



# RTC-TH Sep 2013 Update

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

ชุมชนตามสิ่งแวดล้อมศึกษาเพื่อการพึ่งตัวเองและยั่งยืนบนขนาดเล็กรอบครัวฟาร์ม

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## It Seems We've Got It Right

The Bank of Agriculture and Agricultural Co-operatives (BAAC, aka Tor Kor Sor) Tree Bank Program gives debt burdened farmers a way out. The program is based on the King's Theory of the sufficiency economy. At the heart of it is the idea to plant trees and plants for family consumption and long-term financial return. This also helps the environment. The Tree Bank Program was launched in 2006. It is reputed to be the first bank in the world to accept trees as collateral for



*Our teak trees on the upper terraces of our farm*

loans.

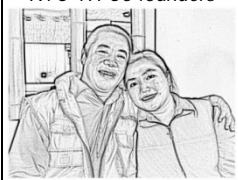
The program promotes growing local tree varieties. It does not include trees used by other private promotions (i.e. rubber, fruit or other fast-growing trees). Good candidates are trees that are hard to find in what remains of Thailand's natural forests: teak, makha mong (Afzelia siamica), makham pom (Malacca trees), mahogany, Upas, and Burmese ebony.

Since many of these trees take 20 years to mature, this can be seen as a form of retirement investment. It is estimated a teak tree could be worth 1000 baht when mature. Most farmers don't have any retirement plan. So planting trees in a long-term commitment. The farmers cannot abandon growing food crops to get rich growing trees. A rough rule of thumb is to plant 100 trees to match a 100,000 baht debt.

The program favors groups of farmers in an area. The idea is to form a cooperative that will also harvest, mill, and sell the lumber. This means harvesting the timber with a value added component. The program is wholly consistent with the second phase of the King's Theory.

More publicity about this program made the news recently. The news reports

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contained case histories of bankrupt farmers now earning annual incomes of a few hundred thousand baht. They have managed to turn their lives around.

BAAC is contemplating a new deposit program to support re-forestation and tree planting activities. The idea is to encourage private companies, individuals, and state enterprises to make deposits in the program. Interest earned goes to supporting Tree Bank activities. Depositors can specify where they would like the trees planted. There is talk the project could be monitored on Google Earth. It is hoped BAAC can petition the Thai tax authorities to grant exemptions for contributors.

The World Bank and the UN expressed interest in a new project involving the Tree Bank. Hundreds of villages surrounding the Thung Yai Naresuan wildlife sanctuary. The idea is for villagers to plant trees as a buffer zone around the wildlife refuge.

We are encouraged by all this news. If a major Thai bank program embraces and implements the King's Theory, we are more convinced (if we needed convincing) that we were on the right track.

Following the King's teachings, plants are put into 3 categories: fast-growing / everyday use; fruits and vegetables for consumption; and trees for long-term investment. Here's how our farm stacks up (see table below, right). As you can see, we firmly believe in the slogan, "grow what you eat, eat what you grow."

On the farm, we continue our rainy season tree planting. The family likes durian, so we planted several trees in the dry land rice area. The trick was to find open spaces for the saplings.

Everyday use	Neem, bamboo
Consumption	Longan, Papaya, Dragon Fruit, Jack Fruit, Rose Apple, Wood Apple, Banana, Papaya, Rambutan, Guava, Mango, Mangosteen, Avocado, Giant passion fruit, Passion fruit, Thai chestnut, Coconut, Cauliflower, Pumpkin, Rice, Water morning glory, Breadfruit, Ginger, Ton care, Durian, Tea, Orange, Lemon, Kaffir Lime, Lime, Stor, Cabbage, Thai egg plant, Tomato, Pak Care, Bai Toey, Pake good, Chili, Pineapple, Star Apple, Star Fruit, Sour Sap, Grape, Mayong Chit, Cilantro, assorted Thai herbs.
Long-term:	Teak,



## ***Our Tea Efforts Expand***

Mom has been busy harvesting tea leaves on the farm. Burning wood from trees pruned in our orchards, she steams the leaves to prepare them for pickling. Once steamed, mom brings the leaves home to continue the process.



*Steamed tea leaves ready for pickling.*



*Mom adds water to a bag of steamed tea leaves.*



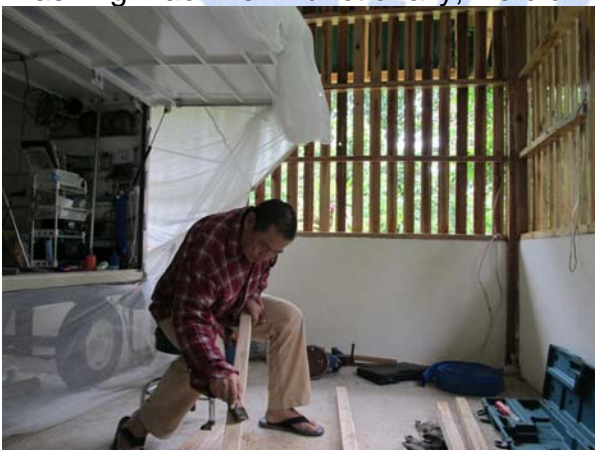
*Pi Jodd adds coarse salt to the steamed tea leaves.*



*Mom seals the bag to start the pickling process.*

Initially she had only 4-5 small 5 liter buckets set up for pickling tea leaves. This year's harvest is so bountiful she ran out of room in the kitchen. We made shelving units so she could stack her pickling buckets.

