

The slide features several decorative circles in a light yellow-green color. Two circles are positioned behind the top line of the title, and three circles are positioned behind the bottom line of the title. The circles vary in size and are arranged in a slightly overlapping pattern.

Site Selection and Site Planning for Eco-Housing

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Sustainable design is not a reworking of conventional approaches and technologies, but a fundamental change in thinking and in ways of operating - you can't put spots on an elephant and call it a cheetah.

-- Carol Franklin, Andropogan Associates, Ltd.

Site Selection Issues -1

- **Recognition of Context.** No site can be understood and evaluated without looking outward to the site context. Before planning and designing a project, fundamental questions must be asked in light of its impact on the larger community.
- **Treatment of Landscapes as Interdependent and Interconnected.** Conventional development often increases fragmentation of the landscape. The small remaining islands of natural landscape are typically surrounded by a fabric of development that diminishes their ability to support a variety of plant communities and habitats. This situation must be reversed. Larger whole systems must be created by reconnecting fragmented landscapes and establishing contiguous networks with other natural systems both within a site and beyond its boundaries.

Site Selection Issues -2

- **Integration of the Native Landscape with Development.** Even the most developed landscapes, where every trace of nature seems to have been obliterated, are not self-contained. These areas should be redesigned to support some component of the natural landscape to provide critical connections to adjacent habitats.
- **Promotion of Biodiversity.** The environment is experiencing extinction of both plant and animal species. Sustaining even a fraction of the diversity known today will be very difficult. Development itself affords a tremendous opportunity to emphasize the establishment of biodiversity on a site. Site design must be directed to protect local plant and animal communities, and new landscape plantings must deliberately reestablish diverse natural habitats in organic patterns that reflect the processes of the site.

Site Selection Issues -3

- **Reuse of Already Disturbed Areas.** Despite the declining availability of relatively unspoiled land and the wasteful way sites are conventionally developed, existing built areas are being abandoned and new development located on remaining rural and natural areas. This cycle must be reversed. Previously disturbed areas must be reinhabited and restored, especially urban landscapes.
- **Making a Habit of Restoration.** Where the landscape fabric is damaged, it must be repaired and/or restored. As most of the ecosystems are increasingly disturbed, every development project should have a restoration component. When site disturbance is uncontrolled, ecological deterioration accelerates, and natural systems diminish in diversity and complexity. Effective restoration requires recognition of the interdependence of all site factors and must include repair of all site systems - soil, water, vegetation, and wildlife.

Common criteria for international eco housing

- Site selection and planning
- Site selection where infrastructure is developed
- Density of units – 4 units / acre
- Reduce use of private transportation by limiting distance to be commuted for basic amenities
- Retention of topsoil for re-uses
- Erosion , sedimentation control
- Aggregate utility corridor
- Carpool and parking. Use of battery operated vehicles
- Reduce heat islands – shading of paved areas, use of reflective surfaces
- Use of native species
- Layout development, street orientation for solar access to homes

Site Selection and impact on biodiversity

- Avoid development of inappropriate sites and reduce the environmental impact from the location of a building on a site which is-
 - Prime farmland ,
 - land whose elevation is lower than 5 feet above the elevation of the 100-year flood ,
 - within 100 feet of any wetland,
 - land which prior to acquisition for the project was public parkland etc.
- Minimum 50% of the non-building areas should have permeability greater than 0.5 or should have high albedo 0.65, to reduce surface runoff and heat island effects.
- Use of recycled materials for pavements etc

Building & Landscape Orientation

- Design for optimum building and landscape orientation to minimize noise and pollution and maximize the benefit from climatic conditions to reduce mechanical heating and cooling loads.
 - Solar access
 - Position house to capture or deflect prevailing seasonal winds.
 - House shaded on east and west by existing/ planted shade trees, vine covered trellises or shrubbery (min 50% of wall is/will be shaded)
 - Buffer spaces placed on at least 50% of west wall (e.G. Garage, covered porches etc)
 - Layout development streets within 25 degrees of east-west, or some comparable strategy for PUNE.
 - Home oriented on lot such that the longer dimension faces within 15-30 degrees of south

Site Selection and Planning Criteria -1

- **Direct Development to Environmentally Appropriate Areas**
- Select sites which: reuse existing urban, industrial and brownfield sites, near mass transit and public amenities to encourage walking to services instead of driving; and can utilize existing infrastructure such as utilities, roadways, services, etc. Select sites that support Community-Based Planning

Site Selection and Planning Criteria -2

- **Maintain and Enhance the Biodiversity and Ecology of the Site**
- Select a site where the development process will cause minimum alteration and ecological disturbance.
- Avoid drastically impacting sensitive topography, vegetation, and wildlife habitat.

