

Ecovillage Design Southwest
Ecovillage Design Education Course
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Stages in the Ecovillage Site Design Process:
A Cumulative and Ongoing Conversation between the Land
and an Inquiring Group of Inhabitants

- 1) Overview and Historical Background – As a group begins forming a relationship with a particular site, a distinct spot on Earth, it is very important that they have an understanding of the unique history of that place. What went on there before? What kind of activities have contributed to the land’s current condition? What kind of energy has been infused into the place? Consulting city, county, and state documents and records will prove to be very useful. Finding old pictures of the place will be an added bonus. Talking with neighbors, and especially old-timers, will be essential for gaining an understanding of historical background. A process image will ensue, whereby the ecovillage site design can be regarded as activity happening within a continuum of the land’s ongoing evolution.

- 2) Site Tour – An initial site tour (or tours) will be conducted before securing the site. This is generally a broad survey whose purpose is to discover if the land “feels” right. As part of the actual site design process, the site tour has a much deeper purpose. Everyone who will participate in the design process will want to go on tour together, guided by someone who has familiarity with the place. As the participants move through the landscape, active conversation and questioning is encouraged. The group is a collective body whose multiple organs are sensing nuances – differences that make a difference – and discovering qualities and characteristics that are being made known to all. With the ultra-perception of the group mind, previously hidden or subdued features may come to light, with a new shared significance. A common language will begin to

develop that can become very utilitarian as the group moves toward the design studio.

- 3) Observation Exercises using Whole Body Awareness – Distinguished Ecovillage Designer Max Lindegger says that observation is the most important stage in producing a good ecological design. The Permaculture Designer's Manual recommends a full year of observing before implementing any design ideas – that's because it's so easy to make a mistake; one will need to see the land cycle through the seasons before making informed judgments. As part of the deliberate design process, observation means going to various particular spots on the land and sitting still there for extended periods, senses wide open. It could be useful at times to take a sketch pad or journal to record sense impressions, though often simple silence is the best teacher. The Village Design Institute actually employs techniques for achieving whole body awareness as integral to the design process. The point is to not approach site observation from the neck up, clogged with ideas and theories, but rather to approach with fully open, activated, receptive senses – even senses for which we don't have a name, to apprehend those more subtle energies.

- 4) Conceptualizing Site within its Larger Contexts – This stage of the ecovillage design process is an invitation to engage in what permaculturists call “looking over the fence.” The idea is that the ecovillage site **does** not and **can** not exist in isolation: the site has presence and connectivity within a larger watershed and bioregion, and will be an inclusive part of a network of similar centers extending all the way to global-scale. Additionally, the site will be referenced within existing legal boundaries, and, depending upon its location, may be integral to an existing neighborhood and other municipal contexts. Rural sites will have their own layers of participation in natural and human-made boundaries. Far too much of traditional planning has occurred within the narrow confines of a piecemeal reductionism that has regarded sites as individual, isolated units. Ecovillage designers need to be wary of that tendency and learn to think in terms of integrated wholes.

- 5) Collection and Interpretation of Data (ongoing) – This critical stage of the design process is a proactive adjunct to the observation stage, with specific goals in mind. For example, designers will want to have access to key meteorological data, like monthly averages of temperature and precipitation, wind directions and velocities, and surge events like flooding, fires, and seasonal storms. Setting up multiple weather stations on site will enable the ongoing recording and monitoring of micro-climate variations. The solar azimuth will need to be calculated for that specific latitude. Topographical details will be very useful, as will surveys of hydrology and soil type. An inventory of plant species and their location will need to be plotted, along with associated fauna. Of course, very useful and comprehensive site survey checklists have been created to assist in the gathering and organization of data; at this stage, we are concerned with collecting enough information to begin creating our base map.
- 6) Creation of Base Map – Moving through all the previous stages of the design process was preparation for finally getting ready to draw the site plan. If the previous stages are neglected or bypassed, then the resulting site plan will be inferior – fanciful at best or incoherent at worst. Drawing the site plan begins with the creation of a base map. In advanced technological societies like the U.S., the best way to create a base map is to get an aerial photo from the local planning department and have them enlarge it to the desired scale. Finished sizes of 18”x24” and 24”x36” are preferred and functional – large enough so that several people can gather around and provide input. Lay a piece of tracing paper over the aerial photo and neatly outline all pre-existing infrastructure: buildings, utilities, roads and driveways, fences, pathways, prominent topographical and water features, etc., and include existing vegetation like trees and shrubs. It’s more vivid to have different line weights for different features, like bold for building outlines, lighter for vegetation, and lighter still for topographical and water features. Finally add solar direction, a scale marker, a title box, and an outline around the edge. Take this highly presentable traced sheet to the printer’s and make several copies on standard weight, white sheets of paper. These will become the basis for all future design work.

