



# RTC-TH Jul 2014 Update

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

ชุมชนตามสิ่งแวดล้อมศึกษาเพื่อการพึ่งตัวเองและยั่งยืนบนพืชนาขนาดเล็กครอบครัวฟาร์ม

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

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

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## Our 2014 Planting Efforts



*After laying fallow for 6 months, we planted upland rice in the "pasture" area.*



*The Hill Top parcel is planted with corn as part of a crop rotation for this parcel of land.*



*The rice paddies (with the bright green seedlings) awaiting plowing and eventual transplanting.*

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## New CD Storage Shelf

We take a lot of photos each year and quickly run out of CD storage space. So we got some wood and went to work to expand our Klunkworks CD storage capacity.



*A pencil, tape measure, capenter's square, hand saw, and block plane are used to prepare the wood.*



*Multiple shallow saw cuts, a rubber mallet and chisel create the notches to position and lock in the four shelves for the CD storage rack.*



*A power drill and wood screws finished the assembly*

The new CD shelf fits neatly into a niche between the window and pillar. It makes good use of the empty wall space and uses very little of the limited area of the office.

Movie DVDs are on the top shelf. Computer software disks are on the next shelf down. The bottom 3 shelves hold 3 years of RTC-TH photo CD archives and blank CDs and DVDs. As these are used, new photo CD archive albums will live here. And yes, there is a similar niche on the other side of the pillar. We have reserved it for another CD shelf. 🌐





## Our Water Tanks

Water is crucial to sustainable farm operations. Saifon's father put the first water tanks (#1, see diagram to the right) on our farm about 1979. When we moved to Thailand in 2005, we had a house for our farm worker. We added 2 water tanks.

After moving here in 2008, we built 5 more water tanks: a single tank at (#3) and pairs of tanks at #4 and #5. These fit into our overall plans for our own house on the farm.

Over the next few years, we found our circumstances changed. Saifon's sisters abandoned their animal husbandry plans. We gave up our plans for a house on the farm. This shifted the emphasis from water storage tanks to other lower cost



*The first two water tanks on the farm*



*In spring 2007, fire damaged the PVC pipe system. A sheet metal sala roof feeds the water tanks today.*

**Terrace Tanks (2):** Ht. 105 m / ID 0.97 m; volume / tank 1,108 L; total capacity 2,216 L; built ~1979-1980.



*Rain fed from the farmhouse roof.*



*After the farmhouse fire, rain fed from the cowshed.*

**Farm house Tanks set 1 (2 tanks):** HT 2.9 m / ID 1.5 m; volume / tank 4,947; total capacity 9,894L; built 2005 between the farmhouse and the West Orchard. Originally these tanks were fed by the farmhouse roof / gutter system. After the burned down, we used PVC pipe to divert the overflow from the new cowshed gutter / water tank to all 4 farmhouse water tanks.



water storage methods which impoverished rural farmers could more readily learn to implement. These included redirecting surface runoff into swales, making planted flow paths, using mulch, compost, and worms to increase moisture retention throughout the farm. 🌐



5



**Farm house Tanks set 2** (2 tanks): HT 2.9 m / ID 1.5 m; volume / tank 4,947; total capacity 9,894L; built in 2008 at the north end of the farmhouse. Rain collected from the East side of the asymmetrical roof fed these tanks.



3



*Gutters on ¼ of the roof fed a water tank at the cowshed*

*After the farmhouse fire, the cowshed gutters also feed the 4 water tanks at the farmhouse.*

**Cowshed Tank:** Ht 2.78 m / ID 1.2 m; capacity 3,064 L; built Oct 2008. The roof construction limited our ability to hang rain gutters to only ¼ of the roof.



4



*The 2 tanks were fed from the roof of pigshed #2*

*Pigshed #2 was dismantled due to foundation problems*

**Central Gully Tanks** (2 tanks): Ht 2.5 m / ID 1.2 m; volume / tank 2,600 L; total capacity 5,200L; built Oct 2008. Originally these 2 tanks were fed by rain gutters from the #2 pig shed. However, serious foundation problems forced us to dismantle the building. Now, we periodically pump water from the Central fishpond to fill these tanks.



