

Low- income housing



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Research Paper on Sustainable Low- Income Housing The most successful, long term, low-income housing projects are those that use sustainable design and address the social, cultural, and economic needs of residents. Traditionally built low-income housing projects are associated with high crime rates and high mortality rates among the residents who live in them. They do not provide for the needs of residents, resulting in many of the problems these low-income housing projects face today.

These problems range from endangerment of human life, psychological afflictions due to the high stresses that are endured by residents, disease epidemics caused by overcrowding and unsanitary living conditions (in combination with a substandard public health system,) and rejection from the greater community based on the stigma traditional low-income housing projects have generated.

Sustainable, or “ green” design offers many solutions to the problems housing projects present today, including healthier living environments, high efficiency utility systems that result in lower bills for residents, safe recreation areas for common use, a sense of community within the project as well as with the greater community, and aesthetically pleasing environments to live in. Building with sustainable materials alone will not alleviate the problems traditional housing has, but must combine elements of sustainable design with residents’ needs.

By implementing sustainable low-income housing projects with residents’ need in mind, the developers, residents, and the community as a whole will benefit. Low-income housing projects that are sustainably designed are

intrinsically better than traditionally built housing projects for a variety of reasons, including the benefits they provide to a wide range of people. Residents of low-income housing projects that are sustainably built can benefit in a myriad of ways.

Sustainable design incorporates energy-efficient and water-conserving technologies in the buildings as well as in the appliances of these buildings. As a result many low-income residents of sustainably designed housing developments benefit from lower utility bills. Techniques, like designing spaces with a number of large, well insulated windows are aimed to cut down on electricity costs (Brooke, Cohen, Hampton).

In a joint study done by New Ecology Inc. and the Tellus Institute looking at 16 sustainably built housing projects it was found that, “ occupants would save an average of \$12, 637 in utility costs over the life of each home,” (Cohen). They also found that the buildings studied were able to save up to 50 percent more on energy costs, up to 20 percent more on water, and also save 20 percent more on electricity costs (Cohen).

In Seattle, Washington, sustainably built [green] low income housing projects have been developed using “ systems, appliances, lighting fixtures and landscaping that save money and water, low-fume paint and carpeting, and durable materials that do not have to be replaced as often” (Cohen).

Residents benefit from low utility costs, and housing developers and owners benefit with government subsidies, lower operating costs, and buildings that are sturdier than those traditionally built for low income housing (Marin; Cohen).

Because of all these benefits, residents in sustainably designed housing projects are likely to stay in the project for a longer period than those living in traditionally built projects. A community with a sustainably designed project often views the project in a more favorable light than they would a traditionally built housing project, enabling residents to become part of the community instead of being treated as pariahs (Marin). Studies show that people living in sustainable housing projects move less frequently, and have positive feelings about their homes.

Susan King, a principle at the architecture firm Harvey Devereaux in Chicago commented on the benefits to the community and to residents that come with a green housing project, saying, “ In cases where the developer promotes the green aspects of a building to the community and also educates the people who live there on these features, the building starts to be known for these qualities. This can start to override the stigma often associated with low-income housing and even serving as a point of pride for those who live there” (Marin).

Green housing projects also provide a healthier living environment than traditional housing projects (Marin). A Cornell study, comparing over 200 low-income and mid-income children in upstate New York focused on the effects of living conditions on health, and found that the poorer children were five times as likely to suffer from environmental stresses which lead directly to health problems (Public Health; Overcrowded and noisy living conditions may contribute to bad health). Researchers examined crowding, noise and housing quality for the sample of 8- to 10-year-olds and found that the levels of stress hormones measured among the low-income children were

consistently higher, indicating those children were under physiological and psychological stress. ” Sustainable low-income housing has the effect of reducing these environmental stressors because it inherently incorporates the issues of occupant well-being as much as it incorporates green building materials into design.

In 1990 the New York Times ran an article on the skyrocketing rate of epidemics in the inner cities since the 1980’s. Urban poor, the residents of inner cities, are living in what reporter Elizabeth Rosenthal terms “ islands of illness” (Rosenthal). “ In Newark, Dr. Beatriz Arpayaglou is a pediatrician with the University Hospital in Newark’s Children’s Health Project, which sends medical teams to low-income housing projects in vans fitted like medical offices (Rosenthal). We’re seeing scenes here straight out of underdeveloped countries, diseases that haven’t been seen in the United States since the turn of the century,” said Dr. Arpayaglou” (Rosenthal). Poor nutrition, overcrowded living conditions, and exposure to disease carrying pests are all factors which contribute to the health crises of the very poor, especially poor children (Rosenthal; Acevedo-Garcia; Spielman). Most people who live in government subsidized housing projects also rely on government assistance for health care.

