

Integrated Ecovillage Design

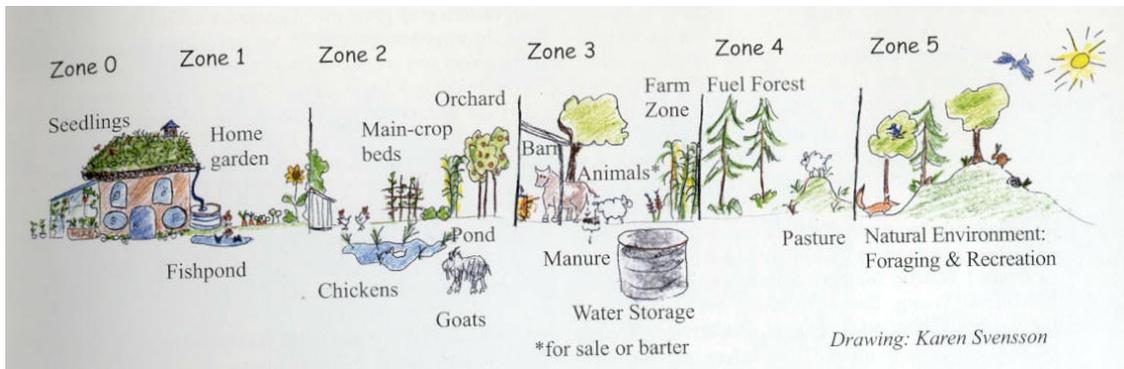
A New Planning Tool for Sustainable Settlements

Hildur Jackson, May 2004

Ecovillage design is a new field of knowledge still under development. It will be the physical manifestation of the unfolding of the ecovillage dream held by so many. In this article, I will sketch the different components, which should go into such a design, and illustrate with already implemented examples. It is to be expected that this field will evolve like a volcano, erupting in the years to come as the ideas and dreams of the grass roots around the world are allowed to sprout and manifest. There is such a richness in people's imaginations once they are let loose. We may distinguish between three different aspects that will most likely melt together and become the foundation for integrated ecovillage design.

Permaculture Design

Many ecologically oriented ecovillages have started from the perspective of developing low impact lifestyles. They want to reduce the "ecological footprint" by as much as 80%. Permaculture design has been their primary method of choice. It was initiated 30 years ago by Bill Mollison, and carried on by David Holmgren, Max Lindegger, Declan Kennedy and thousands of other permaculture designers all over the world. It is based in the values of "care of the earth and of people". It has mainly been developed as seen from the perspective of the single-family dwelling and how houses were best integrated in nature. Zoning is done from here. Attention to watersheds and following the contours and slopes of the landscape is a distinctive characteristic of permaculture design. It also includes the placement of houses according to the four directions, exposure to wind and sun, frequency of rainfall, creating microclimates, capacity to retain water etc. Dams may be built to retain water on its way to the ocean-for irrigation, swimming, microclimates and beauty. The placement and architecture of houses are based on these observations and follow ecological building principles. Infrastructure is also finding new expressions. The same considerations are used for the placement and methods of food production activities, renewable energy production, wastewater treatment facilities, recycling of waste, compost toilets and green businesses. Restoration of natural habitats and diversity of nature are guiding principles, as is the now classic concept of permaculture zones.



An effective and practical design method of having several layers of design creates a whole new understanding of the possibilities of designing human settlements in harmony with nature. Crystal Water Permaculture Village in Australia and Earthhaven in North Carolina are examples of ecologically inspired ecovillages based on permaculture.

Co-housings and Socially Motivated Ecovillages

Socially motivated communities like the Danish Cohousings have the social dimension as their major focus. Residential houses are built closely together along a street or around a common area (playgrounds, terraces) for easy communication among all inhabitants and for putting children's needs first. Typically the common house will be placed at the entrance or in the center of the design. Cars are always kept kept on the periphery.

In socially motivated ecovillages, the houses are often subdivided into clusters to create more interaction and community within each cluster, each one typically having a common house. Clusters should not be too big, between 10 and 30 homes. For example, Munksøgaard in Denmark consists of 5 clusters of 20 homes each: one for seniors, one for youths and three family clusters. Of the family clusters one is owner built, one is a co-op and one is rental based. In this way all social- and income groups of the Danish society can live together in quite similar looking houses. In EcoVillage at Ithaca, New York they have 175 acres of land and plan five clusters in the long term. The first two of 30 homes each have been built. A CSA (Community Supported Agriculture) farm is in place. They are now planning the third cluster.



