

Projects and Funding in Italian Inner Areas: Learning from the 2014–2020 Programming of the SNAI National Strategy

Cecilia Torriani[1(✉)], Alice Barreca[2], Manuela Rebaudengo[1], and Diana Rolando[2]

[1] Interuniversity Department of Regional and Urban Studies and Planning, Politecnico di Torino, Viale Mattioli 39, 10125 Turin, Italy
{cecilia.torriani,manuela.rebaudengo}@polito.it

[2] Architecture and Design Department, Politecnico di Torino, Viale Mattioli 39, 10125 Turin, Italy
{alice.barreca,diana.rolando}@polito.it

Abstract. The first programming of the Italian "National Strategy for Inner Areas" (SNAI) was approved in 2012 and implemented in 2014–2020 with the aim of improving the quality of local essential citizenship services (local public transport, education, social and health services) and fostering the economic development of inner territories, characterised by weak socio-economic contexts. The objective of this research is to analyze numbers, sectors and funding of projects included in the first SNAI programming cycle (2014/2020) in order to support local authorities in the second cycle (2021–2027) which has recently started. In particular, the geographical and thematic distribution of the interventions in each inner area, the allocation of funding and the project status are analysed by processing government and SNAI open data through Exploratory Data Analysis.

The results show the amount of funds and how these have been distributed at national level into different sectors and related projects. This analysis let to understand whether, considering mountain inner areas, the programmed strategies were similar to the national ones or whether they met specific territorial needs. The main spillover of this research is to learn from the previous SNAI programming cycle by highlighting its preliminary outcomes (particularly for mountain inner areas) and addressing possible new or successful projects for future strategies.

Keywords: SNAI · Mountain Inner Areas · public funding

1 Introduction

Italian inner areas have been overshadowed by urban poles for decades causing in these marginal territories progressive loss of services, resources, cultural values, and depopulation [1]. Inner areas have a lower level of accessibility than urban ones due to geomorphological, socio-economic and settlement reasons and require specific planning policies [2, 3]. This difference between inner areas and cities created disparities also in equity and social inclusion, in both public and private transport [4]. The ESDP (European Spatial Development Perspective) has improved the level and range of policies, adopting a regional approach [5], trying to foster/encourage polycentrism [5–7].

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In Italy, the Minister of Economic Development approved in 2012 the "National Strategy for Inner Areas" (SNAI), a territorial policy with the aim of –still todayre– balance the local essential citizenship services (local public transport, education, social and health services) and, at the same time, to foster the economic development and enhance the natural and cultural heritage of these areas. SNAI's long-term goal is to keep these areas alive by counteracting the depopulation process. The selection of the areas began in 2013 and the criteria were based on the "distance" from essential services and on the difficulty to reach the Poles (cities that offer a series of services such as schools, a hospital and a railway station). In fact, based on the distance from these Poles, it has been defined four diverse types of areas: Belt Areas (20 min by car from the Pole), Intermediate Areas (up to 40 min), Peripheral Areas (up to 75 min) and Ultraperipheral Areas (over 75 min) (https://opencoesione.gov.it/en/SNAI).

In the first SNAI cycle (2014 -2020) 72 areas were selected, including 1.060 Municipalities, with a population lower than 2 million inhabitants (Istat data, 2020). These areas occupy a wide territory of approximately 51.000 km^2 and represent 13.4% of all Italian Municipalities, 3.3% of the national population and 17% of the entire national surface [8]. The total funding amount of the program was almost 1,167 million euros, splitted into:

- 266 million euros (from the resources allocated by Laws n. 147 of 2013, n. 190 of 2014, n. 208 of 2015 and n. 205 of 2017);
- 712 million euros (from the resources allocated by FESR, FSE, FEASR e FEAMP, Eu funding programmes);
- 132 million euros (from other public resources);
- 57 million euros (from private resources).

In the last years, the evaluation and selection processes of Inner Areas have been analysed in numerous studies. Some researchers analysed or applied different kind of indicators to integrate the evaluation criteria defined by SNAI used for the classification of the new inner areas, such as Territorial Capital [9], community-based cooperatives [10], marginality linked to mobility, demographic and socio-economic conditions [11], while others studies deepened the critical points in certain areas and related them to the planned strategies. Moreover, in 2020 the "B4R-Branding for Resilience" research project (PRIN 2017- Youth Line) was funded by the Italian Ministry of University and Research (MUR) to explore the potential for resilient development of territories and communities in four Italian inner areas [13–15].

In 2020, after the State budget law for the fiscal year (art.1 c. 314 Law 27 December 2019 n. 160) and with the Decree Law dated 14 August 2020, n. 104 (art. 28), the SNAI was strengthened and expanded with new funds, which amounted to 172 million euros for the 2021–2027 cycle. Therefore, 43 new inner areas were selected and funded, and each of them was designated to receive around 4 million euros [15]. The approval process of the new Inner Areas was concluded with the CTAI (Internal Areas Technical Committee) of 29 September 2022; therefore, several local authorities are currently managing complex processes to identify their local strategies and the related activities to be funded, even if they cannot totally learn from the results of the first SNAI programming cycle (2014–2020), which are not fully known. This lack of knowledge can be overcome by critically analysing the information at national scale, which describe the projects and

the investments implemented in the past SNAI programming cycle that are still in the development phase.

