

Back to the Future: Tapping into Ancient Knowledge Toward Human-Centered Sustainable Smart Cities



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Abstract Terms such as resilient, smart, and sustainable are often used as synonyms in defining future cities. While pointing out specific features and objectives, the implementation of each one of the concepts cannot exist if not implying the other two. A city cannot be resilient if not based on a wide range of sustainability concepts and principles of smart growth and social engagement. It cannot be smart without considering long-term perspectives and adaptability; it cannot, finally, be sustainable if not observing resilience and smart approaches to design and infrastructures. What is worth highlighting here, is how, on smart cities, academic and technical literature mainly focuses on technology, while omitting the traditional urban requirements of sustainability, resilience, and quality of life. Smart cities are cities first; are social built environments, where advanced technologies provide smart data collection and delivery to offer their inhabitants a better quality of life, and before that, offering livable physical solutions enabling social and facilitating interaction. In a metaphor, public space is the hardware, where technological software can be applied; public space is the platform where data exchange is made possible.

Keywords Cities · Resilience · Sustainability · People · Planet · Prosperity · Ancient knowledge · Holistic design · Complexity management

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1 Introduction: Cities and Their Smart Components

Cities are made of people, places, and built environments, and the unique networking these are creating together is commonly known as *genius loci* or the *gene of the place*. While the traditional Latin means the guardian of the place, in the contemporary theory of architecture, C. Norberg-Schulz defined it as an “existential space” or “live experiential space” (Norberg-Schulz, 1971). In his view, the existential task of any new architecture should be to encourage the city to become the place, i.e., to reveal all its potential meanings and expectations. It is a dual relation of a person with his/her living environment, manifested by orientation in the space and psychological identification (Čepaitienė, 2015). The *genius loci* reaffirm and renew itself as a site-specific practice of people acting and living in a certain place, according to their time; it’s the eternal here and now, or what Le Corbusier defined as an “eternal present.” Citizens, implicitly if not physically, are city-builders, are urban makers, each contributing through knowledge, experience, or social presence. Each territory can be seen as “a palimpsest, where different generations have written in, and corrected, deleted, and added” (Curti et al., 1992), and our planet as an immense archive in progress, showing us intentions, projects, and concrete actions that, by stratifying, have given rise to a cumulative selection. Even spontaneous constructions still had been put in place through (unwritten) regulations, through a *modus operandi* dictated by the cultural, technical, and social customs of those who imagined and invented new futures. Moreover, cities are sedimentation of practices, collective experiences, and a process of social interaction within policies that seek to endow them with coherence and consistency; according to the plans, they show the form of the power structure and its continuous mutations to confer identity upon the different social groups. For centuries, city planning has always been an open process that encompasses different scales and is never reduced to the mere ordering of unbuilt space. The process reconsiders old and new urban materials and continuously upgrades architectural language until new vocabularies, grammar, and syntax are created to express new spatial conceptions. The architecture of the city is an image of a society connected through a public realm, repeating the same parameter of urban porosity over time. It densifies while the urban meshes are pierceable through special impalpable, social, economic, and political transfers (Secchi, 2013). To be resilient, a city must build up a wide range system of sustainable measures and apply principles of smart growth and social engagement; it cannot be smart without considering long-term perspectives and adaptability; it cannot finally be sustainable if resilience and smart approaches to design and infrastructures are not observed.

2 People Planet Prosperity

The Italian G20 highlighted the importance of “People, Planet, and Prosperity” as parts of an integrated system (T20 Italy, 2021). Human-centered sustainable and smart cities might be considered under the same conceptual grid: cities are meant for people, are consistently interacting with the planet, and are major catalysts for prosperity.