Liz Walker holding the site plan for EcoVillage at Ithaca

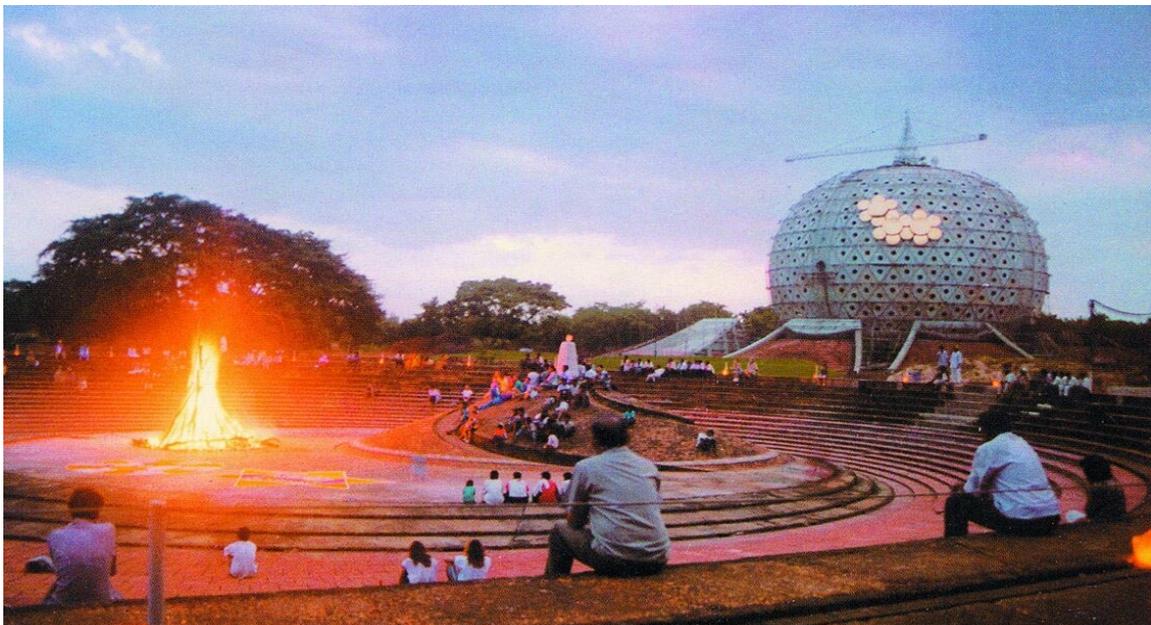
Socially inspired ecovillages may involve other considerations. In Hertha (a Steiner inspired village) in Denmark the whole village is based on reversed social integration where "normal" people are integrated into the life of mentally handicapped residents. The

houses are placed along a gravel road. The community runs a biodynamic farm producing food for for the local village, a bakery and several workshops. Other Steiner inspired villages having a similar focus include the Camphill communities in several countries, Solborg in Norway, Jarna in Sweden and Solheimar in Iceland.

In many senior communities, easy communication by small electrical vehicles may influence the planning. We may in the future see other kinds of social considerations when we again bring the elderly, the young and the handicapped (physically or mentally) back to normal community life. We may have to restructure the welfare state, which succeeds in giving people security, at a high cost, but not necessarily a social network.