Evidence shows again and again that traditionally built housing projects in major cities are breeding grounds for disease, plagued with violence, and terribly stressful for the people who inhabit them. High stress living environments can add to a myriad of physical problems as well as psychological problems including depression, and in children behavioral, emotional and cognitive problems. The toll all of these factors have on

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childhood development often causes lasting, lifelong health problems whose expense will almost certainly fall on the government, and ultimately on the tax payers of this country.

On adult we see an elevated mortality rate compared to the rest of the country, and high rates of cardio-vascular maladies, related to high stress and poor quality food (Rosenthal; Acevedo-Garcia; Spielman). Essentially, the traditionally built housing projects our government has used to house very poor and low-income citizens are costing the government additional dollars in health care, and costing the residents of these projects their health. The system for low-income housing our government has implemented is failing on several levels.

The need for a new approach is evident, and the solutions that sustainable design can offer present economic, humanitarian, ecological, healthy, and aesthetic improvements to the norm. In sustainable low-income housing projects, the use of low-fume paint and carpeting are just two examples of the low impact, high air quality materials that are being used in these structures. Designers of eco-friendly developments choose to use green building materials which are naturally less toxic than most of the commonly used building materials today.

These materials have fewer volatile organic compounds, producing less off-gassing over time. Because of the nature of green building and design, sustainably built low-income housing developments inevitably provide better air quality than traditionally built projects (Marin). High Point, a green low-

income housing project in West Seattle, has included 35 homes for families that are specifically designed for children who suffer from asthma (Cohen).

Senior regional program director of Maryland's Enterprise Community Partners, Kollin Min states that, "...green building, which includes everything from conserving resources to improving indoor air quality, makes sense for low- income housing because it's economical for those with the least to spare and provides healthier living for those more at risk for respiratory ailments," (Cohen). As sustainable low-income housing projects are received with welcome into different communities, they act as important catalysts for integration.

The segregation of poor people into predominately poor neighborhoods is a major factor shown to adversely affect those residents' health. In 1994, the program Moving to Opportunity (MTO) began studying very low-income families with children, randomly assigning participants into three groups. The control group would remain living in public housing, the second group was assigned unrestricted Section 8 vouchers, and the experimental group was given housing vouchers that were only good in low-poverty neighborhoods and were given free housing-search counseling (Acevedo-Garcia).

Educational and employment outcomes, health, and reliance on public assistance were all documented over the years (Acevedo-Garcia). " The latest evaluation report by HUD showed that girls in the experimental group- i. e. , those who moved to low-poverty neighborhoods-had improved mental health and a lower risk of using marijuana and smoking than girls who stayed in public housing. Adults in the experimental group experienced significantly

lower obesity than those in public housing, and lower prevalence of mental health problems (psychological distress and depression)” (Acevedo-Garcia).

Some of the factors looked at for the reason for these results were: the effect of higher quality living spaces, lower stress levels from witnessing or fearing crime, and access to better institutional amenities like schools, healthcare and childcare facilities (Acevedo-Garcia). The authors also looked at the access residents had to information on healthy living and eating, as well as access to healthy food.

They found that predominately poor neighborhoods have a higher of incidence of alcohol and fast food outlets than do wealthier neighborhoods, and very limited access to supermarkets or groceries that stock a healthy fresh produce. “ Residents of minority neighborhoods may also have fewer opportunities to be physically active, due to higher crime rates and limited availability of green space, sidewalks and bike paths” (Acevedo-Garcia). The authors infer that, “ diet may be constrained by limited access to healthy foods at the neighborhood level” (Acevedo-Garcia).

In another relocation study, low-income families were moved into townhouses set in a middle class neighborhood, and the results after two years “...revealed that adults who moved to low-poverty neighborhoods were less likely to be exposed to violence and disorder, experience health problems, abuse alcohol, receive cash assistance, and were more likely to report satisfaction with neighborhood resources, experience higher housing quality, and be employed, when compared with adults who remained in high-poverty neighborhoods” (Fauth).