The new shelves hold 19 of her 23 smaller buckets and 3 new 15 liter buckets. Luckily the shelves fit into free floor space around the main kitchen table and washing machine. Functionally, we didn't lose any kitchen floor space. 🌐



*Doing more wood work in the carport.*



*Mom with her tea pickling buckets on the new shelves*

## ***Integrated Urban Agriculture***

To many the phrase “urban agriculture” may seem oxymoronic or at least counter-intuitive. Cities and farms don’t seem to go together. But Pi Oi shows how it can be done. In the back corner of our business property in town, she converted 3 small fish tanks to raise rice and frogs. This integrated system is an experiment in sustainable urban agriculture.



In this integrated system, the frogs have a more natural habitat. Pi Oi used both natural food (e.g. crawling, flying and aquatic insects) supplemented with commercial feed. Wastes from the frogs fertilize the water and the rice. Various insects are



attracted to the water and rice as part of their habitat and reproductive cycle. So the nutrients are recycled in the paddy / ponds. Some small fish help the frogs control the mosquito population. This natural system reduces labor and eliminates the bad odor found in other frog raising efforts which tend to use concrete tanks. 🌱



## Commercial vs. Subsistence Farming



Rubber farmers (top 3 photos) and rice farmers (bottom 3 photos) hit the streets in protest. Rubber farmers want government guaranteed prices for their crop. Rice farmers objected to government plans to reduce the existing guaranteed rice prices. The irony of these protests point out why we avoid commercial agriculture.



It seems many want a free market when it goes in their favor. When the market reverses, they want to be protected. The market goes up and down like a yo-yo. We avoid the volatility of commodities markets by growing what we eat and eating what we grow. As with many things in life, big risks can bring big rewards. We like the middle path; minimum or moderate risk for a less stressful life.



We don't know how significant the easy credit policies for these farmers. Thai government reports abound with concerns that consumer debt equals 78% of the Thai GDP. Banks are growing more wary of car and home loans. They are worried about rising loan defaults as the Thai economy slips into recession. The RTC-TH believes in avoiding debt, minimizing off-farm expenses, striving for self-sufficiency and sustainability of small rural family farms. This moves us in the opposite direction of commercial agriculture, monoculture, and commodities markets. 🌱

## RTC-TH C-bE 2013 Revisions

Community-based Education (C-bE) is the foundation of the Rural Training Center-Thailand programs. We last revised these materials in 2011. As the world changes, we must change and adapt. The Asian Economic Community (AEC) is scheduled for implementation in 2015. The Thai education system is under pressure to better prepare graduates for the AEC.

News reports from numerous sources contain surveys of English language proficiency among the AEC members. Thailand ranks low on the scale. Some member nations (e.g. Malaysia, Singapore, and Myanmar) were former British colonies and have an edge. Others (e.g. Philippines, Indonesia, and Vietnam) had extensive exposure to English via the Americans. Of course, international aviation and the pervasiveness of American media make English the international language of science / technology and business / commerce.



*We replaced the old cover (left) with the updated C-bE logo to quickly differentiate the 2013 edition.*



*Greg working at the "Klunkworks" computer used to prepare RTC-TH photos and lessons.*

The major changes in the 2013 edition of the C-bE trilogy involve efforts to unify and to cross-reference the many sections of the three documents. We added some new sections to the Basic Study Skills relevant to English language learning.

The bulk of the RTC-TH English language training materials are in the C-bEEP (Community-based English Education Program; announced in the RTC-TH Aug Update #2 report). We are going through our Thai contacts to make them aware of our efforts. We don't know if our efforts will make a difference. We certainly hope so.

In the digital world, traditional copyright protection is like a mist. The concept of the law enshrouds you. But it is sometimes intangible. It is clear that without a big budget, enforcing your legal rights cannot be realized (especially internationally). We chose to put our limited funds to more constructive use. We keep our focus on making progress. The true value of information is more fully realized when it is shared. We make our lessons and materials free for individual, educational, and non-commercial use. We only ask acknowledgement and constructive criticism. 🌐

## ***Pruning: After the Harvest***

Our long an harvest is done. Now we started pruning the orchard to prepare for the next season. The trees are pruned to open up the center of the tree. The branches pruned are about 2.5-5.0 cm in diameter. Pruning gives us two direct outputs: leaves for composting the orchard and firewood for the farm's stove. The indirect output will be next year's long an harvest.

Inter-cropping is another strategy we use to assure the orchard's productivity.



