The Interconnectedness of Pueblo Arts and Architecture and Its Significance in the Sustainable Regeneration of the Northern New Mexico's Cultural Landscape

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Abstract

Pueblo architecture in Northern New Mexico has been characterized by an interesting continuity in building practices during the last millennium, which embraces distinct periods of architectural development—all dependent on the use of native materials—until the most recent centuries, when various new building materials were introduced and systematically adopted. As a result, the transient and plastic nature of the traditional 'adobe' was replaced by the durable and unmalleable properties of substitute imitative materials. Along with new resources and groups of people moving to the area, new architectural forms and everyday practices were assimilated, initiating a debate concerning the historical compatibility of such choices, and the Pueblo communities' ability to protect and lead the historical continuity of the region's authentic architecture, customs, and traditions. In the Pueblo culture, stories, myths, and all ceremonial and liturgical expressions evoke a world in which a dwelling and its elements are part of a cosmological realm characterized by interconnectedness and multiplicity—both in time and space—linking a multitude of experiences and realities. Objects, in all their artistic expressions, are integral parts of this mythical materialization, and are able to regenerate and re-propose weakened connections, becoming central means in the collective quest for cultural continuity. From the above perspective, this paper aims to explore the profound interconnectedness of Pueblo arts and architecture in the Rio Grande Valley of New Mexico, recognizing both the cosmological and empirical aspects of these merging, multiple worlds, in which the materiality of the cultural form is unceasingly projected toward the cultural human environment. In doing so, arts and architecture are symphonically able to restore and reinvigorate languishing meanings and linkages to the past, fostering a new sense of community and place grounded in the essence of the Pueblo traditions, but focused on the future of the observing communities, re-making and re-establishing their identities in an increasingly complex world, which has experienced both continuity and discontinuity of practice. This kind of approach represents an opportunity to increase awareness through the creative enhancement of cultural heritage. The ultimate purpose of this paper is to provide a valuable contribution to the regeneration of the landscape in Northern New Mexico with the following outcomes: (1) Opening a debate about the critical elements and issues that surround the relations between the traditional architectural and artistic expressions of Northern New Mexico and the extant physical environment; (2) Defining the objectives upon which depends the regeneration of the physical environment through an integrated approach that encompasses the active involvement of the Pueblo communities in the enhancement of their cultural heritage, through capability building and co-creation; (3) Identifying those strategies and tools that allow Pueblo communities, planners, and decision-makers in specific geographical areas of New Mexico to include all the above objectives in actual planning, promoting sustainable local development.

Keywords

Cultural landscape • Sustainable regeneration • Identity • Pueblo architecture • Pueblo communities

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1 Introduction

In Pueblo societies and culture, stories, myths, and ritual manifestations refer to a cosmological realm in which a house and all its elements are characterized by interconnectedness, cyclical temporality, and multiplicity, embracing a kaleidoscope of experiences and realities (Swentzell, 1990). Objects, which artistically evoke and symbolize relationships and memories, are integral parts of this mythical quintessence, and partake in the regeneration of weakened connections between the physical and spiritual worlds, becoming central means in the collective pursuit of cultural continuity.

Currently, there are nineteen pueblos, or tribal settlements, in New Mexico (Sando, 1998). Historically, each pueblo had its distinctive pottery style, associated with the use of selected clay extracted from local sites, decorative dyes derived from autochthonous plants, valuable and rare minerals, such as Turquoise, and other raw materials (tail hair of horses, wood, and manure, among others). The distinctive material cultural expressions are also denoted by specific patterns of transmission over time and space, which are the result of the heterogeneous social organizations, distribution, and practice characterizing the Pueblo societies along with their ethnological similarities (Whiteley, 2018). To the same degree, architectural and artistic manifestations are denoted by both continuity and discontinuity between the Ancestral Pueblos' formations and the Pueblo's both late prehistoric and historic typologies, with noteworthy similarities and variations (Morgan, 1994; Rapoport, 2005).

The purpose of this contribution is to propose a new synthesis on the regeneration of the cultural landscape in Northern New Mexico by reconnecting the thread of the discourse concerning the ancestral relationship between material expressions and physical environment through the elaboration of the concept of landscape in a relational connotation, which fosters diverse and dynamic ways of valuing landscape linked to the approaches people have when connecting to the natural and built environment.

