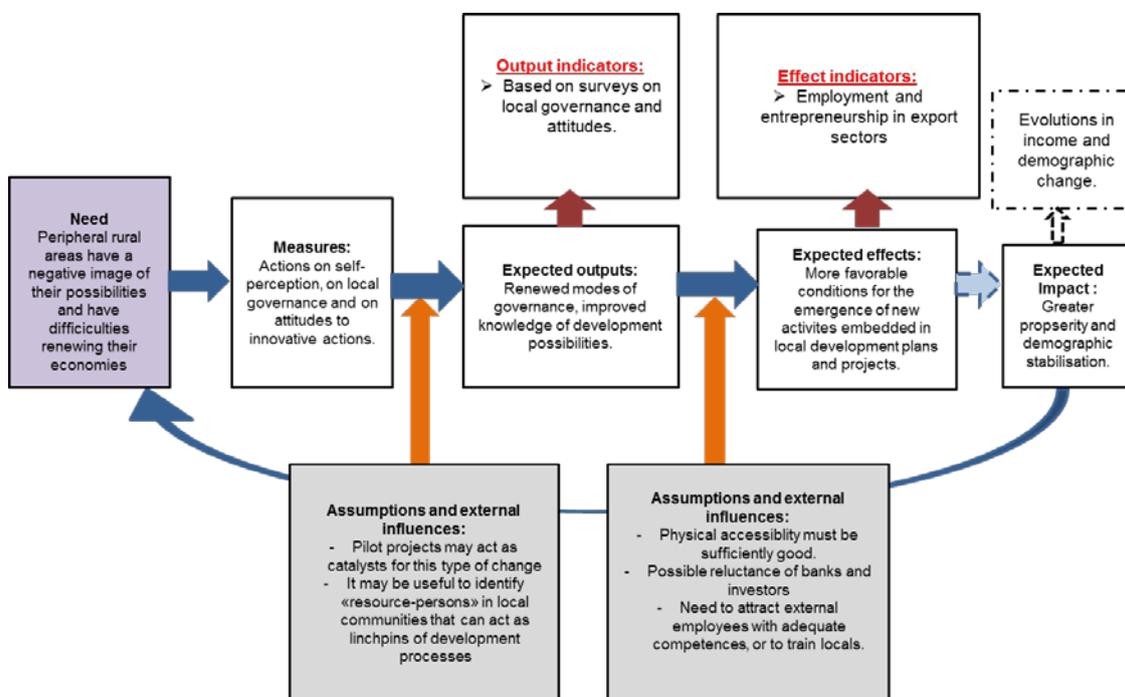


Figure 8 Effect diagram for peripheral areas (own research)

It is assumed that pilot projects could play a major role in this process as they may lead the way when it comes to “thinking outside the box”. Furthermore, balanced forms of cooperation between the local population and external actors need to be designed, so that local knowledge could be combined with new ideas and know-how. Finally, the habitual reluctance of financial institutions to invest in these areas needs to be overcome. If these different challenges are addressed, innovative activities based on locally embedded development plans may emerge. The downward spiral of decline could be overcome, and one could envisage scenarios with enhanced economy prosperity and stable or increased population.

5.3 Key topics in alpine tourism centres

Insofar as tourism is the main driver of their economies, tourist centres can be considered as spaces whose development is particularly exposed to fluctuations in external market demand. Seasonality and lack of predictability make it difficult to raise capital and to generate sufficient overall income from investments in businesses and infrastructures. Providing services to meet peak season demand is costly and difficult to manage, e.g. in terms of human resources.

The effect diagram identifies two complementary objectives: to reduce the exposure to external risks and to strengthen the local residential economy. This leads us to call for innovative actions to develop tourism services that generate market demand more evenly spread over the year and to facilitate access to risk capital. It is also necessary to change outside perception of these areas, transforming winter sport places into attractive residential areas for example. These actions must be designed taking into account changing framework conditions such as climate change, ageing and new types of tourism practices in mountain areas. Furthermore, new regulations (Lex Weber) imply that selling land will cease to be a prevailing capitalization method. Pilot projects could help disseminating good practices about how to achieve these measures. The central output to be targeted is the adoption of a wide, evidence-based and realistic vision for long-term balanced development of the different tourist centres.

