



ISSN 1647-4112 (print) ISSN 2182-2751 (on line)

[www.ijhsd.greenlines-institute.org](http://www.ijhsd.greenlines-institute.org)

International Journal of Heritage and Sustainable Development

Vol. 4, No. 1, 2015, pp. 159-171

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## Sustainable conservation and the inherent qualities of the traditional community in Taos Pueblo in the United States of America

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The main features of the conservation project taking place at Taos Pueblo seem to agree with the concept usually referred to as "sustainable conservation". Despite the recognition of traditional living communities, such as Taos Pueblo, as sustainable communities, some of the heritage values that Taos Pueblo enjoys might be argued to contradict with the general principles of sustainability. The main aim of this study was to investigate the potential conflicts that might occur as a result of adopting the concept of sustainable conservation as an approach to the conservation of Taos Pueblo. The previous objective was approached by evaluating the conformity of the heritage values that Taos Pueblo enjoys to the principles of sustainability. The analysis of the property's values was approached by means of a proposed methodology that incorporated sustainability principles as indicators of the relevant values. Subsequently, the findings of the analysis were examined against the justifications of the property's Outstanding Universal Value, which were officially adopted by section five of the property's nomination document that is entitled "Justification for Inclusion on the World Heritage List". The findings indicated that some aspects of the property's values; particularly those related to its traditional governance, religious and social systems; might be argued to contradict with the principles of sustainability that are concerned with social equity and empowering women. The findings suggest that such controversial aspects should be understood to reflect the local community's struggle to sustain their unique culture and identity, which are rooted in these aspects. These efforts might be regarded to reflect the conformity of the traditional community's qualities to another sustainability principle that is concerned with strengthening the local identity of indigenous peoples. The findings suggest that sustainable conservation projects of traditional living communities should respect these communities' unique identity and inherent qualities.

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**Keywords:** urban conservation, sustainable conservation, indigenous communities.

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### Introduction

The conservation of traditional living communities' heritage seems to confront many challenges. These challenges are associated with these communities' extremely significant intangible heritage, in comparison with their tangible heritage, and their reluctance to acknowledge that their built environment has turned into heritage since they are living communities. Taos Pueblo in the United States of America is an example of such traditional living communities.

The main features of the conservation project at Taos Pueblo seem to agree with the concept referred to as sustainable conservation. The aim of sustainable conservation seems to be adapting heritage resources to sustainability standards while preserving them, which might require the installation of modern equipment inside historic buildings that might detract from their historic character (Tyler and Dilcher, 2010). Sustainability standards might also contradict with the traditional living communities' socio-cultural and governance systems. The key features of the conservation project at Taos Pueblo seem to involve the community-based approach to conservation, the dependence on recyclable and local materials,

the dependence on energy efficient construction technologies, training the local community on traditional construction and conservation skills, and the creation of jobs. All these features seem to agree with the principles of sustainable conservation.

Although the main features of the conservation project at Taos Pueblo agree with the concept of sustainable conservation; some of the inherent traditional qualities of the local community; particularly the traditional socio-cultural, governance, and religious systems; might be argued to contradict with the general principles of sustainability. These principles are largely concerned with social equity and democratic decision making processes. Nevertheless, other sustainability principles, particularly those concerned with strengthening the local identity of traditional living communities, might be adopted to refute these arguments.

## **General backgrounds**

### **The historic origins and the key principles of sustainability**

The Brundtland report's definition of sustainable development states that "sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Rodwell, 2007: 56), while the definition of the concept of sustainability per se states that "sustainability is about prolonging the useful life of a building in order to contribute to a saving of energy, money and materials" (Rodwell, 2007: 57). The publication of the novel entitled "Silent Spring" in 1962 can be considered one of the earliest stages in the historic development of the principles of sustainable development (Rodwell, 2007). The other significant historic stages might involve the Earth Day in 1970, the Club of Rome publication of the report entitled "Limits to Growth" in 1972 (Steele, 1997), the oil crisis in 1973 (Rodwell, 2007), the publications of the International Union for the Conservation of Nature in 1980, the Brandt Commission first meeting in Germany in 1978 and the publication of its report entitled "North-South: A Program for Survival" in 1980, and the publication of the Brundtland Commission report entitled "Our Common Future" in 1987 (Steele, 1997). One of the most recent and significant stages is the Rio de Janeiro Earth Summit held in 1992 and its proceedings entitled Agenda 21. Agenda 21, which has involved 120 program outlines and 1000 proposals, has been concerned with six subject areas, which are (1) the quality of life on earth, (2) efficient use of the earth's materials, (3) the protection of our global commons, (4) the management of human settlements, (5) chemicals and the management of waste, and (6) sustainable economic growth. The document has been interested in supporting the most vulnerable social groups; particularly women, indigenous peoples and minorities (Steele, 1997).