- 7) Articulation of the Program – “The program represents a set of agreements on the purposes and specifications for site improvement. It asks: what uses should be included? with what environmental qualities? how much of each use? to be used by whom? patterned how? built and maintained by whom? at what cost? according to what timetable? Some of the answers will be suggested by the potentials of the site; others will evolve from the motives of designers, owners, users, financiers, public officials, and others involved in the project...An explicit programming process provides a more dependable basis for design” (from Lynch and Hack (1996) *Site Planning, 3rd Edition*). The reasons for articulating the program – what could be called the details of project description – are so that everyone involved is ‘on the same page,’ so to speak, and when dealing with a professional relationship, so that client and designer know what is expected of one other.
- 8) Brainstorming of Elements – Once the program has been articulated, and the group has a common understanding as to the parameters and scope of the project, a free-form process may follow – this is the brainstorming of elements. What exactly would you like to see in your ecovillage? This is a time to include *everything*, as if cost or other practical restrictions were no barrier. A fountain? A lighthouse? Peacocks? Art studio? Radio station? Electric shuttle bus? Whatever would fill your wildest imagination, or make your dreams come true, this is the time to get it down. A brainstorming session is unedited; that is, let no one attempt to screen the outputs for validity or realism – just let them flow freely from the creative group process onto the board. The whole idea is to bypass the usual rational judgment so as to access a freer (and supposedly more all-knowing) creative source. You may be surprised to discover that the most unusual suggestions actually find an appropriate niche or source of funding in the project as it evolves. Of course, the brainstorming of elements also will include many perfectly normal and rational inputs – community center, laundry room, child care, herb garden, etc., etc. – but don’t let that restrict you from aiming for the stars!
- 9) Affinity Matrix Diagram – After the brainstorming session, chances are there will be a big sheet of paper full of a random assembly of elements

wanting to be included in the ecovillage. The affinity matrix diagram is a technique for getting this assembly organized – otherwise, how could all this information possibly be processed? The technique is to get a set of index cards and cut out a bunch of 1” strips along their short side. Eventually, there will be enough so that each of the elements on the brainstorming list can be written onto one of the strips. Leave some extra blank strips, as more ideas are bound to arise during the process. Next, randomly spread out all the strips with elements on them onto a large flat surface – it will look like an incoherent jumble! The participants will then begin to make associations between the elements by placing strips that belong together into their own separate groups. There is no prescribed number of groups or number of elements within groups. The process continues on until there is no more activity; that is, until everyone is satisfied with the organization of the groups. There is one important qualification, however: the whole process takes place without any talking whatsoever! That’s right. This leads to an exercise absent the usual attempts to influence through verbal arguments, manipulations, or even worse, force! Ideally, a meditational group mind will arise that organizes the groups effortlessly. What is left is a set of categories of elements that want to be included in the ecovillage. The final step is to appoint a small team of 2-3 to come up with label-names for each of the categories.

- 10) Group Consensus on Design Criteria – Whereas the brainstorming session produced a list of stuff, *things*, the group consensus on design criteria will produce a set of *qualities*, based on values. What sort of qualities would the group like to see in the finished ecovillage? What sort of values will the group use to guide their decision-making during the ongoing design process? It’s most helpful to get these expressed and out in the open beforehand. Some values already will have been made apparent during the creation of the program; for example, “we want the ecovillage to be a model of sustainability.” Yet, whereas the program is suitable as a business format, the group consensus on design criteria is an internal set of guidelines that will help shape the general appearance and atmosphere of the ecovillage. As examples, the group could decide, “there will be a 50%-50% balance between private and community space;” or, “we want to use the architectural style from 15th century Flanders;” or,

“all the building fronts will face south for passive solar exposure;” or, “we want to preserve 70% forest cover.” These statements of consensus then become design criteria. At its most elaborate, this stage of the design process could result in the creation of an entire pattern language for settlement development.

