The SAVV+P Method: Integrating Qualitative and Quantitative Analyses to Evaluate the Territorial Potential

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Abstract. Italian rural territories are often fragile socio-economic contexts characterized by limited local essential services (local public transport, education, social and health services), high depopulation and few young inhabitants. The present research moves in the framework of the National Strategy for Inner Areas (SNAI), an innovative Italian policy that counteract marginalization and demographic decline, by funding projects to create new chances for local development and territorial cohesion. By assuming the SAVV method to explore fragile territories and identify the most vulnerable and vibrant areas within the considered territory, the new evaluation method SAVV+P is proposed to classify the territorial potential in 3 different categories (Moving/Evolving/Starting). Both methods (SAVV and SAVV+P) were tested in the Alta Valsesia area, located in northern Piedmont (Italy), which is one of the inner areas studied within the "B4R Branding4Resilience" research project. The aim of this study is to analyse the developing potential for new cultural-tourist infrastructures for the enhancement of the Alta Valsesia municipalities. Results demonstrated how the integration between quantitative and qualitative analyses could effectively support the identification and development of new opportunities and enhancement strategies to find unexpressed potential for these fragile territories. Results showed also how the considered municipalities could change their condition by considering their potential assets and triggers.

Keywords: Inner Areas · Index-based evaluation method · Territorial potential

1 Introduction

For more than a decade, in Italy the attention was focused on the theme of the enhancement of inner areas, with the aim of countering the marginalisation and demographic decline of these territories [1]. The National Strategy for Inner Areas (SNAI 2013) launched a complex process of analysis of marginal territorial contexts and led, in 2019,

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to the identification of 72 Inner Areas (including approximately 1,000 municipalities, with a resident population of about 2 million inhabitants). In these selected territories the Italian Government allocated more than 590 million euro (First programming cycle), to foster local development processes and improve the level of infrastructure and services. The first SNAI classification was updated in 2022, by including other 43 areas for which the government allocated a total of 310 million euro (Second programming cycle - Regional Council Resolution n. 28/5251 of 21 June 2022). The evaluation process that led to the identification of the areas was carried out by the Regions, in agreement with the Inner Areas Technical Committee, through a public investigation, whose outcome was accompanied by a document (the Open Diagnosis) containing an updated picture of the social, demographic, economic situation and the presence of essential services [2]. Therefore, a punctual and articulated assessment (structured in 9 survey areas and carried out on the basis of more than 90 indicators) allowed to define the marginalities of the territories, with the aim of targeting public resources towards the most distant areas from the expected level of infrastructures and services represented by the pole-centers [3].

On the one hand, *vulnerability*, *fragility* and *marginality*, are very often used keywords in theoretical and applied research in relation with territorial, suburban and rural areas [4–10]. Otherwise, the topic of *territorial resilience,* declined also at the rural, small centers and non-urban scale, has been recently studied and investigated [11]. On the other hand, *vitality, vibrancy* and *quality of life* are keywords more related to urban areas, where most population live and aggregate around facilities, public services and activities [12, 13]. Authors also dealt with these issues in previous studies linked to the "B4R - Branding4Resilience" research project [14–16], by taking up the challenge of overturning the logic: no longer analysis and assessment of vulnerabilities but of the vibrancy, from a positive point of view, to revitalise and enhance inner territories [17–19].

This paper proposes an integration of the SAVV method created by the authors to classify territories as Sleeping, Active, Vibrant or Vulnerable and to identify and define strategies, policies and actions oriented towards local development and repopulation [20]. The novelty and the aim of this paper is based on the addition (downstream of the quantitative analyses at the basis of SAVV) of qualitative analyses, able to include in the evaluation of inner areas potential additional information and knowledge not present in open databases or government web portals. In this way, the initial classification derived from the application of SAVV is integrated with position vectors, representing specific potential assets and triggers (SAVV+P method). The final objective is to support local authorities in defining priority policies and interventions, correctly managing all levels of existing knowledge to make territories more competitive, attractive and vibrant for new inhabitants, tourists and economic operators.

