Integrated Strategic Approach for Sustainable Urban Planning Applied to the Milan Rogoredo Case Study

Giulia Buongiovanni[1], Marianna Camerota[1], Valentina Giustinelli[1], Francesco Pittau[2(✉)], and Giorgia Sugoni[3,4]

[1] School of Architecture Urban Planning and Construction Engineering (AUIC), Politecnico di Milano, Via Ampere 2, 20133 Milan, Italy
{giulia.buongiovanni,marianna.camerota, valentina.giustinelli}@mail.polimi.it

[2] Department of Architecture, Built Environmental and Construction Engineering (DABC), Politecnico di Milano, Via Ponzio 31, 20133 Milan, Italy
francesco.pittau@polimi.it

[3] Department of Architecture and Urban Studies (DAStU), Politecnico di Milano, Via Bonardi 3, 20133 Milan, Italy
giorgia.sugoni@polimi.it

[4] Links Foundation, Via Pier Carlo Boggio, 61, 10138 Turin, Italy

Abstract. This study presents an integrated methodological approach for sustainable urban planning applied to the case study of Milan Rogoredo, a peripheral district of Milan characterized by complex social and environmental challenges. The applied methodology combines conventional analysis tools, such as SWOT+STEEP analysis, with mixed techniques such as Stakeholder analysis (Power Interest and Social Network Analysis) and Multi-Criteria Analysis, with particular emphasis to the Analytic Hierarchy Process (AHP). The main objective is the identification of the most advantageous solution in terms of district regeneration, considering a broad spectrum of interconnected factors, including environmental, social, and economic aspects. SWOT+STEEP analysis has allowed to investigate the current state of the site, identifying strengths, weaknesses, opportunities, and threats, laying the foundation for the subsequent phases of analysis. Stakeholder analysis has highlighted the levels of power and interest of the actors involved, while Multi-Criteria Analysis has allowed the evaluation of three alternative development scenarios. The results of the study demonstrate that the strategic scenario, which emphasizes social inclusion and environmental sustainability, is the most advantageous solution for achieving an urban transformation of Milan Rogoredo. This transformation is aimed at positioning the district as a pole of attraction and social well-being for the entire community. This multilevel methodological approach provides an effective model for urban planning in complex peripheral contexts, promoting decisions oriented towards sustainability and circular regeneration.

Keywords: Social and Environmental Sustainability · Multilevel Urban regeneration · Stakeholder analysis · Alternative development scenarios · Analytic Hierarchy Process (AHP)

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1 Introduction

Urbanization, a global phenomenon, triggers a series of transformations that shape our environment, society, and economy. The expansion of urban areas leads to increased land consumption, resulting in loss of biodiversity and increased pollution. Cities have become centers of energy consumption and waste production, exacerbating climate change issues [1]. From a social perspective, urbanization can deepen inequalities, creating pockets of poverty and marginalization. Housing density and competition for resources can generate social tensions and security problems [2]. However, cities are also engines of economic development, offering job and growth opportunities.

To manage these complex dynamics, spatial planning uses analysis tools that allow us to assess the impact of urban choices and define sustainable development strategies. SWOT analysis identifies the strengths and weaknesses of a territory, as well as external opportunities and threats [3]. Its extension, SWOT+STEEP, also considers social, technological, economic, environmental, and political factors, providing a broader view of the urban context [4]. Stakeholder analysis allows for the involvement of different social actors in the decision-making process, while scenario building helps to imagine possible futures and assess the impact of urban policies [5]. Finally, multi-criteria analysis enables the comparison of different intervention options based on economic, social, and environmental criteria. The integration of these tools, along with geographic information systems and urban simulation models, is essential for effective spatial planning and sustainable urban design.

In the following article, the application of these principles will be presented in the case study of Milan Rogoredo, highlighting how these planning tools are particularly effective for the territorial regeneration of urban contexts facing environmental and social challenges.

2 Integrated Multi-level Methodology

2.1 Framing of the Problem

The entire analysis process was previously illustrated and applied in the case study under analysis (see Fig. 1).

Following the definition of the problem related to the case study and the context under examination, a stakeholder analysis is conducted as a first decision-making method in order to understand all the actors involved and their engagement in the applied strategies, ensuring their effectiveness.

Stakeholder analysis is necessary to highlight potential conflicts of interest from the early stages and to avoid negative effects in subsequent phases. Given the difficulties that can be encountered in the study of Milan Rogoredo due to the critical issues that characterize it, it is necessary to address different interests among stakeholders. The development phases must be designed in such a way as to classify the various parties involved in order to address social challenges in the most complete way possible.

Among the various approaches to develop a Stakeholder Analysis, the combination of the following methodologies has been proposed: the Power-Interest Matrix, the Circle Methodology, and the Social Network Analysis.