Because sustainable low-income housing is received more favorably than traditional low-income housing, it is less likely to be met with opposition in a mixed income community. Therefore, by using sustainable design to implement low-income housing, the health benefits to the residents can be twofold: not only will green buildings offer better living conditions inside the structures, the structures themselves potentially allow them to reside in neighborhoods that offer a greater social, economic, and institutional supports and services.

Communities in which sustainably designed low-income housing projects are built can also derive benefits from the projects. Green buildings are not only sustainable, energy efficient, and good for the environment, they can also be beautiful. In Missoula Montana, a non-profit organization called homeWORD has been building green projects, including affordable housing. HomeWORD Board President Chris Allen comments that, “ Green building strategies are coming now to reverse the trend and turn buildings into much more energy-efficient, healthy buildings that are also desirable” (Robin).

The Community Outreach Center in Missoula actually gets many calls from people who want to move into one of homeWORD’s new projects, the Northside’s Gold Dust apartments, but only families who make 50 percent or less income of the areas median income can qualify to live there. Betsy Hands, a Community Outreach Coordinator, comments that, “ We strive to have beautiful projects. One of the reasons we do that is we want to be good stewards of public money. And we recognize the fact that this housing needs to fit in with the rest of the neighborhood and be a place that people are proud of.

Some residents say that moving into our housing has really lifted them up. ” In Milwaukee, Wisconsin, a green project called Highland Gardens has made an excellent contribution to the community it lies in. Designated as public housing, it was built for culturally diverse, low-income people in urban Milwaukee. The residents range in age from 18 years old and up, and a large proportion of residents are active seniors, seniors in need of some assistance, and disabled people (Hoban). The designers used universal design for accessibility along with sustainable design indoors and out.

The 114 unit structure includes a green roof, and rain garden, both aesthetically pleasing and environmentally friendly. Green Roofs have been shown to act as excellent insulators, control runoff, and significantly reduce the urban heat island effect by lowering ambient temperatures (Monhein). An experimental green roof planted on Chicago’s City Hall has been found to reduce ambient temperature as much as 78 degrees Fahrenheit, compared to the black tar roof it sits adjacent to (Yocca). An open courtyard and several rooms for recreation, including a library, a meditation room, exercise room, and craft room, all enhance residents quality of life and encourage social interaction. “” In spring, children from the school across the street come over to help plant flowers. It’s a nice intergenerational experience,” remarks Highland Gardens Site Manager Pamela Talbert. Others from the community are welcome to use the computer room, and encouraged to visit. “ Highland Gardens is the centerpiece of urban renewal for this neighborhood. The building complements the area and has spurred new construction of single-family homes” (Hoban).

In Austin Texas, a program initially intending to teach carpentry to low-income, at-risk youth was spearheaded by Richard Morgan, who works at the American institute for Learning (Baker). With a suggestion from the city's Environmental and Conservation Services Department, the program instead became a sustainable building program which now builds green homes for low-income people. " It has positive impacts on the occupants, the builders and the area," Morgan says (Baker). In addition to providing green housing to needy people, the program is engaging the community's at-risk youth in the process. It's really exciting," Morgan says. " When they leave our program, they will have been exposed to all of the trades that are involved in residential construction" (Baker). Morgan estimates that as many as 40 percent of the program's graduates will go on to work in construction (Baker). Another benefit to communities with green low-income housing is the potential for economic growth. Residents who are spending less on utility bills will have more money, theoretically being able to contribute more to the economy. If residents of low-income housing are not stigmatized, they can have better luck finding employment.

In addition, some interesting developments on Wall Street may add to the economic benefits as well. Sustainable Jobs Corp. is a new venture-capital firm in Durham North Carolina. Its plan is to invest in environmental businesses located in low-income areas in 24 states (Rich). "We have two bottom lines," says Mr. Kirkpatrick, president of Sustainable Jobs. The fund's managers are seeking solid financial returns for their investors; they also will select businesses committed to creating jobs in economically distressed communities (Rich).

He (Kirkpatrick) says the environmental sector is well-suited to meeting that social goal because these businesses ‘ can create the good, blue-collar manufacturing’ jobs needed in low-income neighborhoods” (Rich). With venture-capitalists interested in creating jobs in low-income areas, the entire population of a community could benefit from the economic growth that would occur; if there are a significant number of low-income residents in a community, their very presence could promote environmental, or eco friendly businesses.