## Our Farm: Then & Now



*The Central Fishpond (Left photo ~2004). Saifon's father built the sala and pig shed in the pond. Time took its toll on the structures which had to be removed. We opted not to replace the structures. This keeps it clear and easier for fishing.*



*(L) Earliest photo we have of the first farmhouse ~1992. Newly built farmhouse 2005 (above).*



*In Jun 2011, fire destroyed the "new" farmhouse.*



*The partially re-built farmhouse in Apr 2012.*



*The old cowshed (~2004) near the rice paddies.*



*The new cowshed (built 2006) near the West Orchard*



*Pig sheds built in 2006 near the fishponds*



*By 2012, both pig sheds have foundation problems.*



## ***Deforestation Still A Problem***

Deforestation is still a problem in Thailand. Laws are in place to prevent it. But enforcement is a challenge and is often lax. Corruption and greed work in the shadows, and we can see more and more of the hillsides being cleared. The initial effects can be seen in the photos to the right and below. The natural forest (although suffering human impact over thousands of years) is lost as people seek to clear the land for agriculture. If the negative impact of deforestation on

climate change were not enough, the soil erosion in these hillsides often makes agriculture a moot point. In the quest for more land to cultivate, people can only clear forest in mountainous areas (or fill in wetlands). Northern Thailand is mountainous. Nan Province has about 60% of its native forests (though that number is diminishing).



One of latest efforts is to expand rubber plantations. It takes about 7 years for rubber trees to begin producing. The land clearing efforts are easily recognized by the contour planting pattern (See photo on the left. The other trees in the background are rubber trees.) The steep slopes hint at the great soil erosion potential. Other crops may be planted as the rubber trees mature.





### Why We Don't Like Rubber Plantations

Our objections to rubber planting are:

- Rubber plantations begin with deforestation and lead to soil erosion;
- Increased soil erosion can create mudslides. Sediments clog irrigation works, streams, and rivers.
- Rubber plantations are monoculture, a marked contrast to our efforts and goals of biodiversity;
- Rubber is subject to price fluctuations, market manipulations, and on / off again government subsidies beyond the control of the farmers. The farmers are hoping for high prices will prevail 7 years after they plant. The odds are against them; they risk losing their investment. In the end, the land and ecosystem suffers.



Photo from the Internet: Educational fair use clause

Numerous rubber tree nurseries spring up everywhere

These methods have been successfully used in the Philippines and other countries. They have lifted farmers out of poverty. "Natural Farming"<sup>2</sup> methods (developed and practiced in Japan) should be adapted and used in areas adjacent to and in forests. In addition to effectively managing soil erosion, these methods promote, restore, and sustain biodiversity countering the monoculture rubber plantations.



Photo from the Internet: education fair use clause



Nan has experienced an explosion of rubber plantations

In the face of a great need to mitigate climate change, rubber tree planting is an irony. Tree planting is a promising course of action to counter growing green house gas emissions. Clearing forests is necessary to make way for planting the rubber trees. Rationalizing rubber plantations this way ignores the accompanying issues of soil erosion and the loss of biodiversity.

Stopping deforestation is still a critical activity. For existing areas deforested for agriculture, we suggest using SALT<sup>1</sup> (Sloping Agriculture Land Technology) other sustainable agricultural practices (e.g. no till, mulching, composting, etc.).

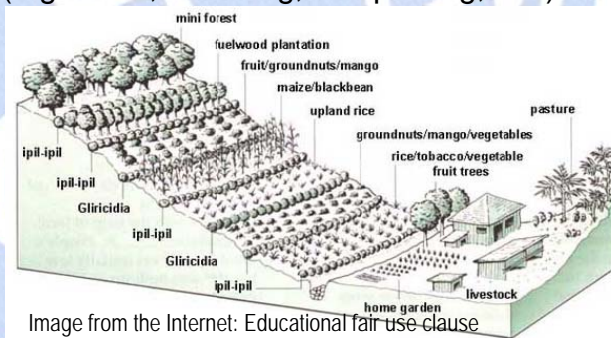


Image from the Internet: Educational fair use clause



Photo from the Internet: education fair use clause

<sup>1</sup> <http://www.fao.org/ag/AGP/AGPC/doc/publicat/gutt-shel/x5556e0y.htm>

<sup>2</sup> [http://www.onestrawrevolution.net/One\\_Straw\\_Revolution/One-Straw\\_Revolution.html](http://www.onestrawrevolution.net/One_Straw_Revolution/One-Straw_Revolution.html)