Our inter-cropping efforts are mostly in the West orchard. Here we planted tea, lemon, rambutan, dragon fruit, and bananas among the longan trees. Making a diverse orchard helps to reinforce the natural bio-diversity of the forest adjacent to our farm. Our hope is to reinforce our support for local pollinators. The key longan pollinators are 2 native Thai stingless bees and at least one kind of ant. 🐝

## ***Farm Fre\$h Fi\$h***



To reduce the fish population in the West fishpond, we decided to earn some cash by letting fisherman on the farm. They were charged a flat fee of 1000THB and allowed to fish for the day. It was an all you can catch arrangement. When you consider the fishing fee is the equivalent of 3 days pay, it seems steep. But some people know they have an opportunity to catch farm fresh fish. Better yet, the catfish in the West fishpond are huge! Some of them have grown so large their mouths are about 10 cm across!

The pond has a mix of Tilapia and 3 varieties of catfish (2 smaller varieties and 1 large type). Some fisherman got a real treat. Three large catfish were caught. They put up a terrific fight. These larger catfish were about 45 cm long! On the other hand, we netted 6000 THB for the day.



## ***Emergency Fish Pond Aeration***



Several consecutive days of heavy overcast skies created a problem in the Central fishpond. Fish were dying due to low levels of dissolved oxygen in the water. We collected the dead fish to make EM bacteria for the farm.

We set up a submersible pump to aerate the water. After a day and a half of operation, we could see the fish were no longer in distress. There were no more dying fish. Our emergency pond aeration worked. 🌐



## ***Na Fa Station Ground System Bonded***

We moved another step closer to getting the Ban Na Fa ham radio station on the air. Cousin Jack showed up and completed the exothermic bonding of the station ground system.

There are 5 ground rods in the system. They form a “V” with the apex near the base of the tip up mast. One arm of the “V” is the station ground rod near the ground bus panel with the antenna lightning arresters. A heavy copper cable was brazed to each ground rod, the station ground bus panel. A flexible copper cable attaches to the base of the tip up mast. 🌐



*Cousin Jack attaches a stainless steel plate to attach the copper ground cable to the steel mast.*

## Road to Hamfest India 2013



Gwalior, Sep 21-22 will be the place and time of Hamfest India (HFI). This is the biggest amateur radio conference in India. What makes this event special for us is the chance to present some new ideas to Indian hams for GECCO (Grassroots Emergency Communications Operations) and nurturing the next generation of emergency communicators.

Basappa Arabole (VU2NXM), a well-known ham in India agreed to collaborate with us to create a slide presentation for

HFI. During the early monsoon disaster that struck Uttarakhand, India, Basappa made a statement about Indian villagers using CB radios for emergency communications. We integrated his ideas with our GECCO and Next Gen Emcomm concepts for remote area residents. Underlying these ideas were elements to improve rural education by introducing emcomm in the classroom and as community service projects.



VU2NXM Basappa



HS0ZHM Greg



Targeting remote rural villagers made it easy for Basappa to adapt our RTC-TH programs to India. He definitely sees the need. The use of non-radio ground-to-air signals is a good first step. It is low cost, low tech, and is easy for impoverished rural villagers to implement.

When conducting ham training classes, Basappa included non-radio emergency communication methods. Now, he has the

collaborative presentation for HamFest India 2013 at his disposal.

The road to HFI 2013 began with an RTC-TH unsolicited paper to Jayant Bhide (VU2JAU), the National Coordinator for Disaster Communications in India. He responded requesting permission to publish the paper in the HFI 2013 program. Jayant felt Indian hams needed to see the paper and consider its implications.

We relayed news of Jayu's interest. Then more layers of the onion peeled away revealing: 1) Basappa was going to attend HF! 2013; 2) both Basappa and Jayant were well-known and respected in India's ham radio circles. We couldn't ask for better company. 🌐FFI: visit [www.hamfestindia2013.com](http://www.hamfestindia2013.com)

## Station Mosquito Net for Sam

The rainy season also means mosquito season. This year, the Thai Ministry of Public Health reported a record number of dengue fever cases (in contrast to the same time last year). We experienced increased mosquito problems in our home in the village. To reduce our risk exposure, we stopped all early morning and evening EchoLink activities.

The original plans for the carport station included bug screening. But project costs and technical difficulties attaching the screen around the teak log rafters, windows, and doors made the task nearly impossible.

The fall back position was either using copious amounts of mosquito repellant or a mosquito net. Other flying insects attracted to Sam's interior lights were unaffected by mosquito repellant. So the mosquito net option seemed more practical.

The initial attempt was to simply hang the mosquito net under the side door. But this limited access to the radios and computers. We then tried to extend the net into Sam's compartment to enclose the equipment, then let part of the net drape over the edge of the deck to the ground. However, wires and cables prevented a proper seal for the net.



*Sam adorned with her modified mosquito net.*



We adapted the mosquito net by cutting one side to fit the opening of Sam's door frame. The door slides into the net and holds it up. Velcro seals the net to Sam's door frame. Small weights hold the hem of the net to the ground. Clips hold the top of the net to the door. Now we are good to go for night ops. 🌐