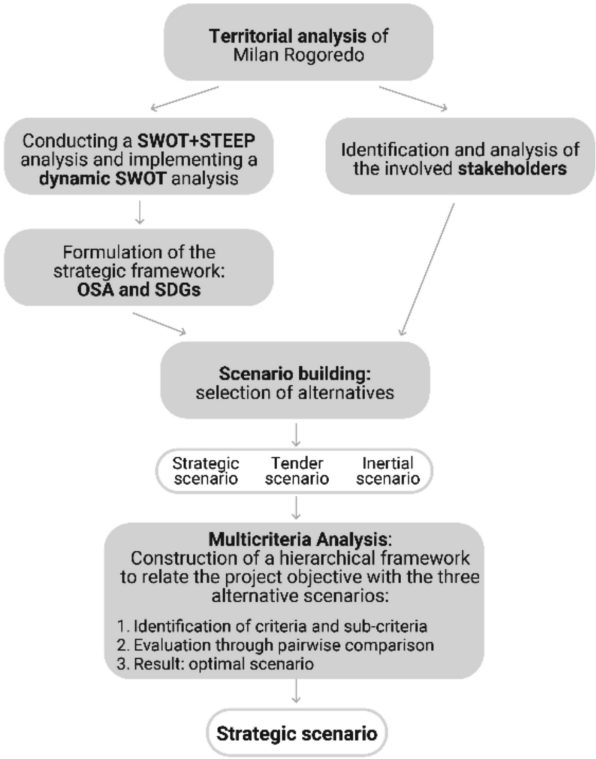

Fig. 1. Methodological synthesis of the process.

Their combination arises from the need to integrate the potential of these approaches: the Power-Interest Matrix and the Circle Methodology, which allow us to understand the influence and power that individual actors have in the individual phases of the process, and the Social Network Analysis, which identifies the relationships between stakeholders [6].

Power/Interest Matrix. This is an evaluation tool that visualizes the levels of power and interest of each stakeholder. The rationale behind the power/interest matrix is that stakeholders possess different levels of power to influence the implementation of construction projects and express different degrees of interest in project decisions. This highlights the priorities of the individual actors involved and ensures effective management during the project life cycle [7].

Circle Methodology. It is an innovative approach to identify and analyze the stakeholders that are involved in the design phase. Unlike the power/interest matrix, it is a practical and visual tool as it guarantees an immediate visualization of the influence of the actors involved. This allows us to implement strategic communication and to increase the probability of success in the organization of projects [8].

Social Network Analysis. It is a method to collect and analyze the communication networks that are established between stakeholders during the process phases. It uses

specific tools to measure the connections between actors within the network, identifying the most influential actors and understanding the relationships that can influence the decision-making process [9]. It is possible to visualize the size and shape of the network through a visual representation and a qualitative analysis [10].

2.2 Alternative Scenario Construction

In recent decades, the popularity of strategic planning through scenarios has grown significantly. In the latter decades of the last century, there has been an effort to enhance the synergy between future vision and strategy, which has materialized through a planning process using scenarios. The objective of this approach is to propose strategic guidelines and measures based on scenarios that replicate the global context [11].

Today, it is crucial that decision-makers focus on researching new tools that can ensure more efficient management of sustainable development in urban contexts, successfully overcoming and avoiding those risks that often arise from complex and unstable environmental situations [12].

SWOT+STEEP Analysis. Starting in the 1980s, SWOT began to be used to analyze alternative development scenarios in the public sector. Today, this technique has expanded to territorial diagnoses and the evaluation of regional programs.

Among the strategic management tools provided by the academic world to support planners, SWOT analysis is one of the most widely used in territorial planning. Its frequent application by professionals testifies to its practical effectiveness, surpassing the use of other similar tools [13].

The objective of SWOT analysis is to identify the Strengths (S), Weaknesses (W), Opportunities (O), and Threats (T) of a specific territory, project, or program. Strengths and Weaknesses represent endogenous factors, inherent to the context of analysis, modified through the proposed interventions, while Opportunities and Threats are exogenous factors as they derive from the external context and are difficult to modify.

Often, this tool is combined with other complementary tools to achieve more effective results.

STEEP Analysis is integrated with SWOT Analysis (STEEP+SWOT). This is a more recent tool used in decision-making and the analysis of complex dynamics to better examine the characteristic factors of a specific territory, project, or program for the formulation of objectives and actions related to transformation scenarios.

STEEP (Societal, Technological, Economic, Environmental, and Political) analysis therefore utilizes established methodologies to evaluate the importance of technological research topics related to scenarios defined by a selection of global trends [14].

Dynamic SWOT. SWOT analysis has an evident weakness related to the fact that the four groups of elements it is composed of are not correlated with each other. This makes it difficult to understand whether they produce a favorable or unfavorable scenario for the implementation of the plan or program, and where it is possible to intervene to improve any critical issues [15]. To solve this problem, attempts have been made to transform SWOT into a dynamic tool by establishing relationships between all its elements.