The objective of this research is to analyze the numbers, sectors and funding related to the projects of the first SNAI programming cycle (2014/2020) in order to identify (particularly for mountain inner areas) evidence and specifications from the past, to support local authorities in the second cycle (2021–2027), which has recently started.

The paper is structured as follows: the methodological approach (structured in 4 phases and related sub-phases) is illustrated in Sect. 2; Sect. 3 presents the Data Sample and the related consulted materials and analysed data. Section 4 contains results and discussions on similarities and differences deriving from the analysis of number of projects, sectors and funding, and from a comparison between mountain inner areas and the whole reference sample. Lastly, Sect. 5 shows the concluding remarks.

2 Methodological Approach

The methodological approach is based on an Extract-Transform-Load (ETL) process, divided into four main phases which include different sub-phases of application. Figure 1 shows the subsequent phases: Goal definition (1), Data collection and preparation (2), Data Analysis (3) and Results Interpretation (4).

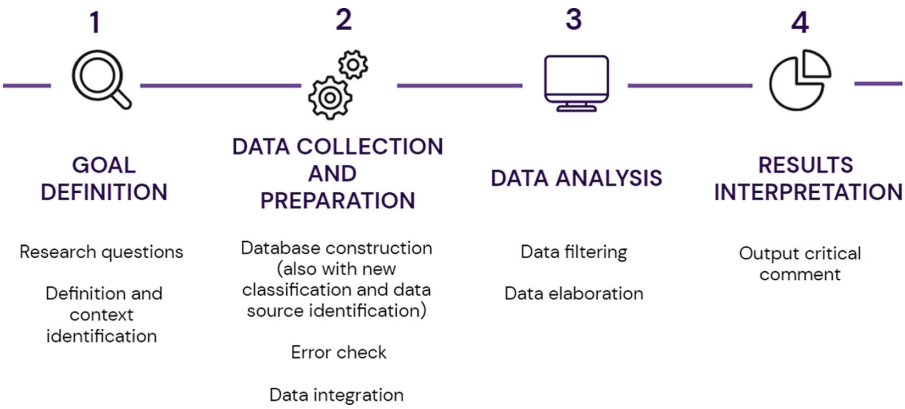

Fig. 1. The 4-phase methodological approach based on ETL. (Source: authors' elaboration)

Goal Definition. In the first phase, the main objective of the study and the different research questions have to be defined. This is necessary to narrow the research direction and context. Thereafter, materials and data sources can be identified.

Data Collection and Preparation. In the second phase, data must be collected, armonized and stored in databases. It is important to refine and armonize collected data to make them as suitable as possible by checking and correcting different kind of errors

(if any) and by integrating any missing data. Through these sub-phases the database is built and processed in order to be able to carry out subsequent analyses.

Data Analysis. In the third phase, information and data can be filtered and selected in order to build separate data sample, suitable for the explanatory analyses. Data filtering and selection process can be applied both at national and at the focus level. Outputs of this phase are results to be interpreted in the next step.

Results Interpretation. In the last phase, the results support the definition of some concluding critical comments and possible developments of the research. This phase can lead to find evidences to support efficient and effective territorial strategies or actions for local communities.

3 The First SNAI Programming Cycle: Data Sampling on Funded Projects

The 72 inner areas designated in the first SNAI programming cycle (2014–2020) represent the case study of this research: 23 of them are in the North, 28 in the Center and 21 in the South Italy. These areas cover 60% of the entire surface of the national territory and include 52% of the Italian Municipalities, where 22% of the total population live.

In order to analyse the projects funded during the first SNAI programming cycle a data sample was built by collecting data from three open data sources: the Agency for Territorial Cohesion (SNAI section), the Opencoesione portal, the National Institute of Statistics (ISTAT):

1. Agency for Territorial Cohesion (SNAI section): from this website (https://www.agenziacoesione.gov.it/strategia-nazionale-aree-interne/), it is possible to download data related to selection processes, planning strategies, subsequent formalization of the strategy. More precisely, the available data are: Annual report for inner areas (2020 update); Map of inner areas; List of municipalities belonging to each inner areas; Guide to «Open Diagnosis» indicators;
2. Opencoesione portal: this website (www.opencoesione.gov.it) is an open government initiative on cohesion policies in Italy, to promote the effectiveness of interventions through the publication of data on funded projects and widespread civic participation. The published datasets are enclosed in a single document that contains all the information relating to the reference projects. This file (updating date: 30th June 2022) contains about 1700 projects described by 203 variables, such as the conformation of each inner area (region, province, municipalities belonging to the areas); the eleven synthetic sectors used to catalogue the projects; a brief description of each project; funds divided according to type (private, public, regional, province, municipality, European Union, etc.); composition of public funds (FESR, FSE, FEASR e FEAMP); the progress of each project and the amount of its funds ("work progress"). Some inconsistencies have been identified in the Opendata; therefore, data has been checked and eventually integrated. Nevertheless, since the database has an official source eventual incompatibilities of filling are not considered in this first step of the analysis. New graphs and data have been updated (updating date: 31st October