Assuming the theoretical framework on territorial vulnerability/vibrancy, the paper describes the new SAVV+P evaluation method (Sect. 2) and its application to the case study of Alta Valsesia (Sect. 3), that is the focus area of the Politecnico di Torino Research Unit (Polito RU) in the B4R research project and part of the new inner area "Valsesia" (in 2022 designated by the Italian Ministry of Territorial Cohesion in the context of the SNAI programming 2021–2027). Based on the main general research objective of B4R

project, the findings of a series of direct qualitative analyses were integrated (Sect. 4) to calculate potential assets and triggers and thus define new territorial potentialities. Some exploratory results (the definition and the length of position vectors) are illustrated in Sect. 5, while possible future developments are discussed in the conclusion, which emphasises the flexibility of use and adaptability of the proposed new evaluation method also in other contexts.

2 Methods

The SAVV+P method presented here derives from a methodological approach consisting of 9 phases divided into further sub-steps based on a knowledge management process which support the transformation of large quantities of data into information and then into knowledge [17–20]. A qualitative-quantitative analyses integration is presented here to allow the evaluation of potential assets and potential triggers in different territorial contexts. Figure 1 presents the multi-modal methodological scheme at the base of the application of SAVV+P.

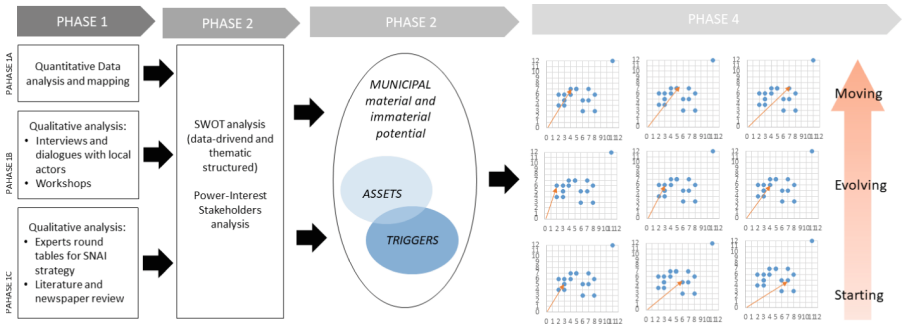


Fig. 1. The SAVV+P method scheme. (Source: Authors' elaboration)

Phase 1. The quantitative analyses and mapping (phase 1A, more developed in previous research as the basis of the SAVV methodology [20]), are based on open data, collected and structured in a geographical database. These quantitative analyses are integrated to qualitative ones (phases 1B and 1C), based on data not present in open databases and collected from other sources, such as interviews and surveys, literature and press review, meetings with local administrators and stakeholders.

Phase 2. All collected and georeferenced data deriving from both quantitative and qualitative analyses can be analysed by applying the SWOT analysis and the Stakeholder Power-Interest analysis. The SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis is an approach used to evaluate companies, territories, projects' competitive position and to develop their strategic planning. SWOT analysis assesses internal and external factors, as well as current and future potential to develop strategies and projects [21]. The Power-Interest Stakeholder analysis classifies all the subjects (organizations and individuals) who are potentially involved in the development process, who

are influenced by it, who have influence or power over it, or who have an interest in its positive or negative conclusion [22, 23].

Phase 3. The results of these two analyses must be transformed, in Phase 3, into potential municipal assets and triggers, which could therefore guide the transformation and development of municipalities/territories according to their specific potentialities. This evaluation is based on the calculation of *Asset* Index and *Trigger* Index, according to the SAVV method [20], and therefore allows a possible new classification of potentialities. Territorial elements classified as *Potential Assets* refer to those elements mainly "static" that needs to be transformed, re-activated or enhanced. Instead, territorial elements classified as *Potential Triggers* represent dynamic events, actions and development drivers that can positively transform the current state of the Assets. The new method (SAVV+P) can then identify a series of positional vectors able to "move" from the initial SAVV classification to a vision of the territorial potentialities.

Positional vectors are defined through the calculation of two new cross-dimensional indexes Potential Asset Index (PAI) and Potential Trigger Index (PTI), as follows:

$$PAI_i = \sum_{j=1}^{n} wjYij \tag{1}$$

$$PTI_i = \sum_{k=1}^{m} wkFik \tag{2}$$

where wj and wk are the weight for each variable j and k (from 1 to n) and Yij or Fij represents each asset or trigger indicator. For each municipality/territory (i) PAI (x) and PTI (y) are then represented by position vectors in Phase 4. Since the order of magnitude and unit of each indicator is different, all the data must be standardized by applying the min-max standardization method, underling that, in case of potentials evaluation, only positive indicators are considered.