Education is another benefit that green housing can bring to a community. Sustainable buildings tend to create interest, and there are a variety of programs to help educate people about sustainable materials and sustainable living. “ SD (sustainable development) can be implemented if it is taken down from the realm of ideas and theories and seeded into the domain of everyday life, as a real possibility” (Kuhtz). This is often what green buildings do: they stimulate interest, show that sustainability is possible, practical, and desirable for aesthetic as well as economic reasons.

The environmental benefits to a community with a green building can be several and varied depending on which principles of sustainability were used in its design. Green roofs are just one example of the environmental benefits provided by sustainable design. Green roofs act in a number of beneficial ways, by controlling storm water runoff, improving air quality, reducing the urban heat island effect, improving water quality (by acting as a biological filtration system), and by providing amenities and improving views (Barron).

Many green projects incorporate these same actions through unique landscape design. On Chicago's South side, the affordable, sustainable housing project Wentworth Commons was designed to have a low impact on the city's existing sewer and water systems: " stormwater management was addressed at this one-acre urban site through the specification of native or climatetolerant plantings arranged in bioswales and rain gardens" (King). As well, the vegetation works in a combined effort to reduce the urban heat island effect, along with a white roof and highly-reflective paving (King).

Rain gardens are gardens that are designed to capture and clean stormwater runoff, effectively reducing the amount of pollutants that would otherwise enter rivers and ground water (Koehne). They also help prevent soil erosion by slowing stormwater runoff which accumulates as it travels over the plethora of impermeable surfaces found in an urban environment. As stormwater travels over these impermeable surfaces it collects both natural and man made pollutants, ranging from fertilizers, pesticides, oil, grease, heavy metals, bacteria from animal waste, and sediment (Koehne).

The Environmental Protection Agency (EPA) now considers non-point source pollution, (pollution which cannot be traced to a specific source, like that of runoff) the leading cause of water quality problems in the United States (Koehne). Wetlands are the natural ecosystems that have performed the function of water filtration in the past. They improve water quality by filtrating and reducing sediment, nutrients, and organic and chemical wastes (King, 22). They also served as breeding sites and food sources for a variety of fish and wildlife (King, 22).

In the 17th century it was estimated that the lower 48 states contained over 200 million acres of wetlands (King, 22). Now we have less than half that number due to development, and they are partially protected under the Clean Water Act. Despite this, we continue to lose approximately 300,000 acres of wetland a year to development. The use of rain gardens, bioswales, and green roofs can help to mitigate the destruction of this important natural resource, and directly benefit a community by capturing, reducing, and slowing stormwater runoff, and by naturally filtering out harmful pollutants before they reach the community's water supplies.

When looking at successful housing developments, it is evident that the most successful developments are those that are designed with the residents' in mind. Depending on the residents and their needs, a thoughtful designer can design a project to provide such things as sidewalks, affordable childcare, and parks which can significantly improve a resident's quality of life.

Following this same logic, sustainably designed housing projects are most successful when the social and cultural needs of the people who will be living in them are taken into account.

Sustainably designed housing projects that are designed with the input and help of the people who will be living in them are among the most successful, long term projects of this kind. Projects like these can result in fewer household accidents, less risk for residents, and provide secure social spaces, " an enormous benefit for children's physical, mental and social development," (Understanding Issues). In the United Nations' resolution concerning sustainable development, again and again the importance of " social and people-centered sustainable development," arose.

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The need for “ integration at all policy-making levels and at operational levels,” and that “ All sectors of society should be involved in their development and implementation...” were also stressed throughout the resolution. To achieve successful sustainable developments it was stated that, “ This will require the involvement of national legislative assemblies, as well as all actors of civil society, including youth and indigenous people and their communities, to complement the efforts of Governments for sustainable development” (UN resolution).

The Border Environment Cooperation Commission (BECC) is aggressively promoting sustainable development along the U. S. Mexico border, with a focus on water conservation, cleanliness, and sustainably supportable programs for this scarce resource. The BECC states that the most well intentioned, well planned projects will fail, “ if its basic nature does not reflect the needs and desires of the people who will manage it” (Ellman).

