

Reforming Federal Indian Housing Programs: The Socio-Cultural, Political, & Health
Benefits

of Utilizing Indigenous Epistemologies & Architecture

by

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ABSTRACT

The relationship between settler-colonial governments and Indigenous nations has been a contentious one, filled with disingenuity and fueled by the abuse of power dynamics. Specifically, colonial governments have repeatedly used power in mapping, cultural Othering, resource control, and research methodologies to assimilate, acculturate, or otherwise dominate every aspect of Indigenous lives. A relatively recent pushback from Indigenous peoples led to the slow reclamation of sovereignty, including in the United States. Revamped federal Indian programs allegedly promote tribal self-determination, yet they paradoxically serve a vast quantity of cultures through singular blanket programs that are blind to the cultural component of Indigenous identity - the centerfold of colonial aggression for centuries. The U.S. Department of Housing and Urban Development (HUD)'s Office of Public and Indian Housing is no exception, using a Western framework to provide generic services that neither serve cultural needs nor are tailored to the specific environment traditional homes were historically and epistemologically suited for. This research analyzes the successes of new programs as well as the failures of the federal government to conduct responsible research and promote the authentic self-determination of tribes in terms of housing and urban development. It also considers the successes and failures of tribes to effectively engage in program reformation negotiation, community planning, and accountability measures to ensure their communities are served with enough culturally-appropriate, sustainable housing without mistrusting their own housing entities. Solutions for revising this service gap are proposed, adhering to a framework that centers diverse cultural values, community input,

and functional design to increase each tribe's implementation of self-determination in HUD housing programs.

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TABLE OF CONTENTS

	Page
LIST OF FIGURES	vii
CHAPTER	
1 INTRODUCTION	1
1.1 Motivation.....	2
1.2 Project Goals.....	25
1.2.1 Project Specific Goals.....	26
2 REVIEW OF NAHASDA & CURRENT HUD INDIAN HOUSING REGULATION.....	30
2.1 Objectives of Federal Native American Housing Services.....	30
2.2 Documented Criticism & Praise of NAHASDA Regulations	35
2.3 Components of Housing Design & Urban Planning Absent in Criticism ...	43
3 CULTURAL DIVERSITY: TWO CASE STUDIES IN INDIGENOUS HOUSING.....	45
3.1 Case Study 1: Navajo Nation.....	46
3.1.1 Historical Context of the Navajo Nation	46
3.1.2 Traditional Housing Planning of the Navajo Nation	48
3.1.3 Modern Housing Issues of the Navajo Nation.....	49
3.2 Case Study 2: Pueblo of Acoma	61
3.2.1 Historical Context of the Pueblo of Acoma.....	61

CHAPTER	Page
3.2.2 Traditional Housing Planning of the Pueblo of Acoma.....	66
3.2.3 Modern Housing Issues of the Pueblo of Acoma	70
3.3 Findings	73
 4 RECOMMENDATIONS FOR IMPROVING INDIGENOUS HOUSING	
PLANNING & NEGOTIATION PROCEDURES	77
4.1 Recommendations for the Federal Government	78
4.1.1 Reform Funding Calculators.....	89
4.1.2 Reform Land Policies and Building Restrictions.....	90
4.2 Recommendations for Tribal Governments.....	92
4.2.1 Implement Mechanisms to Reduce Duplication of Effort & Increase Accountability	93
4.2.2 Adapting Policies for Community Inclusion with Cultural Priorities & Procedures	94
5 CONCLUSIONS.....	96
REFERENCES	101

LIST OF FIGURES

Figure		Page
1.	Four Traditional Structures in Navajo Culture	6
2.	Artwork of a Traditional Pueblo Community Entitled “Original Painting of Hopi Niman Ceremony (Home Dance)”	57
3.	A Map of Northern New Mexico.....	58
4.	A Photo Taken During the Sky City Tour	59
5.	A Typical Cross-Section of Homes at Sky City at the Pueblo of Acoma.....	62
6.	A Computer-Generated Image of H’aaku Buildings Relative to One Another	63
7.	A Computer Generation of a Proposed PAHA Project.....	65
8.	A Google Earth Image of a Modern Community in Acomita, New Mexico, Near Sky City.....	65

1 INTRODUCTION

The federal government supports Indian housing programs in the United States, but these programs continue to be underfunded and merely replicate Western cookie-cutter homes without including cultural design elements that facilitate self-determination and improved community health.¹ This research considers what makes housing in Indian Country substandard, what role federal and tribal governments have in these housing programs, and what solutions exist that center culture in architecture as a way of promoting self-determination and health for individual communities. Specifically, the Native American Housing and Self-Determination Act of 1996 (NAHASDA) creation and how its impacts manifest in the Public and Indian Housing (PIH) portion of Housing and Urban Development (HUD) are the central focus.² The theory of invoking tribal self-determination should not simply mean giving tribes more control over their programs and how their dollars are administered, although that does enable them to set priorities; in the present system, it also requires a vast majority of government oversight.

One critical example, however, of self-determination implementation is a “638 contract” hospital which is named for P.L. 93-638 which authorized the ability for tribes to ‘call their own shots’. In the case of a hospital, for example, tribes with a 638 contract do not require prior approval before deciding to expand a particular department like the pharmacy or emergency services. Previously, it was the Indian Health Services

¹ Seltnerich, Nate. “Healthier Tribal Housing: Combining the Best of Old and New.” *Environmental Health Perspectives* 12, no. 12 (2012): A460.

² “The Native American Housing Assistance and Self-Determination Act of 1996: Background and Information,” *Alaska*, January 27, 2015.

(IHS) that dictated any or all improvements, including program cuts. There are, however, certain accountability measurements that remain in place such as to verify the close-out on projects and the spending of dollars for the purposes intended. Perhaps hospitals have been a more successful example of how at least cultural differences and shortages have been identified, although not necessarily gallantly addressed.³ Housing comes with even more red tape, maintenance issues, and construction barriers. Additionally, and as with all federally-administered tribal programs in the United States, Indian housing programs and related survey methodologies fail to consider the geographical and epistemological diversity of tribes and instead promote very Westernized solutions through these housing programs. The major questions of this research therefore become how culture can be better incorporated into the design process to heal communities and promote tribal sovereignty as well as what role the federal and tribal governments should assume to bring such proposals to fruition.

1.1 Motivation

The motivation behind this project exists in a few separate components. The first component is the condition of housing in Indian Country and why it is considered substandard.⁴ This component fuels the change that is made in federal Indian housing policies and there it plays an important role in predicting the outcome of new programs and modifications to them. The second component considers health issues as they relate

³ “Spotlight: What is a 638 Contract Anyway?,” The Southern Ute Drum, accessed June 8, 2020, <https://www.sudrum.com/health/2013/02/20/spotlight-what-is-a-638-contract-anyway/>.

⁴ “Section 5.425 - Federal Preference: Substandard Housing,” *Code of Federal Regulations*, Title 24 (2000), <https://www.govinfo.gov/content/pkg/CFR-2000-title24-vol1/xml/CFR-2000-title24-vol1-sec5-425.xml>.

to the environment, culture, and community people inhabit. In particular, this component looks at what research exists that privileges incorporating culture into aspects of cultural design to promote positive outcomes, including to promote self-determination of sovereign entities. The third component specifically considers how sovereign nations within the United States' geopolitical boundaries have distinct cultures and customs that should not be lost on housing programs and architects who help plan new Indigenous community housing. The fourth and final component addresses specifically how much the federal and tribal governments participate in these housing programs and critiques what changes should be made for these entities to fulfill their responsibilities to tribal members.

The first component addresses the condition of housing in Indian Country which is considered substandard by Western measures.⁵ According to the U.S. Census Bureau's 2006-2010 American Community Survey, Indian Country contains at least 142,000 housing units of which 8.6% lack complete plumbing, 18.9% lack telephone service, 30% use wood heating, and 7.5% lack full kitchens.⁶ The Census Bureau defines a "full kitchen" as one that contains all of the following: running water (hot and cold), a flushing toilet, a bathtub or shower, a sink with a faucet, and appliances (a refrigerator and a stove or range).⁷ Although these kitchen components represent those needed in a Western kitchen and may not represent all the requirements to cook traditional foods (for example, O'otham communities may request outdoor fire spaces),

⁵ "Section 5.425," *Code of Federal Regulations*.

⁶ U.S. Bureau Census, *Plumbing and kitchen facilities in housing units*, (Washington, DC, American Community Survey, 2015): 3.

⁷ *Ibid*, 4.

houses in Indian Country are considered substandard in the United States by even these measures.⁸ In questioning the cultural differences in defining a *functional* home, it is equally important to consider the essence of *what* the concept of a “home” even means across cultures. The term *ontology* captures the essence of “being” and how to define what it means for something like a home.

The idea that housing has an ontological significance has been explored in various capacities, typically by analyzing the significance of calling a dwelling not housing but specifically a “home”. In his research paper entitled “Sacred Domesticities: The Ontology of Home”, North Carolina State University student Thomas Barrie argues that “the term home is often used to describe where we were born or raised, our ‘home town,’ indicating its profound and enduring ontological significance.”⁹ A house’s ontological significance is not lost in religious text, either, perhaps the most widely known reference that parallels the “home” and spirituality being that in the Christian Bible. For example, in Isaiah 56:7 [NIV], the symbolism of home and prayer follows as thus: “These I will bring to my holy mountain and give them joy in my house of prayer. Their burnt offerings and sacrifices will be accepted on my altar; for my house will be called a house of prayer for all nations.” Ultimately, the planet is home to all humanity but spirituality and defining domestic roles, especially since the mid-19th century, has caused culturally diverse interpretations of what the home should be. As said by

⁸ Mikhail Sundust, “ASU Moving Forward with GRIC Housing Study,” *Gila River Indian News*, July 7, 2017.

⁹ Thomas Barrie, “Sacred Domesticities: The Ontology of Home”, Paper presented at the Architecture, Culture and Spirituality Symposium 2011, 2.

contemporary architect Thomas Moore, “we are always making a house for the heart and always looking for the house of divinity”.¹⁰

In discerning what is a *home* besides what merely constitutes a *house*, it is useful to consider the varying epistemology between cultures. Epistemology relates to knowledge and the reasons behind the knowledge we obtain and use. Research argues that “no shared conceptual system of space [exists] and different disciplines mobilize very different conceptions, perceptions, and experiences of space”, therefore it is conceivable that physical spaces and social circles are no exception to the rule.¹¹ In an Indigenous application, it is especially necessary to consider how epistemology relates to traditional worldview and the role it plays in home-making and social interaction.¹² Indigenous epistemologies are likely intertwined with religious stories, religious practices, and other beliefs that inform how and why a person should live and act the way they do. This thesis specifically considers Navajo and Pueblo of Acoma homes, and so it is worth considering how these two nations differ in their home-making requirements.

Navajo oral tradition discusses the Diyin Dine’é (Holy People) as having placed sacred mountains to define the homelands for the Dine’é. The Navajo traditionally value the relationship they have with Mother Earth, Father Sky, and the Holy People as they value the relationships within their homes, clans, and tribe, known as k’é. These

¹⁰ Thomas Moore, “The Re-Enchantment of Everyday Life”, New York: Harper Collins, 1996, 42.

¹¹ Ahmed Khan, et al., “Epistemology of Space: Exploring Relational Perspectives in Planning, Urbanism, and Architecture”, *International Planning Studies* 3-4 (2013): 287.

¹² Shawn Wilson, “What is an Indigenous Research Methodology?”, *Canadian Journal of Native Education* 25, no. 2 (2001): 175.

relationships connect all humans and beings in Navajo epistemology.¹³ A second key concept is the idea of *hózhó*, a Navajo cultural worldview that is generally understood as the balance or harmony in the natural world. It enforces the need for balance of all interrelations defined by *k'é* as a means of holding each other accountable for the aforementioned responsibilities.¹⁴ In many ways, *hózhó* and *k'é* act as axiological informants to the Diné decision-making process.

The concepts of *hózhó* and *k'é* are key to understanding the social orders and patterns of traditional Navajo society, including the construction, orientation, placement, and maintenance of a home. History has also impacted the ability for homes to be created and managed. One example is the sheep-based economy that formed a grazing permit structure for property tenure and another is the rapid exploitation of coal, uranium, and other resources that has impacted means of living.¹⁵ Conflict with the Peabody mine at Black Mesa during the 1970s and 1980s led to the creation of environmental grassroots movements that proved the importance of the land in the identity and *homeland* of the people because taking care of Mother Earth meant she could take care of the people.¹⁶ Furthermore, formal introductions continue to involve the presentation of four matrilineal clans as a means of identifying one's place in society.¹⁷ Community input is necessary in planning, as evidenced by the frequency of chapter house meetings - a sort of tribal town hall in which there are 110 in the Navajo

¹³ Trudy Griffin-Pierce, *Earth is My Mother, Sky is My Father* (Albuquerque: University of New Mexico Press, 1992): 21.

¹⁴ Griffin-Pierce, "Earth", 9.

¹⁵ Peter Iverson, *Diné: A History of the Navajos* (Albuquerque: University of New Mexico Press, 2002): 218.

¹⁶ Dana Powell and Andrew Curley, "K'e, Hozhó, and Non-governmental Politics on the Navajo Nation: Ontologies of Difference Manifest in Environmental Activism", *Anthropological Quarterly* 81 (2008): 118.

¹⁷ "Introducing Yourself in Navajo", Navajo WOTD, accessed August 10, 2019.

Nation. At these meetings, it is not unlikely for introductions to proceed in a “sun-wise” or clockwise direction and for main entrances to also be facing the east where the sun rises - the same orientation traditional homes are built on.¹⁸

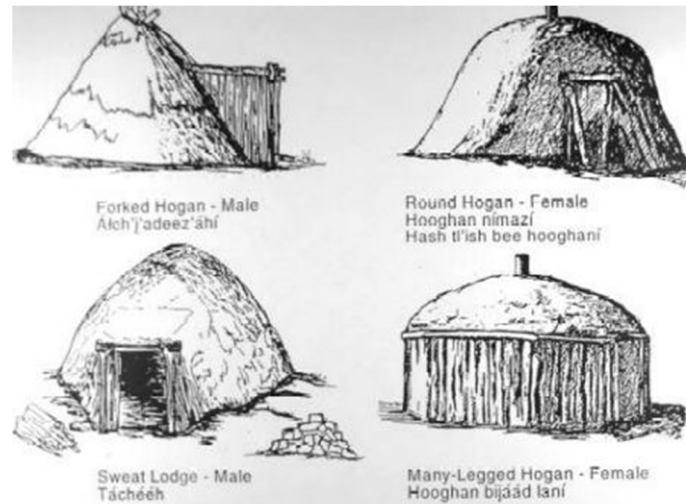


Figure 1. Four traditional structures in Navajo culture. The Female Hogan – specifically, the *hooghan* nimazí or round hogan – is the most common traditional home of the Navajos and will be the focus for this research. Unknown author; image accessed November 20, 2016 from <http://justcelebrity.me/navajo-hogan-floor-plans/>.

The *hooghan* not only embodies the ideas of hózhó and k'é, but it also represents positive environmental stewardship through the use of passive solar design in building and maintaining modest housing. *Hooghans* are a traditional Navajo housing style epistemologically centered on thermal design and two key Navajo principles. Because Navajo philosophy centers around the idea of Mother Earth and Father Sky, the idea of belonging is also established by the *hooghan*. The earthen floor represents Mother Earth; the open air through the smoke hole represents Father Sky. At night, the Northern Star can be seen through the hole and therefore symbolizes the fire at the heart of the universe. The door is to the east and the light traces inside the *hooghan* in the “sun-

¹⁸ Lecture from Navajo Philosophy course at Diné College, Spring 2016.

wise” direction.¹⁹ The *hooghan* is a sacred symbol constructed with such purpose that even possessions inside the home have a particular place: cooking items are kept in the southeast corner, bedding in the southwest, tools in the northwest, and religious paraphernalia in the northeast.²⁰ Due to the relationship of all the directions and the sacred mountains, the *hooghan* therefore represents being sandwiched between all of these holy entities and serves as a reminder of this important relationship. When the average suburban American purchases a tract home, they are more likely to be concerned about square footage, utilities, parking spaces, and the number of indoor bathrooms than they are a cosmic alignment; therefore, cookie-cutter homes are based on these materialistic desires and may not truly serve a Navajo person as a "home" in the deepest sense of the word.

Although not so far away, the Pueblo of Acoma has a much different way of viewing what is a *home* - and it too takes a much different form than the average suburban American concept. The Pueblo’s epistemology has been described by many scholars, Indigenous people, and Indigenous scholars as one which is related to the landscape, the environment, and the people dwelling for eternity within it.²¹ Ceremony is undoubtedly an important part of not just Acoma’s culture but of all of the Pueblos. This kind of ceremony typically revolves around worshipping sacred mountains nearby, recounting the central stories to Pueblo tradition, and harvesting food together in the community. As those of Sky City relied heavily on the rains and thawing of ice to

¹⁹ Lecture from Navajo Philosophy course at Diné College, Spring 2016.

²⁰ Lecture from Navajo Culture course at Diné College, Fall 2015.

²¹ John Gaw Meem, “At Acoma: The Restoration of San Esteban Del Rey Mission,” University of New Mexico, Albuquerque: University of New Mexico Press, 2012: 107.

replenish water sources on the mesa, as well as the sun to warm their living structures, it is clear their traditional worldview is inseparable from the natural world around them. Like the Navajo, the Pueblo of Acoma share an ontology that makes the earth and the maternal figure akin, and so the societies are both nature-centered as well as matrilineal. In fact, the Pueblos in general hold strict matrilineal membership rules.

The Acoma are also much more community centered than other societies due to their religious practices, so their efforts to raise and process food is much more communal than other tribal nations who may have historically experienced a little more independence in this regard.²² The pueblos also tend to consider “community ownership, coalition building with internal and external partners, capacity building, promotion of interdependence that facilitates co-learning, application of research findings to action, and long-term commitment to communities” as key pieces for successful work with Pueblo partners.²³ Furthermore, researcher Anya Dozier Enos writes in separate work that Pueblo methodology “at its heart is the protection, maintenance, and continuance of Pueblo traditions”, emphasizes a non-linear approach at decision-making processes, and encourages the use of spider web metaphors which explain the interconnected understanding of the Pueblo world and which reflect back to central traditional stories of figures such as Spider Woman.²⁴ A Tesuque Pueblo researcher Anthony Dorame described, in his dissertation at Arizona State University,

²² PBS, “People & Ideas: The Pueblos”, accessed <https://www.pbs.org/wgbh/pages/frontline/godina/america/people/pueblos.html>.

²³ L. Belone et al., “Community-Based Participatory Research for Cocreating Interventions with Native Communities: A Partnership between the University of New Mexico and the Pueblo of Jemez. *American Psychological Association* (2016): 199.

²⁴ Anya Dozier Enos, “With Respect...”, *Indigenous Innovations in Higher Education* (Boston: Sense Publishers, 2017): 41. 41–57.

Tesuque axiology as being similar to “Tsimuyeh”, or “the advice”. It describes the knowledge that defines Tewa existence but, when used as a verb, the same work defines the praxis of passing such knowledge anywhere - in the home as well as in important meetings.²⁵ While comparable to the “Corn Pollen Road” or the reference in the Navajo worldview to hózhó, it is not the same; and therefore the definitions of what is a *home* varies from tribe to tribe, even between tribes as geographically close as the Navajo and Acoma.

Considering how epistemology and values impact the creation of a home or other space is not lost on all architects and other researchers. Several researchers around the world have considered the influence different epistemologies and approaches have on architectural design. In her paper “Contextualized Metrics + Narrating Binaries: Defining Place and Process in Indigenous North America”, Indigenous Architect Wanda Dalla Costa argues a need for two-way learning in housing or other construction projects so as to create spaces that serve a deeper purpose within the community that space is created. She argues that, while some designers may attempt to capture cultural elements, they might be unaware of their own biases without open communication with tribal members: “Architects work within contextual influences including the history of people and place, but they are also influenced by current discourse, familiar methodologies, and their own underlying epistemologies.”²⁶

²⁵ Anthony Dorame, “Intersections between Pueblo Epistemologies and Western Science Through Community-Based Education at the Santa Fe Indian School”, Arizona State University dissertation (April 2015): 9.