The 'cultural landscape' of reference of this scholarly study is comprised of the vast regions that extend from the Panhandle Plains in Texas to Northern New Mexico, and encompasses Arizona and a small portion of Nevada and Western Colorado, areas characterized by landscapes of high deserts and scattered forests, all bowing into the great Colorado Plateau. From the Grand Canyon to Chaco Canyon, and from the Rio Grande Valley to the Mesa Verde, there are nine national parks, sixteen national monuments, and a multitude of protected areas of historic and cultural significance, such as the pueblos of the Anasazi culture (a Navajo name usually translated as 'the ancient ones'), which first settled in the Four Corners Region, known as the San Juan Basin.

The Ancestral Pueblo People transitioned to an agricultural lifestyle about two thousand years ago and until approximately seven hundred years ago, reaching a peak in the eleventh century A.D., building countless masonry structures, efficient systems of communication engineered for the exchange of goods—mainly handmade pottery—and developing sophisticated ceremonial and ritual practices, in a constant state of the cultural movement that mirrored the changes of the landscape (Childs, 2007; Stuart, 2014). While the remains of the Anasazi hamlets, farmsteads, and district towns are found in this region, today, Pueblo people live more practically in compact villages, built of both stone and *adobe*, and consisting in multistory room blocks facing a plaza or a street, like in the old town of Albuquerque in New Mexico.

Glossary

acequia	a Spanish word, borrowed from Arabic, meaning 'irrigation ditch'
adobe	a building material of sun-dried mud, made from a mixture of water, earth or clay, and sand
katsina	a spirit being in the religious beliefs of the Pueblo people
kiwa	a Hopi word, meaning 'ceremonial room'
olla	a Spanish word indicating a large bulging wide-mouthed earthenware vessel
pueblo	a Spanish word, meaning 'village'
sipapu	a Hopi word, meaning 'small hole' (or indentation) in the floor of a kiwa or pithouse
viga	a horizontal wood beam supporting a roof or floor structure

2 Literature Review

The main contributions to the drafting of this article come from scholarly publications and the integration of a variety of resources from readings, lectures, and international conferences. It is substantiated by the direct observation of the material expressions of Pueblo arts and architecture that occurred during the investigation of historically significant sites and associated museum collections in New Mexico, as well as from conversations with representatives (cultural descendants, witnesses, and recorders) of local communities with the purpose of gathering 'eyewitness' or cultural viewpoints.

The current study on the interconnectedness of Pueblo arts and architecture and its significance under the perspective of the sustainable regeneration of the cultural landscape draws upon the work of the following distinguished scholars and writers: Morgan (1994) on the investigation of the architecture in the southwestern United States and northwestern Mexico from the early migrations to the present day; Sando (1992, 1998) on the culture and history of the nineteen pueblos of New Mexico and their ability to retain their identity through resilience and creativity; Stuart (2014) on the rise and fall of the southwestern Chacoan civilization and its replacement by the Pueblo society, and their fundamental parallelisms with reference to time and space; Swentzell (1990) on the relation between Pueblo cosmology and the built environment; and Whiteley (2018) on the socio-cultural aspects of the Pueblo society over time, including architectural practice and environmental adaptation.

The author refers to 'cultural landscapes' as in the well-accepted definition set out by the World Heritage Committee, designating them as cultural properties representing the 'combined work of nature and man' (Fowler, 2003; UNESCO, 2019), the character and appearance of which are the result of the interaction between cultural and natural values over time in a topographically defined territory. The associations and interpretations that arise from the interaction and perception of cultural landscapes evoke the culture which created them, endowing landscapes with meanings and cultural perspectives, thus contributing to the community's identity and continuity through memory and imagery, in a dialogical relationship between tangible and intangible elements (Bagnara Milan, 2016). It is, therefore, possible to learn from cultural landscapes about people, the values that influence their relationship with the land and associated natural resources, their lifestyle and behaviors, and how all these factors 'shape culture and identity, and enrich cultural diversity' (Rössler, 2006).

The concept of 'relational landscape' is borrowed from the world of the sustainability sciences to connote the place-based interactions between humans and the environment, and the associated dynamics qualifying the understanding of the physical environment and the relational values people associate with it in a diverse and fluid approach (Stenseke, 2018).

By 'place,' the author denotes a continuum of locations associated with the lands in which the communities of reference settled and from which they moved responding to environmental and social hindrances. This aspect is important in order to contemplate the authentic sense of home of the indigenous people as a 'space between the earth and the sky,' not solely defined by settlements or structures (Morgan, 1994, vii).

