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Dare to imagine. Explorative scenarios for re-shaping human-nature relationships in an inner periphery in the Italian Apennines

Marco Mareggi ^{a,*}, Luca Lazzarini ^b

^a Department of Architecture and Urban Studies (DASU), Politecnico di Milano, 20133 Milano, Italy

^b Laboratorio di Simulazione Urbana Fausto Curti, Department of Architecture and Urban Studies (DASU), Politecnico di Milano, 20133 Milano, Italy

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ABSTRACT

The article investigates the relationship between planning and future by presenting and discussing the application of the scenario-making approach to an inner periphery in the Italian Northern Apennine, the semi-abandoned village of Ebbio, in the province of Piacenza. Inner peripheries are commonly described as the territories that have “no future”, namely those where the idea of the future is most problematic due to socio-economic decline, marginalization, and demographic shrinkage. In particular, we present two explorative scenarios and discuss them comparatively, looking at their space and time declinations, and their capacity to shape different patterns of human-nature relationships. The two scenarios imagine the case study transformed, respectively, into an “agroecological village” in which food is interpreted as a key component in the creation of a new local economy based on agroecological practices, and into a “wild village” with the invasion of nature in the village according to a “more-than-human” perspective. Results highlight the relevance that the scenarios’ reflexive and dialogic construction can have for exploring possibilities about the future that were not previously considered by local institutions and civil society. Moreover, the scenario-making approach proved a relevant means to guide local communities to change their relationship with and perception toward nature, passing from a traditional view of “dominance” over natural resources and habitats, toward more balanced patterns of coexistence shaped by reciprocal socio-ecological relations.

1. Introduction

Urban planning is and has always been inherently about the future. While this may seem an obvious assumption, in an article published more than 30 years ago, Andrew Isserman was reflecting on the planning-future relationship by observing that “planning has lost sight of the future” because it “is sacrificing its role as visionary and idealist and abandoning its responsibility to be a source of inspiration and produce ideas about what might be and what ought to be” (Isserman, 1985: 483). In the same vein, more recently, other scholars have contended that the planning profession has shown an ineffective effort towards the future as it has frequently neglected the time dimension and operated with very simply constructed, hallow futures, often short-range and unidimensional, and disconnected from historical trends (Myers & Kitsuse, 2000; Ratcliffe and Krawczyk, 2011).

* Corresponding author.

E-mail addresses: marco.mareggi@polimi.it (M. Mareggi), luca.lazzarini@polimi.it (L. Lazzarini).

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Alongside this framework, this contribution provides arguments for considering the future still a fertile and generative dimension in planning research and practice.

The early XX century has seen modern urban planning developing comprehensive plans for cities and territories that had at their basis schematic forecasting statistical tools, aimed at determining the services equipment and the functional organization of new settlements, often used through deductive and hierarchical logic, from the general to the particular. Thus, in the process of continuous urban growth until the end of the last century, the population forecasts have long determined the possibility of building new houses, neighborhoods and services to respond to the needs of the new inhabitants. These forecasts were treated in a univocal way in the absence of an alternative to the growth itself (Myers & Kitsuse, 2000) and without questioning the prospect of the future that a continuous and growing development has implicitly considered. For a certain period, this ambition had seen the planning discipline assuming a rigorous scientific statute, with analytical methods borrowed from economics and statistics, and with a rational, comprehensive approach to urban and territorial problems (Palermo, 1992; Marcuse, 2011).

The various seasons of crises faced by planning in the last half-century have called into question this scientific approach based on forecasting, often linked to quantitative indicators, through which a deterministic and simplifying relationship with the future was defined. To pre-figure the forms of cities and territories, the discipline has thus conceived new tools and approaches capable of identifying perspectives open to the possibility and the uncertainty of anthropic action. The purpose was to anticipate, govern and – where possible – direct current trends and dynamics (Myers & Kitsuse, 2000).

In addition to this, planning practitioners and researchers have shown an awareness of the "limits to growth" (Meadows et al., 1972. See also the overview by: Bell, 1996). This meant questioning the overconsuming industrial society and finding ways to limit the anthropic abuse of nature, curb the linear dissipation of resources, and remove the idea that nature is an unlimited and inexhaustible resource.

Within this framework, this contribution presents and critically discusses the application of the scenario-making approach to a study case of an inner periphery in Italy affected by depopulation, marginalization, and shrinking dynamics. Considering scenario-making as one of the possible approaches to explore the future in planning (Meyer, 2000; Cole, 2001), we aim to apply a specific type of scenario – the explorative scenario – to a specific category of territories, the inner peripheries, commonly described as the territories that have “no future” (Rodríguez-Pose, 2018), namely those where the idea of the future is most problematic due to socio-economic decline, marginalization and demographic shrinkage. The research questions that this contribution aims to answer are mainly two: How can the scenario-making approach serve as a means to explore the future of inner peripheries? What patterns of human-nature relationships can be recognized in the imagined future? Therefore, the main objective of this contribution is to investigate the theoretical and operational advantages of scenario-making approach in exploring the future of inner peripheries, and examine how this approach can help local communities of an inner periphery to question their future and shape its transformative prospects, building a bridge between past, present and future (Meyer, 2000). In particular, we present two explorative scenarios and discuss them comparatively in their space and time declinations, and in their capacity to shape different patterns of human-nature relationships.

This article is articulated in five sections. Section 2 presents some theoretical reflections on the relationship between planning and the future by, respectively, outlining the rational-comprehensive approach and its role in orienting the city growth (2.1), and examining the emergence of the scenario as a planning approach able to overcome some of the limitations of the rational-comprehensive model (2.2). Section 3 highlights the case and the methods of the research. It includes a brief overview of the literature about inner peripheries and less favored areas as a background for the case study choice (3.1), the presentation of Ebbio as the case study where the scenario planning is applied (3.2), an account of the research background and the scenarios identified (3.3), and an outline of the methodological framework (3.4). Section 4 highlights the two scenarios applied in the study case: the first imagines Ebbio as an agroecological village (4.1) and the second imagines it as a wild village (4.2). The two scenarios are then discussed comparatively in Section 5 according to the methodological framework previously outlined. As a concluding remark, Section 6 highlights two insights that the research has provided to the debate on the scenario-making approach and its application in planning.

2. Theoretical framework

2.1. The influence of comprehensive planning in the debate and its crisis

Over the course of the last century, planning scholars and professionals have been confronted with several conceptual and operational tools and mechanisms to guide their thinking and action for shaping a better future for cities, whose growth has continued at least until the 1970 s. A fruitful season of plans can be recognized between the two world wars and in the following decade. These plans followed a highly rational approach and were aimed at governing the interactions between the several aspects of the territory to be planned. Scholars (among the many: Astengo, 1966; Hall, 1996; Ward, 2002) mention as representative cases of this approach the plans of: Amsterdam in 1935 by C. van Eesteren, London in 1944 by P. Abercrombie, Stockholm in 1945 by S. Markelius and Copenhagen in 1947 by P. Bredsdorff and H.E. Rasmussen. It is interesting to notice that the specificity and value of these forms of rational-comprehensive planning, defined by Palermo : 31) (2022) as "exceptional and exemplary experiments", cannot be traced in the future developments of the planning discipline, though it widely assumed the rational-comprehensive model as an ideal reference.

The features of this planning conception concern, on the one hand, the *rationality* put in place which is understood as trust in the possibility of applying a technical decision-making model to achieve the stated objectives and, on the other hand, the *comprehensiveness* of the elements taken into account in the planning process. According to this view, planners were meant to possess the resources and knowledge for considering *all* the pertinent and sound factors of the problem and all the alternative solutions. Framing it into a

positivist view, planning presupposes a consistent scientific knowledge of the entire system of decisions and of the contextual conditions in which it intervenes, and has the capacity to predict the future and control it through calculation systems (Tugwell, 1948). On the basis of this view, there is the idea that the scientific and technological developments can endow town and regional planning with a solid corpus of tools to make accurate forecasts of transformations in complex socio-economic environments (Myers, 2000).

