



# RTC-TH Jan 2014 Update

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

ชุมชนตามสิ่งแวดล้อมศึกษาเพื่อการพึ่งตัวเองและยั่งยืนบนบพขนาดเล็กครอบครัวฟาร์ม

You may post questions / comments to the Discussion area of our website

[www.neighborhoodlink.com/org/rtcth](http://www.neighborhoodlink.com/org/rtcth)

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## Sawadee Pi Mai! Happy New Year!

Making New Year resolutions is a tradition that is a potential set-up for failure. This is especially true if you are overly ambitious, filled with guilt over last year's failure, in denial, made your resolution in the euphoria of a drunken stupor, or any combination of these. We hope none of these apply to us, but we are wary that the first item might be applicable. So here goes with a preview of 2014.



*Predicting the future is like peering down a foggy road*

The key phrase for 2014 is "follow through". We usually are guilty of having too many irons in the fire and pushing things to the back burner. So, on the "follow through" list (in no particular order) are:



**Emergency Preparedness Lesson Series Completion:** This series of 12 lessons began in 2009. To date, 8 lessons were completed and posted to our website [www.neighborhoodlink.com/RTC-TH\\_Tech](http://www.neighborhoodlink.com/RTC-TH_Tech). We got side tracked, and the lessons floods, landslides, disease, and earthquakes have been on the back burner for almost 2 years.



**GECO Planning Your Own Rescue Lesson Series Completion:** These lessons originated from a 2012 draft lesson on scouting emergency helicopter landing zones. We were able to get experienced emergency helicopter folks to review the draft. Based on their feedback, we subdivided the original lesson into 4 modules.



**Community-based Education Curriculum Development paper revision:** This is the last of the core papers on our Community-based Education (C-bE) series. The first 3 papers originated as separate papers along the theme of C-bE. In 2013, we extensively revised them to be an integrated series. This paper is critical to our efforts to upgrade training for rural teachers and parents.

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**EchoLink VHF RF Link Node Set-up:** With our carport ham radio station set up at Ban Na Fa, and the rigging of the VHF antenna, we want to get our Echolink node RF enabled. This will let us use a VHF radio away from the station (e.g. at the farm) to use our EchoLink computer to talk with our friends around the world. [Note: VHF radio is limited to local use only.]



**HF Antenna Set-up:** Although HF band conditions are not the best, we need to get our Emergency Communications (EmComm) capability HF enabled. The missing link is an effective HF antenna. Once the antenna is rigged, we can begin testing and trying to make contacts and get our station fully operational.



**Community-based English Education Program (C-bEEP):** We began this effort last year. Our motivation is to improve English language teaching in Thailand (in general) and for rural teachers (in particular). One particular activity centered on using the word game Scrabble. We got 8 sets donated in late 2013. So this year, we want to put those donations to use and introduce Scrabble to teachers and students in local schools.

Of course, a New Year's resolution isn't about the "old", so at the risk of being overly ambitious, here's some of the big "new items" we hope to complete in 2014.



**Strategy for Small Rural Family Farms:** We want to re-organize, integrate, and modularize our Sustainable Agricultural Practices (SAP) materials to make them readily accessible. We envision an overview using a decision tree flow diagram. A farmer uses his farm conditions with the diagram to identify problems and possible solutions / alternatives. This directs the farmer to specific sustainable practices.



**Re-organizing Our Websites:** We have two RTC-TH websites: the original site and the lesson archive site. These sites began at different times, they grew and evolved gradually. Without a full-time webmaster, we now have a bit of a messy situation. There are materials for similar topics on the different sites. We hope to consolidate the topics and materials onto one site or the other. Where this may not be possible (e.g. the material is has html references on an external site), we will make cross-referencing notes on our site. This will eliminate the need to ask the external site to reprogram links to our materials.



**Photo / Video Archives:** When our camcorder died, we lost the ability to access all of our mini-DV tapes. Connie Beck donated her Canon ZR40 camcorder to us. We can now begin the transfer of our mini-DV tapes and archive them on DVDs. We will combine this with the effort to digitize film negatives for which we only have paper prints as well as color slides, and photo prints without negatives. You can imagine the treasure trove of images this will make available for future lessons.