People are the first beneficiary of the urban process, and cities are historically conceived as dense connectors of human relationships and logistic facilitators through infrastructures and opportunities. Cities are a network of opportunities, a system of differences starting from shared identity, memories, and resources; they are “ports of land” in an extended international economic model. Urban systems are not just a spatial concentration of uses or material sedimentation of activities but also a network of interdependencies between multiple social actors, which exchange relationships based on competition and cooperation relationships and medium- to long-term agreements. Cities, as part of reticular projects, must also respond to a social demand that is not indifferent to the location but, on the contrary, requires spaces for one’s own social and cultural growth. The act of planning includes exploring the future while constructing “scenarios” by questioning and verifying alternative situations throughout the project (Viganò et al., 2010). In the past, cities were facing a technological deficit, and rationality guided the distribution of the settlements in the territory. Much of the landscapes we admire today result from this set of prohibitions and precautions due to avalanches, floods, unstable soils, generated shades, most fertile lands, available materials, and others. On the other hand, the modern world lives in a technological surplus and is guided by more general and abstract criteria of rationality while abandoning many traditional precautions (Secchi, 2013). The failure of the 1970s and the rational approach to architecture have shown how urban planning has strong, specific responsibilities in managing social and economic opportunities and inequalities. Cities were traditionally the space for social and cultural integration, a safe place protected from the violence of nature and humankind, a producer of new identities, and a privileged seat of every technical, scientific, cultural, and institutional innovation, but becoming today, the place where inequalities stand out, especially in large metropolitan areas, where urban projects often favor strategies of distinction and exclusion.

Only recently has urban design returned to nature-based solutions to provide sustainable management of ecosystems to tackle the different environmental challenges faced by an unresponsive approach to urbanism. Different planning approaches have been undertaken worldwide to explore the potential and limitations of different approaches, promote the participation and adaptive capacity of vulnerable groups, and facilitate overall urban resilience. Most of these solutions can reconnect the population with nature, mitigate air pollution, improve thermal comfort in cities, reduce the effect of urban heat islands, and manage stormwater runoff, among many other benefits to the environment. Nature-based solutions, modern urban ecology, traditional urban systems, and resilience have a commonality: to

learn from observing nature and devising a suitable remedy while creating a win-win situation for humans and other living creatures to live in harmony.

Traditional urbanism was directly related to natural or manufactured environmental infrastructures within a mechanism of circular economies. Prosperity was the output of a complex equilibrium among short-, middle-, and long-term strategies. Prosperous cities were built around the public space as the founding principle, which today is defined as placemaking. The community (software), through tangible and intangible actions, implemented the space (hardware) co-creating stories and visions for the city's future. On a bigger scale, cities and villages are attractors of a whole regional area, destinations and catalysts of further regeneration all around, and connecting groups of people exploring a territory without apparent spatial-temporal linearity (Petrucci, 2021). The multistakeholder narrative enhances community-based participation; currently, engaging the community in PPPP (participatory public private projects) projects could effectively relieve the economic burden and provide constructive support in decision-making for national and local governments. The institutions could subsidize, strategize, and direct an inducted growth and development without risking urban financial struggles and activating self-regenerative and self-funded communities, spaces, and cities. It can be defined as a top-down bottom-up approach (Petrucci et al., 2022).

The “People, Planet, Prosperity” motto of the Italian G20 becomes a circular concept and a matrix and recalls traditional cities as sustainable communities based on collective effort and intelligence around public space. Therefore, smart cities need to generate well-designed dense urbanism, including old and new traditions, making the urban space a social connector where communities interact and exchange data and experience.

3 Tapping into Ancient Practices

If the European urban shape from the nineteenth century became a sort of ultimate achievement for new cities, it is due to its harmonious elegance, mixed-use, and amusing definition of a vibrant public space. Nevertheless, the European landscape was urbanized only after the demographic revolution of the Middle Age and maintained a strong interconnection with the countryside, where life developed in the rhythm of seasonal cycles (Astengo, 1966). When the industrial revolution broke into the metropolis, the ancient rhythm was replaced with the mathematical time of the clock, while small towns remained much longer in the agricultural economy and conservative mentality: a collective life where anonymity is not allowed. The longer the industrial process, the greater the inherent urban qualities of porosity, flexibility, resilience, and sustainability of historic cities were kept due to implicit, slow, collective urban planning of public spaces working in a cascade, or a circuit, and distributing the flows of collective space in increasing or decreasing intensity (Secchi, 2011).