- 11) Bubble Diagram – The bubble diagram is a technique for subdividing the ‘whole’ of the site into numerous subsystems or zones (though this is not to be confused with the formal zone analysis of permaculture). The bubble diagram is drawn on a separate sheet of tracing paper that is overlaid on top of the base map. The bubbles are drawn as roundish approximations of areas of the site with distinct characteristics. For example, bubbles could be drawn around a forested area or a field or an existing set of buildings. The finished bubble diagram will depict the entire site as conceptually subdivided, with each bubble forming an edge with its neighbors; these edges usually end up outlining the circulation pattern within the site. It’s a good idea to color code the various bubbles for easier identification. In an ideal situation, each of the categories defined in the affinity matrix diagram will correspond to a different bubble within the bubble diagram.

- 12) Sector Analysis of Energy Flows – Sector analysis is a formal technique used in permaculture design, and we’ve found a modification of it to be indispensable in an ecovillage design. Once again, a separate sheet of tracing paper is overlaid on top of the base map. The various energy flows moving through or impinging upon the site are then identified by the group and given graphic representation on the diagram, often in the form of pie-shaped segments converging at the center. A thoughtful analysis, usually after supplemental site tours and observations specifically for this purpose, will reveal numerous energy flows: sun, wind, water, wildlife corridors, noise corridors, view corridors, shadows, etc., etc. – and perhaps even such intangibles as information or inspiration flows. Information from the data collection phase will prove invaluable for this sector analysis, so that, for example, referring to the data will draw distinctions between the directions of cold winter winds and warm summer breezes. Further analysis of the data may reveal suitable locations for

wind generators, etc. One exercise that's always a lot of fun is to ask design teams to locate the energetic center of the site, so that a feng shui analysis may be overlaid. Is the energetic center always the same as the geographical center?

- 13) Site Plan – This is, as they say, the moment we've all been waiting for – the drawing of the site plan. Many people *equate* “ecovillage design” with the drawing of this site plan; yet, we've seen how indispensable are all the previous stages that led up to this event. All the previous stages are, in fact, *part of* the design process, and to circumvent them surely will result in inferior design – just like they do at the unsustainable subdivisions. So take your time, and keep on observing and collecting data, and celebrate the time when you finally get to the site plan. If all the prior stages were accomplished sufficiently and successfully, then the site plan will end up *designing itself*; that is, it will become apparent where to place all the elements of the finished ecovillage. The way to achieve this is to first lay out the base map. Then on top of that, overlay the bubble diagram and sector analysis. Finally, overlay one more sheet of blank tracing paper upon which to draw the actual plan. What you will see is an information-rich layering of all the pertinent data you will need. Of course, it's not *just* that easy: working and communicating effectively in a design team is a skill set all its own; yet, by designing as a team, the strength and wisdom of the group mind will come to the fore. Some important strategies for drawing the site plan are: always start with the big strokes first and gradually work down to the details; always sketch with a light pencil initially (the amount of eraser residue could be considered a measure of the thought that's gone into the design!); always attempt to maximize beneficial relationships among the various elements and between elements and the natural functions of the site; work with an engineer's scale ruler so as to keep everything in proportion; you may want to use cut-outs representing the significant buildings so that they can be moved around to test different locations, etc. Drawing a site plan is an art form whose goal is to serve as a communication medium for all the thinking that's gone into the design. While more detail (i.e. information) could always be added to a site plan, just remember that an ecovillage design is never actually

complete, finished, but will always be at some stage in the ongoing process.

14) Presentation/Feedback – This is an important stage in the process. The design team has a chance to present, explain, validate and justify their design decisions through the medium of the site plan to a larger audience. The audience then provides feedback in the form of questions, comments, or critiques. No matter how much thought went into drawing the site plan, feedback invariably will reveal oversights or will provide angles not yet considered. If several design teams are working on the same site, it's always fascinating to discover how the same data, conditions, and program could lead to variations in the organization of the site plans. While it's a relief to know that there can never be one 'correct' site plan, nevertheless, cross-comparison may provide a selection of the best ideas from each, from which a composite site plan may then be compiled.

15) Modify Site Plan

16) Presentation/Feedback

17) Modify Site Plan, etc.