Such a rational method for formulating decisions (Faludi, 1973) is structured in distinct and sequential phases, with clear goals, objective knowledge, and empirical tests. Thus, planning can be interpreted as "isomorphic to the scientific method" (Palermo, 2022: 25). Framing it through the survey-analysis-plan approach introduced by Geddes (1915), this process formulates reliable forecasts of future urban development. Furthermore, it is supported by good intentions and uplifting guiding values, and applies appropriate techniques to achieve greater social justice by correcting market distortions.

During the 1960 s, the formulation of the rational-comprehensive model further evolved and the complexity of urban problems started to be framed in relation to the concept of *system*. Although this was not the only application of the model, it is useful to mention it due to the diffusion – even latent – it had in the planning debate. Following this conception, the territory is understood as a complex system whose planning and design require the collection and analysis of a large amount of information (McLoughlin, 1969). Systemic planning thus assumes, alongside the traditional representation techniques, "a scientific toolbox that revolutionizes the professional practice from many points of view" (Gaeta et al., 2013: 318), also in relation to the economic and social aspects beyond the physical and aesthetic ones, accentuating a deterministic perspective. The relationship between knowledge and action shifts attention to the side of *inputs* which become *ends* and not *means* to achieve certain goals: "Planners have adopted quantitative techniques of projection as if described the most probable future (truth) and as if that were desired (ideal)" (Issemann, 1985, quoted in: Myers & Kitsuse, 2000: 224). Marcuse (2011) used the term "technicist" approach of planning to identify a form of planning devoted to maximize the efficiency of whatever system or place is being planned. This approach elevates the use of the technical tools of planning and the related aspects devoted to efficiency to be its characteristics and driving force.

The rational-comprehensive model has undoubtedly exerted a great influence on the discipline for many years, spreading it extensively to planning practice (Palermo, 2022). According to Gaeta et al. (2013), the model has gradually consolidated itself as the most deeply rooted and institutionalized cultural approach in many areas of the World and it is still currently practiced, often unconsciously, by many planners and practitioners as an ideal decision model. Its "unsinkability" is legitimized by its persistence in professional practice (Soubeyran, 1988) and by being the prevailing orientation in several planning schools in Western Countries, where criticism of the model is often left only to planning theory courses (Dalton, 1986). Its influence is also visible in planning manuals for professionals, such as the American Green Book which points out that "the central aim of planning is to muster the best knowledge, skill, and imagination in solving complex problems and in making the solution work. The active client sets the priorities among problems, judges whether the best effort has been used, and in addition, judges whether the solution is effective, whether its cost is too high, and whether the solution gets in the way of other good things" (Stollman, 1979: 7).

Over the past decades, the rational decision model has been highly criticized in the planning debate and it has seen a reduction of interest at the level of both the scientific community and planning practice due to the emergence of other approaches and paradigms, although, as already mentioned, the model is still adopted widely in many countries both of the Global North and South. Among the first critiques, Rittel and Webber (1973) highlighted the need to abandon the technical rationality from the planning process because, unlike the natural sciences, in urban and territorial planning practitioners have to deal with "wicked problems", namely "ill-defined [issues] and that rely on political judgment for their treatment; [and] are never resolved, but only attacked repeatedly over time" (Balducci, 1991: 121). Accordingly, planning experts never arrive at a definitive formulation of problems. Moreover, Wildavsky (1973) stated that it is not possible to count on secure foundations of causal knowledge to ensure control of future events in planning. More recently, by analyzing the fraught and contested history of the alleged rational and dirigiste response to controversies by the national government in France based on the awareness that experts and politicians know best, Callon et al. (2009) criticized that approach by arguing that expertise cannot be comprehensive but it is rather only partial and circumstantial, that interests are never neutral or impartial but fragmented and contested, and that risks are compound, mutable, and non-programmable. One reason why expertise can only be partial depends on the object of analysis, the city, which is not a monolithic but rather the assemblage of multiple forces, actors, and forms of knowledge (McFarlane, 2011). Amin underlined the mutability and multiplexity of the city, as well as the arrogance of the comprehensive tradition, to which the author counterposes the universe of micro-practices as a way to weave a path through multiple voices, conflicting demands, and contradictory developments. Following this view, planning becomes an art of intermediation that "works pragmatically through opposing interests and concerns, making things visible, and intervening in relational dynamics for communal local advantage" (Amin, 2011: 631). Moreover, the "fine grain" of the planning problems that characterize the city challenges the forecasting capacity of mathematical models, and the plurality and relative autonomy of the stakeholders involved in planning processes make any deterministic cause-effect relationship hypothesis rather fragile (Palermo, 2022).

The "practical groundlessness" of the rational-comprehensive model has thus seen the emergence of alternative theories and models in the debate such as: the so-called *carbage can* model which underlines the ambiguity of the decision-making processes in which making the most of the opportunities (Cohen et al., 1972); the *incremental* models that see public decisions not guaranteed a priori by calculation but by social interaction (Lindblom & Cohen, 1979); or the *cognitive-based* models assuming that the *bounded rationality* of decisions is in continuous adjustment between ends and means with respect to solutions (Simon, 1982).

2.2. The emergence of the scenario as a planning approach

Along with the crisis of the comprehensive model and the emergence of alternative models, an increasing interest was oriented to scenario-making as one of the techniques used to explore the future in planning. Many scholars trace the roots of the scenarios in the

military strategic planning field and attribute their conceptualization to Herman Kahn (1960), who is known as a controversial nuclear strategist and celebrated among the founders of the Hudson Institute in 1961. Kahn used scenarios as a “future-now thinking” technique in the military field combining deep analysis and the use of imagination as primary sources to build reports. In the 1960s he then applied the methodology to social forecasting and public policy. In that context, scenarios have been also employed as one of the approaches through which the foresight process is scientifically constructed (Voros, 2003; Wiebe et al., 2018), establishing to a certain extent a continuity with the comprehensive model already mentioned. As recognized by Voros (2003), the foresight activity comprises three steps: the Analysis, which asks the question “What seems to be happening?”, is the preliminary step aimed at creating order in the data gathering and analytical techniques; the Interpretation, which asks the question “what’s really happening?”, seeks to deepen the analysis to look for more profound structure and insights; and lastly the Prospection step is based on the question “What might happen?” and refers to the activity of purposefully looking forward to creating forward views. Within this last step, scenarios, but also visioning, normative methods and backcasts, are located.

Scenarios are nowadays employed by a growing number of planning scholars and practitioners to build qualitative descriptions of how the present will evolve into the future, especially to address the many socio-economic and environmental challenges that our cities and territories are facing (Wiebe et al., 2018; Mannucci et al., 2023). It is acknowledged that scenarios are one of the fundamental, although contested, concepts in the field of Futures studies (Ventura, 1998; Börjeson et al., 2006; Ratcliffe and Krawczyk, 2011). Modern Futures studies consist of a vast and variegated array of approaches and studies emerged in the early 1960s that analyze and do research on the future in order to understand, influence and shape it (Bell, 1996; Ventura, 1998; Meyer, 2000; Cole, 2001). According to Cole (2001), the primary aim of Futures scholars is to tell a convincing story about the future and this involves the creation of one or more scenarios.

There are many aspects in common between Futures studies and the planning discipline. Futurists as urban planners systematically explore alternative futures, by engaging in prospective thinking. They both deal with issues that are ambiguous, multifaceted, and contentious (Cole, 2001), but also “attempt to clarify goals and values, describe trends, explain conditions, formulate alternative images of the future, and invent, evaluate and select policy alternatives” (Bell, 1996: 13). What is interesting to notice, as Cole (2001) argued, is that planning is not just one of the vehicles whereby Futures studies are manifested in reality but, more importantly, it is also the means by which Future studies can remain anchored to real problems. By examining the relationship between Futures studies and strategic planning, Ventura (1998) pointed out that the two should be fully integrated because a futuristic attitude at all phases of strategic planning will help to shape strategic objectives and endow them with flexibility in the face of uncertainty. Alongside the common points, it is also important to recognize one relevant difference between the two domains which consists in their relationship with policies: while one of the main goals of Futures studies is to shape policy options and to present them to policy-makers and administrators as viable alternatives within systematic foresight exercises (Myers & Kitsuse, 2000; Wiebe et al., 2018), on the contrary urban planning, being one of the fields of public action, is directly involved in building spatial plans, policies and projects that produce socio-spatial transformations, directly impacting on how cities and territories evolve over time (Secchi, 2000; Gaeta et al., 2013).

