

# Ecovillage at Ithaca: Laboratory for Sustainability? Part 02

For Part 01 of this slideshow, click [here](#).



# Ecovillage at Ithaca Center for Sustainability Education

## Sustainability Studies Series

### Module #1, Part 2

18 September 2008

Last Updated 8 February 2010; 12 September 2012



This slideshow was developed by:

Dr. Richard W. Franke

Ph. D. Harvard University 1972

Professor Emeritus of Anthropology at

Montclair State University in New Jersey

Resident and Board Member: Ecovillage at Ithaca

[franker@mail.montclair.edu](mailto:franker@mail.montclair.edu)

<http://msuweb.montclair.edu/~franker/>





**The EVI Mission:** To promote experiential learning about ways of meeting human needs for shelter, food, energy, livelihood and social connectedness that are aligned with the long term health and viability of Earth and all its inhabitants.

Adopted by the EVI Board  
28 October 2009

# Ecovillage Ithaca: Laboratory for Sustainability?

To view or download several short pdf documents that contain detailed information about our heating systems, legal structure, appearance in publications and dissertations, work committees and community structure, click [here](#).





# Ecovillage Ithaca: Laboratory for Sustainability?

## Topics of this Presentation

1. The Sustainability Concept – See Part 01
2. Current Challenges to Sustainability – See Part 01
3. Why an Ecovillage? – See Part 01
4. Introduction to EVI – See Part 01
5. Sustainability at EVI – In this Part 02
6. Appendix: Herman Daly's rules for sustainability – in this Part 02

For Part 01 of this slideshow click [here](#).

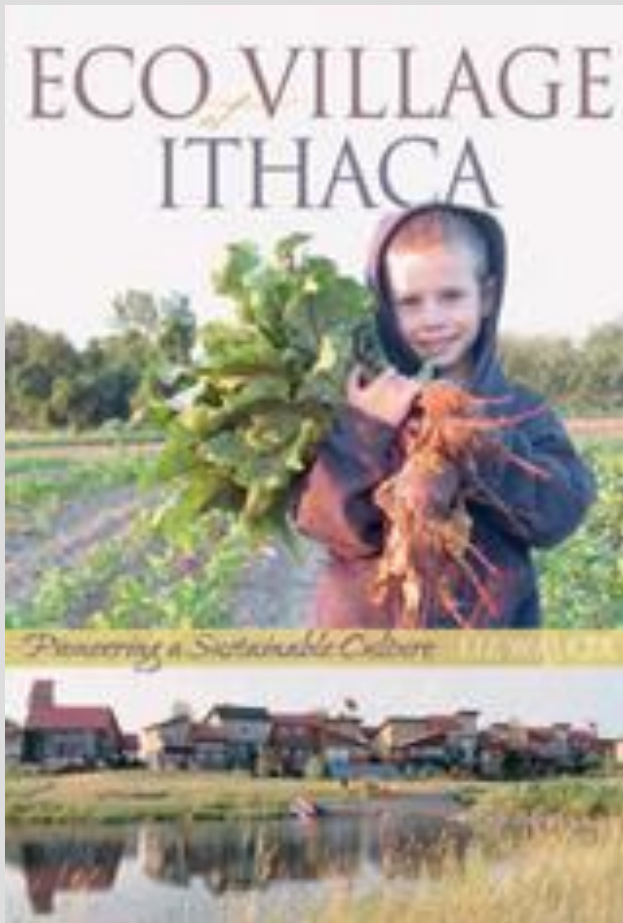
# Ecovillage Ithaca: Laboratory for Sustainability?

## Sources

A complete list of the books and articles referred to in this presentation can be downloaded at:

<http://msuweb.montclair.edu/~franker/SustainabilityFiles/GreenprintReadings.pdf>

# Ecovillage Ithaca: Laboratory for Sustainability?



This slideshow is intended to supplement Liz Walker's 2005 book on Ecovillage at Ithaca...

To read a detailed description of the book, click [here](#).

To order online, click [here](#) and scroll to the bottom. \$17.95 new via Paypal.



## 5. Sustainability at EVI

# Ecovillage Ithaca: Laboratory for Sustainability?

## 5. Sustainability at EVI

5.1 Building design and construction – covered in Part 01

5.2 Overall site design

5.3 The organic farm(s)

5.4 The Permaculture Institute

5.5 Social practices and pressures

Important to see all the features in combination as each one by itself is not unique to EVI.

