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SUSTAINABILITY AND TOURISM DEVELOPMENT

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Editorial Note

The year 2023 begins with the prospect that universities and research centers will return to normality, with research activities and scientific meetings resuming pre-pandemic rhythms and methods. The Geoprogress initiative of the Italian Tourism Days and the 21st edition conference, held on 27 and 28 October 2022 in Novara and Verbania, has highlighted this possibility. The conference saw good attendance in-person, with over 20 scientific contributions presented, reaching the level of pre-pandemic editions.

Some of the English-written contributions are of interest to a transnational audience, which is why they are published in this journal. They raise awareness of Italian research on tourism, a vital production system for the development and progress of local communities.

The GeoProgress Journal returns to publishing at least five articles. In this issue the focus is on tourism or topics important for its sustainable development and progress. Matteo Ponziani's article discusses air transport, a crucial sector for long-distance tourism and ecologically sustainable development. It will have to change significantly and probably continue to shrink to address the energy and ecological crisis. Ponziani focuses on Air Traffic Management as a medium-term solution, analysing the environmental and economic benefits of Performance Based Navigation to optimize aircraft routes and air transport efficiency worldwide.

Four articles follow on the Italian tourist offer, three of which deal with ecologically sustainable types of growth potential in the country, while the last one highlights culturally based development strategies and practices, using Naples as a case study.

Viviana D'Aponte's article focuses on wine tourism, which offers development opportunities and sustainability characteristics to destinations outside traditional tourist circuits, including previously disadvantaged inland areas.

Stefania Cerutti, Paola Menzardi, and Elisa Bacchetta discuss the possibilities of growth of tourism and local development that can derive from outdoor experiences. The article presents some pilot experiences conducted in the high Ossola valleys in Piedmont Region, based on a renewed approach to health tourism that combines outdoor experiences' psychological impact with sustainable tourism's role in enhancing alpine territories.

Maria Giuseppina Lucia and Francesca Silvia Rota's article on proximity forest tourism analyses how the touristic exploitation of forests and other wooded lands can contribute to community building and local development, using the case of the protected area "Bosco della Partecipanza" of Trino in Vercelli Province.

Giorgia Iovino's article on "Tourism and cultural heritage in the urban transformation of Naples" critically evaluates the complex Italian tourist offer and its problems, especially in Naples. The article investigates some of the bottom-up experiences, with the aim of evaluating whether and to what extent these initiatives can generate territorial welfare, combining economic development with social identity and practices by urban dwellers.

Francesco Adamo

ARTICLES

ANALYSIS OF THE IMPLEMENTATION OF THE PERFORMANCE BASED NAVIGATION FOR A MORE EFFICIENT AND SUSTAINABLE AIR TRANSPORT

Matteo Ponziani*

Abstract

The aviation sector is a very important industry from economic and social points of view. But the aviation industry significantly contributes to anthropogenic climate changes. In 2008, the aviation industry agreed a global, sector-wide climate action framework. This framework is based on a set of three global goals: short, medium and long-term. The most ambitious climate target is to halve carbon emissions by 2050, compared to 2005 levels. Long term goals could be largely reached with sustainable aviation fuel or new important technology such as electric-engine aircraft. But another important aspect to reach this last goal and to satisfy medium-term goal is the Air Traffic Management optimization.

This paper aims to analyse the environmental and economic benefits of the Performance Based Navigation that can optimize aircraft routes and air transport efficiency all around the world.

Keywords: Aviation, Performance Based Navigation, PBN, RNAV, environmental benefits, sustainability, Air Traffic Management.

1. Introduction

The environmental impact of the aviation industry has been regulated by the International Civil Aviation Organization (ICAO) since the early 1960s following the introduction of the first generation of jet aircraft. Initially, only the noise issues were regulated in Standard and Recommended Practices included in the first edition of the Annex 16 to the Convention on International Civil Aviation adopted in 1971 (called “Aircraft Noise”). In 1981 the Annex 16 comprised also a second volume concerning aircraft engine emissions and it has been retitled “Environmental Protection”. Nowadays the Annex 16 includes four volumes:

- Volume 1, Aircraft Noise 7th edition;
- Volume 2, Aircraft Engine Emission, 4th edition;
- Volume 3, Aeroplane CO₂ Emissions, 1st edition;
- Volume 4, Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), 1st edition.

The Annex 16 provides a regulation on technical aircraft characteristics that effect on environmental impact. At the same time ICAO publishes a triennial Environmental

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Report, which is the world reference document analysing pollutant and noise emissions of the aviation industry as well as new technology and best practices

¹. ICAO also provides specific traffic and environmental impact data to the International Energy Agency (IEA).

At European level, the environmental overall impact of the aviation industry and the necessary milestones to achieve the net zero CO₂ emissions by 2050 are analysed by the “Eurocontrol Aviation Outlook 2050” published in 2022.

The air transport contributes to anthropogenic climate change due to pollutants emissions that lead to a net surface warming. Aircraft emissions consist of carbon dioxide (CO₂), nitrogen oxides (NO_x), water vapour, soot and sulphate aerosols. Aircraft flying at high altitudes also increase the global cloudiness through the formation of persistent contrails when the atmosphere is supersaturated.

Furthermore, over the past decades the aviation sector grew rapidly: considering the RPK (Revenue Passenger Kilometers) we can notice a significant increase passing from 109 billion km yr⁻¹ of 1960 to 8293 billion km yr⁻¹ of 2018². The CO₂ emissions in the same period increased from 6.8 to 1034 Tg CO₂ yr⁻¹³.

The cumulative emissions of global aviation (1940–2018) are 32.6 billion tonnes of CO₂, of which approximately 50% were emitted in the last 20 years. The 2018 CO₂ emissions from air transport represent approximately 2.4% of anthropogenic emissions of CO₂ (including land use change)⁴.

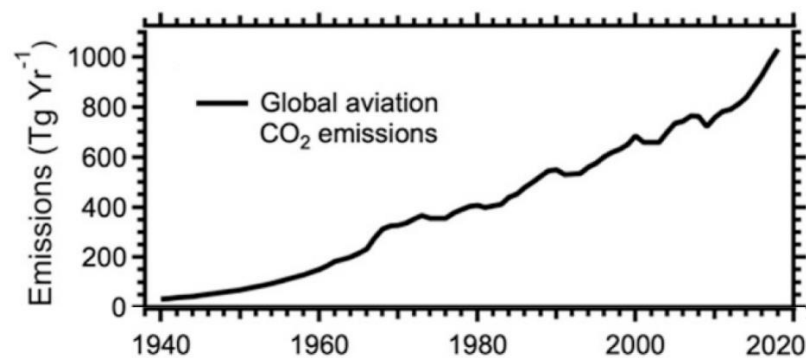


Figure 1: Global aviation CO₂ emissions.

Source: D.S. Lee et al, 2021.

According to De Andreis (2020) “due to Covid-19 pandemic the aviation sector has faced the most critical challenges in its history”⁵. The world passenger air traffic experienced an unprecedented reduction, 2.7 billion passengers less, -60% from the preceding year. The pandemic restrictions caused an economic damage for airlines of

¹ This paper analysed the 2022 *Environmental Report*, International Civil Aviation Organization, Montréal.

² Airlines for America (A4A) association, ICAO data.

³ Le Quéré, C., 76 others, 2018. Global carbon budget 2018. *Earth System Science Data* 10, 2141–2194.

⁴ D.S. Lee et al, The contribution of global aviation to anthropogenic climate forcing for 2000 to 2018, *Atmospheric Environment*, Volume 244, 2021, 117834, ISSN 1352-2310

⁵ De Andreis F., 2020. Strategies of resilience to pandemic storm in the airline industry, *Geopress Journal*.

USD 372 billion loss of gross passenger operating revenues in 2020 compared to 2019 (ICAO, 2022 Environmental Report).

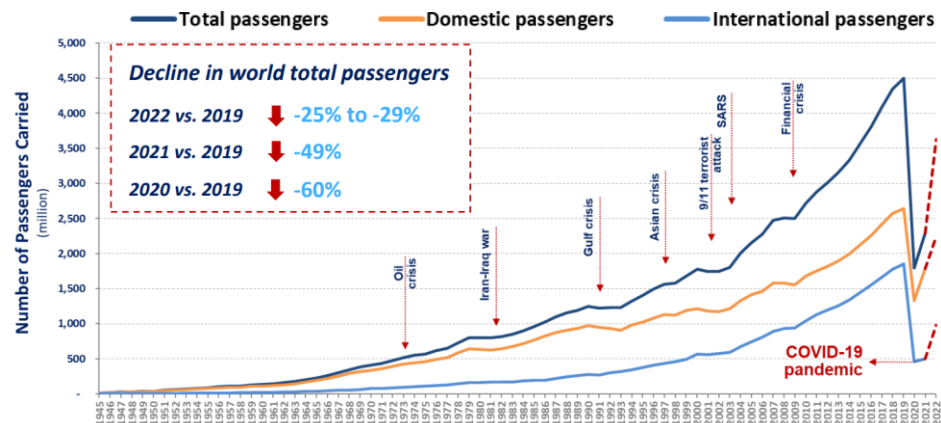


Figure 2: World passenger traffic evolution, 1945–2022.
 Source: D.S. ICAO Environmental Report, 2022.

Despite the enormous reduction in the air traffic volume has reduced the greenhouse gas emissions from aviation of about 43% in 2020 (IEA, 2022), this is not sufficient to invert the global warming tendency. Moreover, the air transport traffic is growing up again. The ICAO MDWG-LTF (Multi-Disciplinary Working Group on Long-term Traffic Forecasts) and ICAO Secretariat developed three forecast scenarios on passenger traffic growth following the COVID-19 pandemic crisis. These three scenarios represent the low, mid and high trend forecast. In the intermediate and most probable scenario the RPK (Revenue Passenger-Kilometers) is expected to increase of about 3.3% per year up to 2038.

	10 Year (2018-2028)	20 Year (2018-2038)	30 Year (2018-2048)	32 Year (2018-2050)
Post-COVID : Low	1.2%	2.4%	2.8%	2.9%
Post-COVID : Mid	2.6%	3.3%	3.5%	3.6%
Post-COVID : High	3.6%	4.1%	4.2%	4.2%
Pre-COVID : Mid	4.2%	4.2%	4.2%	4.2%

Figure 3: RPK forecasts scenarios.
 Source: ICAO Post-COVID-19 Forecasts Scenarios.

For the ECAC (European Civil Aviation Conference) airspace, Eurocontrol elaborated in April 2022⁶ three possible scenarios to evaluate traffic and CO₂ growth (low, base and high scenarios).

Considering the 11.1 million flights in 2019, after the Covid-19 pandemic, the most-likely scenario shows an increase of up to 16 million IFR flights in 2050 (base scenario).

⁶ Eurocontrol, 2022, Eurocontrol Aviation Outlook 2050.

ECAC	IFR Flights						
	2019		2050			2050/2019	
	Total (million)	Avg. daily (thousands)	Total (million)	Avg. daily (thousands)	Extra flights/day (thousands)	Total growth	AAGR
<i>High scenario</i>	11.1	30.4	19.6	53.6	23.2	+76%	+1.8%
<i>Base scenario</i>			16.0	43.7	13.4	+44%	+1.2%
<i>Low scenario</i>			13.2	36.2	5.8	+19%	+0.6%

Figure 4: Eurocontrol scenarios of traffic growth.

Source: Eurocontrol Aviation Outlook 2050.

At present and for some considerable time into the future, aviation growth is likely to be largely dependent upon the combustion of kerosene fossil fuel (Jet A-1/A) (OECD, 2012). Every kilogram of JET A-1/A burnt produces 3.16 kg of CO₂ (ICAO Carbon Emissions Calculator Methodology, 2018), 15.14 g of NO_x (Fleming and Ziegler, 2016), 1.231 kg of water vapor (Berrett et al, 2010) and 1,2 g of Sulfur SO₂ (Miller et al., 2010).

According to D.S. Lee et al (2021), fuel usage and hence CO₂ emissions have grown at a lesser rate than RPK. This demonstrates the increased air transport efficiency nowadays due to improved aerodynamical and engine characteristics, larger average aircraft sizes and increased passenger load factor. The air transport efficiency has enhanced by about eight times since 1960.

Therefore, the aviation sector plays a crucial role to achieve the goals of the Paris Agreement, aiming to keep a global temperature rise below 2°C Celsius (compared to pre-industrial levels) and to continue efforts to limit the global temperature growth even further to 1.5° Celsius.

In April 2008, at the 3rd Aviation and Environment Summit, held in Geneva (Switzerland), the aviation industry agreed a global, sector-wide climate action framework. The agreement was signed by airlines associations (ATAG and IATA), airports association (Airport Council International), ANSPs association (CANSO), engine and aircraft manufactures (Airbus, Boeing, Embraer, Bombardier, ICCAIA, Cfm, Pratt & Whitney, GE, Rolls-Royce). The framework is based on a set of three global goals: short, medium and long-term. The short-term goal was set to achieve a 1.5% average annual fuel efficiency improvement from 2009 to 2020 using new aircraft that ensure 20% more fuel efficiency than previous models. This goal is being surpassed with an average improvement of 2% per year. The medium-term goal is set to stabilise net aviation CO₂ emissions at 2020 levels through carbon-neutral growth. Long-term goal aims to reduce net CO₂ emissions to 50% of what they were in 2005 by the 2050.

On this direction, in 2019, the ICAO at its 40th triennial Assembly, adopted the Resolution A40-18 establishing two similar goals: a fuel efficiency improvement of 2% per year and a carbon-neutral growth from 2020 (this last goal was previously established at the 37th session of ICAO Assembly in 2010).

To reach the medium-term goal of a carbon-neutral growth the air transport sector is undertaking a combination of technological, operational and infrastructural enhancement with the first implementation of sustainable aviation fuels and market-based measures.

Most of the operational and infrastructural improvements are the result of the implementation of GNSS (Global Navigation Satellite System) and PBN (Performance Based Navigation), which enhance Air Traffic Management (ATM). ATM improvements are a key factor to reach the long-term goal as well. Eurocontrol forecasts that to reach a reduction of 40% of net CO₂ emissions in 2050 compared to 2005 levels, aviation industry shall proceed to implement the following actions:

- extensive use of Sustainable aviation fuel (41% of net CO₂ reduction);
- evolutionary and revolutionary fleet renewal (19% of net CO₂ reduction);
- operational and ATM improvements (8% of net CO₂ reduction).

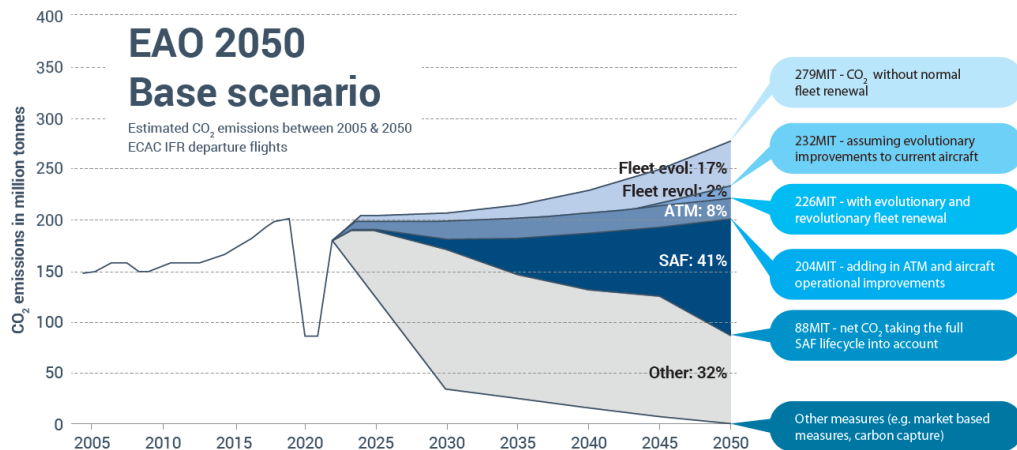


Figure 5: Measures to reach net CO₂ emissions.
Source: Eurocontrol Aviation Outlook 2050.

This analysis shows the results in terms of performance efficiency, cost reductions and environmental benefits of the Performance Based Navigation applications.

2. PBN characteristics

The ICAO DOC 9613 is the reference document on Performance Based Navigation (PBN). Furthermore, the ICAO DOC 8168 defines detailed international standard policies that national authorities have to follow to build PBN instrument procedures. The Performance Based Navigation is the evolution of the Area Navigation (RNAV) concept. According to ICAO definition, the Area Navigation is “a method of navigation which permits aircraft operation on any desired flight path within the coverage of ground or space-based navigation aids (GNSS) or within the limits of the capability of self-contained aids, or a combination of these”.

RNAV has been implemented for the first time in USA in the 70s owing to the evolution of computers and their use on onboard aircraft systems.

Navigation data, obtained from onboard navigation systems, are transmitted to a computer called FMC (Flight Management Computer). The FMC processes these data and shows the results to flight crew in a flexible and clear manner. This solution permits to fly on direct routes without the need to overfly radio-aids (as for traditional routes).

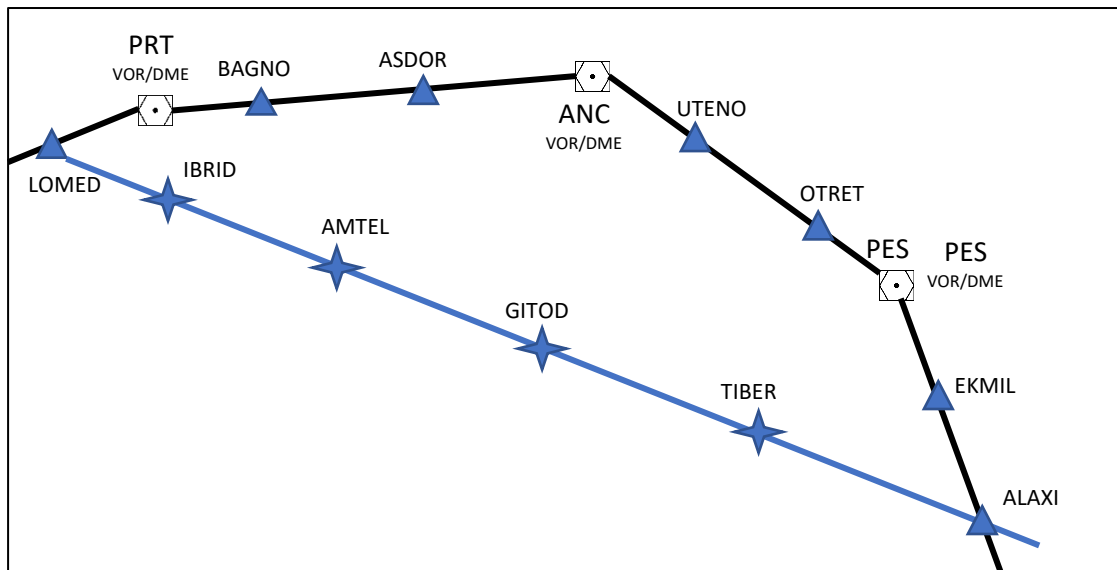


Figure 6: Comparison between a traditional route (in black) and a RNAV route (in blue).

Note: this image is an example and does not represent a real route.

Source: Author's elaboration.

The use of direct routes enhances the airspace efficiency and capacity; it also increases the number of routes and permits a better tactical Air Traffic Management.

An FMS (Flight Management System) onboard the aircraft, automates a wide variety of in-flight tasks through the use of real-time navigation and flight data. This information is elaborated with the support of specific databases: a navigational database and a performance database. The navigation database contains routes, waypoint and other constraints, whereas the performance database stores the specific parameters regarding airplane performance during the various stages of the flight. The computed information is presented in an integrated and efficient manner on specific aircraft displays reducing the pilot's workload. Pilots can interact with the FMS using a specific interface, that is generally called CDU (Command and Display Unit).

The objective of PBN principles is to standardize RNAV and Required Navigation Performance (RNP) specifications limiting different national interpretations and avoiding the multiplication of distinct navigation specifications across the world. The PBN concept is the evolution of RNAV systems adding further requirements to permit the usage of this systems on critical phases of flight. According to DOC 9613 "Airborne performance requirements are expressed in navigation specifications in terms of accuracy, integrity, continuity and functionality needed for the proposed operation in the context of a particular airspace concept".

RNP specifications include a requirement for on-board performance monitoring and alerting while RNAV specifications do not include this requirement.

The precision of an RNAV or an RNP system is indicated with a number representing the total system error (TSE). TSE is expressed as a deviation in nautical miles from the desired path to be achieved at least for the 95 % of the flight time by the population of aircraft operating within the airspace, route or procedure. PBN ensures predictable and reliable flight path according to detailed navigation specifications.

PBN is not a sensor-specific system and it can rely on different navigation systems (navigation infrastructure) according to airspace concept requirement (defined by DOC 9613). GNSS will become the primary navigation infrastructure of PBN systems. In EU, according to European regulation, the GNSS will be, by 2030, the PBN's main positioning source too. Nevertheless, it is necessary to ensure that a minimum operational network of terrestrial navigation aids remains available for contingency operations and to support normal operations for those aircraft which are either not PBN certified or not GPS equipped.

The PBN can be used for every phase of flight:

- for the departure phase using RNAV2, RNAV1, RNP1 specifications;
- for remote navigation (e.g. oceanic) using RNAV10, RNP4, RNP2 specifications;
- for the enroute phase using RNAV5, RNAV2, RNAV1, RNP2 specifications;
- for the arrival phase using RNAV5, RNAV2, RNAV1, RNP1 specifications;
- for the approach phase with a 2D guidance using RNP APCH (LNAV, LP) specifications;
- for the approach phase with a 3D guidance using RNP APCH (LNAV/VNAV, LPV) specifications;
- for the approach phase of flight implementing curved paths (also on the final segment) and reducing lateral and vertical obstacle clearance using RNP AR (Authorization Required) APCH specification.

Navigation Specifications	Sensors				
	GNSS	IRU	DME/DME	DME/DME/IRU	VOR/DME
RNAV 10	✓	✓			
RNAV 5	✓	✓	✓	✓	✓
RNAV 2 & 1	✓		✓	✓	
RNP 4	✓				
RNP 2	✓		✓	✓	
RNP 1	✓		✓	✓	
Advanced RNP	✓		✓	✓	
RNP APCH (LNAV, LNAV/VNAV)	✓				
RNP APCH (LP, LPV)	✓ + SBAS				
RNP AR APCH	✓	✓			
RNP 0.3	✓				

Legend:

- This table is based on the Navigation Specifications in the ICAO Doc 9613 PBN Manual
- A tick with pink background means a sensor mandatory
- A tick with green background means a sensor used subject to ANSP approval, appropriate infrastructure and aircraft capability;
- A tick with no background means a sensor optional (one or more – choice of operator).

Figure 7: sensors required for each navigation specification in Europe.

Source: Eurocontrol ERNIP PART 1, 2022.

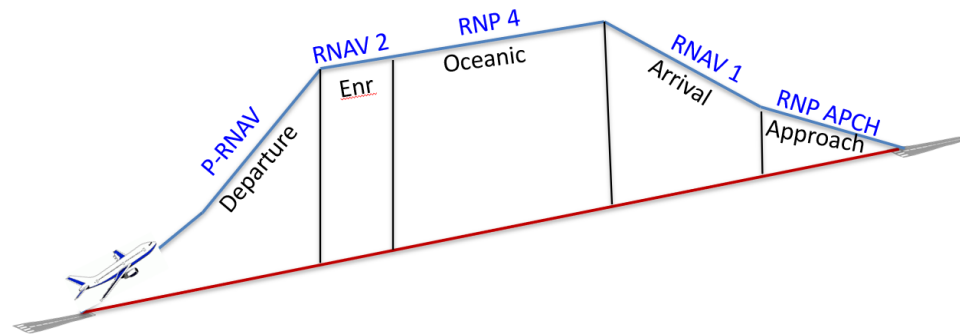


Figure 8: example of multiple navigation specifications used for a single flight.
Source: Author's elaboration.

To optimize aircraft trajectories *fly-by* waypoints can be used instead of *fly-over* waypoint.

According to DOC 8168:

“Fly-by waypoint: a waypoint which requires turn anticipation to allow tangential interception of the next segment of a route or procedure;

Flyover waypoint: a waypoint at which a turn is initiated in order to join the next segment of a route or procedure.”

For fly-by transitions, the ideal paths vary with aircraft bank angle and airspeed so no repeatable and predictable trajectories are specified.

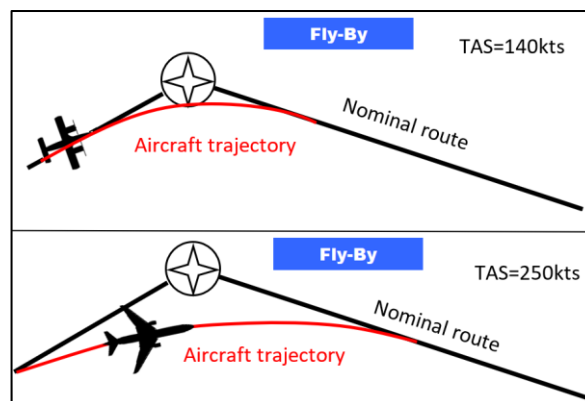


Figure 9: example of routes computed by the FMS on two different aircraft with different speeds.

Source: Author's elaboration.

For curved path Radius to Fix (RF) or Fixed Radius Transition (FRT) can be used.

The RF trajectory is used in terminal and approach phases of flight. The circular path is determined with a constant radius built around a defined turn centre. The path terminates over a specific waypoint. The FMC permits to follow the circular nominal route with the same accuracy as in the straight-line segments.

The FRT trajectory is used during enroute phase of flight. The turning radius of FRT can assume only two possible values: 22.5 NM for airways above FL 195 and 15 NM for airways at or below FL 195. The more reliable and precise navigation permitted by PBN (also for curved paths) allow to build closely spaced parallel routes improving airspace capacity.