As the future-planning relationship is concerned, planning practitioners have used the scenarios to examine the future implications of present-day decisions, especially in situations where multiple uncertainties and different stakeholder values tend to prevail. Widespread in the planning debate is the idea that the scenarios can help to imagine a future condition in the case that some hypothetical economic, social and environmental conditions were realized (Secchi, 2000; Cole, 2001; Bozzuto et al., 2008; Stojanović et al., 2014; Fabian & Centis, 2022). According to Chakraborty and McMillan (2015), scenarios improve traditional planning techniques as they “allow planners to add qualitative inputs into forecasts, which are otherwise not adept at dealing with situations with high levels of uncertainty”. In some cases, scenarios can be useful for planning professionals to involve non-technical stakeholders in plan-making, thus creating a process that is or should be inclusive.

Indeed, the usefulness of scenario planning lies in orienting practitioners to act as intermediaries to harness lay knowledge, broker agreements, and work with imperfections, incertitude, and constitutive disagreement (Amin, 2011). Following this view, planning becomes the articulation of “motivating visions” (Healey, 2007) and of diagrams of possibility (Hillier, 2007). Scenarios invite planners to reflect on the probable, possible and desirable futures (Wiebe et al., 2018) and on the different spatialities that plans and projects can generate. For “probable” we refer to a situation in which a given set of conditions can obtain a stronger probability that a certain future will happen. The “possible” indicates a situation where no obstacles prevent a certain future to happen, and “desirable” points out the willingness by local institutions and communities that a certain future will happen, even though is not one of today’s evolving trends. As also underlined by van Notten et al. (2003) and Börjeson et al. (2006), starting from the – often hidden – hints of change, the scenario unleashes them and allows to build of technical descriptions of the possible future states of a given context, and define strategies able to turn the imagined future perspectives into possibilities of action, building relevant connections between the past, the present and the future. Scenarios do not aim to predict the future but rather to prepare institutions and communities to respond intelligently to whatever the future holds in store (Schwartz, 1996). Thus, rather than identifying with a greater probability if a future condition will occur, its objective is to build strategic decisions in the present that will serve the plausible future (Myers & Kitsuse, 2000; Voros, 2003). According to Secchi (2000), the scenario goes beyond the representation of desires because “building scenarios means accepting ignorance and constructing one or more hypothetical orders among the different phenomena affecting the city, the economy, and the society to clarify their consequences. “What if”, this is the scenario”. Building on this, a “What if scenario” explores what will occur in the condition that specific near-future events happen, being them internal decisions or both external events and internal decisions (Börjeson et al., 2006). The main point is to determine the extent to which the “hypotheses governed by the “if” can be identified [...] in some clues, spies, and trends caught in the observation of current reality and its history” (Secchi, 2000: 171).

3. Case and methods

The case study under investigation is a sixteenth-century semi-abandoned village called Ebbio [Fig. 1], located within the municipal territory of Bettola, on the upper side of the Nure River valley in the Italian Northern Apennine, in the province of Piacenza (Emilia Romagna region). The Apennine is a long mountain range extending along the length of the Italian peninsula. Despite being a differentiated and multifaceted context, it is commonly interpreted as the country's territory mostly subjected to dynamics of social, economic and demographic decline, evident in the aging and outmigration of the population, low occupational rate and income, and progressive deprivation of local know-how (Lanza et al., 2022). In relation to the recent debate on territorial inequalities (among the many, see: Ballas et al., 2017, Rodríguez-Pose, 2018; Proietti et al., 2022), we believe that the village of Ebbio can be considered a relevant case both of an "inner periphery" and of a "less favored area". In the next section, we present a brief overview of the two concepts which serve to theoretically frame the case study choice. We then introduce the village of Ebbio as the case study and give information about the research conducted and the methodology adopted.

3.1. A brief overview of the literature on inner peripheries and less favored areas

Since 1975, the "less favored areas" indicate contexts in which implementing structural measures of the common agricultural policy (CAP) for the prevention of land abandonment, the preservation of farming population in these areas, and the maintenance of the cultural landscape. Less favored areas also frequently coincide with high nature value settings and can be mountainous localities, areas with poor soil conditions and low agricultural productivity, and rural areas with specific territorial handicaps where agricultural activity should be preserved in order to maintain and enhance the rural landscape (Dax, 2005). Instead, the inner peripheries – which originally Walls (1978) described as sparsely populated areas along national borders having a hilly topography –, in the recent debate (ESPON, 2017; Espon, 2018) identify territorial areas characterized by three main aspects: low economic potential, poor access to Services of General Interest (SGI), lacking relational proximity. Inner peripherality can thus be interpreted as a multidimensional phenomenon that sees the effects of various socio-economic dynamics that cause disconnection from more central territories. Noguera and Copus (2016) have noticed that the term inner periphery – beyond its earlier applications related to the global core-periphery system – was first used in European policy documents in a background report prepared for the Territorial Agenda meeting in Gödöllo (Hungary) in 2011. This document defines inner peripheries as "unique types of rural peripheries in European terms" whose condition comes "primarily from their poor accessibility and paucity of real urban centers where central functions can be concentrated". Their problems derive from the "historical under-development [...] and the fact that they are often compounded by specific features of their settlement network or social characteristics, by [...] their weak and vulnerable regional economies and their lack of appropriate job opportunities" (Ministry of National Development and Váti Nonprofit Ltd, 2011: 57). While around the concept of



Fig. 1. A skyline view of the village of Ebbio with the landmark tower visible on the left side.
Source: Fondazione Ebbio.

inner periphery a certain confusion and ambiguity seem to emerge in the debate, it is relevant to mention some overlapping with the already-mentioned expression of "less favored areas" (Dax, 2005), but also with others such as "lagging regions" (EU Commission, 2017), "places left behind" (Sandbu, 2020), "places that do not matter" (Rodríguez-Pose, 2008), and the more recent "lonely places" (Proietti et al., 2022). This latter was recently introduced by some scholars (Victor & Pikhartova, 2020; Proietti et al., 2022) who gave a territorial connotation to the term "lonely" which is commonly used in reference to people to indicate a gap between aspirations and reality of an individual's quality, quantity, and/or mode of social relationships. Thus, lonely places can be interpreted as a spatially embedded concept in the sense that it can be used to identify a plurality of places that present a certain vulnerability in terms of lack of or insufficient local endowment, as well as accessibility or physical or digital connectivity with other territories (Proietti et al., 2022: 12).

In the Italian domestic context, the inner periphery concept meaningfully overlaps with the one of Inner Areas ("aree interne"), that is to say those areas significantly far from the clusters of primary public services, but rich in environmental and cultural resources, and vulnerable because of the marginalization and de-anthropization processes. In 2013 Inner Areas have become a specific focus of the National Strategy for Inner Areas (SNAI), the national cohesion policy program having among its objectives the provision of adequate education, health, and mobility services to local communities for strengthening territorial cohesion (Agenzia per la Coesione Territoriale, 2013). As Servillo, PP., et al. (2016) have pointed out, it is interesting to notice that the definition of inner periphery seems to transpose the work carried out in Italy on inner areas to the European scale (Proietti et al., 2022) where areas and peripheries become interchangeable concepts. Despite their different policy implications, it is highlighted that the concepts of inner peripheries and less favored areas indicate a multiple and complex declination of marginality which combines economic, territorial, social, and demographic aspects, creating a tension in the local community's capacity to think about its future.

