



Rural Training Center-Thailand

2008 Fall Farm Update 3

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Community-based environmental education for the self-sufficiency and sustainability of small rural family farms

Fall Rainwater Harvesting Projects Completed

The rice harvest also marked the end of the Fall rainwater harvesting projects. Labor is in short supply during harvest season. Many people are busy getting in their own crops. They don't have time to take on extra work. So we ended our rainwater harvesting projects for the season with 5 out of 7 planned rainwater projects were started and completed. We now have gutters installed on 2 more buildings and 5 new water tanks on the farm. The remaining projects will be completed before the next rainy season.



New gutters and the new water tank at the new cow shed make good use of the roof to harvest rainwater..

Total water tank storage capacity was increased 120% from 16,891 L / 4,462 gal to 37,175 L / 9,821 gal. The long range plan is to build solar water distillation units to purify the harvested rainwater for human consumption. Overflow from the tanks go to fish ponds or to a nearby field if the ponds are full.🌐



New gutters and water tanks at the farmhouse



New water tanks at the second pig shed (gutters to be installed before the next rainy season.

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Mosquito Prevention

More and more Southeast Asian people are harvesting rainwater. They make ponds and storage tanks. Standing water is an open invitation for mosquitoes to lay eggs and start the next generation. Regional public health agencies have reported increasing cases of mosquito-borne diseases (e.g. malaria, dengue fever, etc.).

We installed window screens on the newly built water tanks to keep mosquitoes out. Within a minute of putting the screening on this tank, a mosquito showed up looking for a nursery. We plan to have permanent covers installed on all the tanks. Due to the rice harvest, many of the worker's to do this work are not available.

Excluding mosquitoes from open ponds and rice paddies is impossible. But stocking ponds with fish that eat mosquito larvae is easy to do. Our rice paddies are also good habitat for frogs, smaller "mosquito fish", and insect predators that eat mosquitoes. Our "No pesticide" policy helps keep the dragonfly squadrons patrolling our fish ponds and fields. 🌐



Mosquito exclusion screening is installed



And not a minute too soon. A mosquito finds no way to water.



Just two of the many different dragonflies seen on patrol around the fish ponds and fields of our farm.

Power Line Survey



A temporary power line pole (left) and the solar panel (right) near the farmhouse provide electric service for the demonstration farm.



Most poles have termite problems but were found solid enough for service.



Some drier stretches along the alignment have potential fire hazards.

We completed an inspection of the temporary power line to the farm. The Thai government's rural electrification plan sought to provide service to all Thai villages.

But our farm is just beyond the boundaries of the village area serviced by the power grid. We had a small demonstration solar PV (photo voltaic) system installed at the farm from a Thai government program. This unit provides power for 2 small florescent lights in the farmhouse.

We inspected the 43 temporary wooden poles to assure the power line is safe to use. The inspection documented the verticality of the pole, condition of the pole, and the condition of the line and insulators.

The alignment follows dirt roads for about $\frac{1}{2}$ of its nearly 1.5 km length. The other half goes along property lines of other farm plots. We were able to get permission from these farmers to put the poles on their land. In return, we provide some labor to clear the brush along the route, especially in grass and brush areas that pose a fire hazard during the dry season. This is an example of mutual respect, mutual benefit in action. 🌱



Getting Real On-farm Weather (GROW) is an RTC-TH program to train people in making basic weather observations. Weather is an important part of farm life. It is critical to the self-sufficiency and sustainability of small rural family farms.

When His Majesty (the King of Thailand) traveled throughout the kingdom and spoke with local farmers, water supply became a common topic. Rice is an important staple subsistence crop in the poorer parts of Thailand. Rice is also a major export crop of the nation. Thailand is the leading rice exporter in the world.

The basic water supply for a family farm is predicated on growing the annual rice supply. In northern Thailand, about 90% of the water supply comes during the SW monsoon season (May – Oct). The monsoon rains are the key water source. But they are also the source of energy for soil erosion, landslides, flash floods, and other negative environmental conditions.

Equipment for the RTC-TH GROW program tends to be no-tech / low-tech. This conforms to the local economy and keeps equipment within reach of the small rural farm family. The RTC-TH weather station will be set up and operated to “calibrate” the no-tech / low-tech equipment. The primary aim of GROW is to get farmers to systematically observe, record, and use weather data affecting their farms.

An array of RTC-TH sophisticated weather equipment

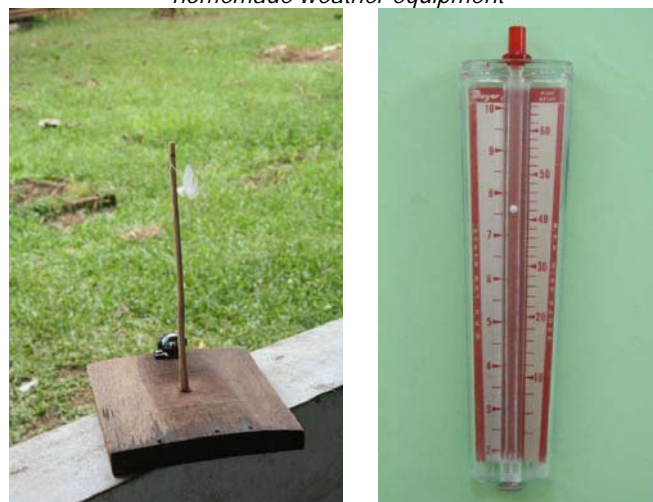


Kestrel 4500 pocket weather station, Davis weather station, Strike Alert Lightning detector

A Kestrel 4500 pocket weather station can be fitted with a wind vane to get wind direction data.



An array of no-tech / low-tech homemade weather equipment



Wind direction indicator

Dwyer wind meter

Rain gauge made using commonly available PVC pipe

Planning for the Dry Season Crops

Water and soil are the basic factors in planning the dry season crops. The Dry season is just that...minimal rainfall is available. Climatic data indicates an average of 16.28 mm of rainfall. So crops selected for planting should either be able to survive with this or be irrigated.

We have a limited amount of irrigation water available during the dry season. But we plan to do major repairs on a fish pond. When this happens, we usually need to drain the pond. So with careful planning, we can schedule to drain the pond at such a rate as to provide irrigation to the rice paddies used for dry season crops.

Our choices were to support OFF (On-farm Fish Food), soil enrichment for the next rice crop, and expanding the variety of vegetables for the family. Everyone can suggest what to plant. This is one way to get diversity in the garden. It follows our motto of "grow what we eat, eat what we grow."



Everyone gets involved in picking to grow what they like to eat. This also gives us a diverse planting list.



Draining a fish pond for major repairs gives us an optional source for irrigation water in the dry season.



Making compost in advance assures our supply.



Mulching helps control weeds and soil moisture loss.

When Are You Self-Sufficient?



The New Theory and the Sufficiency Economy

A call for moderation and self-sufficiency in times of economic chaos sets Thailand apart from many western nations and economic models.



A Major Benchmark: Having enough rice for a year.

farm chemicals, seed, and energy costs. Reducing these expenses by using organic alternatives (e.g. compost, EM bacteria, mulching, no-till methods, etc.) help farm families conserve cash. This can be a big step toward another major benchmark: debt repayment. Once they are debt free, they are well on the road to building a cash reserve. In a capitalist economy, you only have as much freedom as you can afford. When poor farm families build their savings, they can afford to have more choices. This is true freedom of choice. And that will be a major improvement in their quality of life. 🌐



Other Major Benchmarks: No debts and ample cash reserve to afford free choices.