# Ecovillage Ithaca: Laboratory for Sustainability?

## 5.2 Overall Site Design Including Two Organic Farms

Site Plan of Former Owner, Lakeside Development Corporation

- 150 homes
- 10% open area

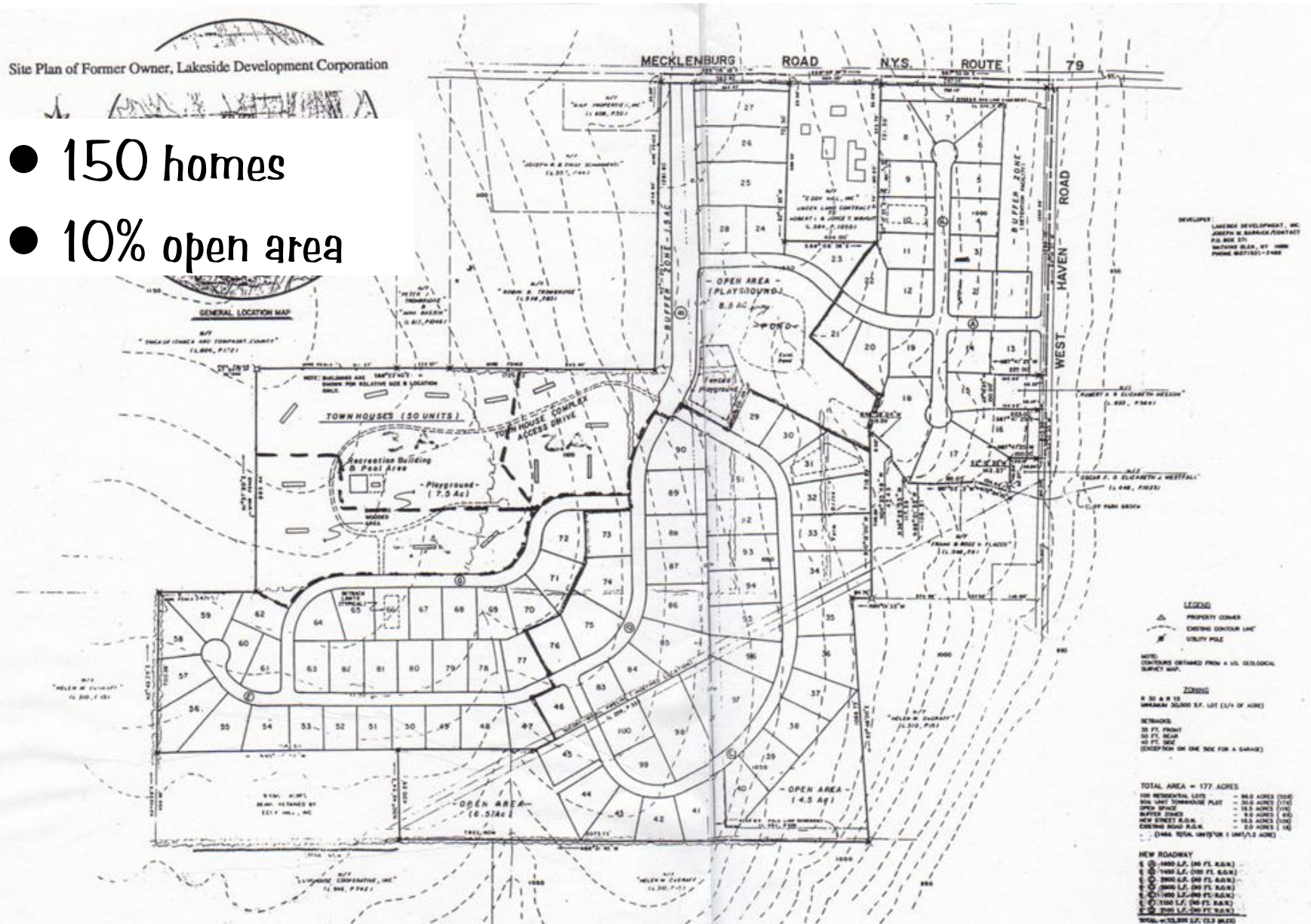


EXHIBIT 'E'



# Ecovillage Ithaca: Laboratory for Sustainability?



EVI set up the first two neighborhoods on less than 10% of the land, bunching the houses together like a village with everyone sharing a common back yard.

[also, fewer lawnmowers needed]

# EcoVillage @ Ithaca

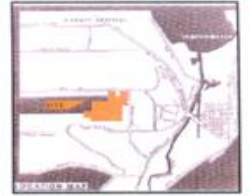
## An Envisioning Plan

Color Code

- Future (5-10 years)

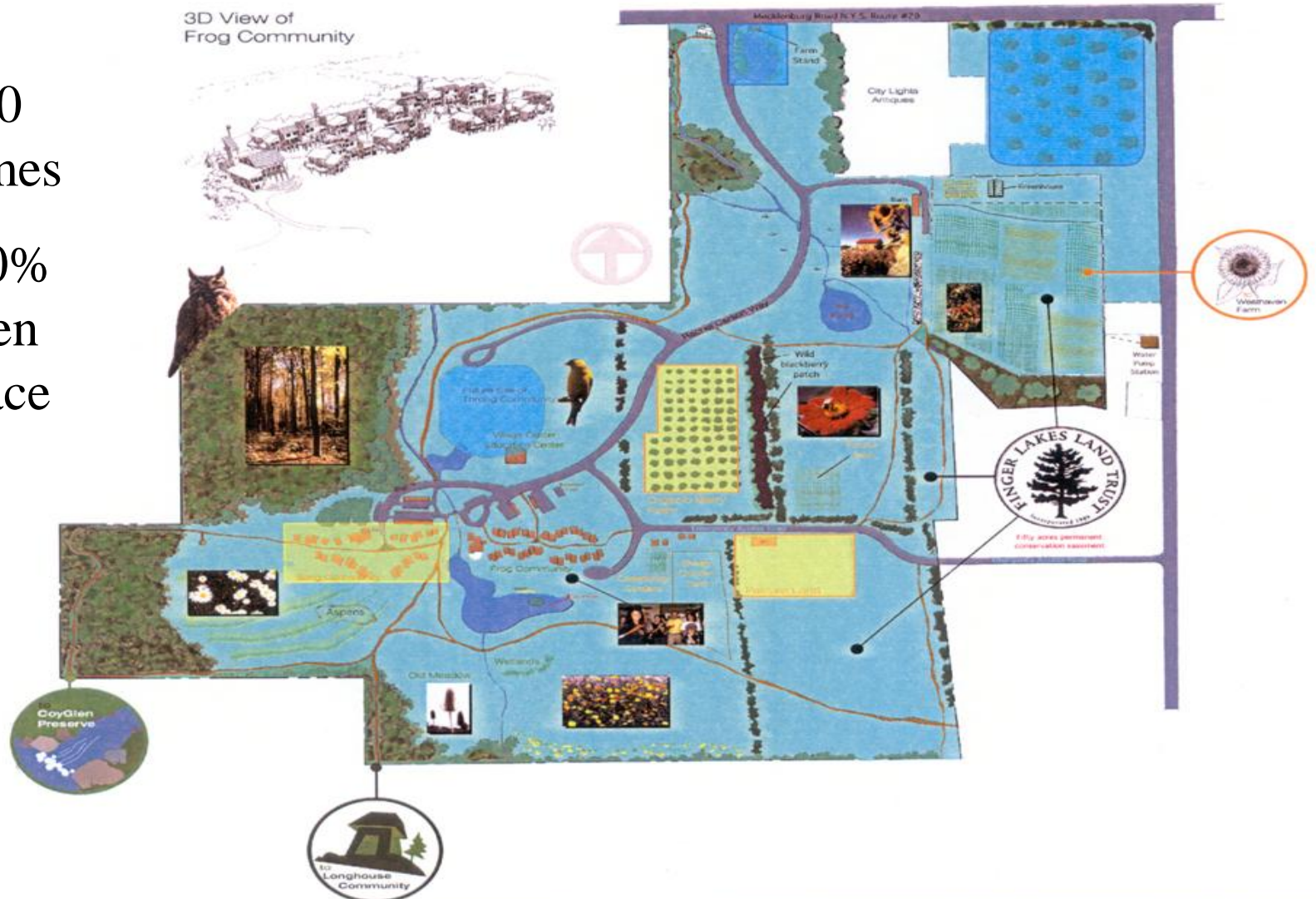
- Near Future (2-5 years)

 - Existing (Full Color)



### 3D View of Frog Community

- 100 homes
- 90% Open Space





## Ecovillage Ithaca: Laboratory for Sustainability?

- 10 acre organic farm
- 2 acre berry farm
- 55 acres in permanent wilderness easement



- The main farm feeds about 1,000 people per week during the summer;
- EVI residents can purchase shares of the harvest at full price or work a few hours per week to get reduced prices
- Food in the common house comes from the farm

## Ecovillage Ithaca: Laboratory for Sustainability?

In the summer you can walk to your vegetable and berry supply within ½ mile on EVI land

Greenstar – the Ithaca cooperative market with local and fair trade products is two miles down the road



The **Finger Lakes Buy Green** website, a project of Tompkins County Solid Waste Management and Sustainable Tompkins, helps consumers make environmentally wise purchasing decisions. The website features why to buy green, tips on environmentally preferable purchasing, and includes a product directory with samples of green products that are carried at local suppliers. Office supplies are currently featured on the website, with cleaning products, maintenance supplies, and yard and garden supplies soon to follow.

# Ecovillage Ithaca: Laboratory for Sustainability?

EVI is part of a strong local network of activists and organizations trying to create a regional green production and marketing system – in fact there is a formal Tompkins County sustainability project with some support from the Ithaca town council and other institutions.



↑ Map above shows the 100 mile radius from Ithaca – inside this radius are about 353 small farms. Greenstar cooperative market features food grown mostly within 30 miles.



# Ecovillage Ithaca: Laboratory for Sustainability?

## 5. Sustainability at EVI:

### 5.3 Permaculture Practices



## Ecovillage Ithaca: Laboratory for Sustainability?

Walking around  
EVI you could  
easily get the  
impression it is  
wild and  
unmanaged...to  
some extent  
this is true.



