

## Executive Summary

In late spring of 2015, the Navajo Nation's Tonalea Chapter approached a faculty member at ASU's School of Sustainability for insight and advice on replacement of the existing Tonalea chapter house. The Navajo Nation recently earmarked funds to build a new Chapter house on the same site as the demolished building. The Chapter aspires to build the most socially and environmentally sustainable building possible with the dedicated funds. Additionally, the Chapter requested the building represent Tonalea culture, while fulfilling community needs.

Initially, two visioning sessions were held, on March 17, 2015 and April 16, 2015, with an ASU team facilitating. Chapter elders attended the first meeting - a wide ranging discussion of project context and history as well as some cultural background. A four-person research team and a larger group of Chapter members attended the second visioning workshop. During these meetings, the Chapter embarked on a visioning process that embodies physical, functional and environmental conditions, as well as cultural and spiritual beliefs and values.

The first roundtable meeting was an unstructured conversation, while the second had an agenda to discuss six topic areas loosely based on Houde's (2007) Six Faces of Traditional Ecological Knowledge (TEK): Spirituality; Culture and Identity; Time Perspectives; Management of Ecosystems; Land, and; Design Interventions. Following the meetings, the research team reviewed the comments as they related to the agenda topics. After review, four of the six topic titles were altered and two - Social Justice and Equity, and, Economics - were added based on the recorded commentary. The resulting eight categories of TEK we refer to as the TEK8. Roundtable comments were sorted and listed within the TEK8 and are summarized in the "Initial Visioning Feedback for the Tonalea Chapter House" section of the final report. Complete, sorted commentary lists appear in Appendix A of the report.

In any TEK project context is important, especially information on history and culture. In the report, the arc of Navajo history is briefly discussed. The appearance of the Navajo, in what is now northwestern New Mexico, dates back at least 600 years to the 1500s. The colonial period followed a relatively bucolic settlement period, and altered the Navajo's social, economic, and environmental landscapes substantially. Since the early 1920s, the US Federal Government and the Navajo have tried to disentangle themselves from the complicated, brutal colonial past. Within this fitful modern period, Navajos have wrestled with the problems of acculturation and assimilation, while simultaneously trying to preserve their spiritual and cultural foundations.

Rooted in past struggles, significant barriers to wellbeing have developed. Past, and continuing, cultural and human rights transgressions are stressors in almost every aspect of life. The Long Walks are an unhealed spiritual and cultural wound. Sheep

herd reductions of the 1920s left a long trail of economic destruction that continues to reverberate across the reservation. The mine waste release by the EPA into the Animas River in 2015, an ecological and economic disaster, amplifies historically anchored bad feelings.

In early Navajo history, life was organized on sustainable principles, many of which are still practiced. For this project, identifying some of those practices, and using them for guidance on the project was important to the stakeholders. From historical research and the roundtable discussions, sustainable practices were discussed for use in the vision and design of the chapter house. They appear first in the background discussions at the start of the report and again mixed into the chapter house visioning statements and recommendations. Some examples are: the herding method known as transhumance; permaculture farming; and, the interconnection of human, spiritual and natural systems.

With the background context in place, links between wellbeing (happiness) and TEK are explored. The TEK8 broaden Houde's (2007) Six Faces of TEK into a proposed framework for sustainable design for indigenous people. The eight dimensions (Culture, Spirituality, Ecosystem, Time, Land, Design, Social Justice and Equity, and Economics) are juxtaposed with Houde's six faces of TEK to expose gaps in applying TEK to design for indigenous groups.

After establishing the logic for the TEK8, the comment data gathered during the roundtable sessions was sorted and assigned according to how they matched best with the categories. Most categories were well populated with comments except for the Time and Economics categories. The major topics of discussion were Design and Culture. Some design comments focused on flexibility, longevity, value and efficiency in design. Other design comments made suggestions about who to design for and what functions were needed most. Considerable time was spent sharing traditional ways of life, beliefs, and values. Spiritual stories and history were repeatedly referenced, as was the idea of Hózhó - the pursuit of beauty, harmony and balance in all things. Painful narratives like the Long Walk were shared alongside prideful stories about art and language.

Based on the narratives and discussions, recommendations are made at the end of the report and are organized in accordance with the TEK8 categories. The information in the categories can be viewed as a loose design specification for the building. For example, hogans (traditional Navajo dwellings) were seen as a template for the entry sequence to the chapter house. Entry is always from the east, and hosts or people in control of the meeting sit on the west facing the entry. Other design recommendations include the use of local materials to honor mother earth, using solar insolation for heat and electricity, and taking advantage of wind for electric power and cooling.

Since the visioning process is incomplete, it is suggested that a blend of visioning techniques drawn from Native American and scientific perspectives is needed to

complete the job. Lee (2014) and Wiek (2014) provide excellent starting points. Using a participatory stakeholder engagement process, visioning methods could include more roundtable sessions, solution visualization, and chapter-wide surveys to ratify and legitimize visioning scenarios.

To create a more complete vision for the chapter house additional work is needed, but a strong foundation for that work has been established. Furthermore, a new framework for mapping TEK to sustainable design for indigenous people has been developed. Although, it is untested, it shows a method for design visioning that reflects the spiritual and cultural heritage of indigenous people, and thus an avenue for broadening opportunities for happiness.

## References

Houde, N. (2007). The six faces of traditional ecological knowledge: challenges and opportunities for Canadian co-management arrangements. *Ecology and Society*, 12(2), 34.

Lee, L. L. (2014). Diné Political Leadership Development on the Path to sustainability and Building the Navajo Nation. *Wicazo Sa Review*, 29(2), 25-38

Wiek, A., & Iwaniec, D. (2014). Quality criteria for visions and visioning in sustainability science. *Sustainability Science*, 9(4), 497-512.