²⁶ Wanda Dalla Costa, “Contextualized Metrics and Narrating Binaries: Defining Place and Process in Indigenous North America,” A Conference paper presented at Association of Collegiate Schools of Architecture (ACSA), 2016 International Conference. Santiago, Chile, 1.

Architect Balkrishna Doshi, although writing about parallel concerns halfway around the world, takes a similar approach to promoting positive change in architecture and planning within Indian communities. In his paper titled “Cultural Continuum and Regional Identity in Architecture”, he argues that architecture needs meaning to bring culture, identity, and place into one design with character as opposed to a modern, non-personal approach to rapid construction and expansion.²⁷ Through these examples, we see how epistemic customs and values not only affects how projects are planned and constructed within certain manners, but also how those projects relate to the people using them once they are constructed. In order to provide a home that meshes with an individual’s needs, it is therefore critical to first design a space and communication system that enables a tribe’s epistemological view of the world and vision for their community to be realized by the final product - both as an individual housing unit as well as one unit within the greater network of the community.

Engineering and construction result in the actual erection of housing units; however, the architects are the people who must synthesize these design elements and considerations. Between brain drain and an overall lack of education, education attainment, and professional opportunity on reservations relative to many non-tribal communities, tribes often lack the self-efficacy to staff their own design teams.²⁸ These factors results in high rates of outsourcing to professional companies as contractors which is neither cost-efficient nor conducive to ensuring housing designs capture the

²⁷ Balkrishna Doshi, “Cultural Continuum and Regional Identity in Architecture,” *Regionalism in Architecture, Proceedings of the Aga Khan Award for Architecture Regional Seminar, Exploring Architecture in Islamic Culture 2* (1985): 87.

²⁸ Keith James et al., “Barriers to Workplace Advancement Experienced by Native Americans”, *United States Glass Ceiling Commission* (1994): 9.

values, priorities, and true needs of the people who will be living in them. As found in a report on best practices in working with tribes, “the most successful projects involved a high level of collaboration among many different partners, including housing authorities, architects and engineers, community members, tribal leaders, funding agencies, and contractors” which in this instance is described as “integrated design”.²⁹ The report also refers to working with southwest tribes by prioritizing a “southwest vernacular”, the term “vernacular” in architecture emphasizing not just design but functionality.³⁰ It is increasingly important for architects to train in these concepts – and something tribes should consider orchestrated – to reduce the risk of designing spaces for what we *think* people need rather than what they *actually* need and use with satisfaction and pride.

Not only are the conditions of housing in Indian Country considered substandard, but the funding available for improving the housing conditions are notably lacking.³¹ The National Congress of American Indians (NCAI) FY2016 Budget Request report included many statistics to demonstrate the insufficiency of past funding in tribal housing programs and the need for even more funding to repair, maintain, and create future housing units in Indian Country³². The funds for repairing units in the present housing stock is especially important considering an estimated 70% of existing homes range from needing upgrades to requiring serious repairs, compounded by the fact that the population in Indian Country has increased at a growth rate twice that of the United

²⁹ Office of Policy Development and Research. “Best Practices in Tribal Housing: Case Studies 2013”, October 2014, 1.

³⁰ Ibid, 4.

³¹ “Native American Housing: Additional Addition Needed to Better Support Tribal Efforts”, *Government Accountability Office*, 14-255 (2014), <https://www.gao.gov/assets/670/662063.pdf>, 18.

³² “NCAI Fiscal Year 2016 Budget Request,” National Congress of American Indians, accessed April 8, 2018, http://www.ncai.org/policy-issues/tribal-governance/budget-and-appropriations/15_FY2016_Housing_NCAI_Budget.pdf.

States between the last two federal censuses while the poverty rate holds at three times the national average.³³ In other words, in terms of both the present state of Indian housing and the funds available to improve it, both areas are subpar and in need of attention before community improvement can be achieved.

The second component in this research considers how culture and health intersect with housing, especially in Indian Country. It is therefore important to note that the measures used presently to evaluate housing conditions do not include cultural alignment of single units or community layouts as part of that evaluation. Increasing evidence through internal NAHASDA review processes points to the lack of cultural competence, an observation made by the federal components of Indian housing that was discovered in the review of several documents during the compilation of this thesis.³⁴ However, little has been done to demonstrate the real connection between culture, health, housing, and colonization and how to co-create with communities, contractors, and other stakeholders to design housing that will bring about not just comfort but also healing.³⁵ Along with the design process, the collection of data relevant to cultural competency is needed because it currently lacks in the review process and is necessary to determine the effectiveness of tribal housing programs.

The third component focuses on the diverse needs of various tribes, a point that often comes in conflict with the realization that Indian tribes are all serviced through a

³³ Ibid.

³⁴ “Obstacles, Solutions, and Self-Determination in Indian Housing Policy”, *Office of Policy Research and Development*, 2015, <https://www.huduser.gov/portal/periodicals/em/spring15/highlight1.html>.

³⁵ Gasser Gamil Abdel-Azim and Khaled Abdul-Aziz Osman, “The Importance of Cultural Dimensions in the Design Process of the Vernacular Societies.” *Ain Shams Engineering Journal* 9, no. 4 (December 2018): 2755-2765, <https://doi.org/10.1016/j.asej.2017.09.005>.

blanket agency's department: the Department of the Interior's Indian Affairs.³⁶ The programs within this department - including Indian Housing - service tribes more like a disadvantaged group than necessarily like the diverse collection of nations that they are.³⁷ As a result, the cookie-cutter trend in the United States, if left unchecked, risks assimilating the culture within many services to tribes. A cookie-cutter approach also fails to align with current efforts nationally and globally to reduce the carbon footprint of buildings in new and retrofitted construction; for no house constructed to be thermally efficient in southern Arizona is going to be equally as adequate in rural North Dakota, and tribes within the housing services are located from Florida to Alaska.³⁸ It is asserted in this thesis that prioritizing cultural competency in housing programs that honor the diversity across tribal communities not only promotes tribal sovereignty but also improves health, validates the continuation of cultural celebration, saves on energy, and facilitates the need for all Americans to have equal access to clean energy.

Finally, it is necessary to consider how much involvement the federal and tribal governments have in determining the outcome of housing programs in Indian Country, especially in comparison to how programs affecting other aspects of tribal communities have evolved in recent years. Much criticism about the condition of Native Americans came from reformers in the 1920s, prompting then-U.S. Secretary of the Interior Hubert Work, who served from 1923 to 1928, to hire Lewis Meriam of the Institute for

³⁶ Gregory Ablavsky, "Tribal Sovereign Immunity and Patent Law", *Stanford Law School*, September 13, 2017, <https://law.stanford.edu/2017/09/13/tribal-sovereign-immunity-and-patent-law/>.

³⁷ Ibid.

³⁸ "Climate Zones", *Office of Energy*, <https://www.energy.gov/eere/buildings/climate-zones>.

Government Research (IGR) to audit the inefficiency of the U.S. Indian Service.³⁹ The poor living conditions of Native Americans that the report identified inspired solutions such as Indian reorganization, relocation for economic opportunity away from tribal communities, termination, and other policies which favored assimilating tribal nations into American society. These changes, many of which were initiated by Commissioner for the Bureau of Indian Affairs John Collier during his 1933 to 1945 appointment, fell under the “Indian New Deal” label.⁴⁰

Since a surge in resistance to these programs which coincided largely with the Civil Rights movement, a shift away towards assimilation and towards self-determination has resulted in various tribes and think-tanks considering the ways culture and tradition play a role in social healing. Health and agricultural programs focusing on food sovereignty look at shifting federal and tribal policies to restore traditional food and medicine systems, thereby addressing the increased rate of diabetes, obesity, and alcohol/drug addiction often encountered in communities.⁴¹ Housing, however, is another aspect affected by federal and tribal policy which also interplays with social, political, economic, and cultural issues that affect tribal member health.⁴² From land jurisdiction to community involvement in planning and design, both the federal and tribal governments have the responsibility to streamline procedures such as land

³⁹ Donald T. Critchlow, “Lewis Meriam, Expertise, and Indian Reform”, *The Historian* 43, no. 3 (May 1981): 325, <https://www.jstor.org/stable/24446079>.

⁴⁰ Jessie Kratz, “Indian New Deal”, *National Archives*, <https://prologue.blogs.archives.gov/2015/11/30/indian-new-deal/>.

⁴¹ “American Indian/Alaska Native Profile”, U.S. Department of Health and Human Services: Office of Minority Health, accessed July 15, 2019 from <https://minorityhealth.hhs.gov/omh/browse.aspx?lvl=3&lvlid=62>.

⁴² Dawn Satterfield, et al., “Health Promotion and Diabetes Prevention in American Indian and Alaska Native Communities - Traditional Foods Project, 2008-2014,” *Center for Disease Control and Prevention Supplements* 65, no. 1 (February 12, 2016). <http://dx.doi.org/10.15585/mmwr.su6501a3>

withdrawal and to create design processes that privilege traditional methods and epistemologies that not only promote more sustainable construction but which address the often overlooked “behavioural, socio-cultural and physical” impacts of space.⁴³ Such planning requires community input, creating space for its own story to be told and its traditions validated.⁴⁴ At times, cultures may wish to perform ceremonial blessings or other methods before certain phases of construction, old practices which should be respected.⁴⁵ Centering Indigenous knowledge is also a critical component of this step.⁴⁶

In order to analyze the effectiveness of Indian housing programs, this research focuses predominantly on the consequences of NAHASDA. This act represents a critical turning point in Indian policy, the culmination of which results from decades of policy that over time included the various components addressed in this research. The first landmark in the development of NAHASDA came when the Meriam Report of 1928 reviewed the substandard state of living conditions on Indian Reservations, creating a public outcry over gruesome figures of poverty, lack of access to clean water, and other concerns that continue in Indian Country to this day.⁴⁷ The published document reported the general conditions of Indians in the 1920s at 95 locations which included reservations, hospitals, agencies, schools, and diasporic communities. The

⁴³ Foluke Jegede, et al., “Designing to Meet Indigenous Needs: Place of Traditional Studies in Architectural Education,” *INTED2017 Proceedings*, (2017), <http://dx.doi.org/10.21125/inted.2017.0672>

⁴⁴ Mario Blaser, “Ontological conflicts and the stories of people in spite of Europe: Toward a conversation on political ontology”, *Current Anthropology* 54, no. 5 (October 2013): 547.

⁴⁵ Wendy Makoons Geniusz, *Our knowledge is not primitive: decolonizing botanical Anishinaabe teachings* (Syracuse, N.Y.: Syracuse University Press, 2009): 58.

⁴⁶ Vanessa R. Lea, “Ontological conflicts concerning Indigenous peoples in contemporary Brazil”, *ab-Original* 1, no. 2 (2017).

⁴⁷ Lewis Meriam, et al., “The Problem of Indian Administration. Report of a Survey Made at the Request of Honorable Hubert Work, Secretary of the Interior, and Submitted to Him, February 21, 1928,” Brookings Institution, Baltimore: John Hopkins Press, 1928.

report covers: “(1) a general policy for Indian Affairs, (2) health, (3) education, (4) general economic conditions, (5) family and community life and the activities of women, (6) migrated Indians, (7) legal aspects of the Indian problem, and (8) missionary activities among Indians”.⁴⁸

Overall, the report found that “the health of the Indians compared with that of the general population is bad”, reporting not only high rates of health issues but also acknowledging the failures of healthcare systems to address the concerns of health existing in Indian populations.⁴⁹ The health section describes hospitals and similar settings as being understaffed, underfunded, and lacking necessary equipment. It also states that “the most important single item affecting health is probably the food supply” with language barriers also providing challenges.⁵⁰ Economically, the report finds Indian income to be severely low and that the Dawes Act (which allotted land and resulted in the loss of some Indian parcels) had a detrimental effect on the ability to have better means. Changing political atmosphere in the federal administration was faulted largely for allowing poor policy to continue without correction for the sake of improving Indian economic conditions.⁵¹ With its observations on Indian education, the Meriam report especially expressed assimilative goals, arguing that Indian children should be integrated with the majority of the population in education. The report argued that “the most fundamental need in Indian education is a change of point of view” and that “the survey staff finds itself obligated to say frankly and unequivocally that the provisions for

⁴⁸ Meriam, “The Problem”, xiii.

⁴⁹ Ibid, 3.

⁵⁰ Ibid, 9.

⁵¹ Meriam, “The Problem”, 18.

the care of the Indian children in boarding schools are grossly inadequate”, citing overcrowding, poor diet, and an overall lack of medicines and other standards.⁵² (Today, overcrowding and homelessness remain enormous concerns in Indian Country’s housing programs.⁵³) Ultimately, the report found that “any policy for Indians based on the notion that they can or should be kept permanently isolated from other Americans is bound to fail”.⁵⁴

While the report offers many recommendations, some were considered more emergency than the others. In particular, the pupil conditions prompted then-President Hoover to supply emergency funds to help clothe and feed Indian children.⁵⁵ Much of the criticism contained within the report focused on the deep analysis of how the Dawes Act of 1887 to break up communal lands had led to severe failures that exacerbated an already contentious situation of tribal and nontribal relations. It took five years but the allotment policy was finally dismissed and, on June 18, 1934, the Indian Reorganization Act (IRA) was signed into law by then-President Franklin D. Roosevelt. The IRA allowed tribes to organize themselves as well as take lands communally into trust, an act largely credited to the Roosevelt-appointed Commissioner for Indian Affairs John Collier.⁵⁶ While the IRA came with its own challenges and was merely one step in the direction of self-determination for tribes, the public reaction to the report’s findings is worth noting - especially considering public attitudes of Indians during the time and of

⁵² Ibid, 346.

⁵³ Terry Ludwig, “The Hidden Housing Crises in Indian Country,” *Huff Post*, July 2, 2013, accessed https://www.huffpost.com/entry/native-american-housing_b_3193289.

⁵⁴ Ibid, 415.

⁵⁵ “Food and Clothing for Children at Indian Schools”, U.S. Senate Committee on Indian Affairs, 1930, 30.

⁵⁶ Steve Talbot, “Native Nations of North America”, Oregon State University, San Francisco: Pearson Education Inc., 2015: 108.

general public ignorance of Indian populations, policy, and history. Perhaps the treatment of children prompted public outcry; or perhaps it was a result of embarrassed citizens realizing that, in a country so “great”, there could exist a demographic that not only historically had suffered so much but which continued to suffer at disproportionate rates.

In searching for evidence of public reaction to the Meriam Report, various newspaper commentaries can be found from 1928 onward. For example, rather immediately after the publishing of the report, a Reverend Dr. John A. Ryan called attention to the report’s findings of extreme poverty as the Director of the Department of Social Action of the North Carolina Wesleyan College. He reiterates many of the sentiments in the report, such as an inherent lack of “industrious” attitude in Indians contributing to impoverishment in combination with land only useful for grazing, blaming “white men” for confiscating the more productive allotments. He argues a loss of culture as a driving factor for poverty and that “Congress ought to face frankly the question whether it intends to maintain the Indians in idleness or to make them self-supporting”, the best approach to be giving “intelligent guidance and adequate opportunity” for employment as recommended by the report. (Unknown. “Indians’ Poverty Shames America: Dr. Ryan Says Conditions Constitute Grave Reproach to Nation.” *The Tablet*, Brooklyn, New York, December 22, 1928). Years later, a certain Mrs. Elizabeth B. Roe Cloud spoke at a 1955 NCAI session and was quoted arguing that the published survey “revealed that several past policies adopted by the government in dealing with Indians had been a type which, if continued, would ‘tend to pauperize any race’.” (Unknown. “Ideas Aplenty to Aid Indians.” *The Spokesman-Review*, August 30,

1955). Indeed, the majority of public commentary regarding the report seems to reflect the theme of the Meriam Report itself: Congress has failed the Indians because Congress has failed to teach them how to assimilate better - and it has given too many productive land parcels to whites.

While various articles in the 20th century aimed to associate Indian poverty with a failure to take up a “Western attitude” and learn Western systems, some offshoots of non-Indian society *were* considering the flaws of assimilative policy. Even more specifically, the suggestion in this thesis that blanket programs are ineffective for serving tribes is not a new one; in fact, it should seem a committee of Quakers long tasked with overseeing Indian treatment has reported various findings against assimilative approaches, perhaps being themselves aware of functioning outside of a mainstream society. While perusing old newspaper collections, a letter to the editor of the Dayton Daily News was found, written by William Preis of Yellow Springs, Ohio on May 7th, 1953. Mr. Preis had recently attended the 84th annual meeting of the Associated Executive Committee of Friends (Quakers) on Indian Affairs in Pennsylvania, a committee he describes as having been formed in 1869 at President Grant’s request for overseeing the care of Indian tribes. Mr. Preis writes the following:

While we are in sympathy with the hope that the Indians may become independent of special federal protection, it is our considered judgment that no blanket application of this policy should be attempted now. Our experience, and it has been wide, leads us to believe that each tribe presents a distinct problem which must be solved on its own merits. Often the difficulties within a single tribe are multiform... We plead that no general withdrawal of Bureau support of

the Indians be attempted until after a detailed, tribe-by-tribe survey has been made in advance to determine the probable results. Such a survey should be made by an impartial, outside group which could bring the Meriam Report of 1928 up-to-date. (Preis, William. "Aid for Indians." Dayton Daily News, May 7, 1953.)

It had been 25 years since the publishing of the Meriam Report and on the brink of tribal terminations when this Ohio citizen wrote his insightful reflections on the systems affecting tribal nations. Unfortunately, many decades have passed since and his advice, the advice of his committee, and any others giving a similar plea since the Meriam Report have been largely ignored in the implementation of Indian policies - and the vast majority still felt the federal government had failed the Indians because it had failed to assimilate them properly.

The Meriam Report (and to the public's general outrage caused by it as well) did, however, cause a reaction by the government to make some policy changes, although those changes were slow coming and not exactly what various committees such as the Quakers' had in mind over the years. The federal government's Department of Housing and Urban Development had first reacted to the general "substandard" living conditions of tribal peoples by creating the Office of Public and Indian Housing in 1937.⁵⁷ The next major shift in policy came decades later when issues with jurisdiction and financing became the new focus.⁵⁸ In 1983, Congress established the Federal Housing Administration (FHA) after identifying mortgages on tribal lands as being a substantial

⁵⁷ Talbot, "Native Nations", 6.

⁵⁸ Ibid, 8.

barrier for homeownership.⁵⁹ Five years later, it passed the Indian Housing Act of 1988 (P.L. 100-358) then authorized the Section 184 loan guarantee program in 1992, eventually enabling tribes to access funding from 14 different HUD programs.⁶⁰ As an increased number of federal laws in the 90s moved to protect culture and promote tribal sovereignty, Congress updated the Indian housing program by passing NAHASDA.⁶¹

NAHASDA was not only a way to consolidate the plethora of accessible programs for Indian housing and lending more efficiently, but the act was also a way to incorporate more self-determination for tribes - something previous programs had failed to do.⁶² This incorporation aligned with other shifts in policy to give tribal governments more control over their own affairs and program dollars, especially after decades of Indian housing programs had failed to eradicate extreme conditions in many communities - at least insofar as the standards by which the federal government has determined what constitutes poverty, despite those standards typically reflecting a Western perspective of what is wealth which may clash greatly with another cultural perspective.⁶³ Self-determination is the idea that tribal nations can exercise the rights that come with holding a sovereign status, recognized by the federal government. First, NAHASDA consolidated funding to address financing issues, creating a “single block grant that provides funds to eligible

⁵⁹ Katie Jones, “The Native American Housing Assistance and Self-Determination Act of 1996 (NAHASDA): Background and Funding,” in *Native American Housing: Federal Assistance, Challenges Faced and Efforts to Address Them*, edited by Cassandra Durand. New York: Nova Science Publishers, 2015, 9.

⁶⁰ *Ibid.*

⁶¹ *Ibid.*

⁶² Jones, “The Native American Housing Assistance”, 10.