## Ecovillage Ithaca: Laboratory for Sustainability?



But actually our Land Partnership Committee and several other committees work constantly to think up and implement new and sustainable ways to develop our land so it will produce more food, construction materials and other necessities.



## Ecovillage Ithaca: Laboratory for Sustainability?



Notice how  
the FROG  
common  
house reflects  
in the one acre  
pond...

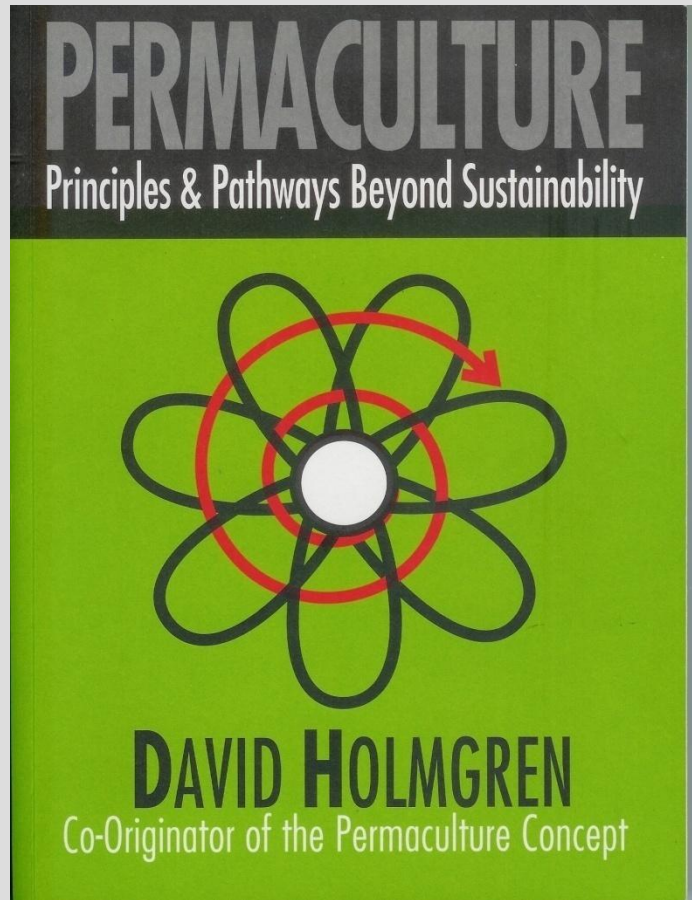
## Ecovillage Ithaca: Laboratory for Sustainability?

This is intentional but for a practical reason – the pond reflects sunlight into the common house on dark days – somewhat important since Ithaca has the second most cloudy days of any US city.

Note front of  
common house  
here →



## Ecovillage Ithaca: Laboratory for Sustainability?



This is one example of a practice now called *permaculture*, based on a movement that originated in Australia in the 1970s.



# Ecovillage Ithaca: Laboratory for Sustainability?

## Permaculture – multiuse pond

- Water catchment for surrounding area
- Fire protection
- Swimming and ice skating
- Lilies help filter the water
- Wildlife: frogs, two large carp, small mouthed bass, birds (incl great blue heron), geese, ducks
- Light: reflects back light to common house – this was intentional in its location (it is human designed)
- Water pipes run from common house to bottom of pond to create natural air conditioning cooling source



# Ecovillage Ithaca: Laboratory for Sustainability?

## Permaculture:

consciously designed  
landscapes which mimic  
the patterns and  
relationships in nature  
while yielding an  
abundance of food, fiber  
[and other products?]  
for human needs.

David Holmgren

Sometimes also called

“biomimicry”

but actually involves  
much more than  
that...

# Ecovillage Ithaca: Laboratory for Sustainability?

# Can you describe “biomimicry” in your own words?

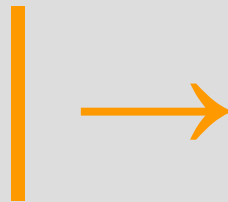


# Ecovillage Ithaca: Laboratory for Sustainability?

Idea is to create a

“closed energy loop,”

Or, in other words...



...a sustainable production system.

# Ecovillage Ithaca: Laboratory for Sustainability?

## Some Permaculture Techniques

Swales and berms

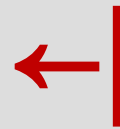
Grey water recycling

Chop and drop fertilizer

Plant guilds

Chicken tractoring

Edible forests



Most or all are in use at EVI, fostered by the Permaculture Institute, one of whose directors lives there.

# Ecovillage Ithaca: Laboratory for Sustainability?

## Swales

- or asymmetrical u-shaped trenches with swells (berms) on the downhill side that capture water and facilitate its absorption into the soil.

## Grey water recycling

- All EVI houses have double pipe systems so that grey water can be used for irrigation as soon as NY State law allows it. One area has it in use from roof rainwater catchment barrels

## Chop and drop fertilizer

- Plant eg a nitrogen accumulator next to your crop stalks, then when accumulator is grown, chop it and leave next to the crop.

# Ecovillage Ithaca: Laboratory for Sustainability?

## Plant guilds

Plants in the same guild assist each other. The Iroquois “three sisters” of beans, corn, and squash is one of the best studied plant guilds. The corn provides a pole for the beans to climb on, the squash leaves cover the ground holding down weed growth, the beans fix nitrogen in the soil to the benefit of the corn and squash. Nutritionally the three plants provide a balanced set of vitamins, minerals, carbohydrates, and a full complement of amino acids for protein.



## Ecovillage Ithaca: Laboratory for Sustainability?

Some useful sources on the Iroquois Three Sisters plant guild:

Hart, J. P. 2008. [Evolving the Three Sisters: The Changing Histories of Maize, Bean, and Squash in New York and the Greater Northeast](#). In *Current Northeast Paleoethnobotany II*. New York State Museum Bulletin 512, edited by [J. P. Hart](#), pp. 87-99. The University of the State of New York, Albany, New York.

Mt. Pleasant, Jane. 2001. The Three Sisters: Care for the Land and the People. In James, Keith, ed. *Science and Native American Communities: Legacies of Pain, Visions of Promise*. Lincoln: University of Nebraska Press. Pp. 126–34

Mt. Pleasant, J. 2006. The Science Behind the Three Sisters Mound System: An Agronomic Assessment of an Indigenous Agricultural System in the Northeast. In *Histories of Maize: Multidisciplinary Approaches to the Prehistory, Biogeography, Domestication, and Evolution of Maize*, edited by J. Staller, R. Tykot, and B. Benz, pp. 529–538. Academic Press, Burlington, Massachusetts.

Wolkomir, Richard. 1995. Bringing Ancient Ways to our Farmers' Fields. *Smithsonian* 26(8):99–107. November 1995.