The last "new" item will probably be a long standing "work in progress". Anyone familiar with us knows both Saifon and I take a lot of photos. And I have negatives and slides going back more than 45 years long before digital imaging appeared! [Reality Caveat: OK, let's get real. Life is full of ups and downs. No one can predict the future. And so we begin 2014 full of optimism. And lurking in the background is the recognition the Mr. Murphy and a wide range of unknowns may be ready to side track us. But life goes on, and we continue to dream we can do these things.]





## Driveway Tree Wells & Mulching

Preparing for the dry season included protecting the trees and plants along the farm driveway. The work begins with weeding the tree belt. Then we refresh or re-make the tree wells before mulching the area using the rice straw from our harvest. Over time, the mulch breaks down (composting in place) and (we hope) gradually improves the soil. Soil building is a very slow and long-term process.



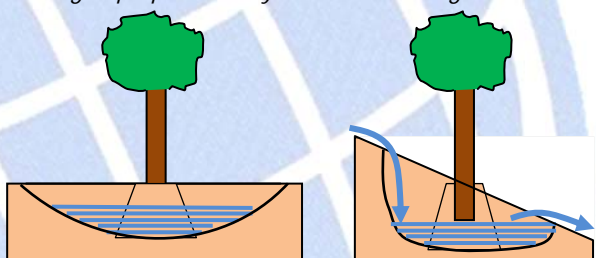
*The farm driveway tree belt before and after weeding to prepare for dry season mulching.*

This year we modified how we made the tree wells. A tree well is a circular depression around the base of a tree to hold water. The center is a raised mound of soil at the base of the trunk.

This works fine on level ground. On a slope there are challenges: surface runoff tends to erode the down slope rim of the tree well. The steeper the slope, the faster the water can flow. The result is stronger potential erosion.

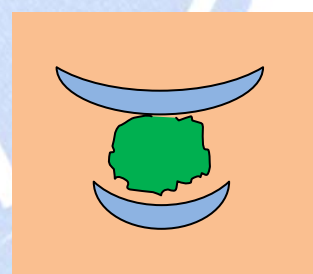
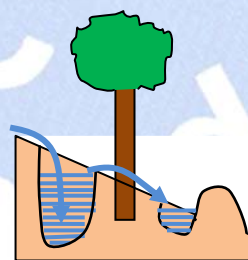
For steeper slopes, we split the tree well into a pair of crescent-shaped cups. The upslope cup is elongated across the slope and deeper to hold the water near the tree base. The down slope cup is smaller, shallower, with a pronounced berm. It catches and holds any overflow from the upper crescent.

We tried this on 2 avocado trees along the driveway. Only time will tell if this method makes a difference.



**Tree well: level ground**  
Water entering the tree well is impounded and slowly seeps into the soil at the base of the tree

**Tree well: on a slope**  
Water entering the well is impounded. More water can fill the tree well to overflow and erode it.



**Paired Crescent Cups for Trees on Steep Slopes**  
We substituted the tree well with 2 crescent "cups".  
Profile view on left; overhead view on right.

← Another variation is used for smaller plants: the upslope water pocket. We used this on plantings close to the edge. This keeps the water farther back from the slope. No soil is disturbed on the outer slope which might facilitate soil erosion. Water in the pocket soaks into the soil and gets to the roots.





*We load up rice straw from our recent harvest*



*Bundled rice straw positioned for mulching*



*Cross slope intercept / diversion channel to a tree well.*

The pasture slopes gently to most of the driveway. Mulching during the rainy season should reduce surface runoff from the pasture letting water soak into the soil. We dug shallow interceptor channels across the slope feeding into the tree wells. When it was possible, we also diverted tree well overflow to a nearby tree well.

Before mulching the bare soil, we did a reality check flow test by running water from a garden hose into an intercept / diversion channel.



With water flowing in the channel, we made necessary adjustments to smooth the flow to the tree well. Once satisfied with the alignment and gradient, we applied a thick layer of rice straw mulch. Rice straw is a low density mulch. It tends to be



“light and fluffy” in contrast to heavier and denser wood chips. This mulch still effectively covers the bare soil to prevent rain drop impact. It also shades the surface reducing soil temperature and lost soil moisture due to evaporation. The mulch will eventually compact and break down through the dry season. When the rainy season starts, we will plant vegetables between the trees to protect the soil. 🌍



## Our Farm Tools

In contrast to American farms, small rural Thai family farms have little in the way of machinery. Our farm is fairly typical, and possibly may be at the lower end of typical. Here is a quick overview of the tools on our farm.