This model survived centuries of socioeconomic, political, and cultural changes, responding to the changes with an efficient and robust structure. Decoding this DNA of best practices could potentially give contemporary times a deeper understanding of designing an effective and resilient spatial network, achieving what we call today “inclusivity” or social and economic resilience. Moreover, the same structure of medieval European villages can be identified in traditional settlements worldwide; the same kind of spatial strategy was applied in Tonkinese, Indian, Native American, Hivuit, Zulu, Arab, and Slavic settlements. The starting point for traditional planning was always the gathering space, the small-scale clustering of a few families, creating a sort of neighborhood unit, bigger or smaller depending on the social structure of the family and the community. All ancient villages were generated as subunits around a space or a focal point. Moreover, indigenous architecture and urbanism show an understanding of shared values while “responding to the preexisting local place,” in direct opposition to imposing order from the outside. (Trancik, 1986) ensures that space responds to the surrounding context, is designed for people to use, and reveals a deep knowledge of social, economic, and environmental livability. Indigenous societies all had embedded very simple and recurring urban principles, arising into a level of universality, and mainly based on the relationship between humans (microcosm) and the environment (macrocosm), along with its laws and institutions, to be incorporated into the urban design and building processes. A holistic planning process was the key to ancient knowledge, where the city-makers (the inhabitants) were guided by spiritual and wide well-educated leaders in finding the best solution for a harmonious and prosperous life. Architects were also spiritual leaders. They were skilled in integrating different disciplines and able to master a wide multifactor complexity; they were priests, astronomers, doctors, and psychologists along with their being architects. A wide range of knowledge allowed the management of a full-spectrum holistic approach, where the interaction between the three essential phenomena of existence, space, and time was also considered. The planning and building process was deeply rooted in the way of life and the moral values of the community and connected with universal forces and laws. In the Roman Empire, the Pontifex Maximus; in the Ancient Chinese Empire, the Mandarins; and in the Arab tribal system, the Sheikhs were spiritual and mundane leaders who could download and share both philosophical and technical wisdom during the city foundation. As previously mentioned, industrial revolution labeling and specialization and the following rational approach to urbanism, based on fast and practical solutions instead of long-lasting solutions, cut off traditional knowledge. Just a few of the traditional practices are still alive, although not mainstreamed: The Indian Vastu Shatra and the Chinese Feng Shui.

The traditional Indian discipline of planning, the Vastu Shastra, is a compendium of literary text on architecture that dwells on topics such as urban design, building typology, materials, measurement systems, orientation, and building components. Its principles include scaling from the micro to the macro and vice versa, aiming at achieving a balance among functionality, bioclimatic design, and religious and cultural beliefs. The ancient Indian ideology-based sciences have been established for 6000 years: “Vastu is the art of living in harmony with the land, such that one

derives the greatest benefits and prosperity from being in perfect equilibrium with Nature” (Acharya, 1981). Its metaphysical and philosophical nature is a highly sophisticated method of creating a living space that is a miniature replica of the cosmos and has been rooted since ancient times, having significant importance in the Indian way of living. Indian people relied on Vastu Shastra for centuries to design cities and settlements and build homes, temples, and palaces. Historically, it has greatly contributed to the environmental design and town planning of many cities that still flourish. Several texts are found all over India in the mid-twelve century, recalling today’s urban guidelines, manuals, and codes and incorporating cultural, regional, and geographical contexts (Das & Rampuria, 2015). The content of the texts is comprehensive while intersecting with allied disciplines such as astrology, Ayurveda (medicine), and numerology and becoming part of an integral worldview. The texts were written by, and for, a variety of professionals (priests, architects, masons, patrons, and connoisseurs), and the specialism of the author or the audience is also reflected in their content.

Similarly, the ancient Feng Shui design code, also known as Chinese geomancy, was practiced by the noble cast of Mandarins, priests before architects, having the knowledge to read, interpret, and implement the astronomical, astrological, architectural, cosmological, geographical, and topographical dimensions to generate the most prosperous site-specific residences and cities. It was originally used as a practice to protect the ancestors’ tombs, as the root and source of the power of reigning families, and later implemented in other structures. The literal meaning of Feng Shui is the wind’s ability to flow within and around buildings and settlements; the wind is showing the path of Qi, the “cosmic current” or energy-improving wealth, happiness, and long life, essentially based on the main principles of void and polarity, built among the elements of force. The Void (as an urban space, as well as an inner courtyard) was always the focal point in collecting and directing the divine energy. The polarity was the expression of yin and yang theory: one part creating an exertion and one receiving the exertion and the balance between the two. The five elements or forces (wu xing) of metal, earth, fire, water, and wood are considered the forces essential to human life. As per Vastu, urbanism applies the same principles of traditional medicine, looking at the city as a physical body and aligning a city, site, building, or object with yin-yang force fields.

