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## **The Built Ecovillage: Exploring the Processes and Practices of Eco-Housing**

### **Introduction**

The buildings of an ecovillage shape and structure many of its forms and functions. In the main they have been constructed with purpose, using the same ecological and ethical principles employed by the ecovillage as a whole (though obviously this is not always the case). As such, we can use an examination of eco-buildings, often as structures symbolic of the broader ecovillage doctrine and aims, to understand the relationship between ecovillage practices and their impact on mainstream society. Such an examination explores the choices made in how people are building eco-housing themselves and why, what makes eco-housing work, what it is like to live in such dwellings, and what the accompanying constraints and opportunities are. There is an important link between building one's own house and living in eco-housing; that is, in both, one is free to build differently and design for a completely different lifestyle.

These processes and practices of building require a social science analysis. Rather than viewing buildings as technical structures, we can explore the socially and culturally determined choices made by those who have designed, built, and occupied these houses, showing that they represent far more than the materials from which they are constructed. Such a social analysis of eco-buildings can inform our understanding of ecovillages in new ways and enable us to further explore the relationship between ecovillages and mainstream society.

Much of my research has been with those involved in Low Impact Development (LID) in Britain (particularly the Lammas development in Pembrokeshire, Wales), ecovillages worldwide (particularly in Britain, Spain, Thailand, Argentina, and the United States), and a variety of low-cost eco-housing projects (individual and collective). It is important to study ecovillages at a micro-scale (i.e., individual households) in order to fully understand the complex choices people make about their homes, to test the reality of whether the houses actually work, and to appreciate the cultural, natural, and political context in which they are built.

Academics can contribute a great deal to ecovillages: knowledge, time, connections (theoretical and practical sharing), and reflection. A great many different academic perspectives have been used to understand ecovillages, including as autonomous living,<sup>1</sup> sources of grassroots solutions,<sup>2</sup> sites of transition, feminist critiques of mainstream society,<sup>3</sup> planning alternatives,<sup>4</sup> examples of innovative building techniques, embodiments of community and communal living,<sup>5</sup> permaculture in practice,<sup>6</sup> models of alternative livelihoods and anti-consumption practices,<sup>7</sup> and a social movement (environmental, anti-capitalist, and anarchist).

### Learning from Ecovillages

By examining how people build for themselves and live in ecovillages, we can understand the following:

- How to overcome problems encountered in eco-living, by examining the paths taken by participants.
- Why people resist eco-housing. Eco-housing is often cited as being too alternative for most people. The radical end of eco-building is often ignored for being on the “hippie fringe,” but we need to look deeper to understand what we can learn from such housing, rather than just disregard it.
- How cheaply we could build houses. Many of the eco-housing projects I have worked with have built houses for just a few thousand British pounds. We should be looking at these examples when talking about affordable housing.

- 1 J. Pickerill and P. Chatterton, “Notes Towards Autonomous Geographies: Creation, Resistance and Self Management as Survival Tactics,” *Progress in Human Geography* 30, no. 6 (2006): 1–17.
- 2 G. Seyfang, *The New Economics of Sustainable Consumption: Seeds of Change* (Basingstoke, Hampshire: Palgrave Macmillan, 2009); J. Pickerill and L. Maxey, “Geographies of Sustainability: Low Impact Developments and Radical Spaces of Innovation,” *Geography Compass* 3, no. 4, (2009): 1515–39.
- 3 H. Jarvis, “Against the Tyranny of Single Family Dwelling: Learning from Christiania at 40,” *Gender, Place and Culture* (forthcoming).
- 4 S. Fairlie, *Low Impact Development: Planning and People in a Sustainable Countryside* (Oxford: Jon Carpenter, 1996).
- 5 L. Sargisson, “Justice Inside Utopia? The Case of Intentional Communities in New Zealand,” *Contemporary Justice Review* 7, no. 3 (2004): 321–33; J. Fosket and L. Mamo, *Living Green: Communities That Sustain* (Gabriola Island, BC: New Society Publishers, 2009).
- 6 J. Lockyer and J. Veteto, eds., *Localizing Environmental Anthropology: Bioregionalism, Permaculture, and Ecovillage Design for a Sustainable Future* (Oxford: Berghahn Books, 2012).
- 7 K. Halfacree, “From Dropping Out to Leading On? British Counter-Cultural Back-to-the-Land in a Changing Rurality,” *Progress in Human Geography* 30, no. 3 (2006): 309–36.