The “Dynamic” (or Relational) SWOT is an intuitive tool that allows for binary comparison between the elements to establish the relationships of influence that exist

between them, regardless of the category they belong to. Crucially, it acknowledges that the influence exerted by one element on another is not necessarily reciprocal, allowing for the identification of asymmetric dynamics within the evolving strategic environment. [15].

Scenario Building. The construction of scenarios empowers decision-makers to visualize alternative futures, thus advancing a better quality of life and the protection of the environment [16]. The tool plays a very important role in supporting decision-makers in strategic planning and policy decisions, as well as guiding private sector organizations in selecting key variables for competitive decisions.

A scenario illustrates visions of a possible future or aspects of it. In this way, it is possible to analyze the different cases to highlight discontinuities in the present and to reveal the available choices and their potential consequences.

2.3 Problem Evaluation

Multi-Criteria Analysis (MCA) is an evaluation process that verifies the stability and robustness of alternatives, previously generated, through the simulation of hypothetical scenarios [17].

It can consider a wide range of factors, both economic and non-economic, and analysis of how the needs and opinions of various stakeholders influence each other during the decision-making process [18].

The Analytic Hierarchy Process (AHP), a decision-making method developed by Saaty, is a key tool in MCA for addressing complex decisions and estimations. It hierarchizes objectives and criteria, assigns priority weights to alternatives, and is based on measurement using a ratio scale [19].

The versatility of multi-criteria methods allows them to be used in synergy with existing evaluation tools, enabling a comprehensive analysis of economic, environmental, energy, and social sustainability, as well as the aesthetic and performance quality of projects [20].

These methods are particularly effective in structuring complex problems, supporting both the initial and comparative phases of decision-making processes. They facilitate the identification of conflicts and the pursuit of shared solutions, also allowing for the aggregation and comparison of parameters with different units of measurement, through a weighting system [20].

Within Multi-Criteria Analysis, AHP is a suitable approach for dealing with complex non-linear problems. It structures the examined variables hierarchically, from which it is possible to produce qualitative and quantitative evaluations. AHP is a method that can be applied to establish outcomes in both the physical and social domains [21].

Outcomes are formulated according to preference, through pairwise comparisons between criteria concerning a specific project objective. The method unfolds through three successive operational phases:

- Decomposition of the problem data into their fundamental components (based on the principle of decomposition). This step consists of identifying a series of criteria, possible sub-criteria, and alternatives, structured hierarchically.

- By pairwise comparison, to obtain, at each level of decomposition, a scale of priorities between them through the principle of comparative judgments, according to which a positive real number is assigned to each binary relation (based on Saaty's "fundamental scale") that corresponds to a judgment of value.
- Calculation of priority rankings (based on the principle of priority synthesis). Priority scales or weights are produced, up to the final ranking of preference for the options [20]

The fundamental steps of an AHP-based investigation are:

- Identification of alternatives.
- Identification of evaluation criteria (e.g., cost, environmental impacts, employment repercussions, etc.).
- Estimation of weights to be assigned to the criteria.
- Measurement of the characteristics of each alternative with each criterion (e.g., cost of each alternative, environmental impacts of each alternative, etc.).
- Normalization of measures according to a comparable scale.
- Calculation of synthetic values [22].

3 Application

3.1 Case Study; Milano Rogoredo

The Rogoredo district is in Municipality 4 in the suburban part located southeast of the City of Milan. The case study is in the provincial capital of Lombardy, one of the regions of Italy (see Fig. 2).

The district borders the districts of Nosedo to the northwest, Morsecchio to the northeast, and the Municipality of San Donato Milanese to the southeast.

It is an important transportation hub of the city. There are two stations on the M3 line of the Milan metro, Rogoredo and San Donato. Various bus lines, operated by ATM, connect Rogoredo to the neighboring districts and the center of Milan.

Rogoredo is also served by the homonymous station, which is located at the junction between the railway link, the Milan-Bologna railway and the Milan-Genoa railway. The station is served by suburban and regional trains, becoming in recent years also an interchange station for high-speed lines.

The location is an area in continuous transformation, becoming a new attractive pole, with a combination of residential, commercial and industrial buildings. It is located near the developing area of the Santa Giulia district, which is undergoing an important phase of urban redevelopment due to the upcoming Milan-Cortina 2026 Winter Olympics.

The area under examination was involved in the International Design Competition "Il Bosco della Musica" which involves the construction of a new campus of the "G. Verdi" Conservatory of Milan in the former industrial part of the district. The intervention includes the construction of a multifunctional structure equipped with classrooms, laboratories, auditorium, student residences, refreshment areas and the redevelopment of the "Ex Chimici" building of the former Redaelli steelworks. The competition was won by the Settanta7 Studio, and the works are currently underway.