Over the decades, the definition of 'sustainable development' has evolved to include culture. This contribution refers to the concept of 'cultural sustainable development,' which implies a development shaped by the shared ideas, beliefs, and values, as well as the intellectual, moral, and aesthetic standards of a community of reference. Accordingly, a sustainable regeneration of the landscape encompasses all the so-called 'pillars' of sustainable development (environmental, social, economic, and cultural), thus contributing to environmental protection, social and cultural capital, and economic growth (U.N. 2012).

3 Methodology

Within the illustrated conceptual framework, this research paper explores the interconnectedness of Pueblo arts and architecture in the Rio Grande Valley of New Mexico and its reverberation in the cultural human environment of reference. As it is possible to examine how Pueblo communities created meanings through the interaction with their places—which assume the connotation of cultural landscapes—by focusing on the historical, social, cosmological, and ecological links between culture and the natural environment; the author investigates how the materiality of the authentic cultural form is projected toward the overall human environment in a regenerative way through the re-establishment and merging of meanings and linkages to the Pueblo phenomenon and traditions; and how this rehabilitated alliance is capable to foster a new and invigorated sense of community and place.

The reconnection of the ancestral relationship between material expressions and the physical environment through the use and elaboration of the concept of 'cultural landscape,' which has a multidisciplinary nature, in a relation way allows the author to embrace an integrated perspective that involves the participation of the Pueblo communities, as well as strategies for inclusive planning and cultural resources management.

In order to achieve the desired outcome, the paper aims at offering a scholarly contribution with regard to the following aspects:

Presentation and investigation of the critical elements and issues that characterize the relations between the cultural material expressions (artistic and architectural) of the Pueblo communities of Northern New Mexico and the natural and built environment of reference;
Definition of the objectives upon which depends the regeneration of the cultural landscape through an integrated approach that includes the active participation of the Pueblo communities by means of collaborative innovation (co-creation) and the development of skills, processes, and systems they may use as a key engagement tool (capability building) to drive meaningful local advancement;

Identification of the strategies for the implementation of the established objectives in actual plans and programs aiming at promoting sustainable local development.

4 Discussion

Despite noteworthy changes that occurred between the Early Settlements period (A.D. 900) and the Historic Pueblos period (1540–till date), there are tangible continuities between the ancestral and present-day Pueblo communities under a variety of aspects, including material and ritual practice, architectural expressions, and socio-cultural forms and organizations. The ethnological homologies and substantive heterogeneity that characterize the Pueblo societies are superbly illustrated by Peter Whiteley (2018), who draws upon the insights of diverse disciplines (archeology, ethnology, linguistic anthropology, etc.) to examine in depth the historical and socio-cultural aspects of these societies, as well as their patterns of transmission and preservation over time based on kinship, associations, environmental adaptation, economic arrangements, cultural material forms and ritual, and political settings.

From the aforementioned perspective, this study seeks to emphasize the aspects of material continuity in Pueblo communities and the shared and recognized values around which it is viable to coordinate a strategy for the regeneration of the physical environment through the concept of the cultural landscape. The impasse between the novel manifestation of landscape and the traditional one can be overcome without contrast by being imaginative within the given time and space.

4.1 Critical Elements of Pueblo Arts and Architecture

The so-called 'traditional' architectural and artistic expressions of the Pueblo communities, which have been historically considered convenient solutions to tangible needs and are characterized by the repetition of forms and motifs, were strictly associated with two types of constraints: the physical encumbrances, linked to the primary materials available in situ and the local climate; and the socio-cultural setting, connected to the religious, social, and individual superstructures, which were systematically and methodically handed down to the new generations, along with methods of construction and artistic production, more or less adequate to specific technical problems and environmental needs.

Early settlers lived in pithouses, or semisubterranean homes, with walls plastered over mud and a wood-framed roof; these dwellings were strategically dug into the earth and entered by a ladder through a hole at the top of the pit. As the Pueblo communities prospered and grew, they endeavored the construction of larger stone structures—as in the case of the renowned fortified 'great houses' at Chaco Canyon and the entire San Juan Basin—and the associated recessed circular or rectangular chambers, called *kivas* and meant for the ceremonial practices of the members of a community, became character-defining features within the pueblos. During funerary ceremonies and before the preparation of the burial to be located in the ground outside the dwelling, people prepared the deceased by folding the legs up against the chest and wrapping them to the body with a cotton cloth or yucca matting, along with personal tools and jewelry. It was believed that the spirit of the departed and its belongings would then journey back through the *sipapu*, the little hole in the floor of the *kiwa*, a symbolic passageway into the after-world.