- What we need houses to do for us. As Lydia Doleman, a self-builder in the United States argues, “Buildings have the capacity to equalize people or segregate them.”<sup>8</sup> In other words, the way in which people have chosen to build helps us understand housing needs.
- The importance of diversity in eco-building. We need a broad-based approach to understanding eco-housing, which does not assume that one model fits all. From a geographical perspective, the particularities of place are important in what kind of housing is needed, what climate it needs to cope with, and what resources are available. So we need to embrace diversity in approaches.
- Finally, we can understand the need to combine the technical and structural aspects of eco-housing with the sociological approaches. In other words, there is a lot of feminist scholarship on homes,<sup>9</sup> behavioral approaches to sustainability,<sup>10</sup> and habits and approaches to everyday consumption,<sup>11</sup> which all need to be better connected to debates about eco-housing and ecovillages.

### Theorizing Ecovillages and Eco-Building

As academics we are able to take a broad and reflective approach to ecovillages. This enables us to theorize about them and, using empirical examples, examine broader practices and patterns. Sometimes these practices are obvious but are not fully acknowledged by participants. Academics can help link together different practices and help understand why ecovillages are developed in certain ways. This is important in helping wider society understand their relevance, but can also help ecovillage participants look differently at the way they do things.

We can explore what I mean here by focusing on just the buildings in ecovillages. An eco-building minimizes resource use in its construction and life cycle, while also providing a comfortable environment in which to live. This can be achieved in numerous ways, and there is a breadth of approaches, ranging from buildings that use technology to reduce their environmental impact, to those which rely upon natural materials and a

8 See <http://theflyinghammer.com/>.

9 A. Blunt and R. Dowling, *Home* (London: Routledge, 2006).

10 Seyfang, *The New Economics of Sustainable Consumption*.

11 E. Shove, *Comfort, Cleanliness and Convenience: The Social Organization of Normality* (Oxford: Berg, 2003).

low impact lifestyle.<sup>12</sup> For example, some natural buildings can actually have a negative carbon footprint because materials like straw store carbon dioxide.<sup>13</sup> Eco-building thus requires careful consideration of location, materials, resource use, toxicity, durability, reclamation potential, biodiversity, aesthetics, relation to community, and the ongoing dynamic relationships between people and their homes. A well-built eco-building balances our need for comfort with ecological impact. An ecological house that provides no comfort does little to satisfy our human need for a home. As such, eco-building will only be adopted if it offers what people demand from a house and if they can live how they want to within it. Although across cultures there can be different expectations of what houses should provide, across the multiple case studies I have researched there were some commonalities in what people wanted houses to be; these included aesthetically pleasing; comfortable and offering convenient facilities (water, bathrooms, heat, refrigeration); solid and long-lasting; cheap and easy to maintain; financially secure; spacious and flexible in function; private; and a place worthy of investing emotion, time, and money.<sup>14</sup>



Figure 1:  
An eco-house  
in Green Hills,  
Scotland

12 S. Roaf et al., *Ecohouse*, 3rd ed. (London: Elsevier, 2007); C. Bird, *Local Sustainable Homes* (Totnes, Devon: Transition Books, 2010).

13 B. Jones, *Building with Straw Bales: A Practical Guide for the UK and Ireland*, 2nd ed. (Totnes, Devon: Green Books, 2009).

14 See also J. Williams, *Zero Carbon Homes: A Road Map* (Abingdon, Oxon: Earthscan, 2012).

Eco-buildings can challenge certain assumptions about housing and, as such, challenge people's understanding of what a home should do and represent. Eco-houses are often smaller than conventional housing and require people to share space. They can be less robust than brick or concrete constructions or require more maintenance. They may also require more manual operation, such as wood-stove heating or manual ventilation systems, and contain fewer automated systems, such as air-conditioning. Eco-houses should be designed to meet needs, but also to re-conceptualize what needs are desirable and which are too environmentally costly. This involves challenging social conventions, a task that does not come easily to mainstream society. To explore what I mean by this I will use two examples of housing "needs" that show how a cultural approach to eco-housing opens up new possibilities for understanding eco-building and ecovillages.

### *Example 1: Comfort*

Comfort is central to many people's concept of a home, although people define comfort in many different ways. For many, eco-building continues to be viewed as involving a loss of comfort.<sup>15</sup> But living in an eco-house need not mean a Spartan existence. A well-built eco-house can actually be more comfortable, with such features as well-balanced passive heating, providing more even interior temperatures, or solar thermal panels that enable plentiful hot water.

However, in Britain many examples of low-cost eco-housing appear to involve forgoing certain elements of comfort—most problematically, in the bathrooms. In Spain, Thailand, Argentina, and the United States, eco-houses had prioritized the importance of building well-built and fully functioning bathrooms with hot water, using solar or propane heating. Often the bathrooms were the first building to be finished, and many had large (albeit shared) shower areas (see fig. 2).



**Figure 2:**  
Shower blocks  
in Panya Project,  
Thailand and El  
Valle de Sensacio-  
nes, Spain.

<sup>15</sup> E. Shove, "How People Use and 'Misuse' Buildings," Presentation at Economic and Social Research Council, London, January 2009.