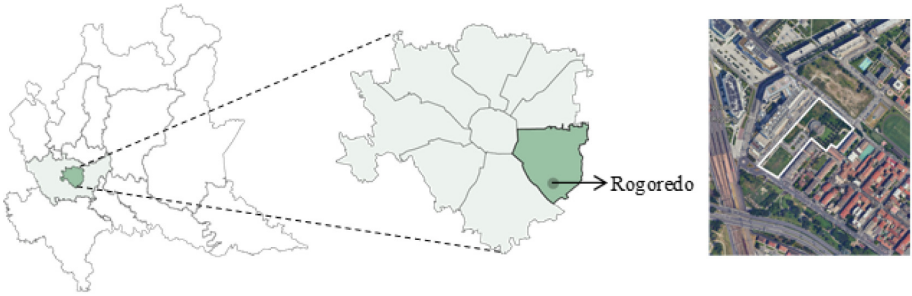

Fig. 2. Lombardy Region+Municipality 4+Milano Rogoredo, project area.

3.2 Stakeholders Analysis

Following the identification of the project phases represented namely: initial phase, design phase, implementation phase, closure phase, and monitoring phase, the relevant stakeholders during the process are determined (see Fig. 3). Subsequently, they are categorized using the Power/Interest Matrix Method (see Fig. 4), based on their level of influence. Furthermore, the relationships between the actors involved were analyzed through a Social Network Analysis.

As mentioned earlier, the area was the subject of the international competition notice "Il Bosco Della Musica" because the Municipality of Milan deliberately chose the Rogoredo district so that this project could become an active part of the urban regeneration process, also addressing a series of social issues and criticalities.

Initially, using a matrix, it was possible to identify the various actors present in the design phase and highlight the stakeholders directly involved, and then highlight their presence in the different steps.

Subsequently, they were categorized according to their level and type of membership. This is an important process as it monitors the influence that individual actors have in the various phases of the process.

The involvement of stakeholders in the decision-making process plays a fundamental role, as it allows for the consideration of different perspectives and ensures greater transparency. However, the level of participation may vary depending on the role, interests, and influence of each stakeholder, determining different degrees of involvement in decisions.

Implementing these strategies is positive because it allows for the clear identification of the different groups involved, a better understanding of their needs and priorities, and more effective management of communication and involvement. Furthermore, it helps to establish targeted strategies to involve each category based on the level of influence and interest, thereby improving the decision-making process and fostering greater collaboration and transparency.

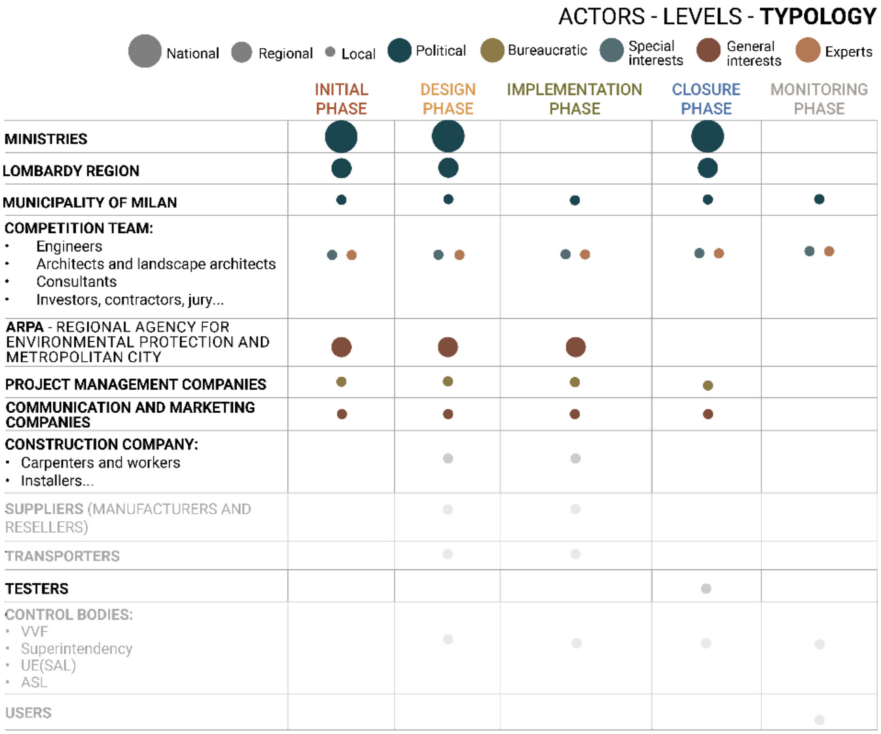

Fig. 3. Stakeholders and Actors, classified according to Dende's criteria (2014).