Phase 4. Position vectors can be classified in three different categories based on their magnitude:

- *Moving* (maximum): characterized by a high PAI value and a high PTI value;
- *Evolving* (medium): characterized by a high PAI value and a low PTI value or low PAI value and a high PTI value;
- *Starting* (minimum): characterized by a low AI value and a low TI value.

The SAVV+P classification of the potentialities is determined by position vectors that show - for each portion of the considered territory (i.e. municipality) - potential assets and triggers by using PAI and PTI as coordinates. As the values change, the position vector will change in length or in direction or in both length and direction. Positioning vectors must then be interrelated with the first classification deriving from SAVV, calculated for each territorial portion: so this "potential movement" can add a new vision, based on the recognised potentials (SAVV+P).

This procedure allows to identify territories which even starting from similar conditions, due to their own potential can change their situation in different ways.

3 Study Area and Data Sample

The proposed method was applied in one of the four contexts analysed in the "B4R - Branding4Resilience" research project (www.branding4resilience.it): the Alta Valsesia territory in the northern part of Piedmont, a mountain area including 17 municipalities (Alagna Valsesia, Alto Sermenza, Balmuccia, Boccioleto, Campertogno, Carcoforo, Cervatto, Cravagliana, Fobello, Mollia, Pila, Piode, Rassa, Rimella, Rossa, Scopa, Scopello) and numerous small hamlets (Fig. 2).



Fig. 2. The Alta Valsesia territory and the new SNAI Valsesia Area (Source: Authors' elaboration)

Excluding Alagna Valsesia, whose both population and tourism trends arose in the last few years, the socio-economic context of these areas is rather weak due to limited public essential services and an average population density very low (6,69 inhabitants per square kilometre). The progressive depopulation and aging, as well as a lack of homogeneity in tourist flows and the progressive abandonment of the built heritage, represent other key issues that highlight the vulnerability of this territory. By evaluating these critical conditions, in 2022 the Italian Ministry of Territorial Cohesion designated the Valsesia territory as one of the new "inner areas" of the second programming cycle of the Italian "National Strategy for Inner Areas" (SNAI). Currently, the Mountain Union of the Valsesia Municipalities is leading a decision process aimed to manage funding of more than 10 million Euro by identifying and selecting specific activities and actions to be funded and implemented to counteract the current negative trends and foster new economies and local development strategies. In this crucial process, it is important to strategically address this funding in the most vulnerable areas, which must be identified by considering both their current condition and their reactivation potentialities.

In this perspective, the knowledge base that Polito RU has structured since the beginning of the B4R project in 2020 constitutes an important starting point to be used and properly managed in order to support local authorities in defining their strategies.

Therefore, with the aim of supporting the Alta Valsesia local authorities and integrating the previous results achieved by means of the application of SAVV, 38 dichotomous indicators were collected and included in the knowledge base structured in a GIS (Table 1), to better explore and evaluate the territorial potential of the 17 considered municipalities. In particular, the following qualitative analyses conducted in the first two years of B4R project have been considered in this paper as sources of potential assets and triggers indicators: Stakeholder analysis, Survey on built heritage, SWOT analysis.

Table. 1. Data sample indicators and related sources (Source: Authors' elaboration)

Source	Numbers of indicators	Type of indicators	Indicators identification
Stakeholder analysis	6	Dichotomic	Stakeholders in Environment, Culture, Commercial, Sport, Tourism areas of interest
Survey on built heritage	7	Dichotomic	Buildings to be reused; religious buildings; building complexes (hamlets), footpaths and trails; rural buildings, eco-museums, municipal wash-houses
SWOT analysis	25	Dichotomic	Geopark; Natural park; Gran Traversata Valsesia (GTV); Gran Traversata Alpi (GTA); Sentiero Italia; Local public transport; Walser area; Art Nouveau and Eclectic Architecture; Historical bridges; Ski resorts; Ecosystem Services; Flexibus; Commercial Activities; Sacro Monte Varallo; Craftsmanship; Administrative Dynamism; Pro Loco; Regional call for funds; Interregional call for funds; National call for funds; Interreg project; SNAI; Valsesia Tourism Project; Walserweg Italia; Energy Community

The first, well-known methodology, the Mendelow (Power-Interest) stakeholder analysis was applied to understand each stakeholder role in relation to the 8 main objectives of the B4R research project [24]. More than 100 stakeholders were analysed and classified: most of them are institutions and third sector organizations, but there are also

some companies, local associations and museums [25]. The research group evaluated the power (in terms of power of action and change) and the interest of these stakeholders by applying the Mendelow power-interest matrix [21, 22]: this evaluation process highlighted four different stakeholder categories (key stakeholder, contextual stakeholders, subordinate stakeholders, marginal stakeholders) and improved the knowledge base related to the 17 considered municipalities. This important knowledge base fostered the organization of e series of meetings and interviews, which allowed the research group to better know and understand some issues, values and vulnerability aspect of the Alta Valsesia territory.