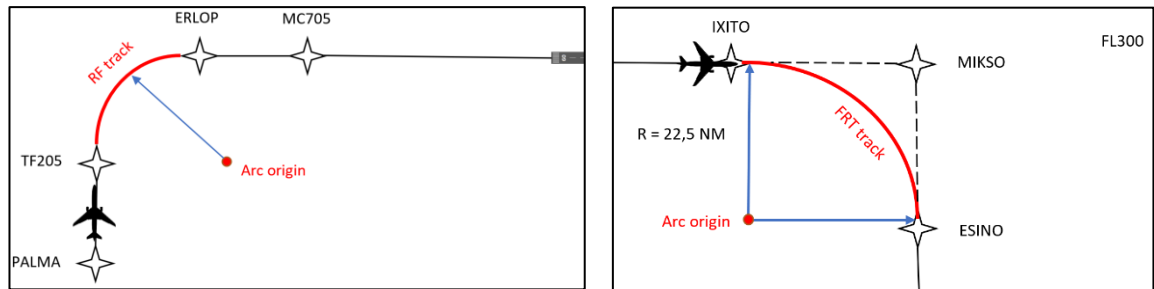


Figure 10: examples of Radius to Fix arc (on the left) and Fixed Radius Transition (on the right).

Source: Author's elaboration.

3. Results of PBN applications in terms of operational and environmental benefits

3.1 PBN operational and environmental benefits

Performance Based Navigation enables a series of operational benefits as outlined below:

- the possibility to fly straighter and shorten flight tracks;
- increased airspaces capacity and trajectory optimizations;
- increased efficiency of vertical navigation profiles implementing Optimized Profile Descent (OPD), Continuous Descent Operations (CDO) and Continuous Climb Operations (CCO);
- reduction of the need of radar vectors due to more predictable routes permitting the aircraft to fly more efficient pre-calculated tracks;
- reduction of the possibility of diversions and missed approaches owing to a more resilience navigation infrastructure less dependent to ground equipment;
- reduction of the likelihood of in-flight holding;
- reduction of contingency fuel required (lowering aircraft weight and fuel consumption) owing to system predictability and reliability.

These operational improvements lead to the following environmental benefits:

- significant reductions of fuel consumptions and consequent reduction of CO₂ and pollutants emissions such as carbon monoxide, NO_x, sulphate aerosols and soot;
- reduction of flight path distances and increase in trajectory efficiency on vertical profile: continuous descent applications permit to execute descents maintaining idle thrust and reducing noise emissions;
- noise concentration in non-sensitive area owing to greater navigation accuracy and the increase in route predictability that reduce the need of radar vectors and permit the concentration of departure and arrival routes on less populated areas;
- reduced aerodynamic noise from optimum drag profiles.

The benefits of PBN procedures are analysed in the following paragraphs examining the applications for the enroute phase, for the approach and climb phases and to reduce noise emissions. Significant case-studies are also presented.

3.2 PBN operational and environmental benefits for the enroute phase of flight

Two of the most important projects in the world that aim to modernize air traffic infrastructure and operations are the SES (Single European Sky) project and NextGen. Both projects are based on extensive use of GNSS and PBN technology.

NextGen is a US project and, as described by the Federal Aviation Administration⁷, “it aims to increase the safety, efficiency, capacity, predictability and resiliency of American aviation”. Through research and collaboration, NextGen contributes to define new standards thanks to a series of interlinked programs, portfolios, systems, policies, and procedures that are fundamentally changing aviation communications, navigation and surveillance. Within its scopes there are airport infrastructure improvements, new air traffic management technologies and procedures, and environmental, safety and security-related enhancements. The NextGen project is being undertaken by the US Federal Aviation Administration (FAA) and aims to simplify US ATM by rolling out PBN and Automatic Dependent Surveillance-Broadcast (ADS-B) that will replace radar technology, as well as collaborative air traffic management technologies.

The SES is a European project: the main objective is to reform Air Traffic Management (ATM) in Europe in order to cope with sustained air traffic growth and operations under the safest, most cost- and flight-efficient and environmentally friendly conditions. This implies de-fragmenting the European airspace, reducing delays, increasing safety standards and flight efficiency to reduce the aviation environmental footprint and costs⁸. SESAR (Single European Sky ATM Research), an institutionalised European public-private partnership, was created to reach, through research and development, the goals and the delivery of the Single European Sky. The SES legislative framework consists of four Basic Regulations (N° 549/2004, 550/2004, 551/2004 and 552/2004) and more than 20 Implementing Rules and Community Specifications adopted by the European Commission. The Basic Regulations cover the provision of air navigation services (ANS), the organisation and use of airspace and the interoperability of the European Air Traffic Management Network (EATMN) revised by the Regulation (EC) n° 1070/2009.

One of the projects of SES is Free Route Airspace (FRA). FRA is an airspace where operators can plan aircraft routes in a freely way between a defined entry point and a defined exit point without the obligation to follow a published ATS route because of PBN technology.

FRA is a new airspace concept that redefine the structure of upper airspace improving flight efficiency. In this way airspace capacity is improved and fuel consumption and emissions are reduced.

⁷ Federal Aviation Administration, NextGen program. <https://www.faa.gov/nextgen>.

⁸ European Commission, Single European Sky. https://transport.ec.europa.eu/transport-modes/air/single-european-sky_en

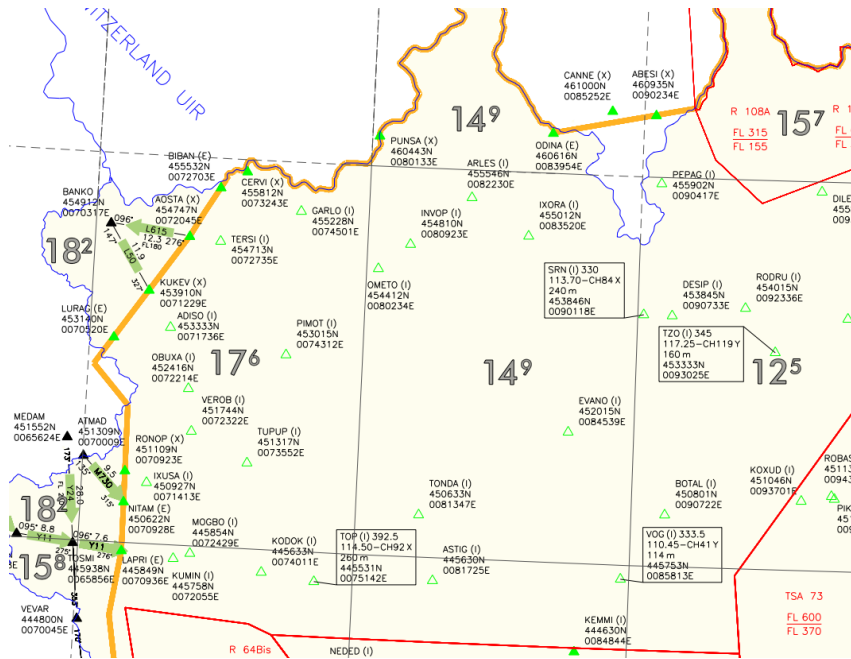


Figure 11: A portion of the Italian Free Route Airspace above FL305.
 Source: ENAV, AIP Italia.

The ideal and most efficient route coincide with a great circle track. The route extension (difference between route flown by aircraft and great circle track), as calculated by Eurocontrol, reduced from 3.58% in December 2007 to 2.00% in December 2021.

Nowadays the actual saving induced by the FRA (according to Eurocontrol data) is:

- 500 nautical miles of trajectories reduction;
- 3000 tonnes of fuel;
- 9500 tonnes of CO₂;
- 3 million euros.

The Free Route Airspace will be progressively implemented over the ECAC (European Civil Aviation Conference) zone as shown in figure 12.

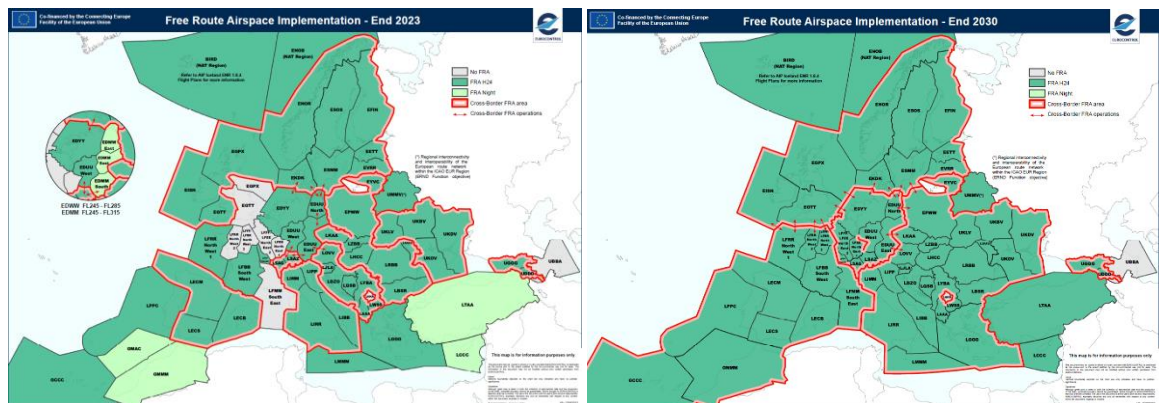


Figure 12: FRA implementation, comparison at the end of 2023 (left picture) with the situation expected at the end of 2030 (right picture).
 Source: Eurocontrol, June 2022.

According to Eurocontrol data and studies, “once fully implemented at European level, the FRA will allow the following savings, compared with the current situation:

- 1 billion nautical miles of trajectories reduction;
- 6 million tonnes of fuel;
- 20 million fewer CO₂ tonnes;
- 5 billion euros in fuel costs savings”.

3.3 PBN operational and environmental benefits for approach and climb phases of flight

In terminal area, PBN enables more direct routes, the possibility of curved trajectory (also for the final phase of flight on RNP AR approaches), the reduction of approach minima (MDA/H or DA/H), the reduction of the probability of missed approaches, the optimization of climb and descent phases owing to vertical navigation (VNAV).

The trajectory optimization and the more predictable tracks reduce the need of radar vectoring during the instrument approach phase, lowering ATC workload.

According to ICAO definitions⁹ “Continuous Climb and Descent Operations (CCOs and CDOs) are aircraft operating techniques enabled by airspace design, instrument procedure design and facilitated by air traffic control (ATC). CCO and CDO allow aircraft to follow a flexible, optimum flight path that delivers major environmental and economic benefits - reduced fuel burn, gaseous emissions, noise and fuel costs - without any adverse effect on safety”.

CCO and CDO operations allow aircraft to descend or climb continuously: departing aircraft applying CCO maintain optimum climb engine thrust and climb speeds until reaching their cruising levels whereas arriving aircraft applying CDO descent at the minimum engine thrust from top of descent and in a low drag configuration stabilizing on final approach. The employment of these techniques reduces intermediate level-offs and results in a reduction of fuel consumption owing to a flight time increase at higher or cruising levels, hence significantly reducing fuel burn and lowering emissions and fuel costs as confirmed (concerning CDO) by Errico A., Di Vito V. (2017).

According to Eurocontrol data, after an ECAC-wide study on CCO and CDO analysis¹⁰, the complete deployment of CCO and CDO in Europe will have the following economic and environmental impacts:

- 340,000 tonnes of fuel saved;
- about 150,000 million in in fuel costs savings;
- 1 million fewer CO₂ tonnes.

The study concluded that for CCO, 94% of flights in ECAC currently fly CCO to FL (Flight Level) 100 while 74% fly a full CCO to Top of Climb. For CDO, 41% of flights fly CDO from FL75 (the top of the noise CDO) while only 24% fly a CDO from Top of Descent (ToD – the top of the fuel CDO). Another key point of the study is that the potential fuel saving benefits of CDO are about ten times more than those from CCO.

⁹ ICAO Doc 9993 and ICAO Doc 9931

¹⁰ Eurocontrol website, Continuous climb and descent operations.

As a demonstration of fuel consumption reduction and environmental benefits in the approach and climb phases of flight, the table below shows the CANSO data¹¹ in the US Metroplex operations following the PBN implementation.

Metroplex	Daily Average by Fiscal Year		Projected Annual Benefits			Metroplex Phase
	2017 Total Operations	2017 Scheduled Flights	Fuel Savings (Gallons of fuel in millions)	Value of Fuel Savings (Fuel costs in millions)	Carbon Savings (Metric tons of carbon in thousands)	
Atlanta	3,165	2,335	2.2**	\$6.3	18.8	Complete
Charlotte	2,735	1,884	4.2***	\$12.1	36.0	Complete
Cleveland-Detroit	2,200	1,309	3.4*	\$9.7	28.9	Implementation
Washington D.C.	2,785	1,998	2.0***	\$5.6	16.5	Complete
Denver	2,904	1,503	0.6*	\$1.8	5.4	Design
Florida	7,316	3,050	5.4*	\$15.5	46.1	Design
Houston	2,275	1,475	1.8***	\$5.3	15.7	Complete
Las Vegas	2,189	954	2.6*	\$7.5	24.8	Design
North Texas	4,368	2,062	2.6**	\$7.5	22.4	Complete
Northern California	3,349	2,020	0.7**	\$2.0	5.6	Complete
Phoenix	----	----	----	----	----	Cancelled
Southern California	6,106	2,889	3.1***	\$8.8	26.0	Complete

Last Updated November 2018

* Indicates data is derived from study team notional models, ** Indicates data is derived from design team refined models, *** Indicates analysis is based on radar track data collected during the first three months after the final implementation for that project

*Figure 13: Metroplex airports data of savings following PBN implementation.
 Source: CANSO, 2020.*

3.4 PBN implementation as a noise mitigation technique

PBN benefits are not limited to the reduction of fuel consumption, pollutants and greenhouse gasses emitted in the atmosphere but this navigation technique can be efficiently used to mitigate noise pollution.

The possibility to create precise and flexible routes with an increased predictability enables to create tracks that avoid as much as possible noise sensitive areas during departure and landing phases. Topographical features, such as rivers, highways or agricultural areas, can be used when available.

Traditional routes and ATC vectors have not the same predictability as PBN/RNAV routes with aircraft not passing over the same reporting point at the same altitude on regular basis: this causes a “dispersion” of flights.

With PBN implementation more aircraft may fly over a series of waypoints and the correlated areas on the ground, with the resultant “concentration” of engine and airframe noise. The noise concentration derived from PBN can be a valuable noise mitigation technique if used appropriately to concentrate operations over non-populated and less noise-sensitive zones.

¹¹ CANSO, 2020. Use of Performance Based Navigation (PBN) for Noise Management.

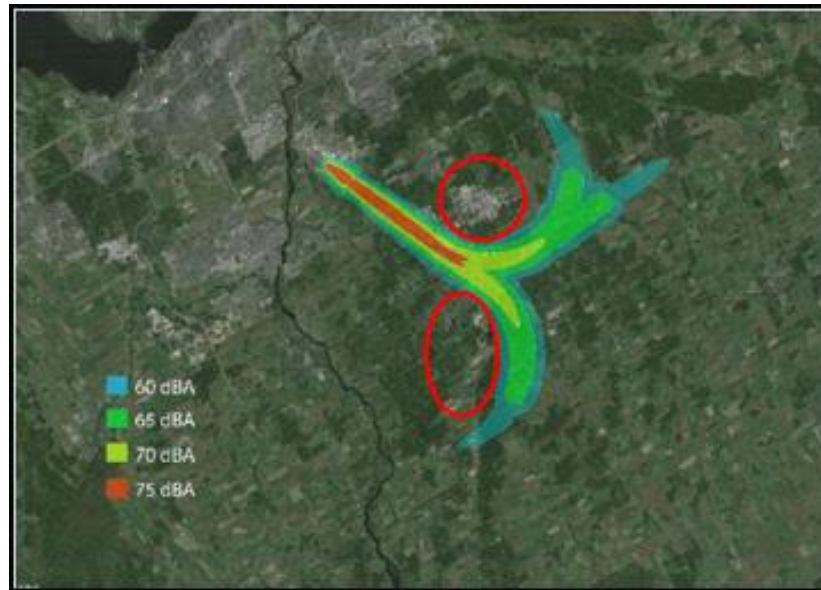


Figure 14: RNP AR approaches at Ottawa airport able to avoid two noise-sensitive areas (circled in red).

Source: CANSO.

In areas where densely populated zones are very close from an airport a hybrid situation can provide more benefits, such as in Lester B. Pearson International Airport (figure 15). In this way radar vectors could disperse noise in the initial climb whereas the PBN-concentrated portion of the routes, (e.g. the start of an RNAV SID transition), can be placed such that the concentration occurs away from densely populated areas (CANSO, 2020).

The concentration aspect of PBN routes can be an effective mitigation technique to airplane noise. This instrument procedures should be designed and published to keep aircraft trajectories over non-residential zones.

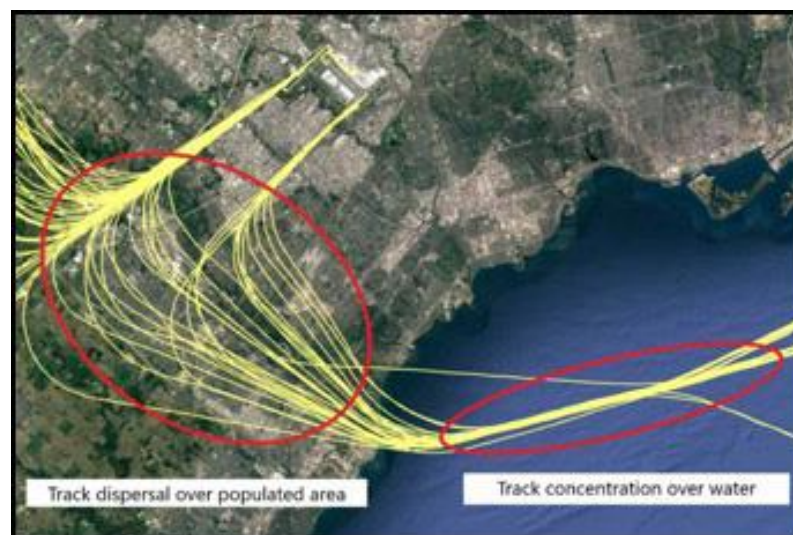


Figure 15: Example of hybrid approach in Lester B. Pearson International Airport (Toronto).

Source: NAVCANADA.

3.5 Case study: San Francisco RNP to GLS approach runway 19R

A specific study (Boeing, 2016) was conducted in San Francisco airport in August 2016 to improve airport efficiency with new approach procedures. In the demonstration took part San Francisco Airport, Boeing, FAA and two aircraft (Boeing 737-900ERs) of Delta Air Lines and United Airlines. According to the study, one procedure that features a much shorter turn to final approach, reduces the distance flown by twenty nautical miles and time spent in the air, cuts emissions by up to 771 kg per approach, avoids nearby Oakland Airspace, and improves community noise exposure for several densely populated East Bay communities. The revised RNP to GLS (GBAS Landing System) procedures to runway 19R was a Continuous Descent Operations with a near-continuous idle-thrust descent for landing. The objective of this new approach trajectory was also to minimise the use of speed brakes (avoiding to increase aerodynamic drag) and aiming to increase flight efficiency and to reduce fuel consumptions compared to vectored routes.

The estimated population exposed by the noise produced from this type of procedure consisted of 47,300 people versus the 329,600 people involved in a short vector or 296,500 in a long vector to final. Therefore, this demonstrates the benefits of PBN procedures in terms of noise alleviations.



Figure 16: Comparison of noise exposure in San Francisco between a RNP approach and two kinds of radar vectors.

Source: Boeing.

Moreover, the PBN approach procedures ensure a greater flexibility in vertical guidance compared to ground-based instrument approaches (such as the ILS-Instrument Landing System). In fact, in a PBN approach the descent angle can be adjusted according to local requirements (such as obstacles or noise attenuation) and it can be modified between different procedures.

As an example, the GLS final approach segment of runway 28R in San Francisco was modified to 3.25° compared to the typical 3° glideslope of the ILS. Boeing has demonstrated that a higher descent angle in the final segment of the GLS procedure has reduced the fuel burnt over the standard ILS (Boeing, 2016).

The study has estimated a fuel burnt reduction of the Boeing 737-900ERs of up to 50 lbs per approach for the RNP to GLS procedure with a 3.25° final glideslope. As a result, this decreases the CO₂ emissions of 158 lbs. The data is to be considered as an example because these values can vary with aircraft type, meteorological conditions,

aircraft weight, throttle movements. However, it was registered an improvement compared to the 30 lbs of fuel savings obtained from an analytical estimate.

The figure 17 compares the two kinds of approaches (conventional vs. PBN) conducted in San Francisco with the same airplane model.

The graph on top links altitudes with distances from the runway threshold while the bottom graph compares the rotational speed of the engine fan (“N1 #1 CMD”) versus the distance from the runway threshold. N1 is proportional to engine thrust setting and effects fuel flow; the fuel flow integrated over the approach defines the fuel burnt.

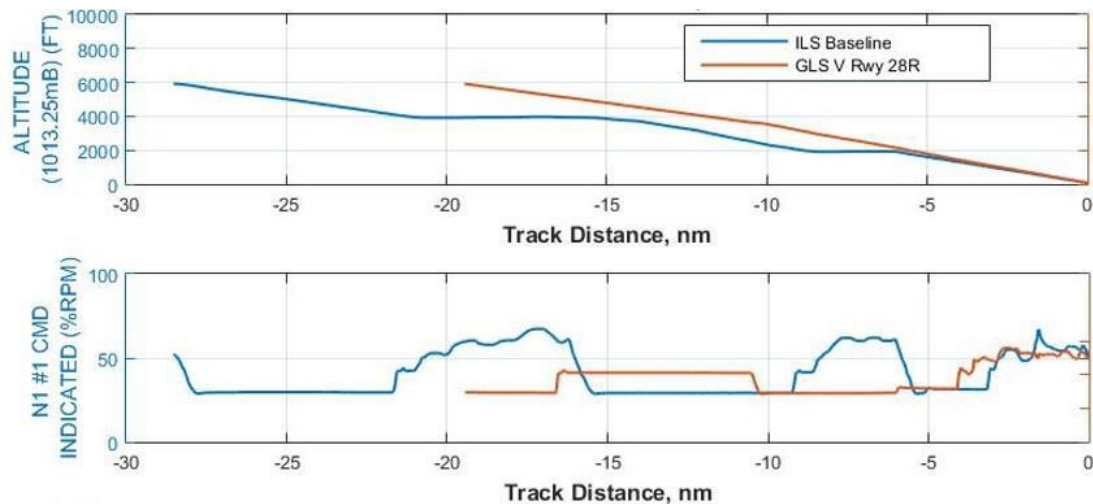


Figure 17: Altitude and Engine Throttle setting comparisons for the approaches (GLS and ILS) to runway 28R in San Francisco.

Source: Boeing.

The absence of levelled segments is evident in the GLS approach as well as the lower throttle setting required. As a result, there is a reduction of fuel flow, fuel burnt, CO₂ and noise emissions.

3.6 Case study: London Stansted airport

Another case-study of London Stansted airport is reported below demonstrating the noise reduction benefits of PBN procedures applied in departure tracks as a result of track concentration due to greater navigation accuracy and the increase in route predictability.

London Stansted Airport has implemented RNP with Radius to Fix routes for departure in order to meet the regulatory requirement laid down by EASA and also improving the efficiency of flight operations and the environmental impact.

An initial trial of RNP (RF) procedures took place in 2013 with a single airline participant and with the support of NATS (the UK enroute ANSP) and CAA (the national aviation authority) in order to prove the benefits of utilising PBN at Stansted. The procedure was evaluated with the commitment of the people living in the nearby area. During the consultation phase of 2015, 71% of respondents were supportive about the SIDs modification. This led to approve the procedures as permanent. Compared to conventional departures, the new PBN standard departures decrease by 85% the number of people overflown with a reduction of two thirds of the area involved by the noise pollution (CANSO, 2020).

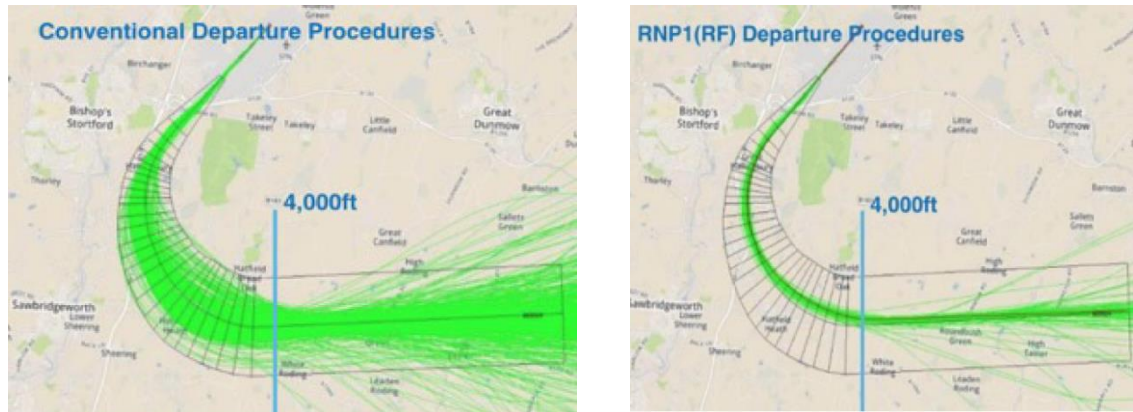


Figure 18: Comparison of areas overflowed by conventional departures (width of approximately 1500m) and RNP departures (width of approximately 500m) before 4000 feet.

Source: NATS.

