

# CCAT

## Campus Center for Appropriate Technology Self-Guided Tour

### What is CCAT?

HSU's Campus Center for Appropriate Technology (CCAT) is an internationally recognized demonstration home and educational center for sustainable living.

CCAT began in 1978 when a few students, with the support of HSU faculty and the community, remodeled a dilapidated campus house and began an experiment that continues to this day.

Each generation of students has added new appropriate technologies to this living laboratory in sustainability. As a result of their work, CCAT produces almost no waste and uses less than 5% of the energy consumed by the average American house.

CCAT has always been led, staffed, and funded by students. Three student co-directors are appointed to staggered one-year terms by a steering committee composed of HSU faculty, staff, community members, and past co-directors. With the support of twelve part-time student employees and droves of volunteers, the live-in co-directors facilitate the operations and development of the center.

CCAT has helped hundreds of students to develop the technical and interpersonal skills necessary to implement social and environmental change. We celebrate the resourcefulness and creativity of people who are finding solutions to human and environmental problems.

*"Mighty things from small beginnings grow." -John Dryden.*

### Our Mission

The mission of CCAT is to demonstrate appropriate technology in a residential setting, to provide hands-on experiential learning opportunities to HSU and the surrounding community of Arcata, to collect and disseminate information about appropriate technology, to examine the ethical and social consequences of technology, and to dispel the myth that living lightly on the earth is difficult or burdensome.

### Get involved at CCAT!

CCAT is open 9-5 Monday through Friday. You can stop by and ask questions anytime during those hours. We welcome you to get involved in a variety of ways:

- **Tours:** Call CCAT to arrange a free guided tour.
- **Workshops:** Weekly workshops on topics ranging from soap making to straw bale construction are generally free and are open to everyone.
- **Workdays:** Fridays from noon to 5 pm volunteers come to help make CCAT look beautiful and to work on exciting projects. You're invited!

- **Potlucks:** Every month we welcome everyone to share a meal at CCAT. It's a great way to meet nice people and find out what's going on at the house.
- **Courses:** You can get HSU credit by enrolling in classes taught at CCAT. We offer a weekly herbalism course and a community gardening course every semester. In the fall, we offer a 5-week docent-training course and a weekend course on teaching AT concepts to children.
- **Relax:** The CCAT grounds are a beautiful place to eat your lunch on a sunny day. Enjoy!

### **Appropriate Technology**

Appropriate Technologies provide for human needs while preserving and/or restoring the environment and community.

When deciding whether a technology is appropriate, it is useful to ask these questions:

- Does it conserve natural resources?
- Are its products and by-products environmentally benign?
- Is it harmonious with local environmental conditions (e.g. climate, topography, etc.)?
- Does it meet the needs of the majority, not a small minority, of the community?
- Is it ownable, controllable, operable and maintainable within the community it serves?
- Does it enhance the skills and dignity of those who use it?
- Is it economically viable?

As you walk through the center, you can use these questions to formulate your own opinions about the appropriateness of CCAT technologies.

*“A price has to be paid for anything worthwhile: to redirect technology so that it serves man instead of destroying him requires primarily an effort of the imagination and an abandonment of fear.” -E.F. Schumacher*

### **Our Thanks**

We give our deepest thanks to the university faculty and staff who help to provide a home for our organization on the HSU campus, to all of our outstanding volunteers who help develop and achieve the high goals of our center, and to the community for its overwhelming enthusiasm toward the principles we aim to demonstrate.

### **CCAT**

Located among the redwoods of the Pacific Northwest in Arcata, CA.