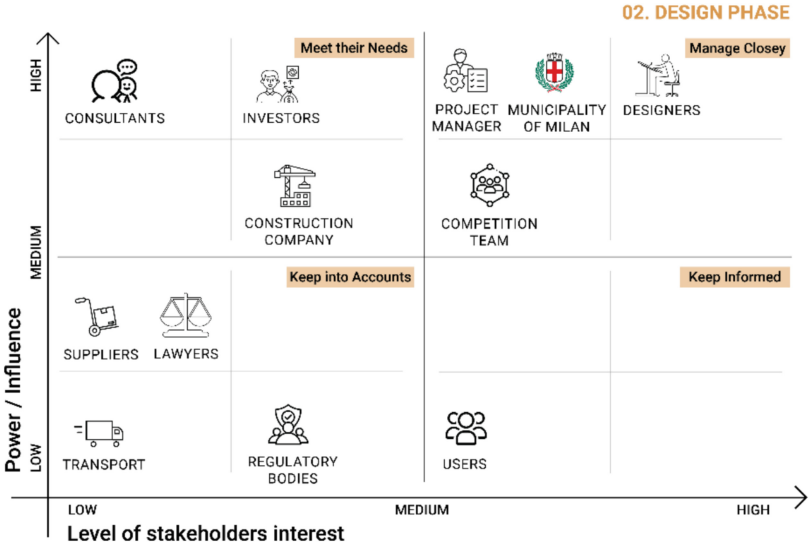

Fig. 4. Output of the Stakeholders Power/Interest analysis.

3.3 SWOT+STEEP Analysis

The SWOT analysis integrated with the STEEP analysis is a decision support tool used to identify the strengths, weaknesses, opportunities, and threats of a specific territory, allowing the determination of its main characteristics (see Table 1).

Regarding the strengths, the presence of strategic connections through public transportation (buses, railways, trams, metro) and main roads well-connected to the highway network emerged. However, these elements have also been identified as weaknesses because they cause noise pollution. Other weaknesses include the presence of the railway that divides the neighborhood into two distinct parts, the absence of public green spaces and a well-organized slow mobility network. The main opportunity factor, on the other hand, relates to the project for the regeneration of the Santa Giulia district in the Milano Rogoredo area, while the risks are particularly linked to the possible formation of gentrification phenomena caused by these redevelopment processes, which could lead to sociocultural changes.

Following the identification of the area's main characteristics, it was possible to proceed with the development of the dynamic SWOT, which allowed a binary comparison between all the SWOT elements previously identified based on the positive or negative synergy between them. The comparison is made by assigning a rating from $+2$ to -2 (see Table 2).

Finally, the SWOT elements, identified with a code, were divided based on the STEEP analysis into different categories: mobility, economy, environment, technology, and society.

3.4 Strategic Framework: Objectives, Strategies and Actions (OSA) and Sustainable Development Goals

Starting from the SWOT+STEEP analysis, it was possible to work on defining the strategic scenario. This consists of Objectives, Strategies, and Actions (OSA) whose purpose is to guide the design in a more precise and targeted way in order to achieve results as consistent as possible with the territorial needs emerging from previous analyses.

The area under study has evident critical issues from the point of view of integration with the rest of the territory, both in terms of mobility infrastructure and accessibility. These factors inevitably have repercussions on the spheres of environmental sustainability and the socio-economic well-being of the community. The identification of these problems was the starting point for defining the objectives of the design action:

- **Environmental sustainability**: for the realization of this objective of sustainable urban regeneration, the main strategies introduced concern ecological design, the integration of green spaces, the protection of biodiversity through the creation of ecological spaces and the redevelopment of degraded habitats, and strong community awareness through educational programs and participatory initiatives, trying to respond to SDGs 3, 6, 7, 13, 15.
- **Social inclusion**: in this case, the proposed strategies aim at the involvement of the entire neighborhood through social inclusion policies, designed to strengthen the sense of belonging and combat marginalization, educational and cultural support programs without forgetting the promotion of professional training programs to support

Table 1. Output of the SWOT+STEEP Analysis.

	Strength	Weaknesses	Opportunities	Threats
Mobility	**SM1**: Presence of Level I interchange hubs (high-speed rail), specifically Milano Rogoredo station **SM2**: Strategic public transport & distributed stops **SM3**: Highway-connected main roads (A1) **SM4**: Rogoredo: city & national rail connections	**WM1**: Absence of a well-organized slow mobility system **WM2**: Railway separates residential/commercial from South Milan Agricultural Park	**OM1**: Via Toledo road redevelopment project **OM2**: "Diagonal" infrastructure tender (Santa Giulia) **OM3**: Introduction of bike sharing, car sharing systems, and cycle paths	
Economics	**SEC1**: Presence of urban renewal areas (Via Medici, Ponte Lambro…)	**WEC1**: Lack of leisure/multi-purpose facilities	**OEC1**: Spark District: commercial, office, residential development **OEC2**: Soul project: new urban retail destination **OEC3**: Linfa: green residential complexes **OEC4**: Eventim Arena project **OEC5**: Social Housing (ERS) complex construction	**TEC1**: Possible increase in average rental rates due to area regeneration projects
Environment	**SEN1:** Presence of urban green spaces (Trapezio Park, South Milan Agricultural Park)	**WEN1:** Absence of a well-connected and integrated public green system with the built environment	**OEN1**: Planning of the new Santa Giulia Park	**TEN1**: Possible area pollution and lack of remediation (presence of abandoned industries and degraded areas on the territory)
Society	**SS1:** Strongly multi-ethnic population (sociocultural mix) **SS2:** Presence of sports complexes ("Rogoredo 84")." **SS3:** Increased residential development (Milan) **SS4:** Redevelopment of housing and public services near the project site	**WS1:** Limited presence of squares and communal spaces available for public use **WS2:** Poorly lit, abandoned areas between neighborhood and station cause insecurity **WS3:** Presence of unemployment rate within the territory	**OS1:** Construction of a children's science museum	**TS1**: Rising gentrification from urban redevelopment **TS2:** Potential for increased crime (lack of control) **TS3:** Illicit activity & petty crime (social tension)
Technology		**WT1**: Degraded area within the project site, currently used as a parking lot	**OT1**: Redevelopment of the former railway yard area of Milano Rogoredo station	