Agenda 21's second subject area recommends the dependence on renewable sources of energy, granting further political powers to local authorities, and the participation of local communities in all decision-making processes. The fourth subject area recommends using local and traditional building materials, using traditional building techniques and self-help systems, adopting energy efficient designs, and the dependence on labor-intensive construction techniques (Steele, 1997). Agenda 21 recommends supporting democracy and the openness of any decision-making process. The programs adopted by Agenda 21 recommend eradicating poverty by generating employment opportunities; improving living conditions of women, minorities and indigenous peoples; and adopting community-based approaches that provide women a full participation to any decision-making process and respect the cultural integrity and rights of indigenous peoples. Agenda 21 also recommends adopting traditional agricultural and irrigation techniques, supporting the involvement of local communities in the conservation of their historic buildings, and providing equal employment opportunities for women (Sitarz, 1993).

Another relevant international joint framework has been developed to help developing countries in addressing urban environment challenges. This framework incorporates a number of international organizations, one of which is the United Nations Development Programme (Sitarz, 1993). The main concerns of the previous programme involve building democratic societies and empowering women (United Nations Development Programme, 2013). The United Nations Millennium Declaration is another relevant document, as indicated by Article 22 in the declaration. Article 20 in the declaration indicates the determination of the United Nations to promote the principles of gender equality and the empowerment of women in order to achieve a sustainable development. The declaration adopts a number of human values; which include equality between men and women, respect for nature, and freedom represented by the adoption of democratic and participatory governance systems (United Nations, 2000).

### **The concept of sustainable conservation**

The concept of sustainable conservation can be argued to have evolved as a response to the growing influences of the concept of sustainable development on all aspects of life. Adopting the concept of sustainable conservation seems to imply adopting the objectives of sustainable development along with the objectives of value-centered conservation. The objectives of the sustainable conservation project at the Pere Marquette Railroad Depot in Michigan have involved both the objectives of sustainability and those of conservation. The conservation strategy adopted in this project involved three different approaches to deal with the original fabrics. The first approach focused on matching the original elements regardless of their sustainable performance. The second approach focused on complementing the original

elements using similar elements that were more sustainable. Finally, the third approach focused on selecting totally new materials that enjoy high sustainable qualities. The first approach was adopted for the conservation of the most iconic historic features. In the new internal spaces, the conservation strategy focused largely on using sustainable materials (Tyler and Dilcher, 2010).

Adopting the concept of sustainable conservation might also imply the provision of income-generating new functions to disused heritage resources that guarantee their future and sustainable maintenance, the contribution of the preserved heritage resource to the regional growth, the contribution of the conservation project to the regional cohesion, the adoption of a multi-problem-oriented approach, the increase in the level of knowledge, the strengthening of the local identity, the strengthening of democracy, the creation of new jobs, the rehabilitation of existing heritage resources instead of the rebuilding of these resources, and the usage of environment-friendly materials and renewable sources of energy (Gustafsson and Rosvall, 2008). Sustainable conservation might also mean the conformity of the conservation works to sustainability principles. These principles seem to involve the community-based approach to conservation, the participation of the local community to the conservation works, the dependence on trained nongovernmental organizations, the flexibility of the conservation project and its ability in meeting the changing needs of the local community, and the recognition of the revitalization of the local community as the first priority against the other secondary priorities that should involve looking after visitors' needs (Haney, 2003).