⁶³ Jones, “The Native American Housing Assistance”, 10.

tribes based on a formula”. Second, it generated new methods and regulations to incorporate increased tribal self-determination in housing decisions.⁶⁴

Three main components of NAHASDA that Congress implemented to strengthen tribal sovereignty are 1) directly funding the tribes or Tribally Designated Housing Entities (TDHEs) to administer the programs; 2) creating a negotiated rulemaking process that includes tribal leaders; and 3) making a platform for tribal leaders to influence how their housing programs are operated.⁶⁵ This negotiated rulemaking in the NAHASDA program means any regulations the program established are created “through a process that includes tribal representatives as well as representatives of HUD”.⁶⁶ These tribal representatives are from federally-recognized tribes only, with the exception of five state-recognized tribes. The committee of these tribal leaders HUD establishes for each reauthorization of the NAHASDA program is responsible for developing several regulations. In particular, they negotiate their formula areas, formula current assisted stock (or pre-NAHASDA housing stocked developed through the 1937 Housing Act’s programs), and what their housing need is.⁶⁷ It should be mentioned that, while NAHASDA vaguely outlines certain procedures to incorporate tribal input, there are presently no stipulations that specifically consider the efficacy of programs or authorities within tribal governments which oversee tribal housing deliveries - and that reality should not be overlooked as well.

⁶⁴ Ibid.

⁶⁵ Government Accountability Office, “Native”, 61.

⁶⁶ Jones, “The Native American Housing Assistance”, 12.

⁶⁷ Jones, “The Native American Housing Assistance”, 13.

While NAHASDA increases tribal self-determination in housing programs, several components considered in this research remain excluded or not fully implemented by the act. For example, various barriers in financing and policy continue to inhibit tribal governments from constructing housing units on their own lands.⁶⁸ Because of the political dichotomy perpetuated by NAHASDA, certain regulations that work for one tribe but not another can only change after a majority vote from tribal governments and approval by the federal government.⁶⁹ This dichotomy also means the housing crisis in Indian Country is addressed with a cookie-cutter approach that is presently not tailored to the distinct cultural, geographical, political, economic, and social factors that often have considerable impacts on project implementation.⁷⁰ Presently, conversations regarding population data collection and funding distribution have been more front and center than any discussion about developing a comprehensive approach to diversifying the system based on individual tribal scenarios, harkening back to the 1953 letter by Mr. Preis in which he insisted that such a process be central to approaching the issues in Indian Country highlighted by the Meriam Report. While various studies have suggested the inclusion of cultural design within HUD projects and greater freedom for tribes to choose which census data they use to determine program funding, HUD has repeatedly acknowledged but neglected to incorporate these suggestions in an amended act.⁷¹

⁶⁸ “Indian Country Issues”, United States Department of Justice, *Executive Office for United States Attorneys* 62, no. 4 (July 2014), <https://www.justice.gov/sites/default/files/usao/legacy/2014/07/16/usab6204.pdf>.

⁶⁹ Government Accountability Office, “Native”, 65.

⁷⁰ Seltenrich, “Healthier”, A463.

⁷¹ Government Accountability Office, “Native”, 68.

Not only do these critiques and unimplemented recommendations serve as motivation for analyzing NAHASDA and the unchanged housing conditions in Indian Country, but so does the increased amount of research and evidence demonstrating the nexus between architecture, health, and culture. The shift towards self-determination to address the housing crisis in Indian Country gives tribes more control in how tribal housing funds are used, but NAHASDA still fails to incorporate and prioritize the cultural components of homemaking that may intrinsically be connected to physical and mental health among Indigenous populations.⁷² Instead, tribal government leaders may even opt out of more creative solutions to intertwine culture and community planning so as to cut costs, avoid excessive consultation between all effective constituents, and facilitate the use of non-tribal contractors to complete the tasks due to limited staff and resource - something my professional experience in intergovernmental planning for tribal roads and housing developments has made me aware of in recent years. Often, limitations in technical skills may result in the hiring of consultants from out of the community and culture, leading to various other challenges. This research therefore considers what solutions may exist to incorporate sustainable designs and traditional epistemologies as a way to improve health and living conditions on Indian reservations once and for all.

1.2 Project Goals

Ultimately, the goal of this project is to: review the effectiveness and shortcomings of NAHASDA and HUD's current Indian housing regulations;

⁷² Aida V. Kiryakova et al., "The axiological approach to the analysis of the problems of modern university education", *Mediterranean Journal of Social Sciences* 6, no. 2 (April 2015): 22.

demonstrate the substantial cultural differences between traditional housing in tribes that may even be geographically similar; document the community-specific and often thermally efficient designs of traditional homes; show the connection between culture, sovereignty, and health; and make suggestions for Indian housing policy and processes that can facilitate cultural competency and help better ensure project efficacy for all entities involved in tribal housing design projects.

1.2.1. Project Specific Goals

A review of NAHASDA and Indian housing policies provides the information needed to assess the effectiveness of how HUD incorporates tribal self-determination and addresses the issue of substandard housing in Indian Country. The review considers what recommendations HUD has received in recent years and what changes it has or has not chosen to implement. Praise and critique from tribal housing programs and tribal leaders are also necessary to evaluate what impact NAHASDA has had and what changes are desired by such entities. These commentaries and suggestions help pinpoint any strengths as well as shortcomings of NAHASDA and HUD's current Indian housing regulations. They also demonstrate what factors and approaches are not currently considered but which may be substantial according to architectural and culture-centered solutions presented by other past and present research.

While tribal feedback for programs is often obtained through sources such as tribal council meetings, congressional hearings, and formal surveys, another significant source of tribal input comes from the Government Accountability Office (GAO). In my personal experience, the GAO visited the tribal department for which I was working to

conduct research on the effectiveness of transportation programs on reservations and the use of federal funds, meetings in which we expressed conflicts with other agencies, delays from excessive red tape, and increased construction costs due to remoteness as serious barriers. In theory, the GAO is a great resource for documenting tribal concerns; however, the question then becomes whether or not the agency at the receiving end of the criticism will invoke any reforms based on the feedback or not. In the case of the housing situation in Indian Country and NAHASDA, the GAO has done similar work - and has expressed equally similar pushback. For example, in 2014, the office reported one serious recommendation for HUD to “seek input from all tribes about the new training and technical assistance procedures” in which HUD agreed “generally” to the recommendations but “disagreed with the recommendation about creating a feedback mechanism because it said it already had one” despite the existing one lacking “outreach to tribes that have yet to use the new procedures”.⁷³ Arguably, this example is an iconic representation of when good theory is applied but the praxis to see positive changes made fails to surface - and many of the recorded comments by the GAO regarding HUD and the effectiveness of implementing NAHASDA projects reflect these exact concerns of failed responsible surveying and change.

While many of the complaints of the effectiveness of the program relate to logistics and interagency barriers, the point made in 1953 by Mr. Preis resurfaces in thought: How can - even theoretically - the federal government serve populations so diverse culturally, geographically, and therefore in problems while utilizing a singular blanket approach? For this very reason, one major critique of NAHASDA outlined by

⁷³ “Native”, *Government Accountability Office*, 1.

this research is its failure to approach tribes as individual entities with separate cultural, economic, political, social, and even geographical needs. A variety of resources about tribal programs and how to implement culturally-specific paradigms in an array of Indigenous communities demonstrate the significance of cultural differences between the more than 570 federally-recognized tribes that presently are recognized and therefore served by federal government programs in the United States.⁷⁴ These examples illustrate how culturally distinct tribes are as well as the need to incorporate specific cultural elements and approaches when working with tribes. Specifically, much research around the world exists which correlates architectural elements to cultural needs beyond mere aesthetics. This paper incorporates these findings in order to highlight the connection between culture, sovereignty, and health by citing findings of such a nexus amongst Indigenous communities in various studies.

In conjunction with analyses on federal regulations, this research critiques how officials respond to reformation recommendations, the priorities tribal governments and TDHEs take in housing development, and if the conduct of these entities positively or negatively impacts cultural and housing sovereignty by looking at current policies in the context of the metanarrative of Indian housing programs, demonstrating cultural diversity between tribes impacted by federal policy, and highlighting substantial connections between well-being, culture, and housing. The final arguments herein critique the changes federal policymakers, tribal leaders, and TDHEs should make to authentically provide housing services to tribal members that fulfill their needs, honors their cultures, and promotes tribal sovereignty and self-determination. The findings

⁷⁴ “About Us”, Bureau of Indian Affairs, <https://www.bia.gov/about-us>.

argue that, between the present structure of HUD's Indian programs and the negligence of federal officials to amend it, the federal government is not acting in "good faith" as it should to service Indian nations with adequate housing that welcomes cultural continuance and which operates as a significant gateway to improved health amongst individuals, family units, and communities as a whole.⁷⁵

⁷⁵ Huston, James A. "The Northwest Ordinance Of 1787." Lynchburg, Virginia: H.E. Howard, Inc., 1987.

2 REVIEW OF NAHASDA & CURRENT HUD INDIAN HOUSING REGULATIONS

In order to review the effectiveness and approach of NAHASDA HUD Indian housing regulations, this section considers the objectives of Federal Native American housing services, the documented criticism and praise of NAHASDA regulations, and the components of housing design and urban planning that have not appeared in documented criticisms. Understanding the intent of these programs makes it possible to highlight the successes and failures based on various reports, statistics, and commentaries recorded in a number of documents. The findings of this review, in combination with other sections, ultimately inform the recommendations for changes to be made in policy and in how different governments or entities engage in Indian housing programs and planning.

2.1 Objectives of Federal Native American Housing Services

The inspiration for creating federal programs for Native American housing came from the 1928 Meriam Report. This report documented issues in education, health, housing, and economic disparities across tribal communities⁷⁶. Federal policies suddenly shifted towards an attempt to “correct” these issues due to public outcry and despite the fact that these socio-economic challenges stemmed from settler-colonial impact. Shortly after the Meriam report and after the onset of the Great Depression, the United States implemented the Housing Act of 1937, or P.L. 75-412. This act is

⁷⁶ Lewis Meriam, et al., “The Problem of Indian Administration”, Secretary of the Interior, February 21, 1928, accessed from http://www.alaskool.org/native_ed/research_reports/IndianAdmin/Indian_Admin_Problms.html.

sometimes known as the Wagner-Steagall Act and enabled the federal government to pay subsidies for public housing working with low-income families to improve their living conditions.⁷⁷

The 1937 act expanded the National Housing Act of 1934, establishing the Federal Housing Administration (FHA). The long title encapsulates the full purpose of the act: “An Act to provide financial assistance to the States and political subdivisions thereof for the elimination of unsafe and unsanitary housing conditions, for the eradication of slums, for the provision of decent, safe, and sanitary dwellings for families of low income, and for the reduction of unemployment and the stimulation of business activity, to create a United States Housing Authority, and for other purposes”.⁷⁸ Despite knowing the impoverished reservation conditions identified by the 1928 report, however, the federal government would not address Native American housing deficiencies until 1961.⁷⁹ Political opinions during the years between 1928 and 1961 suggest a possible explanation: First, the IRA passed as an attempt to provide more tribal self-determination while, technically, also choosing to saddle tribes with higher burdens rather than administer more intense programs from the federal side; second, once the shift from self-determination abruptly turned with the Great Depression, Dust Bowl, World War II, and Cold War adding extra burden to the federal administrations, terminating tribes became the justified end goal of the 1950s and 1960s.⁸⁰ Although not

⁷⁷ Lawrence M. Friedman, “Public Housing and the Poor: An Overview”, *California Law Review* 54, 2, 12 (May 1966).

⁷⁸ United States, and United States Housing Authority, “The United States Housing Act of 1937: As Amended, And Provisions of Other Laws And of Executive Orders Pertaining to the United States Housing Act of 1937, As Amended.”, Washington, D.C, 1938.

⁷⁹ Government Accountability Office, “Native”, 59.

⁸⁰ Talbot, “Native”, 108.

a definitive answer, it seems highly plausible that the assimilative failures cited in the Meriam Report as being indicators of how tribes were impoverished and could not recover likely enticed the federal government to move towards destroying any special services to Indians before any attempts at the opposite: investing more time and money to diversify the system and account for the failures of blanket policies.

In 1961, the Housing Act expanded so that tribes could create their own Public Housing Authorities (PHAs) known as Indian Housing Authorities (IHAs).⁸¹ Programs moved in a direction of homeownership for individual tribal members, some on the reservation as authorities appeared and began constructing “contemporary” homes on tribal lands and others to areas where jobs were promised, such as industrial cities like Cleveland, Ohio.⁸² Congress made changes to the FHA in 1983 in order to address mortgages as a barrier to homeownership on tribal lands. Similar other programs, including Section 184, passed over the course of the next decade which enabled tribes to obtain funding for housing from a total of 14 different HUD programs. Finally, in October 1996, Congress passed NAHASDA. The passage of this act after the culmination of years of policy changes represented a broader shift in Indian policy towards self-determination.⁸³

NAHASDA was not only a way to consolidate the plethora of accessible programs for Indian housing and lending more efficiently, but the act was also a way to incorporate more self-determination for tribes - something previous programs had failed to do. This

⁸¹ Jones, “The Native”, 8.

⁸² The Cleveland Museum of Art, “American Indians in Cleveland”, n.d.

⁸³ “Native American Housing Assistance and Self-Determination Act of 1996”, U.S. Department of Housing and Urban Development, 1996.

incorporation aligned with other shifts in policy to give tribal governments more control over their own affairs and program dollars, especially after decades of Indian housing programs had failed to eradicate extreme conditions in many communities. The end result of NAHASDA's passage is the creation of a "single block grant that provides funds to eligible tribes based on a formula". The new program began in FY1998 after President Clinton signed NAHASDA into law October 26, 1996.⁸⁴

Three main components of NAHASDA that Congress implemented to strengthen tribal sovereignty are 1) directly funding the tribes or designated TDHEs to administer the programs; 2) creating a negotiated rulemaking process that includes tribal leaders; and 3) making a platform for tribal leaders to influence how their housing programs are operated.⁸⁵ This negotiated rulemaking in the NAHASDA program means any regulations the program established are created "through a process that includes tribal representatives as well as representatives of HUD".⁸⁶ These tribal representatives are from federally-recognized tribes only, with the exception of five state-recognized tribes.⁸⁷ The committee of these tribal leaders HUD establishes for each reauthorization of the NAHASDA program is responsible for developing several regulations. In particular, they negotiate their formula areas, formula current assisted stock (or pre-NAHASDA housing stocked developed through the 1937 Housing Act's programs), and what their housing need is.⁸⁸

⁸⁴ Jones, "The Native", 10.

⁸⁵ "Native", *Government Accountability Office*, 61.

⁸⁶ Jones, "The Native", 12.

⁸⁷ Ibid, 13

⁸⁸ Jones, "The Native", 13.

When NAHASDA was passed in 1996, it coincided with the general American concern for public housing that was growing in the 1990s. Housing was considered “mismanaged, of poor quality, and dangerous” while social programs were being reformed to increase “focus on promoting work and self-sufficiency”, often with a “one-stop shop approach”.⁸⁹ The passing of NAHASDA also coincided with 1996 legislation to address the debate around welfare reformation.⁹⁰ One significant result of passing NAHASDA was that the act established the Native American Housing Block Grant (NAHBG) program, also known as the Indian Housing Block Grant (IHBG) program. By creating this program, NAHASDA prevented IHAs from receiving funds from the various other HUD programs they previously had access to and instead consolidated funding in a more streamlined fashion. Most importantly, the block grant program created six (6) categories for which funding could be used: 1) Indian housing assistance; 2) development; 3) housing services; 4) housing management services; 5) crime prevention and safety; and 6) model activities. The purpose of categorizing expenditures was to control how funds are spent in a way to encourage fiduciary efficiency across tribal housing programs where the tribes choose to administer their own programs.⁹¹ In fact, various entities during the era between the 1960s and 1990s were affected by the streamlining goals of the federal government and its block programs. The National Council on Disability - which also had some programs impacted over the decades by structural changes - reported this process as “the consolidation of discretionary grant programs, with the aim of streamlining

⁸⁹ “Overview of Federal Housing Assistance Programs and Policy”, Congressional Research Service, 2019.

⁹⁰ “Overview of Federal Housing Assistance Programs and Policy”, Congressional Research Service, 2019.

⁹¹ Jones, “The Native”, 16-17.

administration and enhancing state and local decision-making authority”.⁹² All in all, NAHASDA and the changes it brought focus on financing for homeownership, streamlining finances for existing and new housing stock, checking excess expenditures or untouched funds within tribal programs, and continuing to address the substandard conditions that persist even after merely a century since the Meriam Report’s release.

2.2 Documented Criticism & Praise of NAHASDA Regulations

Certain participating tribes in housing programs have reported issues with the NAHASDA procedure that impact their ability to service their own people.⁹³ One critical issue lies in the calculating formula areas the federal government developed for determining how much funding should go to each tribe. The controversy in these formulae lie largely within the data utilized by HUD to calculate allocations as tribes challenge their inability to decide individually how to determine their population sizes and needs. U.S. Census data is considered self-identifying and therefore problematic, tribal data is not always complete, tribal rolls may not contain descendants without enrollment, tribal members do not all live on formula area lands, tribal members from other tribes may live on tribal lands, and essential tribal employees who are non-Indian may be considered eligible by tribal law for a share in Indian housing.⁹⁴ Multiracial people provide another dimension to census issues, including the Cherokee Freedmen.⁹⁵

⁹² National Council on Disability, “Origins and Effects of Federal Block Grant Programs”, accessed <https://www.ncd.gov/policy/chapter-2-origins-and-effects-federal-block-grant-programs>.

⁹³ Jones, “The Native”, 30.

⁹⁴ Jones, “The Native”, 38.

⁹⁵ Ibid, 28.

Each tribe has its own way of approaching population counts, yet the NAHASDA program determines only one method must be used across each tribe receiving funds. On the flipside, tribes are also leery of inconsistencies in “formula areas” that might result in some tribes taking more than their share of the available funding.⁹⁶ While some politicians have used addressing Indian housing issues for their platforms, such as former Secretary of HUD Julián Castro’s People First Indigenous Community Policy plan released in 2019, none outline exactly what that process will look like.⁹⁷ Castro highlighted that “Indigenous communities have been treated as second-class citizens rather than sovereign tribal nations free to determine their future” which has “contributed to greater disparity, greater injustice, and in some cases, intolerable conditions in Indigenous communities”, arguing that a better partnership with federal programs and policies would bring prosperous results.⁹⁸ However, the funding formula is just one issue when it comes to money restrictions under NAHASDA.

Another challenge with current housing policies is the restrictions on funding use. NAHASDA implements relatively straightforward FCAS calculations⁹⁹ that may only be reduced if a tribe is no longer using - or tears down - pre-NAHASDA housing.¹⁰⁰ The needs component, on the other hand, is a little more complicated as it requires a weighted distribution of seven factors. These factors are weighted by the number of AI/AN

⁹⁶ Ibid, 39.

⁹⁷ Julián Castro, “People First Indigenous Communities Policy”, *Julián Castro*, <https://issues.juliancastro.com/people-first-indigenous-communities/> accessed 7 August 2019).

⁹⁸ ICT Editorial Team, “Julián Castro: Partner with tribes 'for a fairer and more prosperous future'”, *Indian Country Today Media Network*, July 26, 2019.

⁹⁹ Note: Formula Current Assisted Housing Stock (FCAS) calculations are defined by the IHBG program as a method for allocating funds fairly between eligible tribes. One critical factor in determining fair distribution is to assess the affected population, but which source for the data is selected and which populations one tribe considers eligible over another can cause inconsistencies in funds distribution.

¹⁰⁰ Jones, “The Native”, 14.

households as follow: 1) households that are overcrowded or without complete kitchens/plumbing (25%); 2) households with housing costs over 50% of annual income (22%); 3) households with annual income 80% or less of the medium minus housing stocks developed under NAHASDA (15%); 4) households with annual incomes under 30% of median income (13%); 5) households in total (11%); 6) households with annual income between 30% and 50% of the median (7%); and 7) households with annual income between 50% and 80% of the median (7%).¹⁰¹ Although tribes have an influence in the weights and factors considered for funding, they must still reach a consensus between each other and the HUD representatives before the program can administer funds to the tribes.¹⁰² As with the census data controversy, tribes are forced to conform to a singular method to determine need despite having their own definitions for it.