From a socioeconomic perspective, Feng Shui encourages an autarkic mode of production, prudent consumption, and a strong self-resumable function concerning the local ecological system so that a balance is achieved between the production, goods consumption, and exploitation of nature. Energy consumption through balance to address a balance between exploitation and consumption of renewable and nonrenewable energy is improved. Solar, wind, and geothermal energy both as warming and cooling strategies, use of local materials and waste, landscape, local climate, and biodiversity management of water resources (Al-Sadkhan, 2018). Its fractal conception of the universe allows, similar to Vastu, an application on different scales, from the micro up to the macro scale of cities and territories. Feng Shui applies to urban city planning, landscape architecture, and building design based on the idea that nature and humans should be in harmony.

The concept of void, the center for both concentrating and dissipating urban tension, is common to all cultures and later re-established in medieval villages as a civic center. Traditional Arab towns were also designed and built around the space, while mixed uses and further residential settlements were generated by volumetric addition around the space beside the mosque, the collective space for the whole community. Therefore, a mosque served the purpose of offering prayers and informing different contexts used by the community: formative, recreational, security, ritual, and directional, all complementary and related to each other. As a flexible and multifaceted complex of facilities, mosques serve as multifunctional and adaptive public spaces in cities. Connected by a complex system of irregular streets stemming from the main mosque, the settlement is organized into clusters. Urban space moved from public to private through unwritten but well-defined thresholds into clustered areas. Streets were not traced in grids or axes, as traditionally happened in Europe and later in the United States, but instead generated from juxtaposed buildings and their growing extension of units when the family gets bigger (Petrucci, 2022). Same as it used to be in all ancient civilizations until the Middle Ages, narrow and irregular tissue created a natural shadow and cross ventilation of the public space. Passive environmental solutions and the best use for local materials were taught from generation to generation based on ancient knowledge. Moreover, Arab cities surely can be considered one of the most resilient and sustainable constructs within extremely difficult environmental conditions; their system must be trusted as an incredible potential of traditional environmental construction strategies and implemented through the most modern technologies. The circular economy, integrated natural environment, multilayered indoor-outdoor exchange, cross ventilation, water management systems, use of natural materials, and building features, such as double skins, wind towers, solar chimneys, environmental courtyards, thermal mass, and earth pipes, are all sustainable solutions first developed in traditional Arab cities.

In the modern age, ancient disciplines were never incorporated into the curriculum of architecture schools and the entire infrastructure—the planning authorities, design and building processes, and the provision of materials—caters to an industry that is entirely separate from traditional practice. Nevertheless, the traditionally related micro and macro spaces do not fit dimensionally anymore; how can the sense of narrow urban streets within a six-lane urban highway be replayed? Urban planning regulations are not laid down with traditional design typologies. Designing a house on a standard rectangular plot within a modern city development does not allow the incorporation of a traditional central courtyard. Moreover, restrictive zoning and land use do not allow open spaces to adjust for multiple mixed uses as was happening in the past (Sachdev, 2011).

The question might be here: How did we go off track? Have we been lost on translation? And how did it happen?

We saw how the starting point for traditional planning is always the small-scale clustering of a few families, creating a sort of “neighborhood unit,” a model shared by medieval European villages so as in traditional settlements worldwide: from

south to north, from east to west. Depending on the geographical location, these are called *comunanze*, *zadruga*, or *kraal* and always express the same principle of a shared community of life, work, and goods. The community is organized around a void; the void makes the family first and—on a bigger scale—the community. By the end of the nineteenth century, the first industrial revolution provoked the collapse of traditional urban infrastructures, making the central areas very hard to live in; the first Garden Cities were established, the urban expansion across the peripheries, and the “sprawl” happened. Cities moved increasingly toward gathered communities from a multifunctional and well-integrated urban mix of subsidiary communities reunited by the well-formed urban space, generating different kinds of urban ghettos: luxury-like compounds or pockets of economic and social poverty-like slums. Supported by the rational culture of modernism, the ideas of the city as an organism were replaced by classical critical tools such as proportion, number, regularity, and order, and cities became rigid and shapeless, and a crisis of mobility or denial of generalized accessibility to every place for every individual or social group, generating evident “spatial” injustices (Soja, 2010). That is how the interconnections among people, the planet, and prosperity were lost. The phenomenon has reached its apical point in recent decades, and the increase in individual autonomy pushes forward to single houses and gathered communities, increasing the gap among social groups in terms of accessibility to culture, education, and capital. This is how communities moved from universal values to globalism.