The conformity of conservation works to sustainability principles seems to indicate their representation of the concept of sustainable conservation. These sustainability principles involve the adoption of a minimalist socioeconomic approach to conservation, the connection of people with existing employment opportunities, the training of the local community in traditional arts and crafts, the adoption of low-cost and low-tech technical solutions, the dependence on traditional materials and methods, and the dependence on the revolving-funds economic concept that guarantees the sustainability of the conservation works on the long run (Siravo, 2003). The relevant sustainability principles also involve the generation of material and nonmaterial benefits, the intergenerational equity that implies the long-term nurturing of resources instead of the short-term exploitation of resources for quick benefits, and the reversibility of any changes or what might be described as a precautionary principle (Throsby, 2003).

### **Introduction to the case study, Taos Pueblo**

Taos Pueblo, the case study of this research, is located to the north of New Mexico in the United States of America. The Pueblo of Taos is one of 19 living Pueblo communities located along the Rio Grande River in New Mexico. Those 19 Pueblos are Acoma Pueblo, Cochiti Pueblo, Isleta Pueblo, Jemez Pueblo, Laguna Pueblo, Nambe Pueblo, Ohkay Owingeh Pueblo, Picuris Pueblo, Pojoaque Pueblo, Sandia Pueblo, San Felipe Pueblo, San Ildefonso Pueblo, Santa Ana Pueblo, Santa Clara Pueblo, Santo Domingo Pueblo, Taos Pueblo, Tesuque Pueblo, Zia Pueblo, and Zuni Pueblo (Indian Pueblo Cultural Center, 2007). Taos Pueblo is a sovereign nation that has a federally-recognized tribal government (United States Department of the Interior, Bureau of Indian Affairs, 2012).

The property incorporates two residential areas, one to the north, which is called "the north side Pueblo"; and the other one, "the south side Pueblo", is located to the south of the property. The two residential areas are separated by "the Red Willow Creek". The property incorporates other elements, such as the Mission of St. Jerome, the ruins of St. Jerome Church, and a group of six kivas. The kivas are under-ground ceremonial chambers. The property still retains its old walls.

Taos Pueblo has been listed on the American National Register of Historic Places Inventory in 1987 (United States Department of the Interior, National Park Service, 1987). The property has also been listed as a National Historic Landmark since 1960 (United States Department of the Interior, National Park Service, n.d.). Taos Pueblo has been inscribed on the World Heritage List in 1992 (UNESCO World Heritage Centre, 2013).

### **The preservation project in Taos Pueblo**

In 2009, the governor of Taos Pueblo applied for the Department of the Interior's financial support for the conservation of the property. The tribal government's efforts led to the achievement of a \$500000 American Recovery and Reinvestment Act Grant from the U.S. Department of the Interior, which covered the costs of the first phase of the conservation project. The first phase involved the establishment of the training center, which is located next to the Red Willow Education Center (Fig.1). The first phase was planned to involve the restoration of 120-150 houses in Taos Pueblo, the training of the local people in traditional construction and conservation techniques, the carrying out of a detailed assessment of the structures in the village, the development of architectural and working plans, and the establishment of a cultural center and tribal archives. The second phase was financed by a grant from the World Monuments Fund, who listed the property on their watch list of 2010 because of its endangered nature (Livingston, 2010). The previous fund has been used to restore 11 houses (Fig. 2). By the time when the project ends, 21 adobe houses should have been restored (Taos Pueblo Preservation Program, n.d.). The previous fund has also covered the costs of a detailed laser scanning of the property, which has been carried out by CyArk consultancy in 2010 (World Monuments Fund, 2013). Taos Pueblo has achieved another fund;

which is the Rural Innovation Fund granted by the U.S. Department of Housing and Urban Development, HUD; that is expected to cover the costs of the rehabilitation of 52 traditional multi-use spaces. The main aim of the HUD grants is to build sustainable communities (U. S. Department of Housing and Urban Development, 2011).



Figure 1. The training center of the preservation project at Taos Pueblo.



Figure 2. One of the buildings that have been preserved through the World Monuments Fund project.

The main features of the conservation project in Taos Pueblo seem to involve the community-based approach to conservation, the training of the local community in traditional construction and conservation techniques, and the establishment of partnerships with governmental and nongovernmental entities, such as the Native American Housing Consultants and New Mexico Tourism (Livingston, 2010). These features also involve the creation of jobs; the usage of traditional building materials, such as earth; and the dependence on traditional construction techniques and renewable energy sources. The project has also aimed at preserving the traditional way of life of the local community and at sustaining their cultural

traditions (World Monuments Fund, 2013). The previous features seem to indicate the agreement of the project with the principles of sustainability.