Some aspects related to the built heritage were investigated by means of a survey addressed to the Mayors of the considered Municipalities: each public administration was asked to report and describe different types of assets that potentially could be redeveloped in order to create new enhancement opportunities for the territory. The aim of this "bottom-up" exploration, conducted in the first months of 2021 and integrated in 2022 and 2023, was to identify different building typologies, both publicly or privately owned: single buildings, complexes of buildings, infrastructures, paths, production sites, civil constructions in general. The Polito B4R research group collected and processed the answers from the municipalities that participated to the survey, for a total of 41 assets or groups of assets reported. A meeting with each Mayor was then organized to deepen the knowledge and condition of the assets and to discuss about specific needs and possible redevelopment strategies. The outputs did not represent a systematic census of assets, but highlighted a rather heterogeneous list of different kinds of assets: buildings to be totally or partially reused, religious buildings (churches/chapels/oratories), groups of buildings (hamlets), paths and routes (pedestrian and cycle paths in different conditions of efficiency and maintenance), rural buildings, eco-museums, municipal washhouses [25]. Currently, some of these assets are still unused or in a state of decay, while others are going to be redeveloped by taking advantage of specific new funding measures. In fact, in the last few years, some financing opportunities emerged in Alta Valsesia, thanks to specific policies and public calls: in addition to the abovementioned SNAI opportunity, numerous funding chances derived from the National Recovery and Resilience Plan (PNRR), bank foundations and initiatives promoted by the local GAL "Terre del Sesia". Therefore, numerous projects were funded and activated in some of the considered municipalities, so their implementation is currently representing potential triggers for both heritage redevelopment and new economies fostering.

Lastly, two SWOT analyses were conducted in parallel focusing on B4R project and SNAI project, categorise data form different sources in the four class of strengths, weaknesses, opportunities and threat, and in different categories of analysis related to the 4 dimensions of the B4R project.

4 Results

Assuming the 38 new indicators created and structured in the knowledge base on the basis of the qualitative analyses conducted in the context of the B4R project and assumed as data sources, the two indexes PAI (Potential Asset Index) and PTI (Potential Trigger Index) were built and then transformed in 17 position vectors. Given their different

nature, the evaluation of PAI and PTI was made by using dichotomous variables for each municipality considered (Fig. 3).

