

Adapting Housing to Culture in the Gila River Indian Community

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Housing constructed for American Indians has paid little attention to their cultural practices and is based on Anglo architectural design. This study investigated the housing situation of the Pima Indians who live in the Gila River Community and found that present Indian housing lacks: (1) identification of individual cultural, and environmental conditions; (2) identification of responsibilities; (3) maintenance; and (4) flexibility in governmental standards for Indian housing. Indian Sandwich Housing built by the Tribal Work Experience Program (TWEP) is discussed as an alternative.

Satisfaction in housing is often more closely aligned to the environmental and cultural context of the living situation than to the physical characteristics of the house. No matter how inadequate housing is physically, most people prefer freedom of choice to a forced situation. An example of this is the dissatisfaction among the elderly who are being forced out of homes and into less than satisfying social housing situations (McCray and Day, 1973; Ghany, 1977; Vitulo, 1976). The elderly Pima Indians on the Gila River Reservation are, in this sense, typical of elderly all over the United States. All are adverse to relocation. In most cases, greater satisfaction could be achieved at less cost if those responsible for government programs would design programs in light of recent research with housing satisfaction factors.

Although strides have been made in terms of the technical aspects of adequate inspection and training for homeowners, HUD still has not recognized the specific needs of the Arizona Indians. Unfortunately,

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housing constructed for American Indians has reflected Anglo architectural design while disregarding the cultural practices of the tribe involved. Since the beginning of the period of American history marked by the provision of new housing for Indian families, little attention has been given to the needs of people in terms of differing traditions (Esber, 1972:141).

There has been consistent insensitivity to differing needs of climate and culture, as well as lack of training in maintenance or the financial responsibility involved with home ownership. Although concepts of the difference in use of space and personal distance by different cultures, as discussed by Edward Hall (1966) are well known, little has been done by any agencies responsible for Indian home design to correct culturally poor housing.

According to Esber (1972) in his research on the Apache reservation, and recent personal observations and interviews with the Pima Indians, Indians prefer large open space in social areas, including kitchens. Indian women often cook in groups and like company, but are uncomfortable in the space adequate for Anglo women cooking together. An adequate kitchen might

be 15' x 22'. A large living space is also needed for comfortable social interaction without crowding. Indians prefer to sit around the edges of a room, but not close together.

The placement of homes in a community is also important. Close relatives live in a cluster. Married daughters live close to mothers, but Indians are uncomfortable living in conditions of the typical government housing projects, in proximity to non-relatives. The typical Anglo patterns of parallel houses with sewer and water lines in rows, are undesirable. More rental homes than can be supplied are needed on the reservation, and the waiting list is long, but few elderly Pima Indians are on the list. Although the need for better housing is desperate, they prefer poor housing to the new developments. They would appreciate more comfortable and sanitary housing, but they also want to keep traditions of culture and heritage. Government planning should begin to consider the spatial dimensions of the culture in both home and community planning in order to realistically meet psychological as well as physical housing needs.

The purpose of this study was to investigate the housing situation of the Pima Indians on the Gila River Reservation. The investigation covered three areas: 1) identification of Indian attitudes and expressed needs in terms of housing suitable to the special environmental and cultural conditions; 2) report of government involvement and commitment to remedying the deplorable conditions of housing on the reservation; and 3) description of the sandwich house, the more typical Pima housing being constructed by the Indian Housing Authority as a viable alternative to present Government Standard Housing.

The Pima Indians in the Gila River Community just south of Phoenix, Arizona, are farmers in an arid, hot climate, who traditionally have lived in family clusters miles apart from each other. The traditional home of the Pima Indians is the sandwich, or rammed earth home. Its walls are framed with 1 x 6's, sandwich style on posts of railroad ties. This framing is filled with a mixture of calichi, a mud and straw mixture that typically was used for adobe bricks, which is "rammed" into the frame. The home had a flat tin roof. Twenty-five years ago over 75 percent of the

Indians on the reservation lived in sandwich houses. Today, however, 25 percent live in Federal Housing, with many on the waiting list for adequate housing which they are financially unable to supply for themselves.