2022) and uploaded on the website in February 2023 (not considered in the following analyses);

3. National Institute of Statistics (ISTAT): from this website (https://www.istat.it/it/) it is possible to download a plenty of data at municipal level. ISTAT is a public research organization and is the main official statistics' producer to support citizens and public decision makers. Therefore this data source doesn't refer to specific strategies and projects, but provides data on a national, regional, provincial and municipal level. Specifically, the authors used this portal to integrate the missing data in the previous portals mentioned on a municipal scale. Specifically, for this research the coherent data are building density, number of inhabitants, altitude, per capita income (Per capita amount of gross national product supposedly produced by a person in a certain period of time. It coincides with the worker's average annual salary and its unit of measurement is the ratio between the currency and the inhabitant) (updated date: 1 January 2022).

The initial lists of 1.692 funded projects and related information was integrated by including in the data sample also the Valle Maira and Val Grana inner area (Piedmont Region), that was missing. Therefore, data from the abovementioned data sources were integrated in a data sample consisting of 1.699 records (funded projects), described by 203 variables. Table 1 shows the main variables of the data sample, some of which were newly created.

Table. 1. Data structure of the main variables (Source: Authors' elaboration)

Data structure	Data content	Data value		Data structure
Field name		vocabulary	Field name	
Projects' sector	Project classification (and research) themes: aggregation of sectors and fields of intervention	closed	Environment, Administrative capacity, Competitiveness of companies, Culture and tourism, Energy, Social inclusion and health, Education and training, Employment and work, Digital networks and services, Research and innovation, Transport and mobility	Opencoesione data

(*continued*)

Table. 1. (*continued*)

Data structure	Data content	Data value		Data structure
Field name		vocabulary	Field name	
Italian Geographical Areas	Geographic location of each inner area	closed	North, Centre, South	Authors' elaboration on Opencoesione data
Project status	Work progress of each project	closed	Completed, in progress, Settled, Not started	Opencoesione data
Total funds	Public (FESR, FSE, FEASR e FEAMP) and private funds	open	Euros	Authors' elaboration on Opencoesione data
Percentage of funds	Percentage of funds for each project's sector out of the total	open	%	Authors' elaboration on Opencoesione data
Percentage of number of projects	Percentage of number of projects for each project's sector out of the total	open	%	Authors' elaboration on Opencoesione data
Average altitude	Average altitude of all municipalities of each inner area	open	Meters (above sea level)	Authors' elaboration on ISTAT data
Building density	Relationship between density and built morphology	open	Building / m^2	ISTAT data
Number of inhabitants	Number of inhabitants of each inner area (sum of inhabitants of all the municipalities)	open	inhabitants	ISTAT data
Per capita ratio	Amount of gross national product per capita in a certain period of time	open	€/inhabitants	ISTAT data

Lastly, from the whole data sample a sub-sample limited to projects located in mountain inner areas was extracted, to compare the strategies of those areas with the national ones: it consisted 903 projects referred to 32 mountain inner areas.

4 First SNAI-Funded Projects: Interventions Distribution, Funding Allocation and Implementation Progress

The whole data sample consisting of the 1.699 projects referred to the 72 inner areas was analysed to study the first SNAI programming cycle (2014/2020), in terms of geographical and thematic distribution of the interventions, allocation of funding and progress of

implementation. The geographical division in different Regions was assumed to make some comparisons on the distribution and allocation of funds because Italy presents territories with quite different economies, urban and administrative development. Firstly, the Italian Regions were grouped into three main areas: North Italy (Valle d'Aosta, Piemonte, Liguria, Lombadia, Trentino-Alto Adige, Veneto and Friuli-Venezia Giulia); Centre Italy (Emilia-Romagna, Toscana, Marche, Lazio, Umbria, Molise, Abruzzo and Sardegna); South Italy (Basilicata, Calabria, Campania, Puglia and Sicily). Secondly, a division based on the average altitude of each inner area allowed to identify only Mountain Inner Areas (with an average altitude of 800 m above sea level). This focus was necessary to distinguish and understand the dynamics of mountain territories, which have different morphological, geographical, productive, socio-economic and socio-demographic characteristics (Table 2).