3.2. Case study presentation

The village of Ebbio is located at 725 m above sea level, and it can be reached by minor local roads up the hillside, mostly dirt and not easily accessible during winter, that cross vast agricultural and wood areas and touch sparse rural settlements. From the architectural viewpoint, the village consists of three parts that are highly overlapped and combined: a high-value historical fabric currently mostly abandoned (including also a majestic stone tower at risk of collapse), a number of ordinary buildings built in the mid-1900 s within the historic fabric after the demolition of previous constructions, and a few recent renovations of historic buildings. An important weakness of the village is the high-level hydrogeological risk characterizing the area where is located. This vulnerability is highlighted both by the local plan of Bettola (Comune di Bettola, 2022) and the provincial plan of Piacenza (Provincia di Piacenza, 2007). These plans classify the whole territory of Ebbio and the surrounding mountainous and hilly area as a deposit of quiescent landslides, and thus put severe limitations on the construction of new buildings in green lands.

The declining process experienced by Ebbio during the past four decades has led to a significant reduction in the number of residents, from about 200 inhabitants reported at the beginning of the 1970 s to less than 10 nowadays. This has accentuated and accelerated the decay of the built environment as well as the abandonment of the surrounding farmland, resulting in what the academic and policy debate has named "inner peripherality".

With reference to what was mentioned in Section 3.1, Ebbio can be considered a relevant case both of an inner periphery and a lonely place, due to several reasons, three of which are recalled below.

The first reason relates to contextual economic assets and their (in)capacity to generate local development. Ebbio's local economy currently relies just on conventional agriculture with no jobs provided by other sectors. While until the 1970 s the agricultural sector was able to employ a significant amount of people (around 20 farmers according to a local informant) and sustain their related families, today just a couple of farmers remain in the locality, with a significant portion of land not cultivated anymore and thus left abandoned. Another problem concerns the traditional cultivation methods which are still predominant in the locality, with poor innovation reported in the agricultural sector in terms both of techniques employed and of products cultivated, mostly wheat and cereals.

The second motivation concerns the scarce accessibility to Services of General Interest (SGI). In this sense, the disadvantage characterizing Ebbio is evident in the closure of the services that were here present until the early 1970 s (a primary school, a church and a couple of commercial activities), and the subsequent long distance (44 km) from Piacenza, the closest center providing the whole range of SGI. It is no surprise to highlight that the National Government has classified the municipality where the village is located (Bettola, whose main center is located 7 km away from Ebbio) as highly problematic area in terms of the SGI provision, due to the shortage of welfare and mobility services. In relation to education services, just a kindergarten, a primary and a secondary school are present in Bettola, albeit with very few students enrolled and the first at risk of closure. To tackle this problematic situation, the National Government has set this context of the Apennine as one of the target areas of the already mentioned National Strategy for Inner Areas (SNAI) with the objective of counteracting depopulation and aging trends and transforming peripheral areas into spaces of opportunity by enhancing the quality/quantity of public services and supporting local development projects (Agenzia per la Coesione Territoriale, 2013).

The third reason concerns the low density of social networks characterizing the locality. Loneliness, isolation and disconnection from social and administrative centers (Franklin & Marsden, 2015) are conditions experienced on a daily basis by the small group of inhabitants of Ebbio. While until the 1970 s the presence of a local community having strong internal social ties and place attachment was a connoting feature of the village, today the community in its common sense no longer exists. The social networks that persist are those linking the temporary residents living in the village during the weekends, especially during the spring and summer seasons. Accordingly, the capacity of local inhabitants to deliver changes, promote transformative practices, and generate innovation in response to locality's territorial marginalization is relegated to the effort of individuals that thus face relevant barriers to achieve

concrete outcomes (Kluvankova et al., 2021).

3.3. Research background

The research presented in this article is the outcome of a design workshop named AAiC (“Abitare l’Appennino in Contrazione”, in English “Living in the Shrinking Appennine”) coordinated by the authors with S. Varvaro and addressed to a mixed group formed by 15 students from the master’s and bachelor’s courses in Architecture and Urban Planning and Policy Design of the Politecnico di Milano and 7 local actors. The objective of the workshop was to question the future of an inner periphery in the Italian northern Appennine through the application of the scenario-method approach, looking in particular at its space and time declinations and at the different patterns of human-nature relationships. The workshop took place in the semi-abandoned village of Ebbio from June 26 to 30, 2022, specifically in a residential building that was granted by a local temporary resident of Ebbio as a working space and accommodation for the workshop participants, due to the absence of any other facility in the village.

The workshop was supported by the POLIMI Campus of Piacenza and organized within “Passion in Action” program of Politecnico di Milano. The “Passion in Action” program comprises a set of different learning activities such as seminars and workshops addressed to support university students in developing their transversal, soft and social skills and encouraging them to enrich their personal, cultural and professional experience. The initiative was also part of the “Lost and Found” research funded by the Department of Architecture and Urban Studies (DASU) of Politecnico di Milano within the Riba program (2021), which has the objective to investigate the processes of abandonment of the architectural and urban heritage in inner areas, investigating their causes, effects and narratives in three European countries (Italy, Albania, Romania).

The students participating in the workshop were selected through a Call for participants launched in May 2022 on the basis of their curriculum vitae and motivation letter. The group had an international profile as it was formed by 11 Italian students and 4 students with other nationalities (India, Pakistan, China, and Argentina) and this has allowed to shape a process of exchange between different geographical backgrounds and cultures. Participants were arranged into 4 subgroups, each working on one specific scenario for the future of Ebbio. Researchers have defined the 4 scenarios before the start of the workshop. To identify the scenarios and gather preliminary knowledge about the locality and its socio-economic dynamics, 5 one-to-one informal meetings were preliminarily carried out by the researchers and these were addressed to the mayor and alderman of the municipality and the representatives of the Ebbio Foundation, the (only) third-sector organization operating in the locality of Ebbio. The meetings carried out and the expertise of the authors on the trajectories of regeneration of inner peripheries in Italy (Mareggi, 2023) helped to identify some major topics that were perceived as relevant for the future of the locality, that would have been explored and developed in the workshop activities through the scenario-method. The choice to use one-to-one instead of a focus group was due to the need to establish a peer-to-peer exchange with local stakeholders, building an in-depth knowledge of locality’s main strengths and weaknesses and discussing some underlying issues. Four crucial topics have been identified: slow tourism, seasonal living, agriculture and food economy, and nature. Based on these, the researchers have identified four possible scenarios for the future of the village, that are, respectively, i) Ebbio becoming a destination of slow tourism with the development of its local economy through excursions, leisure and outdoor sports activities, ii) Ebbio transforming into a seasonal village inhabited just by temporary populations during autumns, springs and summers and almost emptying itself during winter seasons; iii) Ebbio turning into an “agroecological village” in which short food supply chains and micro-economies activated from agroecological productions are able to sustain local inhabitants’ wellbeing; iv) Ebbio becoming a “wild village” with the invasion of nature taking possession of houses according to a “more-than-human” perspective. The third and fourth scenarios are presented and critically discussed, respectively, in Sections 4 and 5. An in-depth presentation and discussion of the four scenarios are included in Mareggi and Lazzarini (2023). The choice to present, develop and discuss in this contribution the agroecological and wild scenarios is based on the relevance that the topic of human-nature relationships has in these scenarios for exploring the future of the inner periphery. While the first two scenarios do not present significant implications regarding the role of nature in shaping the future of Ebbio, being it mainly interpreted as a background for the scenarios’ evolution, the other two scenarios are built considering the multiple risks and benefits that nature can generate for humans and vice versa according to a complex understanding of multi-species interactions (Pascual et al., 2017; Diver et al., 2019). Moreover, these two scenarios pose relevant challenges for acknowledging the relational values that link humans and nature, that is to say, the “values that do not directly emanate from nature but are derivative of our relationships with it and our responsibilities towards it” (Pascual et al., 2017: 11). Relational values are not present in things but are generated by the relationships and responsibilities to them (Chan et al., 2016) and their consideration help to see humans and animal and plant species not as separate entities but as interconnected ones with humans being part of nature and valuing their relationships with it (Mattijssen et al., 2020). Emphasis on these two scenarios is thus placed on the quality and “meaningfulness” of the relationships linking individuals and societies to animal and plant species and their habitats.