Present Conditions of Indian Housing

Federal housing on Indian Reservations is regulated by three separate agencies. From 1969 to 1974, in an agreement with the Indian Health Service (IHS) and the Bureau of Indian Affairs (BIA), 30,000 homes were to be built by HUD; 17,000 were completed. According to statistics, there are 117,000 Indian Housing Units within the area served by the BIA on federal reservations; over half are considered substandard, and about 33,000 considered dilapidated and unfit for human habitation. A BIA report lists 26,704 families (nation-wide) living with another family because no housing is available. Lack of housing drives many to slum areas where conditions may be worse. In Arizona many Indians move to Phoenix and Tucson due to the lack of housing on the reservation; when a home burns down, it may take years before money is available to build another. In the cities, Indians have been known to live in the open, or in cars, sheds, etc. (Baylor, 1979).

Statistics from the U.S. Health Service show that the Indian infant mortality rate (from 28 days to 11 months) is more than double that of the general population. Accidents, the leading cause of death, are four times more frequent than in the general population. Most accidents occur around the house; falls and burns are predominant. School officials verify the number of illnesses of Indian children; those most often occurring are gastritis, dysentery, pneumonia, and middle ear infections. Dr. Johnsa, director of the Indian Health Service, in 1975 directly associated the high rate of disease, infant deaths, and accidents, to poor housing conditions (U.S. Dept., HUD, 1979).

In 1973, the incidence of lack of plumbing was three times as high in Indian homes as the national average. Crowding (more than 1.0 person per room by government standards) was typical. The subjective judgment in the field by Public Health Inspectors revealed sub-

standard levels in terms of no heating, plumbing, or electricity, as well as overcrowded conditions (Hearing, 1977).

A HUD staff report on Indian Housing in February, 1975 stated that low income trust land, unique cultural patterns and the multiplicity of federal agencies involved in the effort are all responsible for the deplorable condition of Indian housing. Although Indians remain on waiting lists for federal housing, none really want rental homes, nor do they wish to leave their own land and the family cluster housing. The meager income keeps most from qualifying for the owned "Mutual Help Homes" which are being built by the Indian Housing Authority under HUD directive.

Interviews on the Pima Reservation in April, 1980 showed that although Indians living in government housing were happy with the homes in terms of space, sanitation, and facilities, they would prefer homes built on their own land. According to John Willigen (1970), attempts of the Anglo administration have always centered upon upgrading Pima housing with ideas from outside the culture. Housing found on the reservation today includes brick, adobe block, cement block, traditional frame, and barracks, along with the sandwich homes. The typical government house is built of painted cement block with inside walls of dry wall construction. The units are built in rows, reflecting Anglo architectural design and standards, with little attention to differing Indian traditions and cultural practices, or environmental restraints. The purpose of a HUD directive in June, 1971 was to,

encourage the Indian Housing Authorities to develop new design and program concepts to overcome the factors that make it difficult to provide economical housing in a remote area, and obtain housing that conforms to local living patterns (Stanton, 1977:58). Included were recommendations for design change and criteria for construction, ownership and tenant training, involvement and employment of Indians in construction, and inter-agency cooperation. Proposed also were "special Indian programs to meet unique factors of environment, ethnic and cultural differences, and physical isolation" (Stanton, 1977:165).

A staff report in 1975 states, however, that housing needs have not been identified in terms of established guidelines, periodic inventories, or consideration of long term needs. There has also been a tradition of poor supervision of both design and construction, with lack of consideration for climatic differences.

An Office of Economic Opportunity analysis of the crisis in Indian Housing describes the following difficulties with the public housing program: 1) high cost of low rent housing; 2) long construction time for the mutual self-help homes; 3) failure of many small groups of Indians to qualify for the establishment of housing authorities; 4) shortage of Indians trained with managerial ability; 5) resistance of Indians to Anglo type housing developments; 6) high wages paid to construction workers; and 7) the resistance of HUD to building anything other than traditional federal standard housing.

The recommendations identified the need for more Indian commitment toward housing in terms of both labor and money (employment in the Housing Authorities and in construction) and for evaluation of the unique aesthetic and environmental standards of Indian communities. According to the report, the failure to consider the ability of the families to maintain homes, the inexperience of the IHA's, the need for housing designed for large families and a commitment to relocate the employable off the reservations have all contributed to the failure (Stanton, 1977).