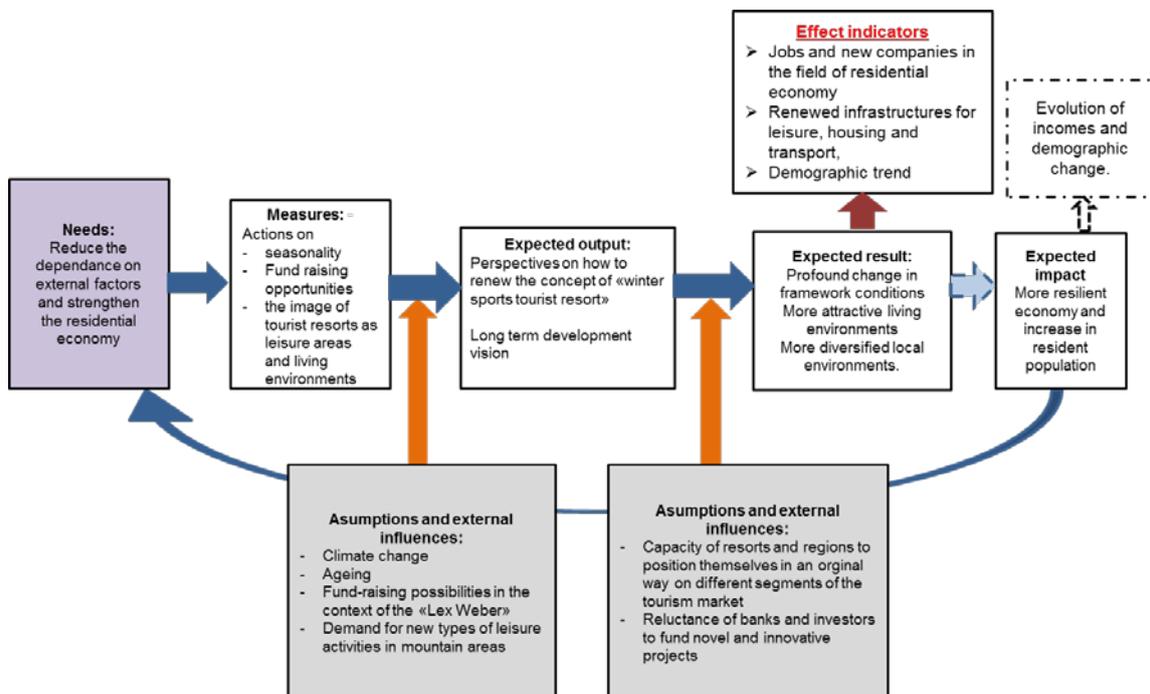


Figure 9 Effect diagram for tourism centers (own research)

If challenges such as the capacity of regions/resorts to position themselves in various segments of the global tourist market and the reluctance of banks/investors to support innovative projects can be overcome, this may lead to a series of beneficial outputs. It would, in particular, empower local actors to implement necessary structural changes. It would, for example, make it possible to attract a larger number of permanent residents. Finally, it would lead to a more diversified and resilient local economy.

5.4 Key topics in small and medium centres

Regional centres fulfil two roles: as hubs for their respective region and as gateways to the national and international network of metropolitan areas and their specialised services. This implies the need for a strong focus on multilevel governance. In such an approach there needs to be a focus on three levels: the regional centre itself, its surroundings and areas of influence/hinterland (often including peripheral rural regions) and the national and international network of metropolitan areas and cities.