3.4. Methodological framework

Based on a review of English-language journal articles and projects elaborated from 2004 to 2014, Chakraborty and McMillan : 20) (2015) developed a framework to describe the scenario planning typologies, made of nine components (and related sub-components), that “capture the important variations in scenario projects [...] helping planners decide whom to involve and what tools to use in concert with the scenario-planning process”. These are i) the *organizational structure* (unitary, strong leader, or loose coalition), ii) the *scope* (single issue, comprehensive, or problem-oriented), iii) the *scenario type* (normative, predictive, or explorative), iv) the *outcome* (awareness, vision, or policy recommendation), v) the *stakeholder engagement* (general public, government agencies, or interest groups), vi) the *participation extent* (inform only, seeking feedback, or joint fact finding), vii) the *engagement medium* (web-based,

face-to-face, or hybrid), viii) the *scenario construction and analysis tools* (qualitative, planning support systems, or computer modeling) and ix) the *resources* (statutory or recurring, opportunity-based, fundraised).

This contribution presents and examines two scenarios developed during workshop activities according to the methodological framework proposed by Chakraborty and McMillan (2015) (see Table 1).

In our research, we have worked on the *explorative scenarios* as a specific type of scenario elaborated from a short to a long-time horizon to explicitly allow for structural, and hence more profound, changes in the inner periphery, regardless of subjective beliefs or shallow opinions of what the future looks like in localities characterized by shrinkage and socio-economic decline (Börjeson et al., 2006; Chakraborty & McMillan, 2015). The explorative scenarios are commonly used to describe drivers of change that are out of the control of the actors for whom the scenario is being created (Mannucci et al., 2023). Moreover, they employ intuitive methods of development that carry out an assessment of validity based on the scenario logic (Garnett et al., 2023). We adopted this type of scenario due to the need to question the condition of the semi-abandoned Apennine village of Ebbio and identify prospects of change, examining their implications on planning, and exploring different patterns of human-nature relationships.

The *scope* of the explorative scenarios is “problem-oriented” in the sense that emphasis was placed on addressing the specific challenges that characterize the locality of Ebbio. In particular, the problem is the shrinkage of the village, visible in the progressive abandonment of the buildings and their related physical decay and in the increasing socio-economic decline and marginalization of its community. The scenarios started from this “wicked problem” to build a reflexive and dialogic conversation (Schon 1983) between different stakeholders (students, researchers, local administrators, third-sector representatives, local inhabitants) on how to create new and alternative future paths, leading local inhabitants (both the existing and the future ones) to question their interpretation of the future. In relation to the complexity of the problem statement, each group has attempted to develop the scenarios, focusing on their articulation across space and time. Indeed, emphasis was placed across various spatial scales (from the micro to the macro, from the architectural scale to the territorial and geographical one) (Zurek & Henrichs, 2007), opting to understand the complex cross-scale impacts created by the scenarios and how a specific human-nature relationship is spatialized both in the locality and the surrounding territory. Although the time horizon of the explorative scenarios usually touches the long-term period (Börjeson et al., 2006), researchers decided to also reflect on the short (5–10 years) and medium-terms (10–20 years) with the objective of exploring the extent to which the mobilization of a specific set of assets and resources and the external inputs of actors might not produce relevant socio-spatial impacts in the short term but only in a longer time span.

Several local stakeholders were engaged in the workshop activities from the institutional level (the municipality of Bettola), and the public-private level (the Local Action Group, LAG, of Ducato), as well as the civil society one, with the active involvement of a group of local residents (Ebbio c’è) and a local foundation (Fondazione Ebbio). In particular, 2 representatives were involved from the municipality (the mayor and the deputy mayor), 2 from the LAG (the president and the coordinator), 2 from the Foundation Ebbio (the founders). Around 10 local inhabitants in total from the “Ebbio c’è” group joined the workshop activities at irregular intervals but just 1 person had a more intense and continuous participation in the activities. Among the organizations involved, a relevant role is performed by the Foundation Ebbio due to its long-term engagement in contrasting the village shrinkage and for being a significant social innovation initiative based on community self-organization oriented to fight the marginalization dynamics, working on village regeneration by purchasing ruins and abandoned or empty buildings to settle down new functions and services both for residents and visitors (Micelli et al., 2023).

The scenario construction and analysis tools adopted are mainly qualitative, primarily using data gathered through interviews, participant observation and experiential walks, then re-elaborated through drawings and *maquettes*. Each group has presented (at least) two drawings, one describing the *de facto* conditions of the village with its main socio-ecological traits, and one focusing on the spatial transformations in short, medium, and long-term phases. Students produced complex and mixed representations, that used architectural drawings (particularly plans, sections and axonometries), sketches, photographs, and collages and served both to investigate the possible future spatial transformations of Ebbio and to communicate them in a technically sound way to a wide

Table 1

The nine components of the scenario planning underlined by Chakraborty and McMillan (2015) (on the left) and the reference to the research conducted within the AAiC workshop (on the right).

Components identified by Chakraborty and McMillan (2015)	Research conducted within the AAiC Workshop
<u>Organizational structure</u>	Strong academic leader process
<u>Stakeholder engagement</u>	Local inhabitants, institutional representatives from municipality and LAGs, academics, Members from third sector organizations
<u>Participation extent</u>	Seeking feedback
<u>Engagement medium</u>	Face-to-Face
<u>Scenario construction and analysis tools</u>	Semi-structured Interviews participant observation, experiential walks, architectural and territorial drawings and maquettes
<u>Scope</u>	Problem oriented
<u>Scenario type</u>	Explorative scenarios
<u>Outcome</u>	Awareness and vision
<u>Resources</u>	Opportunity-based

audience. In addition, group participants have conducted 10 non-structured interviews, addressed to the local inhabitants of Ebbio, 8 of which were elderly (over 65 years old) and 2 were between 30 and 40 years old. The purpose of the interviews was to briefly present the two scenarios, examine the idea of the future that the interviewee had in relation to different time horizons (10, 20, and 50 years), and explore his/her relationship with nature, considering both the animal and plant species and their related habitats and how this relationship could change in scenarios identified.

The engagement of the local community in the workshop happened in two ways. A “hard” and structured way of engagement has seen few local stakeholders participating directly in the workshop activities. In particular, between 1 and 2 local stakeholders were included in each of the university students’ groups and they worked together with them to develop the scenarios, sharing their contextual expertise and local knowledge. This has allowed to produce reflections about the future of Ebbio that were keeping together – and possibly integrating – the perspective of outsiders (students) with the one of insiders (the locality inhabitants). Accordingly, the scenario-making was informed by a continuous conversation between internal and external perspectives which was conceived as a positive feature of the process. The outcomes of the group work were subjected to validation during an open seminar organized on the second day of the workshop to which a group of 4 external academics took part, who were invited because of their expertise in the socio-economics dynamics of Italian inner peripheries. The seminar provided an important platform for presenting the outcomes of the scenario-making and getting feedback and external inputs from the experts.

A “softer” way of engagement has seen the participation of a wider group of local stakeholders in some workshop activities. This has allowed, on one hand, to inform the local community about the contents and objectives of the workshop and the activities carried out in the village and, on the other, to help workshop participants, especially the university students, to establish some informal connections (Sclavi, 2014) with the local community, gathering perspectives and opinions about their work [Fig. 2]. In particular, two experiential walks and one open exhibition were organized. The two walks were organized during the first and second day of the workshop and were guided by three inhabitants of Ebbio. The use of this method is based on the idea that the sensory and immersive process of discovering and learning the site under investigation is a *sine qua non* condition for building descriptions of the present and the future of places and, more in general, for informing planning practice (Lazzarini & Mareggi, 2021). The first walk took place in Ebbio and had as a main topic the investigation of the village’s built palimpsest and the exploration of its historical fabric and landmarks (the tower and the church). The second walk took place in the countryside surrounding the village and had as its main topic the exploration of the rural and forestry landscape assets of the area, particularly the farmland and woods, and included a visit to a nearby local farm. The open exhibition took place on the last day of the workshop in the open spaces of the village and its objective was not just to present the workshop outcomes to a wide audience but, more importantly, it provided the chance to construct a debate around the scenarios’ scopes and contents, testing their relevance for the audience mostly regarding their spatial and temporal declinations for the village of Ebbio [Fig. 3].