Data collection in tribal communities has long been surrounded by complication and hesitation for both those individuals and entities attempting to collect data as well as those people asked to complete questions. In the year 2020, the NCAI launched its U.S. Census educational campaign in an attempt to have more American Indians and Alaska Natives counted but has reported concerns for continued severe undercounting. The NCAI takes the position that accurate census counts are vital, arguing they are “foundational to democracy” and “essential to fair resource distribution” as they help determine population needs and funding.¹⁰³ Its policy research center, however, continues to view tribal communities as an “asterik nation”, arguing that “an asterisk, instead of data

¹⁰¹ Ibid, 15. Note: These statistics are part of the original report.

¹⁰² Ibid, 16.

¹⁰³ National Congress of American Indians, “Census”, <https://www.ncai.org/policy-issues/economic-development-commerce/census>.

point, is often used in data displays when reporting racial and ethnic data due to various data collection and reporting issues, such as small sample size, large margins of errors, or other issues related to the validity and statistical significance of data on American Indians and Alaska Natives”.¹⁰⁴ In many cases, the sheer remoteness of tribal communities is a major factor to the federal undercount. For example, in Alaska, home to 229 federally-recognized tribes, community members may begin responding to the census in their village as early as January, but poor weather can prevent their ability to travel and do so. For others, they may still lack an education or understanding on what the census is and why it is so important to providing services to their people.¹⁰⁵

The other factor that prevents many communities from obtaining accurate census data is a concern for “data sovereignty”. The Native Nations Institute defines data sovereignty as the “right of a nation to govern the collection, ownership, and application of its own data”.¹⁰⁶ In recent years, the United States Indigenous Data Sovereignty Network (USIDSN) was developed in an effort to promote Indigenous peoples around the world in collecting, maintaining, and protecting their own data in an era when technology use often drives a constant collection of personal information. The expanding movement towards data sovereignty in Indigenous communities may be a positive intersection with the issue of data collection for tribal services such as housing funding; however, the variations in jurisdictions and even recognition levels between tribes served by Indian

¹⁰⁴ NCAI Policy Research Center, “Data Disaggregation”, <https://www.ncai.org/policy-research-center/research-data/data>.

¹⁰⁵ Jennifer Bendery, “‘Devastating’: The Census Bureau is about to severely undercount tribes”, *HuffPost*, August 16, 2020.

¹⁰⁶ Native Nations Institute, “Indigenous Data Sovereignty and Governance”, <https://nni.arizona.edu/programs-projects/policy-analysis-research/indigenous-data-sovereignty-and-governance#:~:text=Indigenous%20data%20sovereignty%20is%20the%20right%20of%20a,right%20to%20govern%20their%20peoples%2C%20lands%2C%20and%20resources>.

housing programs remain challenges. As Rebecca Tsosie describes in her 2019 paper on tribal data collection and governance, a challenge that many tribes face is still who accesses the data, what they will do with the information, and whether or not certain federal laws are preemptive in certain cases such as the Freedom of Information Act (FOIA).¹⁰⁷

Funding continues to be a challenge in how tribes engage with NAHASDA and other HUD programs, and not just because of inconsistent and inadequate data collection. For example, about ⅓ of housing funds go to development and another ⅓ go to Indian housing assistance, meaning small budgets might have to stretch across a wide range of uses related to housing.¹⁰⁸ One setback to NAHASDA is, by using NAHBG funds to keep previously built units functional, the availability of remaining funds for creating new units and other activities is greatly reduced.¹⁰⁹ Other setbacks include heavy oversight from HUD, including the requirement of Annual Performance Reports (APRs) which have been recently combined with the Indian Housing Plan (IHP) which tribes are required to submit to demonstrate how they will use the allocated funds.¹¹⁰ Tribes also experience “burdensome and costly” or even “duplicative or conflicting requirements” in these implementation and review processes.¹¹¹ Comments submitted by the Turtle Mountain Band of Chippewa Indians also found the 30 percent rule (which caps rent based on income) as further hindering.¹¹²

¹⁰⁷ Rebecca Tsosie, “Tribal Data Governance and Informational Privacy: Constructing ‘Indigenous Data Sovereignty’”, *Montana Law Review* 80, no. 2 (2019): 239.

¹⁰⁸ Jones, “The Native”, 17.

¹⁰⁹ *Ibid*, 19.

¹¹⁰ Jones, “The Native”, 21.

¹¹¹ *Ibid*, 20.

¹¹² “Discussion Draft Legislation to Amend and Reauthorize the Native American Housing Assistance and Self-Determination Act”, U.S. Senate Committee on Indian Affairs, 2007.

Because of the lending challenges and land status complications experienced on tribal lands, tribes and TDHEs might find they have to pool funds from multiple sources to have enough money for their projects after HUD distributes their allocation. The issue with this combining of funds is each source - even if it is a federal one - may have varying requirements.¹¹³ The environmental reviews required by different agencies are one example of an expensive and time-consuming inconsistency that delays tribes from completing their projects.¹¹⁴ These complications, amongst others, contribute to the backlog of IHBG spending. The Navajo Nation is a prime example of this backlog because, as the recipient of the largest IHBG funds ever distributed, is responsible for approximately half of the backlog experienced under NAHASDA. The tribe has “nearly \$500 million in unspent IHBG funds”.¹¹⁵

One large barrier for tribes such as the Navajo Nation to spend IHBG is the persistence of “bureaucratic hoops” that inhibit tribal governments from proceeding with projects and approvals at the same rate as comparable non-tribal entities.¹¹⁶ This “red tape” can take the form of land withdrawal delays through the Bureau of Indian Affairs as well as the excess time and spending associated with federal government oversight to verify tribes are spending their dollars appropriately and following all enforced protocol such as codes and other laws.¹¹⁷ Self-efficacy is an issue in tribal communities that may not have sufficient capacity to fulfill projects by writing grants and obtaining land for

¹¹³ Jones, “The Native”, 19.

¹¹⁴ Ibid, 20.

¹¹⁵ “GAO-14-255: Native American Housing Additional Actions Needed to Better Support Tribal Efforts”, Government Accountability Office, 2014.

¹¹⁶ Kolby KickingWoman, “Home ownership remains elusive for Native communities”, *Indian Country Today Media Network*, October 18, 2019.

¹¹⁷ Ibid.

project sites, leading them to outsource many project components to entities largely unfamiliar with the tribe's unique situation.¹¹⁸ Yet there is still the reality that some tribes may not be prioritizing these issues enough so as to correct them and complete the very projects they owe the community to increase quality of life and alleviate societal burden.¹¹⁹

Heavy federal government oversight can appear intrusive to the self-determination and sovereign rights of individual tribes; however, with various funding challenges including population data that is discussed within this paper, releasing large sums of money into the hands of tribal governments who may historically have a poor accountability track record of implementing budgets serves as motivation to continue the oversight. On December 13, 2018, for example, AZ Central reported gross misuse of funds by the San Carlos Apache Housing Authority (SCAHA). The article reads that the agency "has been ordered to return millions of dollars to a federal account and may face other sanctions after a federal audit uncovered mismanagement, credit card abuse, conflicts of interest and favoritism in providing homes for needy families".¹²⁰ When federal programs are implemented from Washington, they may be impersonal and miss the mark on what the community truly needs; however, when programs are implemented at the local level, reports of such favoritism and scandal are not isolated events.

The SCAHA example is an unfortunate accountability issue to analyze, but it also serves as a demonstration on what measures fail to perpetuate high rent and poor access

¹¹⁸ "A Quiet Crisis: Federal Funding and Unmet Needs in Indian Country", U.S. Commission on Civil Rights, 2003.

¹¹⁹ Chad Smith, "A transparent tribal government", *Cherokee Phoenix*, October 23, 2009.

¹²⁰ Dennis Wagner, "San Carlos Apache housing agency in turmoil after federal audit finds major violations", *AZCentral*, December 13, 2018.

to safe housing for tribal families. The audit found numerous violations of federal compliance, a lack of a papertrail for investments made with funds distributed to SCAHA, and personnel failures including unauthorized credit card use. The neighboring White Mountain Apache Housing Authority faced similar embezzlement charges just two years before. Not only are these violations threatening the health and safety of people in need of housing, but they also risk the federal government's justification for its relatively recent movement towards increased self-determination and sovereignty for tribes. It is therefore an absolute priority for tribes to increase their own accountability and internal auditing, including by increasing checks and balances between agencies within the tribe and ensuring that spending power and decisions are distributed rather than controlled by a small group of people. Supporting this idea, a legal paper published in the Harvard Law Review argues the need for constitutional reform in the many tribes who participated in the Indian Reorganization Act of 1934.¹²¹ Correcting the internal errors through such reformation would open the opportunities for even more control of programs and dollars to remain with the tribal governments.

Although they have many funds but barriers to implement them, other tribes have difficulty justifying bigger budgets because there is no clear way to factor in the increased expenses of material importing. An example of underfunded tribes is the Havasupai - a community living in the Grand Canyon with access only by long trail or helicopter. According to the housing official of the tribe, every delivery by helicopter to the village "could add \$30,000 to the cost of a typical \$20,000 rehabilitation project".¹²² Jurisdiction

¹²¹ "Tribal Executive Branches: A Path to Tribal Constitutional Reform", Harvard Law Review, 2016.

¹²² "GAO-14-255", Government Accountability Office, 2014.

laws often play an underlying role in making many aspects of housing development challenging, both in terms of timelines as well as dollars.¹²³ By merely analyzing a few reports and studies done on the effectiveness of NAHASDA, numerous issues related to jurisdiction, expenditures, and needs for consensus on qualifying factors for funding across all tribes pose the greatest threats to resolving the housing crisis, addressing health issues, and promoting tribal self-determination.

2.3 Components of Housing Design & Urban Planning Absent in Criticism

In analyzing the issues with NAHASDA as identified by tribal participants, several elements stand out. For one, the issue of needing consensus between tribes for how to implement federal programs points to an issue with blanket programs. A cookie-cutter process prevents individual tribes from expressing their culture-specific needs and perspectives in developing housing projects, although cited complaints relating to this deficiency do not necessarily identify the deficiency as arising from the program's cookie-cutter nature.¹²⁴ As for the complaints that the federal government does not fully comprehend the unique challenges of resource access, land jurisdiction, and similar dilemma, I personally can attest to those issues as a former tribal engineer who led various projects related to roads, housing, and gravel pits. I can also attest to further disconnects between project planning and implementation, federal procedures, cultural perspectives, and respectful consultation methods.

¹²³ Michael P. O'Connell, "Fundamentals of Contracting By and With Indian Tribes", *American Indian Law Journal* 3, 1, 211 (Fall 2014).

¹²⁴ David S. Edmunds, et al., "Tribal Housing, Codesign, and Cultural Sovereignty", *Science Technology Human Values* 1, 28, 2 (June 25, 2013).

As I will support in the later parts of this paper, cultural competency plays a larger role in health and community oneness than is currently acknowledged through NAHASDA policy. Tribal self-determination is present, but it is limited by the structure of the policy itself. For example, one Congressional Research Service (CRS) report argues that “goals such as increasing tribal flexibility and self-determination may need to be balanced against the goal of providing sufficient protections and oversight to ensure that program funds are being used appropriately.”¹²⁵ Another point to consider is the limited access to resources can put challenges on construction that would be better addressed with more creative solutions, including the consideration of what local materials were traditionally used for homes.¹²⁶ In the last century and a half, the “increasing use of new industrially-produced and standardized materials [has] led to the homogenization of the different used construction approaches”, displacing vernacular architecture.¹²⁷ With all things in consideration, therefore, the issue of energy access could also be relieved slightly by providing more energy-efficient homes as Indigenous architecture has always incorporated local building materials to produce living structures well-tailored to the environment.¹²⁸ With these considerations, I will continue by first considering what needs Indigenous communities have and therefore what considerations federal policies should contain when attempting to promote tribal self-determination, sovereignty, and community health.

¹²⁵ “The Native American Housing Assistance and Self-Determination Act (NAHASDA): Issues and Reauthorization Legislation in the 114th Congress”, Congressional Research Service, 2017.

¹²⁶ Jean-Claude Morel, et al., “Building Houses with Local Materials: Means to Drastically Reduce the Environmental Impact of Construction”, *Building and Environment* 36, 1125 (2001).

¹²⁷ Jorge Fernandes, et al., “The Potential of Vernacular Materials to the Sustainable Building Design”, *Vernacular Heritage and Earthen Architecture: Contributions for Sustainable Development*, 623 (2014).

¹²⁸ *Ibid*, 625.

3 CULTURAL DIVERSITY: TWO CASE STUDIES IN INDIGENOUS HOUSING

In her paper titled “Tribalism, Constitutionalism and Cultural Pluralism”, Rebecca Tsosie describes the significance self-determination has to Indigenous peoples in the United States who have been subjected to so many eras of assimilative policy. She argues that an “[I]ndigenous right to self-determination represents a political argument for sovereignty and self-governance, a normative argument for [I]ndigenous control of land and resources, and a cultural argument for the right to perpetuate Native customs and institutions, even where these diverge from those of the larger nation-state”.¹²⁹ Furthermore, she acknowledges that the acute diversities between all of the Indigenous nations under federal Indian policy - from their “historical, legal and cultural status” - prevents the creation of a “uniform principle applicable to each and every [I]ndigenous group”.¹³⁰ In other words, the blanket policy approach to providing housing to Indigenous peoples should be seen as no less effective.

In order to clearly demonstrate how two distinct tribal communities - even when within close proximity to one another - can have such different cultures and worldviews, this section will contain two case studies to illustrate just this contrast. The historical and cultural contexts of the Navajo Nation and Pueblo of Acoma will be analyzed to argue why each nation traditional built specific housing styles and in unique social groupings in order to highlight that taking a deeper look into the four philosophical areas analyzed here within are in fact necessary to achieve positive results for community

¹²⁹ Rebecca Tsosie, “Tribalism, Constitutionalism and Cultural Pluralism”, *Journal of Constitutional Law* 5, 2 (2003): 377.

¹³⁰ Ibid.

health and tribal self-determination. These subsections will consider some rudimentary differences between the Navajo Nation and the Pueblo of Acoma that impact and inform how policymakers, community leaders, and project developers should approach housing in tribal communities.

3.1 Case Study 1: Navajo Nation

This first study recounts a brief historical context of the Navajo Nation, including culture, in its first section. The second section connects this history to the epistemological components to illustrate Navajo worldview. The third section connects this worldview to traditional housing designs and planning methods. Finally, the fourth section addresses modern housing issues documented regarding the Navajo Nation.

3.1.1 Historical Context of the Navajo Nation

The Diné Bahane', or "Story of the People", tells the creation of the Navajo people, an important piece of cultural context for the Navajo Nation as it describes where the people came from and how they are oriented within their lands. While many tribes find Western anthropology attempts to undermine their claims to Indigeneity by studying theories of migration rather than stories of creation, not everyone of the Navajo tradition disagrees with such theories.¹³¹ In fact, in its Diné Studies program, Diné College requires taking a course on Navajo History that begins by describing Navajo migration out of Lake Baikal near Mongolia.¹³² The reason for this inclusion is that

¹³¹ Douglas D. Dykeman and Paul Roebuck, "Navajo Emergence in Dinétah: Social Imaginary and Archaeology", Paper presented at the 2008 SAA Meetings, Vancouver, BC: 2.

¹³² Lecture from Navajo History course at Diné College, Fall 2015.

many in the faculty find that the scientific theory of human migration actually supports the creation story and that various physical places may mark the very events in their oral traditions. That being said, the Navajo are believed in Western theories to have come out of Alaska and the Pacific Northwest, following a route southwards to Colorado that is evidenced by the trail of Athabaskan languages left along that entire distance.¹³³

By the time the Navajo had made it into modern-day New Mexico, according to the college course notes, they encountered the Spanish settlers and reunited with the sheep and horses they are said to have had known prior to Spanish introduction (presumably in the steppes of northern Asia). This introduction is the beginning of the traditional Navajo sheep-based economy that would persist for the next several centuries.¹³⁴ The Navajo came to occupy the Four Corners region, interspersed among the Hopi and near other Pueblos as well.¹³⁵ Military posts like Fort Defiance were constructed to monitor the tribes in the region. In 1864, the Navajo were forced to remove to Hwéeldi (Bosque Redondo), hundreds of miles east in New Mexico. After the Long Walk they were held in the prison camp for four years until their various leaders came together and struck a deal with the United States. Rather than being forcibly removed clear to Indian Country in Oklahoma, they would be allowed to return to what they argued was land more valuable to them than the United States. The first reservation boundaries were established by the Treaty of 1868 and subsequent treaties,

¹³³ Joseph Stromberg, “Ancient Migration Patterns to North America Are Hidden in Languages Spoken Today”, *Smithsonian Magazine*, March 12, 2014.

¹³⁴ Lecture from Navajo History course at Diné College, Fall 2015.

¹³⁵ Ibid.

land conversions, and executive orders have transformed the land holdings to what they are today.¹³⁶

The Navajo emphasized the need to be within their sacred mountains, and so they returned “home” to lands other Americans thought were desolate. The land, however, was not “useless” as they soon found vast deposits of uranium, coal, oil, and other desired resources. Around the turn of the 21st century, the Navajo were faced with the impacts of residential boarding schools, missions converting them to Christianity, the government regulation over their heads of sheep, and eventually an infiltration of their traditional government structure which led to the exploitation of their mineral resources.¹³⁷ As the sheep economy struggled, many Navajos took dangerous jobs in mines and faced higher environmental health hazards than non-Navajo miners as they were subjected to riskier tasks and not told the radioactive risks. In fact, some Navajo built homes out of uranium-contaminated materials, not knowing the dangers of exposure to the tailings. The mining industry has caused much dispute, destruction, and heartbreak over the last century. To this day, many Navajo suffer health consequences and unemployment as a result of these forced changes; however, the mountains remain sacred to their beliefs.¹³⁸

3.1.2 Traditional Housing Planning of the Navajo Nation

As discussed previously, the *hooghan* represents "home" for the Navajo and is intricately designed within the cosmos. It is inseparable from the connection between

¹³⁶ Iverson, Diné: 72.

¹³⁷ Lecture from Navajo History course at Diné College, Fall 2015.

¹³⁸ “Broken Rainbow”, produced by Victoria Mudd and Maria Florio, 1985.

Mother Earth and Father Sky, much like the Navajos themselves in their traditional worldview. Even the Navajo Nation's land base is represented symbolically as a *hooghan*, establishing that this is where the *Dine'é* (the people) belong. The four directions are marked by the four sacred mountains: Mount Blanca or *Sis Naajini* (east), Mount Taylor or *Tsoodzil* (south), San Francisco Peaks or *Dook'o'oosliid* (west), and La Plata/Mount Hesperus or *Dibé Nitsaa* (north). These mountains also represent the four directions that orient the *hooghan*, based on the four sticks that were placed in the most ancient *hooghan* form: the male fork-sticked hogan. The two other sacred sites, Gobernador Knob, or (*Dzil*) *Ch'ool'i*, and Huerfano Mesa, or *Dzil Ná'oodilii* are located more centrally in the original Navajo territory in present-day New Mexico. In the ancient *hooghan* design, these two additional mountains form the entrance to the home that extends beyond the eastern wall.¹³⁹ Although the *hooghan* took centuries to perfect and was used widely within the last 200 years, a rapid shift in policies and means of obtaining housing for tribal members has caused the *hooghan* to fall nearly into disuse as a "home", its primary purpose shifting mostly to ceremonial purposes for those living on the enormous reservation.