The table below (figure 19) shows the difference in track accuracy between the instrument departure procedures really flown in December 2013 (95.81% of non-PBN procedures) and instrument procedures flown in December 2017 (90.97% of PBN procedures): in December 2017 (PBN environment) 95.41% of departing aircraft maintained their routes in the symmetrically area of ± 500 metres width disposed about the nominal flight track compared to the 21.11% of December 2013.

	All Movements	% Track Keeping against ± 500 m swathe All Movements	No of PBN Departures	%PBN Departures	% Track Keeping against ± 500 m swathe PBN Movements
December 2013	1525	21.11	64	4.19	96.82
December 2017	3179	95.41	2892	90.97	99.38

Figure 19: Comparison in track accuracy between PBN and non-PBN departure routes in London Stansted airport.

Source: CANSO.

This demonstrates as PBN procedures improve the resilience of the aviation industry reducing the environmental impact in city airports.

4. Conclusions

Data reported on this analysis clearly shows that PBN implementation not only has operational benefits but also has a significant contribution on improve aviation environmental impact.

PBN applications can effectively reduce fuel consumption, pollutants emissions and greenhouse gasses emissions in the atmosphere thanks to trajectories optimization and system reliability. This is evident considering actual and future data of Free Route Airspace project and CANSO data of fuel and CO₂ savings on Metroplex airports.

PBN ensures operational and infrastructural improvements that are the basis of ATM optimization. This optimization has a key role to reduce environmental aviation impact

and to reach the goal of halving CO₂ emissions by 2050. In particular according to Eurocontrol studies on future air traffic growth, ATM optimization will contribute to reduce of 8% the carbon emissions: considering the base scenario it will be necessary a reduction of 22 million tonnes of CO₂ emitted in atmosphere only in ECAC airspace. Forecast data on this analysis shows that we will be able to reach a reduction of 21 million CO₂ tonnes emitted in the atmosphere from the benefits of Free Route Airspace complete implementation (20 million CO₂ tonnes saved) and from a complete employment of Continuous Climb and Descent Operations (1 million CO₂ tonnes saved). Aggregated data of fuel savings following a complete PBN implementation and optimization of airport routes (arrival and departure tracks) are not available but in the author's opinion the 1 million CO₂ reduction can be obtained taking into account the data available from CANSO in the US airports.

The case-studies reported on this analysis also demonstrate that PBN routes can effectively reduce the impact of noise pollution on populated areas that surround airports reducing in a significant way the number of people overflowed by aircraft due to the concentration of this routes over non-populated areas. City airports can benefit from a complete PBN routes implementation resulting in a better air quality and in a reduction of noise emission due to air transport. In particular, the reduction of air pollutants is the result of track reduction, continuous climb applications and descend optimization (as demonstrated by CANSO study on Metroplex airports). The noise level reduction is permitted by the greater accuracy and the increase in route predictability that reduce the need of radar vectors and permit the concentration of departure and arrival routes on less populated areas. This conclusion is evident observing the data available and results of San Francisco airport and London Stansted airport after the introduction of RNP approaches or RNP departures.

To conclude, Performance Based Navigation is a real opportunity for air transport that can improve resilience, efficiency and the environmental impact of the aviation industry. This navigation system is also the basis of other major improvements and ATM optimization projects in order to reach important goals to combat climate change.

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WINE TOURISM AND ECO-FRIENDLY DEVELOPMENT

Viviana D'Aponte*

Abstract

In the set of transformations that, over the past two decades, have affected tourism demand, an aspect of paramount importance involves its “experiential” nature, which is increasingly determining the choice of tourism type and destination. This trend translates into significant growth in certain types of tourism, first and foremost those focused on natural attractions, on the territory and the cultural and material traditions of its populations. As far as Italy is concerned, the wine sector represents an interesting industry for the tourism connected to it. The main reason behind the increasing import of the phenomenon lies in the vast competitive potential of the spread and development of the wine-growing area over the entire national territory. Its expansion on so vast a scale enables the country to offer a wide range of destinations to potential customers. These tourist sites are characterised by distinguishing features both in terms of landforms and agricultural management models as well as top-class entrepreneurial experiences. Starting from these premise, the paper intends to reflect on the opportunities that “wine tourism” represents for Italy as a competitive tool that would allow new tourist destinations, such as those in the inland areas, to emerge. In this perspective, the paper also investigates the impact of this new tourism segment as a development opportunity based on eco-sustainable factors, and in terms of pervasive communication for the benefit of companies in the area, especially of small enterprises.

Keywords: eco-friendly development, wine tourism, inland areas

1. Introduction

In the set of transformations that, over the past two decades, have affected tourism demand, one aspect of paramount importance lies in the intrinsic “experiential” nature of the motivations that drive tourists when planning their travel. What emerges in the most recent literature in the field and in the evaluations of the main bodies that devote primary attention to tourism (Di Vittorio, 2010; Gulotta, 2019; ISMEA, Qualivita, 2021) is a more responsible and informed motivational research in the choices underlying the tourism demand as a clear factor of consumers’ preference. It is possible to pinpoint a more heterogeneous tourism demand that contrasts the typical standardisation of globalizing scenarios. Subjective evaluation factors reveal major expectations inspired by an extraordinary interest in authenticity and a constant pursuit of getting to an “elsewhere” that thrills tourists and foster their knowledge of foreign realities. Therefore, uniqueness and unrepeatability of the expected experiences represent the main motivation behind the choice of destinations characterised by strong local identity values as crucial factors in orienting the tourism promotion policies.

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The data collection, spread at different scales by the main industry observers (UNWTO, EUROSTAT, ISTAT), aims at investigating the motivations behind travellers' expectations. Furthermore, it highlights how, since the early 2000s, the luxury travel demand has been shrinking, mainly because it addresses only few people with a high purchasing power. Meanwhile, most tourists have been turning their attention not only to the most popular destinations of the traditional receptive areas, but also to some unusual ones, whose uniqueness is linked to their geographic specificity (Buonincontri et al., 2017; Sharpley and Stone, 2010). In other words, the necessity to discover an "extra-ordinary" place is recognised as pivotal, since it represents a section of territoriality still untouched by the forced modernisation process, thus preserving its transitional environmental and social features. As a result, all those resources that are poorly rooted in the geographical context of reference significantly lose their attractiveness. In the meantime, the expectation of an experience linked to the temporary immersion in the locals' everyday life increasingly drives a demand to characterise the destination choice and even the type of accommodation preferred for one's stay. On the one hand, this trend results in an increase in certain types of tourism, first and foremost the forms focused on the enjoyment of natural resources and interactions with the territory, and its related cultural and material traditions. On the other hand, it leads to the increasing competitive benefit gained by all those accommodation facilities that, beyond the hotel industry and through forms of "family" hospitality, allow to foster the experiential value associated with travel. As is widely known, this need has become more intense over the past few years. It is fuelled by an ever-increasing concern for the environment, which, in terms of tourism consumption, implies a reshaping of the ways of travelling toward models of receptivity allowing for a reduced impact on local communities. In this perspective, an emerging additional attractive factor can be detected in tourists' participation in the improvement process, which constitutes a full experiential value. This aims at the reduction of the ecological footprint strictly linked to the territory (Montella, 2017). It is thus evident how, thanks to the combination of these factors, both the most widespread segments of the tourism industry and the nature-based tourist experiences have become responsible and eco-sustainable. Among them rural and food-and-wine tourism are certainly in a frontline position, precisely because of their unrepeatability and undisputed bond with the territory (Santos, 2022).

The emergence of these tourism sectors is of great interest for Italy, which, thanks to the fame of its wine and gastronomic resources, represents an extraordinary attraction for tourists, especially as regards the international demand¹. Consequently, this may constitute a particularly interesting tool of competitive differentiation for some destinations located in inland areas and in unique topographical contexts, within a settlement model of productive management based on eco-sustainable factors for local companies. In fact, it is evident that wine tourism in particular does not only represent a specific type of product consumption and an opportunity for sustainable economic development for the related destinations, but also a business opportunity for wine companies (Getz, 2006). During the visit they can promote their products to an international audience with interesting commercial implications. For this reason,

¹The top five source markets generating the highest revenue as for wine-and-food vacations in Italy are: the United States, the United Kingdom, Austria, Switzerland and France. Together they account for 55.2 percent of the total (Enit, Istat, 2021).

entrepreneurs of the wine supply chain along the national territory are increasingly expressing a strong inclination to invest in the growth of their activities. At the same time, wineries could also retain the tourism flow through a secondary activity linked to the real tourist fruition, thus determining significant spin-offs towards the same territorial communities. From Franciacorta to Sicily, in addition to cellars guided tours and wine tastings, new accommodation facilities, born from the conversion of disused buildings, are being built among the vineyards. Far from taking on the features of an agritourism structure, in many cases they are labelled as luxurious “wine resorts” often provided with innovative personal care and well-being services, which may trigger a real virtuous circle for the eco-sustainable development of such territories. For instance, grape pomace is employed in healthy treatments based on vinotherapy. In fact, the examination of the literature in the field reveals the multidimensional nature of wine tourism (Cambourne and Marcionis, 2003; Beverland et al., 2001; Williams, 2001, Getz et al, 1999) as a conceptual category. Depending on the perspective it is analysed from, wine tourism can be considered as a development strategy of tourism destinations in those areas characterised by a significant production of wine. However, at the same time it may represent an opportunity for wineries to promote and sell their products (Getz and Brown, 2006). Therefore, wine tourism will increasingly play a central role in the sustainable development of territories (Hall, 2000) through the preservation and enhancement of economic and social resources, and consequently of the surrounding environment.

2. The Wine Industry in Italy

As mentioned earlier, the significant competitive potential of Italy, as concerns the development of wine tourism, derives first of all from the remarkable characterisation that the wine sector is taking on in recent years. With such growth Italy ranks first on a global scale as the largest wine producer (OIV, 2022), followed by France, which instead exceeded our country in wine production until 2014, and Spain. These are Italy’s main competitors in Europe in terms of tourist flows, too.

COUNTRIES	2017	2018	2020	2021	%WORLD 2021
ITALY	42,5	54,8	49,1	50,2	19,3%
FRANCE	36,4	49,2	46,7	37,6	14,5%
SPAIN	32,5	44,9	40,9	35,3	13,6%
USA	24,5	26,1	22,8	24,1	9,3%
AUSTRALIA	13,7	12,7	10,9	14,2	5,5%
CHILE	9,5	12,9	10,3	13,4	5,2%
ARGENTINA	11,8	14,8	10,8	12,5	4,8%
SOUTH AFRICA	10,8	9,5	10,4	10,6	4,1%
GERMANY	7,5	10,3	8,4	8,0	3,1%
PORTUGAL	6,7	6,1	6,4	7,3	2,8%
CHINA	11,6	9,3	6,6	5,9	2,3%
RUSSIA	4,5	4,3	4,4	4,5	1,7%
ROMANIA	4,3	5,1	3,8	4,5	1,7%
BRAZIL	3,6	3,1	2,3	3,6	1,4%
TOT.	219,9	263,1	234,2	231,6	89,3%

*Table 1: Wine Production in the main countries of the world (in Mil. Di hl)**Source: ns elab.su dati OIV (2022)*

However, if relevant production data cannot be undisputed, the most interesting aspect derives from our distinctive ampelographic heritage, precisely due to the impact it determines as far as tourism supply. The latest estimates reported by Istat in 2022, through the 7th General Census of Agriculture, show that in Italy as many as 636,000 hectares are intended for the vineyard. Nonetheless, these data especially highlight how in our country the utilised agricultural area, which equals the 5% of national territory, is widespread along it, despite different concentration in the various regions. On the contrary, in France and Spain, our main competitors, the phenomenon assumes the features of a prevailing geographical concentration. Due to its pedoclimatic conformation, Italy emerges for its largest and most diversified wine production around the world. At the same time, this aspect establishes the conditions under which the grape varieties may present features of top-quality products. As a result, each Italian region can boast a variety of products that are easily recognisable by labels DOC, DCG, IGT (Controlled Designation of Origin, Controlled and Guaranteed Designation of Origin, Typical Geographical Indication), also identified on a European scale as PDOs/PGIS²(Protected Designation of Origin/Protected Geographical Indication). This does not only regard Piedmont, whose identity is grounded on wine culture, with its 19 top-class varieties, but also Veneto and Tuscany that count 14 and 11 PDO grape varieties, respectively. In regions such as Abruzzo, Sardinia, Sicily and more recently Campania wine production has greatly increased, although with fewer PDO varieties (Federvini, 2022).

²The DOP/IGP regulations are a key point of the Common Agricultural Policy aiming at promoting and preserving quality and authenticity of food and wine production. The existing legislation for wine production expressed by the Law 12/12/2016 of the so-called Wine Consolidated Act emphasises the relationship between wine and its geographical origin through three principles: 1) the explanation of the elements linked to the territory in the Production Regulations; 2) the obligation to make the areas of vinification coincide with those of bottling; 3) the loss of the right to claim a given name for must and wine intended to become PDO or PGI in case they should fall outside the specific production area, other than specific exceptions expressly provided in the production regulations (Qualivita Foundation, 2021).

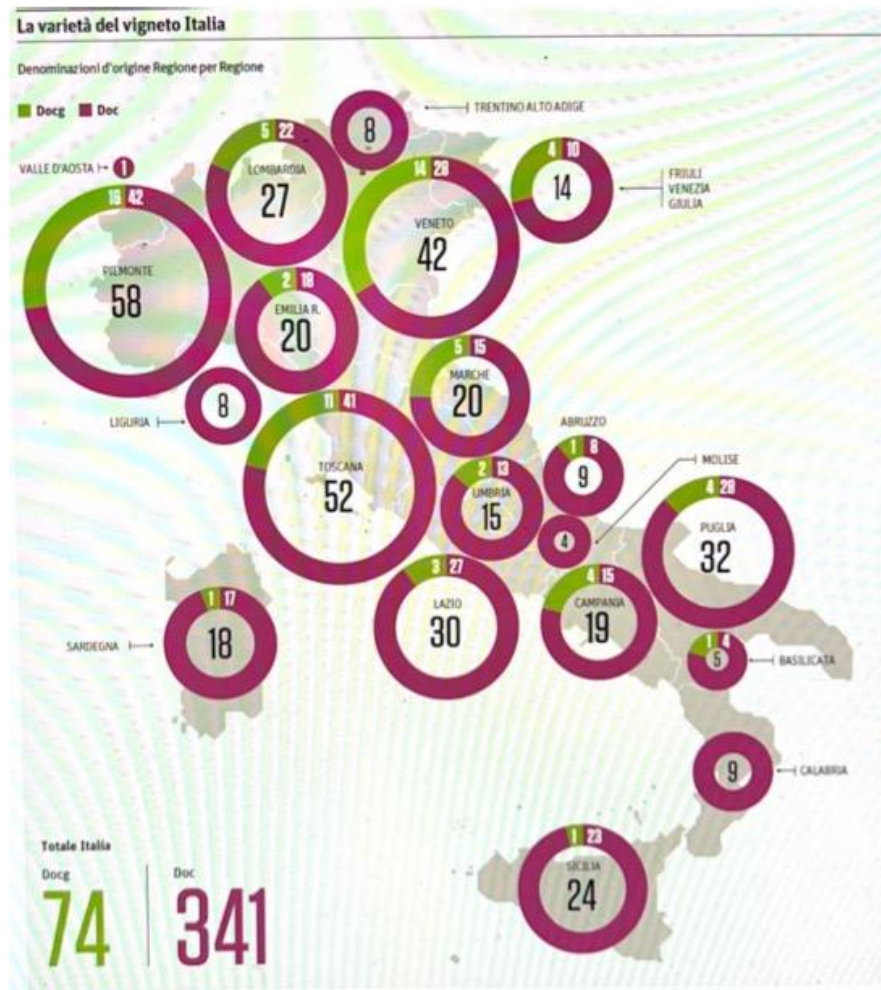


Figure 1: DOC and DOCG labels in Italy.
Source: Sole 24ore infodata.

It is therefore clear how such a broad combination of oenological features, climatic and environmental varieties, local realities, landscapes and ethnological and gastronomic traditions may have a beneficial impact on tourism supply. In this way, our country may easily offer a wide variety of destinations to potential demand when choosing places with suggestive experiential appeal factors. This does not concern exclusively those territories that thanks to their wine landscape have recently been inserted in the list of UNESCO World Heritage Sites, such as Langhe, Roero, Monferrato (2014), and the celebrated Prosecco hills of Conegliano and Valdobbiadene (2019). However, it would be advisable also to consider other territories, which have already gained recognition for the uniqueness of their own landscape as well as their historical and architectural resources. At the same time, all these territories consist of evocative wine-growing areas, as in the case of Castel Del Monte in Apulia, the Amalfi Coast and even the Val D’Orcia (OIV, 2021). These geographical realities are particularly suited to wine tourism because of their complex set of appealing factors. In such territories wine production, along with diverse experiences and services, could constitute an additional source of innovation. For

instance, both collective harvesting and bicycle tours among vineyards present a strong appeal since they are strictly intertwined with food and wine, and also similar to well established forms of tourism, which have already proved to be successful in the leading regions for the wine industry (Garibaldi, 2022).

3. Constraints and opportunities of wine tourism in Italy

The increasing prominence that wine tourism is assuming in our country clearly emerges when considering the analysis of the most recent data carried out by the WTO. According to these data, in 2021 about 14 million individuals, including tourists and excursionists, visited vineyards and wineries for a value of about 2,6 billion € in turnover of the overall wine tourism chain. The significance of this result is unquestionable, considering that, despite the restrictions related to the COVID-19 pandemic, figures have almost returned to the extraordinary levels of 2019. Indeed, before pandemic “food and wine” tourism had attracted 15 million individuals, according to the same source. The main reason behind this rapid phenomenon was that some of the characteristics of this type of tourism were completely coherent with the needs of the demand in the immediate post-pandemic phase. In particular, consumers demanded short and very short distance travels primarily to outdoor and uncrowded spaces, such as the vineyards indeed, thus revitalising what has been called “proximity tourism”. The term “slow”³, now widely used to refer to the set of these new tourism experiences (Demma, 2021), well summarises this innovative conception of travel. Food and wine tourism could unfold its greatest potentials precisely in relation to minor destinations, such as those in the inland areas. At the same time, this type of tourism might contribute to rebalance the Italian tourism system in terms of the geographic distribution of flows, which is excessively influenced by the hegemonic attractiveness of the historical centres of large urban areas and cities of art, especially those in the North of the country, and also in terms of seasonality, still markedly concentrated from April to September. Therefore, less frequented inland hillside areas in particular might become new tourist destinations for the entire autumn season. The potentials of food and wine tourism could be beneficial not only to those regions in our country with a strong orientation to this type of tourism such as Tuscany, the most attractive region for the international demand of wine, followed by Piedmont, Veneto and Trentino Alto Adige (OIV, 2022), but also to the southern regions. Although the latter are certainly less advanced in wine tourism, it would be important, as mentioned, to leverage the other context-related factors of attractiveness such as culture and art or the landscape to promote among foreign tourists the quality and notoriety of local wines, which are often unknown to them. As a result, a new motivation for travelling

³To this extent, in 2021 the association “Slow Tourism Italia” (www.slowtourism-italia.org) was established along with a brand. It consists of a network of businesses in the sector, from accommodation businesses to tour operators and local operators of another kind, whose main purpose is to offer a slow, sustainable and responsible tourism experience in direct contact with the nature and the local communities. This goal is achieved through the organisation of tours and itineraries in the various Italian regions, including in particular little-known areas, in order to make them high-quality tourism destinations.

might arise, which will induce tourists to extend their stay towards the more internal areas, therefore stimulating tourism in the off-season.

However, numerous constraints still prevent the full development of wine tourism, terribly limiting its potential and reducing the possible positive effects that its expansion could have on the entire national tourism system. From the most recent report of the “Cities of Wine” association⁴ some of the main critical issues related to this important tourism segment emerge clearly. The detection was conducted directly by means of two surveys on the offer aimed at wineries in the strict sense and wine cellars open to the public and another survey for a sample of consumers of the Italian wine tourism market. The first element limiting the full development of the sector is undoubtedly the reduced accessibility of the supply centres. They exceedingly lack both the physical infrastructure, which means that inland areas cannot be easily reached, and the digital infrastructure itself, since for market reasons a significant level of "digital divide" persists at the expense of peripheral and sparsely populated territories. In fact, most municipalities, which could be involved in this form of tourism, are located in rural areas or, at any rate, in areas that are marginal to large urban centres and to the main infrastructures. Therefore, the effective interconnection of inland areas with the rest of the national territory results being limited. In addition, it should be noted how, despite a still weak demand, no adequate stimuli for the development of complimentary services, such as receptivity, have emerged at all. The only exception concerns emerging initiatives implemented by local companies, which have tried to set up attractive accommodation facilities with successful economic outcomes.

These are territories that, especially those in the South, are too often lacking adequate infrastructural facilities. The main reason for this is because, as shown in a recent research (D’Aponte, 2022) aiming at the examination of proximity tourism, these territories are not only marginalised by a poor development of functions, but they are also often abandoned by the younger population. As a matter of fact, young people are attracted by leisure possibilities incompatible with the structure of minor localities where wine tourism, acting as a driving force of cultural tourism, could represent a fundamental lever of local development.

In addition to this undoubted shortcoming, which concerns both this particular tourist segment and the entire sector, there is a pressing need to strengthen public/private collaboration networks in order to come up with more innovative organisational models of promotion and development. This could result in a strategic agreement between institutions and private stakeholders that would certainly stimulate an increase in flows even on a national scale, thus enhancing the potentials of the growing rate of proximity tourist flows. The role of the public sector appears to be crucial, as demonstrated by the launch of effective initiatives such as the case of the Cuneo area.

⁴ The “Cities of Wine” association, which has 493 member municipalities in Italy, was founded in 1987 (with only 39 municipalities) with the aim of supporting (through the direct involvement of its service company Ci.Vin srl) the growth of activities and projects devoted to local wine and food products to allow a better quality of life, sustainable development and more job opportunities.

The promotion of “Barolo Italian City of Wine 2021” conceived by the “Cities of Wine” association in collaboration with the Ministry of Agriculture managed to enhance the valorisation of wine tourism destinations through the annual awarding of a title to an Italian municipality or network of municipalities.

A recent step forward for the support and the development of the sector has certainly resulted from the amendment specifically on wine tourism introduced by the 2018 Budget Law. In fact, prior to this new law, the entire sector relied only on the “Wine Streets” project, which in 1999 allowed territories with a significant wine production to be publicised, marketed and enjoyed as tourist attractions. Additionally, special road signs were installed across the entire national territory to promote signposted routes to wine-growing areas to tourists (Festa et al., 2020). On the other hand, the Italian Parliament has recently approved a law that defined the term “wine tourism” for the first time. With this law the category of “wine tourism” has been effectively established in the Italian regulatory framework as a form of tourism of its own. Furthermore, the tasting of wine within wineries has been legitimised. Another aim of this law consisted in promoting the installation of road signs to direct visitors along routes devoted to wine tasting.

At the same time, the National and Regional Wine Tourism Observatory has been established to verify and ensure adequate quality standards. Finally, the Ministerial Decree 12/03/2019 no. 2779 has intervened to supplement and complete the aforementioned law. The Ministerial Decree has recognised the importance of the origins and the potentials of wine tourism as a cultural and economic phenomenon and the enhancement of the wine-producing areas in the national territory. Moreover, “Guidelines and trends regarding the requirements and the minimum quality standards for wine tourism” have been established, therefore providing a very important tool for the future development of the sector.

4. Conclusions

If considered within its specific geographical framework, wine tourism represents an invaluable resource for the development of Italy on the national scale. In every Italian region, from North to South and from East to West, major and minor islands included, wine tradition is intertwined with other tourist attractions. Specifically, it is believed that an appropriate series of measures incentivising private initiative, if properly coordinated, would allow the sustainable development of tourism in many Italian regions, particularly in the South. Moreover, in addition to the remarkable strengths we have highlighted, it should not be overlooked how there are no less significant weaknesses, which act as obstacles to effective development. Literature (Azzariti, 2002; Bianchi, 2019; Butera, 2013) has already highlighted these constraints due to a lack of entrepreneurial initiative stemming from a widespread structural weakness of the risk appetite model distinctive of most private stakeholders. At the same time, instead of installing a systemic form of collaboration, old and consolidated forms of individualism are perpetuated within the agribusiness supply chain so that operators in the rural and the wine sector do not cooperate. For that matter, an additional friction factor to the good functioning of a ductile and smooth system of effective cooperative

value stems from a misunderstood propensity for innovation of tour operators. In this way, they specialise in promoting traditional tourism products and are rarely careful in formulating integrated tourism offerings, including destinations referred to wine tourism. However, such situations and behaviours would find reasons for a progressive realignment on collaborative positions. This occurs when policymakers make plans to improve the infrastructure and means of transport that enable accessibility to “wine routes”. A set of multiple initiatives is aimed at requalifying inland areas, especially the southern ones, whose economic conditions have been long characterized by marginalization and depopulation. The goal to be pursued, therefore, is the effective integration of rural municipalities in inland areas, where there is a high concentration of innovative wineries also capable of attracting tourists. Furthermore, this result may be achieved with the use of digital technologies promoting visibility in tourism. The inclusion of the activities and geo-environmental specificities of the territory in consolidated systems of local tourism would also have the additional effect of simultaneously valorising local products. This might advantage the competitive capacity itself of our wine-producing companies towards their main competitors. For instance, if we compare the quantity of wine produced in Italy to France, the latter achieves a significantly higher turnover than Italy precisely as a result of the higher competitiveness of its companies, which relies on factors of communication and integration of the related supply chains. As a result, there is an urgent need to implement a strategy focusing on the communication of supply. Therefore, it could benefit not only the most famous regions with an ancient oenological tradition, but also the territories that have recently opened to the wine market. In such territories tourism and entrepreneurial dynamism will mutually contribute to create an innovative model of sustainable development, significantly characterised in terms of geographic impact on the environment, landscape and society.