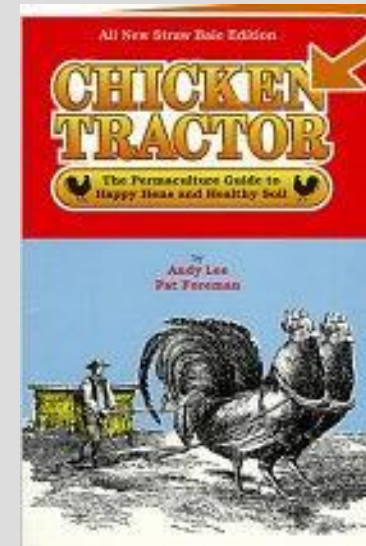
<http://www.reneesgarden.com/articles/3sisters.html>





## Ecovillage Ithaca: Laboratory for Sustainability?

### Chicken tractoring



Chickens enclosed in a temporary overhead cage scratch around a cultivated area eating pests, loosening the soil, and depositing fertilizer. Chickens can do a lot of the farming work that humans find tedious. The chickens also produce eggs.



## Ecovillage Ithaca: Laboratory for Sustainability?



### Edible forests (or landscapes)

- the several layers of a managed forest are mimicked by a set of food producing plants...leads to maximization of *mycorrhiza*, or “fungus roots,” that allow plants to efficiently exchange nutrients through their roots.
- Native Americans also used this technique.

Jacke, Dave with Eric Toensmeier. 2005 *Edible Forest Gardens: Ecological Design and Practice for Temperate Climate Permaculture. Volume I: Vision and Theory*. White River Junction, VT: Chelsea Green Publishing Company. Esp. pp. 11-12.

\_\_\_\_\_. 2005 *Edible Forest Gardens: Ecological Design and Practice for Temperate Climate Permaculture. Volume II: Design and Practice*. White River Junction, VT: Chelsea Green Publishing Company.

## Ecovillage Ithaca: Laboratory for Sustainability?

EVI's  
miniature  
experi-  
mental  
edible  
landscape  
(not quite  
a forest)



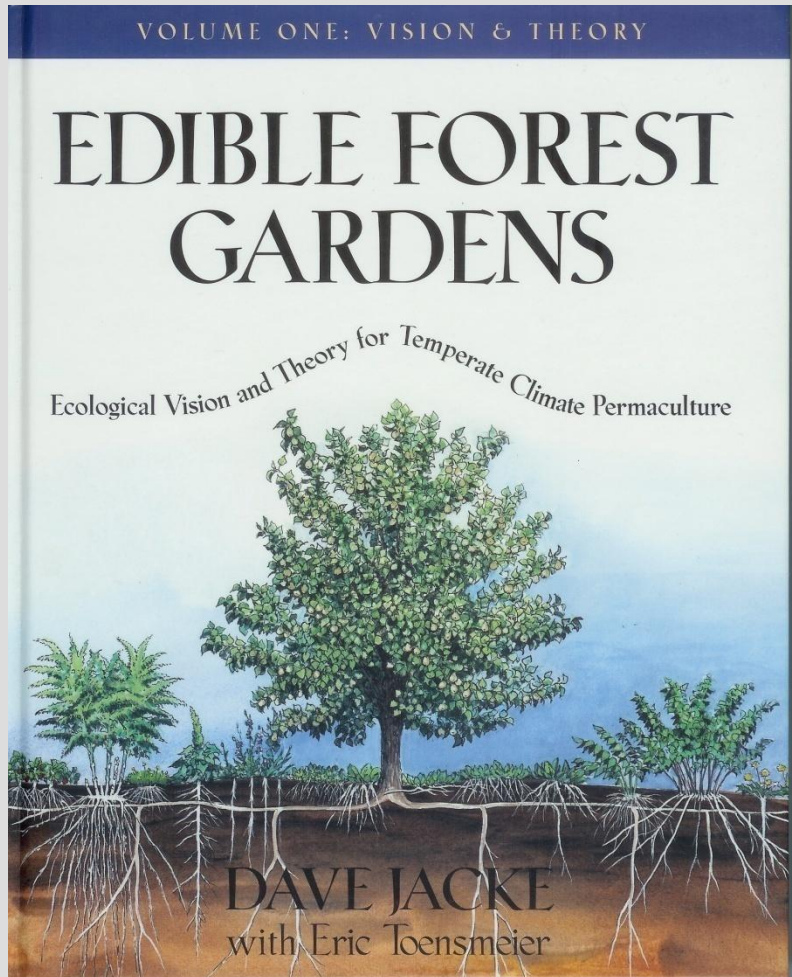
## Ecovillage Ithaca: Laboratory for Sustainability?

In 2009 the land partnership committee launched “shangri-la,” an edible forest project in which residents can adopt and care for a tree or bush in a designated edible forest region – near the SoNG community garden and chicken run

Photo of the new edible forest near Song coming soon.



## Ecovillage Ithaca: Laboratory for Sustainability?



Much remains to be learned about permaculture's possibilities, especially the potential of edible landscapes.

Find out more about permaculture at:

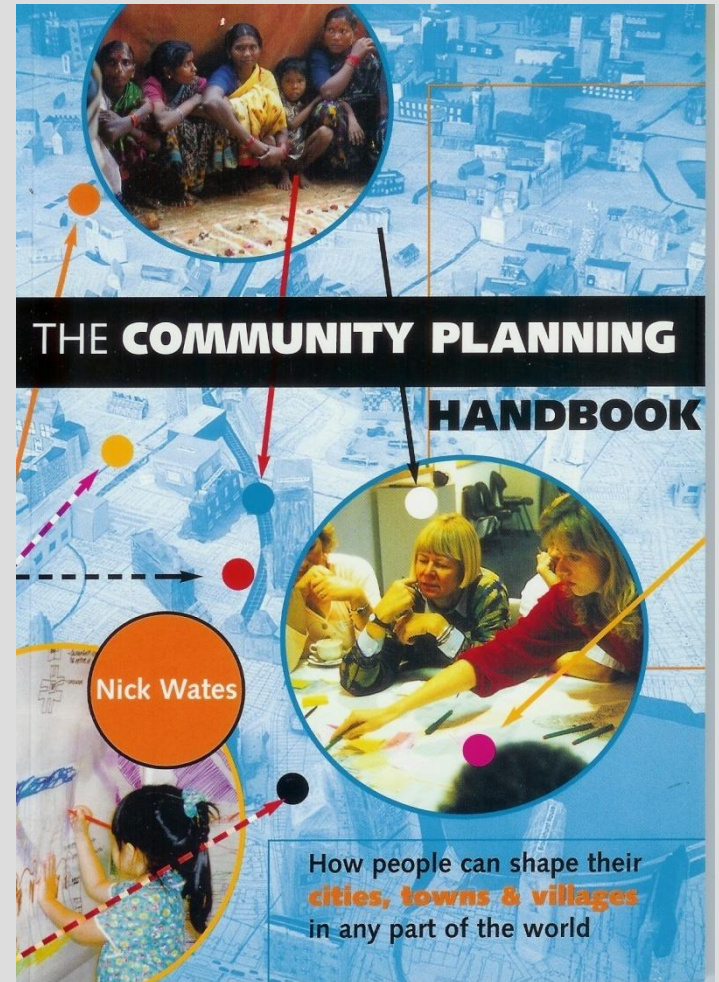
<http://www.fingerlakespermaculture.org/whatispermaculture.htm>