**Water pumps:** We have 3 small electric water pumps for shallow water wells to supply water for watering gardens in different parts of the farm (central gully, driveway, farmhouse gardens). We use these pumps when gravity flow cannot move water where we need it. All rainwater tanks on the farm are positioned to make use of gravity flow on the farm.



*East Fishpond well pump*



*West Orchard well pump*



*Rice Paddy well pump*

**Hand tools:** We have a small variety of hand tools. Thai farmers tend to use each tool for multiple purposes. The knife gets use in the kitchen and outdoors. The only power tools we had were two gasoline powered machines: a spray pump and a weed cutter. These were lost in the farmhouse fire a few years ago and were not replaced.



*Digging tools (top to bottom) Jobs, siams and wags*



*Cutting tools: Ax, scissors, sickle, knives, and saws*



*Carriers: sacks, barrels, baskets, buckets, watering can, and cart*





*Hat, gloves, & boots*



*Water coolers of iced water*



*Scales for crops and fish*



*Broom and rake*



*Cooking utensils*



*Hammer, wire cutter, pliers, screwdriver*



*Steamer racks, cover, and pots*

**Fishing tools:** We have 3 fishponds on our farm. So naturally, we have fishing equipment. But even then, it is rather simple and modest in contrast to fish farms in developed countries.



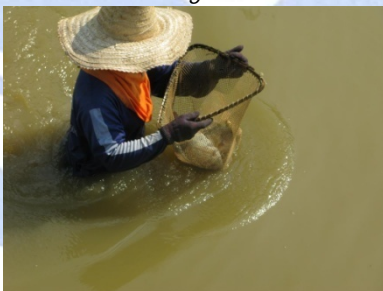
*Long net*



*Throw net*



*Dipping net*



*Scoop net*



*Fishing poles and dog*

Many farm families have dogs. It is hard to say what the breeds are. They appear to be a polyglot freely mixed / mismatched diverse array of "man's best friend". They perform guard duty to varying degrees of proficiency. Others are just good company. Surprisingly, many are seen riding on motorbikes going to and from the farm and forest with their owners. Many are limping on 3 legs attesting to their "close encounters of a vehicular kind." These survivors are wiser if a bit worn. Unfortunately, there are many who failed to pass the "road test". 🐾



## ***Ban Na Fa to Ban Kong Bridge Recon***

In the last issue, we scouted an alternative route to our farm using the bridge at Ban Mai west of Ban Na Fa. A longer route goes east to Ban Kong on Route 1170, to another bridge about 3.3 km away. The distance to our farm using this route is 7.2 (or about 6.1 km longer than usual).



*We turn right at the Stop sign to go East on Rte 1170*



*Wat Ban Na Fa*



*The cell tower at Ban Ton*



*Ban Kong market (larger than Ban Na Fa's)*



*Recon trip map from Ban Na Fa to our farm via the Ban Kong bridge*

This route is considerably longer than using the bridge at Ban Mai. The only significant grades are between Ban Na Fa and Ban Ton.





*The meeting hall of Wat Ban Kong*



*Turn right at the blue signs to go to the bridge*



*The road to the bridge*



*The bridge over the Nam Yang at Ban Kong*



*The view of the Nam Yang looking northeast (upstream).*



*The intersection at Ban Prao*



*Turning right, we follow this road to Ban Pakam*





*A 90° turn in Ban Pakam leads to Ban Sali.*



*The bridge over the irrigation ditch.*



*The view from near the bridge looking east toward Ban Pakam*



*The road leading to Ban Sali*



*Wat Ban Sali*



*The view from the road in the Oct Update 2 scout trip (pp. 6-7) looking North to Ban Ton's cell tower*





*The east approach to our farm.*



*Our farm seen from the paved road linking Ban Sali and Ban Na Fa.*

This is a longer alternate route to our farm than the Ban Mai bridge (see Dec Update 2, pp.5-6). As with any emergency preparations, we make our plans yet hope we won't need to use them.

The recon process gave us insights to potential impacts of local disasters on these alternate routes. These bridges are mostly susceptible to flood damage. Traffic accidents and earthquakes are less likely scenarios. A side benefit is giving you a chance to see the area. 🌐



*Welcome to our farm.*

## **Education: Thailand's Missing AEC Piece**



*A missing puzzle piece for Thailand's role in the AEC*

The Asian Economic Community (AEC) is a year away. English is designated as the organization's official language. Thailand ranks very low in English proficiency among the AEC members. Thailand's education system is in the critics' cross-hairs. There have been numerous news reports of the low performance of Thai student's on various international studies and surveys. We see education as the missing piece in Thailand's AEC plans.



