



RTC-TH Jun 2014 Update 2

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

ชุมชนตามสิ่งแวดล้อมศึกษาเพื่อการพึ่งตัวเองและยั่งยืนบนขนาดเล็กรอบครัวฟาร์ม

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

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The Rainy Season Arrives



Rain arrived in Ban Na Fa during the first 2 weeks of June. The shift from convective thundershowers to the monsoon rains seemed a bit gradual this year. We had some surprisingly intense thunderstorms. They were of short duration. At least the rain was welcomed.

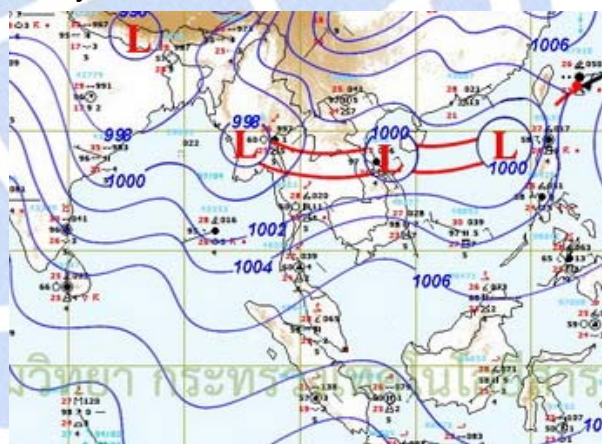
A few days ago, we were treated to thundershowers and a double rainbow. However the periods of rainfall were prolonged (1/2 to 3 hours). The rain was steady and seemed to fit the Monsoon

pattern. A glance at the weather chart shows a classic “monsoon trough” over northern Thailand.

On one day, there were 3 separate periods of rainfall, each lasting more than 3 hours. The rain was fairly steady from uniformly overcast skies. For us, this is ideal for soaking down our parched farm. We have a low risk of flooding. However, in mountain areas, flashfloods and landslides are possible.

The jury is still out as to whether 2014 will be an El Nino year or not. Many forecasters feel there is a 70% chance of an El Nino event over the Summer rising to 80% chance in Fall. This might mean wetter than normal conditions in the US. SE Asia would have drier than normal conditions.

The future is always hard to predict. Long range weather forecasting is no easy task. Our strategy is to hedge our bet and try to store as much water as possible during the rainy season.



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View to the West from our 2nd floor office balcony.



View to the West from our 2nd floor back covered porch.



View to the East (looking upstream).

bank did not have riprap installed. The weeds grew quickly on the bare soil levees.

In the view to the West, a cross channel berm got overgrown with brush. In a flood, we expect to see all of it washed downstream.



View to the West (looking downstream).

The photos below show the water levels in our fishponds at mid-Jun 2014.



The West Fishpond

This is our smallest fishpond. It was the second pond created on our farm. The recent rains raised the water level from about 1.5 m to about 3 m. This pond has tilapia and 2 varieties of Thai catfish (one of them is rather large).

The Central Fishpond

This is the first pond on the farm. It is the largest of our 3 ponds. First rains of 2014 raised



the water level from about 2m to 3 m. We allowed fishing in this pond to reduce the possible fish losses in case more rains cause the pond to overflow.



The East Fishpond
This pond is always the slowest to fill. Current estimated water depth is just over 1 m. We cleared the water lilies from the pond. Tilapia, catfish, and some snakehead fish are here.

Rainwater Harvesting: The cowshed roof main rain water harvesting catchment device. Gutters are fit to only $\frac{1}{4}$ of the cowshed roof (limited by the roof construction method). PVC pipe carries the water from the cowshed roof to the farm house tanks. Amazingly that limited rain catchment area fills all of them fairly quickly.



Overhead PVC pipe from the cowshed and through the West orchard fills the farmhouse tanks.