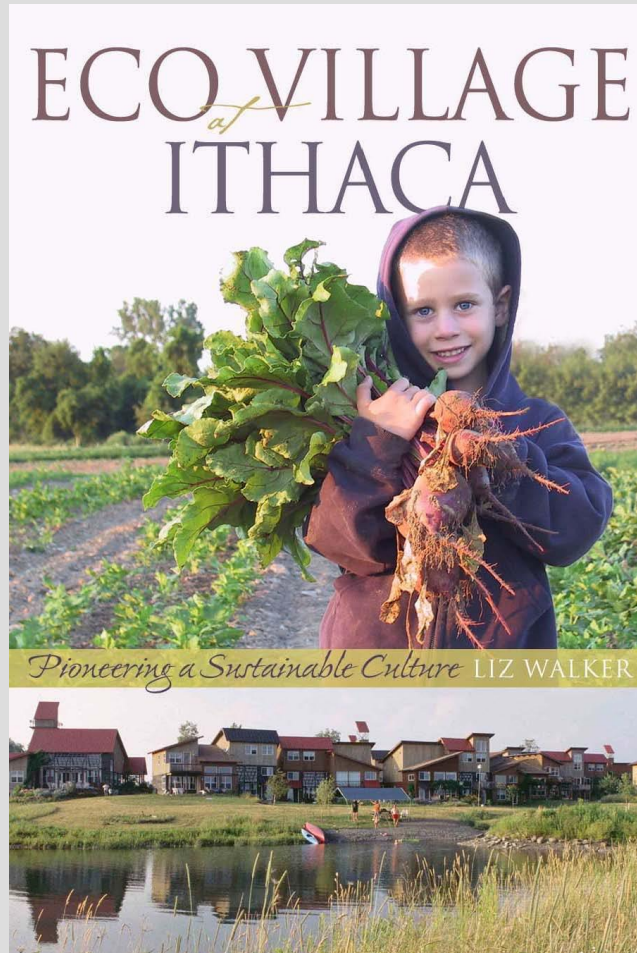
## Ecovillage Ithaca: Laboratory for Sustainability?

But all the technical changes are only meaningful – and sustainable – if they are sustained and improved on by the society.

One could say that ecovillages are experiments in “pioneering a sustainable culture...”



## Ecovillage Ithaca: Laboratory for Sustainability?



Which happens to be  
the subtitle of Liz  
Walker's book about  
EVI



## Ecovillage Ithaca: Laboratory for Sustainability?

So what does a sustainable  
culture look like?

# Ecovillage Ithaca: Laboratory for Sustainability?

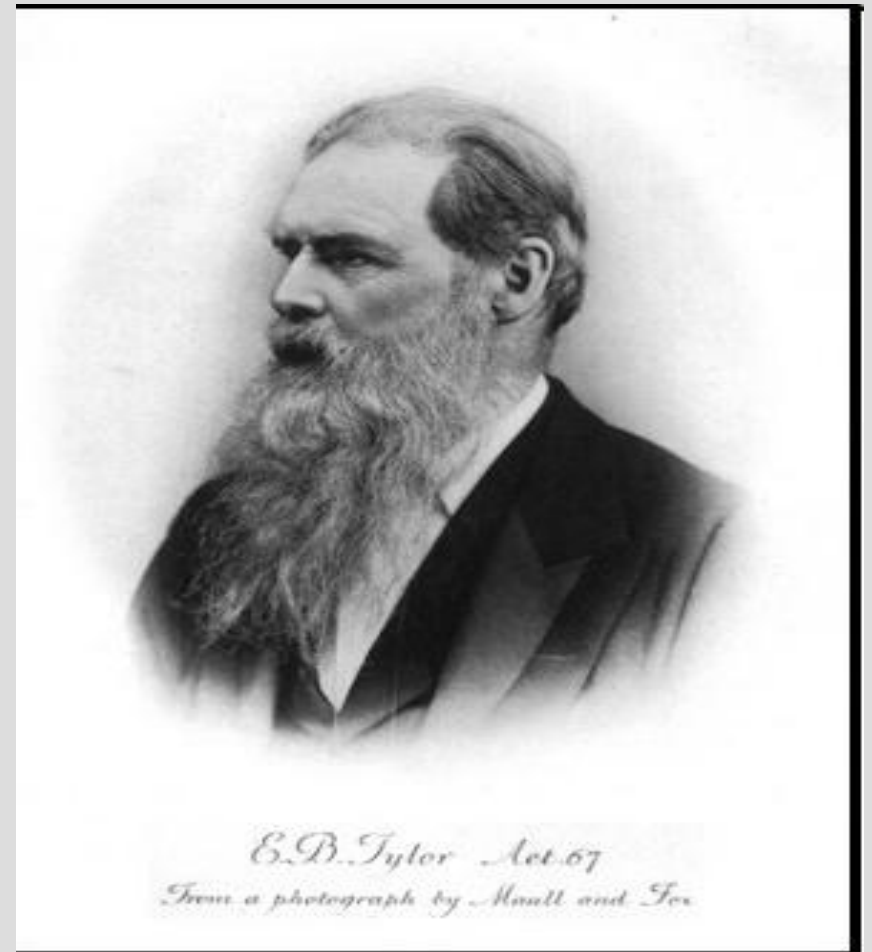
## 5.4 Social practices and pressures



## Ecovillage Ithaca: Laboratory for Sustainability?

“Culture...taken in its wide ethnographic sense is that complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man (sic) as a member of society.”

(Edward Tylor, 1871)



# Ecovillage Ithaca: Laboratory for Sustainability?

Or,

“shared, learned behavior.”

(Richard W. Franke, 1966—present, class notes)

# Ecovillage Ithaca: Laboratory for Sustainability?

Or,  
“a way of life”

(Richard W. Franke, 1966—present, class notes)

# Ecovillage Ithaca: Laboratory for Sustainability?

Shared, learned behavior – a way of life –  
could be a mechanism for sustainability...or,  
  
...it could be a mechanism for the collapse of  
civilization.



## Ecovillage Ithaca: Laboratory for Sustainability?

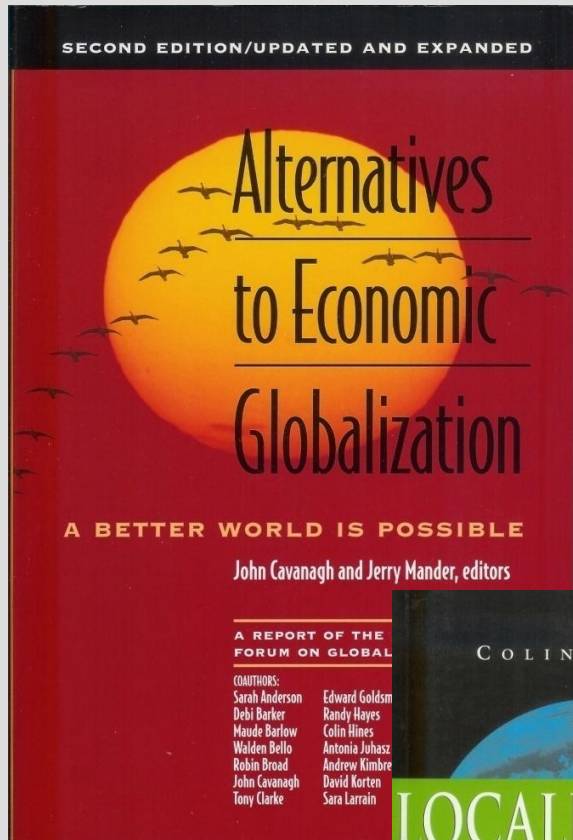
In an intentional community such as EVI the goal is to figure out what kind of culture would be the most sustainable.