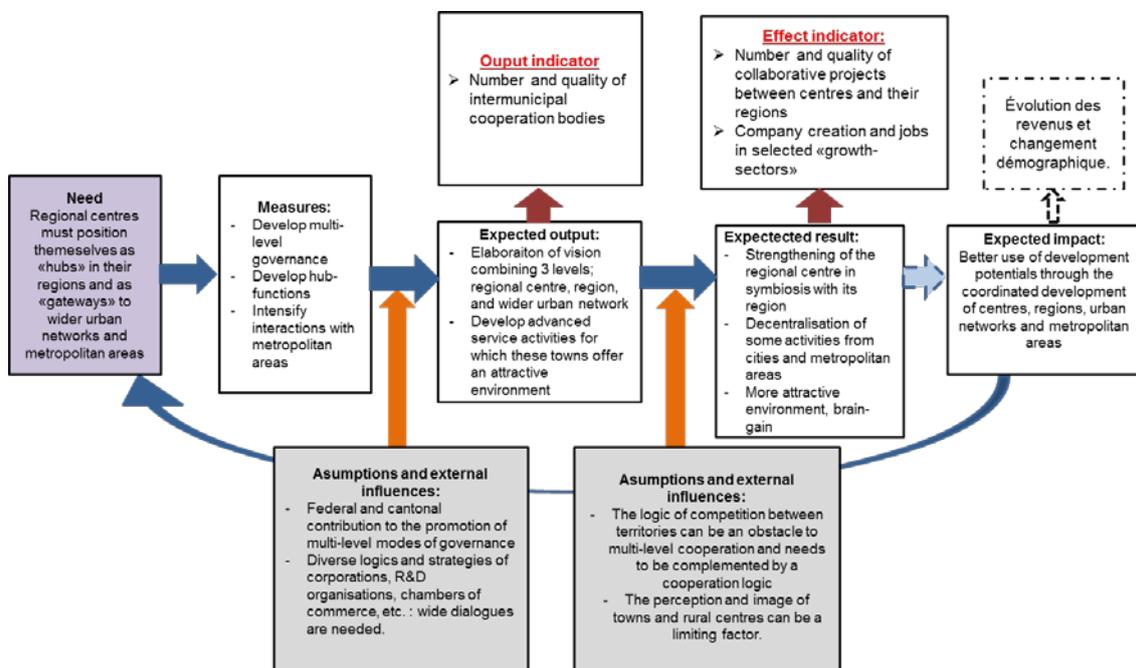


Figure 10 Effect diagram for small and medium centres (own research)

The effect diagram reflects this need for the centre to focus on two external levels of policy design: promoting the “hub” functions for surrounding areas and better integration with the networks of metropolitan areas and cities. They would need a vision that addresses how the processes at these different scales could be articulated. It is envisaged that Federal and Cantonal authorities could play a role in supporting the multilevel dialogue that this presupposes. This would involve not

only authorities, but also other actors such as companies, research and development organisations, educational institutions and chambers of commerce. The added value of thinking territorially for these actors therefore needs to be clearly spelled out and communicated. This is a key challenge in this process.

If successful, the strategy should:

- allow a greater proportion of activities for which the agglomeration economies of large cities and metropolitan areas are of limited relevance to be located in the regional centres;
- enable these centres to fully play their role as regional hubs, in a process that should be beneficial to the centre itself and for its surrounding areas.

This should allow for a better exploitation of the potentials present at all levels.

6. Conclusion

This paper provides a theoretical basis for the development of a coherent federal strategy for mountain and rural areas. Non-core regions such as mountain and rural areas share a set of common attributes regarding their economic, physical, social, institutional environment as well as their settlement structures and accessibility. A diverse range of theoretical models provide insights as to what kind of critical issues and dynamics policymakers have to pay attention to. The theoretical models presented range from those focus on exogenous development (such as export base theory) to those focused on endogenous development (local milieu, etc.) as well as a mix of both. The fact sheets presented in this paper highlight the diverse nature of mountain and rural regions in Switzerland. These regions are heterogeneous and each region faces a different set of strengths and weaknesses, opportunities and threats. The NEXUS-models and effect diagrams highlight the need to develop a policy design which is able to address territorially specific challenges of mountain and rural areas by simultaneously solving the problem of horizontal and vertical co-ordination of regionally significant sectoral policies at federal and cantonal levels.

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