The scenarios are presented in the next section and framed according to the components included in the framework above mentioned.



Fig. 2. Above, one of the informal exchanges between workshop participants and some local inhabitants of the village of Ebbio.



Fig. 3. Below, a view of the open exhibition organized in the open spaces of the village.
Source: Marco Mareggi.

4. Findings

4.1. *Ebbio as an agroecological village*

A growing number of studies indicate multiple economic and social gains from transitioning toward agroecological food systems (among the many: Vaarst et al., 2018). Agroecology is here interpreted as a set of practices addressing biodiversity, environmental stewardship and multi-species solidarities, and shaping a relational space of proximity, empathy, and responsibility across human and non-human species. The agroecological approach sees on the one hand the creation of new and just social arrangements and ecological practices, and on the other the experimentation with different forms of land management, new agricultural productions, and the activation of new business opportunities for sustainable food marketing and consumption (Tornaghi & Dehaene, 2017).

Being local food system the scope of this scenario, the main idea is that the shift from long and conventional food supply chains to short and alternative food networks centered on a stronger consideration of the needs and values of agroecosystems in the agricultural activity would shape stronger human-nature relationships (Vaarst et al., 2018; Brand et al., 2019. See also: Garnett et al., 2023). The scenario assumes that the agroecological transition, beyond its implications widely explored in cities and urban areas, can also provide a way and a means for tackling marginalization and shrinkage dynamics of inner peripheries. Thus, the underlying question is: if a transition toward an agroecological food system is imagined, what can be the spatial configuration of Ebbio in the short to medium and long term?

Ebbio's agricultural economy currently relies on two small farms cultivating around 4 ha of agricultural land. These farms are run by senior farmers (over 60 years old) mainly conducted with traditional cultivation methods and mostly oriented to monoculture. Despite the weaknesses of a scarcely developed agriculture, several strengths and potentials unfold the possibility to explore a different future starting from the agroecological approach (Gliessman, 2015; Tornaghi & Dehaene, 2021).

This scenario is articulated in three time intervals and spans across a short to a long-term period (until 2070) because it takes into account different resources (knowledge, economic, material, relational) whose mobilization requires a significant time effort.

A first phase is developed in the short term (5–10 years) and would see the continuation of ongoing declining dynamics of existing agricultural practices due to the structural weakness of the primary sector, where the scarce competitiveness of local farms in the global market, the aging of farmers, and the broad unfavorable socio-economic context are highlighted.

In the medium period (10 to 20 years), the scenario assumes that the two farms would cease their activity and the creation of this “empty space” would provide a turning point for the future of Ebbio. New opportunities would come from the external inputs attracted by the already-mentioned Foundation that would act as a sort of intermediary between the local and the external contexts. Following this idea, it is imagined that a couple of young farmers, more prone to innovation, coming from outside the locality, would settle down and start a new activity in Ebbio, replacing the former two farms, acquiring their agricultural land, and transforming local agriculture

with new expertise and initiative. The new farmers would deliver and experiment with new high-quality agroecological productions, opening up or intercepting new market niches able to bring added value to Ebbio. In particular, they would use a part of their farmland to grow traditional cultivations (wheat and hay) but they would also use a part of their land to start new cultivations specifically suitable to the local soil conditions such as potatoes, saffron, lavender and other productive flowers. Also, small water retention reservoirs would be created to guarantee water availability for these productions. Moreover, the contiguity between farmland and forest areas would allow farmers to integrate their income with wood productions (timber, mushrooms, wild herbs, berries, etc.). The attraction of these external inputs to Ebbio may be facilitated by the improvement of local accessibility conditions of the village and by forms of financial support set up both at the local level (e.g., monetary benefits or tax cuts introduced by the local government) and at the European and national ones (e.g., loans and grants mobilized through the LAG of Ducato within the Leader program, CAP or other national/European policies oriented to sustain young entrepreneurship in inner peripheries). Specific CAP measures could also be activated to turn the current abandoned land into new cultivated land, enlarging the number of productive surfaces. Concerning accessibility, the scenario imagines that the introduction of digital connectivity (lacking today) and the functional improvement of the local road from Bettola may constitute essential conditions for farmers to, respectively, access the online farm markets of the province of Piacenza and join the weekly market of Bettola, connecting with customers coming from the Nure valley. Despite these innovations, the scenario assumes that in the medium term the number of people sustained by the agricultural sector would remain approximately the same (between 5 and 10 people), without a variation in the labor force.

The scenario in the long period (20 to 50 years) would see the scaling up of the economic value and benefits generated by the new agroecological practices according to a multifunctional and diversification perspective (Brunori & Rossi, 2007). Thus, while in the first phases, the scenario transition had involved just the side of production, after two decades it is assumed that the positive externalities would contribute to (re)shaping the whole local food system, including also the marketing, transporting, and consumption sectors. The restoration of some abandoned historical buildings in the village would allow to create a food market space, where selling local products to temporary visitors or residents from surrounding localities, but also a couple of catering spaces (a restaurant and a kiosk), with variable opening hours articulated during weekends and summer and spring seasons. It is also imagined that the inflow of food visitors to Ebbio would sustain the creation of a couple of temporary accommodations in the village thanks to the restoration of the landmark tower. Accommodations would also be mobilized as part of specific food packages, contemplating the opportunity for visitors to practice collectively organic food growing in domestic allotments, learn from local farmers value-based agroecological practices, gain knowledge about local agroecosystems, and engage in cooking local dishes. These activities would allow to attracting in Ebbio between 5 and 10 new workers to be employed in direct and complementary activities to the food system, as well as an estimated number of visitors of between 20 and 50 per year, and to produce relevant spatial impacts with the mobilization of abandoned or unused buildings to host the new activities as well as of vacant farmland for cultivating agroecological productions.

4.2. Ebbio as a wild village

The debate on wilderness in planning is borrowed from the discipline of landscape and ecology which in urban contexts has seen the spontaneous nature being reinterpreted as a “third landscape” (Clément, 2005) or “fourth nature” (Kowarik et al., 2005), according to a vision of post-urbanization rewilding of places. In this debate there is no lack of critical reflections which, on the one hand, recognize the proactive value of wild landscapes for improving urban quality but, on the other, question the risks of wilderness as a concept used by practices and policies to promote a “cheap consensual green worship” (Metta & Olivetti, 2019). It is an approach that sustains the transition from a “man-made nature” to a “more-than-human” perspective (Metta, 2022).

This approach is already largely present in the Apennine and, more broadly, in the mountainous territory, where the advance of the forest is even detected by satellite systems (www.copernicus.eu), though scarcely considered as a possible condition of transformation to be planned. In fact, in hilly and mountainous areas with poor accessibility, where agro-forestry-pastoral activity has declined over the last few decades, what we observe is the expansion of the forest. The agricultural fields and vineyards are invaded by herbs and shrubs, which slowly transform into trees.

This scenario imagines the increasing anthropic abandonment of Ebbio and, at the same time, the advancement of nature, conquering previously inhabited spaces. Thus, the underlying question is: If the forest advances, what could be the configuration of Ebbio in the short to long term?

As shown by the aerial photographs of the area under study, between 1954 (photo shoot of the Military Geographical Institute) and 2022 (Emilia-Romagna Region orthophoto) a consistent advance of wood was recorded over about 70 years, to the detriment of the farmland, which still surrounded the village in the mid-1900 s. If significant surfaces of farmland persisted until the 1970 s, after that period new roads and the increase of productive plots made the boundaries between agriculture and forest sharper.