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SUSTAINABLE HEALTH AND WELLNESS TOURISM IN THE ALPS: A DIALOGUE BETWEEN NATURE AND PSYCHOLOGY

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Abstract

The contribution aims at proposing a reflection on the growing recognition of natural areas as contexts capable of new approaches of living, reconnected with nature and its rhythms, experiencing wellbeing, health and sustainability practices that can result in new tourism and local development possibilities. An interesting framework that put in connection tourism and psychology has emerged in the context of the actions and results of the European Interreg Alpine Space project *Healps2 - Healing Alps: tourism based on natural health resources as a strategic innovation for the development of Alpine regions*. Jointly implemented by partner institutions from six European countries, in Italy an experimental activity was conducted by the Protected Areas Management Authority in the high Ossola valleys, in Piedmont Region, based on a renewed approach to health tourism. Some pilot experiences have been proposed, and here presented, that combine the psychological impact of outdoor experiences with the role of sustainable tourism in the enhancement of alpine territories.

1. Alps, tourism trends and contribution goals: an introduction

The Alpine arc, with its precious natural territories, ecosystems to be protected and safeguarded, villages and ancient settlements, is a context of great interest and an active repository of knowledge, heritage and visions for the future of people and the planet. As indicated by the EU macro-strategy EUSALP (Teston and Bramanti, 2018), the Alpine area is composed of territories with contrasting demographic, social and economic trends and great cultural and linguistic diversity; this diversity is accompanied by a great variety of governance systems and traditions, and they both call for cooperation. The Alpine region represents a transit region, a living and working space for the resident population and an attractive tourist destination. The Alps are the water tower of Europe and are known worldwide for beautiful and varied landscapes, rich biodiversity and cultural heritage (Paunović and Jovanović, 2017). They have a significant potential for dynamism, even if

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face some major challenges (Pechlaner et al., 2017) linked to economic globalisation, which requires the region to distinguish itself as competitive and innovative by developing the knowledge and information society; to demographic trends, characterised in particular by the combined effects of ageing and new migration patterns; to climate change and its effects on the environment, biodiversity and the living conditions of its inhabitants; to the energy challenge of managing and meeting demand in a sustainable, secure and cost-effective manner.

The mountain, understood in its complexity of environments, purity and authenticity, the scene of strong contrasts between simplicity and difficulty, has today, particularly within the Alps, taken on features and functions of a booming laboratory. Several small and widespread practices and initiatives have begun to dot the Alpine, mountain and neighbourhood territories wishing to establish and spread new and firm awareness on the priorities of recovery, promotion and sustainable valorisation, starting from the most fragile and marginal contexts.

The voices of communities, of old and new inhabitants, of so many small think-tanks, are therefore rising from the Alps, expressing a significant turning point, the beginning of a new era in experiencing the mountains, also in terms of tourism and overall well-being experiences. A re-appropriation of identity and heritage that stems from the profound and shared intention to resume and build sustainable living and development possibilities, also in response to the crises of other territories, metropolitan and industrial contexts. But above all, it is the result of an important “cultural renaissance”, which took place with the recognition and regaining of the values and resources inherent in the territorial fabric, in its historical seeds and sediments, in the contaminations between inhabitants and travellers, in the specific connotations of the environment and its morphology. Tangible and intangible assets that assume the role of pivotal elements, and not more background, to draw new perspectives within the responsible use of resources and their valorisation for a systemic sustainability of the territory.

In the past decades, classical tourism approaches have negatively impacted the Alpine environment and showed distorting socio-economic effects on receiving destinations (Alparc, 2019). More recently, tourism has been affected by Covid-19 like no other sector in the Alpine region. As a result, the hospitality industry, the service sector, and indirectly affected sectors such as agriculture, trade, crafts and transport service providers are changing. On the other end, the pandemic outbreak has duly influenced tourists' psychology and subsequently their behaviour and decision making to participate in outdoor activities (Humagain and Singleton, 2021). So many changes are affecting mountain and Alpine tourism both as economic sector and social phenomenon.

It emerges that natural resources can increasingly determine the development of competitive tourism destinations and drive the development of nature-based value chains aimed at improving the health and well-being of tourists. Today, several segments of the tourism market are changing and leading to a transformation of the competitiveness of the whole sector: there is a growing demand for more nature-based experiences that integrate the pleasant elements of beauty, relaxation and regeneration with more challenging activities of prevention, health and sport. Growing awareness and collaborative proposals go hand in hand with key trends that are reshaping the health tourism landscape in Alpine

regions, including an ageing population, climate change and the consequences of the Covid-19 pandemic, both in terms of commercial losses and the need for natural remedies against the long-term effects of this virus.

In this complex and general frame, the contribution aims firstly at presenting the situation of the sustainable and health tourism related to the Alpine protected areas, identified as a geographical region useful for the analysis of a case study held in Piedmont Region (Italy) within the European Interreg Alpine Space project *Healps2 - Healing Alps: tourism based on natural health resources as a strategic innovation for the development of Alpine regions*. Specifically related to the research work jointly conducted by *Upontourism Study Centre* and the Protected Areas Management Authority in the high Ossola valleys, Ente Gestione Aree Protette Ossola (EGAPO), the main features, actions and outputs of the project are traced, before moving on to the outcomes reading of an experimental activity aiming to underline its implications in terms of psychology and tourism relation. An innovative and pilot action has been developed and tested in high Ossola Parks through the *Adventure Therapy* method. As further specified below, *Adventure Therapy* is an outdoor-based approach aimed at increasing one's psychological wellbeing, by undertaking subjectively challenging activities in nature together with a group of people and then reflecting on each one's emotions and coping behaviours, to gain awareness and become able to use them in everyday life. A kind of "emotional and healing geography", inextricably linked to the Alpine parks involved and to the presence during the experiences proposed and investigated, of the figure of psychologists to support and supplement the role of the more traditional guides. The enhancement of Alpine territories and natural landscapes thus becomes the medium for a process of personal enhancement and enrichment, and vice versa. After presenting content and output of this pioneering initiative, focusing on the discussion of the results of a direct participants' survey, some final considerations and remarks close the work.

2. The protected areas in sustainable and health tourism

There is a deep-rooted link between protected areas and tourism: they need each other, even if their relationship is sometimes complex and sometimes conflicting. Tourism is always an important and critical component to consider in the establishment and management of protected areas. Building sustainable tourism models that contribute to enhancement and conservation of protected areas, requires strong cooperation and partnerships among the tourism industry, governmental subjects, local communities, protected area managers and planners, and the tourists themselves. It is become a matter of common knowledge that the application of sustainability principles, that represents the only way to avoid that tourism compromises both places and cultures, can orient and strengthen local development strategies both in protected areas and their proximity surroundings.

UNWTO has been involved in the field of ecotourism since the early 1990s and developed a set of guidelines focusing on the strong link between protected area and tourism, with the aim of ensuring that tourism contributes to the purposes of protected areas and does not undermine them. More recently, sustainable tourism is firmly positioned in the Agenda

2030 for Sustainable Development, showing Tourism a great potential to contribute, directly or indirectly, to all of the 17 goals.

As concern Europe, sustainable tourism in protected areas provides a meaningful quality experience, safeguards natural and cultural values, supports local livelihoods and quality of life and is economically viable; parks have the opportunity and potential to act as catalysts for sustainability and lifestyle changes at local, regional and national levels. The EUROPARC Federation is dedicated to practical nature conservation and sustainable development, improving the management of protected areas in Europe through international cooperation, exchange of ideas and experience, and by influencing policy. EUROPARC has long recognised the need of caring for both the land and the people who live and work there. In 1993 EUROPARC published the report *Loving them to Death*, which first called for sustainable tourism in Europe’s protected areas. Furthermore, in 1995, EUROPARC took the initiative to set up the *European Charter for Sustainable Tourism in protected areas* (ECST), a practical management tool that enables them to develop tourism sustainably. The core element of the ECST is working in partnership with all relevant stakeholders to develop a common sustainable tourism strategy and an action plan on the basis of a thorough situation analysis. The aim of ECST projects and activities is the protection of the natural and cultural heritage and the continuous improvement of tourism in the protected area in terms of the environment, local population and businesses as well as visitors (figure 1). After over 25 years of experience, it has proved to be a useful and important tool that delivers social, environmental and economic benefits and indeed can be described as a model of governance that delivers protected areas as sustainable tourism destinations, in particular within the Alpine region.



Figure 1. ECTS documents.

Source: www.europarc.org/sustainable-tourism/.

Concerning health tourism related to protected areas (Puhakka, Pitkänen and Siikamäki, 2017; Azara et al., 2018), although naturalistic fruition has been an integral part of national parks since the beginning, interest in the potential role of parks in human health and well-being is relatively new. National parks and other nature environments with environmental and cognitive value can be considered as a fundamental health resource, particularly in terms of disease and illness (Maller et al., 2008). Growing recent efforts have been flourished to develop nature-based well-being tourism; scientific evidence shows that contact with nature promotes mental and physical health. Observing nature and being in a natural environment can give direct physical, mental and emotional health benefits, for an overall impact on a person's psycho-physical state. All rural, alpine, natural ecosystems, as well as social, cultural, and economic conditions should be considered and be protected, promoted, and financed in a sustainable way (Hammer and Siegrist, 2008; Pröbstl, 2010; Richins, Johnsen and Hull, 2016). In tourism research recent studies highlight the crucial role of various forms of health tourism as key strategies to sustainable valorisation of Alps and protected areas, and beyond (Schalber and Peters, 2012; Paunović and Jovanović, 2019). It has been realised that spending time in close contact with nature, enjoying immersive experiences, even simple walks in parks and natural settings, can greatly contribute to generating powerful health and wellness benefits. Well-being, therefore, not only physical but also psychological, which also reflects and flows into the construction of a broader vision of global, systemic well-being and sustainability, for mankind, communities, environment. It is possible to state that the sustainability of protected areas and the viability of tourism to provide conservation and socio-economic benefits strictly depends on planning and management strategies of tourism that enhance community participation and entrepreneurship, sustaining benefit-sharing mechanisms between parks and communities (Candrea and Ispas, 2009; Trček and Koderman, 2018; Buccheri and Passerini, 2019; Bhamman et al., 2021).

The natural environment is capable of generating direct and indirect positive impacts on multiple levels including environmental, economic, social and community's ones. Examples of potential benefits achievable are: transmit understanding and greater appreciation of natural values and resources through experiences, education and interpretation; support the development of good environmental practices and management systems to influence travel and tourism businesses; support natural ecosystem monitoring through citizen science volunteers; increase jobs and oncome for local residents; stimulate new tourism enterprises and diversify the local economy; encourage people to value and take pride in their local culture and protected areas, improve intercultural understanding through social contact; promote aesthetic, spiritual, health and other values related to well-being (Cerutti and Menzardi, 2021). Connecting health, well-being and natural environment is a key driver for local and regional development (CEETO, 2020). Tourism can affect sensitive Alpine ecosystems and human health. The Covid-19 pandemic led to several changes in the protected areas' visitor flows from what we had expected at the beginning of the year. A significant reduction in outdoor activities during the lockdown period was followed by a rising demand for nature-based tourism in the summer season

2020. The Alpine protected areas had to adapt to these changes, particularly by increasing awareness both in offer and demand tourist systems, and consequently by planning adequate policy recommendations and practical advices to the different stakeholder for tourism management and promotion. Additionally, diversifying the tourism offering and the tourism services provided by the protected areas is important for sustainable tourism growth (Cerutti and Menzardi, 2022).

3. The project *Healps2 Healing Alps*

A project with a European scope between 2019 and 2022 led six Alpine countries to reflect and plan new tourism project directions, paying specific attention to prefigurative scenarios based on local natural resources as strategic innovation elements for the sustainable development of territories. *Healps2 - Healing Alps: tourism based on natural health resources as a strategic innovation for the development of Alpine regions*, of the Interreg Alpine Space programme, joined partners from Italy, Switzerland, France, Austria, Germany and Slovenia (figure 2).



Figure 2. *Healps2* project partners.

Source: www.alpine-space.org/projects/healps-2/en/about/partners.

The partners shared a plan of actions aimed at supporting the creation of tourist enhancement practices based on the health and wellbeing that place-specific resources can bring. The characteristics of the landscape, the variety of flora and fauna, the water forms, the peculiarities of the forest areas, and many other site-specific factors of nature's identity, are intrinsic qualities of inestimable value not only for the environment itself but also because they allow multiple possibilities for the sustainable use of territories, through

slow tourism, sports activities, approaching nature and outdoor practices in various ways. It proposes a vision, therefore, of revitalisation that aligns itself with the need of marginal territories, mostly areas with a strong natural presence, in finding keys to turning around the abandonment, degradation, and impoverishment of the resources that reside there. The *Healps2* project in particular saw the participation of an Italian partner, the Ente di Gestione delle Aree Protette dell'Ossola, EGAPPO, which ran a research and pilot experimentation phase of tourism for health and wellbeing contextualised to the mountain valleys of Verbano-Cusio-Ossola valleys, in northern Piedmont. Comprising the area of responsibility of the Ossola protected areas are: the Alpe Veglia and Alpe Devero nature park, the Binn Valley Landscape Park, and the Alta Valle Antrona nature park. Since 2013, Alpe Veglia and Alpe Devero parks and natural park of Alta Valle Antrona have also been awarded with the ETSC and with the EMAS environmental Certification. The work carried out, started in the spring of 2021 and completed in June 2022, involved the *Upontourism Study Centre* of the University of Eastern Piedmont in a strategic collaboration to support the scientific elaboration of the project, through the involvement of local tourism operators engaged in the areas of local hospitality, catering, Alpine sports and psychotherapy. A preliminary research work was conducted with an initial study and framing of health tourism in the scientific literature, which was followed by a survey and selection of exemplary case studies. These were the reference bases from which indicators and key concepts were extrapolated, useful for the subsequent formulation of guidelines, instrumental in the creation and application of a prototype of a tourism activity/service for health and well-being in the Ossola valleys. In the first part of the work, the *Upontourism Study Centre* was also the organiser of a series of five webinars aimed at raising awareness of the frontiers of new tourism geared towards health, well-being and the experience of nature. The webinars, aired online from 10th of May to 7th of June, 2021, aimed to offer training sessions for operators and anyone interested, investigating the topic by also exploring innovative cases of sustainable tourism already active from a social, environmental and economic point of view. The webinar episodes, gathered under the umbrella of “Tourism, mountains and... health”, were attended by expert guests who specifically explored: regenerative tourism, the role and opportunities of the agri-food chain, mountain therapy and the mountain ethical charter, accessibility and enjoyment of the mountains for all, and environmentally friendly sports and recreational activities. Following the collection of case studies, identified among experiences of the interrelation between tourism, health and natural environments in Italy and Europe, the work continued by detailing the dimensions of wellbeing and analysing their characteristics. Activities, experiences and initiatives for wellness tourism have been arranged in clusters by assigning them a position with respect to the polarities of physical and psychological well-being. Each cluster-category was then evaluated according to five lines of polarities and characters to outline their profile and compare their positions. From the case studies and the framework of macro-categories of wellness tourism proposals, fundamental considerations arise for the setting up and design of new proposals, which are presented in the form of a practical guide intended for tourism operators and practitioners. The guide is therefore a ready-to-use output of work that offers reflections and practical stimuli for the tourism project, focusing on three basic aspects of proposal building: the target

audience, the business model and the communication plan. The materials produced thus formed the theoretical and reference basis for EGAPO proposal of a pilot action-project that conformed to the principles of *Adventure Therapy*. The exploratory action sought to combine, in a therapeutic experience in the Alpine environment, the approaches and benefits of sports practice with those of meditation and psychological reflection, both individual and group. An alternation of visions and concentration on different focuses that highlighted the wealth of stimuli and input that nature can offer, depending on the predisposition and the way in which it is listened to and received. The dialogue between territories and communities, nature and people, is brought to light through the implementation of a proactive approach to the natural environment and its properties, which also provides a glimpse of multiple possibilities of interpretation for sustainable tourism.

4. A pilot project on tourism and psychology: the experience of *Adventure Therapy*

4.1 The Adventure Therapy: methodology and relationship with the natural context of the area

In spite of the lack of an unambiguous definition, Outdoor Therapies are a category of therapy forms that share a core and are supported by a growing body of empirical evidence in recent years. In this context, reference is made to *Adventure Therapy* (AT) as a particular declination within the category of *Outdoor Therapies*. The two cardinal elements of AT are experiential learning, more specifically participatory involvement in activities carried out in the natural environment, and therapeutic intent. Having established the centrality of the demand for therapeutic support, the key mechanisms through which change in AT is elicited can be identified in:

- Nature: ecological experiences in the natural environment;
- Adventure: physical experiences between risk and safety;
- The space for reflection: therapeutic support and intentional conversations;
- Meaningful relationships: social experiences and connection with others.

4.1.1 Nature: ecological experiences in the natural environment

Nature is an essential element in the context of an AT programme and can be declined in different ways. In fact, nature provides both the main context in which activities take place and a set of features, opportunities and tools such that it acts as a co-facilitator of the therapeutic process (Harper, Rose and Segal, 2019). Studies have shown that immersing oneself in nature has positive effects in the direction of personal development and therapeutic success (Beringer, 2004) and that simply viewing natural environments can reduce anger, stress and anxiety while sustaining attention and interest as well as promoting feelings of pleasure (Bird, 2007). Nature offers the possibility to increase sensory awareness and enhance physiological and emotional regulation (Harper, Rose and Segal, 2019). In this perspective, exposure to nature may, however, elicit different responses in participants and trigger strong reactions especially in people with previous traumatic experiences (Pryor et al., 2018). Nature can therefore be an unusual environment

that can provide a therapeutic setting that, through exposure to the concreteness of nature itself, the inevitable direct consequences (rain, cold) and through the activities performed, predisposes participants to express and act out their emotional, cognitive and relational patterns. By providing immediate feedback in this regard, nature helps to generate an inner state of cognitive dissonance that can lead to a transformative experience (Beringer, 2004).

4.1.2 Adventure: physical experiences between risk and safety

In general, AT uses a variety of activities with the aim of providing experiences and opportunities to stimulate participants physically, emotionally and mentally (Gass, Gillis and Russel, 2012). Activities can be both relaxing and perceived with a subjective degree of risk. They can range, for example, from a walk and a Mindfulness session outdoors to a climb on steep terrain. From this perspective, notions such as challenge, risk and danger on the one hand and physical safety and psychological safety on the other emerge accordingly. These concepts are used both as therapeutic levers and as tools for designing the activities to be proposed to participants. A key factor in the therapeutic reach of AT programmes is in fact the relationship that is established between the participant's resources, the perceived level of challenge and the meaning that the experience takes on: what is experienced as a safe adventure by one person may be a serious misadventure for another and, consequently, lead to different personal considerations. The "success" of an activity, therefore, is not the complete overcoming of difficulties or the achievement of an objective with respect to a task, but it is the emotional involvement in the experience itself and the possibility of learning from it. The design and implementation of activities is therefore process-oriented and not outcome-oriented in an attempt to push participants out of their comfort zone and simultaneously provide opportunities to feel effective and adequate in different situations (ATE, 2017; Outdoor Therapies, 2021).

4.1.3 The space for reflection: therapeutic support and intentional conversations

If the activities and the environment in which they take place are a fundamental part of an AT programme because they provide experiences and opportunities, it is the reflection around these experiences that is the most relevant factor in stimulating change in the participants and transferring it into the everyday life of their lives. In this sense, it becomes important to create a space that is psychologically supportive in which to stimulate curiosity, exploration and sharing of one's own processes in the context of a pathway towards awareness and self-determination (Peeters, 2013; Ringer, 2002; Deane and Harrè, 2013). The presence of a reflective space can be structured at scheduled times of the day or exercised freely during the activities. In both circumstances, the therapist's function is to facilitate reflections in a non-directive manner that reflects and makes the participants' processes evident. In doing so, the therapist acts by directing attention to salient elements, proposing questions and, overall, assisting the user in taking on a different perspective. One way is, for example, to invite the participant to focus on the emotions experienced during a climb and then follow their development and extend the reflections to different areas and life circumstances. Facilitation is therefore an emergent process rooted in the participant's personal and particular experience developed and mediated in the participant's own relationships with different professionals, the whole

group of participants and the natural element and is intentionally directed towards awareness and change.

4.1.4 Meaningful relationships: social experiences and connection with the other

AT programmes generally take place in groups. This notation highlights how relationships are considered a fundamental dimension in AT and are therefore central to both the planning and operational phases. Functionally, it is useful to distinguish a number of possible significant relationships that exist between the subjects of the group and to which different therapeutic levers are attached. Among the most important are the individual participant's relationships with the therapist, with the mountain guide, with the group and with nature. The one-to-one relationship between participant and therapist is based on the therapeutic alliance, which is a key factor underlying therapeutic effectiveness (Luborsky and Singer, 1975; Bordin, 1979). In the context of AT, this relationship is established, developed and maintained on the basis of the therapist's accessibility and willingness also to share severe environmental conditions and relevant experiences by exercising empathy, acceptance and congruence (Elliot et al., 2003). The establishment in the relationship of a sense of trust and caring becomes the substrate on which the facilitation process, risk-taking, experimentation, insight and change are grafted (Greenberg et al., 1998). The mountain guide is the member of the group designated primarily to deliver the activities from a technical point of view and to ensure psychophysical safety during the course of the activities. Through his technical, social and communication skills, the mountain guide is a concrete and present mentor through whom specific skills can be learned directly and practised in a context of personal and interpersonal experimentation (Ringer, 1994). The group is in fact an interpersonal space where thoughts, emotions and relational modalities are expressed and acted upon. In this perspective, the AT group is a community that can be used as a therapeutic tool where to experiment, learn and exercise communication and social skills. This contributes to nurturing a sense of trust and mutual care and to building a supportive group culture by satisfying the needs for acceptance, inclusion and belonging (ATE, 2017). As highlighted above, in the context of TA, nature is a co-therapist and a meaningful relationship is established with it as a therapist. However, creating a connection with nature can be difficult especially for those who are functionally and conceptually disconnected from the natural element. Urbanisation, technology-related changes and socio-economic differences are examples of factors that can limit such a connection. To immerse oneself in the natural environment is to go towards oneself. Explicating and strengthening the human-nature relationship through experiencing it means giving nature time and space to exercise its therapeutic function: nature can be an ideal setting to observe both external and internal landscapes and scenarios (ATE, Outdoor Therapies, 2021). For this very reason, selecting the appropriate natural setting for the programme is crucial. It is a choice based on the resources of the area, both from a naturalistic point of view and in terms of accessibility to the designated sites. Above all, it is a way of allowing participants to discover (but also rediscover) places of great touristic interest, but through a new modality geared towards psycho-physical well-being. Specifically, the VCO territory possesses a great wealth of unique environments, both from a historical and naturalistic point of view, suitable for hosting *Adventure Therapy*

trails. Here the participant is provided with an optimal set of elements both to explore one's own internal psychophysical mechanisms, but also to broaden one's cultural background.

4.2 Methodology and activities of the pilot action

Within *Healps2*, the Protected Areas of Ossola (EGAPO) have developed a pilot project called "An adventure in wellness" focused on the organization of some *Adventure Therapy* weekends in the Ossola region. It is important to mention that the idea for the pilot action originated from a suggestion coming from a group of local professionals (psychologists and mountain guides who had been researching the topic of *Adventure Therapy* for a while) following the first *Innovation Technique* implemented by EGAPO: a series of five webinars, organized in May-June 2021 in order to stimulate a reflection on wellness and health tourism among local stakeholders¹.

The main objective of the pilot project was to improve and differentiate the tourist offer of the Ossola mountain areas, testing a new wellness experiential tourism product based on the local natural resources and skills. In September 2021 (first implementation phase) and June 2022 (first implementation phase), the Ossola Protected Areas organised two and one weekends respectively, jointly led by local psychologists and mountain guides. According to the *Adventure Therapy* methodology, participants were invited to take part in different outdoor activities (climbing, orienteering, trekking on different types of terrain and at night...) designed to challenge them and stimulate insights which could prove valuable in their everyday life. Each weekend was addressed to a small group of 7-8 participants, selected within two predefined age groups (18-35 and 36-55) in September and on the fitness level of people in June, in order to ensure a certain uniformity.

During the live-experience, the mountain guide adapted a predefined tentative schedule according to the weather conditions and the fitness level of participants, guiding them in carrying out safely all proposed activities. Under the guidance of the psychologist, on the other hand, participants reflected on their experiences, the emotions they felt and the lessons to be learned from it, both in a one-to-one and in a group setting. During all activities, the two professionals worked closely together, while still respecting their individual roles. Overnight accommodations were arranged in an Alpine hut, which have also provided a packed lunch for the second day. The group stay in this informal environment was an integral part of the experience and a source of further insights. The costs incurred in order to engage mountain guides and psychologists was covered within *Healps2* project, as well as every organizational and promotional cost. In order to encourage the application of truly motivated participants, they have been asked to cover the cost of accommodation.

The pilot project was implemented within two of the most scenic spots in the Protected Areas of Ossola, taking places respectively at the Alpe Devero (4th-5th September 2021 and 4th-5th June 2022) and the Alpe Veglia (11th-12th September 2021) (figures 3, 4, 5). Both areas are deemed perfect to host the initiative as they are rich in different natural

¹ Pilot identified with short action plan template, WP2, Deliverable D.T2.4.1, EGAPPO Database documents 2022.

landscapes, surrounded by a number of mountain paths of varying difficulty and support additional outdoor activities as climbing. Also, they host a mountain hut, allowing the group to spend the night in the area.