3.1.3 Modern Housing Issues of the Navajo Nation

The Navajo Nation has the largest reservation out of any other tribe in the United States, spanning an area about the size of West Virginia. Most of the reservation is rural and, like many other reservations throughout the United States' geopolitical boundaries, the housing conditions are considered substandard: approximately 31% of homes lack

¹³⁹ "Broken Rainbow", produced by Victoria Mudd and Maria Florio, 1985.

plumbing, 32% lack electricity (or about 15,000 homes), 60% lack telephone services, and 86% lack natural gas.¹⁴⁰ In recent years, federal policy shifts resulted in the creation of TDHEs. These shifts predominantly initiated with the passing of NAHASDA in 1996 which enacted the ability for tribes to create a TDHE as part of a shift towards self-determination in Indian housing. Previously, all housing programs were administered strictly by federal entities. With the TDHE concept in place, tribes suddenly had more control over how they planned to use and distribute federal funds for Indian housing within their jurisdictions.¹⁴¹ Indian housing was not the only sector to see the creation of TDHEs, however, as other services came into effect under the Self-Governance compacts in 1994 under Public Law 93-638. These compacts expanded the previous Self-Determination compacts which were available via the 1975 Indian Self Determination and Education Assistance Act.¹⁴²

On the Navajo Nation, the Navajo Housing Authority (NHA) operates as the tribe's TDHE in housing services. Initially created in 1963, the NHA has collected data on housing and land management for the tribe since its creation. An example of other services administered by a TDHE of the same tribe is the Navajo Tribal Utility Authority (NTUA). The tribe founded NTUA in an attempt to improve the living conditions of those on the Navajo Nation.¹⁴³ Powering homes - from lighting to heating

¹⁴⁰ Alysa Landry, "Not Alone In the Dark: Navajo Nation's Lack of Electricity Problem", *Indian Country Today Media Network*, February 11, 2015.

¹⁴¹ Thomas Moore, "Implementing NAHASDA: How the Rule was Written", *Federal Reserve Bank of Minneapolis*.

¹⁴² Office of the Special Trustee for American Indians (OST), "Public Law 93-638 Contracting and Compacting", U.S. Department of the Interior (DOI).

¹⁴³ Navajo Tribal Utility Authority, an Enterprise of the Navajo Tribe of Indians, Plaintiff-Appellant, v. Arizona Department of Revenue, and Trasente, Neal G., as Director of Said Department, Defendants-Appellees, 608 F.2d 1228 (1979).

- is an expensive process considering the infrastructure for power does not currently cover the entire Navajo Nation. Traditionally, Navajos used fuel sources such as *gad* (juniper) to heat their homes in the colder months and to cook their food.¹⁴⁴ Although the Navajo Nation's Kayenta Coal Mine and the Navajo Generating Station collaboratively embody the largest coal-fired plant in the western United States, Navajos see none of the electricity produced in their own homes; they only benefit from a fraction of the jobs the operations provide at the expense of pollution, cancer, lung diseases, and other health issues.¹⁴⁵ With NTUA as an energy servicing TDHE, the Navajo Nation has more power to take control of energy types and distribution on the reservation.

Mentioning NTUA's role in powering the nation not only serves to improve the quality of life across the reservation, but it also serves a reminder to how past extractive industry and electricity development has impacted multiple sectors of life on the Navajo Nation - including housing. For example, uranium extraction, through direct or indirect contact in the mines themselves, has left many wells contaminated and both people and livestock sick from radiation exposure, and even radioactive dust can be found in some housing materials in occupied buildings.¹⁴⁶ 90% of the water used for drinking, agriculture, livestock, cultural ceremonies, and other practices are drawn from dwindling

¹⁴⁴ Wyatt Mark Champion, "Navajo Home Heating Practices, Their Impacts on Air Quality and Human Health, and a Framework to Identify Sustainable Solutions", Thesis at University of Colorado-Boulder, 2017: 34.

¹⁴⁵ James Rainey, "Lighting the West, Dividing a Tribe", *NBC News*, December 18, 2017.

¹⁴⁶ RJ Roscoe et al., "Mortality Among Navajo Uranium Miners", *American Journal of Public Health* 85, 4 (1995): 539.

subsurface sources, and dangerous levels of radionuclides persist even to this day in unregulated wells that Navajo people and their livestock continue to use.¹⁴⁷

A contentious political atmosphere between the Navajo Nation, other tribes, and non-tribal entities in Arizona who compete for shares of the Colorado River's waters add to the complications of getting safe water to citizens. These factors also raise development and infrastructure costs considerably compared to other areas that do not have issues with extraction, contamination, and water right disputes. (For example, most urban water consumers in the same region pay \$600 per acre-foot but hauling water on the Navajo Nation costs \$18,000 per acre-foot, making it 30 times as expensive - and, with most roads unpaved, all construction requires enormous quantities of water to be hauled for dust control in any construction project.)¹⁴⁸ The contamination of their air, soil, and water without adequate accountability for remediating the contamination in a timely manner also leaves some areas as inaccessible and dangerous without expensive remediation procedures, although some traditionalists may refuse to leave their family areas even after toxicity has been recorded in the area.¹⁴⁹

To aggravate complications in housing programs on the Navajo reservation, the Navajo Nation - as with any tribe - is subject to a number of Indian programs managed by the overarching federal government, an example being the Bureau of Indian Affairs Navajo Agency.¹⁵⁰ Arguably, these housing programs – along with other programs

¹⁴⁷ Environmental Protection Agency, "Table 2. Navajo Nation Contaminated Unregulated Water Sources", Water Sources Table with MCLS, 2016.

¹⁴⁸ John W. Leeper, "Navajo Nation Plans for their Water Future", *Navajo Nation Department of Water Resources*, 2003, 6.

¹⁴⁹ Terry Hansen, "Kill the Land, Kill the People: There Are 532 Superfund Sites in Indian Country!", *Indian Country Today Media Network*, June 17, 2014.

¹⁵⁰ "Navajo Region", *U.S. Department of the Interior: Bureau of Indian Affairs*.

established by the Treaty of 1868 – are subtle tools of assimilation. They range from promoting the construction of churches and the establishment of non-traditional jobs to the creation of an English-based education system and a money-based economy; therefore, in a community that was once dominated by shepherders inhabiting hoogan structures, a shift to Americanized, contemporary jobs and housing has occurred in the last century on the Navajo Nation without adequate safety nets to prevent impoverished conditions.¹⁵¹

Even with its own TDHE, the Navajo Nation faces numerous barriers imposed by the federal government that exacerbate the housing situation. For one, land jurisdiction is a complicated issue on the Navajo reservation. Although the Treaty of 1868 and subsequent land transactions clearly define the tribal boundaries, the status of actual land parcels can fall into a number of categories. These jurisdictional nuances not only complicate the development of businesses by adding layers of red tape, but they also complicate housing procedures - including the withdrawing of rights-of-ways from the BIA for utility installation and repair. Between grazing permits and home-site leases, Navajos have access to their land with an overwhelming number of conditions, many of which are imposed and enforced by the federal government.¹⁵² As traditional Navajo housing never consisted of land ownership and written documents, this rapid shift to a

¹⁵¹ Dennis Zotigh, “The Treaty that Reversed a Removal—the Navajo Treaty of 1868—Goes on View”, *National Museum of the American Indian*, February 21, 2018.

¹⁵² Personal experience from interviews and research while working for the Diné Policy Institute in Tsaile, Arizona for a land status study during 2016.

Western structure has caused numerous repercussions throughout both the housing and the economic departments.¹⁵³

The NHA, which was established in 1963, operates under the mission of Hooghandee éí Hahoozhoodgo Iina Sila dóó Anooseel – or, roughly, “building sustainable, quality homes” for tribal members (using language like *hozho* and *iina*, or life).¹⁵⁴ While NHA aims to assert the Navajo Nation’s sovereignty by directing a housing program for its Navajo citizens, the system and standards it utilizes are arguably adopted directly from the HUD program, a blanket program that fails to consider the individual housing needs of tribal citizens. The Navajo Nation has developed a number of tribal entities that mirror the overarching Federal versions, including the Environmental Protection Agency (EPA), as well as the Homeless Emergency Assistance and Rapid Transition to Housing Act (HEARTH) in 2009 to consolidate funds. Regardless, the time it takes to withdraw land, obtain a home-site lease, sit on a waiting list for NHA housing, and meet all the environmental regulations imposed by various funding sources - all of these factors contribute to an enormous backlog at NHA. (In 2012, NHA released a plan which cited one major setback to its ability to meet the need of the Navajo housing crisis was merely the fact it had no more withdrawn land to build on, only “fill-in” site opportunities.¹⁵⁵)

Less than 1% of the land on the Navajo Nation is fee-simple, a status which allows the owner to freely sell the land or build on that land. Over 90% of the Navajo

¹⁵³ Lloyd L. Lee, “Navajo Cultural Identity: What Can the Navajo Nation Bring to the American Indian Identity Discussion Table?”, *Wicazo Sa Review* 21, 2 (Fall 2006): 79.

¹⁵⁴ “Navajo Housing Authority,” *Navajo Housing Authority*, <http://www.navajohousingauthority.org/>.

¹⁵⁵ Navajo Housing Authority, “The Sustainable Journey of Beauty: A Planning Manual for Developing New Housing and Community Initiatives on the Navajo Nation”, 2012: 27.

Nation on the other hand is technically owned by the federal government (or “in trust”).¹⁵⁶ Even Homesite Leases require extensive compliance clearances that can be time-consuming, especially when done internally through the resources of the tribe.¹⁵⁷ Leasing land is an option, but legacy shepherders who view certain landscapes as inherited have a de facto veto power over development. Finally, with the lack of jobs, the prevalence of low incomes, and the challenge to find contractors willing to build in such remote and thereby expensive areas, constructing homes is also simply not affordable to most.¹⁵⁸ In my own family, I have a Navajo relative from Naschitti, New Mexico married to a Comanche tribal member. While Naschitti is not as remote as other locations on the Navajo Nation, the lack of housing and job opportunities drove the couple to permanently settle in Lawton, Oklahoma where development is much simpler and jobs more ample. Even if she had waited to lease NHA housing, Veteran and other preferences in combination with a shortage of housing supply versus demand mean she could have easily waited twenty years to find something close to her family to live in while her parents continue to live in their small home in the chapter region.

Unfortunately, her situation is not uncommon. In addition, many more challenges that impact the Navajo Nation are often directly correlated to the size and remoteness of the land. Providing enough housing stock for its large population has posed a challenge since even before the NHA came to fruition. Furthermore, having the capacity - both by manpower and financially - to install, maintain, and improve utility

¹⁵⁶ Craig Harris & Dennis Wagner, “Why It’s Difficult to Build Homes on the Navajo Reservation”, December 12, 2014, *AZCentral*.

¹⁵⁷ Navajo Land Department, “Mission Statement”, *Diné Bikeyah*.

¹⁵⁸ Morel, et al., “Building”, *Building and Environment* 36, 1125 (2001).

systems and housing stock poses another challenge. These challenges are exacerbated by inflated pricing to import supplies to the remote location. Walter Haase, the General Manager of NTUA, cites the utility entity adds about 700 new customers each year to its electrical network at a cost of \$50,000 per connection, but the slow addition of new homes makes connecting everyone difficult to achieve - and afford.¹⁵⁹ As we consider setbacks planners have in the contemporary setting, it is important to consider what traditional ways of living the Navajo experienced before Western influence and the development of federal housing programs and systems.

The Navajo Land Department oversees the Homesite Leases and maintains a checklist available online and in the office with listed responsibilities for the applicant and involved entities.¹⁶⁰ The list is lengthy, requiring proof of eligibility like a Certificate of Navajo Indian Blood and a valid marriage license for joint applicants. There is a fee to apply and applicants must work with a Gracing Official and/or Land Board Members to receive consent. There are also the requirements of showing proof of payment for an Archaeology Inventory Report by a private contractor as well as a certified land survey plat by a private registered land surveyor contractor, plus coordination with the Navajo Nation Historic Preservation department.¹⁶¹ Once these documents are produced, they must all be delivered to the Agency Navajo Land Offices for an Environmental Review Form. A Biological Data Request Form must also be

¹⁵⁹ Landry, "Not Alone".

¹⁶⁰ Navajo Land Department, "Homesite Lease Application", *Bahastlah*.

¹⁶¹ Note: As with Indigenous Planning and an increasing need and use for Indigenous Architecture, so is there a need for increased use of accepted methodologies for Indigenous Archaeology and Indigenous Anthropology. The Navajo Nation retains its own Indigenous Archaeologists, but they may not be used for every construction project if the bid is contracted to an outside source.

submitted to the Agency Land Sub-Offices so that it can be submitted electronically to the Department of Fish and Wildlife. The Grazing Official/Land Board Member must then complete a full reconnaissance to ensure all written consents, right-of-way compliance, transportation mapping, grazing compliances, and impacted forest, woodlands, or waterways per stringent codes. The Navajo Nation Records Management Office then maintains hard copies of all records.

Each community has a process unique to its internal structure, but HUD rates all program outcomes by the same standards. As a result, HUD focuses on a number of spatial markers to determine the standard of housing on the Navajo Nation. One of these markers is the number of people living in a single dwelling. Multiple families living in a single-family home is considered a sign of poverty.¹⁶² Were more homes readily available and accessible to Navajos, perhaps many would not live in such crowded conditions; however, this perspective discounts the Navajo value system where family (*k'é*) - including those who share clans but may not be “relatives” per Western definition - must be cared for.¹⁶³ In addition, programs discouraging Navajo families from caring for each other may perpetuate issues of homelessness and substance abuse often found amongst those in dire socio-economic straits.¹⁶⁴

Because of Western influence on housing systems, Navajos who once lived far apart are now living in suburban areas with little distance between homes and large distances between towns. Many Navajos who refuse to live in these developments object

¹⁶² HUD User, “Measuring Overcrowding in Housing”, 2005: 4.

¹⁶³ Louise Lamphere et al., *Weaving Women’s Lives: Three Generations in a Navajo Family* (Albuquerque: University of New Mexico Press, 2007), 42.

¹⁶⁴ Amy Linn, “A Forgotten Health Crisis in Navajo Lands”, *Center for Health Journalism*, July 24, 2018.

to suburban construction because they associate such tightly-packed housing as areas for “breeding crime”.¹⁶⁵ While HUD cites the challenges living in rural areas with far distances between grocery stores as a challenge for people living on the Navajo reservation, it again fails to consider the traditional homemaking protocols of Navajo families and the systemic oppression that led to dependency on non-traditional food systems¹⁶⁶. Instead, it focuses on constructing mass-produced, “economical”, identical clusters of Western homes, complete with garages, non-traditional kitchens, and utilities that rarely use renewable energy to operate as a means to address the “housing crisis” in Indigenous communities.¹⁶⁷ Furthermore, the placement of these units depends more on jurisdiction land withdrawal availability than familial relationships or cultural ideas about the land.¹⁶⁸

Finally, the affordability of homes is a priority for HUD and the reason why so much of the housing budget is put into lending programs.¹⁶⁹ Repairs contribute to another significant portion of the funds used (although the abnormally high costs NHA uses per house has caused concern by Federal investigators in the recent past).¹⁷⁰ The dilemma in affordable housing is, however, in the approach HUD takes: Rather than investing in traditional homes that use local resources and are thermally efficient for the climate on the Navajo Nation, HUD instead imports premanufactured homes and other

¹⁶⁵ “Native”, Government Accountability Office, (2014): 27.

¹⁶⁶ Dana Eldridge, “The Navajo Nation Food System and Diné Food Sovereignty”, *NB3 Foundation*, 2014.

¹⁶⁷ NHA, “Navajo Housing”.

¹⁶⁸ James Gardner et al., “Planning Approaches, Processes, and Implementation Guide: Handbook for Updating Community-Based Land Use Plans”, *Navajo Nation Department of Community Development*, 2016: 28.

¹⁶⁹ “Native”, Government Accountability Office, (2014): 15.

¹⁷⁰ Dennis Wagner and Craig Harris, “Feds Scrutinize Navajo Housing Agency; New Records Suggest Remodeling Costs \$1M per Unit”, *AZCentral*, March 22, 2017.

construction materials to create houses that could be found in any suburban American town.^{171,172} Federal restrictions on timber and mineral resources on tribal lands have impacted the cost of using those resources, and water permits also pose as challenges to obtain as resources are far and few between.¹⁷³ Yet, importing gravel and sand, hauling water, or finding a contractor to deliver housing supplies are enormous financial burdens to the tribe as well - an issue that challenges the Navajo Department of Transportation (NDOT) with gravel pit development and road construction on a regular basis. Although neither option is financially sound and both are time-consuming, continuing to build cookie-cutter homes ignores cultural practices and is therefore assimilative by nature.

Land withdrawal is a substantial issue on the Navajo Nation and continues to be so despite ongoing attempts to reform the process. Part of the challenge is the complication of the process and the extended project timeline as a result, but another part remains the general confusion of how to complete the process for developing projects on the reservation. On June 17, 2015, the Navajo Nation Department of Natural Resources sent out a press release regarding an effort to streamline the land withdrawal process, identifying the Navajo Land Department's need and desire to improve chapter Land Use Plans (CLUPs). One problem identified was that the land withdrawal designation process and the land conveyance process land are separate processes; in fact,

¹⁷¹ HUD, "HUD Announces Wholesale Review of Manufactured Housing Rules", 2018.

¹⁷² Nate Seltenrich, "Building better homes in Indian Country", *High Country News*, January 20, 2014, accessed <https://www.hcn.org/issues/46.1/building-better-homes-in-indian-country>.

¹⁷³ Sibyl Diver, "Native Water Protection Flows Through Self-Determination: Understanding Tribal Water Quality Standards and 'Treatment as a State'", *Journal of Contemporary Water Research & Education* 163, 1 (2018).

withdrawal alone is not authorization for development without an accompanying lease. In an effort to ensure complying grazing permittees are protected under Navajo Nation Code and kept abreast of any CLUP or withdrawal plans, the Resource and Development Committee granted the Navajo Land Department director the authority to give final approval on leases and for the Navajo Nation government to “develop on land designated by the Land Withdrawal Designation without a lease for government purposes only”.¹⁷⁴ Still, the process remains long, complicated, and frustrating to many.

Besides the needs HUD identifies on the Navajo Nation, criticism should also be reserved for NHA and how they work with contractors. The NHA cites issues regarding land withdrawal and complicated processes with permitting, issues that may be worse with the particular land status of this nation versus others due to the grazing permit process developed originally around the sheep-based economy.¹⁷⁵ Up to 20% of funding from the NAHASDA program can be designated to overhead costs, a number that ideally tribes should lower to spend more funds on housing.¹⁷⁶ However, with the high turnover rate at NHA, training new employees during the onboarding process not only requires a lot of the entity’s capacity in time but also slows the progress of projects. Furthermore, the NHA must work within the constraints of HUD’s program protocol. As a TDHE that receives a considerable amount of the program’s funding, NHA could be a better advocate for prioritizing culture in the negotiated rulemaking process. More research should also be completed to ensure contractors do an authentic job addressing

¹⁷⁴ Navajo Nation Division of Natural Resources, “New Land Withdrawal Regulations Approved”, *Navajo Nation Government*.

¹⁷⁵ NHA, “The Sustainable”, 21.

¹⁷⁶ Jones, “The Native”, 2015.

the needs of the population when designing housing. These contractors should be fluent in the jurisdiction issues in Indian Country, aware of the importance of culture in design and interaction with the community, and held accountable for billing reasonable expenses for the work being done.

3.2 Case Study 2: Pueblo of Acoma

This second study recounts a brief historical context of the Pueblo of Acoma, including culture, in its first section. The second section connects this history to the epistemological components to illustrate Puebloan (Acoma) worldview. The third section connects this worldview to traditional housing designs and planning methods. Finally, the fourth section addresses modern housing issues documented regarding the Pueblo of Acoma.

3.2.1 Historical Context of the Pueblo of Acoma

The earliest history for the Pueblo of Acoma begins with T-----, or Thought Woman, but she is often referred to as Old Spider Woman due to the cultural rule to say her real name only in ceremonies (and hence the redaction in this text). (The alternative name of “Old Spider Woman”, in fact, harks to the Spider Woman in Navajo legends.) She was only a Spirit and, interestingly, the first two humans were actually females born underground at a place called Shipapu. They stayed underground, learning languages, prayers, and skills, like preparing food, from the Spirit until they were sent to the world their father, Uchtsiti, had made. The light hurt their eyes but they came to it to help him complete it. They chose their clan names, Sun and Corn, and had baskets of the things

they would bring life to. They were the start to who would become the Acoma. The Pueblo of Acoma hence was born and began its thousands of years old existence in the southwest.¹⁷⁷

Sadly, times of peace did not always last, although the Pueblo had the advantage of height and sight on the mesas. Regardless, when the Spanish began arriving in the 1500s, the Pueblos became victims of harsh religious crusades and, eventually, slave labor. This is how the only church at H'aaku came to be built, using timber enslaved men were forced to bring down from sacred Mount Taylor and carry up the sides of the mesa. In 1680, the Pueblos successfully united to overthrow Spanish control and take back their communities.¹⁷⁸ Although the Spanish had worked for generations to convert the Pueblos to Catholicism, Pueblo spirituality runs very deep. In fact, the Pueblos are known to be some of the most religious of all groups in the present-day United States.¹⁷⁹ Their frequent spiritual practices lead them to live closely together, the reason why their legal name is not Tribe or Nation or Rancheria but Pueblo (city in Spanish).¹⁸⁰ Living in such a close community is critical to many aspects of Pueblo life, but it is especially necessary for two major functions: 1) the preparing and processing of community surpluses and 2) religious ceremonies.