Table 2. Dynamic SWOT Comparison.

			INFLUENCING ELEMENTS																			
			STRENGHTS										WEAKNESSES									
INFLUENCED ELEMENTS	STRENGHTS		SM1	SM2	SM3	SM4	SS4	SS3	SEC1	SEN1	SS2	SS1	WT2	WS2	WM2	WM1	WS1	WEC1	WEN1	WT1	WS3
		SM1		2	0	2	0	0	1	0	0	0	2	0	2	0	0	-1	-1	0	0
		SM2	2		0	2	1	1	1	0	1	0	2	1	0	-2	2	-1	-1	0	0
		SM3	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		SM4	2	0	0		0	0	0	0	0	0	-1	-2	0	0	0	0	0	0	0
		SS4	0	1	0	0		2	2	2	2	1	-1	-2	-1	0	-2	-2	-1	-1	0

(*continued*)

Table 2. (*continued*)

INFLUENCED ELEMENTS	STRENGHTS																				
		SS3	2	2	2	2	2		2	1	1	1	-1	-2	-1	0	-1	-2	-1	-1	-2
		SEC1	0	2	0	0	0	1		1	1	1	-1	-2	0	-1	-1	-2	-1	-1	0
		SEN1	0	0	0	0	2	2	2		1	0	0	-1	-1	0	-1	-1	-2	-1	0
		SS2	0	0	0	0	2	2	2	1		0	0	-1	0	-2	0	-2	0	0	0
		SS1	0	0	0	0	1	1	1	0	0		0	-1	0	0	0	0	0	0	0

+2	The element in the row significantly increases its effects thanks to the synergy created with the element in the column.
+1	The element in the row increases its effects thanks to the synergy created with the element in the column.
0	The elements in the row and column are independent.
-1	The element in the row is hindered by the element in the column, but it still manages to develop its effects in a reduced form.
-2	The element in the row is strongly hindered, or even canceled out, by the element in the column.

the community that can be supported by collaboration with local associations. The SDGs that are sought to be satisfied are 1, 3, 4, 5, 8, 11, 17.

- **Integration with the urban context and accessibility**: to respond to this objective, it is intended to guarantee the strengthening of slow mobility infrastructures, such as safe and well-connected cycle paths and pedestrian routes, but above all the implementation of sustainable transport methods, ranging from incentivizing low-emission local public transport to the spread of electric and shared micromobility, simultaneously ensuring physical accessibility for all citizens, regardless of their abilities or conditions, through the universal design of infrastructures and services that eliminate architectural and sensory barriers. In this case, attention is focused on SDGs 8, 9, 10, 11.

To these first three objectives, a fourth is added, more closely linked to the role that the architectural project will play for the territory of Milan Rogoredo:

- **Educational and cultural innovation**: In response to SDGs 3, 4, 17, this objective is achieved through the implementation of strategies that favor the design of innovative spaces and multidisciplinary approaches to music education. Specifically, this translates into the creation of stimulating and flexible learning environments that integrate cutting-edge technologies and interactive teaching methodologies to foster an engaging and personalized musical experience.

Once the objectives, strategies and consequent actions have been identified, it was possible to proceed with the identification of possible future scenarios and the criteria that will characterize the subsequent Multi-Criteria Analysis.

3.5 Scenario Development

Based on the STEEP+SWOT analysis and with the objectives defined in the OSA in the previous section, several alternatives were defined evaluating future scenarios (see Fig. 5).