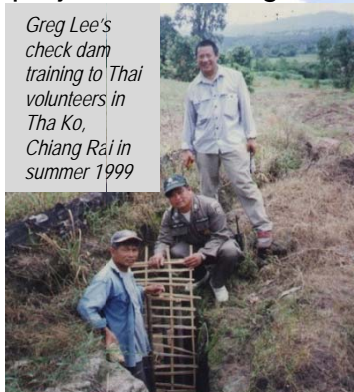
At the risk of over simplifying, the Thai system is based on standard national exams. Ideally the curriculum prepares students for the exam. If it is not on the exam, it tends not to be studied. Ask any graduate how well their academic studies fit the actual work done on the job. Most graduates are not working in the field of their majors. If they are, many get employer-provided industry specific on-the-job training which was not available in school.

In the past 2 years Thailand's ruling party changed Education Ministers 4 times. This made it very difficult to develop and implement a consistent education reform effort. The confusion among school officials, teachers, parents and students is wide-spread. With parliament dissolved education reform is in limbo. New elections are slated for Feb 2014, but protests are in play to delay or cancel them. It is hard to imagine any effective education reform taking place soon. And if it does, it may not be in time to produce sufficient graduates with English language proficiency for Thailand to catch up to its AEC colleagues for the AEC's start up in 2015.

With the education system effectively paralyzed, it seems the time is ripe for individual action and an "out of the box" approach. We don't advocate abandoning the education system. But schools, teachers, parents, and students cannot sit waiting for the government and education bureaucracy to come up with any immediate solutions. It is up to motivated individuals to take charge of supplementing their education to reach their goals and be ready for the AEC.

The RTC-TH Community-based Education method (C-bE) is an alternative approach to meet the challenge. We think and work outside the "box" of the classroom and campus. Our lessons focus on community service projects or actual problems on the family farm. We integrate math, science, geography, technology, and English for students to study and solve real world problems. Community service projects connect students to local issues and help instill a sense of community. At the same time, students gain practical experience to build their resume. Real world projects can also give them insights to prospective jobs.

Greg Lee's  
check dam  
training to Thai  
volunteers in  
Tha Ko,  
Chiang Rai in  
summer 1999



The RTC-TH C-bE method grew over more than 30 years of teaching in both traditional classrooms and non-traditional settings. Teaching in the US and abroad created opportunities for cross-cultural adaptations and learning. Some classes were conducted in store fronts after hours. Others aboard ships at sea as spare-time college credit courses. Even open farm fields have been sites for teaching. All of these experiences shaped the present C-bE methodology. At the heart of this approach is self-selection. Both teachers and learners volunteer to interact. This method works best for highly motivated



Special thanks to artist Sara Walter for vividly depicting the RTC-TH Community-based Education model. She presented her work to us in 2007.



people. Lessons are relevant to the real world with an eye to developing job related knowledge and skills.

RTC-TH C-bE is a proven method. Before adapting it to Thailand, we used it with American teachers and volunteers for off-campus extra-curricular training for inner city youth, US National Park Service community volunteers. C-bE grew out of our work with international volunteers and training Chinese teachers of English, doctors, foreign affairs interpreters, and business students in rural China.

Chinese teachers of English in Jinan, Qingdao, Zouxian, Rizhao, Yantai and were enthusiastic and amazed at the difference C-bE methods made in their teaching. The unconventional and innovative methods made teaching and learning fun both in and out of the classroom. They enjoyed using English songs to improve listening and speaking. Many adopted the Nat King Cole song "Unforgettable" to describe Mr. Lee's C-bE teaching methods and style. 🌐



*Greg Lee led a Teacher training workshop Shandong Medical University, Jinan, China: Summer 1985*



*Greg Lee, the first foreign teacher to speak at the Shandong Provincial English Teachers Assoc., Qingdao, China 1986. He presented 2 papers on English teaching methods.*



*Greg Lee, John Wood and teachers in Zouxian, China 1992*



*Greg Lee during summer training of rural Chinese teachers of English in Rizhao, Shandong, China 1992*



*Greg Lee and business students Yanti Univ, 1995*



*Greg's methods recognized for outstanding innovative education at the Joint Ventures Conference, LA 2003*