Phone: (707) 826-3551

e-mail: [ccat@humboldt.edu](mailto:ccat@humboldt.edu)

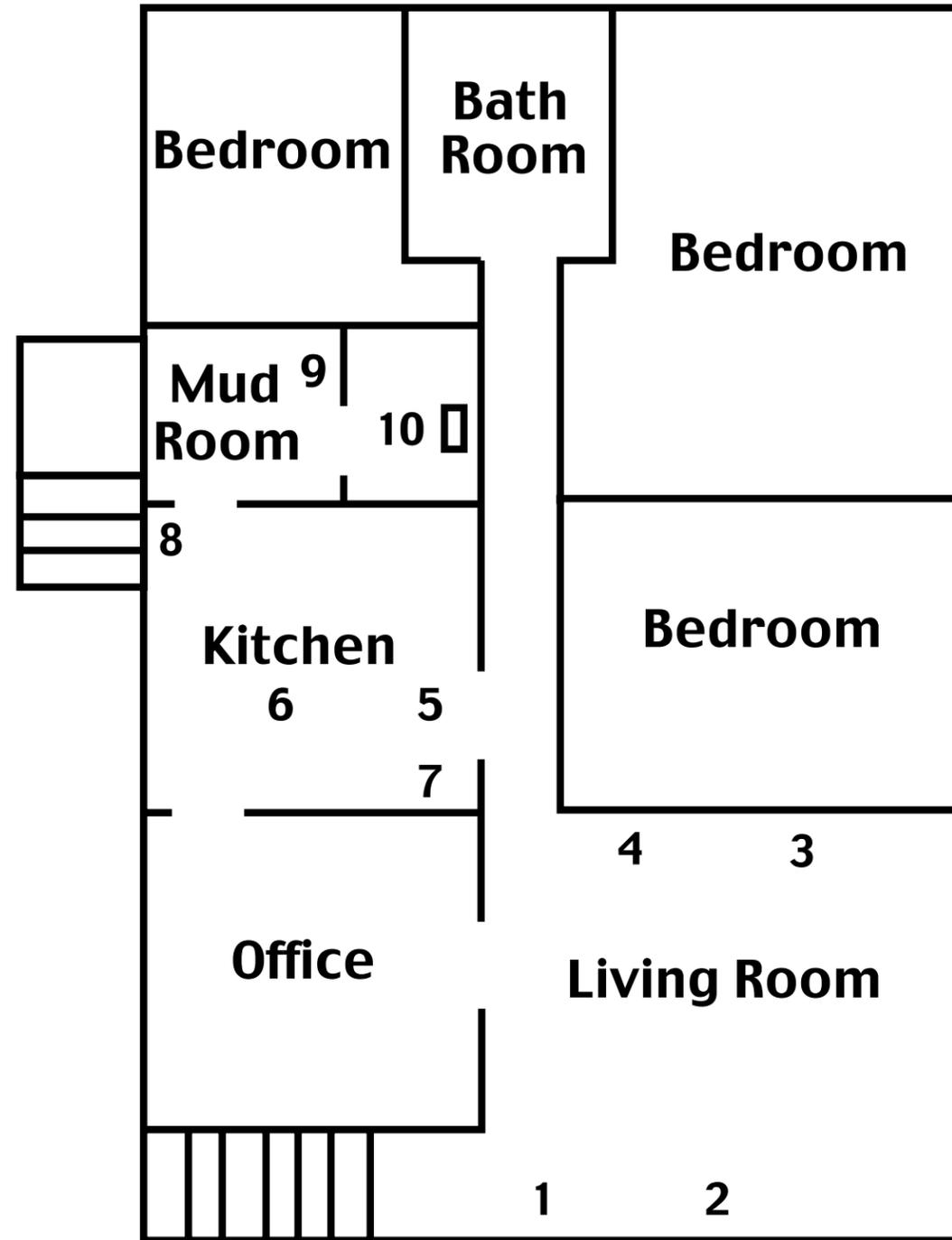
website: [www.humboldt.edu/~ccat](http://www.humboldt.edu/~ccat)