Site Selection and Planning Criteria -3

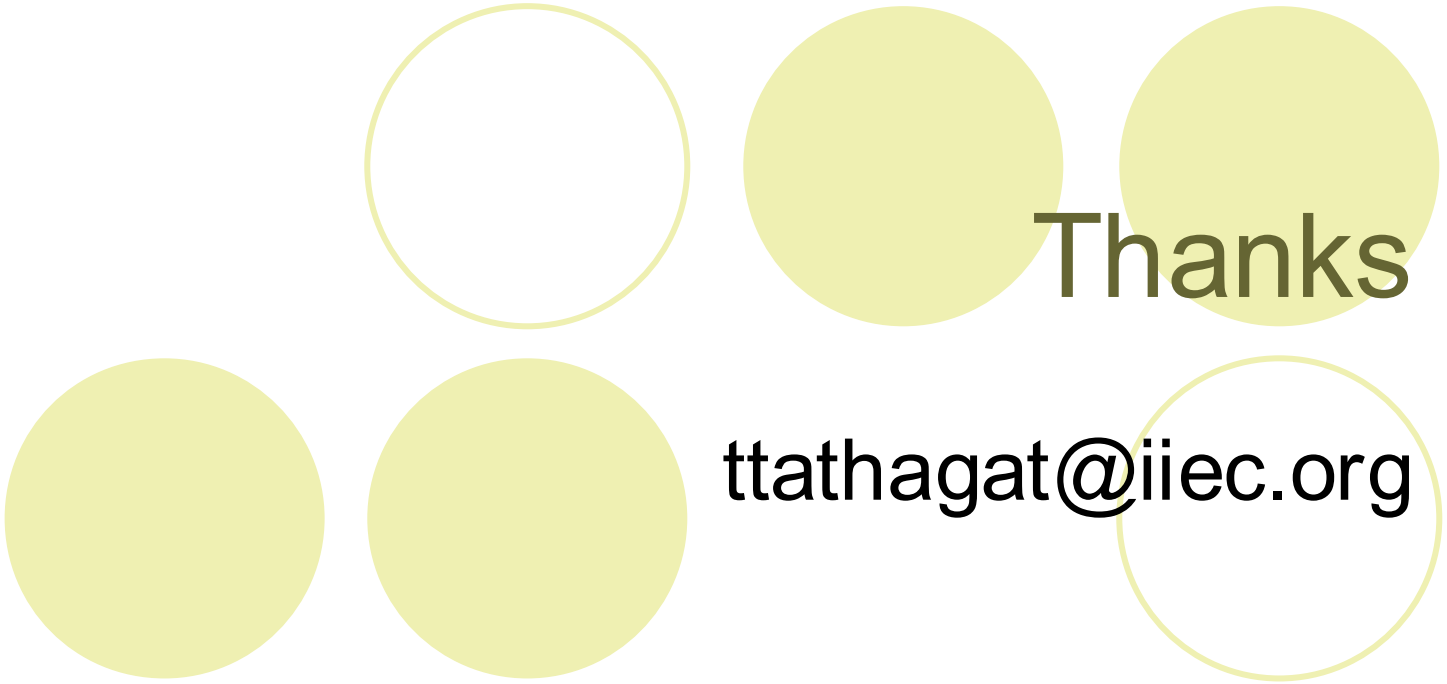
- **Use Microclimate and Environmentally Responsive Site Design Strategies**
- Select a site where the natural features can accommodate and/or enhance a variety of strategies.
- Look for opportunities to integrate the existing topography, vegetation, and water into effective, site specific strategies that will respond to the development on the site.

Site Selection and Planning Criteria -4

- **Use Native Trees, Shrubs, and Plants**
Site Selection Action
- Analyze site to determine where native trees, shrubs, and plants should be used such as in areas where mass coverage is needed and/or location of harsh environmental and built conditions.

Site Selection and Planning Criteria -5

- **Use Resource Efficient Modes of Transportation**
- Select a site that provides easy access to public transportation and/or encourages carpooling, biking, and walking.



Thanks

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