The BECC reasoning follows that: “ since the community ultimately assumes responsibility and ownership of projects, organization of community members and incorporation of their suggestions from the earliest stages of project planning are essential” (Ellman). Sergio Palleroni, a professor at the University of Washington for twelve years and now professor at the School of Architecture and Center for Sustainable Development at the University of Texas, Austin, has a global approach to sustainable design which involves the future occupants and their cultural needs, and relies on building materials available locally.

A founder of the BASIC Initiative, he has been lauded for his work with poor communities around the world (Sergio Palleroni). Through several educational programs Palleroni has worked with students in building homes, clinics, schools, and other needed structures for and with poor communities (Engineers for a Sustainable World). “ The methods employed by these students use largely waste products to construct energy-efficient buildings using techniques which can be duplicated by local residents” (Engineers for a Sustainable World).

His pioneering approach to sustainable communities based on the needs and resources of the people has won Palleroni numerous awards over the past two decades. Residents are happier living in a project that provides for their cultural and social needs. Sustainable housing that incorporates play and activity areas, and areas for social interaction are among the most successful. Studies show that projects without recreational spaces have the highest crime rates at the times when school gets out (Ireland, Thornberry, Loeber).

Most traditional housing projects do not provide safe, inviting, recreational areas for children to play in. Traditional projects have a history of being plagued with violent crime. Although researchers have not been able to adequately determine if crimes are committed by trespassers or project residents (Ireland), providing these safe areas in a green housing project can lower crime rates, and enhance a sense of community among residents. Sustainable living often means totally different things to an architect than it does to a person living in the structure this architect designs.

Therefore keeping occupant needs in the forefront of design is the only way to truly create sustainable homes for low-income people. For example, a high number of single mothers live in government subsidized housing. Eugene Grigsby III gives us an eloquent perspective, stating, “ It is not reasonable to assume, for example, that a single mother of three children working for minimum wage can, or should, pay much attention to issues such as building designs that will attract birds...This mother, as do countless others like her, wants to know where she can obtain affordable child care and health care.

For her a sustainable community is about the necessities-not the amenities-of life” (Grigsby). Sustainable projects that focus on providing these necessities will be the most useful, most productive use of sustainable design principles that can be implemented. Traditional housing projects are a poor way to implement affordable housing for low-income people. The high crime rates and early mortality rates associated with these projects clearly show that there is a flaw in their design, and implementation. Dr. Harold P. Freeman, chief of surgery at Harlem Hospital in New York, caused a stir earlier this year (1990) when he reported in the New England Journal of Medicine that a black man in Harlem was less likely to reach 65 years of age than a man in Bangladesh” (Rosenthal). The wealth of evidence clearly indicates that the needs of residents and the needs of the community are not being met.

Traditional projects tend to neglect these needs by failing to provide healthy living environments for children (which often results in lifelong, debilitating health problems) (Rosenthal; Spielman), living spaces that are not plagued by the epidemics that directly result from overcrowded, unsanitary living

conditions (Rosenthal; Spielman), safe recreational areas for families, seniors, and single adults that can promote community integration and awareness, nor do they provide safety from daily instances of violent crime (Ireland, Thornberry, Loeber), and thus, the daily fear of crime which has been proven to cause higher stress levels which hinder psychological and physiological health, especially in children (“ Overcrowded and noisy”).

It is clear that government dollars are being poorly spent building traditional housing projects as opposed to sustainably designed projects. Many of the health problems which are associated with traditional housing projects are unnecessary and avoidable (Rosenthal). By using sustainably designed housing, the government can provide healthier, safer, and more efficient buildings to house low-income people, while eliminating many of the root causes of illness, disease, and high crime rates. Because most people who live in government subsidized housing projects also rely on government assistance for health care, traditional projects are costing the government additional dollars in health care.

The dilemma of low-income residents forced to live in high crime, overcrowded public housing projects in combination with a struggling public health system (Rosenthal) can be alleviated by the use of sustainable design practices in low-income housing. As the saying goes, “ an ounce of prevention is worth a pound of cure,” and the healthier, safer environments green buildings provide seems like a logical, necessary solution to the problem. Therefore, I maintain that all further public housing for low-income populations should be designed with sustainable principles that focus not only on environmentally friendly structures, but on residents needs. This is <https://assignbuster.com/low-income-housing/>

the most practical use of tax-payers dollars, and the most humanitarian approach to serving the populations of poor people in the United States today.