A major prerequisite: the greatest possible degree of local community self-management...

## Ecovillage Ithaca: Laboratory for Sustainability?

...which is operationalized through...a cultural principle...

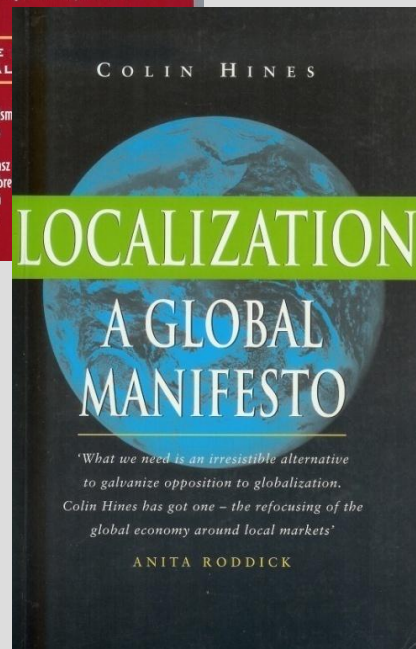
...the principle of subsidiarity...[a part of what is sometimes called “localization theory,” or, “relocalization theory.”]



## Ecovillage Ithaca: Laboratory for Sustainability?

**Subsidiarity:** What can be done best at a particular level should be done at that level and not at higher levels. All that can be optimally done at the lowest level should be reserved to that level.

- all decisions should be made at the lowest level of government authority competent to deal with them;
- decisions should constantly move closer to the people most affected by them;
- all systems should emphasize local production and consumption rather than be deliberately designed to serve long-distance trade;
- local investment patterns should be reinforced by policies such as “site-here-to-sell-here”



## Ecovillage Ithaca: Laboratory for Sustainability?

Here are four good sources to introduce the theoretical principles of localization and relocalization theory:

Cavanagh, John and Jerry Mander, editors. 2004. *Alternatives to Economic Globalization: A Better World is Possible*. Second Edition. San Francisco: Berrett-Koehler , especially pages 149–153.

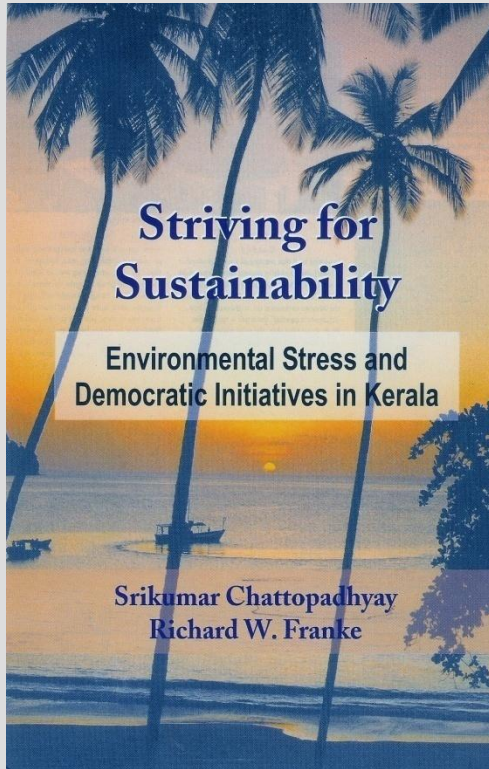
Gunn, Christopher, and Hazel Dayton Gunn. 1991. *Reclaiming Capital: Democratic Initiatives and Community Development*. Ithaca: Cornell University Press.

Hines, Colin. 2000. *Localization: A Global Manifesto*. Sterling, VA: Earthscan.

Shuman, Michael H. 1998. *Going Local: Creating Self-Reliant Communities in a Global Age*. New York: The Free Press.

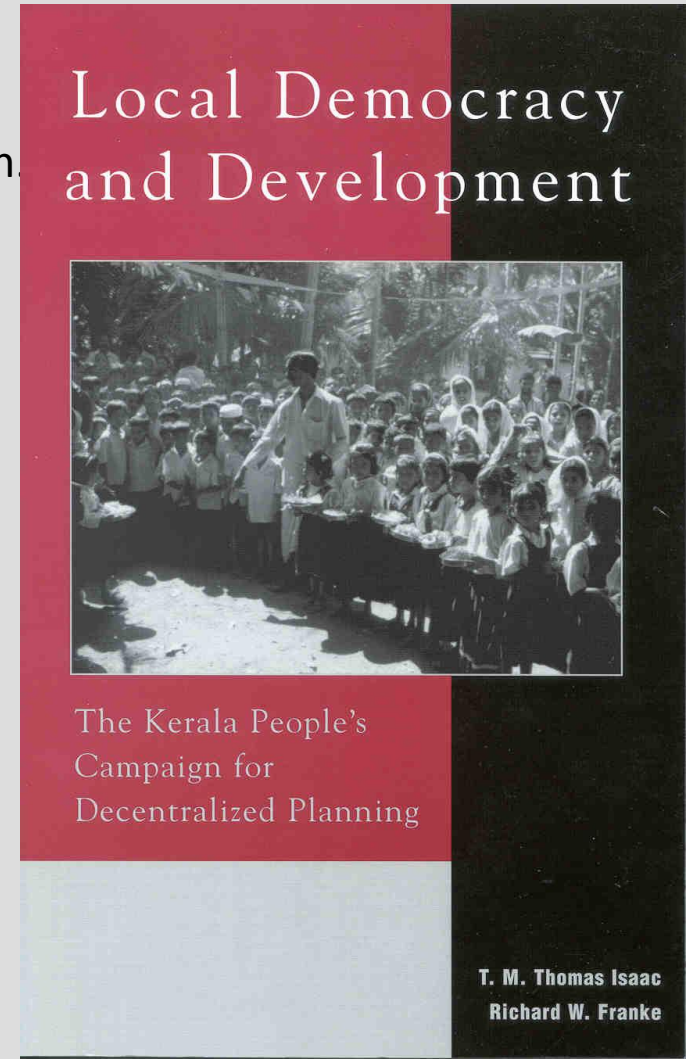


## Ecovillage Ithaca: Laboratory for Sustainability?



Also part of the growing  
interest in decentralization.

...on which I was  
privileged to  
participate in two  
ethnographic and  
theoretical  
accounts...



## Ecovillage Ithaca: Laboratory for Sustainability?

### Community support for innovations in sustainability

- Physical closeness and smaller houses require more neighborliness and sharing – kitchens at front of houses (watch each other's kids)
- Car sharing
- Composting: almost all scraps
- New project: ageing in place



## Ecovillage Ithaca: Laboratory for Sustainability?

Two or three times weekly the common house(s) host community dinners that help build and maintain community solidarity – the food is quite good...



# Ecovillage Ithaca: Laboratory for Sustainability?

## Ecological Benefits of Community Dinners

Common house meals also help reduce our energy use per capita – just consider –

- 60 people eat together, so
- One to about three shopping trips max instead of maybe 20 separate car trips to the market
- Much less use of heat and water to cook
- Easier and less energy-using to clean up
- Easier to compost all the remains



## Ecovillage Ithaca: Laboratory for Sustainability?

...and cleanup is one of about 5 work committees, on one of which each member is expected to put in 5 hours weekly of volunteer labor...