Table. 2. Mountain inner areas with altitude above of 800 m (above sea level) – (Source: Authors' elaboration)

Italy Main Areas	Mountain Inner Areas and Regions
North	• Liguria (Beigua and Unione Sol, Antola Tigullio), Lombardia (Alta Valtellina, Appennini Lombardi Oltre Po Pavese, Valchiavenna), • Piemonte (Val di Lanzo, Val d'Ossola, Valli Maira and Grana), • Trentino-Alto Adige (Tesino, Val di Sole); • Valle d'Aosta (Bassa Valle Valley, Grand Paradis), Veneto (Comelico, Spettabile Reggenza), • Friuli Venezua Giulia (Dolomini Friulane)
Center	• Abruzzo (Basso Sangro – Trigno, Alto Aterno Gran Sasso Laga, Valle del Giovenco - Valle Roveto), • Emilia-Romagna (Alta Valmarecchia, Appennini Emiliani), • Marche (Alto Maceratese, Ascoli Piceno), • Molise (Alto Medio Sannio, Fortore, Mainarde, Matese), • Toscana (Casentino Valtiberina)
South	• Basilicata (Area Interna Mercure - Alto Sinni - Val Sarmento); • Calabria (Sila e Presila); • Campania (Alta Irpinia); • Sicilia (Nebrodi, Valle del Simeto)

In each Italian Region there is a different number of inner areas: 2 in Trentino-Alto Adige, Valle d'Aosta and Sardegna; 3 in Friuli-Venezia Giulia, Marche, Toscana and Umbria); 4 in Basilicata, Calabria, Campania, Emilia-Romagna, Lazio, Liguria, Lombardia, Molise, Piemonte, Puglia and Veneto); 5 in Abruzzo and Sicilia.

The whole data sample was analysed by means of pivot tables and exploratory summary statistics on the basis of different variables: total public funds, private funds, number of projects, prevalent sectors, project status, geographical area and inner area average altitude.

All the analyses were perfomed at national level and then were focused on mountain inner areas. Figure 2 shows the distribution of public funds in each considered sector at national level, in comparison with the total number of projects.

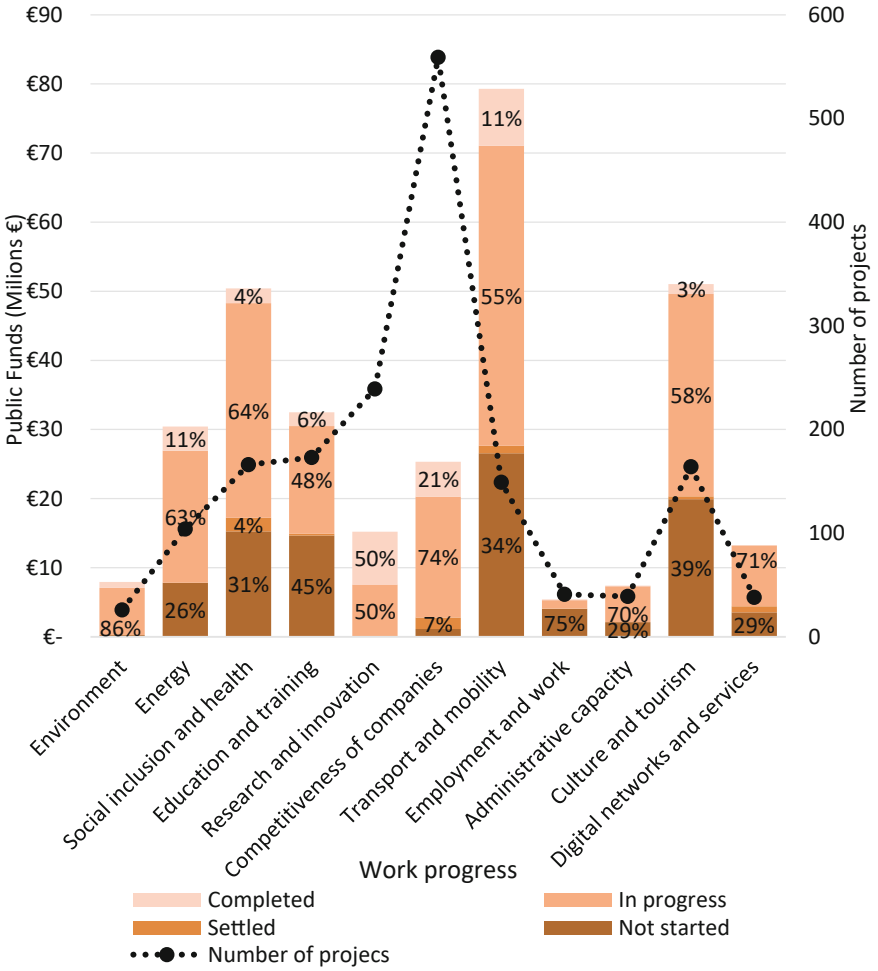

Fig. 2. National level – Public funds based on the 11 sectors – (Source: Authors' elaboration on Open Coesione data)

Firstly, it emerges that the number of projects is not directly proportional with the amount of funds received. For example, the sector "Competitiveness of companies" had a high number of projects (559) but less than 20 million euros for funds; on the contrary, funds related to "Transport and mobility" were around 80 million euros but with a limited number of projects (149). The highest funds (between 50 and 80 million euros) were allocated to projects related to "Transport and mobility", "Culture and tourism" and "Social inclusion and health", while the lowest funds (less than 10 million) were designated for projects related to "Protection and development of the environment", "Employment and work" and "Administrative capacity".

Figure 3 shows the distribution of public funds in each considered sector in the selected mountain inner areas and presents the total number of projects.