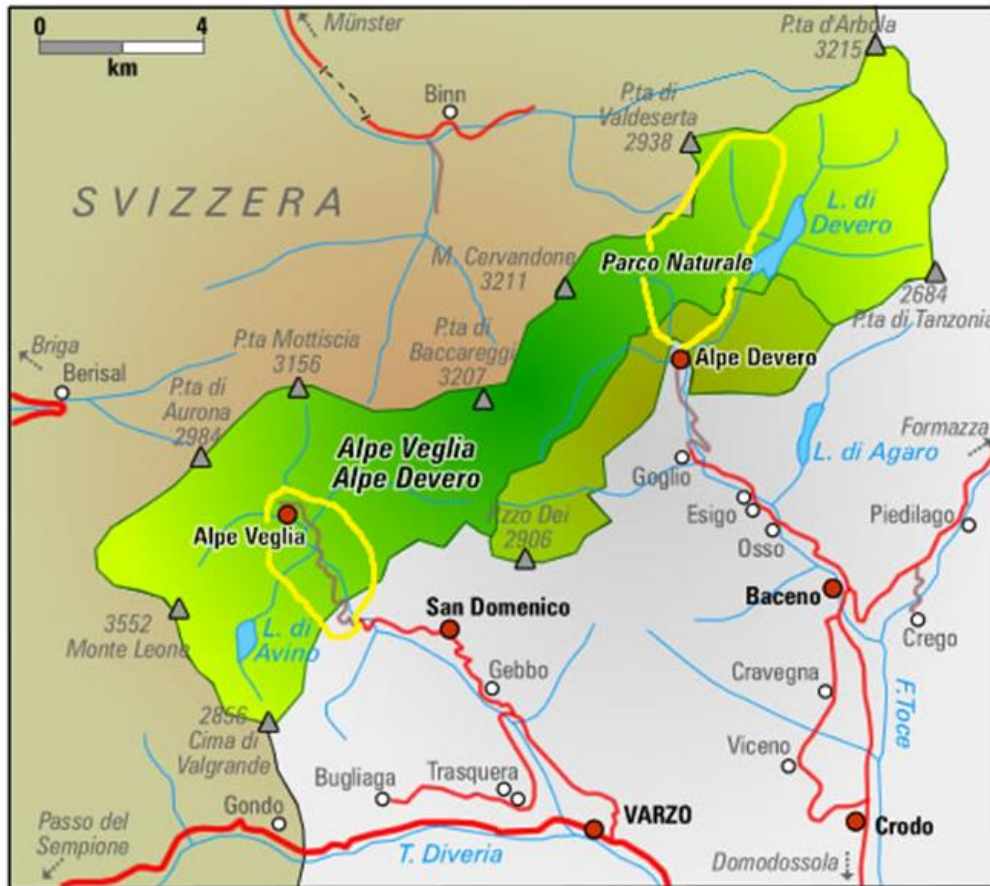


Figure 3. Map of the pilot action area.
Source: EGAPO, 2021.



*Figure 4. Adventure Therapy at Alpe Devero, participants facing the difficulties of the path – 4/5 September 2021.
Source: EGAPO, 2021.*



*Figure 5. Adventure Therapy at Alpe Veglia: follow up among participants and psychologists – 11/12 September 2021.
Source: EGAPO, 2021.*

Since no infrastructural interventions were required, it can be seen that the list of resources needed to launch such an initiative was not prohibitive. Worth mentioning are:

- mountain guides and psychologists willing to try themselves out in an unusual setting, in cooperation with professionals bringing in different skills. Generally speaking, all involved subjects (from the promoter of the initiative, in this case the Protected Areas of Ossola, to the accommodation facility) must be ready to support at their best the common proposal with their professional skills;
- territorial setting allowing a variety of outdoor experiences without requiring extensive transfers (ideally, some valid options for bad weather conditions should be available, as well);
- at least one accommodation facility suitable to host a group experience;
- human resources taking care of organization and promotion (particularly challenging if the initiative is completely new to the area and to the involved professionals, certainly much less demanding in case of further repetitions);
- financial resources to cover part of the costs of the weekend, unless the goal is to test the new offer under real market conditions;
- financial resources to support promotion.

Much attention was paid to collecting feedback from participants, as a way to understand whether this pilot action could evolve into a regular proposal within the tourist offer of the Protected Areas of Ossola. Participants have, thus, been asked to fill out two short questionnaires:

- the first one was delivered at the end of the second day, in order to investigate the level of satisfaction and some different aspects emerged, as well as the willingness to pay for such an experience, in case the cost should not be covered for a significant part by project funds; a member of the EGAP0 *Healps2* team concluded the weekend by presenting the entire project and asking to fill out the questionnaire;
- the second was sent via email after two months, in order to understand whether the *Adventure Therapy* experience had actually produced any changes in the daily lives of participants.

4.3 Findings and insights on the pioneering project

In general, it is firstly possible to highlight the aspects that worked well in relation to the implementation of the pilot project². Two factors mainly contributed to the positive outcomes:

1. Professional skills needed to develop this type of innovative tourism product were already available in the Ossola mountain area: a working group had already discussed the possible application of the *Adventure Therapy* methodology in the Ossola area and was eager to experiment it in a bottom-up governance approach; therefore, *Healps2* constituted the right and favourable opportunity to develop and realise its idea.

² Evaluation report on implemented pilot actions, WP2, Deliverable D.T2.4.2, EGAP0 Database documents 2022.

2. Ossola region lends itself very well as a testing ground for *Adventure Therapy* methodology, as it allows a variety of outdoor experiences without requiring long transfers. As mentioned earlier, the Pilot Action was carried out in two of the most scenic locations in the Ossola Protected Areas, Alpe Devero and Alpe Veglia, already known to hikers, sports tourists, families, and others. Both areas proved to be perfect for hosting the initiative and testing a particular product such as health tourism related to outdoor psychology, both for the services available and the setting created.

Even if the three-weekend test didn't have a relevant impact in terms of tourist flows, it nevertheless generated a significant added value for Ossola region, since:

- they proved that there is a relevant demand for initiatives which can combine enjoyment of nature with psychological well-being and that Ossola areas lends itself very well for the development of this kind of tourism offer;
- they allowed a group of professionals who were already motivated to explore this field of activity to carry out an initial hands-on trial, motivating them to develop new proposals;
- the communication activities carried out in connection with the pilot action and its results helped strengthen the image of Ossola as a destination for wellness tourism.

The questionnaires filled out by participants provided very positive feedbacks: all of them enjoyed the overall experience, the activities they were involved in and the relationship with the professionals and the other group members. Probably even more important, some respondents declared that the *Adventure Therapy* weekend stimulated some positive changes in their everyday life, which were still to be felt two months after participation. The second implementation phase (June 2022) specifically aimed at assessing the market viability of the *Adventure Therapy* tourism product. While in 2021 the focus was on feasibility and visitors experience, so the price each participant had to pay was quite low and did not allow to cover all costs, in 2022 a price much closer to market value was tested. The response was good, but not as positive as expected basing on previous feedback and on the significant interest shown by the press in 2021. Anyway, extending the pilot action over just one weekend did not allow to understand if this not completely satisfactory response originated from the increased price, or if other factors were at play, such as, for example, the difficulties in identifying the best communication channels for such a new and peculiar tourism product or, perhaps, even the specific chosen dates.

This second part of the *Adventure Therapy* concept generated relevant additional value for the region, since:

- it confirmed that there is a demand for tourism products combining enjoyment of nature with psychological well-being and that Ossola lends itself very well for the development of this kind of offer;
- it allowed a group of motivated professionals to further experiment with this concept and bring their interprofessional cooperation one step further;
- it helped strengthen the image of Ossola as a destination for wellness tourism.

Further testing phases could be required, perhaps also in connection with additional specific targets such as companies, for team building activities, or health care facilities which provide treatment of psychological disorders.

Based on the participants' feedback, it emerges that this pilot action can definitely be recommended to other cities/regions, where the necessary skills - psychologists and mountain guides willing to try out themselves in an unusual professional setting - are available. Especially after the Covid pandemic, which has strained the psychological well-being of many people, an initiative which allows participants to seek their own balance in contact with nature and with the support of qualified practitioners responds to a widespread need.

5. Final considerations

The Alps constitute a geographical area with unique natural and cultural features; they also have an economic role at a wider scale, providing goods and services – such as water, agricultural goods, handicrafts, and recreation – for all of Europe, as well as being a hotspot of biodiversity, and a dynamic region in the field of innovation.

Many approaches and challenges have recently emerged for the development of new forms of enjoyment that look beyond the mere tourist experience within the mountain areas, connecting to deeper needs and opportunities as: reconnecting with the environment, getting to know nature and oneself through practices of well-being in a broad sense, implementing practices that help territories to live and develop in sustainable terms. The awakening of a renewed consciousness can be observed, generating a more solid connection between nature, psychology and tourism, and giving rise to new needs and drives towards experientiality, giving boost to those types of tourism based on slow, healthy and participated activities, oriented towards the enhancement and protection of territories.

As concerns the Alps, prerequisites and services for health tourism practices in Alpine regions range from specialised tourism services on specific medical treatments to natural resources that function as a basic or fundamental element of psychophysical well-being. Within this frame new immersive hybrid practices between exercise and meditation, enabled by the natural elements of the context - or the Alpine environment - can actually contribute to its sustainability.

New scenarios, recognised by the local communities and co-constructed by the tourists themselves, take the form of new ways of proposing and enjoying tourism that make it possible to realise the chances for recovery and thus to banish the negative signs of the past, particularly evident in inland mountainous areas, resulting from phenomena of abandonment, marginality and overall impoverishment.

The case of the pilot action analysed with reference to the Heals2 project and based on the particular methodology of Adventure Therapy makes it possible to point out the unexplored and fruitful possibilities for practices concerning health and wellness tourism in the Ossola valleys. They need to be more structured in order to involve other local bodies and businesses to co-create a concrete experiential tourism chain related to the environmental energies.

The development of sustainable tourism practices that correspond to objectives of personal growth and measures to support the social, environmental and economic development of the Alpine region and its local communities, can at the same time make it possible to cope with post-pandemic issues and to seize possible territorial or strategic opportunities.

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THE CONTRIBUTION OF PROXIMITY FOREST TOURISM TO COMMUNITY BUILDING AND LOCAL DEVELOPMENT

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Abstract

Environmental studies show that forests support biodiversity, climate change mitigation, and ecosystem services. Furthermore, regional and territorial studies have demonstrated that periurban forests contribute to local economic growth and residents' well-being and identity. Given these premises, the paper analyses how the touristic exploitation of forests and other wooded lands can contribute to community building and local development. More specifically, the paper analyses the touristic exploitation of the *Bosco delle Sorti - La Communa Safeguard Area* and the *Bosco delle Sorti della Partecipanza di Trino Protected Area* intending to explore the potentialities of proximity forest tourism as a lever of local development and community building, and discusses implications for tourism, forestry and territorial planning.

1. Introduction¹

In the first decade of 2000, a sequel of dramatic and unforeseen events such as economic crises, epidemics and terrorist attacks caused a sharp slowdown in the growth of international tourism. The collapse due to the Covid-19 pandemic was the most dramatic but not the most unique. In previous years, the news of international health emergencies (such as the SARS-CoV diagnosed in Asia in February 2003, the H1N1 “Swine flu” in 2009, and the Ebola epidemic in Africa in 2014) and murderous terrorist attacks (in the United States in 2001, in Spain in 2004, in the United Kingdom in 2005) have already periodically discouraged international journeys (UNWTO, 2021). Today, many tourists have thus already turned to make shorter holidays in closer destinations (UNWTO, 2021). Then, in the spring of 2020, the pandemic pushed National governments to adopt lockdown and social distancing strategies that caused an almost total suspension of international travel and tourism (UNWTO, 2020). “Global tourism suffered its worst year on record in 2020, with international arrivals dropping by 74% [...]. Destinations worldwide welcomed 1 billion fewer international arrivals than the previous year due to an unprecedented fall in demand and widespread travel restrictions”. According to the UNWTO “in 2020 the collapse in international travel represented an estimated loss of USD 1,3 trillion in export revenues – more than 11 times the loss recorded during the 2009 global economic crisis. The crisis has put between 100 and 120 million direct tourism jobs at risk, many of them in small and medium-sized enterprises” (UNWTO, 2021).

Nevertheless, the tourism sector has proved resilient, quickly returning to pre-crisis levels while acquiring greater awareness of the social and environmental threats of

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¹ The paper reflects the ideas and work of both authors. Nevertheless, Maria Giuseppina Lucia was responsible for sections 1, 2 and 3; Francesca Silvia Rota for sections 4, 5 and 6.

overtourism and long-range travel (Romagosa, 2020). “International tourist arrivals almost tripled in January-July 2022 (+172%) compared to the same period of 2021. This means the sector recovered almost 60% of pre-pandemic levels. The steady recovery reflects strong pent-up demand for international travel as well as the easing or lifting of travel restrictions [...] yet several challenges remain, from geopolitical to economic. [...] Now is also the time to rethink tourism, where it is going and how it impacts people and planet” (UNWTO, 2022)².

Consistent with the studies that ask for structural change to decongest mass destinations and promote destinations that suffer from down-tourism (Higgins-Desbiolles and Al., 2019; Fletcher and Al., 2019), the restrictions on international flows have forced new solutions to manage tourist flows following sustainability standards and resilience.

One of the most significant opportunities highlighted by the pandemic crisis is the rediscovery of destinations close to the place of residence (Navarro Jurado and Al., 2020). In Italy, in particular, the urban and periurban green areas, which allowed walks and outdoor activities respectful of the lockdown and the social distancing restrictions, have earned new consideration (Human Company, 2022; Cresta, 2021). Likely, the preference of Italian tourists for green areas close to their homes represents a generalised trend that will continue, pushed by the combination of greater environmental awareness and economic constraints. Furthermore, the risks of economic recessions due to the rise in energy costs provoked by the Russia-Ukraine conflict determine a further downsizing of the Italian household’s disposable wealth and discouraging vacation. As a recent SWG survey demonstrates, in September 2022, 87% of the respondents were reconsidering their holiday habits (six months before, they were 76%)³ because of the effects of the rising energy costs.

The paper thus examines the potential of periurban forests as a new emerging “proximity tourism” destination, characterised by a safer (i.e. less congested and exposed to the risks of virus diffusion) and cheaper offer. Practised since the 1950s and 1960s, proximity tourism is a dynamic promising segment of the modern tourism industry, recently renewed in demand and offer. At the origin of the success of this tourism, there is greater attention to sustainable local development and the aspiration to get in close contact with nature and the places of everyday life (Díaz-Soria, 2017). Proximity tourism intercepts the new demand by organising shorter travels to close-to-home domestic destinations, briefer but frequent stays in places far from mass itineraries, products and services that comply with ecotourism standards and allow intimate contact with the natural environment and the local cultural heritage (Romagosa, 2020). Moreover, the destinations of proximity trips can be manifold: natural, cultural, historical, etc. Among them, periurban forests and wooded land emerge as promising yet underexploited destinations of proximity tourism. The research question of this study is thus twofold. Firstly, we ask: “what

² In his message to the World Tourism Day 2022, the UNWTO Secretary-General Zurab Pololikashvili said: “Tourism continues to recover steadily, yet several challenges remain, from geopolitical to economic. The sector is bringing back hope and opportunity for people everywhere. Now is also the time to rethink tourism, where it is going and how it impacts people and planet”. Source: <https://www.unwto.org/news/international-tourism-back-to-60-of-pre-pandemic-levels-in-january-july-2022>

³Source: <https://www.agenziagiornalisticaopinione.it/lancio-dagenzia/swg-energia-sondaggio-l80-degli-italiani-ha-gia-fatto-o-sara-costretto-a-fare-a-importanti-rinunce-per-fare-fronte-al-caro-bollette/>

solutions/decisions can local governments assume to maximise the economic, social and environmental benefits of forest proximity tourism”. Secondly, we ask: “what threats may prevent the fulfilment of this aim?”. In this paper, we will not be able to give a final reply to these questions because the study is currently ongoing. Nevertheless, we will provide some theoretical and practical elements to frame and discuss the issue and proceed with a territorial analysis. As to the methodology, we adopted a case study analysis based on the comparison of two periurban forests in the Piedmont region (Italy), both characterised by the adoption – at a specific time in their history – of innovative forms of management involving the local community, but with contrasting results of valorisation.

The paper is structured as follows: section 2 contains the review of the geographic and territorial literature on proximity tourism; section 3 discusses how the multifunctional dimension of forests can be valorised for touristic purposes and to get multiple advantages, including community building process and participatory local development; section 4 illustrate some main opportunities of the tourist enhancement of Italian forests as destinations of proximity tourism; section 5 introduces the two periurban forests selected as case studies and verify in them the presence of the multifunctional dimension discussed in section 3. The last section, the sixth, will then develop some preliminary conclusions based on the analysis conducted and trace the way for future research.

2. Geographic and territorial approaches to proximity tourism

On an intuitive level, proximity tourism identifies domestic tourism that requires limited travel distance from the habitual place of residence. However, the definitions of proximity tourism provided by the literature are manifold. Some authors, for instance, identify this type of tourism in the short-range routes to reach the destination and in the limited duration of the stay, which can be a weekend or a single overnight. Other authors also consider visits lasting for four-hour or more and associate proximity tourism with innovative practices and low-impact means of transport (Wynen, 2013). While significant attention was devoted to international tourism and exotic destinations, proximity tourism has been underestimated (Jeuring and Díaz-Soria, 2016). The first reason for this limited debate is economic: proximity tourism traditionally has a less economic impact – especially on the local economy – than international tourism. The second reason is practical: proximity tourists are far more challenging to detect than international ones due to the often informal nature of close-to-home travel and stays. For instance, second homes tourism is quantified by measuring the variation in waste production and energy/water consumption. Moreover, the difference between tourists (overnight visitors) and same-day visitors is poorly relevant in proximity tourism⁴.

At the same time, feeding the debate emerges as relevant, especially today, that international mass tourism is showing its weaknesses, whereas proximity tourism is gaining new attention. The risks of international tourism have given new evidence to local tourism. They have awakened the interest of scholars, who are now highly

⁴ Recently, OECD stated that “tourism refers to all activities of visitors, including both tourists (overnight visitors) and same-day visitors”. Source: <https://stats.oecd.org/glossary/detail.asp?ID=2725>. In this paper we agree with OECD vision, nevertheless, expert have contrasting opinions on this issue.

engaged in the conceptualisation of the practice of proximity tourism and the empirical analysis of the preferences of this type of tourist (Richards, 2016).

Geography is prominent among the many disciplines that have developed a specific interest in proximity tourism. A common trait of geographical reflection on proximity tourism is investigating whether close-to-home destinations satisfy the search for novelty and extraordinary experiences, which is a crucial reason for tourism travel. More specifically, to demonstrate whether proximity tourism allows for a mental and physical evasion from everyday life, some scholars focus on the complex notion of distance and perception of the elsewhere, recalling notions contained in the geographic, sociological and psychological sciences (Salmela and Al., 2021). The distance in tourism is not only the physical space that separates two locations (Simandan, 2016). It implies many components that are also economic (the costs of transport), temporal (the duration of the travel) and subjective. A crucial category of distance refers to personal feelings: the so-called psychological distance, the subjective perception of one's distance/proximity from a given destination, of the *Here* and *Elsewhere*, regardless of geographical distance (Larsen and Guiver, 2013).

In addition, studies on proximity tourism focus on another vital aspect of the decision to travel: the physical and mental regeneration that derives from removing the everyday life setting. The authors transfer this issue to the analysis of proximity tourism to ascertain whether this practice produces the same sensations as tourism in remote and culturally dissimilar destinations (Díaz-Soria, 2016; Jeuring and Haarsten, 2017). Even in an experience of proximity tourism, an emotional interaction occurs between the place of visit and the Self of the visitor, which turns the resident into a tourist and is used with a narrative and communicative intent to build the tourist imaginary attracting new visitors. The construction of the Otherness in the local, in the sense of the touristic experience of a familiar environment (Jeuring and Haartsen, 2017), configures the type of the tourist-resident, i. e. who satisfies the need to shift everyday life in his/her daily life. The case of a guided tour in the city of Barcelona has shown how residents may assume the gaze of external observers of their city, discovering the artistic and cultural heritage they have never looked at with a tourist's curiosity. Studies on second homes tourists, satisfying the need for estrangement by spending periods in a community different than the one they belong also confirm the figure of the tourist-resident and its balanced connection between Familiarity and Otherness (Díaz-Soria, 2016). Another issue in proximity tourism is the role of beauty, which is supposed to be more immediately perceivable in unfamiliar places. The arguments introduced on this point by some scholars is that taking an aesthetic look allows, also in everyday life, surprises of wonder and sensory experiences, which are typical of exotic destinations. At the same time, the attribution of an aesthetic value to the place of everyday life predisposes to sustainable lifestyles and a more outstanding commitment to caring for the environment (Rantala and Al., 2020).

Proximity tourism has engaged scholars not only in basic concepts but also in indicating the advantages and opportunities of this practice.

A wide range of advantages is associated with proximity tourism. Differently from long-distance travel, proximity travel reduces polluting emissions, contributes to contrast climate change, favours the seasonal adjustment of tourism, supports the care and conservation of local heritage (Díaz-Soria and Llurdés Coit, 2013), and promotes economic development with the participation of local communities (Rantala and Al., 2020).

Proximity tourism can help reduce economic imbalances between traditional congested destinations and marginal touristic areas, although endowed with cultural and natural resources (Bertacchini and Al., 2021). It can also help social inclusion since proximity trips are within reach of almost all social classes. Moreover, compared to international mass-tourism, the attraction of resident-tourists can play a leading role in local development because of a reduced environmental impact and a higher awareness (and respect) of the local social capital (workers, inhabitants, relationships etc.) and the characteristics of everyday places (Díaz-Soria and Llurdés Coit, 2013). In proximity destinations, external transfer of the produced wealth is also less frequent than in mass tourism ones because the local tourism sector is held mainly by local and domestic actors (multinational operators are rare).

The proximity approach in tourism fits with the movements promoting local products' consumption, i.e. agricultural and agri-food communities of practice. Also, it has relevant connexions with the broader approach of *bioregionalism*, which promotes the appreciation of the ecology, economy and culture of the place and asks for the adoption of choices that enhance everyday life places also for tourist aims, both for residents and nearby inhabitants. Consistent with these arguments, some scholars have assumed the term "locavore", which means "local eater", to cony the expression "locavist" to indicate the local spectator who looks at the places of everyday life with curious and admiring eyes. At the same time, "locavism" came to indicate the tourist practice of the "locavist" (Hollenhorst and Al., 2014). In the paper, we assimilate "locavism" to proximity tourism as they both consider the bond with our socio-ecological community a touristic experience as valuable and gratifying as the experience of distant exotic destinations (Hollenhorst and Al., 2014).

3. The multifunctionality of peri-urban forests from the perspective of proximity tourism

Proximity tourism that is respectful of the environment and society and supports the local development processes and residents' identity (see section 2) can be considered sustainable. However, not all destinations are equally considered in the literature on proximity tourism. Periurban forests, for instance, are among the most neglected ones, despite their important contribution to sustainable tourism.

In our research, we define the *periurban forests* as forests and wooded areas that are easily accessible from the urban settlement and that are perceived as components of the local landscape by the urban residents.

In Italy, forests are widespread and easily accessible from almost every city. So, they can provide an innovative offer that combines amusement, sports, cultural, educational and therapeutic activities and is addressed to both external and local visitors. The residents, in particular, can better comprehend the history and identity of the places they belong by visiting the forests surrounding their homes and cities. Forests can host activities and events that strengthen local community ties and construct the basis for participatory processes of local development. Moreover, urban⁵ and periurban forests produce a wide range of ecosystem services that serve the urban economy (Berglihn and Gómez-Baggethun, 2021).

⁵ As a result of urbanisation, in some cities forests got inscribed into the municipality borders, sometimes in close proximity with the dense urban fabric.

Thanks to their urban-rural setting, the peri-urban forests provide visitors with an offer more comprehensive than remote forests. At the same time, their closeness to the place of residence sometimes prevents them from being perceived as touristic destinations. The informality of the touristic practices that occur in forests makes it difficult to detect and quantify them.

In this section of the paper, we will go deeper into the different perceptions, services and activities (sports, nature, entertainment, culture, health) allowed by periurban forests because their comprehension is propedeutic to the case study analysis that will follow in section 5.

3.1 The tourist-resident gaze on forests

As a symbol of mystery, a place of refuge and worship, a protective entity, and a metaphor for life, the forest reflects the human relationship with nature (Antonelli and Al., 2020). According to past tales and traditions, forests were places hosting divinities, satyrs, and nymphs; they were the theatre of erotic or cruel acts by these supernatural entities, sacred places of initiation for ancestral civilisations, training grounds for overcoming obstacles and empowering in fairy tales. Although diverse in origins and scope, all these narratives transmit the feeling of a fascinating experience in an environment that is “other” than everyday life.

Consistent with the literature that discusses the subjectivity of distance and the perception of the Elsewhere in tourist experience, peri-urban forests thus suffer less than other destinations the risks of a weaker interest/commitment by the tourist-resident because of their intrinsic “extraordinary” and wild dimension. At the same time, the presence of a touristic demand and offer can turn them into refuges from everyday urban life, places for recreational activities, outdoor sports, environmental education and in-depth knowledge of the history of places. In this sense, the tourist use of the forest is a potential tool for local development and a stimulus for the rediscovery and strengthening of identity and community ties.

3.2 Forest products and ecosystem services

From the literature, we realise that urban and periurban forests produce a wide range of ecosystem services that advantage the urban economy. The most important of these services include climate change mitigation, the preservation of biodiversity, the maintenance of the quality of water, air and landscape, the regulation of the dynamics of soils, waters and ecosystems, as well as the provision of timber, biomass and food. Other services include repair to animals and enhanced outdoor recreational opportunities (Lega Ambiente, 2020; Berglihn and Gómez-Baggethun, 2021).