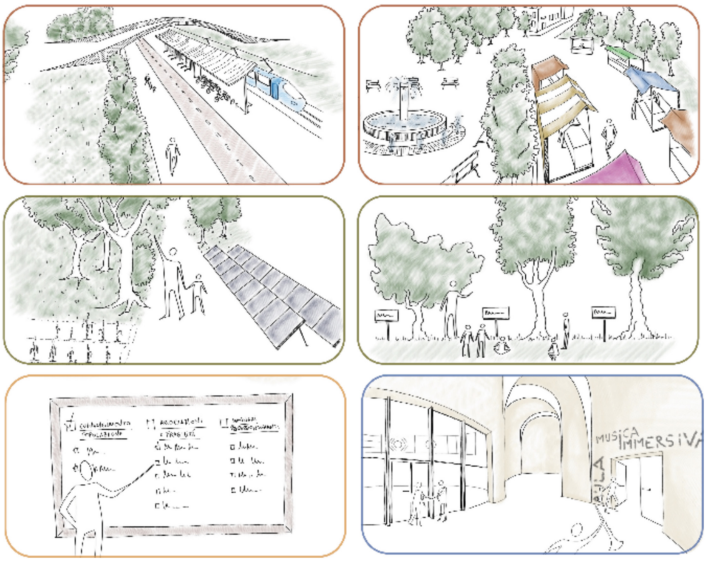

Fig. 5. Narrative supporting scenario development.

To achieve the set objectives, actions were proposed, including the creation of large public and service spaces, such as parking for bicycles, scooters and other electric vehicles, as well as initiatives to engage the neighborhood.

Furthermore, urban implementation of renewable energy production plants and the design of large green spaces are also useful for raising awareness and educating the population.

In all this, the social needs of the community are not forgotten by introducing collaborations with public bodies for professional internships, for psychological support and for support towards fragility. Finally, the design of multifunctional and adaptable classrooms and the promotion of collaboration with other disciplines is foreseen.

3.6 Multi-criteria Analysis

The starting point for conducting the Multi-Criteria Analysis is the construction of a hierarchical scheme that can relate the objective of the design activity with the three alternative scenarios identified previously:

- Strategic Scenario (scenario resulting from the implementation of the design actions)
- Tender Scenario (scenario foreseen if what is envisaged by the winning project of the tender is realized)
- Inertial Scenario (an alternative that foresees the total absence of a design action)

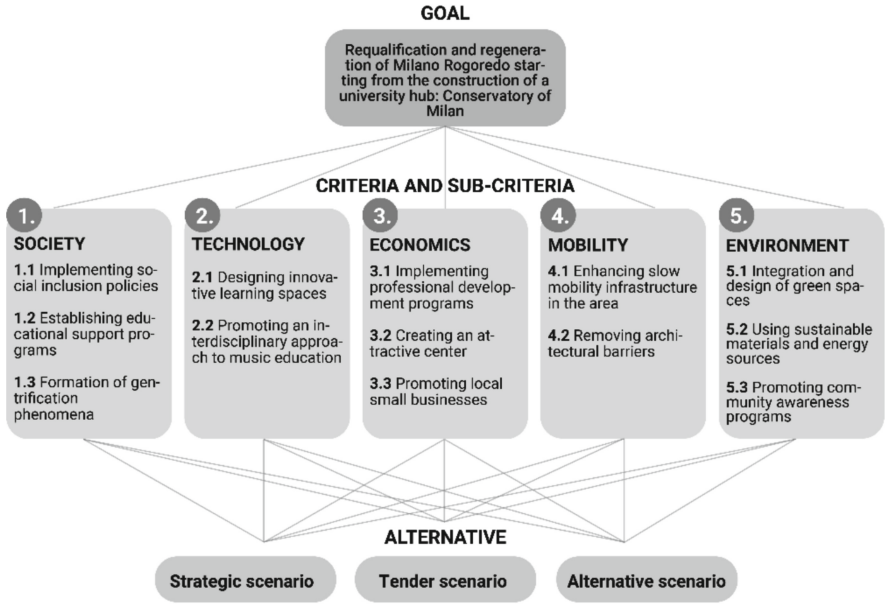

Fig. 6. Analytic Hierarchy Process (AHP) Diagram.

The correlation between the objective and the alternatives is established through the formulation of a set of criteria and sub-criteria, identified starting from the results of the SWOT+STEEP analysis and the consequent OSA. These are fundamental for evaluating the three envisaged scenarios (see Fig. 6).

Once the hierarchical structure was defined, the pairwise comparison phase began using comparison matrices. The process started from the comparison of all the criteria with each other, the sub-criteria of a criterion and the sub-criteria in the alternatives

(see Table 3). The use of comparison matrices made it possible to quantify subjective judgments by assigning a value between 1 and 9, always paying considerable attention to maintaining the level of inconsistency between the matrices below an accepted tolerance of 10%. Each matrix exhibited a distinct inconsistency index. Consequently, by computing the arithmetic mean of these indices, a value of 0,053 was derived.

All the analyses conducted were performed using the software "SuperDecisions".

Table 3. Example of pairwise comparison criteria, sub-criteria, and alternatives.