### **The aim and the method**

The main aim of the study was to investigate the potential conflicts that might occur when adopting the concept of sustainable conservation in the case of traditional living communities. The study also aimed at analyzing the agreement and contradiction of the heritage values of Taos Pueblo, as an example of traditional living communities, with the principles of sustainability. To achieve the previous aims, the values of Taos Pueblo were identified using a developed version of Feilden's typology of values (Feilden, 2003). Feilden's typology was developed to incorporate sustainability qualities as indicators of heritage values. The values whose indicators were developed in order to incorporate sustainability qualities were the architectural value, the townscape value, the landscape and ecological values, the functional value, the economic value, the social value, and the political value. For instance, the sustainability indicators of the architectural value involved the property's efficient use of energy, and the construction using local materials and traditional construction techniques (Steele, 1997). The sustainability indicators of the townscape value included the dependence on fuel efficient transportation means (Steele, 1997), the provision of walkable streets, and the reduction of transportation demands (U.S. Green Building Council, 2011). The sustainability indicators of the functional value included the flexibility of the building's design, while those of the economic value included the dependence on localized food production systems (U.S. Green Building Council, 2011).

In order to identify the values that enjoy an outstanding universal significance, the level of significance of each value was evaluated against four criteria. These four criteria are the exceptional testimony of the value to a civilization, which is living or which has disappeared, and its culture; the exceptional representation of the value of a traditional settlement, its culture and its interaction with the environment; the interchange of the value on a geographical level or over a span of time (UNESCO, 2008); and the level at which the value is experienced and appreciated (Mason, 2002). Finally, the findings were examined against the justifications of the property's Outstanding Universal Value, which were officially adopted by the property's nomination document.

### **The findings**

#### **The values and significance of the property according to the nomination document's analysis**

To justify Taos Pueblo's Outstanding Universal Value, the property's nomination document has adopted two of the World Heritage Centre's criteria, which are criteria (iv) and (v) (UNESCO, 1987a). According to the World Heritage Convention's Operational Guidelines of 1987, criterion (iv) attributes the property's Outstanding Universal Value to its being an outstanding example of a type of building or architectural ensemble which illustrates a significant stage in history. While criterion (v) attributes the property's Outstanding Universal Value to its being an outstanding example of a traditional human settlement which is representative of a culture and which has become vulnerable under the impact of irreversible change (UNESCO, 1987b). In 2005, the Operational Guidelines' criterion (v) has been revised to involve the property's being an outstanding example of a human interaction with the environment as a justification of its Outstanding Universal Value (UNESCO, 2005). However, the property has been eventually inscribed on the World Heritage List based on criterion (iv) (UNESCO World Heritage Centre, 2013).

The property's nomination document has addressed some values, such as the architectural value, the social value, the cultural value, the religious value, and the economic value. The themes that have been adopted to justify the property's significance involved the adobe houses' traditional style and exceptional architectural qualities, the continuity of the property's architecture representing the evolving Pueblo's culture, the continuity of the property as a traditional living community, and the property's traditional cooperative agricultural system (UNESCO, 1987a). The justifications of the property's Outstanding Universal Value do not seem to have addressed its sustainability qualities as heritage values explicitly, since the concept of sustainability has not been matured yet at that time. Nonetheless, the arguments on the continuity of the property's inherent qualities might be considered as indicators of its sustainability qualities. The nomination document has also addressed other aspects that are relevant to the concept of sustainability to justify the property's Outstanding Universal Value. These aspects involve the property's adaptation to its arid and semi-arid climate, and its efficient interaction with its environment (UNESCO, 1987a).