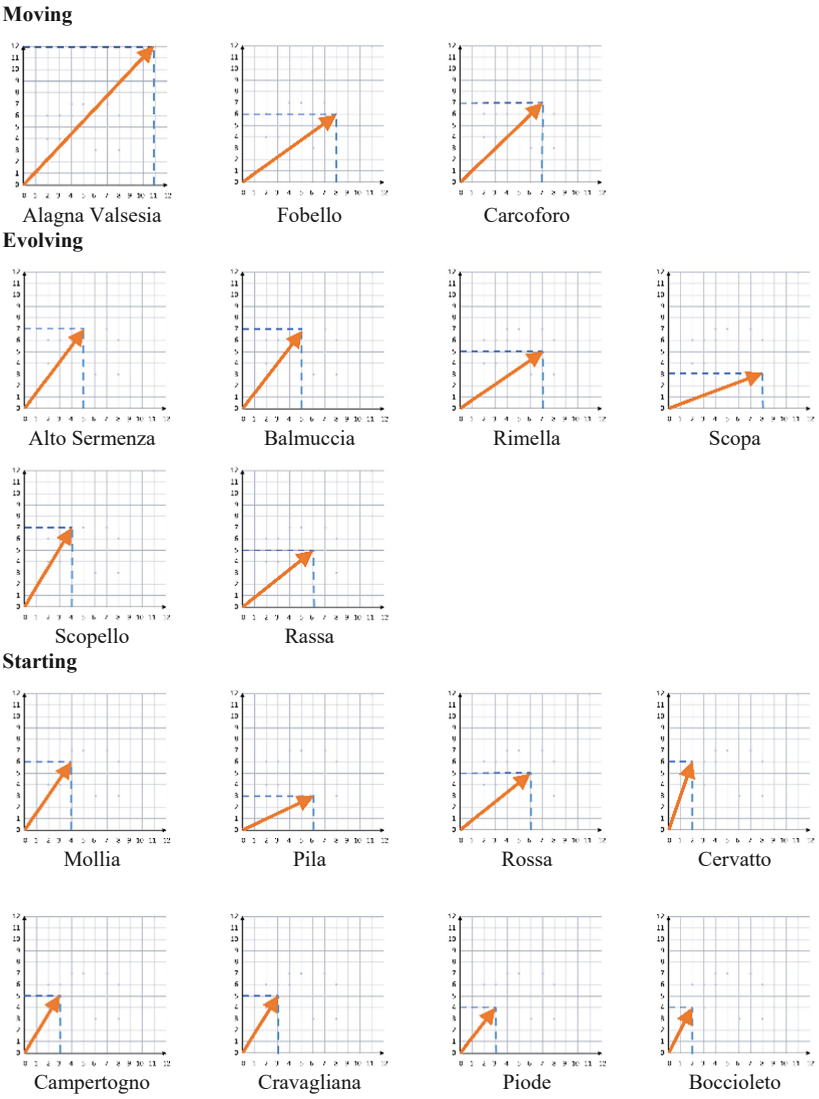


Fig. 3. Municipal potential position vectors with X = PAI and Y = PTI (Source: Authors' elaboration)

The 2 Municipalities with the higher score of potentialities (>= 10; Alagna, Scopello and Carcoforo) are *Moving*, i.e. they could implement numerous and different actions/interventions for the vibrancy and attractiveness of the area. The last 2 Municipality with the lowest score (<5) are Piode and Boccioleto, which demonstrate limited

potential for actions/interventions and activators. All the other Municipalities, having potentially moved, can be defined *Evolving* and *Starting* since they activated few actions and interventions to improve their status.

The inclination of the vectors indicates the different potential dynamism for each municipality, determined by the values of potential triggers and potential assets. Observing the results also from this point of view, it can be seen that Rimella and Scopa have greater opportunities for assets development, while in Scopello, Cervatto and Mollia there is a strong presence of active players.

Then, starting from SAVV results [20], Fig. 4 shows the 17 municipalities of the Alta Valsesia divided by their three valleys (Val Grande, Val Sermenza e Val Mastallone) that clearly highlights the differences of the three main Alta Valsesia areas.

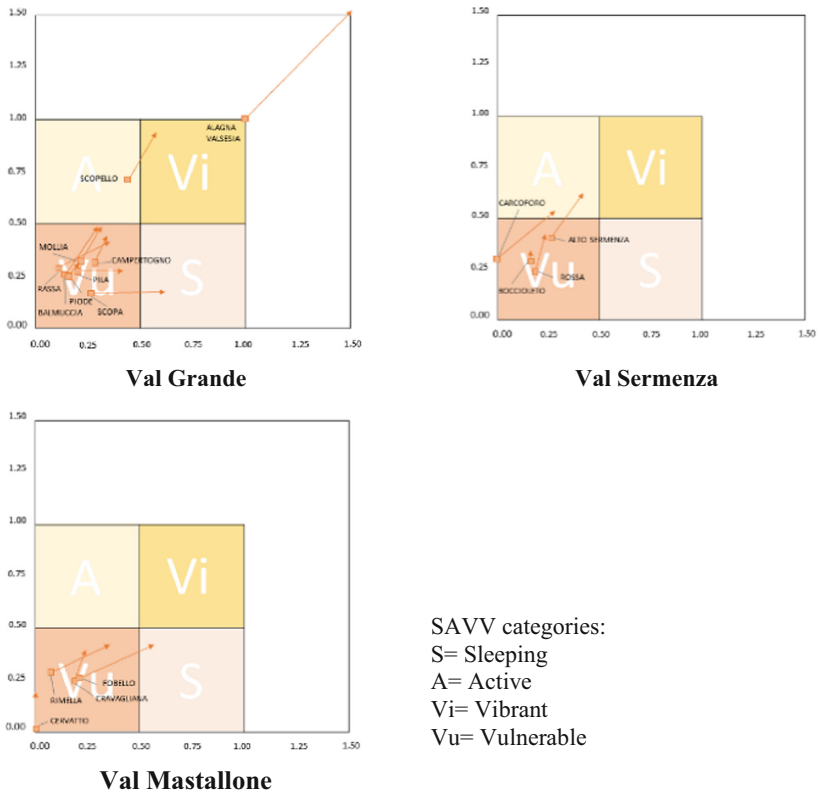


Fig. 4. The SAVV Territorial Matrix and Potential Asset and Trigger position vectors (Source: Authors' elaboration).