The described practices eventually gave form to a recognizable and unique cultural landscape in Northern New Mexico, characterized by the dissemination of constructions with thick *adobe* walls and projecting *vigas*, as well as the use of ponderosa pine, seed-laden *ollas*, and the presence of decorated pottery made for trading purposes and disseminated around the typical dwellings bound together with the landscape, as well as irrigation ditches (*acequias*), catch dams, and water catchments to overcome the conditions of the occupied semiarid lands and facilitated agricultural practices (Cox, 2005, pp. 1–9).

Rina Swetzell of Santa Clara Pueblo—architect, potter, historian, author, and lecturer on Pueblo culture, among other accomplishments—points out in her writings that the primary focus of her ancestors was the intimate relationship between humans and the natural environment, as 'they moved through the land with a sensibility that allowed nuances of the wind, sun, and ground to affect their decision making'—hence, their material expressions (Morgan, 1994, Foreword). This aspect of the Anasazi culture is still apparent in the ruins characterizing the time-honored landscape of Northern New Mexico, where the scattered houses and villages were places through which people transited, emulating the cycles of life and death. Therefore, the structures they built in a variety of configurations and the materials they employed—primarily, mud, wood, and stone—were not meant to last forever, but were of transient nature. Notwithstanding, they incorporated a sense of wholeness of both construction and artistic production, in which we recognize that a house, a structure, and an object are part of a cosmological realm characterized by interconnectedness and multiplicity, both in time and space. Under these conceptual terms, the materiality of the architectural forms is distinguished by both continuity and discontinuity, and is projected toward the cultural human environment in a generative way. Insights from relational thinking from landscape

research can improve the understanding of place-based interactions between people and the physical environment, and the associated challenges and opportunities in landscape stewardship, management, planning. and participatory local action.

The first periods of the Anasazi architectural development were mostly dependent on soil and native materials for building practice, leading to a 'historical paradox' (Bunting & Conron, 1966, p. 15), which consists in the contradictory relation between the cultural continuity of the Northern Mexico's Pueblo communities with their material expressions, and the transient character and nature of the traditional construction materials historically employed. Comparably to the descriptions of the Pueblo farmsteads moving to and expanding in areas that would ensure sufficient precipitations for the seasonal activities of planting, watering, collecting, and harvesting, the production of pottery itself has been portrayed as an unceasing prayer for rain; hence, the identification of the ancestral dwellings through archetypal images such as 'house of rain' (Childs, 2007, Cover) to emphasize the interdependency between environmental constraints and human activities. Indeed, many painted designs and motifs on both every day and ceremonial vessels demostrating the importance of water and rainfall, as well as the vital role of animals, such as birds with their fluctuating feathers, and supernatural beings (*katsinas*) as intermediaries between the seasons, the communities, and the ancestral gods, with little distinction between sacred and secular spheres, which are profoundly interwoven (Stuart, 2014, pp. 93–98).

The cyclical course of events, daily or recurring activites and ritual practices, is represented in the very balanced painted designs and repetition of motifs and geometric patterns that characterize the Pueblo Indian pottery of the current nineteen pueblos scattered along the San Juan Basin. At each of these pueblos, the potters have developed identifiable and distinctive local styles based on the type of clay utilized, the characteristic shape of the vessels, and unique decorative designs: many painted motifs refer to water, clouds, and rain, as well as representational figures of birds and feathers that played an important role in delivering the community's prayers during ceremonial life, along with images of tadpoles, frogs, dragonflies, turtles, and snakes, among others.

Water symbols and motifs were also weaved into textiles and embroidered on kilts, demonstrating the vital role of water in the semiarid climate of the region.

The most important of all 'powers' was the Sun, and closely allied was Mother earth. Additionally, there were gods who controlled the seasonal rainfall, the growth of plants, the flow of rivers and springs, and many other natural phenomena. If there were challenges coming from natural forces, the Ancestral Pueblo People believed that the gods were not pleased; as a result, drought or famine would follow.