COMPARISON OF SUB-CRITERIA ACROSS ALTERNATIVES

Green space integration and planning

Strategic scenario	≥9.5	9	8	**7**	6	5	4	3	2	1	2	3	4	5	6	7	8	9	≥9.5	Inertial scenario
Strategic scenario	≥9.5	9	8	7	6	5	4	3	**2**	1	2	3	4	5	6	7	8	9	≥9.5	Tender scenario
Inertial scenario	≥9.5	9	8	7	6	5	4	3	2	1	2	3	4	5	6	**7**	8	9	≥9.5	Tender scenario

Promoting community awareness programs

Strategic scenario	≥9.5	9	**8**	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	≥9.5	Inertial scenario
Strategic scenario	≥9.5	9	8	7	6	5	**4**	3	2	1	2	3	4	5	6	7	8	9	≥9.5	Tender scenario
Inertial scenario	≥9.5	9	8	7	6	5	4	3	2	1	2	**3**	4	5	6	7	8	9	≥9.5	Tender scenario

Through this methodology, it was determined that the strategic scenario, characterized by its comprehensive social inclusion and environmental sustainability initiatives, offered greater overall benefits compared to the other scenarios (see Fig. 7).

4 Discussion and Conclusion

This research presents an integrated methodological approach to the territorial analysis and urban planning of Milan Rogoredo, considering a wide range of interconnected factors, including the environment, economy, society, and culture. This study process is based on the implementation of conventional evaluation tools, such as SWOT analysis and scenario building, with mixed techniques, such as stakeholder analysis (Power Interest and Social Network Analysis) and Multi-Criteria Analysis. It serves as an effective guide for sustainability-oriented decisions, aiming for a regenerative circular economy in the urban context.

Starting from the SWOT+STEEP analysis, a deeper understanding of the territory was achieved, identifying its potential and fragilities. This laid the foundations for further investigations, which are strictly dependent on these initial findings. This process

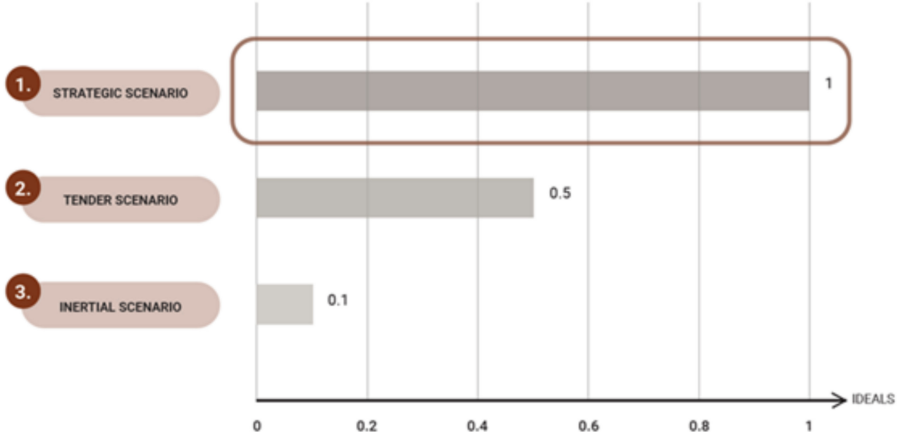

Fig. 7. Conclusion AHP.

highlights the interconnections between the different phases of a sustainability project, demonstrating how the initial SWOT analysis feeds the subsequent systemic evaluation.

The application of this methodology to the case study allowed the evaluation of a wide range of criteria and sub-criteria, weighting them according to their relative importance within three alternative scenarios, formulated during the Scenario Building phase. For the evaluation of the variants, the Analytic Hierarchy Process (AHP) was applied, allowing for pairwise comparison of all the criteria and sub-criteria in relation to the project objective across the three scenarios.

In peripheral urban contexts such as Milan Rogoredo, characterized by significant social and spatial criticalities, dependent on frequent transformation interventions, not always attentive to territorial needs, multi-level strategic planning stands as a key solution to delineate future development scenarios.

The objective of the study focused on identifying the most advantageous option for the redevelopment and revitalization of the neighborhood, aiming to transform it into a new pole of attractiveness and social well-being for the city and its inhabitants.

The design of a complete neighborhood tailored to the community and founded on the principles of sustainability and circularity is therefore evaluated. This would create a thriving and resilient urban environment that guarantees all the necessary services for the citizens.

The application of this methodology highlighted the strategic scenario which, compared to the tender scenario, places a stronger emphasis on promoting social inclusion and environmental sustainability. Through a wide selection of concrete actions declined in the strategic framework; this scenario emerges as the most advantageous solution.

Given the multifaceted nature of urban regeneration, future studies could delve deeper into the interplay between infrastructural development, social inclusion, and economic revitalization at the Milan Rogoredo site by employing alternative analysis methodologies. For example, Multi-Criteria Analysis can be implemented by integrating other analytical approaches, such as sensitivity analysis, to enhance the robustness and reliability of the decision-making process.

Furthermore, it is possible to explore these themes by conducting comparisons with the city of Milan as a whole or with other neighborhoods.

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