However, if we consider forests as tourist destinations, the ecosystem services they produce also contain cultural services, symbolic and aesthetic; these services acquire economic and social value when recognised and planned as strategic assets in forest management. Moreover, they can sustainably valorise the local, territorial heritage and intercept the demand for a new type of tourism closer to nature and objectives of mental and physical regeneration.

The orientation towards ecotourism is already a well-established reality in the United States, Canada and the Northern countries of Europe (Pröbstl et Al, 2008). In the Mediterranean countries, this trend has become widespread in recent years, also pushed by the increasing domestic demand for excursions in national and regional parks and daily outings in the forests and wooded areas nearby the urbanised area. For

areas hitherto marginalised, proximity tourism can be an effective tool of local development: it can start a virtuous cycle of new recreational activities, increased tourist flows, and increased accommodation opportunities and facilities, which broaden local tourism attractivity. Finally, the eco-systemic services offered by the forest can be exploited by the tourist industry in a way that produces back benefits to the forest itself. The frequentation of natural areas, in fact, favours respect and care for the environment (to continue to enjoy it and pass it on to future generations) and a commitment to the forest heritage that involves economic operators, visitors, administrations and local communities.

3.3 Relax, sports, education and health care in forests

The tourist activities to be developed in a wooded area are many. They generally fall within the category of outdoor activities, including recreational, sports and wellness (Regione Toscana, 2013). At the same time, we know that any classification –although useful to study forest services systematically – is insufficient because the same activity can be carried out differently and procure different advantages. For example, forest walking, which falls into the hiking category, can be considered a sport and a wellness activity.

Hiking tourism in forests is practised along equipped trails that provide tourists with signals, maps, travel times and information on the characteristics of the route and the presence of rest areas and services. It includes simple walking, nordic walking (i.e. walking with the help of sticks similar to skiing sticks), jogging, training, running, cycling, and even downhill on sloping paths. The outcome of these activities is health, wellness and amusement. Equipped paths and trails are tangible signs of a fruitful relationship between forests and tourism. The various services offered by the forest are directly experienced by hiking. Hiking along equipped trails allows for enjoying the natural and cultural landscape in safety, combining physical activity with knowledge. Moreover, responsible hikers protect the forest ecosystem and safeguard nature's ecological value outside the trails.

Other sports activities in a wooded area include horseriding, archery and orienteering. Also, playful attractions are adventure parks that combine outdoor sports, fun and relaxation⁶. Special equipment, including ropes, Tibetan bridges and nets, allow of all age visitors to climb, walk and make acrobatic routes among the trees.

In many countries, outdoor activities practised in forests can also be successfully associated with coherent hospitality proposals. Bed & breakfasts, farmhouses, chalets and tree houses, designed with sustainability criteria and respectful of the local ecosystem/landscape, can make the local touristic offer more varied and attractive. Examples are emerging nearly everywhere. In Italy, too, there are some interesting experiences, especially in Trentino Alto Adige, Umbria and Calabria (Sessa, 2019). The demand for accommodation facilities in forests is also linked to the recognition of the positive therapeutic function of forests on physical and mental pathologies. According to Meneguzzo and Zabini (2020), creating a network of structures for therapy, combined with raising awareness for the protection of the forest environment, creates significant opportunities for the local economy.

⁶ Forest Parks Adventure (FPA) originated in the United States and in France in the Sixties of the twentieth century and rapidly spread in all European countries (Falchetti, 2011; Notaro et al., 2012).

Furthermore, economic and social opportunities for the local community also come from the cultural valorisation of forests. Periurban forests, notably, can host activities such as thematic itineraries, libraries in the woods, green classrooms, laboratories, and nursery schools to teach, play, do physical activity, and explore and experiment in contact with nature. Pedagogy and didactics activities held in forests have already proved beneficial for subjects of all ages – particularly autistic children – by developing empathy, autonomy and self-esteem (Friedman et al, 2022). In addition, forest libraries allow reading in scenic and relaxing settings for all types of tourists, including residents.

4. Opportunities of proximity tourism in Italian forests

Modern proximity tourism⁷ appeared early in the XIX century in response to European and US upper classes' growing demand for leisure, relaxation and healthcare in contexts not far from home. On the one hand, esteemed existing destinations of international tourism, such as ski and sea resorts, wellness and thermal centres, and well-known historical and cultural sites, started to be also visited by local and domestic tourists nearby. On the other hand, new tourism destinations appeared, specialised in short-range and second-home tourism.

In Italy, a critical input to the diffusion of proximity travels came in the 1950s and 1960s, firstly, by the diffusion of the automobile in households; secondly, by the rapid expansion of the second/holiday homes market. Then, an essential stimulus came from the national tourism industry, which began orienting the offer towards domestic local demand, and the policies of remote, barely touristic areas, promoting tourist attractiveness as a lever of economic growth. As a result, tourism became accessible to all social classes and preferences (leisure, health, sports, education, and culture).

In the past, having a vacation home in the countryside or seaside was a privilege of the aristocracy (e.g. the Savoy family owned a system of hunting residences all around Turin) and rarely passed through the market since proximity tourists relied on the hospitality of friends, relatives and acquaintances.

In Italy, periurban forests are widespread and easily accessible. Therefore, their extension is relevant in all regions. Table 7.1 shows the extension of forests, other wooded lands and the total wooded area, elaborated by the third Italian national inventory. As the table shows, “the total wooded area in Italy is estimated to be 11.054.458 hectares, of which 82,2% is classified as forest (9.085.186 ha) and 17,8% as other wooded land (1.969.272 ha)⁸. The total wooded area covers 36,7% of the country area; forest covers 30,2%, and other wooded land covers 6,5%. At the regional level, forest cover varies considerably, going from 7,4% in Puglia to 63,3% in Liguria, and it is above 40% in five regions (Provincia di Bolzano, Provincia di Trento, Friuli-Venezia Giulia, Toscana and Umbria)” (Gasparini et al, 2022: 154; our translation).

⁷ Suppose proximity tourism is any period of vacation and leisure spent in places spatially close to the usual residence; in that case, the origins of proximity tourism could be traced back to the ancient Greeks and the Romans, whose rich families owned luxury villas in the countryside outside the city for these purposes. However, the subject of our analysis is proximity tourism as an economic and policy sector. For this, we use the term modern proximity tourism and set its beginning in the XIX century when the tourist practice had already ceased to be an elitist activity of European aristocrats.

⁸ By the category ‘other wooded land’ the Italian National Inventory means short trees forests, sparse forests, scrubland, shrubs and the residual category of ‘not accessible or not classified wooded area’ (Gasparini et al., 2022).

Region	Forest	Other wooded land	Total wooded area	Wooded area as % of tot area
Piemonte	890.433	84.991	975.424	38% (forest: 35%)
Valle d'Aosta	99.243	8.733	107.976	33% (forest: 30%)
Lombardia	621.968	70.252	692.220	29% (forest: 26%)
Prov. di Bolzano	339.270	36.081	375.351	51% (forest: 46%)
Prov. di Trento	373.259	33.826	407.086	66% (forest: 60%)
Veneto	416.704	52.991	469.695	26% (forest: 23%)
Friuli - Venezia Giulia	332.556	41.058	373.614	48% (forest: 42%)
Liguria	343.160	44.084	387.244	71% (forest: 63%)
Emilia Romagna	584.901	53.915	638.816	28% (forest: 26%)
Toscana	1.035.448	154.275	1.189.722	52% (forest: 45%)
Umbria	390.305	23.651	413.956	49% (forest: 46%)
Marche	291.767	21.314	313.081	33% (forest: 31%)
Lazio	560.236	87.912	648.148	38% (forest: 33%)
Abruzzo	411.588	63.011	474.599	44% (forest: 38%)
Molise	153.248	20.025	173.273	39% (forest: 35%)
Campania	403.927	87.332	491.259	36% (forest: 30%)
Puglia	142.349	49.389	191.738	10% (forest: 7%)
Basilicata	288.020	104.392	392.412	39% (forest: 29%)
Calabria	495.177	155.443	650.620	43% (forest: 33%)
Sicilia	285.489	101.745	387.234	15% (forest: 11%)
Sardegna	626.140	674.851	1.300.991	54% (forest: 26%)
<i>Italia</i>	<i>9.085.186</i>	<i>1.969.272</i>	<i>11.054.458</i>	<i>37% (forest: 30%)</i>

Table 1: Forest and other wooded land area in Italian regions.

Source: modified from Gasparini et Al., 2022: 154

Compared with other countries, however, Italy's forest is highly fragmented and intertwined with urbanisation (Fig. 1).



Figure 1: Localisation of forests and other wooded land areas in Italy
Source: Gasparini et al., 2022: 160

Also favoured by a reforestation process that has lasted since 1990, most Italian municipalities are now in close accessibility to a forest or a wooded area (Gasparini et al., 2022). To make an example, the map in figure 2 represents the localisation of forests in Piedmont in 2016: from this map, we realise that the municipalities totally excluded are around 10 (of 1.181 total municipalities in Piedmont), mainly localised in the Vercelli plain such as: Livorno Ferraris, Cigliano, Bianzè, Crova, San Germano Vercellese, Salasco, Rive, Pertengo, Pezzana, Praloro and Borgo Vercelli.

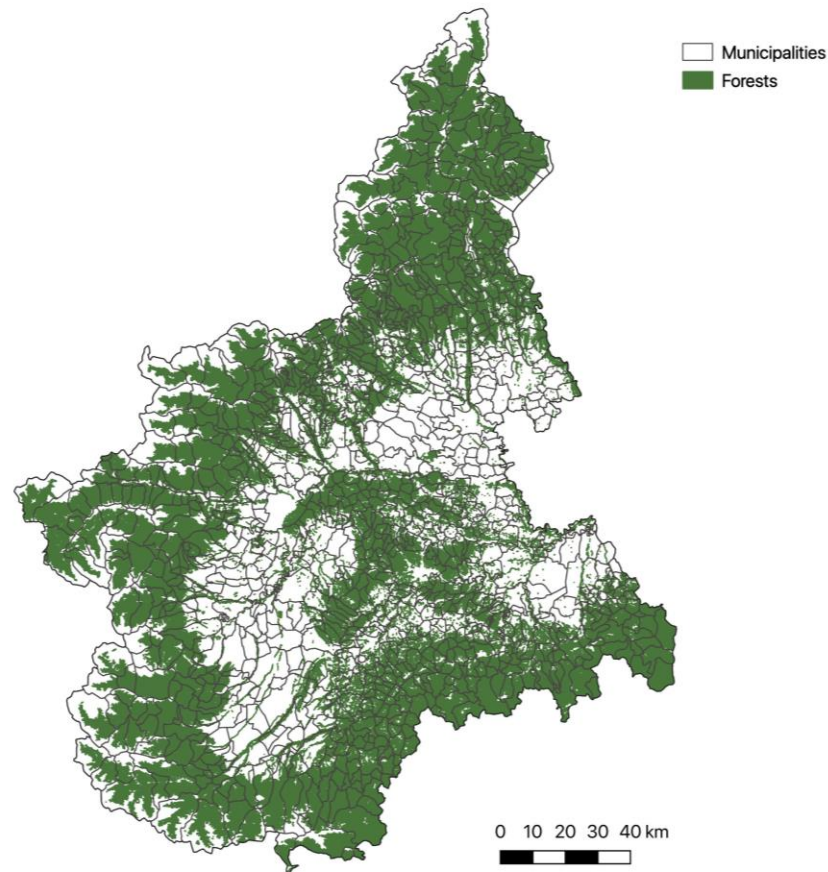


Figure 2: Localisation of forests and other wooded land areas in Piedmont (Italy)
Source: Regione Piemonte, 2022

Coherently, forests (and urban and periurban forests, namely) are gaining attention in Italy from the perspective of constructing a more balanced and sustainable relationship between urban and rural areas. This trend, also fed by the increasing demand for outdoor activities, hiking and biking in forests that followed the covid-19 lockdown, involves scholars, practitioners, and policymakers and led to the production of a growing number of studies, events and policies.

Among the most active actors that push the national policy towards a greater attention to forests we can mention: AUSF Italia (Associazioni Universitarie degli Studenti Forestali d'Italia), Coldiretti, CONAIBO (Cordinamento Nazionale Imprese Boschive), CONAF (Consiglio dell'Ordine Nazionale dei Dottori Ordini Agronomi e dei Dottori Forestali), Confagricoltura, Federforeste (Federazione Italiana delle Comunità Forestali), FSC Italia (Forest Stewardship Council), IPLA (Istituto per le Piante da Legno e l'Ambiente), PEFC Italia (Programme for Endorsement of Forest Certification), UNCEM Italia (Unione Nazionale Comuni, Comunità, Enti Montani). For instance, the Central Hiking Commission of the Italian Alpine Club (CAI-Club Alpino Italiano) draws up updated reports on the state of hiking trails and signals and provides indications for their planning, monitoring and improvement to contribute to public health and well-being (CAI, 2010). Recently, CAI and Regione Lombardia (2020) have also proposed a quality mark for hiking trails as part of the Interreg Italy-Switzerland project. Its recommendation to local administrators is to enhance nature's

social functions and remove physical barriers that prevent access to people with limited mobility.

However, the trajectories for future development of the Italian forests are several and varied, moving from both the economy and the society. Entertainment and cultural services also show substantial development margins if we consider that forest adventure parks already exceed 200 units in the country and are widespread in all regions, particularly in Piedmont, Lombardy, Trentino Alto Adige, Emilia Romagna, and Tuscany (Associazione Parchi Avventura, 2020).

5. The cases of Bosco delle Sorti - La Communa and Bosco delle Sorti della Partecipanza di Trino (Italy, Piedmont Region)

5.1 Reasons of the selection

To investigate the touristic potential of periurban forests, the paper illustrates the cases of two forests localised in Piedmont region, between the provinces of Vercelli and Asti: Bosco delle Sorti - La Communa and Bosco delle Sorti della Partecipanza di Trino (Fig. 3).



Figure 3: The localisation of Bosco delle Sorti - La Communa and Bosco delle Sorti della Partecipanza di Trino, Piedmont (Italy).

Source: our elaboration.

We selected these forests because they both were characterised in the past by a collective form of land ownership extended to the local community. The denominations themselves of the two woods of chance as “La Communa” (which means “common good”) and “Della Partecipanza” (which means “of the Participation” which is the name of the local assembly of the owners; Borla, 1975) gives evidence of a long tradition of collective land management. The ancient management practice of

the Boschi delle Sorti, in fact, established that, yearly, each owner received by chance (i.e. via a lottery) the land area or “quartarolo” him/her assigned for the cutting of the woods.

From the perspective of our study, this type of shared property regime is an interesting condition concerning most of the elements that turn proximity forest tourism into a meaningful tourist experience, contributing to community building and sustainable local development – as indicated in sections 2 and 3.

Forest shared ownership demonstrates the fundamental nexus that links the practices of cultivating and managing forests for economic and territorial purposes with the local community’s social rules and cultural traditions. From such a perspective, the local community is, in fact, a crucial active actor in the development and valorisation of the forest (see the concept of “participant community”, used by Terzuolo in 1998 to describe the management of the Bosco della Partecipanza di Trino). Furthermore, a shared property regime reinforces the identification of resident tourists with the forest and their commitment. Moreover, when the regime becomes a best practice analysed and promoted at the international level⁹, it also helps the quality of the touristic experience and the attractiveness of the local system.

In this paragraph, we will thus illustrate the elements that, present in the two forests assumed as case studies, may allow their valorisation not only as tourist destinations but also as a driver for community building. More specifically, using the information provided by the Natural Parks website¹⁰, we will classify them into natural, historical, economic and institutional factors. However – as highlighted in the Introduction – to verify the way the local community valorises these factors, we will have to wait for the results of the qualitative survey we are in train to start in the territories via interviews and questionnaires.

5.2 *Bosco delle Sorti - La Communa*

The Zona di Salvaguardia del Bosco delle Sorti - La Communa identifies a protected wooded area of 1.819 hectares instituted in 2001¹¹. It is localised in the Provinces of Alessandria and Asti. The management authority is the Assembly of the six Municipalities occupied by the safeguarded area, i.e.: Alice Bel Colle, Bruno, Cassine, Maranzana, Mombaruzzo, and Ricaldone. The Zona di Salvaguardia del Bosco delle Sorti - La Communa develops between 118 and 311 metres above sea level, in a transition zone between the alluvial plain and the slopes that gradually rise towards the Apennine belt, made up of ancient floods and sedimentary formations. Within the Piedmont region, the Bosco delle Sorti is important because of the local residual traces of the *roverella* woods (a species of the genus *Quercus*), which used to cover the land between the regions of the low Acquese and Alessandrino, and the presence of *erica arborea* at its highest latitude. In addition, viticulture gives a strong landscape connotation to these hill territories¹².

⁹ The numerous data collected by naturalistic and historic surveys on the Bosco della Partecipanza make it today well known. DocumentAria film, for instance, produced a docufilm on the Bosco delle Sorti della Partecipanza by Valter Torri. See <https://www.youtube.com/watch?v=-ExLLTakC2I>

¹⁰ Source: <http://www.parks.it/vr.bosco.sorti.communa/map.php>

¹¹ See the Regional Law n.29 14/11/2001 and the Regional Law n. 19 14/10/03.

¹² Source: <http://www.parks.it/vr.bosco.sorti.communa/map.php>

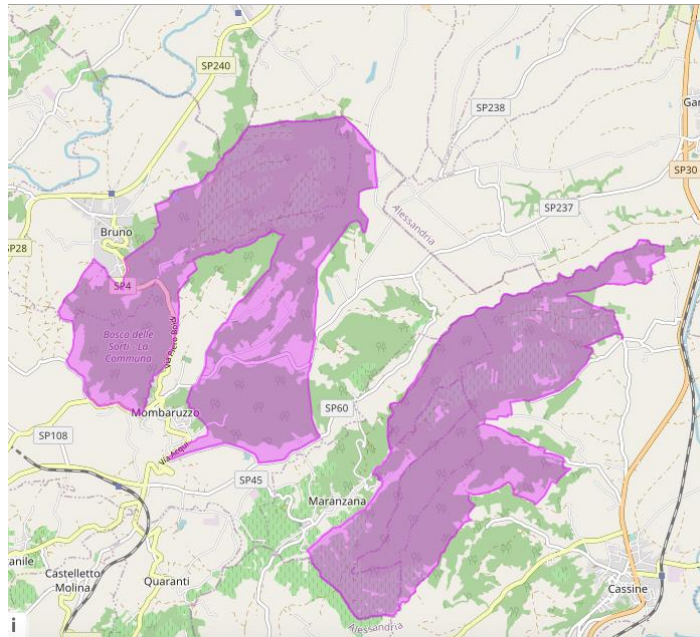


Figure 4: Borders of the Bosco delle Sorti - La Communa Safeguard Area.
Source: Google Maps.

Natural factors. In the ridge and most exposed areas, the vegetation consists of woods with a prevalence of *roverella* and *cerro* species; in the cooler areas, there is a dominant presence of *rovere*, *chestnut* and *farina*. The wooded cover has been fairly maintained in correspondence with the area formerly occupied by the Bosco delle Sorti (about 300 hectares). Elsewhere, the wooded areas are intermittently interspersed with vineyards, arable land and stable meadows. At the forest's edge weeds and/or exotic plants such as the robinia pseudacacia tend to prevail. The faunal potential is high. The most frequently observed mammals are wild boars, foxes, hedgehogs, squirrels, shrews, the European hares, and some species of bats. As for birds, there is the presence of the red and green woodpecker, the owl and some species of hunting interest such as the pheasant, the grey partridge, the quail, the mallard.

Historic factors. The first documented traces of the Bosco La Communa date back to the 15th century and refer to the Bosco di Cassine. In a document of 1456, Guglielmo di Monferrato commits himself to preserve and maintain the wooded territories called "Communa" against the extension of the cultivated territories and the demographic expansion of rural communities. Although a document elaborated in 1599 shows the exact geographical delimitation of the area, the topographical and territorial denomination "Communa" has been maintained over time under two different connotations. On the one hand, it identifies the community-managed area of the Bosco delle Sorti, whose original common fund was parcelled and privatised from the 18th to the 19th century. On the other hand, it identifies a territory (*Tenimento delle Zerbe*), which was definitively sold to private owners by the Community of Cassine in 1874.

Economic and institutional factors. There are many cultural and architectural sites in the area that could be of tourist interest if integrated into the local territorial offer. Currently, the tourists visiting the Protected area are mainly one-day tourists or resident-

tourists. For the residents, the local municipalities organise periodic events in the woods that surround the residential area. For instance, the Church of the Nativity is frequently used for events co-organised by the Municipality of Mombaruzzo. Conversely, external tourists find few opportunities to accommodate and make activities: only six structures are listed on the website <http://www.parks.it/vr.bosco.sorti.communale/sog.php>¹³ for hotels, agritourism and holiday apartments.

Besides tourism, the wood provides ecosystem services and products including timber and fruit trees (above all *nuts*) and the *erica arborea*, traditionally used to produce brooms and pipes. Also, it keeps on providing an essential protective function against the spread of agriculture, which preserves the quality of the landscape and its variety (Fig. 5).



Figure 5: Bosco delle Sorti - La Communa landscape.

Source: Photo by <http://www.parks.it/vr.bosco.sorti.communale/map.php>.

The actions implemented in the safeguarded area range from the protection of the local natural environment to the enhancement of the cultural heritage, the local traditions, the local economies and the recovery of the material and urban heritage.

5.3 Bosco delle Sorti della Partecipanza di Trino

It identifies a small but vital forest, protected under the regimes of the “Zona Speciale di Conservazione” and the “Zona di Protezione Speciale Bosco della Partecipanza di Trino”. It occupies an area of 1.075 hectares in the Vercelli plain, 3 km North of the Po river (Fig. 6). The forest is part of the territory of the Municipality of Trino. However, the management is held by a regional authority, i.e. the Ente di gestione delle Aree Protette del Po Piemontese. The Bosco delle Sorti della Partecipanza di Trino (from now on referred to as “Bosco della Partecipanza”) is a valuable relict forest of about 600 hectares, with a further 480 hectares of protection area created when the Natural park, in 1991, partly occupied by artificial reforestation carried out after that

¹³ The official link to the Bosco <http://www.boscosorti-lacommuna.it> does not work at the time we wrote the paper.

date. It is one of the most extensive planitial forests of the Padan Plain with a prevalence of *querco-carpineto* plants. Except for the area occupied by a modest relief called the “coast”, the wood cover almost entirely lays at an altitude of 144 meters above sea level.

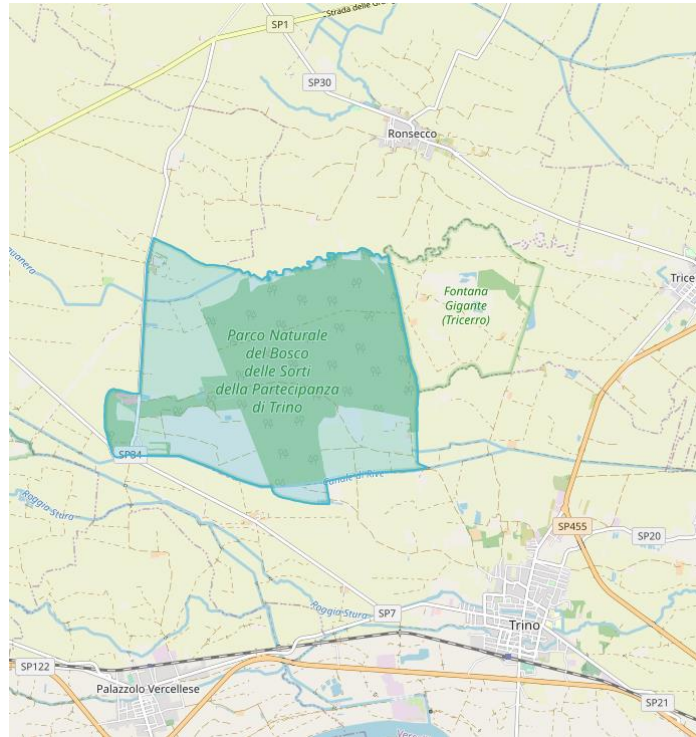


Figure 6: Area of the Parco Bosco delle Sorti della Partecipanza di Trino.
Source: Google Maps.

Natural factors. From an ecological point of view, the Bosco della Partecipanza is an *oak-hornbeam* forest with predominant *mesophilic facies* and a significant presence of *hygrophilous facies*, *ash* and *black alder* (Allegro et al, 2016). In addition, the increasingly invasive presence of the red oak, a North American species planted along the internal roads at the end of the 1950s, is now being fought with specific cuts¹⁴. The Bosco della Partecipanza is well-known among historians and natural scientists thanks to the several studies that analyse the high-level ecological and faunistic species it hosts (Allegro et al, 2016). The Bosco della Partecipanza is, in fact, an vital remnant forest nucleus of the ancient Po valley plain, today strongly isolated in an agricultural context (Fig. 7). From a geographic point of view, Crosio and Ferrarotti (1993) defined it as “raft floating on the rice fields”. On the top of the “coast” and the South-facing slope, the forest is influenced by the warmer and drier climate and hosts various plant species exclusive to this area. In the Northern part, conversely, the land is marshy for most of the year, and some resurgences have facilitated the diffusion of the black alder wood.

¹⁴ For information on general ecological (climate, geology and pedology) and historical aspects, please refer to IPLA (1999) and the works by Casale (1983), Crosio (1976), and Crosio and Ferrarotti (1993).



Figure 7: Bosco della Partecipanza Landscape.

Source: Photo by <https://www.alecology.it/parco-naturale-del-bosco-delle-sorti-della-partecipanza-di-trino/>.