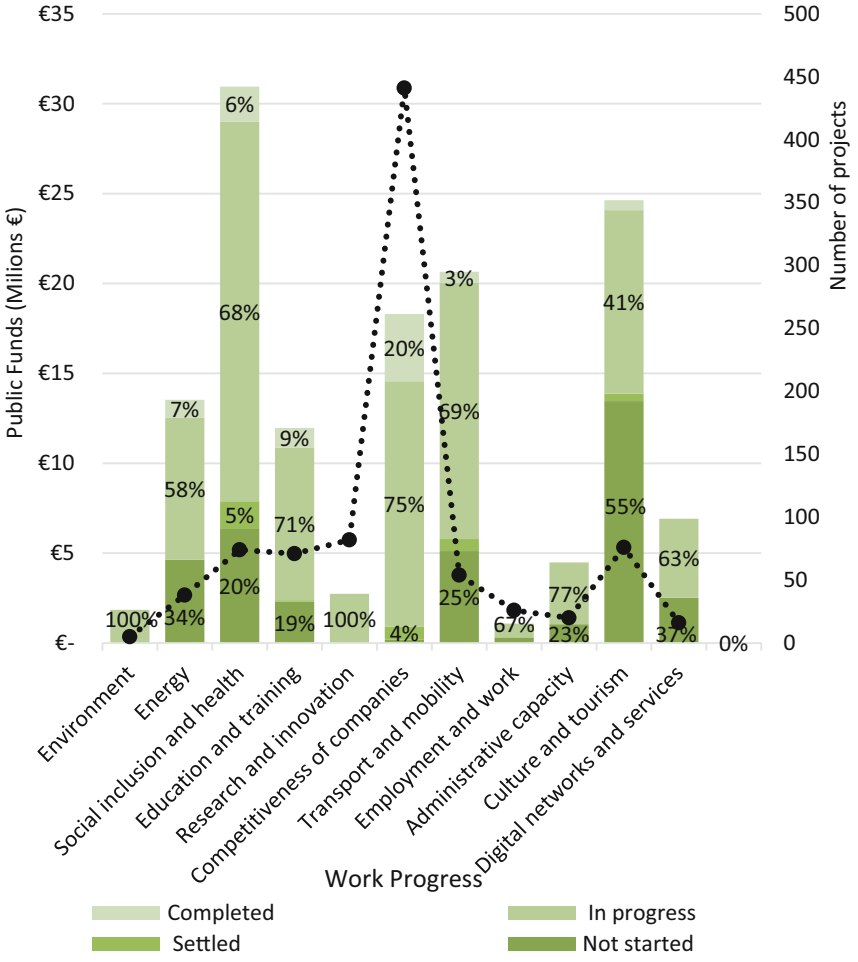

Fig. 3. Mountain Inner Areas – Public funds based on the 11 sectors – (Source: Authors' elaboration on Open Coesione data on Open Coesione data)

It is evident that by considering the number of projects, the sector with the highest value was "Competitiveness of companies" followed (with a difference of about 250 projects) by "Research and innovation", "Social inclusion and health" and "Culture and tourism"; otherwise, the "Environment" and "Employment and work" sectors presented the lowest numbers of projects. Furthermore, as already noted at national level, also in the mountain inner areas, most of funds (between 20 and 35 million euros) were allocated to projects related to "Transport and mobility", "Culture and tourism" and "Social inclusion and health". However, it is worth mentioning that in the mountain inner areas the sector that attracted most funds was "Social inclusion and health" (23% of total funding). The lowest funds (less than 5 million euros) were allocated for projects related to the protection and development of "Environment", "Employment and work" and "Administrative capacity". The "Competitiveness of companies" was instead in the medium-high range. The main sectors based on number of projects are coeherent with the results at national level: "Competitiveness of companies" (26%), "Research and innovation" (9%) and, at the same percentage, "Culture and tourism" (8%), "Social inclusion and health" (8%) and "Education and training" (8%).

In both charts (Figs. 2 and 3) it emerges that the completed projects are a minority (percentages between 0% and 21%, except for the "Research and Innovation" projects that are 50% completed at national level), while most of the projects are "ongoing", even if three years have already passed since the end of the 2014–2020 cycle. It is worth noting that there is still a high percentage of projects not started, even reaching percentages of 75%, at national scale, in the "Employment and work" sector, and 55% in mountain inner areas in the "Culture and tourism" sector.

Table 3 summarises the main results from the analysis of the whole data sample and the sub-sample related to mountain inner areas, by highlighting detailed data for the North, Centre and South of Italy. Table 3 highlights the received funds (divided between public and private) and the prevailing sector (by the number of projects and by the amount of received funds).