Many large cities and metropolises in recent years have returned to the urban project trying to contribute to their reduction by putting a new focus on environmental and mobility issues as appropriate and relevant ways to search for social justice and environmental problems, all topics requiring practical answers. In the process of returning to the traditional urban form, cities have rediscovered the importance of isotropy, porosity, permeability, connectivity, and accessibility and the physical and social barriers that had been created for the full use of the city itself. If we want, the 15 minutes’ city, the slow city is an answer to the radical change in the physiognomy of demand (Secchi, 1999).

4 Looking Up to the Future, the Need for Upscaling

Contemporary cities are growing fast and are extremely dense and demanding in terms of services and requirements, larger-scale buildings, and infrastructures. Urban growth is forced into a faster track and is no longer following a natural path, generating greed of upscaling, instead of following the natural times or fitting the well-being of their inhabitants. Cities did not have the time to build up through time and to grow organically; instead, intensive real estate took over in most cases the planning while neglecting shared social goals. A layered use of the space requires a more complex and sophisticated design approach and language, a more fluid form-based system of urban coding and planning, not considering these as static

normative pictures, but as an ongoing process to be detailed and declined within time and space. It requires a design system that places more constraints on the designers to make the solution an exercise in striking a balance among the various demands of context and use. Such a system would need a multidisciplinary approach to design a community rather than just the material enclosures for living, requiring a much bigger complexity and capacity for envisioning scenarios due to their upscaling and enhanced technological and comfort, and spatial requirements. Observing ancient architectural codes, and their ability to move from micro to macro, from object design into cosmology, and bringing any aspect of the city to a higher sense of unity, might be the answer. Looking at the spatial organizational principles, the traditional urban cultures ensured that the design of physical spaces responded to the people's cultural values and way of life, and these are still up-to-date and now part of the global manifesto of sustainable planning expressed by SDGs, the New Urban Agenda 2030, so as in all the quality assessment of urban space and green architecture, and could be outlined by the following principles:

- (a) Coexistence of systems and relative wholeness: the components of the physical environment can be treated as complete entities in their context, individual cores, and part of a continuum wherein each center is defined by several other subcenters. A system of spatial networks that reminds the sacred geometry of Mandalas and establishes an active urban landscape.
- (b) Individuality within a group, or unity within diversity: the system of concentric wholes, centers, and subcenters, implying independent identities and diverse positioning in terms of specialization and mixed use. Strategic positioning of districts within the city and cities nation- and worldwide as traveling, residential, and business destinations.
- (c) Coexistence of extremes and celebration of junctures: multipolar systems reach opposition and juxtaposed spaces and functions; it requires intercommunicating units to generate over time a continuum balance of all the energies enhancing mutual existence.
- (d) Timelessness of space: The multilayering of time is usually naturally reflected in space adaptability, making cities resilient and able to adapt to upcoming changes, which might be translated as a multiscale analysis of a city constantly changing and adapting toward circular economy-based systems.
- (e) Holistic vision, interconnection, and constant evolution: things eternally change, and there is a fundamental correlation between all events; cities are fluid beings, and there is no distinction between macro and micro levels.
- (f) Multiqualitative approach to urbanism as physical space, sensory experience, and activity. The life of streets and urban areas is longer than the life of individual buildings, and so is how individuals perceive and remember city elements in city space through paths, nodes, edges, districts, and landmarks.
- (g) Appropriate exploitation of natural resources, sensitive use of energy, recycling and reuse of materials, and consistent protection of the natural environment.

From the sociocultural perspective, promoting a positive individual contribution in terms of personal responsibility, respect, care, and sharing while involving family and the local community.

5 Conclusions: Building Through Collective Intelligence, the Indigenous Path

What is civilization? Civilization is a collective effort of culture, knowledge, intelligence, and sensitivity acting together for the common good. It brings a fundamental morality into urban planning: when it betrays or neglects its social purpose in some way, it is doomed to failure. Contemporary cities are demonstrating how, when just interests or aestheticizing, technologies, or economies prevail on the fundamental respect for the social structure, the result cannot be other than a setback. The same happens when the planning is just a theoretical supra-structure and does not engage in solving the complex essence of the site on a physical, social, and economic level. Therefore, how can urban planning be brought back to the locally established civilization path to make cities more resilient, sustainable, and smart?