Our Farm's Watershed: The government protected forest above our farm (tall trees along the skyline) and the bamboo and teak planted on our upper terraces form the main watershed for our farm. The yellow dashed line in the photo below shows the alignment of the Central Gully. Excessive surface runoff from the forest and terraces flows down the gully to the Central Fishpond. Throughout the year, underground water seepage makes its way down to sustain the water levels in the Central pond.



Piped Water to the Hilltop: For insurance against drought, we opted to put in metered water service from Ban Na Fa to our hill top farm property. This will assure any new plantings have a good chance to survive. 🌍



Fishing on the Farm



We earned some quick cash and many were having fun fishing. A group of villagers got together, paid a flat fee of several thousand Thai baht to fish in our Central Fishpond. People used a combination of throw nets and large dipping nets. Some villagers brought small boats. They stood on these using throw nets. This is an “any fish goes” situation. They paid for any and all fish they catch regardless of size. Tilapia seemed to be the majority of the catch. 🌐



Getting Ready for Our Rice Planting



The rainy season is the time for planting our single rice crop (wet or upland). Our challenge: if 2014 is an El Niño year, we have a high probability of drought. In this case, how much rice should be planted to off set the negative impact of drought our rice crop production?

Preparations include, but are not limited to: plowing the paddies, dressing up the irrigation system, stockpiling manure, compost, and EM bacteria. These soil amendments help us to boost our crop yield (sometimes by as much as 50%).



Our beds of rice seedlings for transplanting our wet rice



Bags of manure to add to our compost



Rice straw in the old cow shed for composting



Now Growing on Our Farm

Here is a quick look at what is growing and ripening on the farm in June. Most of the photos are taken in close proximity to the farmhouse. Remember, our goal of sustainability is predicated on family food security, resilience, and protecting biodiversity. Commercial farming is not high on our agenda. The crop diversity on our farm is based on family members making lists of what they like to eat. We have the option of barter or sell any surpluses to earn cash. 🌍



Dragon Fruit (2 kinds---red and white); Central Orchard



Wood apples (in the West Orchard) wrapped in paper as protection against fruit flies.



Rambutan in the Central Orchard



Longan in the East and Central Orchards



Lemons in the West Orchard



Bananas (6 different types) scattered around the farm



Driveway Japanese egg plant garden



More mangos along the driveway



Guavas in various locations on the farm



Pineapples along the driveway fence



Green onions in containers



Sugar cane near the Central Fishpond



Thai egg plant garden near the wet rice paddies



Turkey berry (an egg plant; solanum torvum)



Intercropping lemon, tea, and wood apple.

Tea plants are inter-cropped in parts of the Central and Western orchards. We started picking and pickling tea leaves again. (Learning more about pickling tea leaves: 2013 RTC-TH Updates Sep, p. 3; Nov Update 2, pp. 7, www.neighborhoodlink.com/RTC-TH_Tech/pages)

Miang (pickled tea leaves) is high in caffeine. Thai laborers use it to keep awake and alert when on the job. We make miang as a value-added item to earn extra cash. Most customers stop by our house on the way to their fields.



Several batches of tea leaves being pickled.



Miang, packaged for sale.

Our Farm Fresh Fish

The majority of the fish in our ponds are Tilapia and various kinds of catfish. Last year we introduced *Cirrhinus mocoolepis* (small mud carp) into our Central Fishpond. This year we saw them grow out and grace our dinner table. Unlike the tilapia, mud carp grow out to full size even when left in the pond. Tilapia tend to reproduce in great numbers. In crowded conditions they do not grow out to full size. 🌐



Tilapia



Catfish



Cirrhinus mocoolepis (small mud carp)

Business Face Lift

The rainy season poses a runoff / drainage problem for our business property. The entire business property gently slopes from the highway down to the rear of the land bordering the rice paddies in the back. Recently neighbors to the north and south of us filled their land 0.5 m and 1.5 m (respectively) above our land. Rain water tends to flow from high to low, so we anticipate having water flow onto our land or impound there from our neighbors and the highway.