The variety of pottery forms, colors and design created in the San Juan Basin is remarkable: from the yellow or yellow/orange Hopi vessels of the Black Mesa, to the light gray or white Acoma and Laguna bowls with repetitive geometric patterns, abstract curvilinear shapes (Fig. 1a), or realistic representations of birds and animals, to the distinctive shiny black-on-black pottery from San Ildefonso, Santa Clara, or Okhay Owingeh (San Juan) pueblos, and the iconic Tesuche figures known as 'Rain Gods;' and again, from the large Zia jars and bowls using reddish clay and representing clouds and roadrunners with flowers and plants to symbolize petitions for rain, growth, and renewal, to the thick pottery with the typical steep rim produced at Zuni using white or gray colored clay and painted with mostly black designs, to the figurative Cochiti pottery with isolated, linear motifs, and the traditional Kewa jars and bowls with repeating geometric or curvilinear themes, to conclude with the assimilation of the common puebloans designs and techniques by Navajo pottery makers, who often mixed several clays together (Fig. 1b); at each of the aforementioned pueblos, the potters developed representative local styles as their own statements of identity and creative cultural continuity.

However, the initially acknowledged 'paradox' is apparent. Forms, elements, and materials are characterized by a common trait, that, is their short-lived and malleable nature, along with their adaptability to different uses and functions —in a unity of forms alongside a myriad of expressions— thereby evoking the cyclical temporality and atavistic movement that characterize the spirit of the Pueblo societies, as well as their religious needs and ritual practice. Nothing is built or created to last forever, but in every single part and fragment of earthenware that is destined for deterioration and crumbling, the memory of the community rests and resonates in time and space (Morgan, 1994).

4.2 The Regeneration of the Physical Environment and the Cultural Landscape

The introduction over time of new imitative substitute materials and construction techniques that allowed the overcoming of the limits set by the human scale, concomitantly with the arrival of non-indigenous peoples and the establishment of new organizational settings, caused the ceasing of the uniqueness of the authentic Pueblo material expressions and their relegation to a visual realm (Antoniades, 1971), which essentially evokes the primal architectural and artistic language without necessarily encompassing it in a contextual way.

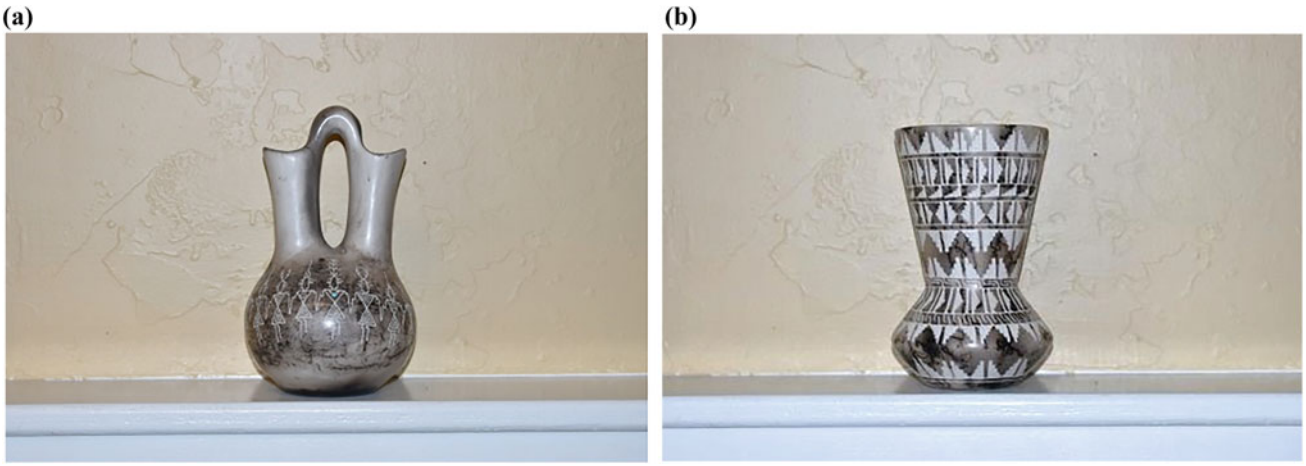

Fig. 1 **a** Acoma etched horsehair wedding vase; **b** Navajo etched horsehair white clay vase. *Source* Photographs by the author

The mere pictorial resemblance of materials and elements, that is, the romantic representation of the object, does not embody the basic and fundamental needs of the Pueblo communities, their organizational forms, liturgical sodalities, and interactions with their natural environment while losing its ancestral symbolism and meaning. As a result, it ceases its reason-to-be and becomes impersonification, entailing new socio-cultural and aesthetic comparisons.