¹⁷⁷ C. Daryll Forde, "A Creation Myth from the Acoma", *Folklore* 41, 4 (1930): 370.

¹⁷⁸ Ariana Kramer, "Talk Looks at 1680 Pueblo Revolt Evidence", *Taos News* September 7, 2016.

¹⁷⁹ "19 Pueblos History and Culture", Indian Pueblo Cultural Center, <https://www.indianpueblo.org/19-pueblos/history-culture/>.

¹⁸⁰ Kathy Weiser, "Pueblo Indians – Oldest Culture in the U.S.", *Legends in America*, October 2019, accessed <https://www.legendsofamerica.com/na-puebloindians/>.



Figure 2. Artwork of a traditional Pueblo community entitled “Original Painting of Hopi Niman Ceremony (Home Dance)”. The illustration demonstrates the significance of Pueblo religious ceremonies, the functionality of communal living, and the methods of participation within a traditional community. Raymond Naha; image accessed November 20, 2016 from https://www.adobegallery.com/art/Original_Painting_of_Hopi_Niman_Ceremony_Home_Dance_SOLD125200283218910.

Not only did living in a close community with one another mean processing food and participating in religious practices were easier, but traditional Pueblo homes were actually designed to facilitate such communal activities. Today, the Pueblo of Acoma is located just south of I-40 near Grants, New Mexico, one of 19 Pueblos in the state. The Pueblos trace their ancestry to the Anasazi who once occupied southwestern present-day Colorado in their famous cliff-dwellings. The construction of cliff-dwellings, however, has ceased for the Pueblos. Today, it is more common to find a mix of centuries-old standing adobe homes and suburban-like communities of Western homes constructed through HUD programs.

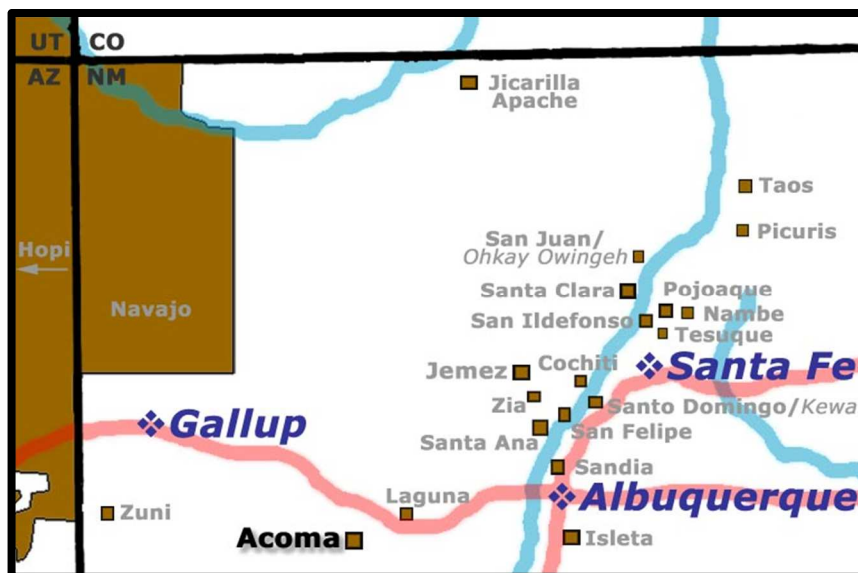


Figure 3. A map of northern New Mexico. This map depicts the location of the various Pueblos as well as other nearby tribes (Jicarilla Apache and the Navajo Nation). Andrea Fisher; image accessed November, 2016 from <http://www.andreafisherpottery.com/index.html>.

According to the legend told at H'aaku, the mesa where Sky City sits was originally discovered when Salt Woman led the people to the “center of the Earth” while spiraling inwards and anti-clockwise towards H'aaku. In fact, in the Keresan language, H'aaku translates to “the place prepared” – implying that the mesa had everything the people needed in one place, awaiting their arrival as it was especially for them. The mesas at and near Sky City have been occupied by the Pueblo of Acoma for hundreds of years.¹⁸¹

¹⁸¹ Sky City Cultural Center & Haak'u Museum, “Acoma Sky City Tour”, April 6, 2017.



Figure 4. A photo taken during the Sky City tour. These homes are still occupied year-round by approximately 50 families. Kayla DeVault de Wendt; image taken April 6, 2017.

As history indicates, a lot of change has occurred in Indian Country during the last few centuries alone. This change has typically meant an enormous shift in structure, values, and access to resources. It has created a dependency for many communities on federal Indian programs.¹⁸² It has also created a number of community ills, most of which could be arguably traced back to systemic issues, or to policies which promoted assimilation and tribal termination. The Pueblos are no exceptions.

¹⁸² Berkeley Public Policy Journal, “Spring 2019 Journal: An Analysis of Government Dependency and Tribal Economic Performance”, *Berkeley Public Policy Journal*.

3.2.2 Traditional Housing Planning of the Pueblo of Acoma

In the Pueblo of Acoma, one part of the community remains disconnected from the rest: Sky City. This village is considered the longest continuously-inhabited area in the so-called United States. Approximately 15 families live in Sky City year-round and none of them have electricity, indoor plumbing, or running water. Instead, they burn wood, use kerosene lamps, and keep portable toilets outside because the community members are “not willing to allow utilities and water lines to be a part of the village”.¹⁸³ For the rest of the Pueblo, however, the Pueblo of Acoma Public Works Utility Authority is actively looking to develop its plumbing, heating, and electric systems. Currently, it runs departments in Public Works, Water & Wastewater, and Solid Waste Management with the hope to expand to Electric as well as Natural Gas.¹⁸⁴ This development goal is in contrast to traditional beliefs about protecting sacred lands, as demonstrated by current grassroots movements opposed to energy development in Chaco Canyon.¹⁸⁵

The situation at Sky City demonstrates the incompatibility of HUD’s assessment of “substandard” housing.¹⁸⁶ Although water was traditionally accessed from pools accumulated on the mesa where Sky City is located - a practice used by even the Anasazi - many may haul water from other sources instead. Regardless, Sky City community members’ refusal to install utilities for reasons of tradition is not

¹⁸³ Elaine Tassy, “Acoma People Fold Old Traditions into Present”, *Albuquerque Journal* February 16, 2014.

¹⁸⁴ Pueblo of Acoma Public Utility Authority, “2018 Utility Authority Organization Chart”, accessed at http://www.puebloofacoma.org/uploads/FileLinks/9b97d21fa9f6437bbe1134ff6ee259f1/2018_UA_ORG_CHART.pdf.

¹⁸⁵ Laurel Morales, “Chaco Region Wins Reprieve From Fracking”, *Fronteras*, May 13, 2019.

¹⁸⁶ U.S. Bureau Census, *Plumbing*, 3.

appropriately captured by statistics of Native American housing conditions. In terms of overcrowding, Pueblo customs for family organization and inheritance focus on matriarchy and clan systems little discussed outside of the community.¹⁸⁷ The complex process of how a home is passed down in an Acoma family also complicates how new home construction, rentals, or even lending processes supported by the HUD program may be perceived or utilized.

As another spatial marker emphasized by HUD, the close proximity of buildings at Sky City do not reflect the standards of Western society that HUD uses to assess quality of living. Instead, HUD emphasizes independent ownership of a home, complete with individual utility systems, yards, driveways, and parking access.¹⁸⁸ Yet the proximity of these homes is part of the communal design. The flat roofs with complete sun exposure have always been ideal for drying things like corn kernels for storage. Inside the homes, certain rooms were dedicated to grinding corn. Women would kneel side-by-side and grind corn on stones, passing them between bins of varying fineness. The walls behind them were hollowed out to accommodate their legs and feet in such small spaces. Perhaps the most interesting piece to the corn-grinding process is that dried kernels were delivered directly to the grinding room via chutes built into the housing structure itself. This incorporation of food processing in the home design demonstrates how important communal harvest and surplus storing are to the traditional community.¹⁸⁹

¹⁸⁷ Sky City Cultural Center & Haak'u Museum, "Acoma Sky City Tour", April 6, 2017.

¹⁸⁸ Jones, "Native".

¹⁸⁹ Peter Nabokov, *Architecture of Acoma Pueblo: The 1934 Historic American Buildings Survey Project*, (Santa Fe: Ancient City Press, 1986).

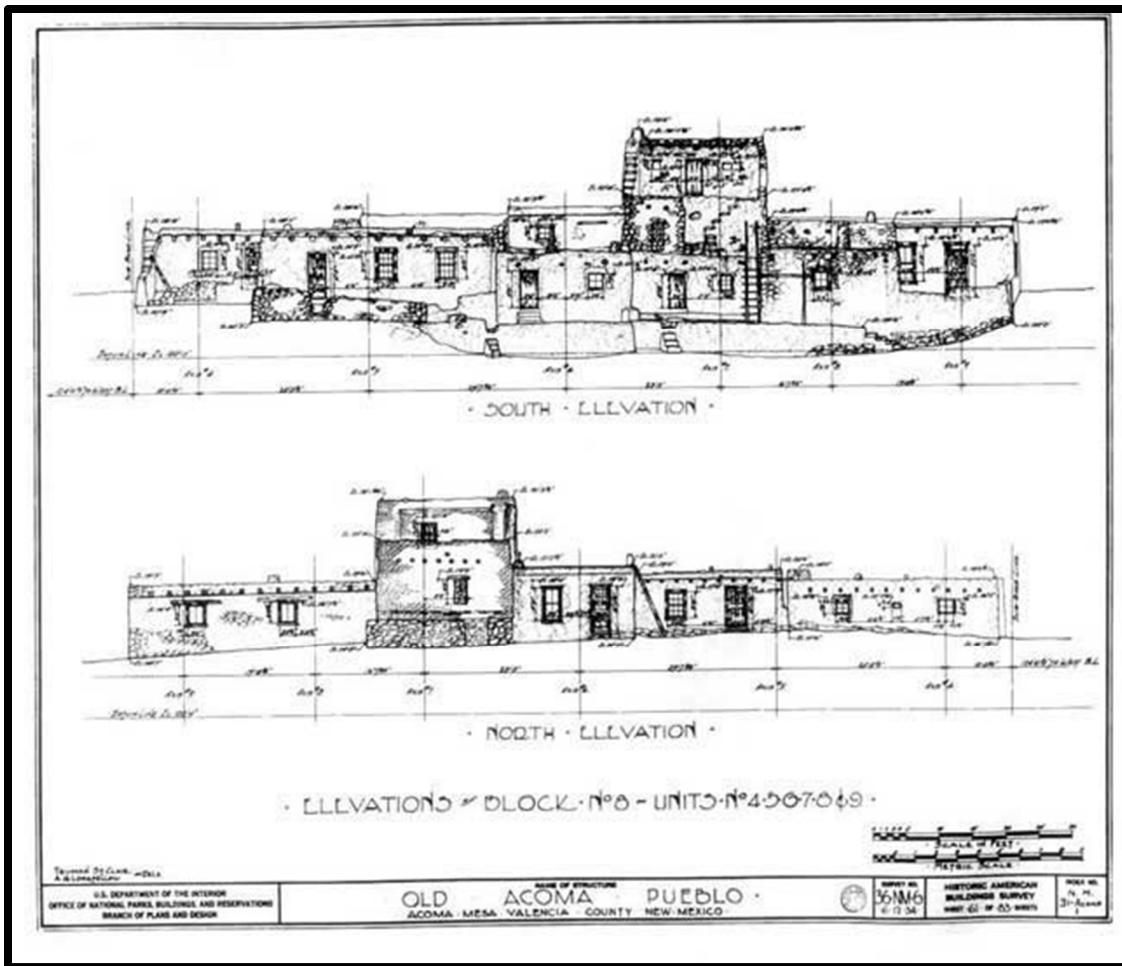


Figure 5. A typical cross-section of homes at Sky City at the Pueblo of Acoma. The cross-sections show the intricate planning of floorplans and use of space. Peter Nabokov; Architecture of Acoma Pueblo: The 1934 Historic American Buildings Survey Project, (Santa Fe: Ancient City Press, 1986).

One element of Pueblo architecture that might be obvious to those unfamiliar with the culture are the poles that extend beyond the building's walls along the top edges. These play a role in hanging ristras full of drying chiles, or even strips of meat. Other foods, such as halves of peaches, could be dried on the roof alongside kernels of maize. Prepared piñons were placed in dedicated storage rooms where cisterns were built into the walls. These cisterns could then be sealed with plaster. Various other vegetables, including squash, could be stored in these rooms as well. All in all, a Pueblo house could

contain several years' worth of stored food at any given moment - enough to provide for the family living in that building and more.¹⁹⁰



Figure 6. A computer-generated image of H'aaku buildings relative to one another. This image illustrates the community planning in terms of nested development. Dennis R. Holloway; accessed November 19, 2016 from <https://www.dennsrhollowayarchitect.com/Acoma.html>.

The proximity of these homes made it easy to share resources as well as to participate in community events. Many religious ceremonies occur in the streets of traditional Pueblos, the citizens typically occupying the roofs as they would to observe nearly any street activity. At the Pueblo of Acoma, there were also dedicated fire-watchers and, during certain ceremonies, every woman in the village had to stoke a fire in the home. From the traditional, religious point-of-view, participating in these ceremonies is absolutely crucial for guaranteeing the well-being of the community and for maintaining a natural balance in the world.¹⁹¹ Of course, these beautiful homes also provide so much more to the world in terms of engineering brilliance.

¹⁹⁰ Nabokov, Architecture, 1986.

¹⁹¹ Nabokov, Architecture, 1986.

3.2.3 Modern Housing Issues of the Pueblo of Acoma

According to the tour guide at Sky City during a 2017 tour, the Spanish introduced the true adobe material which contains straw. Previously, Pueblo construction very closely matched Anasazi work: peculiarly long, thin bricks of mud that were stacked with thick amounts of mortar between them. Walls are built against each other but not into each other, and bricks are placed in a honeycombed fashion that can be easily disassembled when a home is no longer occupied and used to build another home nearby. Very little of the traditional building techniques had changed until a couple of decades ago.¹⁹² Part of this change corresponds to changes in Indian gaming laws.¹⁹³

As Pueblos like that of Acoma began generating funds from their casino operations, families started adding on to ancient buildings or constructing entirely new ones with materials and techniques acquired from Western society.¹⁹⁴ This fast-build approach disconnects people from their histories and their home spaces. It also contradicts the spiritual practice held that materials must be blessed in a certain way before removing them for construction purposes. Now that TDHEs risk exacerbating the issue of cultural loss and damage through its implementation of HUD's framework to assess and meet housing demands for the tribe, they must reconsider if success can be measured in the amount of units constructed by Western standards.

Today, the Pueblo of Acoma is serviced by its TDHE: the Pueblo of Acoma Housing Authority (PAHA). PAHA's motto is "providing safe and affordable housing opportunities", an expression that suggests dangerous communities and financial security

¹⁹² Sky City Cultural Center & Haak'u Museum, "Acoma Sky City Tour", April 6, 2017

¹⁹³ Bruce Selcraig, "Tribal Links", *High Country News*, June 4, 2001.

¹⁹⁴ Sky City, "Acoma", April 6, 2017.

are two categories of concern.¹⁹⁵ Even Acoma’s housing entity fails to mention cultural needs in any of its motivators. If the tribe does not prioritize these needs, then it is certain - considering the historic trends in policy - that the federal government does not either. In the meantime, families are placed into Western, cookie-cutter homes. These homes are made from imported materials, not thermally efficient, and fail to address any of the spiritual needs of a place like the traditional dwellings at H’aaku.



Figure 7. A computer generation of a proposed PAHA project. The layout displays how it was designed by the hired architectural firm with a Pueblo-inspired aesthetic appeal, but the functionality does not translate the same as traditional layout such as in Sky City. Such an illustration therefore demonstrates limited cultural competency by non-Pueblo contractors. Adam Rose; Pueblo of Acoma Housing Authority Adding New Homes Near North America’s Oldest Continually Inhabited Community”, *Travois*, July 5, 2016.



Figure 8. A Google Earth image of a modern community in Acoma, New Mexico, near Sky City. The image shows where the houses are Western and spread far apart, unlike the traditional housing in Sky City. Google Earth Images; accessed from earthview.withgoogle.com.

¹⁹⁵ Pueblo of Acoma, “Pueblo of Acoma Housing Authority Overview”, accessed November 19, 2016 at http://www.puebloofacoma.org/Housing_Authority.aspx.

Across the Pueblo of Acoma as well as across numerous other Pueblos, the displacement of families into distant, isolated homes has caused great distress to the community's well-being. Elders describe what could be categorized as "cultural loss and damage" via this displacement.¹⁹⁶ Although PAHA has secured the funds for a new housing project, it has again hired outside contractors to design new buildings that match the aesthetics of Pueblo homes but which are not made of two feet of adobe or constructed with ladders to the second stories. This gap in planning is because outsiders – whether contractors or federal agents – neither know about cultural needs nor are competent enough in them to adequately provide them; however, such services are arguably necessary for meeting the self-determination obligation agencies have to tribal nations and communities.

Fortunately, since the initiation of this research, the Cedar Hills residential area featured in Figure 7 has been recently completed. Little information was available about the development apart from the emphasized aesthetic appeal, but in following up on the project it appears as though heavy community input - and a responsive PAHA team - resulted in the emphasis of culture and environmentalism. Previously, only sections of renderings were available, but now images and written reasoning demonstrate the plaza-style communal design that was finally selected and constructed:

"Cultural sustainability is a centerpiece of Cedar Hills, according to Floyd Tortalita, executive director of PAHA, and it guided the development's building design and site layout. The attached residences with courtyards and rooftop patios foster contact among neighbors. The relationship of the residential buildings to the common space and

¹⁹⁶ Sky City Cultural Center & Haak'u Museum, "Acoma Sky City Tour", April 6, 2017.

community building further encourage spontaneous meetings and conversations. Although PAHA does not offer any formal language training onsite, it hopes that elders will use the native Acoma language in public spaces to preserve this aspect of the tribe's heritage."¹⁹⁷

These changes therefore serve as an example of how community input is necessary in co-creation efforts in housing. It also demonstrates how substantially Pueblo worldview and input can sway the design of a project if it is accepted as an improvement to the planning stage rather than a time-consuming hindrance (the latter of which I personally observed in some NHA or chapter meetings regarding project development).

3.3 Findings

As with the Navajo Nation, the Pueblo of Acoma receives assistance from HUD as a part of HUD's federal trust responsibility to tribes. This assistance should also follow the Native American Housing Assistance and Self-Determination Act of 1996, essentially an updated iteration of the Indian Self-Determination and Education Assistance Act of 1975 but specific to tribal housing, and require HUD to authentically support tribal sovereignty in its administration of programs and distributions of funds to the Pueblo of Acoma. In doing so, HUD should keep cultural protocols and values found in the Pueblo of Acoma at the forefront of its planning and implementation processes. Just as the Navajo Nation has NHA, the Pueblo of Acoma has the PAHA. These TDHEs are the main point of contact for tribal housing issues in their respective

¹⁹⁷ Office of Policy Development and Research, "Pueblo of Acoma, New Mexico: Cedar Hills Development Adds Affordable Housing, Sustains the Environment and Tribal Culture", June 10, 2019.

communities; however, HUD still makes the ultimate decisions on funds distribution and housing priorities.¹⁹⁸ The result of HUD's influence over housing across the Navajo Nation and at Acoma is new housing units that look like nothing the traditional communities had ever utilized before federal government interference. This dramatic shift is because the cookie-cutter models HUD has helped to generate are Western designs that effectively colonize further the housing situation in the communities, rendering intelligent traditional designs that serve the community at a deeper level nearly invisible.