According to the SAVV evaluation method, Alta Valsesia can be defined a fragile territory, with a clear prevalence of Vulnerable municipalities (15 on 17), with the exception of Scopello (Active) and Alagna Valsesia (Vibrant). Alagna Valsesia is, in fact, a well-known tourist destination, located at the foot of Monte Rosa, which represents the main visitor's attraction in summer and in winter of the area. Both in Alagna and in

Scopello there are ski resorts and other tourist activities, as well as some services and accommodation facilities. The other municipalities, instead, have limited (or scarcely known) tourist attractions, and also their built heritage is often abandoned or in a bad state of conservation; in particular, Cervatto emerges as the most Vulnerable municipality.

Potentials position vectors could totally transform the initial SAVV classification. Alagna Valsesia constitutes a total outlier, strictly followed by Scopello; if their potentials are developed, they could become even more vibrant in comparison with other municipalities. This means that the gap between the strongest and the weakest areas will become even wider, causing a real dichotomy in the territory, if the potentialities are not considered as real driving forces/triggers also for the other municipalities. The local government (Unione Montana) should avoid this extremisation of territory by redistributing wealth and funds in a more equitable way across the territory. A surprising result is the potential vector of Carcoforo in Val Sermenza, which even starting from a very *Vulnerable* condition (few trigger but no assets) could become an *Active* municipality. In fact, it has some potentialities both in terms of assets (it owns many interesting buildings to be renovated and reused), and triggers, by proposing several events and activities in the territory.

Scopa is another municipality that, with the realization of its asset potential, could change its classification from *Vulnerable* to *Sleeper*: it presents, in fact, a lot of assets such as big building stock suitable to be reused, a network of religious chapel, rural buildings and the related networks of trails and paths, but very few trigger activities.

In Val Mastallone Fobello can became a *Sleeping* municipality because of its quite high potentials in assets and triggers.

In Val Sermenza, in addition to Carcoforo, also Alto Sermenza has many potentialities in terms of triggers that could allow it to overcome its vulnerability, becoming an *Active* municipality.

Lastly, it is worth mentioning the negative situation of Boccioleto and Piode, that would remain *Vulnerable* even with the implementation of their potentials, since they are unfortunately very limited both in triggers and assets. Also in this case, the local governments should intervene with the activation of specific policies to support these territories.

5 Conclusion

By assuming the SAVV evaluation method to explore fragile territories and identify the most vulnerable and vibrant areas within the considered territory, a new method (SAVV+P) was proposed to classify their potentials in 3 different categories: *Moving*, *Evolving* and *Starting*. Both SAVV and SAVV+P methods were tested in the Alta Valsesia area, which is one of the inner areas studied in the context of the "B4R -Branding4Resilience" research project. The analysis assumes the perspective of analysing the developing potential for new cultural-tourist infrastructures and the results showed how the considered municipalities could enhance their territories by defining and developing their potential assets and triggers. Results demonstrated how the integration between quantitative and qualitative research could effectively drive to different but complementary results. The municipalities of Alagna Valsesia and Scopello

present the highest potentialities to became even more *Vibrant*. Other municipalities (Scopello, Scopa, Alto Sermenza, Carcoforo and Fobello) could develop their potentialities and change their condition from *Vulnerable* to *Sleeping* or *Active*. Finally, some municipalities, such as Piode e Boccioleto, currently do not have sufficient strength and opportunities to change their condition of vulnerability.

Supporting the identification and development of new territorial opportunities and enhancement strategies is only the first step for the redevelopment of a territory; tailored territorial policies must be set up to guarantee equal opportunities for all territories, focusing on the less autonomous and more vulnerable ones. Moreover, above all, equally structured processes of management, observation and monitoring of the results must be identified, to be applied in the implementation phase of these strategies, to analyse the results of the actions, correct the directions and guarantee the effectiveness of the strategies, as recently carried out by some studies on the first cycle of intervention implementation in SNAI areas [26–31].

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