The ecological isolation characterizes this forest, which “has come down to the present day, albeit with many troubles, with a precious cortege of flora and fauna now almost completely extinct elsewhere in the plain” (Corbetta et al., 1988 cit. in Allegro et al., 2016: 190; our translation). As to the flora, at the beginning of the century, the botanist Giovanni Negri reported over 400 species that survived until the present day. Among the fauna species, the Bosco della Partecipanza hosts the viper, the thunderbolt, the grasshopper and a local carabid fauna of relevant scientific interest (Allegro et al., 2016). Finally, some basins of artificial origin used for sport fishing and partly abandoned constitute environments of a small aquatic fauna of relevant faunistic, biogeographical and ecological interest because of their ability to be indicators of the environment quality (Stork, 1990; Thiele, 1977; Brandmayr et al., 2005). Considering the adjacent areas (that host wetlands, conservation areas, open areas and rice fields), the avifauna species registered are 153, including forest ones such as the goshawk, the sparrowhawk, the woodcock and the honey buzzard. In addition, the black woodpecker (which is typical in mountain areas) is also colonising this forest. The forest is also close to an important area for the migration of many species (Toffoli, 2008).

Historic factors. The forest survived with its original flora thanks to the traditional system of collective management (Partecipanza dei Boschi) that has lasted in the area since 1275. From generation to generation, the participants have safeguarded the forest, yearly regulating the cuts and other forestry activities according to rational and impartial allotting criteria (the “fates”). To date, the Regional Forest Plan still provides the general policy framework. In contrast, the local management plan (Piano di

Assestamento Forestale), based on the principles of natural silviculture, has recently expired. Thus, if the forest “escaped cutting and destruction”, it happened “thanks to the sacredness of the wood in Roman times and, from 1200 onwards, thanks to the foresight and ‘sustainable’ management of the Partecipanza and the people who came into possession of it in 1275 by concession of the Marquis del Monferrato Guglielmo the Great” (Corbetta et al., 1988 cit in Allegro et al., 2016: 190; our translation) rather thanks to policy effectiveness.

Economic and institutional factors. The forest has walkable trails equipped with signals for tourists and trekkers. These are slightly gravel dirt tracks, mostly flat or with a slight slope. There are also four play areas, a life path, six equipped picnic areas (without drinking water and toilets), and the possibility of renting the Cascinotti and Cascina Gugliemina for recreational, educational purposes and scientific uses, with a barbecue area and beds.

6. Some preliminary remarks

The two forests considered in the study enjoy different visibility. In particular, the Bosco della Partecipanza vastly overwhelms the Bosco delle Sorti - La Communa regarding reputation and tourist attractiveness. However, from the point of view of the interest they arise in local communities, the situation appears more balanced. Although the undivided ownership ended, the forest continues to be loved and frequented by the local inhabitants, who thus act as tourist residents (see Jeuring and Haarsten’s definition in section 2, 2017). It also offers more outstanding landscape quality and diversification (food, culture, heritage, nature, and landscape are all part of the local offer).

In this sense, the Bosco delle Sorti - La Communa is located on the margins and intersects a portion of the Unesco buffer zone (Fig.8).

The Bosco della Partecipanza, on the other hand, is more isolated: the presence of rice fields limits access from the surrounding urban areas working as a constraint and a protective barrier. Therefore, it remains to investigate the appeal the two analysed forests have on the inhabitants of the neighbouring territories. Waiting for the interviews that will take place in the first months of 2023, the evidence collected with this preliminary study makes us confident that successful proximity tourism can complement the traditional services the forest offers (nature, sports, and relax) with adequate cultural, food and wine and sports activities, the periodic organisation of public events and the presence of a diversified set of accommodation solutions, viable to all visitors. A critical advantage for the periurban forests can come from the provision of equipped trails and the organisation of educational activities, public events and local projects in the forest for all types of tourists, including children, the elderly and people with limited mobility (Schenetti, Rossini and Salvaterra, 2015). An important point is to provide packages that organise all the elements mentioned above (activities, places, events, accommodation) with transport accessibility, in a way that needs to be viable, and easy-to-use, easy-to-find.

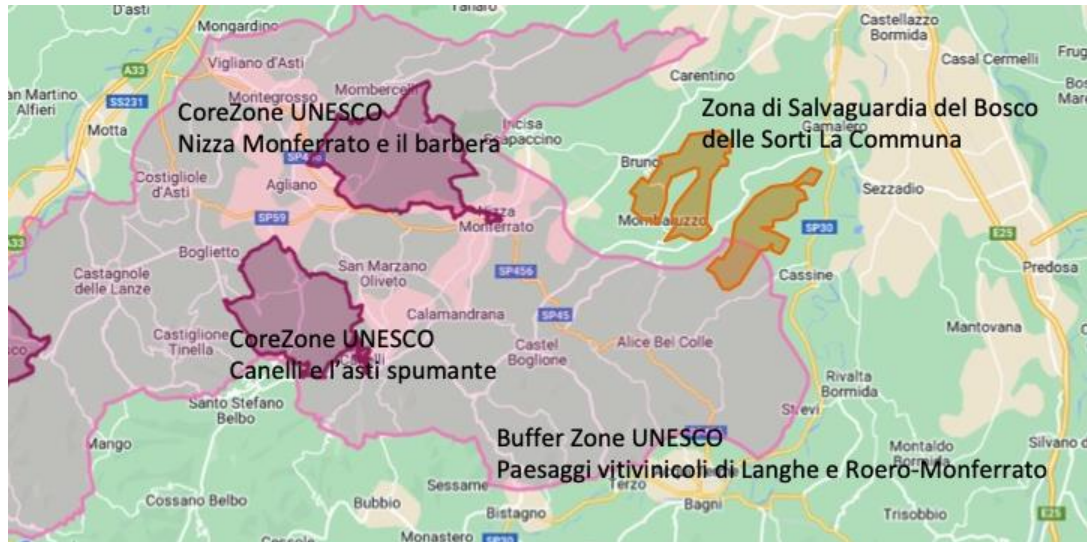


Figure 8: Bosco delle Sorti - La Communa Safeguard Area and UNESCO Vineyard Landscape of Piedmont: Langhe-Roero and Monferrato
Source: our elaboration on <https://www.paesaggivitivinicoliunesco.it>

Finally, the positive territorial effects of the touristic valorisation of periurban forests are expected to be greater if the forest is part of the local heritage (Cottini et Al, 2021) and a recognised territorial endowment of the local community (see, for instance, the concept of territorial embeddedness; Rota, 2020), institutionalised within a specific perception of nature. Sector and local cultural initiatives are thus two inseparable components of an action aimed at enhancing the peri-urban woods as proximity tourism destinations.

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TOURISM AND CULTURAL HERITAGE IN THE URBAN TRANSFORMATION OF NAPLES

Giorgia Iovino*

Abstract

The paper deals with culturally based development strategies and practices, using Naples as a case study. The city has been affected in recent years by intense and rapid processes of touristification that have generated many negative externalities. At the same time new and interesting community-driven practices were launched in some disadvantaged urban areas to promote their tourist-cultural enhancement. The work investigates some of these bottom-up experiences, with the aim of evaluating whether, and to what extent, these initiatives can generate territorial welfare, combining economic development with social identity and practices by urban dwellers.

Keywords: cultural heritage, tourism, heritage community, Naples.

1. Introduction

Italy has a thousand-year-old cultural heritage that has no equal in the world in terms of size, variety and territorial diffusion. The neglect and degradation of much of this extraordinary legacy is evidence of the inadequacy of the two traditional management models, the conservative public model and the private for-profit model (Consiglio, 2014). The first, afflicted by a chronic under-sizing of financial resources, the second interested only in investing in those territories and cultural assets with the greatest competitive differential, that is, to ensure high profitability in a short time.

Therefore, it is not surprising that in many cities of art there are places with a high cultural attraction affected by overtourism phenomena and “marginal” places that remain in the shadows, despite the presence of a widespread cultural heritage. These are often inner peripheries lacking major attractions or characterized by particularly difficult context conditions, therefore non attractive to investors and too “demanding” for the local public system.

In response to the failures of government and the market, new and interesting forms of organization have grown in the last twenty years, which, going beyond voluntary associations, pursue objectives of economic and social profitability. Such hybrid organizations, which we could define as community-based (Mori and Sforzi, 2019; Consiglio and Ritano, 2014) can take many different legal forms (cooperatives and social enterprises, corporations, foundations, etc.), but are distinguished from other forms of enterprise by the adoption of an open and inclusive governance model, aimed at intercepting local needs and generating territorial welfare.

The paper addresses these issues, using Naples as a case study. In recent years, the city has been affected by intense processes of touristification that have generated many negative externalities in most of the historic UNESCO centre (Iovino, 2021a, 2022a).

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At the same time, the experimentation of new and interesting community-driven practices aimed at enhancing tourism and culture was launched in some disadvantaged urban areas of the city (Consiglio, Cicellin and Scuotto, 2021; Laino, 2018).

More specifically, the objectives pursued are: a) propose a critical discussion of the different paths of culturally based tourism development, starting from the study case referred to Naples; b) reconstruct characteristics, history, management models of some bottom-up initiatives experimented in recent years in “marginal” areas located in the heart of the historic city; c) evaluate the territorial impacts of these experiences, measuring their ability to activate community-driven development processes based on cultural tourism.

To this aim, an integrated methodological approach was used, which combines qualitative methodologies (documentary analysis of projects, direct observation, analysis of websites and social networks of associations and cultural sites, interviews with some associations) with statistical information useful to describe the socio-economic characteristics of the investigated urban areas in the specific case study.

2. Theoretical background

In the context of critical urban theory studies, several authors (Harvey, 1989, 1991; Loyd, Clark 2001; Zukin, 1991, 2008) have highlighted how, in the advanced phase of urban neoliberalism and platform capitalism (Srnicek, 2016; Celata, 2018), the ability, by the private sector and the dominant coalitions, to extract economic value from the cultural heritage has grown, such as their ability to heavily influence the urban policies. In a context marked by the dismantling of urban welfare, many local governments have been prompted to engage a variety of cultural heritage “valorisation” strategies to attract investment and tourists. At best, they have adopted a *laissez faire* policy, in the illusion of providing, thanks to tourism development, opportunities for income integration to the local population, especially to the impoverished middle class.

As a result, many cities of art have seen a commodification of local cultural heritage and a growing gap between areas of high cultural attractiveness, affected by overtourism (Peeters *et al.*, 2018; Milan, 2018; Dodds and Butler, 2019), and disadvantaged areas, often derelict inner peripheries, despite the presence of cultural assets.

Touristification and its impacts has long been central issue in the national and international academic debate (Cocola-Gant, 2018; Pechlaner *et al.*, 2020; Semi, 2015; D’Eramo, 2017). The availability of low-cost flights and above all the diffusion of digital platforms dedicated to hospitality have dramatically expanded the accommodation capacities of many destinations, resulting in an intensification of tourist uses and consumption (Celata and Romano, 2020; Loda *et al.*, 2020).

As noted by numerous empirical studies (Sequera and Nofre, 2018, Jover and Diaz-Parra, 2020; Arias Sans and Quaglieri Domínguez, 2016; Mendes, 2017; Picascia *et al.*, 2017) such intensification alters the social and economic structure of cities, causes an increase in urban rent and the cost of living, which in turn determines the exclusion, and sometimes even the expulsion, of the poorest inhabitants and of commercial and residential activities for the local population. Functional, social and cultural impoverishment is accompanied in most cases by phenomena of overcrowding, environmental degradation, worsening of the quality of life, tourismphobia (Milano *et al.*, 2019; Colomb and Novy 2018).

This explains why the issue of overtourism is present on the political agenda of many urban governments and why the need to promote sustainable management of cultural heritage is now widely recognized also internationally (UNWTO, 2018).

In the Communication of the European Commission “Council conclusions on participatory governance of cultural heritage” (European Commission, 2014), cultural heritage is defined as “a shared resource and a common good” (art.1).

This means that the cultural heritage, independently of ownership, for its identity value, belongs to the whole community and therefore requires to be managed in a largely participatory way.

This approach is also adopted by the “Council of Europe Framework Convention on the Value of Cultural Heritage for Society” (Council of Europe, 2005), more commonly known as the Faro Convention, from the name of the Portuguese locality where, in 2005, the first opening meeting was held.

The Convention, ratified only in 2020 by Italy, outlines the rights and responsibilities of citizens in participating in cultural heritage and introduces the notion of “heritage community” defined as “people who value specific aspects of cultural heritage which they wish, within the framework of public action, to sustain and transmit to future generations”. It is a total reversal of the approach to the cultural heritage protection, based on the idea that it is necessary to involve the community in the production, diffusion and conservation of culture as a priority.

In this perspective, we deem interesting to look at some bottom-up regeneration experiences carried out by no profit organizations, which can be defined as community enterprises. Although characterized by different legal forms (cooperatives and social enterprises, corporations, foundations, etc.), these hybrid organizations have some common characteristics: i) generate community welfare, i.e. produce services and resources in the general interest of the community they belong to, ii) adopt an open and inclusive governance model; iii) are deeply rooted in the local context and preserve and promote local identity. Their primary mission is the recovery and enhancement of heritage and cultural sites degraded or dismissed. The driving force that animates them is the *amor loci*, the attachment to their neighbourhood, their city and the desire to experience innovative and sustainable regeneration practices, in order to improve the quality of life of the local community.

In Italy, the discussion on this issue has become particularly lively in recent years. Many scholars and research institutes (Euricse, 2016, 2020; Mori and Sforzi, 2019; Borzaga and Zandonai, 2015; Consiglio and Riitano, 2014; Cellamare, 2020; Trigilia, 2007; Bruni and Zamagni 2013; Gattullo, 2019) have been highlighting how these new organizational forms can represent a valid alternative to public enterprises and for-profit enterprises in the management of many cultural assets, becoming models of social innovation and agents of local development (Bianchi, 2021; Consiglio, Cicellin and Scuotto, 2021).

3. Empirical Analysis: the case of Napoli

The investigated area is the historic centre of Naples, one of the largest and most densely populated in Europe, included in the UNESCO World Heritage list in 1995 (fig. 1)¹. The area hosts a very rich cultural heritage, stratified over more than two

¹ The neighbourhoods, wholly or largely included in the UNESCO core zone (in red in figure 1.a), are Chiaia, San Ferdinando, San Giuseppe, Montecalvario, Avvocata, Stella, San Lorenzo, Pendino,

millennia of history. Unlike most European cities of art, the historic centre of Naples retains a popular characterization with strong identity connotations (Iovino, 2021a).

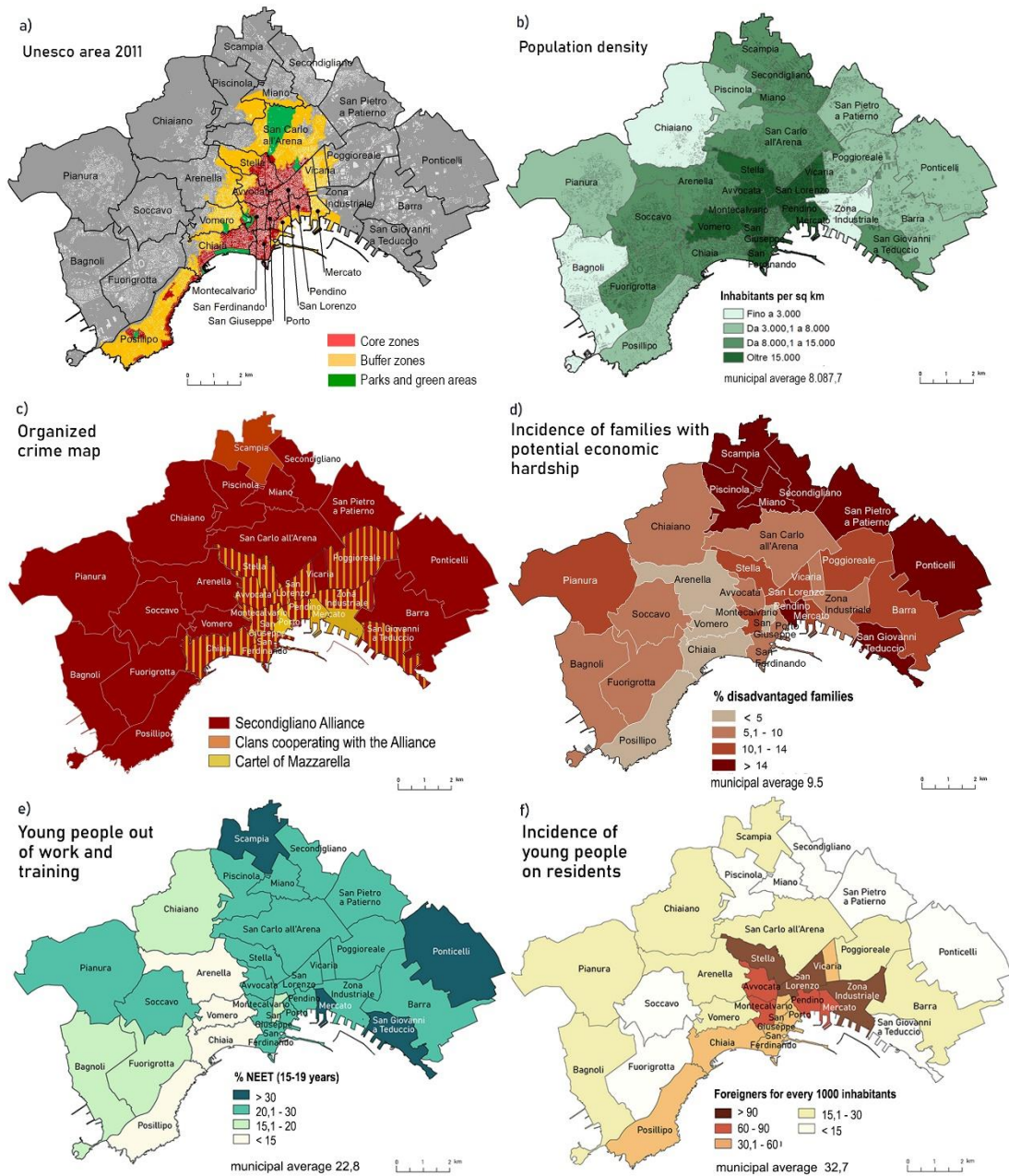


Figure 1 Some socio-economic data at the district scale
 Source: author's elaboration on 2011 Istat data and 2022 DIA data (1c)

The maps (fig. 1), drawn up on the basis of the 2011 census data², show a city still affected by endemic problems, with an overcrowded historic centre, marked by a

Porto. The core zone also includes some smaller portions of the districts of Posillipo, Vomero and San Carlo all'Arena.

² More up-to-date data on a sub-municipal scale are not available. The indicators used were developed in 2017 by Istat for all the capital municipalities of the 14 Italian metropolitan cities to provide

widespread presence of Camorra clans and a high incidence of disadvantaged families, young people and immigrants (Iovino, 2019).

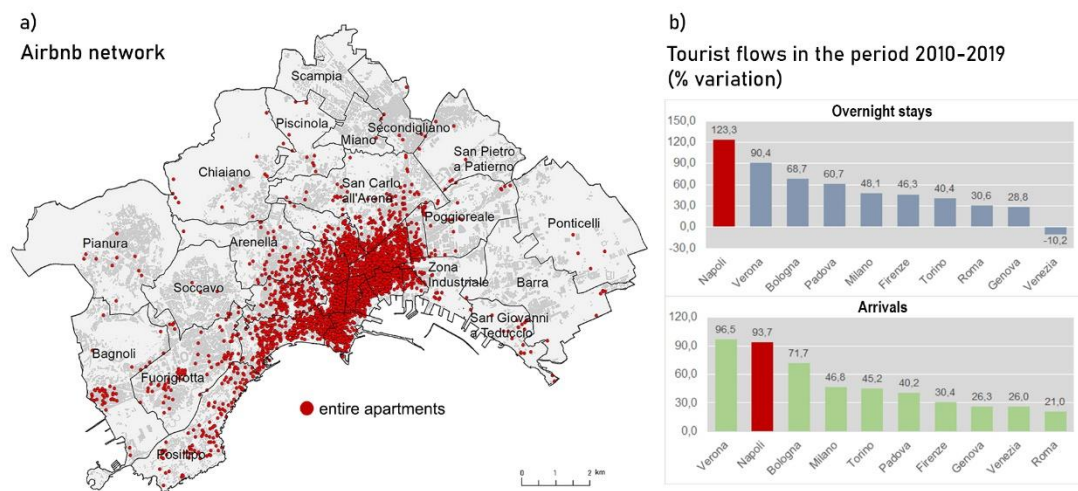
In this very difficult urban context, the rise of the cultural and tourist industry takes off, a rise driven by the UNESCO “brand” (Iovino, 2022a) and favoured by the growth of international connections (low-cost flights, high-speed trains, traffic sea cruise) and so-called STRs, short-term rentals.

In a few years, Naples becomes a successful tourist destination: among the great cities of art, it is the one that registers the highest growth rate in overnight stays between 2010 and 2019 (fig. 2b), with a surge in the foreign component (+165%).

Elena Ferrante’s novels, TV series and art film set in Naples, reactivate at national and international level the image of the city, compromised by the continuous emergencies (waste, transport, crime).

In 2019 Naples is positioned in the Top10 of the main Italian cities of art, in 5th place for overnights (3.7 million) after Rome, Venice, Milan and Florence and in 7th place for arrivals (1.3 million)³.

The intensification of the touristic flows is supported by the expansion of the accommodation offer, especially the STRs (fig. 2a). According to Airdna (2020), a consultancy company for real estate investments for tourism purposes, Naples recorded in the period 2016-18 a 65% increase in short-term rentals (the highest figure among Italian destinations, after Milan) and a 13% increase in revenue due to this type of accommodation, rating 2nd in Italy and 4th in Europe in the ranking of the 25 destinations with the highest growth rates. The offer peak is reached in the third quarter of 2019, with about 9.900 active listings, 70% of which referred to the whole apartment (Iovino, 2021b).



*Figure 2 The Airbnb network in 2019 and the trend of tourist flows 2010-19
 Source: author's elaboration on Airbnb data referring to 2019 (a) and Istat data (b)*

support to the Parliamentary Commission of Inquiry on the safety conditions and the degradation state of the cities and their suburbs. See <https://www.istat.it/it/archivio/202052>.

³ Compared to 2010, the city climbs one position for arrivals and two positions for attendance. It should also be considered that these data do not take into account cruise tourism, nor the short-term rental market, which is largely submerged. We do not have data for 2022, but from the first estimates it seems that tourist flows have returned to pre-pandemic levels.

The data relating to visitors to state museums confirm the extraordinary growth of the city and its affirmation as a successful destination for cultural tourism: in the period 2010-2018 the number of visitors increased overall by 181%, compared to 81% of Rome, 42 % of Florence, to 58% of Turin (CST, 2019).

However, tourism growth takes place in a chaotic and deregulated way, producing negative externalities. Entrepreneurs, traders, cultural and tour operators try to make up for the bad reputation of the city and the poor quality of urban public services with a low-price policy, which makes Naples a mass tourism destination, with all the connected implications. The urban government, for its part, adopts a *laissez faire* strategy, in the illusion of offering opportunities for income integration to the impoverished middle-class. The heavy debt situation of the Municipality accelerates the dismantling of urban welfare and the lack of a solid economic base pushes individuals and local institutions towards a profit-driven tourist monoculture.

The Strategic Marketing Plan “Destination Naples 2020” (Municipality of Naples, 2017) accelerates the branding of the historic city. Naples is “sold” as an authentic product: its socio-cultural promiscuity, the presence of a historic centre with a strong personality and even the presence of bad neighbourhoods are promoted as the right ingredients for living authentic experiences. These marketing strategies, however, can backfire, generating processes of commodification, that- in turn- open the door to a deregulated and extractive tourism.

The UNESCO historic centre quickly becomes a privileged observation point for investigating the negative consequences of overtourism (Iovino, 2021a; 2021b): increase in urban rent and the cost of living, gentrification, loss of services for citizens, disappearance of neighbourhood and craft shops, increase in traffic, waste and pollution levels (atmospheric and acoustic), privatization of public spaces, loss of identity and sense of belonging, growth of inequalities between places with high cultural attractiveness affected by touristification and places that remain on the margins of tourist flows, weakening of social ties, tourismophobia⁴.

In this perspective, it is very interesting to look at some bottom-up valorisation experiences carried out in particularly difficult areas of the historic center of Naples, inner peripheries that are unattractive for investors and too “demanding” for the local public system.

Among these experiences, that of *Rione Sanità* (Sanità neighbourhood) represents an exemplary case, a best practice admired and studied at national and international level (Consiglio, Flora and Izzo, 2021; Massa and Moretti, 2011; Iovino, 2022b).

The area has long represented a symbol of urban marginality, despite its centrality and the presence of an extraordinary cultural heritage (fig. 3): churches, monasteries, noble palaces, large catacomb complexes (Catacombs of San Gennaro, San Gaudioso, San Severo, Cimitero delle Fontanelle).

Its decline begins in the first decade of the 19th century with the construction of Corso Napoleone and its bridge, commissioned by Giuseppe Bonaparte to directly connect the two royal residences (Palazzo Reale and Reggia di Capodimonte). The bridge isolates the neighbourhood, cuts it off from urban routes, making it an infamous enclave, sadly known for the Camorra bloody feuds.

⁴ In 2018 Naples hosts the first national meeting of the SET network (Southern Europe in the face of Touristification), which brings together social movements and neighborhood committees of various Euro-Mediterranean cities affected by overtourism, with the aim of implementing practices of resistance to tourism mass.



Figure 3 Tourist map of the Vergini Sanità area
 Source: website of the Vergini Sanità Association <https://borgovergini.it/mappe-borgo-vergini/>

The process of “redemption” of Rione Sanità starts in the beginning of the third millennium⁵, with the arrival of Father Loffredo (2013; 2019) as pastor of the basilica of *Santa Maria alla Sanità*. Under his guidance, in 2006, six young people found *La Paranza*, a social cooperative that intends to promote a social and economic regeneration process in the area. Culture and beauty are the key ideas of the renaissance project, aimed to recover the rich abandoned or underused local cultural heritage of the neighbourhood, and, in so doing, to break the isolation of the district and create jobs for the young people (Izzo, 2021a).