...no formal penalties for slackers...





## Ecovillage Ithaca: Laboratory for Sustainability?

...but some informal pressure is exerted by neighbors who will ask you why you are not participating.

Still, a few households might enjoy community without supporting it. [Particular elements of shared behavior are sometimes not shared by all.]

## Ecovillage Ithaca: Laboratory for Sustainability?

A locally oriented culture of solidarity and participation facilitates and encourages innovation in local sustainability ...

...such as...





## Earth bag Root Cellar Construction







EVI's root cellar allows winter storage of root vegetables with no additional energy. It was designed and built by **students and ecovillagers**.

## Ecovillage Ithaca: Laboratory for Sustainability?

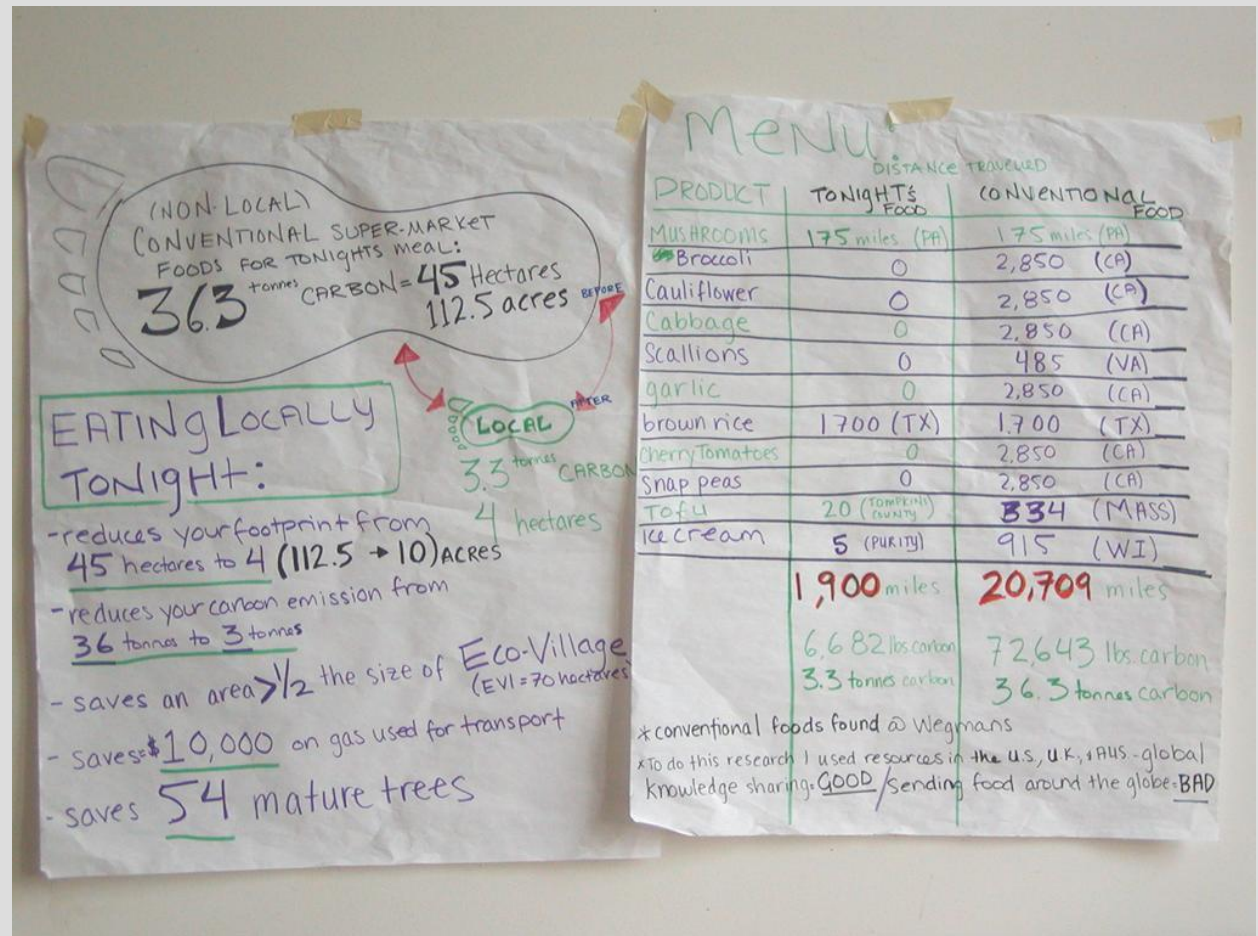


Or, a  
campaign to  
grow or  
purchase  
more local  
food to  
reduce the  
community's  
carbon  
footprint –  
becoming  
localvores



# Ecovillage Ithaca: Laboratory for Sustainability?

This analysis was done by a Vassar undergrad who spent part of the summer of 2006 as an intern at EVI



## Ecovillage Ithaca: Laboratory for Sustainability?

You can join the local car sharing club with \$50 or \$200 per year...

...plus a larger or smaller mileage payment. Car sharing groups are spreading in many US towns and cities



## Ecovillage Ithaca: Laboratory for Sustainability?



Or join in the main local  
cultural practice  
regarding  
transportation



# Ecovillage Ithaca: Laboratory for Sustainability?

With soaring health care costs and an aging population the US (and the world) desperately need to find ways for people to age in place

Intentional communities and ecovillages are ideal starting places for experiments

EVI residents vote on alternate plans for a local aging “suite”



## Ecovillage Ithaca: Laboratory for Sustainability?

This will have 8 to 12 apartments built around a central living space possibly with the 12th apt offering free rent for a skilled health care worker – it could handle up to and through the assisted living stage of the “Continuing Care Center” concept – various connections to the other EVI neighborhoods are envisioned.



## Spontaneous Cooperatives

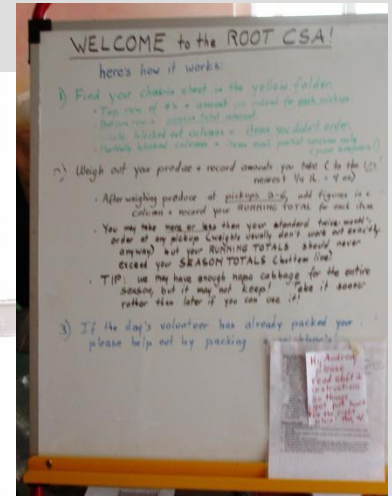
Residents enact the spirit of cooperation in many ways. One of these is the creation of spontaneous mini-cooperatives: 6 households recently created a chicken coop with a chicken run for free ranging. They share the work and the eggs.

Another group got together and purchased a laser printer that they share, reducing the cost to each household and getting the same amount of printing done as if each had its own unit.

# Ecovillage Ithaca: Laboratory for Sustainability?

## Spontaneous Cooperatives: Winter Vegetables

In winter 2010 EVI held its 3rd winter root vegetables purchasing cooperative. 20 households purchased beets, cabbage, carrots, celeriac, onions, parsnips, potatoes, rutabagas, and turnips, or any one or some of these with alternate Saturday morning pickup at the common house next to the root cellar.