Cultural/ Spiritual Ecovillages

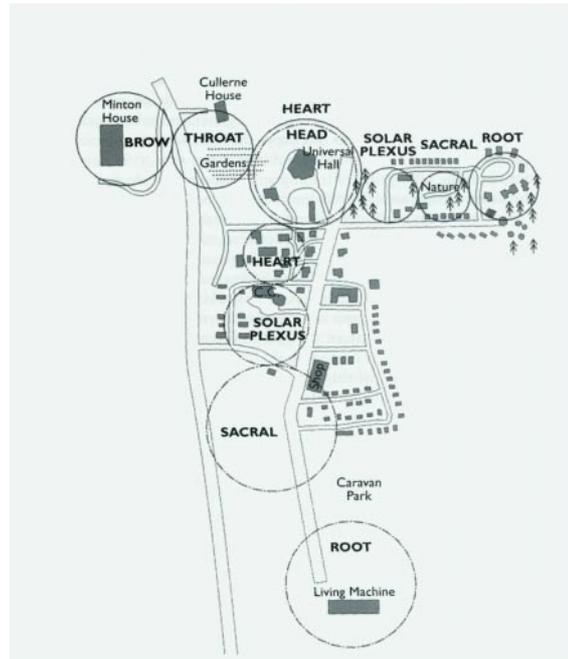
Some ecovillages have a cultural or spiritual impulse as their main focus. At Findhorn, the centrally placed Universal Hall can hold 500 people and is used for big celebrations, cultural performances, meditations and seminars. In Huehucocoyotl, Mexico, a theater is the center of the village. Damanhur has the Temple of Humankind with eight decorated halls in the bowels of a mountain as their main attraction (for cultural and spiritual activities). In Auroville, India, a huge golden plated globe surrounded by twelve petals, known as Matrimandir, functions as their meditation hall. The City of Auroville is divided into four parts representing four different cultural aspects. In traditional villages there is often a central meeting place (a tree, a well) where villagers get together.



Matrimandir in the center of Auroville. The golden plates are now all over the "globe". Note 3 of the 12 petals, which are also meditation rooms. Postcard from Auroville

Some spiritually based villages use the four elements or the four directions of the earth as their structuring principle, based on Feng shui or vastu teachings. The mandala is one expression of this.

Landscape temples (chakra systems as found in the landscape) represent a spiritual way of adjusting to place as defined and described by Peter Dawkins. He has analysed all of Europe as one chakra system, but also cities and parts of cities have their chakra energy structure, which you may adapt to consciously or unconsciously.



Findhorn's double chakra system. Peter Dawkins

Integrated Ecovillage Design.

Groups wanting to build an ecovillage must define their priorities. Future workshops and ecovillage design courses can be helpful in this phase. Ecovillage design has not yet fully unfolded. It is like a bud ready to show its beauty. In most projects, one of the three aspects will emerge clearly from the design stage. Ideally, an integration of the three components will emerge gradually. For new projects, this approach can be helpful in clarifying where the group is and what it really wants. Are the wishes of a social nature (for example, the houses along a street and close together or in a cluster) stronger than the wish for all houses to be placed facing the sun, or placed in a sheltered solar trap to create microclimates? Is the landscape temple more important than creating one single village center with common facilities (e.g. rooms with playrooms for children, meditation hall, shops, meetings, offices, health facilities). There is no right or wrong — only priorities. We should cherish diversity as an expression of peoples' preferences.

A new 30-hectare project under construction in Denmark is Hallingbjerg. My site proposal, which illustrates a number of design principles of integrated ecovillage design, is shown below. It will not be implemented in this form. This plan was made when they were trying to get permission for 30 homes. Now finally it seems that 20 homes will be

allowed. The local village is to the left (south). Houses are placed in four groups, each having a common house. The social group in the middle has both a common house and a house for the handicapped. One group takes care of the land, another the education center and a third, the meditation hall. Houses are placed facing south, in a solar pocket to create favourable microclimates. Animals and fruit trees are brought into the settlement to create life and fun. A landscape temple moves from the root chakra at the left (the farmhouse — a) to the hara chakra and solar plexus chakra (dancing place and common house — c and d) on to the heart chakra (meditation hall — e), the. The land continues to the right where a CSA and a farm will be placed. Further out on the land is the pineal chakra at a quiet place on a lakefront.



Hildur's site plan proposal for Hallingebjerg

Some Recent Important Examples

Sieben Linden in former East Germany has been working very systematically with the site plan with the help of local universities. Cherishing diversity, they build clusters based on several different principles. One cluster, where Silke Hagmaier is a member, build with only traditional tools and with only 13 m² allowed for each person as private space. Other clusters have made different choices.

Galgafarm Ecovillage in Hungary, near Budapest, will see the first six families move in this year after several years of planning. Last year the infrastructure was completed. A 300-hectare organic farm is the source of several workplaces for refining produce, while a seminar center with 36 rooms and restaurant (also used as a hotel) forms the economic base for the new ecovillage. Galgafarm won the European Gaia Excellence Award in 2004.



Model of Galgafarm. The houses are made to resemble an ordinary village. In the Center are a church, a common house and flats for the young.