As far as the time dimension of the scenario is considered, in the medium-term period (10–20 years), this scenario imagines that the current trend toward farmland abandonment will continue, with a larger portion of agricultural surfaces invaded by spontaneous vegetation. At the same time, an increasing number of buildings will remain vacant due to the continuation of the demographic decline dynamics in Ebbio. Moreover, the existing empty buildings will turn into ruins, enlarging the portion of the village characterized by scarce material consistency.

In the long-term period (30 to 50 years), it is imagined that the trend towards abandonment of farmland would continue in Ebbio and that the spontaneous vegetation, after having conquered the cultivated open spaces, will invade the built anthropic space. Thus, the abandoned buildings will be submerged by the woods and reconquered by nature, creating a new natural continuity, such as ecological corridors with low human usability. This condition will mainly concern the ancient buildings, the current ruins, the empty buildings that will turn into ruins in the next years, as well as roads with currently little or no use. As the size of the wild forest

increases, the few remaining inhabited houses will find themselves surrounded. These will be small groups of inhabited buildings having several functions (houses, agricultural buildings, and warehouses) and will take the form of micro-settlements, mainly coinciding with the building typologies constructed during the second half of the XX century and those recently renewed.

Specific planning and maintenance rules will be needed to identify and define the anthropic limits, which can be hard and rigid, or sensitive, adaptive and soft. Brick or stone walls, rows of trees, hedges or, again, wooden fences, natural or artificial water bodies will act as filters connecting and preserving the surfaces and buildings inhabited by people from the invasion of nature. As also highlighted by the in-force local plan (Comune di Bettola, 2022), the local administration can shape these boundaries by implementing specific land-use regulations to re-naturalize lots that are empty or occupied by ruins through selective demolition, transfer of development rights, and public land acquisition. Moreover, the preservation of the roads will constitute a further necessity: the movement of people and means of transport, as well as low periodic maintenance organized through voluntary collaborative agreements between local government and inhabitants, will preserve the dirt roads, which will also assume the function of fire break path between the woods, slowing down the spread of eventual fires, while a paved road must be guaranteed and looked after by the local government, in order to allow the access by humans. With a metaphor, in this scenario, the wild forest is understood as a sea that tends to advance and submerge the built islands.

However, it is appropriate to point out a value of the wild forest that has characterized the long history of the Apennines. In fact, it was a source of sustenance, albeit of subsistence, able to offer game meat, herbs and berries, flour (chestnuts) and energy through wood and water (Sardeshpande & Shackleton, 2019). In this scenario, these forest opportunities are understood not as economic resources but as attractive factors for a niche of new, even temporary, inhabitants.

5. Discussion

The two explorative scenarios above presented have provided the chance to **question the idea of future** of an inner periphery, building a bridge between past, present, and future (Myers & Kitsuse, 2000), looking in particular at how the prospective changes would also impact on the transformation of human-nature relationships. If one of the aims of Futures studies is to challenge common thinking of the future, encouraging critical examination of present reality and searching for overlooked possibilities, this research has led to exploring how the future might look by working on a specific typology of territories (the inner peripheries) and elaborating scenarios as “motivating visions” (Healey, 2007) for driving people to rethink their relationship with future (Bell, 1996; Poskitt et al., 2021). Indeed, several contributions in the field of Futures studies have worked on the application of the scenario-making approach in planning but they have mainly focused on cities and the multiple environmental, economic, and social challenges they face (Ratcliffe and Krawczyk, 2011; Fabian & Centis, 2022; Mannucci et al., 2023). Instead, this contribution has attempted to apply the scenario method to an inner peripheral context affected by socio-economic and demographic decline. This context has provided a relevant ground to explore possibilities and options for the future that were not previously considered by local institutions and civil society (Chakraborty & McMillan, 2015). Nevertheless, one of the main issues faced by researchers was to put into tension local inhabitants’ common understanding of the future, and to collectively explore and articulate new prospects, starting from the valorization and mobilization of local resources and the attraction of external ones. In particular, people have been guided to question the future of their locality via the examination of two possible trajectories: the introduction of agroecological innovations to sustain new economic opportunities and forms of entrepreneurship, and the invasion of nature (re-naturalization) in the abandoned spaces of the village and the construction of new forms of coexistence with humans.

Within these explorative scenarios, emphasis was placed on understanding **what role nature could play in the future**, conceiving it not as a background for human activities but as a proactive actor that could intervene in shaping the future of the inner periphery and generate new socio-ecological values and benefits (Hunter & Luck, 2015; Andersson et al., 2021). In this vein, we have demonstrated how relevant can be in Futures studies and, more in general, in future-related research, to consider the role that nature plays in shaping the future of the cities and territories where we live. It is not a case that in one scenario we have interpreted nature as an actor that can have a decisive impact on the future itself and whose needs should be considered like those of humans in formulating alternative images of the future. Following this view, we believe that in the realm of Futures studies, the scenario approach can be a relevant tool to guide local communities to change their relationship with and perception of nature, passing from a traditional view of dominance and exploitation over natural resources and habitats, toward more balanced patterns of coexistence shaped by the multi-directional, mutually beneficial socio-ecological relations (Hunter & Luck, 2015; Diver et al., 2019). The first scenario highlighted how innovative agroecological practices could not just contrast village’s socio-economic decline but also promote a fairer balance between a self-sustaining local economy based on food production, marketing, and consumption on the one hand, and multi-species solidarities, biodiversity and environmental stewardship on the other. This scenario has interpreted agriculture as a socio-ecological activity that will sustain current local inhabitants and, at the same time, restore and nourish the soil and enhance the local environment, instead of continuously degrading it (Vaarst et al., 2018). In the second scenario, while the main perspective is the invasion of nature in the semi-abandoned village of Ebbio according to a more-than-human perspective, the possibility for (a small group of) inhabitants to adapt to the predominance of natural species over humans is also explored, taking advantage of the edible products offered by woods for triggering alternative micro-economies. The relevance of this scenario lies in the interpretation of anthropic shrinkage as an inevitable condition and a wicked problem that, as also highlighted by some scholars (Tietjen & Jørgensen, 2016; Corazzieri & Mareggi, 2021), in certain lagging areas cannot be contrasted but it can rather open windows of opportunity to produce innovative patterns of human-nature coexistence.

A more general although crucial aspect highlighted by the research relates to the **different spatial scales and time horizons** unfolded by the explorative scenarios. In other terms, as also demonstrated more than a decade ago by Zurek and Henrichs (2007), it is

relevant to investigate how the scenarios, not only can cover different time horizons, but can produce spatial transformations visible across different geographical scales that can, in turn, involve a complex mobilization of spatial assets. In the case study presented above, the consideration of the space-time dimensions of the scenarios has meant to approach in a critical way the issue of human-nature relationships and their change dynamics, also in terms of the spatial-temporal transformation of humans' perception toward nature. While in the first case (agroecological Ebbio), a trend reversal in the scenario development is identified in the medium term (10–20 years) after an initial period characterized by the continuation of current retrenchment dynamics, the second scenario (wild Ebbio) sees from the short to the medium and long term (until 2100 and beyond) a linear and progressive trend of slow decline of the human presence in the village and, at the same time, of growing of wild nature. It is interesting to notice that the second scenario highlights the dominance of nature over humans in the short, medium and long terms, but in the long term (20 to 50 years) this dominance, despite persisting, sees humans achieving positive forms of coexistence with nature. Different is the temporal pattern in the first scenario, where in the short term (5 to 10 years) current forms of domestication of nature through conventional agriculture will persist, but in the medium and long term (10 to 50 years) agroecological practices will contribute to shape mutually-reinforcing and intricate relations between agriculture, food, and socioeconomic systems (Vaarst et al., 2018) where, despite the persistence of a vision of “man-made nature”, a balance, albeit unstable and dynamic, between humans and plant and animal species is imagined. This articulated space-time dimension translates into specific dynamics of mobilization of different spatial resources, which we believe is a fundamental aspect to consider when questioning the future of an inner periphery (Servillo et al., 2016; PP. –; Micelli et al., 2023).