An average size pickup of a sample of various root veggies would cost about \$0.73 per pound. Buyers should work 2 hours total across the ten week period, or could pay an extra \$15 and not work.

# Ecovillage Ithaca: Laboratory for Sustainability?

## Consensus Decision-Making

- Requires high levels of mutual respect – meetings sometimes begin with ritual of appreciation of each other
- Willingness to compromise
- “deliberative democracy” rather than interest group democracy
- Can mean lots of long meetings and sometimes frustration at slowness of decisions
- “fallback” to supermajority possible in some cases

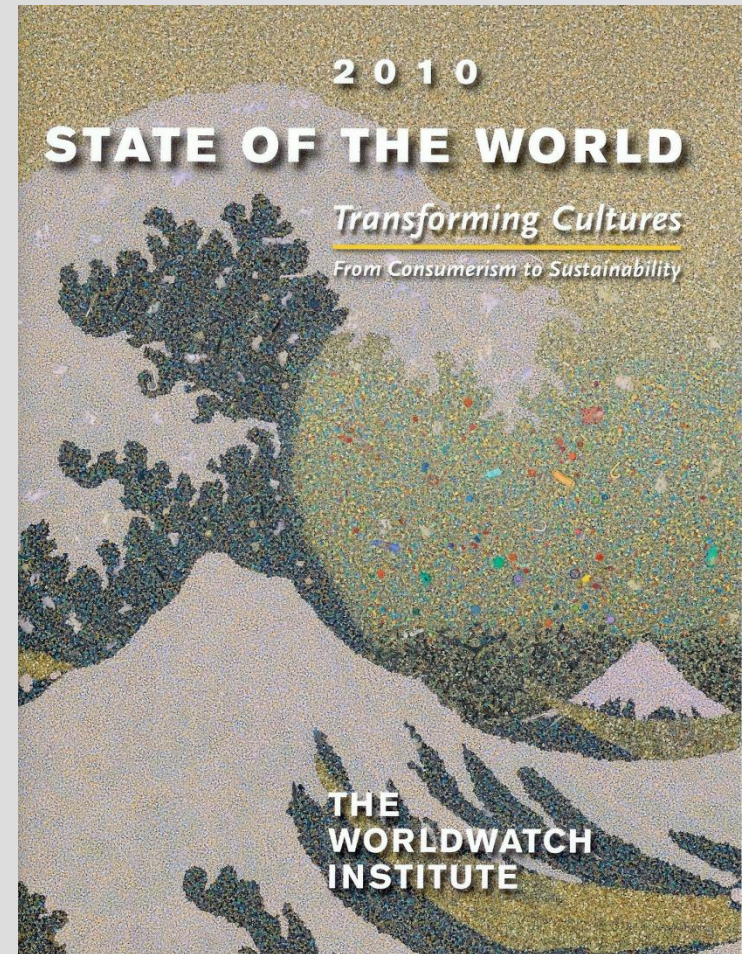
# Ecovillage Ithaca: Laboratory for Sustainability?

## Consensus Decision-Making

- EVI's most advanced and most controversial cultural element
- Difficult to bring off
- Multistage process
  - First stage: Idea sharing – no policy outcomes or motions
  - Formal proposals – straw polls
  - Discussion until consensus reached
  - Allow one or more “blocks” annually?
  - In extreme cases, revert to supermajority or majority?
- Ties people together despite difficulties in the process

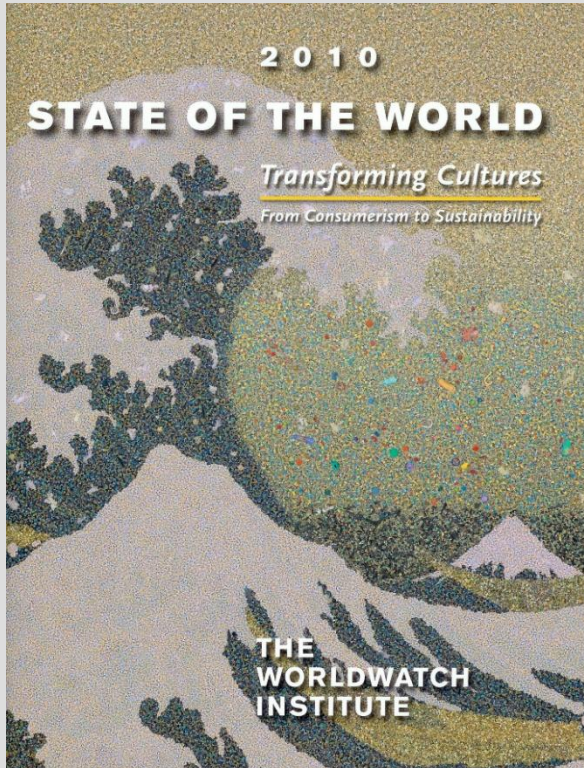
# Ecovillage Ithaca: Laboratory for Sustainability?

In the 2010  
Worldwatch  
Institute State of  
the World,  
Findhorn ecovillage  
resident Jonathan  
Dawson calls  
ecovillages...





# Ecovillage Ithaca: Laboratory for Sustainability?



“Demonstration sites...[for] a radical transformation of values...”

Dawson, Jonathan. 2010. Ecovillages and the Transformation of Values. *Worldwatch Institute State of the World 2010: Transforming Cultures – From Consumerism to Sustainability*. New York: Norton and Company. pp. 185 – 190.

# Ecovillage Ithaca: Laboratory for Sustainability?



One could see EVI as part of a vision for an alternative world in which the earth's resources are used at rates lower than or equal to earth's capacity to regenerate them...but I prefer the phrase "laboratory for sustainability..."

# Ecovillage Ithaca: Laboratory for Sustainability?

## 6. Appendix: Herman Daly's Principles of Sustainable Economics

## Ecovillage Ithaca: Laboratory for Sustainability?

“The market does not distinguish... between ethically just and unjust distributions of income. Sustainability, like justice, is a value not achievable by purely individualistic market processes”

Steady-state economist Herman Daly 1986:320 in the Journal *Land Economics* 62(3).

## Ecovillage Ithaca: Laboratory for Sustainability?

Daly claims there are three fundamental rules of throughput that must be met to achieve sustainability. One rule each for:

- Renewable resources
- Non renewable resources
- Pollutants



These rules operationalize the  
concept of sustainability...

## Ecovillage Ithaca: Laboratory for Sustainability?

Rule 1. Renewable resources (soil, water, forest, fish)

the rate of use must be no greater than the rate of (usually natural) regeneration.

## Ecovillage Ithaca: Laboratory for Sustainability?

Rule 2. For non renewable resources (oil, minerals, fossil groundwater)

The rate of use must be no greater than the rate at which a renewable resource can be substituted for it

### 3. For pollutants –

the rate of emission must be no greater than the rate at which the pollutant can be

- Recycled
- Absorbed, or
- Rendered harmless in a “sink”



## Ecovillage Ithaca: Laboratory for Sustainability?

If any one of these three rules is broken, the system becomes disturbed and its overall sustainability is endangered.

## Ecovillage Ithaca: Laboratory for Sustainability?

Can you see ways in which Ecovillage at Ithaca does or does not accord with Daly's three principles?