In losing its uniqueness and methodological foundation, the object or structure becomes a newborn entity, initially aphasic, which evolves along the way into something else from its original purpose, and acquires new rules of scale, proportions, and rhythm while losing its authenticity. Furthermore, the so-called 'mystique' of New Mexico, portrayed so vividly by Edna Heatherington (1988) and Rina Swentzel (1990), that is meant to surround the cultural material expression—architectural or artistic entity—does no longer coexist to enhance the value and significance of the object as an epitome of a distinctive environmental, socio-cultural, and spiritual realm.

As a consequence, the cultural landscape that arises and continues to evolve from such a scenario is no longer moved and molded by the spiritual and ancestral currents; hence, it does no longer exert a profound and meaningful influence on other aspects of the experience of the Pueblo community of reference. It has lost its capacity to be a compass able to contain and guide the ancestral knowledge, the memories, and feelings associated with places and regions in a holistic way (Antrop & Van Eetvelde, 2017).

4.3 Strategies and Tools

Having recognized that there is a vibrant and dialogical relationship between the cultural material expressions of the Pueblo communities and the historical physical environment of reference, it is clear that the regeneration of Northern Mexico's cultural landscape is a process linked to the re-establishment of this interconnectedness at all levels of stewardship, management, and planning concerning the landscape. This goal requires a systematic and comprehensive approach to the territory that focuses on the cultural sustainability of the local development, which implies the recognition by all stakeholders that the quality of the landscape has a significant bearing on the achievement of human well-being and on the success of social and economic initiatives (Greffe, 2009).

Effective guiding principles to be considered and implemented in order to achieve the regeneration of the cultural landscape require the balancing of historic preservation strategies, community interests, and sustainable development through the enablement of the landscape as a driver for sustainable development, the achievement of integration between the cultural landscape and relatable planning tools, and the connection between applicable management systems and the Pueblo communities' cultural perspectives.

It is the author's belief that the abovementioned established guiding principles and objectives are adequate to support communities, administrators, and practitioners in fostering and enabling the following landscape regeneration strategies:

Dissemination of values in the territory through the encouragement of the Pueblo communities' competence and commitment to establish synergies with the economic and social players and institutional representatives and, in doing so, become conduits of creativity;
Setting and raising of organizational and educational capacity for the support of local competencies and skills, encouraging a sustainable cultural system through

'capability building' (Margiotta, 2014) of local actors in order to maintain connectedness in the long term;
Establishment of unity and integration between institutions and cultural agencies in planning and programming for the protection, enhancement, and congruent development of cultural landscape areas, also through local participation in the cultural governance;
Institution of observatories for the monitoring of the cultural landscape and building up awareness through the identification and codification of best practices.

The above-listed plans of action are offered from a variety of insights on international landscape research (Antrop & Van Eetvelde, 2017; Cassatella & Peano, 2011) focusing on the improvement of the understanding of place-based and community-environment interactions and their dynamic role in cultural and environmental policies, as well as in cultural management.

5 Conclusions

The need for the regeneration of Northern New Mexico's cultural landscape is a process aiming at re-establishing the lost interconnectedness at all levels of stewardship, management, and planning. It is a matter of leadership; hence, a matter of developing a vision for the landscape, which requires a systematic and comprehensive approach to the territory that focuses on the sustainability of the local development, which starts from the recognition that the quality of the landscape has a significant bearing on human well-being. Consequently, the regeneration effort shall start from the dissemination of values in the territory, the raising of organizational and educational capacity of the Pueblo communities, the integration of institutions and cultural agencies in planning and programming, as well as in the institutions of monitoring and enrichment activities.

Cultural landscapes are herewith depicted and substantiated as places of people's identities and belief systems, rich in cultural diversity and intangible values (UNESCO, 2019), in which the level of interconnectedness between the spiritual and cultural material expressions of the Pueblo communities are to be preserved and enhanced as a whole for a sustainable future. As they have the ability to embrace multiple manifestations of the interaction between humankind and its natural environment, cultural landscapes offer an instrumental conceptual framework for the establishment of long-term regenerative environmental strategies that are place-based and community-led, as proposed and illustrated by the author through a relational approach to the landscape that emphasizes the dynamic character of the Pueblo people's interactions and identifications with the physical environment.

By strengthening and amplifying their relation with the cultural landscape on multiple levels and in an integrated manner, individuals and communities of Northern New Mexico will benefit in terms of individual, social, and cultural fulfillment, fostering a new sense of place grounded in the essence of the Pueblo traditions and focused on the future of their practicing communities.

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