This contrasted quite dramatically with examples in Britain, where bathrooms were often the last to be built (and were often unfinished), and few low-cost eco-houses had ready access to hot water. For example, Green Hill is a small community that has been in existence since 2001, but they have only a composting toilet and must do their wash in bowls in the kitchen, the only room with running water. Another example, Landmatters, has an unfinished bath house with the potential for a solar-heated shower, but nothing in the bathroom works.

There are a number of very practical reasons why bathrooms are not prioritized in low-cost eco-housing in Britain, including perceived high costs of installation, a lack of reliable access to water, and assertive reduction in the use of resources. We could have readily accepted any of these possible explanations, had the practice not been so different from other countries. Countries that also struggled with water supply, costs of installation, lack of plumbing skills, and so on had successfully managed to install bathrooms. In other words, these are not necessarily valid reasons, since those in other countries have so easily been able to overcome them.

What, then, can we learn about the importance of comfort in eco-building from these examples? Houses without bathrooms challenge social norms and add to the challenge of persuading others that low-cost eco-housing is a comfortable and achievable option. It is perfectly possible to clean with a bowl of water. What is missing from these eco-houses is not cleanliness, but rather the comfort and leisure of bathing that social norms demand. We use bathrooms to satisfy multiple needs: cleanliness, health, comfort, and convenience.<sup>16</sup> Increasingly, the bathroom is considered much more than a place to become clean; it is also a site of luxury and leisure, a place to relax and de-stress. At the same time, it is only relatively recently that we have begun to wash so frequently or have expectations that showering daily is normal, a habit that is environmentally damaging.<sup>17</sup>

Thus, although the lack of bathrooms could create an image problem for low-cost eco-housing—i.e., the perception that you can only be environmentally friendly if you give something up—it is also a potential challenge to what is considered normal and what a house should provide. Perhaps British eco-housing has gone too far by downgrading the importance of bathrooms, since examples from other countries demonstrate that you can

<sup>16</sup> Shove, *Comfort, Cleanliness and Convenience*.

<sup>17</sup> Shove, "How People Use and 'Misuse' Buildings."



**Figure 3:**  
Bathroom in  
straw bale house  
in Crestone,  
Colorado, USA.

build a cheap eco-house and still have a comfortable bathroom. But British eco-housing also illustrates the difficult balance between, on the one hand, the need to re-design buildings to reduce energy use by altering concepts of normality and, on the other hand, ensuring that eco-housing is not perceived as too basic and somehow lacking the essentials of a home. If we eliminate bathrooms from eco-house design, water and energy use will decrease, but will people accept a house without a bathroom? Examining bathrooms allows us to begin to understand the important interplay between buildings, people, and practice and the importance of examining practices and sometimes mundane spaces (such as bathrooms), in order to explore the delicate balance within ecovillages of challenging social conventions, while also appealing to mainstream society.

#### *Example 2: Aesthetics*

Aesthetics are also key to the mainstream adoption of eco-building. Yet, low-cost eco-housing can be seen as quirky in design, look, and feel. The often sharp contrast between the appearances of eco-housing and other local buildings can limit their adoption by mainstream society. Ensuring that houses fit with expectations for how a house should look, while simultaneously challenging these assumptions and having enough freedom to redesign what a house should do, is a fine balance.



Eco-housing can involve overcoming stigmas in using traditional methods. For example, although extensively and historically used in western Argentina, clay adobe came to be perceived as only for those with low incomes, and its replacement—bricks—became a sign of wealth and status. Contemporary eco-builders at Casa Tierra, an emerging eco-center in rural Argentina, have worked with local communities to successfully revive an interest in traditional techniques, which are more environmentally friendly than brick buildings. However, just because a practice has existed for decades does not make it the best choice. In northern Thailand, for example, the Pun Pun (Chiang Mai) group are trying to teach adobe to local communities, even though bamboo, grass, or wood have been traditionally used. There is an understanding that a house “is where you need to nail it down and tie it up,” which is not considered possible with clay adobe.<sup>18</sup> In other cases, such as Earthship in the United States (fig. 4), designs are so contemporary that, although their technical performance is excellent, they fail to be culturally accepted and are not widely replicated.<sup>19</sup>



**Figure 4:**  
Earthship in  
the Greater  
World Earthship  
Community, Taos,  
New Mexico,  
USA.

Thus, the process of bringing in new ideas has to be done carefully and, often, incrementally in order to gain acceptance. As such, we should not underestimate the importance of how a house looks and feels in its acceptability and the difficulty involved in challenging traditional ways of building. A social and cultural approach to eco-housing helps us understand the subtleties in the importance of comfort and aesthetics to the growth of eco-housing and ecovillages.