#### **The analysis of the values that the property enjoys and their level of significance**

The analysis revealed that the property enjoys 13 values (Table 1), all of which are more likely to contribute to its outstanding universal significance (Table 2). These values involve, among other things, the religious value, the historic value, the age value, the architectural value, the townscape value, the landscape value, and the social value. The Outstanding Universal Value of the property seems to be attributed to the contribution of all the adopted criteria (Table 2). However, the most influential criteria

were found to be the first two criteria; which are the exceptional testimony of the value to a civilization, which is living or which has disappeared, and its culture; and the exceptional representation of the value of a traditional settlement, its culture and its interaction with the environment. Each of the previous criteria seemed to justify the international level of significance of 12 values. The fourth criterion, which is the level at which the values are appreciated, seemed to have contributed to the justification of the significance of 11 values; while the third criterion, which is concerned with the interchange of the values, seemed to have contributed to the justification of the significance of 10 values.

Table 1. The indicators of the values that Taos Pueblo enjoys.

The values	The indicators of the values
Spiritual/religious value	Some religious buildings in the property; such as the kivas, St. Jerome Mission, and the ruins of St. Jerome Church; are capable of stimulating the local community's religious feelings.
Historic value	The technological qualities of the adobe houses in the property and their age, which is said to extend to 1000 years (Spouce, 2012), indicate its historic value. The property is historically associated with significant events in the past, such as the Pueblo revolt that was planned by Popé in 1847 in Taos Pueblo (Wikipedia, 2013).
Age value	The property retains evidences of lack of integrity caused by weathering and time factors, such as the decaying areas in the adobe walls.
Aesthetic value	The exceptional visual qualities of the property, which are attributed to the beautiful forms of its adobe houses and its harmonious relationship with its beautiful surrounding natural environment, indicate its aesthetic value. The traditional dances and the kivas' religious rituals also contribute to the value.
Artistic value	The property's retention of artworks produced inside it, which are mainly pottery products, and the children art center indicate its artistic value. The property enjoys an artistic value because of its association with renowned native artists, such as Virginia Romero (Seth and Seth, 1988), and because of its being the subject of renowned artists, such as Ernest Leonard Blumenschein.
Architectural value	The delight of the buildings' design and their exceptional beauty and harmony with their surrounding natural environment indicate their architectural value. The firmness of the adobe buildings, as indicated by their survival for almost 1000 years (Spouce, 2012), contributes to the architectural value. The architectural value is indicated by the adaptability of the adobe houses to different uses. The exceptional sustainability qualities of the property, represented by its recyclable building material that is earth, also indicate its architectural value.
Townscape and urban values	The property's harmonious relationship and visual association with its surrounding natural environment indicate its townscape value. The material that contributes in establishing this harmonious relationship, which is earth, indicates this value. The townscape value is attributed to the property's exceptional inward and outward views into the surrounding mountains. The natural materials, out of which most of the landscape elements are made, such as the timber seats and drying racks, indicate the townscape value. The sustainability qualities of the townscape elements, represented by the property's layout that supports pedestrians' movement, indicate the townscape value of the property.
Landscape and ecological values	The natural qualities of the landscape elements in the property; such as the timber bridges, the river and the trees along it; indicate its landscape value. The property's traditional layout that maximizes the use of open spaces and its traditional water system, indicate the property's sustainability qualities and its exceptional landscape value.
Functional value	The functional value of the property is attributed to its being in use till present time. The adaptability of the property's buildings to alternative uses, which represents the sustainability qualities of the property, indicates its functional value.
Economic value	The property is capable of encouraging tourism and thus supporting the economic development of the local community. The equitable access to resources in the property might indicate its sustainability qualities and its economic value.
Social value	The function of the property as a venue for social activities; such as the dances that take place in the main plaza, the race, and the activities taking place inside the mission and the kivas; indicates its social value. The social value is indicated by the property's retention of its traditional social characteristics. The property's traditional social system characterized by its equitable access to resources and land ownership indicates its sustainability qualities and emphasizes its social value.
Educational value	The property's retention of a number of educational institutions; such as the children school, the art center, and the kivas; indicates its educational value. The property's ability to provide the young generation with knowledge about their culture and history indicates its educational value.
Political value	The political value is indicated by the ability of the property's surviving traditional political system in re-establishing its political identity. The value is indicated by the property's positive effect on the people's political behavior, which can be represented by the struggle to return the Blue Lake. The property's local and autonomous traditional political system indicates its sustainability qualities and its political value.