On the Navajo Nation, which is traditionally a sheep economy, sheepherders and farmers would live with the maternal family far from other homes or urban centers. Now when houses are constructed in suburban settings, however, they not only interrupt the traditional way of life of the Navajos but also face challenges of land withdrawal due to the Grazing Permit and fractionating nature of land arrangements on the reservation and construction can cause controversy due to the plethora of Anasazi potsherds typically present and the risk of uncovering human bones (as traditionalists believe touching the dead is taboo).¹⁹⁹ Unlike the Navajo traditional living arrangements, Pueblos are tightly-knit to keep members engaged in the goings-on of the community as well as the multitude of ceremonial activities that occur in the public plazas. This communal setting is especially necessary for food-processing as Pueblo homes are in fact designed intricately to dry fruit, grind maize, and store harvests.²⁰⁰ To displace

¹⁹⁸ U.S. Department of Housing and Urban Development, "Native", 1996.

¹⁹⁹ David E. Wilkins, *The Navajo Political Experience* (Lanham, Maryland: Rowman & Littlefield, 2003), 153.

²⁰⁰ Nabokov, *Architecture*, 1986.

Acoma people from this tight-knit setting and put them in suburban areas instead would be to block access to their culture, their religion, and their traditional food systems. Placing Navajos in the same kind of cookie-cutter cluster would put them untraditionally close and have a similar effect.

Another component HUD focuses on is the affordability of homes through its lending programs and overall construction objectives.²⁰¹ Fast-builds are now the goal of many projects, replacing the traditional adobe and stone that defines the character of the Pueblo dwellings across Arizona, New Mexico, and Texas. The cookie-cutter homes sponsored by HUD in no way follow traditional craftsmanship or the use of such local resources. Furthermore, HUD supports repairs in existing homes, but, were funds to be used on fixing traditional structures, the kinds of repairs made could actually shorten the life of a building. In a variety of ways, not incorporating certain needs and expectations of the Acoma people is leading to the destruction of their lifeways: detachment from their traditions separates them from the Keres language and connection to the land, dissolving their bond and even skill sets and craftsmanship. Losing so much traditional connection would inevitably threaten a cohesive existence; therefore, ignoring the need to reform how Acoma housing is implemented and maintained could result in cultural termination. In order to influence the policy and defend Pueblo cultural inclusion in housing decision processes, the tribe would need to engage heavily in feedback surveys and possibly even pressure the HUD program at headquarters to set up meetings as to how the tribe is being specifically impacted by the nature of Indian housing programs. A working group that might derive from such advocacy could also improve the

²⁰¹ Jones, "Native".

situations in other tribes that find their cultures highly intertwined with the state of their housing programs.

HUD is not fulfilling its obligation to the Pueblo of Acoma, but PAHA and their contractors should also be held responsible. The Pueblo's TDHE is a stakeholder in the negotiated rulemaking used to determine what reformations in the housing program need to be made.²⁰² If all the tribal entities representing the Pueblo could align on their shared cultural values, perhaps they could reinforce their traditions instead of invest in projects that contradict their values and undermine their own communities. They should also hold the contractors they hire responsible for prioritizing Acoma cultural values, interacting appropriately with the community, and honestly billing the tribe for any work done - something that was most recently demonstrated by the ground-breaking Cedar Hills project. Tribes like the Navajo Nation could use incorporating this process more effectively. The NHA also has a tarnished reputation with funds and spending that it needs to overcome before certain holds on incoming funds will be lifted and it can regain the trust of its customers, other tribes, and federal entities.²⁰³

²⁰² Jones, "Native".

²⁰³ "GAO-14-255: Native American Housing Additional Actions Needed to Better Support Tribal Efforts", Government Accountability Office, 2014.

4 RECOMMENDATIONS FOR IMPROVING INDIGENOUS HOUSING PLANNING & NEGOTIATION PROCEDURES

This section outlines the importance of Indigenous architecture and design in addressing what has been previously identified as deficits contributing to the Indian “housing crisis” in the United States. The connection is made between successful design versus failed designs that take very little into account for cultural wisdom or cultural needs that would truly make a project a *home* rather than simply a *house*. All previous elements discussed related to Indigenous design are important informants to considering how these elements should be addressed in new policy. During a housing project, various entities play a number of roles and so each party must be organized into a collective that translates into national change and reformation in the realm of Indian housing and policy. In particular, the following recommendations identify the difference between what the federal government should reform versus what responsibilities tribes should be held accountable for upholding. In the words of Robin Wall Kimmerer, “to love a place is not enough; we must find ways to heal it.”²⁰⁴ The same holds for Indian housing: We must build more than just houses but homes in communities of culture and healing.

²⁰⁴ Robin Wall Kimmerer, *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants* (Minneapolis, Minnesota: Milkweed Editions, 2013), 56.

4.1 Addressing the Indian “Housing Crisis” by Privileging Indigenous Architecture and Design”

Today, the federal government provides funding and even operates programs through Housing and Urban Development (HUD) to address the housing needs it identifies in Indian Country.²⁰⁵ Since the 1975 Indian Self-Determination and Education Assistance Act, P.L. 93-638 contracts have enabled tribes to contract with the federal government, operating the programs out of a tribal capacity but while using federal funds.²⁰⁶ Housing is still considered a top issue in Indian Country where inadequate plumbing and utilities are cited by HUD as issues alongside leaking buildings, mold, lack of heating, and overcrowdedness.²⁰⁷ Many of houses that come out of HUD or 638 contract programs are built to address these problems; however, the houses built are typically Western suburban-style homes. Although some projects by TDHEs specifically requested architects to add “cultural elements to their homes”, these elements are purely aesthetic and reflect both the lack of comprehension by outside contractors to specific cultural needs as well as the lack of priority tribes take to address these needs, likely a side effect of limited funds and capacity.²⁰⁸ The case studies provided of the Navajo Nation and the Pueblo of Acoma, respectively, discuss this issue of cultural disingenuity as well as various other barriers and gaps that HUD and tribal governments are not adequately addressing.

²⁰⁵ Department of the Interior, “FY 2019 Federal Funding for Programs Serving Tribes and Native American Communities”, accessed August 18, 2020 from <https://www.doi.gov/sites/doi.gov/files/uploads/fy2019nativeamericancrosscut.pdf>.

²⁰⁶ Department of the Interior, “Public Law 93-638 Contracting and Compacting”, accessed August 18, 2020 from https://www.doi.gov/ost/tribal_beneficiaries/contracting.

²⁰⁷ Seldenrich, “Healthier”, 2012: A460.

²⁰⁸ “GAO-14-255”, Government Accountability Office, 2014: 26.

The connection between health and culture, however, cannot be overlooked, and neither should the power of and need for community input in project development. Starting in the 1970s, some groups of researchers began studying the ways traditional Aboriginal people in Australia constructed their communities and therefore oriented their social and cultural customs within that setting. They found that housing designed for traditional peoples required architects to “understand the nature of those lifestyles”.²⁰⁹ In 2017, research from the Australian continent produced more support for the way healthy lifestyles are “interconnected with Australian Indigenous culture and positive emotional wellbeing” and that this factor is “an important outcome of connecting Australian Indigenous children to cultural practices”.²¹⁰ It therefore becomes evident that traditional housing with design rooted in specific epistemologies and worldview are therefore necessary to perpetuate the same social factors that facilitate healthy lifestyles, including spirituality and a sense of identity.²¹¹ Such a priority to incorporate Indigeneity to solve both housing and health crises in communities also requires privileging Indigenous knowledge and utilizing proper consultation processes, especially in the cases where housing funds and plans are directed by groups not associated with the tribal community itself.

Kieron Wong, a research fellow and director of Cox Architecture, wrote in a 2018 piece for *The Conversation* that the key to working with healthy home and

²⁰⁹ Carroll Go-Sam, “Indigenous Design Paradigms”, accessed September 15, 2018 from <https://architectureau.com/articles/indigenous-design-paradigms/>.

²¹⁰ Ruth Crowe et al., “Culture and healthy lifestyles: A qualitative exploration of the role of food and physical activity in three urban Australian Indigenous communities”, *Australian and New Zealand Journal of Public Health* 41, no. 4 (2017): 411, accessed January 10, 2020, <https://www.ncbi.nlm.nih.gov/pubmed/28616872>.

²¹¹ “Cultural Identity,” Social Report, accessed October 27, 2019, <http://socialreport.msd.govt.nz/2003/cultural-identity/cultural-identity.shtml>.

Indigenous communities is not to innovate but to “go back to what we know works, to the evidence-based solution of better housing for health”, emphasizing the idea of “co-design[ing]” with said communities.²¹² This proposal privileges both Indigenous knowledge and reciprocity as co-designing enables co-production and enhances everything from the relationships created during a project to the outcomes of that project and how it applies to the local community.²¹³ While much of the research for Indigenous housing and community restoration arises from Australian Aboriginal communities, Indigenous communities across Australia, Canada, and the United States all faced similar methods of colonization as a result of Anglo Imperialism and therefore many of the issues impacted their communities are equally as similar.

The idea of “co-designing” is not unique to Indigenous methodology spheres; in fact, in the realm of Public Health, it is called Human-Centered Design and relies on six lengthy and sometimes cyclical steps to design *with* rather than *for* communities the programs that will actually produce positive health outcomes.²¹⁴ Community buy-in can be found in many models.²¹⁵ The idea of going “back to what we know” rather than to innovate, however, contradicts mainstream ideas of architecture and energy efficient building design. This new trend of creating “smart” building technologies,

²¹² Kieran Wong, “We need to stop innovating in Indigenous housing and get on with Closing the Gap”, *The Conversation*, May 30, 2018, <http://theconversation.com/we-need-to-stop-innovating-in-indigenous-housing-and-get-on-with-closing-the-gap-96266>.

²¹³ Ryan L. Shelby, “Co-designing sustainable communities: The identification and incorporation of social performance metrics in Native American sustainable housing and renewable energy system design”, *University of California, Berkeley* (2013): 1, accessed <https://escholarship.org/uc/item/6nm8078d#main>.

²¹⁴ Alessandra N. Bazzano et al., “Human-centred design in global health: A scoping review of applications and contexts” *PLoS One* 12, no. 11 (2017): e0186744, accessed <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5665524/>.

²¹⁵ R. Kasim et al., “A choice of research strategy for identifying community-based action skill requirements in the process of delivering housing market renewal”, Research Institute for the Built and Human Environment Conference Paper (2010).

implementing more cohesive urban plans, and developing new materials for increased thermal efficiency is in response to high energy costs and the need to reduce carbon footprints in the face of climate change and impending policy implications from the local to global level. Ironically, however, the vast majority of designs and materials produced merely mirror ancient Indigenous technologies and methodologies that communities incorporated into their societies for generations before being replaced by “more sophisticated” methods - the same methods that are now deemed as inefficient despite perceived advancement and novelty.

While the cost of energy is important for any business or homeowner looking to save money on bills, it is especially crucial for Indigenous populations who are often remote and with even less means to pay such bills. Many “novel” solutions in mainstream society for reducing energy bills might include solar panel installation (which requires solar energy efficacy, upfront investment, access to skilled labor, grid capacity, and ability to maintain panels) or simply shifting away from coal resources (which “places an unbalanced burden on the poor, raising their electricity bills by as much as 23 percent, while the wealthier will only see increases of up to 14 percent”²¹⁶). These same solutions are likely unattainable for the majority of Indigenous peoples due to higher costs in remote areas, less access to financial loans, and a higher prevalence of low income families.²¹⁷ Some groups are keenly aware, however, of how “going back to what we know” will help their communities. One example is the St. Croix tribe’s

²¹⁶ Megan J. Maxwell, “Can low-income households afford alternative energy?”, *Creighton University* (2015): i, accessed https://www.creighton.edu/fileadmin/user/EconomicInstitute/Research_Scholars/Alternative_Energy_White_Paper_-_4-6-15.pdf.

²¹⁷ “The Report of the Native American Lending Study”, *Community Development Financial Institutions Fund*, November 2001, https://www.cdfifund.gov/Documents/2001_nacta_lending_study.pdf.

elderly home project that will utilize straw and clay walls in addition to “passive solar technology for water heating”, citing that such building materials cost only 67% of the cost to use regular wood in construction.²¹⁸ These homes show that not only do more traditional materials save on energy, but they also reduce construction costs and may be easier to obtain and important on remote tribal lands. Furthermore, considering the age of many standing ancient Pueblo homes, evidence suggests that traditional building practices typically demonstrate a more robust longevity than their fast-build contemporary counterparts - a factor that also reduces the carbon impact of infrastructure in life cycle assessments.²¹⁹

An example of advanced engineering intelligence found in Indigenous architecture that may be underappreciated by Western scientists can be found in these Pueblo homes. The particular comprehensive design of these homes utilizes what is called the “solar envelope” and it strives to optimize solar exposure, build higher where there are higher winds to shield the other areas nearby, and to optimize room positioning.²²⁰

²¹⁸ “Community Partnerships Bring Innovative, Energy Efficient Housing to Tribal Lands”, *EcoWise* 5, no. 8, September 2007, accessed https://www.hud.gov/sites/documents/DOC_10663.PDF.

²¹⁹ Stephanie M. Chambers, “Pueblo Architecture of Northern New Mexico”, *Chambers Architects*, September 8, 2016, accessed <https://chambersarchitects.com/blog/pueblo-architecture-taos-new-mexico/>.

²²⁰ Kris De Decker, “The solar envelope: How to heat and cool cities without fossil fuels”, *Low-Tech Magazine*, March 24, 2012, accessed <https://www.lowtechmagazine.com/2012/03/solar-oriented-cities-1-the-solar-envelope.html>.

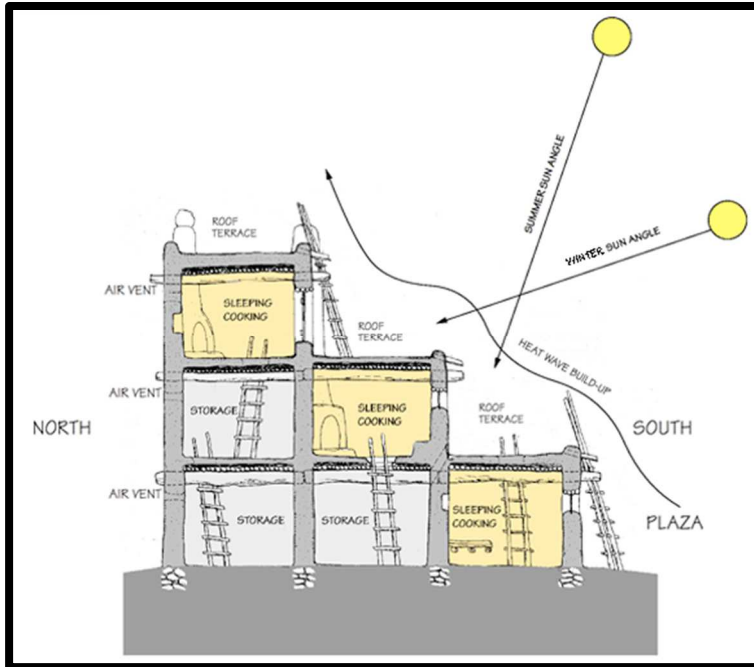


Figure 9: Illustration of the solar envelope in Pueblo homes. The use of ladders and the designation of particular rooms are shown. Rooms are optimized for function based on sun exposure. The overall layout creates optimal surface area for its orientation to the sun. Dennis R. Holloway; “Sun Tempered Architecture”, accessed November 19, 2016 from <https://www.dennsrhollowayarchitect.com/Acoma.html>.

In fact, the typical cross-section illustrated in Figure 9, when analyzed for how the sun warms the rooms over time, aligns intelligently with the activities in each room and the temperature-based comfort levels - the exact reason those rooms were planned in the way they were, requiring little heating in even the wintertime.²²¹ Many modern buildings and city planners have proposed adopting this solar envelope concept as if it is novel; however, the Pueblo trace their use of the solar envelope back to the Anasazi days where they utilized both the sun and the protection of cliffs to live a comfortable life.²²² This example of Indigenous planning and design demonstrates the energy-saving

²²¹ Nabokov, Architecture, 1986.

²²² Mesa Verde National Park Tours, National Park Services, Colorado, July 2015.

engineering, low-cost local resources, and normalized traditional design implementation that has been lost under contemporary Indian housing policy and standard consultation practices.

Turning north to Montana, Indian housing policies have done little to correct deficiencies of a historic origin. For example, although the Blackfeet Housing Authority has expanded its capacity to provide for 2,700 people relying on tribal housing, and although it has worked to rehabilitate if not build altogether 155 more homes over the last four years, the condition of housing that are falling apart in communities like Moccasin Flats is something it has struggled to reverse.²²³ Another complaint the tribe has is the lack of culture and lack of quality construction in the homes that were first provided, many of which the dilapidated housing stock may comprise today. As Congress initially set aside funds in the 1960s to improve reservation living conditions, thousands upon thousands of housing units were completed over the next two decades - but they lacked quality construction as well as “any reference to traditional cultural values”, generally grouping families in “row-style” designs instead.²²⁴ The subpar insulation, including the use of single-pane windows, would be considered inadequate to any culture living in blustery Montana, especially when the traditional housing consisted of thermally intelligent tipi construction that, utilizing a central fire and specialized flaps, could maintain adequate warmth through freezing night temperatures.²²⁵ Most importantly for the Blackfeet, the housing authority workers note that little incentives

²²³ David Murray, “Crisis in our backyard: Indian housing”, *Great Falls Tribune*, March 31, 2016, accessed <https://www.greatfallstribune.com/story/news/local/2016/03/31/crisis-backyard-montanas-reservation-housing/82466032/#>.

²²⁴ Murray, “Crisis”, 2016.

²²⁵ Ibid.

were given for tribal members to own their homes and the drawing away of people from ancient rural communities ultimately “tore at the fabric of Blackfeet society”.²²⁶

Often, tribes cite a lack of capacity to achieve the work, but funding plays the most prominent role. In the case of the former, however, some tribes have sought unique partnerships to house their most vulnerable community members. One example is how Leech Lake Housing Authority, in its publicly-available documents, describes a partnership with Conifer Estates. These units are owned by the property management company in Walker, Minnesota and are not affiliated with the tribe, but the units have been promised for tribal members in need of transitional housing from previous states of homelessness.²²⁷ While the creation of such a partnership addresses an immediate need, it still tackles a relatively new community issue of homelessness with static housing.²²⁸ Furthermore, with *manoomin* (wild rice) being a central part of Anishinaabe identity and restoring traditional foodways a popular method for reversing health complications, studies from the College of the Menominee Nation (which also centers on *manoomin*) recommends incorporating habitat corridors during development.²²⁹ Another tactic is to build housing in “already fragmented landscapes”, focusing on restoring native vegetation, designing structures for wildlife to safely cross roadways, and offering *asemaa/nāēqnemaw* (tobacco) before taking, using, or altering anything.²³⁰

²²⁶ Ibid.

²²⁷ Leech Lake Band of Ojibwe Housing Authority, “April Final Report”, accessed <http://www.llboha.org/assets/apr-final.pdf>.

²²⁸ Minnesota Indian Affairs Council and the Minnesota Humanities Center, “Why Treaties Matter: Self-Government in the Dakota and Ojibwe Nations” (2017): 2, accessed <https://aaslh.org/why-treaties-matter-self-government-in-the-dakota-and-ojibwe-nations/>.

²²⁹ Tribal Adaptation Menu Tea, “Dibaginjigaadeg Anishinaabe Ezhitwaad: A Tribal Climate Adaptation Menu”, *Great Lakes Indian Fish and Wildlife Commission*, Odanah, Wisconsin:2019, 39.

²³⁰ Ibid, 21-39.