In this vein, both scenarios highlight an emphasis on the mobilization of existing unused or underused spatial assets in Ebbio, the uncultivated land in the first case, and the ruined, abandoned, or underused buildings and their contiguous vacant open spaces in the second case. These material assets become, respectively, supports for a new food economy based on agroecology shaping reciprocal and mutually supporting human-nature relationships in the first scenario and, for plant and animal species as natural habitats achieving a more-than-human perspective in the second (Metta, 2022).

One last aspect concerns the **focus on spatial planning**, which was introduced to understand what role planners can play in mobilizing the assets and if planning regulations and devices can sustain the processes underlying the future imagined in the scenarios. Adequate planning and regulatory instruments can support and mediate the forms of mobilization of material assets foreseen in the first scenario. These can consist of legal devices for the reunification of land properties through their exchange mediated by the already-mentioned Foundation or the local government, tax incentives for sustainable food production, marketing and consumption activities, incentives and rewards for the restoration of existing buildings to host productive and retail uses and, more generally, the activation of financing measures via rural development plans and CAP (Gottero & Cassatella, 2019). Although we believe that a good planning framework can positively sustain the scenario, a system of integrated policies and effective governance arrangements are required to ensure that agroecological activities are effectively able to contrast the socio-economic decline of the inner periphery (Castro-Arce & Vanclay, 2020; Novikova, 2021). Different, and somewhat complementary, is the second scenario where forms of mobilization of material assets are led by nature, with the planning framework having little or no influence on this scenario. Instead, planning regulations can play a role in the long term when, as mentioned in Section 4.2, positive forms of human-nature coexistence can be imagined. Thus, forms of bottom-up, incremental, collective maintenance interventions on basic infrastructures such as roads, water pipes, energy and ICT networks can be put in place in order to ensure that local inhabitants continue to inhabit the village dominated by nature. In this sense, the local planning framework can have a role in regulating these forms of maintenance and, for instance, in defining the rules of positive coexistence between animal and plant species and humans, setting a soft and dynamic boundary between the natural habitat and the anthropic one.

6. Conclusion

In the conclusion, we want to highlight two insights that research has provided to the debate on the scenario-making approach and its application in the field of planning. The first concerns the usefulness of the scenario approach in questioning the future of an inner periphery and affirming more articulated human-nature relationships. The second aspect regards the approach adopted in the scenario participatory construction (Bell, 1996; Poskitt et al., 2021), which has seen researchers and students working with a mixed coalition of actors, using several planning tools and methods, and applying them to the territorial and social context through a dialogic process.

Concerning the first aspect, the agroecology scenario has imagined the creation of a new local economy based on food as an agroecological resource able to address multi-species solidarities, biodiversity and environmental stewardship (Tornaghi & Dehaene, 2021) with the environmental and landscape quality interpreted as a relevant aspect able to influence people's choice to move to the village. The second has instead seen the invasion of nature in the village according to a more-than-human perspective, where niches of human presence (“built islands”) persist in a growing wild context (a green “sea”) dominated by non-human elements. These scenarios question in different ways the future patterns of human-nature relationships in the locality. First of all, both proposals try to overcome the predatory attitude toward the finite resources that has characterized the Anthropocene (Crutzen, 2002; Steffen et al., 2007), though taking extreme but divergent directions: a man-made interpretation of nature on the one hand, and a more-than-human interpretation on the other. The scenario linked to agroecology builds a form of domestication of nature, where the vision is still anthropocentric. In the medium term, it can promote and develop a different form of agriculture that can be sustainable both from the economic and environmental point of view, with agroecological productions able to activate circular processes (production-consumption-recycling) while preserving biodiversity. With a greater value-based awareness and a proactive human attitude, agroecological productions can generate ecosystem services and contrast hydrogeological fragility related to abandoned agricultural land. It is also able to guarantee economic revenues for farmers and their families, sustaining the life of a small community in the inner periphery. As mentioned in Section 4.1, CAP measures aimed at less favored areas can sustain this perspective (Dax, 2005; Noguerra &

Copus, 2016; Gottero & Cassatella, 2019).

From a different viewpoint, the second scenario envisages the dominance of nature, conquering progressively and incrementally the anthropic space. Here, humans must adapt and find new rules of interaction, in a reasonable time of 3–5 generations. In this case, the benefits generated for animal and plant habitats (in terms of greater biodiversity) are central, even if there are also advantages for humans linked to forest products like wood, game, mushrooms, berries, and wild herbs which the “resistant” local community can use.

The scenarios thus foresee conditions in which domesticated or wild nature according to an anthropocentric or more-than-human perspective, is the protagonist and the humans find forms of adaptive coexistence, which can shape unexpectedly the future of inner peripheries. This perspective sees the Apennine inner peripheries becoming a greener territory, following a trend detected in the past half-century by satellite systems. In this sense, the scenarios open up a necessary future and direct toward positive patterns of human-nature coexistence that attempt to minimize the negative externalities produced by the anthropic action. Indeed, the research demonstrates that the scenario-making approach can be a useful means for questioning the future of inner peripheral contexts and for shaping more adaptive and balanced dynamics of coexistence between humans and nature, on the basis of the idea that the two are not seen in opposition or contrasts but in mutual interactions according to a system of socio-ecological and relational values (Pascual et al., 2017; Diver et al., 2019).

A second insight relates to the method adopted by the research. We have seen that the workshop and the multiple activities carried out provided the chance to practice a bounded rationality, which adapts and adjusts the intentions, modeling them to the local context, with which there is a continuous dialogue and interaction. Being the interaction with social actors and their critical and constructive engagement with their own and others’ assumptions about the future among the focuses of the Futures studies (Poskitt et al., 2021), the research has finalized this interaction to grasp the context-sensitive knowledge of the few temporary and resident inhabitants remained in the village and to use that knowledge to shape the design proposals. Operationally, this has meant to resume forgotten work traditions (the past suggests the future), innovate agricultural methods for better adapting to the soil conditions (the future is rooted in the present) or transform the place by increasing human comfort in a highly natural environment (the future is positive news for humans) or, again, protect against unexpected changes of the natural context (the future is risky for humans). However, these solutions are also the result of a dialogue with the place, through several surveys of the researchers carried out individually or in groups, accompanied by local inhabitants and experts. Surveys are interpreted as on-site investigations that activate a dialogue with the place from different viewpoints and with postures of the body and mind that try to sensibly grasp the hypothetical tendencies the future holds in store (Secchi, 2000).

Furthermore, the workshop has allowed to materialize the possible futures of an inner periphery (Wiebe et al., 2018) and represent them using words and drawings used as communicative tools. Around the visual representations, the workshop participants have triggered a “reflective conversation” (Schön, 1983) with planners, inhabitants and local institutional representatives which led to achieving one of the main aims of Futurists, namely to “tell a convincing story about the future” (Cole (2001): this implied to provide a reasoned and aware restructuring of the problem, consider the alternatives, search for overlooked possibilities and define the forward views where the alternative scenarios are put in place (Voros, 2003). This process is a research-by-design activity (Van Ouwerkerk & Rosemann, 2001) where the scenarios’ representation stimulates the imagination of the actors engaged who reflect “aloud” and share collectively the future prospects of an inner periphery (Frieling, 2001; Cole, 2001). Thus, the workshop has provided the opportunity for a situated/contextual reflection-in-action and allowed to imagine perspectives open to the uncertainty of human and nature actions, interactions, and of their outcomes. Humans and the environment in the two scenarios have also seen their mutual future roles exchanged and this has helped to reinterpret the condition of manipulation and dominance of humans over nature toward more dynamic patterns of adaptation and solidarity.

CRedit authorship contribution statement

Marco Mareggi: Conceptualization, Funding acquisition, Investigation, Methodology, Supervision, Validation, Writing – original draft. **Luca Lazzarini:** Conceptualization, Investigation, Methodology, Validation, Writing – original draft, Writing – review & editing.

Declaration of Competing Interest

The authors declare no conflict of interest.

Data Availability

The authors do not have permission to share data.

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