The following analysis explains how the level of significance of the architectural value was evaluated. The property was evaluated to enjoy an architectural value because of its efficient function; the delight, firmness and adaptability of its buildings; and because of the sustainable qualities of the property's buildings. The maximum potential level of significance of the previous indicators was evaluated to reach the international level, as well as the overall level of significance of the value.

The architectural value, as indicated by the property's efficient function, can be considered a testimony to a living civilization. The efficiency of the function of the buildings in the property is emphasized by the adaptability of those buildings to new uses, and their ability to absorb the continuous horizontal and vertical expansion and decline. The architectural value, as indicated by the delight of the property's buildings, can be considered to be experienced and appreciated on the international level. The exceptional beauty of the property and its natural surroundings is the reason why it has become an international tourism destination, and the reason why many artists settled around it, such as the Russian artist Nicholai Fechin.

The architectural value, as indicated by the firmness of the property's buildings, can be considered a testimony to a living civilization. The survival of the property for centuries, despite that it is constructed using earth, emphasizes the continuation of Taos Pueblo as a living civilization. The architectural value, as indicated by the adaptability of the property's buildings, can be considered to have been interchanged within an international level and over a span of time that goes back to the Spanish time. The ability of the property to absorb the changes in the functions of its buildings and the external influences indicates its adaptability. The property was able to absorb the new architectural elements introduced during the Spanish era, such as the external ovens (Bodine, 1977).

Finally, the architectural value, as indicated by the property's sustainable qualities, can be considered an exceptional representation of a traditional settlement and its interaction with the environment. The sustainable qualities of the property's architecture are indicated by the material used for the construction of the buildings in the property, which is earth. This building material indicates the property's exceptional interaction with its natural environment. The level of significance of the other values was evaluated using the same methodology.

The significance of the property might also be attributed to its intangible heritage, particularly its language. The language spoken at Taos Pueblo, which is known as the Taos language, has been listed on the UNESCO's list of endangered languages (UNESCO, 2010). The previous findings seem to indicate that the significance of the values that the property enjoys is largely attributed to its sustainability qualities, which are represented by its ability in interacting with its environment and by its survival while maintaining its unique socio-cultural and political characteristics.

Table 2. The level of significance of the heritage values that Taos Pueblo enjoys and the criteria that justify their level of significance.

The values	The level of significance	The relevant criteria *
Spiritual/religious value	International	(1), (2), (3)
Historic value	International	(1), (2), (3), (4)
Age value	International	(2), (4)
Aesthetic value	International	(1), (2), (3), (4)
Artistic value	International	(1), (2)
Architectural value	International	(1), (2), (3), (4)
Townscape and urban values	International	(1), (2), (4)
Landscape and ecological values	International	(1), (2), (3), (4)
Functional value	International	(1), (3), (4)
Economic value	International	(1), (2), (3), (4)
Social value	International	(1), (2), (3), (4)
Educational value	International	(1), (2), (3), (4)
Political value	International	(1), (2), (3), (4)

\* (1) The exceptional testimony of the value to a civilization, which is living or which has disappeared, and its culture

(2) The exceptional representation of the value of a traditional settlement, its culture and its interaction with the environment

(3) The interchange of the value, on a geographical level or over a span of time

(4) The stakeholders or the level at which the value is experienced and appreciated

### The values that conform to the principles of sustainability

Traditional living communities, such as Taos Pueblo, have always been recognized as sustainable communities (Sitarz, 1993), and as sources for sustainable ideas (Steele, 1997). The traditional building materials, such as adobe, that are used in these communities have always been considered to enjoy sustainable qualities (Carroon, 2010; Woolley, 2000). The findings seemed to support the previous arguments. Many of the values that Taos Pueblo enjoys seemed to conform to the principles of sustainability. The sustainability qualities of seven values were found to contribute to their level of significance that is more likely to reach the outstanding universal level. These values are the architectural

value, the townscape value, the landscape value, the functional value, the economic value, the social value and the political value.