It is interesting to notice that at national level inner areas are almost equally distributed in the North (32%), Centre (39%) and South (29%) of Italy, while, for geomorphological reasons, mountain areas are concentrated in alpine and appenine regions in the North (22%) and Centre (17%). The funded project are concentrated in the Centre (43%) at national level, while in the considered mountain inner areas they are pairly concentrated in the North (44%) and Centre (43%). The total funds (public and private) are fairly evenly distributed at national level, while focusing on mountain areas more than 50% of them are allocated in the North. Furthermore, it interesting to notice that most of the public funds were distributed in the North and South (72%), while private funds are extremely limited and prevail in the North and in Centre (2,7%) both at national scale and in mountain inner areas (about 2–5%). In general, it is interesting to notice that at national level inner areas in the South of Italy received a fair amount of funding (125.362.589 €) despite a small number of projects submitted (349). On the other hand, in the Northern inner areas more that 600 projects were presented and funded with a similar amount of funding (126.630.868 €). In the mountain inner areas more that 300 projects were funded in the North and Centre (respectively 44% and 43%), with significantly different funds (81.967.102 € in the North and 34.541.436 € in the Centre).

Table 3. Descriptive statistics of total number of projects and funds, in Italian inner areas (whole sample) and in mountain inner areas (sub-sample). (Source: Authors' elaboration on Open Coesione data)

	ITALIAN INNER AREAS WHOLE SAMPLE				MOUNTAIN INNER AREAS SUB-SAMPLE			
	North	Centre	South	Italy	North	Centre	South	Mountain areas
Number of Inner Areas	(32%) 23	(39%) 28	(29%) 21	**(100%) 72**	(22%) 16	(17%) 12	(6%) 4	**(44%) 32**
Total number of projects	(36%) 619	(43%) 730	(21%) 349	**(100%) 1698**	(44%) 397	(43%) 391	(13%) 115	**(100%) 903**
Total funds (public + private)	(38%) 126.630.868 €	(25%) 84.559.479 €	(37%) 125.362.589 €	**(100%) 336.552.937 €**	(56%) 81.967.102 €	(23%) 34.541.436 €	(21%) 30.654.553 €	**(100%) 147.163.092 €**
Public funds	*(35%) 117.577.548 €*	*(22%) 75.544.285 €*	*(37%) 125.102.312 €*	***(95%) 318.224.146 €***	*(53%) 78.649.702 €*	*(19%) 27.895.353 €*	*(21%) 30.570.676 €*	***(93%) 137.115.732 €***
Private funds	*(2,7%) 9.053.319 €*	*(2,7%) 9.015.194 €*	*(0,1%) 260.276 €*	***(5%) 18.328.790 €***	*(2%) 3.317.400 €*	*(5%) 6.646.083 €*	*(0,1%) 83.876 €*	***(7%) 10.047.360 €***

Table 4 divides data of the whole sample and the sub-sample of mountain inner areas in the same three geographical areas (North, Centre, South of Italy) to analyse the principal sectors based on number of projects and received funds.

By analysing both the whole sample of Italian inner areas and the mountain inner areas sub-sample, the prevalent sector based on the number of projects is "Competitiveness of companies" (CC) in the North and Centre (covering around 30% of the total number of projects), while in the South it is "Transport and Mobility" (TM). By analysing the funds received, the prevalent sectors are different: "Culture and tourism" (CT) in the North, "Social inclusion and health" (SH) in the Centre and "Transport and mobility" (TM) in the South. The sectors that received the most funds ("Social inclusion and health", "Transport and mobility", "Culture and tourism") are in a medium-high range for funds, with an average fund for a project between 232.000 € and 646.000 € (at national level) and 358.543 € and 391.000 € (in the mountain inner areas). The sectors with the highest number of funded projects, instead, have lower funds (clearly with a lower average fund for a project between 30.000 € and 646.0008 € (at national level) and 20.000 € e 66.000 € (in the mountain inner areas). Considering the whole sample, the most funds (19%) are provided in the South for 92 projects related to "Transport and Mobility" (TM): this due to important new infrastructure projects in Basilicata (Strategia Nazionale delle Aree Interne, Strategia Area Mercure – Alto Sinni – Val Sarmento, programmazione 2014–2020, https://www.agenziacoesione.gov.it/wp-content/uploads/2020/11/Strategia_AI_Mercure_-21.02.2020.pdf) and Puglia (Strategia Nazionale delle Aree Interne, Relazione annuale sulla strategia Nazionale per le aree

Table 4. Descriptive statistics of prevalent sectors and prevalent funds, in Italian inner areas (whole sample) and in mountain inner areas (sub-sample). (Source: Authors' elaboration on Open Coesione data)

	ITALIAN INNER AREAS WHOLE SAMPLE				MOUNTAIN INNER AREAS SUB-SAMPLE			
	North	Centre	South	Italy	North	Centre	South	Mountain areas
Prevalent Sector based on the number of projects	CC*	CC*	TM*	**CC***	CC*	CC*	TM*	**CC***
Number of prevalent sectors projects	(16%) 273	(17%) 283	(5%) 92	**(33%) 559**	(12%) 200	(14%) 239	(2%) 31	**(26%) 441**
Public funds of prevalent sector projects	(5%) 15.977.769 €	(3%) 8.470.578 €	(19%) 59.488.863 €	**(8%) 25.326.380 €**	(4%) 13.314.629 €	(2%) 4.913.443 €	(4%) 12.112.684 €	**(6%) 18.306.104 €**
Average fund for a project of the prevalent sector (Number of projects)	58.526 €	29.931 €	646.618 €	**45.306 €**	66.573 €	20.558 €	390.731 €	**41.510 €**
Prevalent Sector based on funds	CT*	SH*	TM*	**TM***	CT*	SH*	TM*	**SH***
Number of prevalent funds projects	(3%) 58	(4%) 75	(5%) 92	**(9%) 149**	(5%) 48	(2%) 21	(3%) 31	**(8%) 74**
Public funds of prevalent funds project	(7%) 22.311.482 €	(5%) 17.376.449 €	(19%) 59.488.863 €	**(25%) 79.282.020 €**	(5%) 17.156.934 €	(2%) 7.529.406 €	(4%) 12.112.684 €	**(10%) 30.952.774 €**