The Main Floor

Main Floor

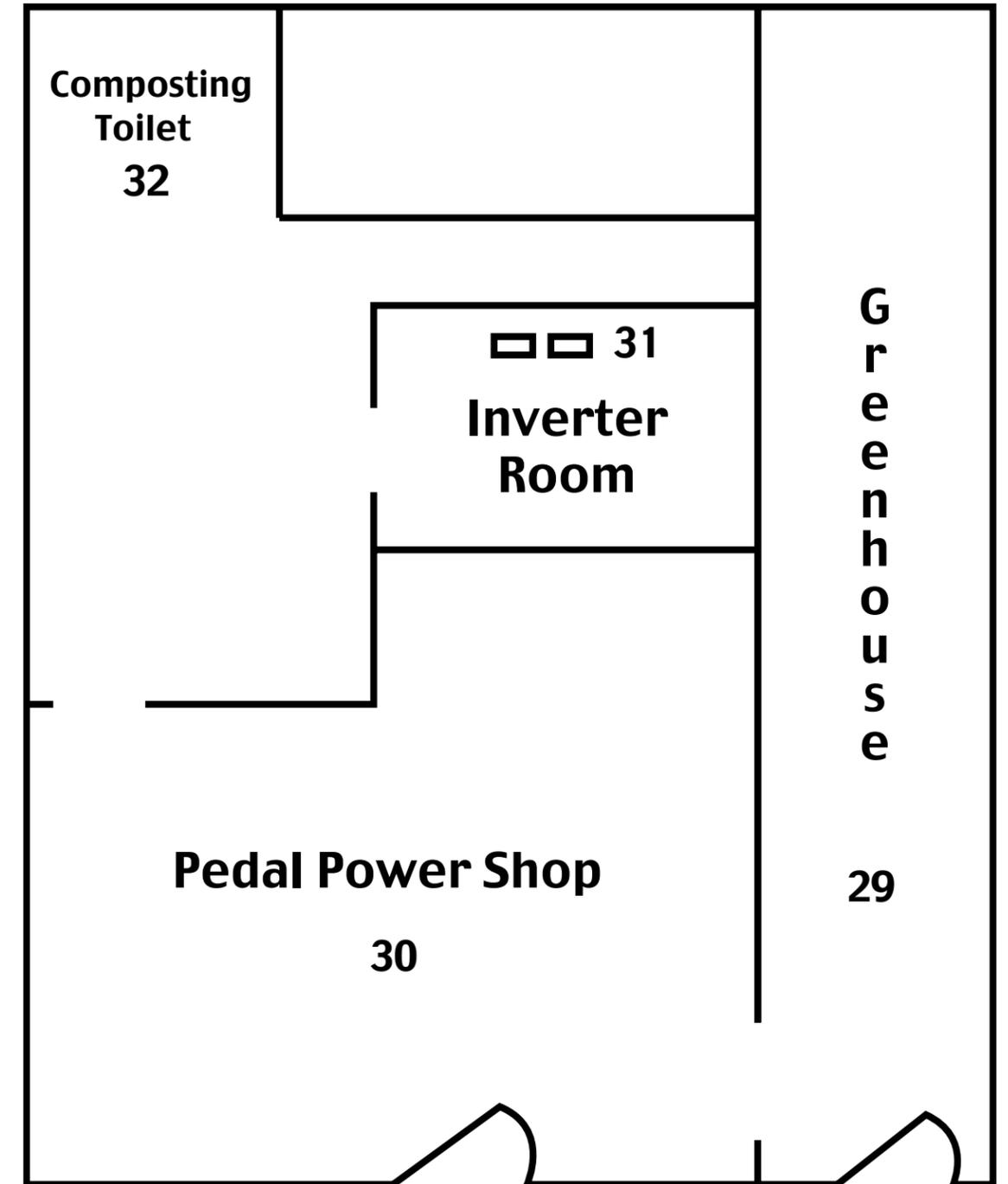
Bottom Floor

- 1) A cut away view of the wall displays fiberglass batting and blown-in cellulose (recycled, ground up newspaper). These insulators will keep in about ten times more heat than no insulation.
- 2) Simple to make thermal curtains filled with two layers of quilt batting and a central layer of mylar (a material that reflects heat back into the home) are held snug against the wall with wooden flaps on cool nights. Thermal curtains are eight times more insulative than uncovered single pane windows.
- 3) The library consists of a wide selection of books, magazines, newsletters, and file information. You are invited to check out items from the library for two weeks.
- 4) The wood-burning stove contains heat-storing fire bricks that create a cleaner, more efficient burn. A series of baffles in the upper portion of the stove prevent larger, not fully burned particles from exiting through the chimney.
- 5) The durable kitchen floor is made of bamboo and is coated with non-toxic aluminum oxide.
- 6) The Solatube mirrored skylight provides brilliant lighting for free.
- 7) Pots of food heated on the stove can be kept hot and will continue to cook in the insulated hot box.
- 8) The insulated cold cabinet is open in the back to the cool north side of the house. Cool air constantly flows into the cabinet and is drawn up through the chimney (painted black) to the outside. It is an effective refrigerator from October to May.
- 9) With the heat-producing condenser on top and thick insulation, the Sunfrost refrigerator uses 10% of the energy consumed by its conventional counterparts.
- 10) When water passes through the flash heater, the natural gas variable burner turns on only when it is necessary to further heat the water. Flash heaters save up to 50% of the fuel burned by tank heaters. When combined with solar hot water panels, they save even more fuel.