The sustainability qualities of the architectural value might be attributed to the efficient use of energy and natural resources like water of the adobe buildings in Taos Pueblo (Duran, 2012). Inside Taos Pueblo, it is still prohibited to install electricity cables or water pipes (UNESCO, 1987a). The local community uses the river as its main source of water. The sustainability qualities of the architectural value are also attributed to the construction and conservation of the property using a traditional and a recyclable building material, which is earth, and to the construction of the adobe houses using a traditional and a clean technology. The flexibility of the design of the houses that tolerates the change of their uses also emphasizes these sustainability qualities (Fig. 3). The construction and conservation of the buildings using a labor-intensive and a self-helping system, along with the traditional management system of the work that does not depend on contractors, emphasize these sustainable qualities.



Figure 3. One of the adobe houses in Taos Pueblo that have been converted into gift shops, which indicate the property's adaptability to new uses and emphasize one of the aspects of its inherent sustainability qualities.

The sustainability qualities of the townscape value might be attributed to the property's layout that supports pedestrians' movement; maximizes the use of open spaces, such as the main plaza; and incorporates a number of walkable urban spaces. The sustainability qualities of the landscape value are attributed to the property's traditional water system (Fig. 4). The adaptability of the property's houses to alternative functions seems to indicate the sustainability qualities of its functional value. The sustainability qualities of the economic value might be attributed to the property's traditional production system, represented by its agricultural and irrigation systems, and its traditional work system. The traditional work system that was adopted in Taos Pueblo as an agricultural society, which was characterized by its duration from sun-rise to sun-set, is a very energy efficient and a very sustainable system because it is a natural-lighting-oriented system. However, at present time, the local community seems to have adopted the modern work system (Spouce, 2012). The sustainability qualities of the social value might be attributed to the society's equal access to land ownership. Finally, the sustainability qualities of the political value might be attributed to the property's traditional local and semi-autonomous political system.



Figure 4. The Red Willow Creek, which is the only source of water in the property since the installation of water pipes is totally prohibited.

### Controversial aspects

Some aspects of the values that Taos Pueblo enjoys might be argued to contradict with the general principles of sustainability. These aspects are associated with three values; which are the economic value, the political value and the religious value. Hunting, which has always been a common practice in many Native American tribes, seems to be the most controversial economic aspect. The most relevant example to the previous controversial aspect might be whale hunting practiced by the Makah tribe that is located in Washington State (Makah Cultural and Research Center, n.d.). When the Makah tribe resumed whale hunting in 1999 and hunted a large grey whale many environmental groups, such as the Sea Shepherd Conservation Society, bitterly opposed such hunting as an unsustainable practice. Grey whales were listed on the list of the most endangered species, yet in 1994 they have been delisted from this list. For Makah tribe, whale hunting is a tradition, the revival of which is very significant to emphasize their being a living culture. The International Whaling Commission has allowed Makah tribe to hunt a maximum of five whales annually (Gulliford, 2000). The controversy about whale hunting does not seem to be justified, since Native American tribes have always used traditional ways of hunting that are harmless to biodiversity. What should be considered an actual threat to biodiversity is the modern ways of hunting (Sitarz, 1993). Hunting in Taos Pueblo might be argued to represent an unsustainable practice. The main species that are hunted in Taos Pueblo are rabbits, deer and buffalo. Deer hunting in Taos Pueblo seems to have been considered a threat to biodiversity. It was argued that around 1880, deer hunting in Taos Pueblo caused the death of four thousand deer (Parsons, 1936: 19). The previous argument on the harmless effects of the traditional ways of hunting on biodiversity is relevant to Taos Pueblo where such traditional ways are adopted. The small size of traditional living communities, such as Taos Pueblo, in terms of the size of their population, should also be taken into consideration in such arguments.

The restrictions on women membership to the tribal council (Bodine, 1977) is another controversial aspect associated with the political value. Until present time, women are not allowed membership to the tribal council (Spouce, 2012). The theocratic government at Taos Pueblo and the limited opportunity for religious minorities to have a political representation in the government, which might be argued to constitute a discrimination against religious minorities, represent other controversial aspects associated with the political value. Bodine (1977) has indicated that in order for anyone to be elected to one of the four main governmental positions, he should have been initiated to the kivas religious system (Fig. 5). The initiation to the kivas is almost similar to baptism in churches in Christianity. Smith (1969) has cited a story that supports the previous argument about a young man in Taos Pueblo who has not been initiated to the kivas; consequently he has never been entitled to positions; such as the Governor, the Lieutenant Governor, the War Captain or the Lieutenant War Captain. The young man has never been entitled to the membership of the tribal council either.