⁵ For further information on the history of “La Paranza” and the revival of the “Rione Sanità”, see the work in three volumes with the evocative title *Culture and society move the South* (Council, Flora and Izzo, 2021), published by the “Rione Sanità new publishing house. The work is the result of a collaboration between the San Gennaro Foundation and the Department of Economics of the University of Campania Luigi Vanvitelli and the Department of Social Sciences of the Federico II University.

In 2008 the cooperative, supported by the *L'Altra Napoli* Onlus association, wins a tender by Fondazione con il Sud for the recovery of the paleochristian basilica of San Gennaro, which becomes the gateway to the homonymous catacomb complex and new entrance to the neighbourhood from North. The following year, the Archdiocese of Naples entrusts La Paranza with the management of the archaeological site of the Catacombs of San Gennaro and San Gaudioso, owned by the Vatican. The recovery of the burial system becomes the fulcrum of a wider regeneration project that aims to strengthen human capital and social ties within the local community.

The results are extraordinary: between 2009 and 2019 the visitors to the Catacombs increase from 12.000 to almost 160.000 (with a much higher growth than the two main museums of the city, the MANN and Capodimonte), the square meters of recovered assets from 8.000 to 12.100, permanently employed young people from 8 to 34⁶.

The economic outcomes on the territory are significant. Izzo (2021b) estimates the direct impact of the Catacombs in the neighbourhood at 21,8 million euros for the year 2018 and, based on a prudential multiplier of 1,5 (each euro of direct expenditure generates indirect and induced effects equal to 1,5 euros), comes to hypothesize a total economic impact of 32,8 million euros for the benefit of the district and the wider urban context.

Even more extraordinary results, although less immediately visible, are achieved in terms of local social and relational capital. In just a few years, the number of local stakeholders engaged in socio-cultural activities multiplied. As Izzo (2021a, p. 41) points out, a network of businesses, associations and cooperatives was formed, starting from the experience of Paranza, a network that designs “an unprecedented neighbourhood constellation”, aimed at improving the quality of life of the local community.

The “Paranza effect” (Corbisiero and Zaccaria, 2021) becomes contagious, strengthens social ties, encourages local planning and the social and creative use of the territory, frees energies that innervate the territory, fosters reappropriation practices of places and supports the experimentation of innovative organizational models. New associations arise and the attitude of the local population changes towards the Catacombs project and its promoters, passing from mistrust to full adhesion and sharing.

In 2014 the “San Gennaro Cooperation” association and the “San Gennaro Community Foundation” are established. The first brings together several associations, organizations and cooperatives of the Third Sector engaged in the area, while the second becomes a catalyst for all the subjects of the profit and not-for-profit world that intend to cooperate to produce community welfare, i.e., to respond to the local needs. For the first time Rione Sanità rises to the fore not for criminal acts, but as a place with a strong identity, full of memories and culture, a laboratory of social innovation. The catacombs receive many awards and recognitions, and the district becomes one of the most requested film locations in Naples, inspiring documentary films and television broadcasts⁷. In 2022 it is included by the English magazine “Time out” among the coolest urban districts in the world.

⁶ According to the data on the association’s website, flows resumed in 2021 (almost 87.000 visitors) although they have not returned to the levels of 2019. On the other hand, employment (40 people) and square meters recovered (13,500) increased.

⁷ Among the awards received, the following should at least be mentioned: the “Amato Lamberti Social Responsibility” Award in 2016; the “Riccardo Francovich” National Award, in 2017 received

Following the Rione Sanità model, other difficult districts of the city, such as Forcella and Porta Capuana, also begin to focus on the bottom-up activation of tourist-cultural enhancement processes.

The data in the table (tab. 1) show the socio-economic marginality that characterizes these inner peripheries located in the heart of Naples (in the Pendino and San Lorenzo districts⁸), multi-ethnic, complicated and fascinating districts in which beauty and decay, culture and educational poverty, illegality and creativity coexist.

Indicators	Pendino	San Lorenzo	municipal average
Population density (inhabitants per km ²)	1.415	4.381	8.087,7
Foreign Resident (per 1.000 inhabitants)	84,0	91,1	32,7
School dropouts (val. %)	16,1	15,0	10,7
Unemployment rate	35,8	39,1	27,8
Young NEETs 15-29 years (val. %)	27,2	26,0	22,8
Families in economic hardship (val. %)	14,0	11,1	9,5

*Table 1 Pendino and San Lorenzo districts: some socio-economic indicators
 Source: Istat, 2017 (data referring to 2011)*

Both districts have very ancient origins, as evidenced by the presence of historic buildings and monumental complexes, often abandoned or in conditions of serious degradation (fig. 4). In Greek times, there was a Gymnasium in Forcella famous for its Sebastò, games similar to the Olympic ones in honor of Augustus, and a temple dedicated to Hercules.

The stones of the so-called “Cippo a Forcella” which were part of the walls of ancient Neapolis date back to about 2.300 years. Among the most important discoveries in the district is the complex of San Carminiello ai Mannesi, a private house converted into a thermal complex after the eruption in 79 AD. It is probably for these reasons that the area was called Termense or Forcillese, from the shape of the Greek letter epsilon (Y), emblem of the Pythagorean School which seems to have been located here. The Y is also present in the urban form of the neighborhood, whose main road ends with a Y-shaped junction (highlighted in figure 4), that recalls the features of a fork (forcella in italian)⁹.

by the Society of Medieval Archaeologists for the best synthesis between rigor of scientific content and effectiveness in communication; the “Rotondi Award to the saviors of the Art”, received in 2017 for the recovery and enhancement of the Catacombs and its innovative management; the international “Remarkable Venue Award” by Tiqets, assigned to the Catacombs in 2020 as “Best Experience in the world” and in 2021 as “Best Attraction” in Italy. Several documentary films are dedicated to the Paranza’s experience, such as “The human factor”, which collects the best Italian stories of grassroots entrepreneurship; “The Paranza of Beauty”, broadcast by Rai; “The Rione Sanità System - The Discarded Stones”, winner of the Procida Film Festival; “The certainty of dreams”, presented in 2020 at the Turin Film Festival.

⁸ Forcella is located between Pendino and San Lorenzo districts, while the Porta Capuana area in part of San Lorenzo district.

⁹ The initiatory symbol of the Pythagorean Y, ideal crossroads between vice and virtue, is the coat of arms of the ancient Forcella Seat, artwork of an unknown Neapolitan sculptor (16th century) preserved in the Diocesan Museum of Naples.



Figure 4 Cultural Heritage in Forcella and Port Capuana.
Source: author's elaboration.

However, the current fame of the district rather than linked to its ancient origins and its cultural resources, derives mainly from its criminal history (for decades it was the stronghold of the Giuliano criminal clan) and from the notoriety of the television series *Gomorra*, partly filmed in the district. The TV series, very popular nationally and internationally, crystallizes the image of Forcella as a hopeless bad place.

The area of Porta Capuana, which was the ancient eastern entrance to the city, does not have a better reputation. It was built in 1484 by the Aragonese, in front of Castel Capuano, the oldest castle in Naples, of Norman origin¹⁰. To the Sedile (Seat)¹¹ of Capuana belonged TO aristocratic families such as the Orsini, the Colonna, the Pignatelli, the Ruffo.

¹⁰ The castle was probably built on the remains of a Byzantine fortress at the end of the major *decumanus*. It was a royal residence before being used as the seat of the judicial administration.

¹¹ The “Sedili” (Seats), also called Seggi o Piazze (Squares), were administrative institutions of the city of Naples from the thirteenth to the nineteenth century. The nobles had the right to participate in six of them, while the rest of the citizens were aggregated in the seventh seat, that of the people. Capuana Seat was one of the most important.

For centuries the area has been a crossroads and meeting place for merchants (also due to the presence of the nearby Borgo Sant'Antonio Abate market) and travellers¹². The so-called Latin Quarter was located here at the beginning of the twentieth century. It was a meeting place for intellectuals, writers and artists of the time, on the model of the most famous Parisian district.

Due to its strategic position with respect to the main transport infrastructures (the area has easy and direct access from the motorway, railway and port network), Porta Capuana district also boasts ancient industrial traditions, as evidenced by the former Sava military woolen mill, one of the last examples of industrial archeology in the heart of the city. The factory was planted by the Borbone royal family in the monumental complex of Santa Caterina a Formiello, once defined as an *insula*.

In the early 2000s, the district experiences a worsening of living conditions, largely linked to the transfer of judicial activities that had historically characterized the area. Between 2006 and 2007, the decommissioning of the court of Castel Capuano and the District Court, housed in the former convent of San Francesco di Paola¹³ is completed. The launch of the UNESCO Great Program has not helped. It includes redevelopment projects concerning Castel Capuano (financed with 5 million euros), Porta Capuana with a section of the Aragonese walls of (1,5 million euros) and the recovery of open public spaces (600 thousand euros). The construction sites, still open, cause disservices, increase the degradation and complicate the living standards of the area, which is already very compromised.

The relocation of judicial activities, for its part, generates heavy repercussions on the social and economic system of the district: numerous commercial activities go into crisis, the value of properties decreases and there are intense phenomena of residential turnover, with the shrinkage of the middle class and the settlement in the area of immigrants, coming mainly from Eastern Europe, Africa (Nigerians, in particular) and China. The new mobility plan launched in 2011 contributes indirectly to the depreciation of the area and the housing turnover. In order to safeguard the UNESCO area, the plan closes a large part of the historic centre to vehicular traffic (from 8.00 to 18.00) included two important arteries (Via Duomo and Via Pessina Piazza Dante), with serious repercussions on the neighbouring areas out of the device, such as Porta Capuana (and in part the Forcella itself). As noted by the informal local development agency Aste e Nodi, which includes university urban planning scholars, “the closure of traffic in the old town was propagandized mainly as an action of valorisation of the patrimony of the areas that were forbidden to the traffic. This message, in turn, aroused the opposite sentiment in the areas excluded from this action. In other words, not only did traffic increase, but it was also clear that for the public decision-maker the area of Porta Capuana was excluded, at least for the moment, from the operation of tourist enhancement” (Autiero *et al.*, 2019).

¹² A Tuscan journalist described the area in 1847 in Naples in miniature (G. Valeriani, 1847, p.423-424) as follows: “Whoever wants to truly know the Neapolitan plebs in all their habits, including their virtues and vices, should come to the Porta Capuana, at any of the 24 hours of the day, and learn about it. (...) Porta Capuana is the universal theatre, it is the Cosmopolis of our people... When the Jews wanted to give us an idea of confusion, they quoted the Tower of Babel, and we, wanting to paint the Tower of Babel, quote Porta Capuana. There is neither night nor day here. Always the same hell on both sides (of the Gate)”.

¹³ The transfer to *centro direzionale* (Central Business District) of the Justice of the Peace offices is still in progress. These were in the spaces of the Augustinian convent of San Giovanni a Carbonara, in the former Garibaldi barracks.

This feeling of exclusion is reinforced by the growing presence of immigrants which, on the one hand, favours new arrivals and new (often informal) commercial activities linked to their countries of origin. On the other hand, it leads to the concentration in the area of reception centres and houses, dormitories and public showers, Caritas (a charity) canteens, with inevitable impacts on the territory in terms of physical and social degradation¹⁴.

The great centrality of the area, close to the station and the *decumani* and the possibility of renting at affordable prices becomes an element of attraction not only for immigrants, but also for artists, intellectuals and associations engaged in cultural and social activities. The recent history of the Capuana insula of Santa Caterina a Formiello is clear evidence of this. In 2003 a group of photographers, architects and designers move to the former convent/wool mill complex and it will remain there for a few years, carrying out interesting initiatives (Laino, 2018)¹⁵. In 2005, the same year in which the *Madre* museum of contemporary art opens not far away, the Carlo Rendano Association founds, in a small courtyard of the factory Lanificio 25, a cultural laboratory. It becomes a center for the promotion of activities and live events in the artistic and musical fields. The place becomes a point of reference for the district, for the whole city. New settlements follow: Intolab which manages a space for coworking cultural activities and the Made in Cloister Foundation, founded in 2012. The latter is responsible for the recovery and restoration of the small sixteenth-century cloister, which was in a state of total abandonment. Today it is an exhibition and performing art center. It hosts numerous cultural events, including international ones. One of the best known is InterACTION, an exhibition project held in the cloister every two years. Here artists from different countries are called upon to create site-specific works and interact with each other, with the space and with the community, giving life to an exhibition collective.

Made in Cloister, even more than *Lanificio 25*, has played an important role in the regeneration of the complex and the entire district¹⁶, acting as a magnet and facilitator for other socio-cultural activities that settle inside in the former factory. This is the case of Officine Gomitoli, an intercultural centre born from the long experience of the

¹⁴ To combat social exclusion and encourage dialogue between inhabitants and migrants, the URBinclusion (2019) project “Re-design your neighborhood” was promoted as part of the European Urbanact III programme. The project, which sees among its partners Aste & Nodi (lead partner), some social cooperatives, the Madre Museums, the Federico II University, the Goethe institute and ActionAID Italia, envisages a very articulated path aimed at promoting the integration between inhabitants and migrants and to strengthen the knowledge and sense of belonging of migrants through various activities, such as training courses for the co-planning of tourist itineraries in the area guided by the new inhabitants (in collaboration with Migrantour).

¹⁵ A coworking project is launched in the 600 square meters of the factory, a project that seems to give life to a cultural and productive district. Among the first businesses established are the nomadic architecture laboratory LAN and the Neapolitan laboratory La. Na, which set up exhibitions, photography workshops and architectural projects in collaboration with US schools. Craft activities are opened in the structure, such as workshops for woodworking, the production of frames, etc. The experience ends after 7 years “due to the different life paths of the protagonists and a legal dispute with the owner” (Laino 2018, p. 100).

¹⁶ The Made in Cloister cultural project rests on three pillars, as declared by the Foundation: 1) recuperate, reconvert and develop the local artistic heritage coherent with the territorial vocation; 2) re-launch the notion of “handmade” through the interaction between master craftsmen and international artists and designers; 3) create a network of creative enterprises, to be placed within the complex in spaces to be reconverted, establishing a constant dialogue with the local community, museums and educational institutions in the area.

Dedalus social cooperative which is very active in Porta Capuana area. Also located in the complex are the Zapoi association, an architectural studio and carpentry and screen printing workshop, the Morra contemporary art gallery, the studio-house of the “Alves and Durham” cultural association, founded by the two famous artists.

Lanificio 25 and Made in Cloister are among the most active partners of “I love Porta Capuana” (tab. 2), an independent and self-financed project of participatory and sustainable urban regeneration, which brings together over 20 partners including associations, cooperatives, foundations (Castel Capuano Foundation, Comunità del Centro Storico Foundation, Banco di Napoli Foundation), institutional partners (Soprintendenza, University, etc.) and local entrepreneurs (for example, the Caracciolo hotel). Launched in 2013, thanks to the facilitation activity of Aste e Nodi, the collective I love Porta Capuana has as its objective the construction of a network between inhabitants of the district, entrepreneurs, traders and local associations in order to enhance local resources (monuments, local culinary and artisanal traditions), recognizing them as elements of identity and using them as levers for tourism development. Great importance is attributed to advanced technologies and the development of applications for smartphones and tablets aimed at spreading a new image of the neighborhood. The activities promoted by the I love Porta Capuano coordination include cultural events (such as the Award for young artists “L’arte in gioco”), urban exploration workshops (such as “This Must be the Place” project) and participatory planning to create tourist itineraries in the district (on the model of the initiative “Porta_mi a Napoli”, launched in May 2012), creations of food and wine itineraries (such as “Food and Art”, launched in 2014) which enhance the culinary contamination typical of this multi-ethnic district¹⁷.

Project	year	participants	aim
<i>I love Porta Capuana</i>	2013	Aste e Nodi, Lanificio 25, Made in Cloister and others	Create a network between inhabitants, entrepreneurs, traders, to enhance the cultural heritage, cuisine and craft traditions of the district
ZONA NTL – Napoli, Turismo & Legalità	2016	Annalisa Durante Association; Manallart; Legambiente; Vesuvius Literary Park and others	Establishment of an open area (Not Limited Traffic) to raise awareness of the resources present in the districts of Forcella, Maddalena and Porta Capuana.

¹⁷ From the “Food and art” experience comes *Cocked with love in Porta Capuana*, the recipe book illustrated by 10 artists that tells the typical cuisine of Porta Capuana. In 2013, in collaboration with the Federico II community psychology laboratory, *I love Porta Capuana* developed a research project aimed at deepening the knowledge of the needs and resources of the area (Arcidiacono *et al.*, 2016). The results of the study, based on visual methodologies (photography and video), highlight the degradation of the district and the perception of abandonment experienced by its inhabitants.

<i>NeaPolisRestArt</i>	2017	Agorà Association with MANN and others	Promote the cultural, artistic and social enhancement of Forcella through the creation of a laboratory dedicated to re-reading the masterpieces of the MANN and the creation of a street art tour (“Art dint’o street”) between the MANN and Forcella, inspired by the works conserved in the museum.
<i>PRIUS - Progetto di Rigenerazione Urbana e Sociale</i>	2019	Maestri di strada (Street Teachers) with the Annalisa Durante Association and others	Recovery of the Durante school in Forcella for recreational, educational and cultural uses (theatrical activities with the “I Teatrini” association)
<i>Forcella Alla Luce del Giorno</i>	2019	L’Altra Napoli Onlus , Istituto Toniolo, Associazione Sanitansamble e altri	recovery of an abandoned former glass factory as a multifunctional space for children and teenagers; creation of the Little Forcella Orchestra for children; redevelopment and enhancement of cultural sites

Table 2 Some projects launched in the districts of Forcella and Porta Capuana (in bold the most important partners of the project).

Source: author’s elaboration.

In addition to the I love Porta Capuana project, other initiatives insist on the area (tab. 2), including “Zona NTL Napoli, Turismo & Legalità”, promoted by the Annalisa Durante and Manallart Association, with the idea of transforming Forcella, Maddalena and Porta Capuana into an area of legality and tourism, open to all (Not Limited Traffic).

Forcella is the area affected by the other projects briefly presented in the table, such as the PRIUS-Urban and Social Regeneration Project or the NeaPolis RestArt project, born from a collaboration between the Agorà association and the National Archaeological Museum of Naples (MANN) to promote cultural, artistic and social district¹⁸.

The most ambitious project in the district is undoubtedly “Forcella alla luce del giorno” promoted by the Onlus L’Altra Napoli and financed for 1,3 million euros. The idea is to replicate the model created at Rione Sanità, to which L’Altra Napoli has largely contributed.

The project features four pillars: 1) the construction of the “house of glass”, a multifunctional space at the service of the neighbourhood, born from the recovery of a large abandoned glass factory and destined to become a center for social aggregation and for contrasting juvenile delinquency, as well as a cultural and musical education pole; 2) the establishment of the Forcella “Piccola Orchestra” (Small Orchestra) for children between the ages of 6 and 11, with the intention of replicating the success of

¹⁸ The project envisages two phases: the first aimed at making the young people of Forcella aware of the MANN (National Archaeological Museum of Naples), through a visit and re-reading of some of the masterpieces preserved there, described and interpreted by the participants; the second, called «Art dint’ o street», aimed at creating a street art itinerary between Mann and Forcella, 15 murals inspired by Mann's works placed in sites and corners of great cultural interest, but little known to the Neapolitans themselves.

the Rione Sanità Orchestra “Sanitansamble” (project partner)¹⁹; 3) the recovery and enhancement of the church of the Augustissima Archconfraternity of the Disciplina della Croce and of the archaeological area of Carminiello ai Mannesi, providing for the creation of youth cooperatives for the organization of guided tours in both sites; 4) the creation of vocational schools (one for luthiers and one for pizza makers) and textile restoration and crib art workshops (in the premises of the Compagnia della Disciplina della Santa Croce and in the church of *Sant’Agrippino in Forcella*), to combat the educational poverty of minors and to offer the children of the neighborhood protected educational experiences, in order to distance them from criminal circuits.

The process of bottom-up valorisation followed by “urban commons” looks somewhat different. It starts in 2012, with the occupation of the former Asilo Filangieri, a historic 16th century²⁰ building located in the San Lorenzo district, institutionalized as a common good by the local administration.

Abandoned after the 1980 earthquake, the Asilo, which covers an area of over 5.000 square meters, is occupied by the collective of show business workers “La Balena”, which converts part of the interior spaces into accessible, usable and inclusive spaces, available to the entire community to carry out artistic, cultural and social activities. Thus begins the innovative path that leads to the creation of a new category of socialization spaces, the urban commons: spaces owned by the municipality, administered directly by citizens, through a declaration of collective use inspired by civic uses, which establishes methods of access, scheduling of activities and functioning (Micciarelli, 2017). The local government recognizes eight commons in the urban area, including some of great value and with a strong artistic-cultural vocation, such as the former Filangeri Asilo, the Scugnizzo Liberato (former complex of San Francesco delle Cappuccinelle) and Santa Fede Liberata (former Oratory of Santa Maria della Fede) located in the historic centre and *extramoenia* the Giardino Liberato (former complex of San Francesco delle Teresiane) in Materdei (Stella district)²¹.

These abandoned public structures are recognized as commons in the municipal statute (art.3) and regulated by specific resolutions, as “places of strong sociality, elaboration of thought, intergenerational solidarity and deep roots in the territory” (resolution 7/2015).

The Neapolitan experience has been the object of study and imitation by other national and European urban realities (Palermo, Turin, Barcelona, Madrid) and is considered a best practice within the European Union, as evidenced by the “Good Practice City” award. received under the UrbanAct program.

¹⁹ Sanitansamble has received numerous awards, has played for the Pope and has performed at the Teatro San Carlo and in many other prestigious Italian and foreign theatres. It was established as an association in 2014 and currently has over 80 young people belonging to two orchestral formations. As reported on its website, Sanitansamble is inspired by the experience of “El Sistema”, a didactic model conceived and tested in Venezuela by Maestro José Antonio Abreu, which “promotes collective musical practice as a means of community organization and development in areas and difficult social contexts”.

²⁰ After being used as a factory for the exercise of arts and crafts, the complex was converted in the first post-war period (at the behest of the Countess Filangieri di Candida who had bought it) into a boarding school for young orphans and boys from less well-off families.

²¹ The other three are the former *OPG Je so pazzo* (Youth Psychiatric Hospital, renamed Jam crazy) in Materdei, Lido Pola and Villa Medusa in Bagnoli.

4. Conclusions

Naples has experienced in the last few years an intense and swift process of touristification which has generated significant impacts in the most attractive areas of the historic centre. Compared to other urban realities, this process features specific intricacies in the Neapolitan context, due to the extreme fragility of the socio-economic system, the pervasive presence of criminal organizations, the weakness and inefficiency of local governance, the pre-existing financial situation in the city.

For this reason, it is particularly interesting to look at the bottom-up experiences that have been carried out in some inner suburbs of the historic city, marked by very difficult contextual conditions. The paths analysed differ from each other in terms of purpose, forms of management, composition and number of players.

The experience of Rione Sanità is undoubtedly the most successful. It is the only one that, in the spirit of the Faro Convention, has managed to give life to a “heritage community”, a community that is concerned not only with enhancing cultural resources, but also - and more importantly- with transforming and innovating the places where these resources are located. The common element shared by the many bottom-up initiatives launched in Rione Sanità is the adoption of a community-driven entrepreneurial approach, i.e. an approach based on the active involvement and empowerment of the local community. At the same time, it relies on the ability to generate economic returns, thus contributing to the improvement of territorial welfare. The experiences of Forcella and Porta Capuana feature interesting elements but are still in an embryonic stage. The projects “Forcella alla luce del sole” and “I love Porta Capuana” seem the most promising for the composition and the profile of the actors involved. In both cases, culture and society are the cornerstones of a site-specific regenerative path, aimed at combining economic growth and attention to the local community. *Forcella alla Luce del sole* shows a greater ability to intercept financial resources, thanks to the involvement of the L’Altra Napoli onlus, rich in experience and power of vision. For its part, the Porta Capuana socio-cultural hub project sees a particularly broad and diversified network of stakeholders, which, if on the one hand makes the experience particularly stimulating, on the other complicates the implementation of the projects.

The experience of urban commons is also of great interest, an experience that has favored the collaboration between local associations rooted in the area and allowed the recovery of valuable historic buildings, saving them from abandonment. However, these “liberated” structures, that aspire to be configured as cultural hubs, are not always able to dialogue with the context, i.e., to embrace a truly open and participatory model of governance²².

However, it must be recognized that, beyond the shadows that always accompany every social innovation, these bottom-up valorisation processes can represent a valid alternative to look at to favour the recovery of cultural heritage and promote more

²² The limited ability to communicate with the context is confirmed by the results of a recent study (Vittoria and Mazzarella, 2021), aimed at examining the social outputs of the former Asilo Filangieri, the most dated and tested experience in the urban context. From the collected data emerges, on the one hand, a notable managerial liveliness (deduced from the high number of assemblies and work tables, cultural initiatives, etc.) on the other, a low “pervasiveness” of the asylum in the neighborhood (deduced from questionnaires administered to the inhabitants of San Lorenzo, of the neighboring districts and the more peripheral ones) which would seem to configure the Asilo Filangieri more as a club asset than as a common.

sustainable tourism, in a perspective of accountability for the use of resources and the sharing of the benefits generated by them.

These are still isolated experiences that would need to be supported on a political-institutional level, in order to make a qualitative leap and establish themselves as true urban magnets, capable of attracting investments and generating employment. On the contrary, the local government, hiding behind the lack of financial resources, guarantees a purely formal support to these bottom-up initiatives or, in the best case (as for urban commons), grants the free availability of the structures, without, however, being able to promote ideas and policies that can fertilize and systematize these experiences.

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