While the Hopi traditionally have their religious ceremonies in solar envelopes, the Blackfeet their adequately warmed and affordable communities, and the Anishinaabeg their seasonal way of life revolving around food systems, their own understandings of what their communities need are often lost in the planning process. Even tribes that utilize 638 contracts may end up hiring a contractor whose investigation of community needs and relationship with the community results in a disconnect and prevents them from deep-thinking planning (or a “knowledge gap”²³¹). When it comes to designing and building homes - as well as the policies that inform such a process - Western methodologies for architectural and construction-related planning and research is largely “driven by the objective ontology and positivist epistemology that underlie much of the...field”.²³² In fact, if a contractor or consultant leaves working for the contracting firm in order to advise as an employee on a project for the entity who hired the contractor, because that employee might next adopt a less “traditional” approach, the switch is idiomatically (and somewhat tongue-in-cheekly) referred to as “going native”.²³³ Yet, when it comes to planning in Indigenous communities or other groups lacking ethnopluralism, being able to reciprocate ideas and methodologies ironically would be the ideal, especially in the cases where Indigenous planning centers community input far more than typical construction paradigms and proceedings of the non-Indigenous planners.²³⁴

²³¹ Stacy Weiner, “Cultures and cure: Healing Native American health”, *Association of American Medical Colleges*, September 5, 2017, accessed <https://news.aamc.org/diversity/article/culture-cures-healing-native-american-health/>.

²³² Tribal Adaptation, “Dibaginjigaadeg”, 83.

²³³ F. Rawlinson and P. Farrell, “Construction site culture; Seeking the optimum methods for an ethnography”, forthcoming PhD dissertation, accessed August 10, 2019: 87.

²³⁴ Marcus B. Lane, “The Role of Planning in Achieving Indigenous Land Justice and Community Goals”, *Land Use Policy* 23, 4 (2006), 385.

Through experimenting with Indigenous points-of-view, architects like Wanda Dalla Costa realize the idea of “co-designing” with community input is a proven successful method often overlooked by contemporary planning processes.²³⁵ Her Gila River Indian Community collaborative sandwich house project is a prime example of how community input can best assess the needs of a community, especially compared to when an entity unfamiliar with the community attempts to complete the design solo and without substantial input, feedback, and iterative processes. Similarly, Isleta planner Ted Jojola’s work around co-design, community-based planning, and placemaking supports Dalla Costa’s theories of what genuinely works to promote cultural harmony and good health in Indigenous communities. He argues that, “despite the enormous problems facing [I]ndigenous communities, they are perhaps best positioned to repatriate traditional planning approaches as well as adapt those mainstream practices that make them more culturally resilient”.²³⁶ Such theories all call for a need for a paradigm shift in tribal government planning and project execution.

Hill and Salter further argue that “purely rational and technical approaches, unaugmented by a sense of the sacred or by the sensibilities specific to place, will necessarily become destructive and irrational over time”, a theory supporting further yet why the present approaches in federal policy regarding Indian housing assessment, design, implementation, and maintenance must drastically change in order to reverse its

²³⁵ Kayla DeVault, “The Lost Indigenous Housing Design”, *Yes! Magazine*, May 28, 2018, <https://www.yesmagazine.org/issues/affordable-housing/colonialism-and-the-lost-indigenous-housing-designs-20180528>.

²³⁶ Ted Jojola, “Indigenous Planning - An Emerging Context”, *Canadian Journal of Urban Research* 17, no. 1 (2008): 45, accessed https://www.uwinnipeg.ca/ius/docs/cjur/37-47_Jojola.pdf.

present trajectory.²³⁷ After reviewing this information, researching tribal housing reports, and considering how federal Indian policy promotes or prevents the successful creation of healthy and culturally-competent communities, the conducted study determined that improvements should be made to increase the effectiveness and self-determination components of housing stock created under the Native American Housing and Self-Determination Act (NAHASDA).

4.1 Recommendations for the Federal Government

As discussed, the federal government has an obligation to support tribes. The Snyder Act of 1921 specifically “provides authority for the expenditure of...funds as Congress may appropriate for the benefit, care and assistance to Indians throughout the United States”, an obligation that applies far outside of the Indian Health Services and which transcends even the housing sector and various social services.²³⁸ Despite the act and obligation, Indian public health is still lacking - from pollution and limited access to healthcare to inadequate housing and a limited incorporation of cultural sovereignty in its programs.²³⁹ However, only so many changes can be made by the federal government without the oversight becoming increasingly intrusive. Tribes must take control of their own affairs, as outlined in the HUD Government-to-Government Consultation Policy, but included in this section are recommendations for reformations

²³⁷ L. Hillman et al., “Environmental management: American Indian knowledge & the problem of sustainability”, *Forest, Tress & People Newsletter* no. 34 (1997), accessed <http://www.magickriver.net/karuk.htm>.

²³⁸ Indian Health Service, “Legislation”, accessed <https://www.ihs.gov/aboutihs/legislation/>.

²³⁹ Hansen, “Kill!”, *Indian Country Today Media Network*.

the federal government can make to the rulemaking process to facilitate positive changes in Indian housing policy and tribal health outcomes.²⁴⁰

4.1.1 Reform Funding Calculators

Perhaps the most cited issue requiring reform is in regards to funding. The federal government should make a priority to fund Indian housing at the same proportion that it funds other housing programs if not at a greater proportion considering increased costs and needs in many tribal communities. However, increasing funding would require justification through formula area calculations which are already a source of controversy amongst tribal stakeholders. Therefore, in order to improve funding availability, the federal government must first work closely with tribes to reevaluate and modify the processes used to determine tribal housing stock, needs, and cost inflations. When it comes to evaluating the funding needs of the Indian-serving sectors of HUD, a number of elements skew and distort the actual need and so the following points should be considered:

1. The issues of formula area and population counting continue to be contested and some methods might underestimate what one tribe argues as their need population while overshooting the need for another.
2. The differences, culturally and geographically, of tribes might influence cost needs; for construction materials and far, remote transport means Indigenous communities in rural reservation areas have increased baseline costs compared to

²⁴⁰ HUD, “Government-to-Government Consultation Policy”, accessed https://www.hud.gov/program_offices/public_indian_housing/ih/regs/govtogo_tcp.

average American construction projects or even urban Indian projects of the same caliber.

3. Finally, the original housing stock should be seen in terms of deficit rather than existing assets. For example, dilapidated existing stock in disrepair and in desperate need of maintenance funding under the Blackfeet Housing Authority means the tribe has funds to provide *more housing* while at the same time losing quality of *pre-existing housing* that subsequently deteriorates more each fiscal year without additional financial support.²⁴¹

Addressing the housing burden by addressing the hindering cookie-cutter approach to Indian housing funding is a critical first step and part of the federal government's obligation to "reduce the imposition of unfunded mandates upon Indian tribes".²⁴²

4.1.2 Reform Land Policies and Building Restrictions

To that end, the red tape surrounding Indian housing policy, construction, and Indian land withdrawal is another substantial roadblock that costs both time and money, delaying many housing projects if not halting them altogether. HUD's very own fourth principle in its aforementioned policy on tribal consultation declares that "HUD shall take appropriate steps to remove existing legal and programmatic impediments to working directly and effectively with tribes on programs administered by HUD".²⁴³

²⁴¹ Murray, "Crisis", 2016.

²⁴² "Executive Order 13175 of November 6, 2000, Consultation and Coordination With Indian Tribal Governments," *Federal Register* 65, no. 218 (2000): 67249-67252, <https://www.govinfo.gov/content/pkg/FR-2000-11-09/pdf/00-29003.pdf>.

²⁴³ HUD, "Government-to-Government".

However, a report by HUD in 1996 mentioned several times the non-private holdings of tribal lands in areas outside of parts of Oklahoma as problematic and preventing housing from development.²⁴⁴ Such sentiments harken to the Allotment era, a traumatic historical period for tribes when an individual's rights to land was determined by his ability to assimilate, and therefore they should be avoided in finding a new solution to land policy. Rather, the following should be assessed:

1. Reassess and reform the Bureau of Indian Affairs (BIA)'s role and timeline in approving land use requests and managing land titles. (For state-recognized tribes, the process to review falls under State jurisdiction.²⁴⁵)

2. Reevaluate the standards and land selection cost justification process so that they do not inhibit tribes from building the kinds of structures in the places the community desires without funding stipulations. (E.g., some communities may prefer remote locations and are satisfied without the costly infrastructure HUD standards would ordinarily demand and be unable to justify in such a scenario.²⁴⁶)

3. Continue to simplify the land assessment processes (such as environmental reviews) such that the integrity of the land and ecology is maintained without jeopardizing the overall cost and timeline for project implementation.

To appropriately address its obligations, the federal government should authentically implement a co-design process with community members, tribal stakeholders trusted and elected by the community, and relevant tribal leadership in the housing programs. This model would look akin to the Human-Centered Design model

²⁴⁴ HUD User, "Assessment of American Indian Housing Needs and Programs: Final Report", 1996: xvii.

²⁴⁵ Ibid, 19.

²⁴⁶ HUD User, "Assessment", 1996: 147.

and work to correct the deficiencies identified herein as well as by those at the table in discussions.²⁴⁷ While many of the findings for improving federal participation in the HUD Indian housing programs have been at least mentioned at a surface level in internal HUD reports since the 1990s, this paper calls for an end in the delay of reformation while also acknowledging that much of the project approach authenticity and accountability is a responsibility that falls not on the federal government but on the tribal governments and TDHEs themselves.

4.2 Recommendations for Tribal Governments

Much focus is placed on the historic and marginalizing policies to lend critique to how the federal government should correct wrongs impacting Indian Country - and rightfully so. Yet, insisting changes in the federal system can only result in positive outcomes if the tribal governments and housing entities themselves demonstrate a level of efficacy and accountability that enables any changes to materialize. The federal government has argued that a lack of accountability in spending justifies a balance of giving tribes some space for sovereignty and self-determination while still following an expensive and sometimes overbearing oversight process through the federal side.²⁴⁸ For example, in 2016 alone HUD was accused of being “too lax” in the \$660 million of funds distributed as it was revealed millions of dollars were abused across dozens of tribes, the funds spent on banquets and vacations for tribal leadership rather than on low-

²⁴⁷ Bazzano et al., “Human-centered”, e0186744.

²⁴⁸ U.S. Congress, Senate, Committee on Indian Affairs: Hearings before the Committee on Indian Affairs, 113th Cong., 1st sess., 2013.

income housing for the communities.²⁴⁹ Before communities will even have the trust to work with their leadership to radically change intergovernmental planning discussions to an efficient co-designing model, tribes wishing to reduce federal government oversight will need some self-introspection to identify barriers to internal accountability and implement their own checks and balances to restore any broken trust.

4.2.1 Implement Mechanisms to Reduce Duplication of Effort & Increase Accountability

Every tribe has its own unique situation, from population size to numbers of programs it administers. It is difficult to assess the challenges each tribe faces or even to describe them with one broad stroke; however, there are some common challenges that may plague any government entity. These challenges typically related to reducing the duplication of effort as well as increasing accountability against various forms of fraud - often from within. By evaluating its susceptibility to these issues, a tribe can work to better the administration of its own programs, including tribal housing.

1. Reduce the threat of theft from the inside such as via embezzlement by creating and auditing standard hiring and IT procedures across tribal government entities to guarantee dollars designated for programs like tribal housing are in fact going to those projects.²⁵⁰

²⁴⁹ Dave Daley, “Tribes in Wisconsin and across the U.S. misusing millions in federal housing funds”, *Badger Institute*, September 15, 2016, accessed <https://www.badgerinstitute.org/Commentary/Tribes-in-Wisconsin-and-across-the-U.S.-misusing-millions-in-federal-housing-funds.htm>.

²⁵⁰ US Department of Housing and Urban Development Office of Inspector General, “Avoiding Embezzlement of Public Housing Funds”, *Integrity Bulletin* 1, No. 4 (2013), accessed <https://www.hudoig.gov/sites/default/files/2019-04/Avoiding%20Embezzlement%20of%20Public%20Housing%20Funds.pdf>.

2. Increase department coordination and sharing of data within the tribal government sectors and related enterprises to reduce duplication of effort. This coordination should also include each tribal nation prioritizing its participation in the data sovereignty movement, bolstering census collection information vital to service delivery. In regards to duplication of effort between tribal and other governmental offices in regulatory efforts, considering addressing each conflict as it arises and adopting a model providing for mutual recognition of authority.²⁵¹

3. Evaluate internal bottlenecks for project implementation and make a priority to increase the capacity of THDEs or other responsible parties in order to manage, complete, and inspect housing assets in a timely and efficient manner.²⁵²

An increase in efficiency as well as accountability on the tribal government side of handling accounts will reduce the need for excessive spending for oversight on the federal government side, improve intergovernmental relations, and open the doors for further program improvement.

4.2.2 Adapting Policies for Community Inclusion with Cultural Priorities & Procedures

The final piece tribes need to improve their participation with federal entities and contractors in housing discussions is twofold: One part is an internal structure that develops policies for community inclusion with cultural priorities and procedures; the other part is to work with external entities to ensure such consultation frameworks are

²⁵¹ MN House Research, “American Indians, Indian Tribes, and State Government”, accessed <https://www.house.leg.state.mn.us/hrd/pubs/indiangb.pdf>.

²⁵² HUD User, “Assessment”, 1996: 214.

adhered to. Should the federal government continue to reform its consultation process by adopting a community-centered approach, then it will be critical for each tribal community to have procedures set in place to enforce during such proceedings. To do so will require tribes to adopt a variety of practices, many of which likely align more closely with their traditional methods of collective decision-making.

1. Reconstruct scopes of work to develop a standard construction timeline that demands community inclusion at the table for all discussion and decision-making.
2. Reevaluate the procurement process to put priority on accountability in contractors as well as on the hiring and use of local trades and skills.²⁵³
3. Maintain a catalogue of cultural priorities and procedures developed and periodically updated internally by the community and reference such material in a translatable way to A/E firms or other contracting entities who will be required to design projects that authentically reflect the community's collective priorities, not just projects that aesthetically reflect stereotypes of culturally-inspired architecture.²⁵⁴

The key to addressing this section of the recommendations for tribes will be to realize culture is ever-evolving and priorities may change with time. Adaptability and fluidity in plans will be critical in maintaining accountability to the people's needs while also prioritizing cultural cohesiveness. With a determined system in place, interfacing with other government agencies or entities will become a much smoother process.

²⁵³ Collin Abdallah, "4 Principles of Designing with Indigenous Communities", *Arch Daily*, July 24, 2018, accessed <https://www.archdaily.com/898409/4-principles-of-designing-with-indigenous-communities>.

²⁵⁴ Arlene Hirschfelder and Paulette F. Molin, "I is for ignoble: Stereotyping Native Americans", Ferris State University, February 22, 2018, accessed <https://www.ferris.edu/HTMLS/news/jimcrow/native/homepage.htm>.

5 CONCLUSIONS

This research explored the shortcomings of Indian housing, from policy to consultation and by means of implementation. The first component considered was the condition of housing in Indian Country and why it is considered substandard.²⁵⁵ This component fuels the change that is made in federal Indian housing policies and plays an important role in predicting the outcome of new programs and modifications to them. The second component considered health issues as they relate to the environment, culture, and community people inhabit. In particular, this component analyzed what research exists that privileges incorporating culture into aspects of cultural design to promote positive outcomes, including to promote self-determination of sovereign entities. The third component specifically considered how sovereign nations within the United States' geopolitical boundaries have distinct cultures and customs that should not be lost on housing programs and architects who help plan new Indigenous community housing. The fourth and final component addressed specifically how much the federal and tribal governments participate in these housing programs and critiques what changes should be made for these entities to fulfill their responsibilities to tribal members. All of these components demonstrate how important housing is to Indigenous nations, their rights, and the peoples' health; they also demonstrate how much government participation (and various barriers) play a role in delivering services to tribes.

²⁵⁵ "Section 5.425 - Federal Preference: Substandard Housing," *Code of Federal Regulations*, Title 24 (2000), <https://www.govinfo.gov/content/pkg/CFR-2000-title24-vol1/xml/CFR-2000-title24-vol1-sec5-425.xml>.

The federal government has many responsibilities to improve its Indian programs, and housing is a critical portion of those improvements. Tribes, however, also have a role to play in improving the housing for their own people. They need to prioritize the inclusion of community voices in housing development discussions so they best know how to serve their people. They also need to utilize internal mechanisms to ensure funds are used effectively and appropriately so that the people are served and so that federal oversight can be reduced. For example, up to 20% of funding from the NAHASDA program can be designated to overhead costs, a number that ideally tribes should lower to spend more funds on housing; however, with the high turnover rate at NHA, training new employees during the onboarding process not only requires a lot of the entity's capacity in time but also slows the progress of projects. Furthermore, the NHA - like any other tribal housing authority - must work within the constraints of HUD's program protocol. As a TDHE that receives a considerable amount of the program's funding, NHA could be a better advocate for prioritizing culture in the negotiated rulemaking process.

For all housing projects, community inclusion needs to be at the forefront. If tribes do not represent their communities to facilitate change in the housing methods used, then there is little impetus or even appropriate space for non-tribal stakeholders to initiate discussions of alternative approaches. Because many projects are completed with hired contractors, more research should also be completed to ensure contractors do an authentic job addressing the needs of the population when designing housing. These contractors should be fluent in the jurisdiction issues in Indian Country, aware of the importance of culture in design and interaction with the community, and held

accountable for billing reasonable expenses for the work being done. While quantifying culture may be hard to do, it may be one step in the right direction for all the diversity of tribal nations to be effectively communicated to these hired contractors.

Developing more specific goals for improving the Indian housing programs will require further research, especially if those goals are to be tailored to particular tribal communities. This further research would look into how an individual community could adopt and implement the steps proposed in the findings as well as specific methods for how tribes could advocate for themselves for more government accountability in their projects and in the language of the updated policies to which they hold the federal government accountable. Also, and as suspected, the results obtained in the referenced experiments in the case studies suggest that the more traditional the housing, the more thermally efficient its design. These results are consistent with the belief that Indigenous methodology, based on ancient principles and practices, produces solutions best suited for the Indigenous group's native environment. More sets of data collected more accurately and more completely could further demonstrate this theory.

There are also opportunities for further research within the two case studies included in this project. Although it was outside the scope of this work, a detailed analysis of a large sample of Navajo *hooghans* could help support the theories of thermal efficiency and design longevity.²⁵⁶ To further support the findings, the results could be compared to HUD or NHA-style houses. The results from such experiments could be used to influence the housing programs utilized on the Navajo Nation and

²⁵⁶ Kayla DeVault, "The energy efficiency and cultural significance of traditional housing: Comparing the Navajo Nation and Pueblo of Acoma in an effort to reform federal Indian programs", *Indigenous Policy Journal* 29, no. 2 (2018).

various other parts of Indian Country and such analyses could be incorporated to greater studies related to energy consumption on the Navajo Nation, the cost to construct and maintain different kinds of housing, and even the effects promoting housing that is constructed with local materials and which burns woody resources have on controlling the brush and forest fires that have become more frequent in recent years. With more information to support theory, research of this nature could have a positive effect on the cultural relevancy and energy efficiency of homes constructed through Indian housing programs.

For the Acoma analysis, further work could include: 1) conducting a comparative study of the thermal efficiency of a Sky City home and a HUD home at the base of the mesa; and 2) interviewing an array of Acoma people on their perspective of traditional homes, culture, and religious participation. This information would be incredibly useful for PAHA to reconsider how it engages with HUD and what it advocates for on behalf of its tribal members. Furthermore, PAHA should continue encouraging Pueblo-inspired architecture production by its contractors - but it should emphasize authentic, functional replication rather than aesthetically-similar designs. In this way, Pueblo homes can continue to be living pieces of the community and strengthen the cultural sovereignty, self-determination, and public health of the Pueblo of Acoma. Additionally, and for all communities impacted, individual users of government-funded housing projects could be interviewed for how they find their homes serving them or how they could be improved.

Federal programs owe tribes across the country a lessening of Othernig and instead more cultural sensitivity and validation than they presently do.²⁵⁷ This is necessary for the promotion of self-determination and necessary for honoring culture and identity. If Indian housing programs could be more culturally competent, not only might they eliminate many social ills plaguing communities today but the homes would also be more energy efficient. Furthermore, the federal government has a responsibility to do better, the contractor has a responsibility to meet its client's needs, and the tribe has the responsibility to prioritize cultural competency.

²⁵⁷Linda Tuhiwai Smith, *Decolonizing Methodologies: Research and Indigenous Peoples*, New Zealand: Otago University Press, 2012: 33.

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