Several of the traditional principles are applied today under different labeling. The involvement of local know-how, for example, is defined today as participatory- or codesign or placemaking. It is how the community can benefit from the projects even before it starts while manifesting their collective intelligence into adaptable and inclusive visions, site-specific, dynamic, and transdisciplinary solutions, and activating collaborative scenarios focusing on creating destinations and the best path connecting those destinations. Following the ITC metaphor, the interface “public space” needs hardware to get manifested, which is the physical design of the space; this engages, guides, and allows citizens to make an experience of the public realm (Ellery et al., 2021) Short-term, community-based projects became a powerful and adaptable new tool for urban activists, planners, and policy-makers seeking to drive lasting improvements in their cities and beyond. These quick, often low-cost, and creative projects are the essence of tactical urbanism (Lydon & Garcia, 2015) and offer bottom-up support to traditional top-down decision-making. The key here is a simultaneous multidisciplinary layering and comprehensive vision of the public space and the whole urban structure by integrating urban design, landscape design, transport and sustainability strategies, and architecture to analyze and engage the layers of place, where different scales of interventions are analyzed and compared by constant up- and downscaling. This process would simulate and compress in time the collective work in building cities in the past, engaging people as city makers.

Here are some of the detected strategic tools to achieve this ambitious and necessary goal toward sustainable and smart future cities:

- (a) Fractal principles and macromicro zooming. Applying a methodology independently from the scale, up- and downscaling during the process of moving up and down from micro to macro and vice versa, to assess the coherence and implementation of the integral system.
- (b) Multipolarity matrix system for managing extremes. A matrix as the footprint of the place, multilayered through the recovery-restructuring of voids and/or abandoned areas, with more fluid reconsiderations on mobility and urban accessibility, and inducing urban redestination as a tool to increase the speed of urban transformation.
- (c) Nature-based solutions. Rediscover a high and wide sense of Nature. Research reference to multiple disciplines and cosmology toward an extended environmental analysis. By incrementing passive and design-based environmental solutions to reduce the carbon footprint and enhance the well-being of citizens.
- (d) Holistic approach for fluid master planning integrating strategies of place-making and flexibility of the planning to move from top-down to bottom-up solutions, such as short-, middle-, and long-term goals in terms of social and economic responses. Using the master plan as a facilitator for the generative process will result in an urban design plan.
- (e) Comprehensive multidisciplinary design to be implemented technically, socially, and economically, and emphasizing walkability, connectivity, mixed-use and diversity, mixed housing, quality architecture and urban design, traditional neighborhood structure, increased density, green transportation, sustainability, and quality of life.
- (f) Human-centered design includes a process toward cultural identity aiming to increase the sense of belonging and *genius loci*. Several cultural and design movements have been calling for action, such as New Urbanism, the Community Voice Method, and generative and form-based codes.
- (g) Learning by doing the process is a good practice in cultural and professional training: knowledge was shared among generations with a sense of proportions and sustainable building construction and economy. It is crucial to activating a culture of continuous learning based on the experience of the past and the trans-generational transmission of values and wisdom.

Finally, the leading management toward sustainable and smart cities requires holistic and comprehensive knowledge; the same kind of wide experience in practice and philosophical thinking, the same deep knowledge of communities and their *genius loci*; the awareness of ancient builders, and the skills to reinforce those within an integrated sustainability plan, social, economic, and environmental. While in the past, solutions were embedded into construction, currently solutions are found through highly specialized fields, not cross-fertilizing each other into a complex holistic urban system. Building and managing a sustainable and smart city requires the individual and political will to be beneficial to the whole community as a healthy and wealthy organism, facilitating its growth and constant innovation. Pieces of information are all around and embedded in our ancient cities and the laws

of nature within and around us. Informed design, decision-making, and implementation can now span a much wider multicriteria evaluation thanks to traditional and digital technologies, data collection and management, and the interexchange of information within a worldwide network. Going back and forth from past to future means having at the core integrity and unity of man and the environment in terms of organic interaction, resources, generation, and quality of space. Working on ecocyclicity, as the coordination of the rhythms of the environment and humans, and phenomenology taking into account the specific situation of place-time, social conditions, characteristics of individuals, and shared culture.

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