Seeing the Forest and the Trees, Part I

Can sustainable loggers and natural builders in community honor their values and still make a living?

By Diana Leafe Christian

Right Livelihood: "Clarifying what you are passionate about, then finding a way to make your living in pursuit of that passion."

—Geoph Kozeny

Ecovillage: "A human-scale, full-featured settlement in which human activities are harmlessly integrated into the natural world in a way that is supportive of healthy human development and can be continued into the indefinite future."

—Robert and Diane Gilman

On a crisp autumn morning in the Blue Ridge Mountains of western North Carolina, Shawn Swartz, a tall, sandy haired young father of two, lifts a chainsaw and makes a final cut along the back edge of a 150-foot high yellow poplar. He's already cut out a fan-shaped face notch from the opposite side of the trunk. Tall and ramrod straight, the poplar has been growing on this mountain flank for over 60 years, a pioneer forest species that re-inhabited the abandoned fields of corn, wheat, barley, and melons when small farmers fled the region during the Depression. Shawn knows just when to slip out his chainsaw and step back. With a barely audible creak, the overhead canopy begins to vibrate and wobble. Then comes the sickening sound of tearing, ripping wood, and the 12-story giant sways, and in near-slow motion, topples and then falls to earth with a thundering crash.

The founders of Earthaven Ecovillage purchased this 320 acres of mountain forest with the idea of creating a village-scale community of about 150 people. Their permaculture-based site plan calls for preserving and improving perpetual forest stands on most of their land, but clearing

homesites (for passive solar gain, solar panels, and gardens) and about 40 acres of flatter arable land for future agriculture use.

When they bought the property in 1994, a mixed hardwood forest covered everything but a single dirt road and an ancient log cabin. Today, nine years later, is the beginnings of a real village. On a south-facing hillside in the center of the property is the Hut Hamlet, with tiny earth-plastered dwellings and a three-story residence, each with green metal roofs and lime washed in shades of peach and pink. The buildings are surrounded by small gardens, solar panels, young fruit trees, and the occasional chicken coop or rabbit hutch. Nearby are a strawbale kitchen/dining room/bathhouse, a composting toilet building, and the gravel beds and ponds of a small constructed wetlands. Below is a children's play area and a green meadow where one family pastures a cow, milk goats, and a flock of chickens. The background music of babbling brooks and bird song is punctuated by the sounds of children playing, clucking chickens, the hammering and sawing of construction, and the frequent high-pitched whine of a bandsaw in the nearby lumberyard.

Other centers of village life are across the creeks or down shady footpaths.

- Earthaven's round timber-framed Council Hall, with strawbale walls finished in earthen plaster and lime washed in peach.
- o The Trading Post community store, offering snacks and camping supplies.
- o The White Owl Lodge, a member's cafe which doubles as a morning yoga and meditation space and an evening coffeehouse, with living quarters upstairs.
- Village Terraces, a three-story, 4300-sq.-ft. multi-family dwelling now under construction, with apartments, business bays, and common kitchen and bath facilities.

- Benchmark neighborhood, with its start-up permaculture plant nursery and Bellavia, its two-story community building which houses a small apartment, an artist's studio and living space, and offices of the *Permaculture Activist*.
- o The A&A House, a 5,000-sq.-ft., three-story residence made of recycled fruit-juice pallets, with an extended family's living quarters, overnight accommodations for guests, classroom space, a crafts workshop, and the Earthaven library.

Further along the gravel roads radiating from the village center are nine other neighborhoods with a few completed homes and some under construction, including one site with a rent-by-the-hour carpentry workshop and a tool-rental business.

Right Livelihood is a huge issue here, hence the attempt by community members to provide shelter, food, utilities, and other village services, and to come up with ways of earning a living on the land, whether through renting power tools, publishing a magazine, giving workshops, or selling eggs, snacks, or nursery plants. One goal of an aspiring ecovillage is that no one drives off-site to earn a living, but people live and work in the ecovillage in a way that, as the Gilmans' definition suggests, "contributes to healthy human development," "is harmlessly integrated into the natural environment," and "can be successfully continued into the indefinite future."

Making a Living on the Land

At the heart of the community's developing infrastructure and evolving village economy is Earthaven Forestry and Building Company (Forestry Co-op or FC). Founded in 1998 by Shawn and four others, the Forestry Co-op is a worker-owned business that uses sustainable logging practices to clear homesites and future agricultural sites and designs and builds passive solar homes of wood from the land. Ten to twelve community members (the number varies over time) are worker-owners. Their average age is 30. Shawn heads up the forestry products division—logging and milling. Co-founder Chris Farmer (known as "Farmer"), a young man with long blond hair and an intense gaze, is an experienced directional tree feller, building designer, and lead

carpenter who manages the building division. The co-op offers services to the community that it would otherwise have to accomplish through community work days or by paying commercial loggers, and services which individual community members would otherwise have to do themselves or pay outsiders to. And the Forestry Co-op does this while following the community's agreements to keep biomass on the land and use it for building materials wherever possible.

This worker-owned business is one of the highlights of the community's Saturday tour. Earthaven tour guides show off the Co-op's building projects—the Trading Post, Bellavia, Village Terraces, and the show-stopping White Owl Lodge, with its two sweeping narrow wings, rosy earth-plastered walls, and huge cob and mosaic snake curving around three sides of the building.