(*continued*)

Table 4. (*continued*)

	ITALIAN INNER AREAS WHOLE SAMPLE				MOUNTAIN INNER AREAS SUB-SAMPLE			
	North	Centre	South	Italy	North	Centre	South	Mountain areas
Average fund for a project of the prevalent sector (funds of projects)	384.680 €	231.685 €	646.618 €	**532.094 €**	357.436 €	358.543 €	390.731 €	**418.280 €**

* CC: Competitiveness of companies; TM: Transport and mobility; CT: Culture and tourism; SH: Social inclusion and health

interne, 2020, https://www.agenziacoesione.gov.it/wp-content/uploads/2021/11/Relazione-CIPESS-2020_finale.pdf). As proof of this, the prevalent sector covers only 9% of all national projects, 5% of which are in the South.

The latest results are related to a specific focus on three mountain inner areas, selected on the basis of the highest altitude according to the geographical position (North, Central, South):

- Grand Paradis (Aosta Valley, Northern Italy) (https://www.agenziacoesione.gov.it/wp-content/uploads/2020/10/APQ_AREE_INTERNE_GRAND_PARADIS.pdf);
- Mainarde (Molise, Central Italy) (https://www.agenziacoesione.gov.it/wp-content/uploads/2020/11/Molise-Mainarde-strategia.pdf);
- Mercure - Alto Sinni - Val Sarmento (Basilicata, Southern Italy) (https://www.agenziacoesione.gov.it/wp-content/uploads/2020/11/Strategia_AI_Mercure_-21.02.2020.pdf).

Figure 4 shows, for the three selected mountain inner areas, public funds and the number of projects analysed by the 11 sectors.

First of all, it is interesting to notice that the analyses on these three selected mountain areas highlight very different situations, in terms of sectors of intervention both for funds and number of projects, reflecting the specificity of each territory. The sectors present in all areas are "Transport and mobility" and "Culture and tourism". Gran Paradis and Mainarde inner areas have also similar funds for the "Administrative capacity" sector (around 10%), while in Mercure - Alto Sinni - Val Sarmento this sector has extremely limited funds, equal to € 1,314,580.00, corresponding to a very small percentage that does not appear in the chart. In Gran Paradis inner area, the "Social inclusion and health" sector covers the largest percentage (50%) of total public funds and the 25% of total projects. In Mainarde inner area, the 52% of funding was provided for the "Transport and Mobility" sector, as in Mercure - Alto Sinni - Val Sarmento inner area, where this sector attracted the 59% of public funds. Results also show that in these 3 selected areas the following sectors are totally absent: "Environment", "Competitiveness of companies" and "Research and Innovation".