A 1971 GAO report also describes housing being built with poor design and construction and states that problems arise from: 1) the tri-agency involvement with lack of determination of responsibility; 2) lack of coordination and meeting deadlines; 3) failure to consider the unique environmental conditions on the reservations; 4) failure to complete construction (especially of Mutual Help Homes); and 5) poor maintenance.

Indian Housing Programs

Department of Housing and Urban Development

Conventional low rental federal housing units are most common at Gila River. The three bedroom unit costs over \$50,000 to build in Arizona (April 1980).

Nationally, Indian housing programs are finding that home maintenance is a major problem. Many homes are deteriorating due to lack of maintenance and poor housekeeping. The Indians find it hard to adjust to a new environment. Deficiencies in new housing are found in problems with heat, plumbing, electricity, peeling paint, poor roofs, and lack of sanitation, with debris and garbage becoming a health hazard. Assessment has blamed the failure of the maintenance assistance programs on three factors: 1) low incomes with no money for repairs; 2) lack of expertise (inability to fix homes — lack of exposure to modern home living and lack of understanding of maintenance required; and 3) low priority. Neither home maintenance nor aesthetics of the micro environment are important to some subculture groups (Ferrell and Bertrand, 1977).

HUD is typically and traditionally short of staff. The Indian Housing Authorities are making a concerted attempt to use local people to train the new homeowners in care and upkeep, and to instill pride in ownership. There appears to have been considerable change with the appointment of the new HUD undersecretary for Indian and Native Alaskan affairs. HUD has a nationwide management problem with the IHA's and needs to allocate more money to improve their staff and their training. The Gila River IHA has an especially concerned staff and a well organized training program for the families moving into the new homes. The IHA's also need a more defined directive of responsibility. Often responsibility for inspection and supervision has remained unclear, whether that of BIA, HUD, or IHA (Stanton, 1977).

It is ironic that the Mutual Help Homes — built for around \$15,000 with equity built up by donation of labor and small monthly payments — have been recommended by HUD for minimum financial allocation because of the time lags in construction. These homes are built in the cultural context of owned land in family groupings. They are environmentally sound and culturally acceptable and inexpensive due to the volunteer labor and the rammed earth construction.

An example of culturally and environmentally sound housing appeared on the Rosebud Reservation in South Dakota in 1968. An OEO grant funded con-

struction of homes which burned wood or oil and did not conform to minimum HUD specifications. The goal of the demonstration was to establish that such a house, below HUD standards, yet carefully designed to meet specific needs, was a feasible alternative to existing Indian housing programs. The homes were considered successful and are still being occupied, but the next federally funded houses (by HUD directive) were built with conventional standards and gas furnaces. This was contrary to the previously mentioned directive of June, 1971.

Gila River Indian Sandwich Housing

In Arizona, the Pima Indians have a similar project. In order to convince the government agencies that rammed earth (sandwich) homes are a practical and sound alternative, meeting federal standards as well as the needs of the Indian people, both environmentally and culturally, the Gila River Indian Council is building homes with Bureau of Indian Affairs money using Tribal Work Experience Program (TWEP) labor under IHA supervision.

The work crews are supervised by men trained in construction, and electricians and plumbers are hired by the BIA. The homes are in the time-honored tradition built by "volunteer" labor with methods and materials traditional to the reservation. The mud and straw mixture is packed into the frame of railroad ties and 1 x 6 cross pieces which become an integral part of the house. Homes are traditionally built with an informal work group organized by the head of the household in a Midwest "barn raising" situation. Framing can be completed in one day and packing of the mud in another. John Willigan describes the traditions in his research reported in the Kiva.

The homes in the present project used TWEP labor to replace the informal work group. Although traditional sandwich homes were unfinished on the outside, requiring constant upkeep, and in some cases without a finished floor, the modern version is leak-proof and sanitary, with cement floors and dry wall finished interior walls. Early sandwich homes had flat roofs made of mesquite and saguaro ribs, covered with straw and mud and/or tin.

Today most homes have an Anglo style pitched roof using commercial lumber, sheathing and roofing materials with fiberglass insulation. Wiring is placed between the adobe and the framing for the dry wall. The outside is layered with tarpaper, chicken wire, and plaster, making a wall at least 13" thick with an approximate R value of 36. The ceiling R value is at least 19. When painted, the homes look like a typical stucco Anglo home.