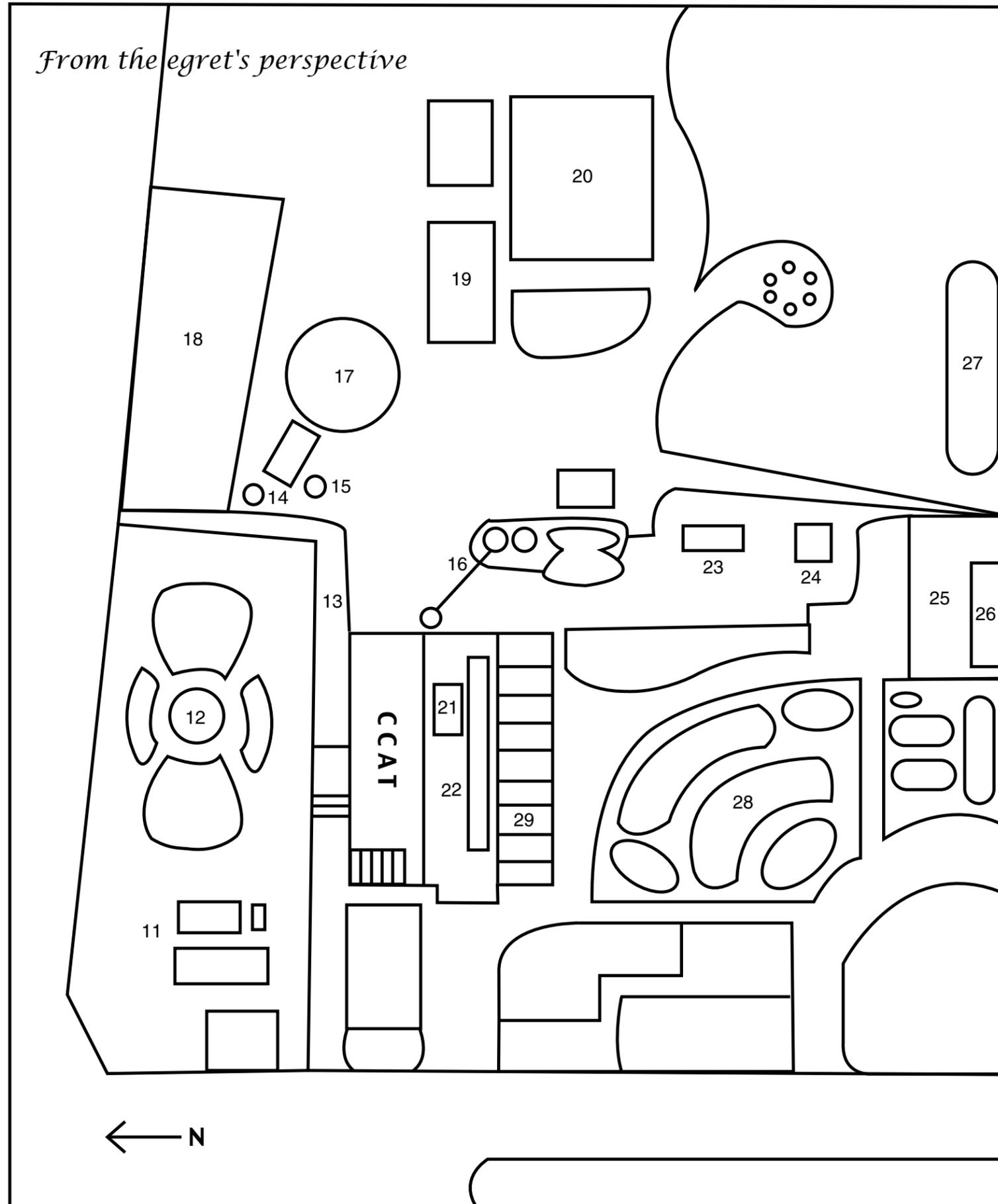
The Bottom Floor

- 29) The greenhouse provides passive solar heating for the home as well as garden space for warm weather crops. The rock wall, brick floor, and water tube store heat during the day and release it at night.
- 30) Our workshop showcases a variety of pedal-powered appliances such as a drill press and a blender.



- 31) The power produced by CCAT's solar panels is turned into useable electricity by these inverters.
- 32) The composting toilet produces a pasteurized soil amendment for the gardens and saves water by eliminating the need to flush.

# CCAT's House and Grounds



## The Grounds

- 11) Sink and shower water is treated in the greywater marsh. After preliminary filtering in a tank, the water flows through a series of baffles and marsh reeds where microorganisms feed on its excess nutrients and organic matter. The clear water emerging from the five-day marsh journey is pumped onto the herb garden.
- 12) The herb garden contains over 100 species of plants. Many are harvested and crafted into products such as teas, salves, and tinctures in classes and workshops.
- 13) The wheelchair accessible pathway is made of 50% waste wood and 50% recycled plastic.
- 14) Installed on our tower is a wind turbine. Wind has become the world's fastest growing power source, increasing some 30% annually since 1996.
- 15) The parabolic shape of the solar cookers allows the sun's rays to be reflected towards one point. This point becomes hot enough to bake, boil, or fry food.
- 16) Rainwater collected from CCAT's roof is stored in these cisterns for later use in the vegetable gardens.
- 17) The yurt is a traditional Mongolian-style structure. In the evening, people illuminate the interior of the yurt with light emitting diodes (LED's). LED's use 10% of the power consumed by incandescent bulbs and last over thirty years.