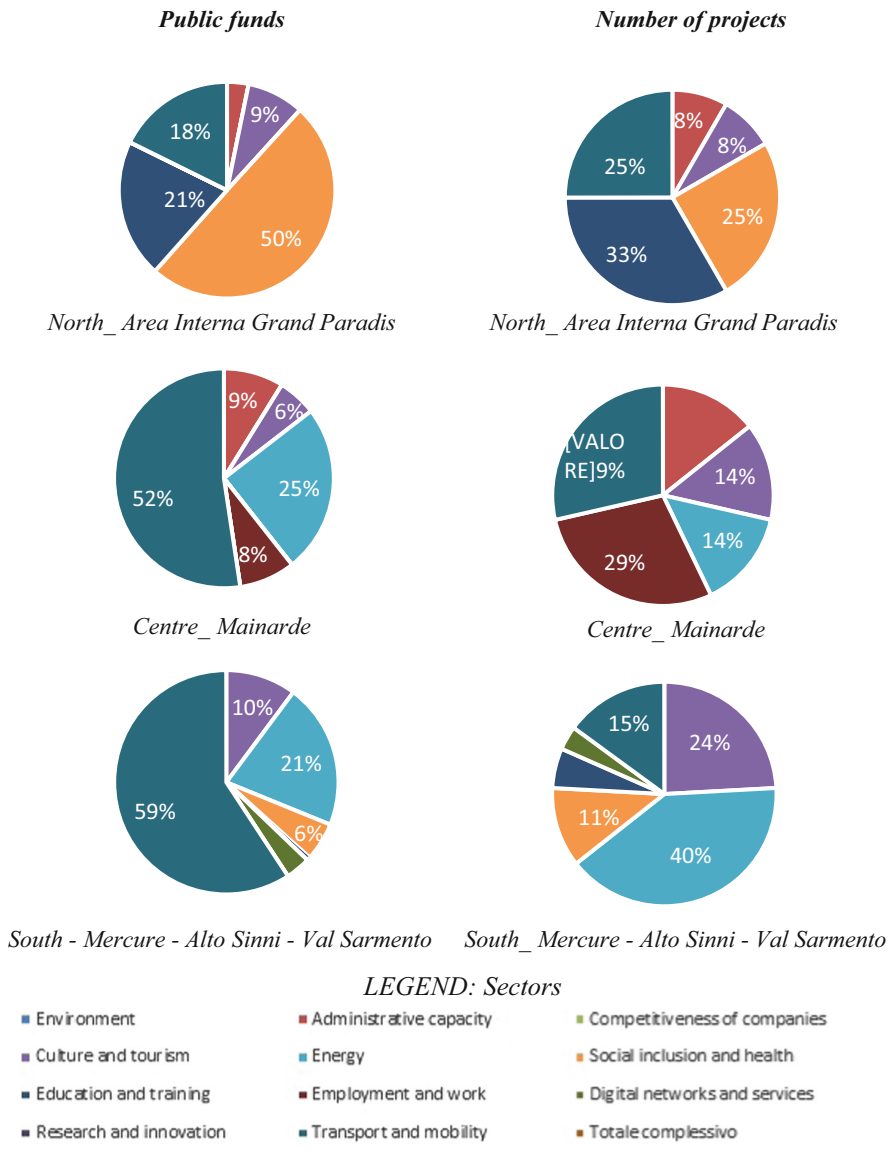

Fig. 4. Selected mountain inner areas: Public funds and Number of projects based on the 11 sectors. (Source: Authors' elaboration)

5 Discussion and Conclusion

This research was based on a detailed data sample built by collecting data from three open data sources (the Agency for Territorial Cohesion-SNAI section, the Opencoesione portal, and the National Institute of Statistics-ISTAT): it included 1.699 projects funded

during the first SNAI programming cycle (2014/2020), referred to 72 inner areas. A subsample consisting of 903 projects related to 32 mountain inner areas was extracted, to compare the strategies in terms of geographical and thematic distribution of the interventions, allocation of funding and progress of implementation. Exploratory Data Analyses were conducted to understand whether the planned strategies in mountain inner areas were coherent with those planned at national level or whether they met specific territorial needs, and thus to support local authorities in the second SNAI cycle (2021–2027) which has been recently launched.

Results showed the amount of funds and how these were distributed into different sectors and related projects, both at national level and in mountain areas, by highlighting different lacks and prevalences. In particular, results showed that at national level the average fund for a single project is 532.094€, the average fund received for a single project is 198.205,50 €. Furthermore, the average number of projects for each inner area is 24. Focusing on mountain areas the average funds (public and private) is 4.598.843 €, while the average funds received for each project is 162.971 € and the average number of projects per mountain area is 32.

At national level, the prevalent sector based on the number of funded projects is "Competitiveness of companies", while the sector that received the highest amount of funds is "Transport and Mobility" (funds around 80 milions euros); the sectors with the most advanced project progress are "Research and innovation" and "Business competitiveness" (respectively with 50% and 21% of completed projects).

Results related to mountain inner areas are slightly different. The prevalent sector is again "Competitiveness of companies", while the one that received the highest amount of funds is "Social inclusion and health" (funds around 30–35 milions euros); the sector with the most advanced project progress is "Competitivness of companies" (with 20% of completed projects). Results also indicated that mountain areas had a significant shortage of funds in the following sectors: "Environment", "Research and innovation", "Employment and work" and "Administrative capacity". A weak attention to projects related to environmental issues is partly surprising because the mountain areas are usually rich in natural areas that should be protected and enhanced. Furthermore, the lack of funding in the "Employment and work" sector confirms the problems related to decreasing number of young people living in those areas and to the often difficult development of companies (work and innovation); the limited funds in "Administrative capacity", instead, highlights the high administrative fragmentation of these minimal territorial areas.

Lastly, the analyses of three specific mountain inner areas (located in northern, central and southern Italy), selected as key references, confirm that inner areas' high complexity and territorial context specificity need to be tackled with a tailor-made approach, by applying a shared methodology and avoiding pre-defined and biased processes.

Therefore, it can be concluded that this research could support local authorities in answering some of the following questions: *i)* How should the new inner mountain areas address their strategies in relation to the project sectors to be considered? *ii)* How many funds can be allocated for each project? *iii)* On which sectors should the most funds be allocated? *iv)* What design strategies could be selected (or excluded)?

By analysing the numbers, sectors and funding related to the projects of the first SNAI programming cycle it is possible to learn from its results and thus address possible

new or successful projects for future strategies to be implemented in the second cycle (2021–2027).

Due to the interest and relevance of these research topics, in the context of the new programming cycle, the research could go beyond these preliminary results in view of potential future developments, which could integrate further open data from various sources and develop a specif context-based approach to define different strategies and interventions in the SNAI inner areas.

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