The inside of the home may be finished as time, money, and desire dictate. The standard model built under the TWEP program with BIA funds for \$7,500 has three bedrooms, a finished bathroom, cement floors, and a kitchen sink and countertops. Families may add heating, cooling, cooking and refrigeration of choice. Traditional adobe homes stay cool in the summer without much assistance. An evaporative cooler is more than adequate. An open plan requires little heat other than that of the versatile wood cook stove used for tortillas and fry bread.

There must be existing power and water to the property before the home can be built. This lack of power or water has always been a problem in remote areas of the reservation. Attempts are being made to extend service lines so more homes may be built in familial clusters, replacing the present inadequate housing.

According to John Willigen, these homes on the Gila River Reservation not only fill needs ascribed to housing in American culture in general, but make use of the typical social and technological processes in construction that are typically Pima, and fill the needs of the present economy as well. The cooperative work groups which are traditional and of historical legacy are still necessary in today's economy. The resulting low cost not only offers more homes for the tax dollar, but provides them in the context of congenial, traditional settings, rather than in Anglo type developments. It also enables the occupants to own, rather than rent the home, an aspect of top priority in any culture.

Observations and interviews at Gila River indicate that overhanging roofs are desirable to keep summer sun from the windows. A shaded place to sit outside is both a cultural and an environmental necessity. Also important are outside cooking stoves for making fry bread, both for safety considerations and to keep the

home cool. Barbeque type outside cooking units are now being installed in Mutual Help Homes and the new rental units at Gila Crossing. Social customs on this reservation dictate that the macro environment remain unchanged by spreading out houses into small familial clusters rather than the traditional developments. The TWEP homes built individually utilizing reservation "know how," custom, and labor would result in more than six houses for the cost of one traditional rental unit (providing water and sewer are available).

Summary

A summary of expressed needs of Indians in terms of housing (from both research and interview) includes: culturally adequate in terms of design and space allocation; adequate sanitation, quality construction, with traditional maintenance; low cost, non-traditional financing to allow ownership; and location in familial units.

The deficiencies most often identified in federal housing both in HUD staff reports and by the IHA include: 1) lack of identification of individual cultural and environmental conditions on reservations; 2) difficulty in identification of responsibilities in a many layered bureaucracy; 3) maintenance problems; and 4) lack of flexibility in governmental standards for housing.

There have been twelve of these modern sandwich homes built by TWEP under IHA supervision since 1977. Fifteen more are presently under construction. The homes are called stucco houses by the Indian Community to distinguish them from the unfinished sandwich houses which are also still being built by individuals. According to the officials, these stucco houses have a higher rating for satisfaction than the more expensive HUD standard housing. They meet all the needs of the Indians and correct deficiencies of the other government housing.

The construction process is traditional, which means local labor can be used. Substituting man hours for dollars keeps the cost low and allows many more people to qualify for ownership. The main insulating and building material (adobe) is inexpensive and available. The maintenance is also traditional, and since the

homes are built with evaporative coolers (if desired) and any heating and cooling facilities are put in by the owner, these features contribute to the low price, the easy upkeep and the traditional nature. The adobe construction is indigenous to the hot dry climate, so little heating or cooling is necessary.

The homes are built in familial groups whenever possible, and always with plenty of open space, as is traditional on the reservation. For this reason alone, the homes are more desirable to the Indians than those in the housing developments.

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Resource Persons

Primary Resources

- Antone, Donald Jr., Lieutenant Governor, Pima Tribal Council, Sacaton.
- Karol, Joe, Educational Counselor Pima Reservation, and formerly involved with early Indian Federal Housing at the Rosebud Sioux Reservation, South Dakota.
- Lewis, Jack, TWEP supervisor for IHA.

Additional

- Antone, Mike, owner transitional home, Sacaton.
- Sjoberg, Alice, former extension agent at Sacaton.
- Thompson, Boyd, owner TWEP sandwich house, Sacaton.
- Webb, Paul, tenant federal housing, Lonr Butte.

Pima Housing Authority

- Buendia, Darlene, Project Manager Gila Crossing and Lone Butte, tenant in federal housing and future owner of self-help home, Gila Crossing.
- Johnson, Betty, Projects Trainer.
- Moya, Courtney, Director.
- Osife, Linda, Tenant Relations, and owner of self-help home, Gila Crossing.