Forestry Co-op members are also visible in the region as passionate sustainable forestry advocates. They're active in a local organization to stop the building of a chip mill, as well as participating in Western North Carolina Alliance's Forest and Communities Task Force, Southern Appalachian Biodiversity Project, Dogwood Alliance (a sustainable logging organization), Native Forest Network, and Western North Carolina Green Building Council. And they, perhaps more than any other Earthaven members, create and sustain solid relationships with the community's old-time country neighbors, mostly elderly folks with skills to teach about rural Appalachian life, and who can appreciate and support young people learning how to pioneer their own way in this southern mountain forest.

I, too, admire and respect the Forestry Co-op. They're motivated by the long-term vision of an ecovillage raising most of its own food, and inspired by the values of regenerative forestry, beautiful natural buildings of local materials, and right livelihood. And because of them, 10 to 12 community members—approximately one-fifth of the community—don't have to drive somewhere else five days a week just to make ends meet. As veteran community observers know, the more members who stay in the community to make a living, the healthier the community's economic and social fabric and the better its long-term chances of success. So the Forestry Co-op helps fulfill

Earthaven's ecological and economic vision, models and demonstrates several of the community's primary values, and contributes to its financial and social well-being. If there was ever an example of right livelihood in a community setting, this is it.

Yet I worry about them. Is it possible to serve so many masters? Can community members work in a way that reflects their vision and values, benefits others, does no harm to people or the Earth, and still makes a decent living?

The Forestry Co-op's story illuminates what often happens when visionaries with sustainable values meet up with economic realities trying to earn a living in community.

Harmlessly Integrated into the Natural Environment

The Co-op is devoted to sustainable forestry, but logging in this labor-intensive way at such a small scale makes it challenging to be financially viable (*see "Sustainable Forestry Practices*," *pg.* ___), so they needed a value-added product to make a decent profit. And since Earthaven members need homes and buildings, the FC created a vertically integrated business which feeds logs to their sawmill for lumber to be used in natural buildings they design and construct themselves. Cheap logs become more valuable lumber which become even more valuable buildings. And to make this work, and to honor Earthaven's "save it and use it" ethic, the FC has to cut down and use small trees, 8" in diameter and under, which commercial loggers would simply send off to chip and pulp mills.

They began with timber-framed buildings in order to use the least amount of wood the most efficiently, and to avoid using any plywood sheathing for strength. (Most plywood is unsustainably harvested from old-growth forests, and its veneer layers are glued together with toxic glues and resins that outgas formaldehyde.) They also wanted to use natural insulation such as straw-clay or blown-in cellulose, and earthen plasters with clay from the land to finish interior and exterior walls.

So they came up with two timber-frame designs. One, with classic square posts and beams that span rectilinear spaces, they used for the storage barn, the Hut Hamlet's multi-family dwelling, Bellavia, the Trading Post, and Village Terraces. The other, a round-pole timber-frame design with peeled logs for posts and beams for circular or non-rectilinear buildings, they used for the White Owl.

In their lumberyard a gas-powered Woodmizer portable band saw is used to cut logs into various lengths of dimensional lumber (some of which are re-sawn into clapboard) and into thicker timber frame posts and beams. They also process small-dimension logs. Each log is run through the mill four times to remove its outside bark surface, yielding four long slabs with one flat wooden side and one curved, bark-covered side. Commercial lumberyards consider these "waste wood" and burn them. Community members use the slab wood as firewood to heat various small homes throughout the village. "Flitches," slender boards with bark on both edges, " are the next boards cut from the log. But Farmer realized that the small-dimension logs and flitches could be milled into at least one or two 1x3s or 1x6s. While these dimensions can't be used as structural building members, he designed an innovative wall-truss system that uses 1x3s and 1x6s to create non-load bearing, 10-inch thick wall cavities. When wrapped around the outside of timber frame posts, these wall truss cavities provide a space in which to stuff enough natural insulation for R-28 walls, as well as providing flat interior and exterior wall surfaces for plastering, and external weather protection for the posts. (And the beautiful posts and beams aren't buried in the walls, but remain visible from inside the building.)

Moreover, the FC takes rough-sawn boards to a local mill to be planed and tongue-and-grooved into planks for ceilings and floors, yielding long thin strips removed from each edge. Most lumberyards burn these; the FC sorts this rip-saw waste into lath strips to anchor earth-plaster onto walls.

In the future the FC plans to chip up their waste wood to create "chip-slip," another kind of natural wall infill in which the chips are coated in clay slip and stuffed in 10" wall cavities for insulation-plus-thermal mass, just like clay-straw infill.

Because Earthaven supplements its spring water with roof water catchment, they needed roofing material with a relatively clean surface and large overhangs to protect the vulnerable earthen materials from weather—so the FC tops off their buildings with metal roofs with extrawide eaves.

"These buildings will last for a very long time," says Farmer, "but they're so natural that if you tore the roofs off, most of their materials would literally rot right back into the ground from which they came."

Supporting "Healthy Human Development"?

It's obvious the Forestry Co-op lives up to its values and is environmentally sustainable. But right livelihood requires financial sustainability as well. In their first five years, because the company has focused on keeping its buildings and forest products affordable to community members, it hasn't made sufficient profit to raise the wages to match the increasing experience and responsibility of its longer-term members, and upgrade its sawmill equipment, without outside loans. And while the situation is now improving, the FC has had its share of financial challenges.

Part II (Spring '04 issue), will examine the group's specific financial challenges—which are commonl in vision-driven community businesses—and how they're resolving them.

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