Figure 5. One of the kivas in Taos Pueblo, which are not accessible to visitors.

The last controversial aspect is associated with the religious value. The controversy is associated with a historic instance that is referred to as the peyote controversy, which might be interpreted to represent religious intolerance. The peyote cult was introduced to Taos Pueblo in 1720. The affiliates of the peyote cult were prejudiced since the cult was growing fast and was feared to threaten the kivas religion. Some of the peyote cult affiliates were prosecuted, while others were dismissed from their kiva membership (Smith, 1969). Although it was a historic instance, the conflict with the peyote people reflected the then traditional community's intolerance towards other growing religions that were feared to threaten its cultural and religious distinctiveness.

### The discussion

The previous controversial aspects might be argued to contradict with some principles of sustainability, particularly those concerned with social equity and empowering women and minorities. However, the

previous controversial aspects should be interpreted in the context of another relevant sustainability principle, which is concerned with strengthening the local identity of traditional communities. Hunting, the theocracy of the tribal government, the limited-to-men tribal council, and the kivas traditional religion have become the major intangible characteristics of Taos Pueblo. Therefore, when the local community restricted the peyote cult it was actually protecting its traditional culture and identity. The previous argument applies to the other controversial aspects. The World Monuments Fund's preservation project at Taos Pueblo seems to have supported the local community's efforts to preserve their intangible culture and identity. The objectives of this project will be to preserve the structures in the property and the traditional way of life that makes the local community unique (World Monuments Fund, 2013). This traditional way of life should involve the local community's traditional governance, social and religious systems.

The ICOMOS Charter on the Built Vernacular Heritage seems to support the local community's efforts to safeguard their traditional culture and identity. The charter recommends that the local community's cultural identity should be respected (ICOMOS, 2011). There are other international documents and conventions that seem to support the local community's efforts to protect their identity, which are the "United Nations Declaration on the Rights of Indigenous Peoples" (United Nations, 2008) and the "Indigenous and Tribal Peoples Convention, 1989" (International Labour Organization, 1989). Article 34 in the United Nations declaration, which states that "Indigenous peoples have the right to promote, develop and maintain their institutional structures and their distinctive customs, spirituality, traditions, procedures, practices and, in the cases where they exist, juridical systems or customs, in accordance with international human rights standards" (United Nations, 2008: 12), seems to support such local community's efforts.

## Conclusions

The previous preview seems to indicate the significant contribution of Taos Pueblo's sustainability qualities and the criteria that are relevant to the concept of sustainability to the justification of its Outstanding Universal Value. These relevant criteria seem to involve the exceptional testimony of the property's values to a living civilization and the exceptional representation of these values of a traditional settlement and its interaction with the environment. The main features of the conservation project at Taos Pueblo seem to agree with the general principles of sustainable conservation. Nevertheless, some aspects of the property's values, such as hunting and the restrictions on women membership to the tribal council might be argued to contradict with the principles of sustainability.

Although some environmental groups accused tribal hunting as a threat to biodiversity, it seems that the real threat is the large scale hunting that uses modern technologies (Sitarz, 1993). The restrictions imposed on women's membership to the tribal council and the theocracy of the tribal government might be argued to contradict with the sustainability principles concerned with social equity and empowering women and minorities. However, these controversial aspects should be understood to represent the local community's struggle to protect their culture and identity. From this perspective, these controversial aspects should be regarded to agree with another sustainability principle concerned with strengthening the local identity of indigenous communities. Some international charters and conventions; such as the ICOMOS "Charter on the Built Vernacular Heritage", the "United Nations Declaration on the Rights of Indigenous Peoples", and the "Indigenous and Tribal Peoples Convention, 1989"; seem to support the local community's efforts to protect their traditional way of life.

The findings suggest that sustainable conservation projects of traditional living communities should respect these communities' unique culture and identity. Such projects should not focus on carrying out comprehensive changes to such communities to guarantee the conformity of all their inherent qualities to the principles of sustainability. Instead, these distinctive qualities should be considered to represent these communities' local identity that should be strengthened.

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