In Japan, Kobunaki ecovillage outside Kyoto is under construction. Developer Akimura hired eight young university graduates to do the design and live there afterwards. But first he took them on two trips to learn from other projects around the world. The center of their ecovillage will be an international Sustainability Education Center.



Site plan for Kobunaki Ecovillage

Tamera in Portugal plans to get 200 people together for three years to define and build a “healing biotope”, The Monte Cerro project. It is going to be exciting to see what the human mind has in store once a group of future inhabitants get the freedom to be who they are and work systematically for years.

Can Permaculture be the Guiding Philosophy?

Defining integrated ecovillage design as a new field of knowledge is more than a mere academic discussion. One recurring question is: can permaculture be used as the overall guiding philosophy? Or do we need an integrated ecovillage design theory as the frame of reference? This of course depends on the definition of permaculture, which is often defined differently in different parts of the world. I think we should consider permaculture as a clearly defined *ecological* design system separate from social and spiritual aspects, and that we should then develop an integrated ecovillage design theory and philosophy that includes all three aspects. This should help people get to their priorities clearer. There will accordingly be a need for permaculture design courses and for ecovillage design courses as two different perspectives or approaches complementing each other. This theoretical question will not change the reality, however, of balancing the ecological, the social and the cultural in a design.

The role of the designer

The role of the ecovillage designer may be compared to that of a midwife or facilitator. Ecovillages are not developer-led. They are led by a group of future inhabitants. The process of future residents being involved in the planning is important in creating the “glue” that will keep the project together. As an ecovillage designer, you help the parents to give birth in a natural way. You are a facilitator, giving and teaching all the tools necessary for the parents to express their innermost cravings and fantasies. In the beginning you help them through all the phases of a futures workshop ending up with a realistic concept. You help them build a group process and make them capable of solving conflicts. You show them the state of the art of permaculture and integrated ecovillage design. You help them visit places. You help them listen to the land and their own innermost truths. You help the group to give birth to a new culture. For this you need to have a lot of knowledge about ecovillages and about yourself.

Education as Ecovillage Designer.

To enable integrated ecovillage designs to express the will of a future group of inhabitants, you need to learn a lot of skills, which are not found in any single education today. Ecovillage design is design of whole settlements, not just single houses. Munksøgaard in Denmark made a report with their experiences from three years of planning and building an ecovillage consisting of 5 clusters of 20 homes each and with 5 common houses. To get all the people having different skills to cooperate — architects, engineers, biologists, permaculture designers, farmers, gardeners, social workers, the people from local municipality, etc. was an enormous challenge. The group of the future inhabitants had to do all this while carrying on with their regular jobs for three years. Nobody in advance knew about facilitation and conflict resolution, which might have saved a lot of time. This also needs to be part of such an education. Munksøgaard is a

good example of a newer mainstream ecovillage demonstrating many ecovillage design principles.



Munksogaard ecovillage near Roskilde University, 30 minutes by train from Copenhagen. 5 clusters of 20 homes each with their commonhouse. In the middle an old farm, which will be turned into workplaces. A permaculture design (Tony Andersen) with vegetable garden, fruit trees, sandfilter for wastewater cleaning, chickenfarm, and greenhouse. To the right of the stream are fields in a rotation system with an apple orchard in the middle. Along the stream is a grazing area.

The ecovillage movement has been addressing educational needs in recent years by holding ecovillage courses at Findhorn, Crystal Waters, the Farm, Torri and elsewhere, experimenting with establishing a uniform curriculum. Taking the course in an ecovillage enhances the learning process. Students repeatedly express the view that “living and learning” in an ecovillage is “a life-changing experience”. The movement is now ready to formally create an Ecovillage Design Course.

Conclusions

Integrating social, ecological and spiritual dimensions will lead to a new kind of holistic planning — Integrated Ecovillage Design. Communities will be holographic reflections of the whole — as above, so below. The overall philosophical basis will be an evolutionary, holographic, spiritual, celebratory, eco-literate, existential worldview telling us, as Danish actress Jytte Abildstrøm puts it, "how we may get the spiritual light to the bottom of the compost toilet."

Ecovillage design is a new dicipline, expressing the needs of the future for sustainable development and lifestyle. It has grown and been unfolding from below. In order for it to expand and fulfill the needs of society the time has come to formulate a standardized educational program that can be taught in ecovillages.