<sup>18</sup> Oranratmanee, personal communication with author, 2010.

<sup>19</sup> M. Reynolds, *Earthship Volume 1* (Taos, NM: Solar Survival Press, 1990); M. Reynolds, *Comfort in Any Climate* (Taos, NM: Solar Survival Press, 2000).

## Conclusions and Remaining Questions

This paper has sought to briefly explore how an analysis of the buildings of ecovillages can enable us to better understand their potential contribution to transforming how mainstream society lives. This focus on the buildings themselves has tended to be neglected by academics interested in ecovillages in favor of work on social processes, community living, emerging economies, and family dynamics. Yet, as hopefully illustrated here, the buildings are some of the most symbolic attributes of ecovillages, and the processes and practices of their construction and occupation signify many of their ecological and ethical principles. As such, they require detailed examination, and there remain many questions about the future of ecovillages and academic research, including the following:

- 1. Why do we not talk more about failure?** There is a lack of open discussion about the failure of some eco-building attempts—whether due to a poor choice of materials or innovative techniques that did not stand the test of time. Leafe Christian is perhaps one of the few who has discussed failure thoroughly; though her analysis, again, focused on community dynamics.<sup>20</sup> More open discussion about failure would facilitate the understanding that building is an ongoing and dynamic learning process, as well as support those who make mistakes in continuing to build.
- 2. Are we critical enough of ecovillages?** There is a danger that, as sympathetic academics, we may avoid confronting some of the problems inherent in ecovillages, because we do not wish to undermine the efforts of those we support. How can we retain some of this critical enquiry without undermining those we wish to support?
- 3. Are we future-proofing our housing and preparing for climate change?** We are building eco-housing that is suitable for today's climate and reduces carbon emissions—both of which are important, but are not enough.<sup>21</sup> We need to be designing houses that will be suitable for the future of unpredictable weather. We should look beyond simply being resilient to climatic events, to how we are prepared to recover and carry on afterwards. In practical terms, this raises questions about whether we should be designing our houses to be more temporary or more durable, training more of us to be able to build our own houses and use more easily available local materials.

20 D. Leafe Christian, *Creating a Life Together: Practical Tools to Grow Ecovillages and Intentional Communities* (Gabriola Island, BC: New Society Publishers, 2003).

21 W. Anderson, *Homes for a Changing Climate: Adapting Our Homes and Communities to Cope with the Climate of the 21st Century* (Totness, Devon: Green Books, 2009).

While there are many lessons we could learn about resilience from ecovillages, we should ask the question, are they also future-proofed enough?

**4. How does gender change how we might build eco-houses and ecovillages?**

Building is still dominated by men in both obvious and more subtle ways, and this is influencing how and what is being built. Houses are different when designed and built by women, and there are a growing number of women-only building groups, such as the Mud Girls from Canada.<sup>22</sup> There is also a long-established feminist critique of the design of homes, with scholars long ago arguing that we should design houses without kitchens in order to avoid them being seen as women's spaces.<sup>23</sup> Yet there remains both little awareness amongst eco-builders of and much to be explored in the relationship between gender and eco-building.

**5. How should a concern for social justice influence our approach to eco-housing?**

I am not convinced that we are yet really talking about cost, inclusion, and affordability in strong enough terms. We need to more radically explore how encouraging more self-building might begin to deal with some of these issues. In this sense, we are only just beginning to discuss justice in relation to building.<sup>24</sup>

**6. How can we collaborate to better understand ecovillages?** Finally, how can we work better across the different groups involved in ecovillages, while also introducing space for the consideration of some quite cultural elements of housing and home.

Ecovillage living involves considerably more than technical changes to construction; it involves huge cultural shifts in how we consider our house and home. By understanding the roles that culture, history, and place play in contemporary ecovillages, we can see that it is not technology (or the lack thereof) or even politics that hold us back from building more ecovillages—it is deep-rooted cultural and social understandings of how we live and, in particular, what we expect houses to do for us.

As academics we can help this process of understanding what ecovillages do, what we can learn from them, and how we can support them further. We can also help them understand some of their practices and potentially help them improve. By taking a theoretical approach to issues like comfort and aesthetics, we can help understand some of the deeper significance of ecovillage living and, thus, help these practices reach the mainstream.

22 S. Salomon, *Little House on a Small Planet* (Guilford, CT: The Lyons Press, 2006).

23 Jarvis, "Against the Tyranny of Single Family Dwelling."

24 R. Burnham, *Housing Ourselves: Creating Affordable, Sustainable Shelter* (London: McGraw-Hill, 1998);

K. Mason, "Justice in Building, Building in Justice: The Reconstruction of Intra-Generational Equity in Framings of Sustainability in the Eco-Building Movement," *Environmental Values* (forthcoming).

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