To avert possible flooding, we installed a system of drain pipes to discharge runoff to the rice paddies behind us (blue arrows in photos below). We roofed over a concrete apron adjacent to Pi Oi's restaurant to keep rain water from the house roof out of that area. We are considering roofing over the concrete apron in front of the carport for the same reason. 🌐



The new drainage system redirects rain runoff (blue arrows) into pipes going off the back of our property. New gravel fill (in the foreground of the photo above) prevents highway runoff from entering our property.



We may roof over the concrete apron in front of the carport



Yellow rectangle (in above photos) indicates the new sheet metal roof over the previous concrete sidewalk in front of the building.

Basic RTC-TH Field Camera Kit

Photography is integral to all RTC-TH activities. We use photos to document our work and illustrate our lessons. Over the past 2 decades, we transitioned from our semi-professional 35mm film format cameras and lens in favor of amateur point-and-shoot digital camera using AA size rechargeable batteries. These batteries are readily available just about anywhere in the world.

During a field activity, we tend to be very busy coordinating, directing, instructing, and doing the project work. We need lightweight easy to use equipment. Few others have cameras or much experience in photography. So the point-and-shoot cameras are a convenient compromise. We have found any camera with over 12 MP (mega pixel) resolution is overkill for our photo uses. The low cost (~\$100 each) means we can afford to replace them if lost, damaged, or they become obsolete. It also means we can afford to carry a spare camera. After all, any project and the participants may be a “once in a life time” event. It would be disappointing not to have photos due to a camera malfunction. **[Note:** If you get a camera with an HD digital video function, you eliminate the need for a separate video camcorder. It all depends on your end use / purpose.]



Camera & USB cable, SD cards, rechargeable batteries & spares, mini-tripod with velcro strap



Spare camera & USB cable

In addition to the cameras, we carry the following as minimal support equipment. A multi-card reader is useful if several SD memory cards are used and the camera is not available to download the images. We can use recharge the camera batteries with the battery charger. Fully charged batteries can get us 200-300 high resolution photos depending on how often the flash, zoom, and display functions are used. We use the eraser to clean all battery terminals / contacts. The lens cleaning fluid and tissue are our main defense against dust. A waterproof bag and zip closure bags help protect the equipment from adverse conditions. We use the notepad and pen to keep written records of the activity and photos. This is the RTC-TH general photo field kit. Other equipment can be added depending on the specific project needs. 🌐



Multi-card reader with USB cable, battery charger, rubber eraser, lens cleaning kit: lens cleaning fluid, lens cleaning paper,



Waterproof bag, notepad, pen, , zip plastic bags

Porch Ponderings

Thoughts on Thai Education Reform

Education reform is a hot button topic in the current political crisis in Thailand. The coup leadership has pressed the Ministry of Education to focus on:

- Improving the quality of teaching personnel
- Reforming the overall education system
- Lesson priorities on Thai history, morality, and discipline

Among a number of officials, public and private school leaders and the arena of business and public opinion, there has been much concern about improving Thailand's ranking in international education surveys. The business sector is particularly vocal about the need for the Thai education system to produce more technically skilled graduates. Many business leaders see the need for Thailand to step up the economic development ladder. They see the curtain falling on the era of "cheap labor" as the engine of Thai economic success.

We sum up the prospects for Thailand's success in education reform this way: The devil is in the details:

- **Thai Teacher Quality / Overall System Reform (and the specter of absolute authority):** Modern Thai education reform was initiated by the Thaksin government (first elected in 2001, re-elected in 2005. Deposed by military coup in 2006). Central to the question is how to make the shift from the traditional role of Thai teachers as "moral parents" to critical thinkers. (FFI: www.neighborhoodlink.com/Rural_Training_Center-Thailand/pages) "Thai Teacher Dilemma", in RTC-TH History section). The Thai monarchy (based on 800 years of absolute rule guided by the concepts of the warrior-king and kingship under Dharma). In 1279, the idea of a paternal king came to be, but it didn't last. A few years later, things reverted to the early two concepts. In 1351, a third concept was added: divine kingship. In 1868, King Rama V (who was western educated and fluent in English) created a monarchy based on the "enlightened ruler". He created the Privy Council in 1874 (and it exists today). The 150 years of absolute rule ended in 1932 when Thailand became a constitutional monarchy with power in the hands of a Prime Minister and National Assembly. However, culture and the baggage of authoritarian rule are a reality of life in Thailand. Add to this the revolving door for recent Education ministers (4 in the last 2 years); teaching to pass national and international "standard" examinations, all past reform attempts fell short in terms of consistency and lack of uniformity. We feel that teaching to pass exams falls short of effective teaching practical job skills needed to sustain the Thai economy. While we await word from above, most people can only take a "wait and see" attitude.

Priorities on Thai history, morality, and discipline: At the risk of second guessing, it seems this focus is aimed at "reconciliation" by developing Thai nationalism. Some complicating factors lie in the multi-ethnicity/cultural polyglot of "Thais". The majority may be ethnically Thai and Buddhist. But there are others in the country (e.g. Muslims, a variety of hill tribes, migrants from neighboring countries---both legal and illegal, and refugees). The task at hand is to develop the curriculum to accomplish these goals. Thailand's highly polarized politics raises the question of which side will determine the curriculum and content. We suspect the results may mimic the situation where histories are written by the victors.





Individual Grassroots Action

We don't know how long it will take for the new reform effort to become reality. It is conceivable that numerous committees and meetings will take place to forge the new curriculum and lessons. Whatever time it takes, students now in the pipeline are losing precious time. They will probably not benefit from the current reform effort. This will also put them at a disadvantage when the Asian Economic Community (AEC) kicks off in Dec 2015.

We suggest that parents and students consider reviewing and adapting the grassroots RTC-TH Community-based

Education (C-bE) materials to supplement their current educational program. It immediately addresses the address the need for improving teaching quality. We believe every student should become their own best teacher. We have no control of the proposed system, curricular, or lesson reforms. Our assumption is students tend to learn best when they self-select to learn (i.e. exercise their freedom to choose).

Our 25 years of teaching experience (both in and outside the US*) validates our assumptions that many students:

- do NOT know how to study effectively;
- are unaware of their individual learning style;
- are unaware of effective educational planning to acquire practical employment skills;
- do NOT embrace the idea that learning is a life-long activity;
- are relatively technologically "illiterate" relative to the modern high tech world in which they live;
- have not developed systematic, scientifically rigorous problem solving and critical thinking habits and skills;
- lack integrity and a keen sense of ethics and responsibility or are inconsistent in these areas;

The RTC-TH C-bE materials empower students to overcome these deficiencies. Learning how to learn is fundamental to education regardless of the specific subject area / curriculum. The RTC-TH C-bE materials are available in the Community-based Education Section at www.neighborhoodlink.com/RTC-TH_Tech/pages.

The RTC-TH C-bE method is not a silver bullet. The various methods and techniques may not work equally well for everyone. The key is to be open to new ideas, adapt them to your situation, and to find the "right" combination to become your own best teacher for life. ●

*RTC-TH C-bE methods have been applied in the US (in suburban and inner city communities and schools), PR China, Philippines, Thailand, and ships at sea deployed to Japan, Guam, S. Korea, Diego Garcia, Oman, and Australia in academic settings and hands-on environmental education and sustainable agricultural programs.

Background Note: Education can be a double-edged sword for any country. An educated workforce can help propel and sustain economic growth. It can lead to expanding the ranks of the middle class. It can also be a destabilizing force as it can lead to change in the status quo especially in societies where huge disparities occur between people relative to income, societal benefits, power, privileges / rights, justice, etc. Reform entails changing the status quo. Often, those in the bureaucracy resist the changes as they tend to see a loss of power.