- 18) The compost demonstration site displays several compost systems. Composting your yard waste and food scraps is a great way to reduce waste and make soil for your garden.
- 19) Over 80 species of native plants reside at CCAT. Adapted to local conditions, native plants need little to no maintenance or watering and provide habitat for wildlife.
- 20) One of our structures is built with an agricultural waste product: rice straw. Straw bale structures are more fire resistant and are up to four times better insulated than standard homes.
- 21) A solar water heater is the simplest and most cost-effective solar appliance. A non-toxic anti-freeze circulating in a collector on the roof absorbs solar radiation and heats a water tank.
- 22) CCAT's Solar electric panels produce up to ten times more power than the house uses daily. Excess electricity goes to the power lines. Solar electric panels pay for themselves in 15 years and produce free electricity for at least 65 more.
- 23) Our couch is made of a mixture of sand, clay, and straw called cob. Cob's ingredients are mixed with water to form a sculpting material that is easy to shape into self-supporting structures.
- 24) When the sun heats water inside the panel nearby, the co-directors can enjoy a hot solar shower.
- 25) Bamboo, stronger than steel in some respects, is the material used to frame the shed.
- 26) The industrial worm composters turn up to 200 pounds of HSU's food waste into a high value soil amendment daily.
- 27) CCAT is growing its own building material in the bamboo grove. Rapidly renewable, bamboo grows to structural stability in as few as three years.
- 28) Terracing, crop rotation, cover cropping, and a bounty of rich compost allow the vegetable gardens to grow vigorously without the use of synthetic pesticides or fertilizers.