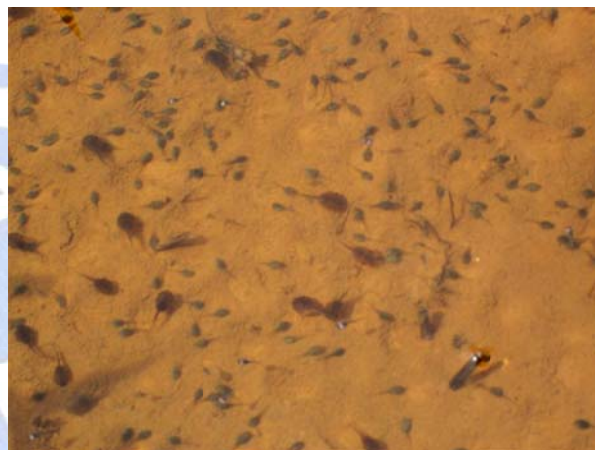


## ***Rains Bring Life & Balance***

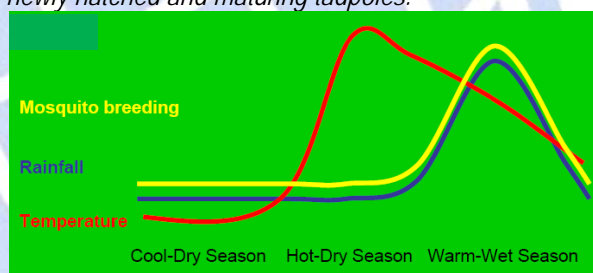
The rainy season signals our planting season. The rains bring life. And within a few days of the first rains, we can wake in the morning darkness to a resounding frog chorus. Frogs emerge as if by magic. They court, mate, and in a very short time, it seems every small puddle swarms with tadpoles. For Thais, this also signals the coming of more food for the dinner table: frogs. It takes about 3-4 months for frogs to reach a size suitable for the table.



*A water-filled tire rut becomes home for newly hatched and maturing tadpoles.*



The rains also bring an explosion in mosquito populations. We tend to feel it as a bothersome and sometimes deadly negative aspect of life in Thailand. Certainly, this is the time of year when malaria, dengue fever and Japanese encephalitis outbreaks can be detected



and announced. Indeed, over the past several years, some in our village have fallen victim to these diseases.

The neglected and often unseen story is the “value” of mosquito larvae in the natural food web. Understanding the natural ecology, we risk underfeeding the fish in our ponds. We rely on their hunger to devour the mosquito larvae as a “natural” control. This helps us avoid the use of synthetic chemical pesticides. This chemical-free approach rewards us



with a good and reliable dragonfly population on our farm. They lay their eggs in our ponds. The nymph stage of a dragonfly’s life could be up to 4 years long. Their favorite food is mosquito larvae.

Maintaining an integrated farm operation involves education by example is our approach to show how to achieve balance on the farm. 🌐





## Thai Coup Update: Economy & Education

The challenges facing Thailand are many and complex (with or without a coup). On the horizon is the AEC (Asian Economic Community) launch in Dec 2015. This is a common denominator to many of Thailand's economic, political, administrative, and education issues.

In Dec 2013, Prime Minister (PM) Yingluck dissolved the House of Representatives and called for new elections. This effectively reduced the government's power. Unfortunately, the new elections were not validated (the opposition blocked enough polling places). A sufficient number of voters were prevented from voting. This created a legal impediment to forming a new government. Meanwhile, with limited lawmaking capacity, the government could not move ahead or take much legal action or fully function as the government of Thailand. The turmoil of street demonstrations continued. Martial law was implemented to restore public order. Two days later, the military coup took place.



PM Yingluck Shinawatra



Coup Leader: Thai Army Chief  
Gen. Prayuth Chan-Ocha

The US Embassy issued information for Americans in living in or traveling to Thailand. (The following is excerpted from the notice.)

- On June 13, the NCPO lifted the curfew, but authorities have cautioned it could be reinstated. Martial law remains in effect throughout Thailand.
  - Be aware that under martial law the governing NCPO has considerable security powers. These powers grant the NCPO the authority to prevent public gatherings, restrict media, set up checkpoints, and search for weapons.
  - Individuals have been detained for publicly criticizing Thailand's military takeover, the NCPO, and the Thai monarchy.
- Security operations against possible demonstrations have led to traffic disruptions as well as temporary closures of some public transport services, and restriction of access to some areas around major shopping and hotel districts in central Bangkok.

The economy is a major concern. So far, the Thai national debt continues to grow. In 2014, it was 42.265% of the GDP. However, relative to others in the region, Thailand is still better off (in that it may still be able to borrow if needed).

Country	Data Date	Debt % of GDP
Laos	2013	62.03%
Malaysia	2012	55.98%
Myanmar	2012	47.27%
Singapore	2012	107.88%
Vietnam	2013	54.98%



However, given the fact that the US has had little success with stimulating its way to recovery, borrowing (i.e. spending more than you earn) may not be live. Household debt in Thailand increased to 82.3% of GDP at the end of 2013 (up from 77.3%). From what we see, many people seem to be accessing easy credit to pay previous debts. Debt recycling is not a sustainable practice by any means.



It is generally acknowledged that the 3 factors of economic growth are capital, labor, and productivity. Capital is significant in the early developmental stages. That needs to be supported by a growth in a skilled labor force. However, real economic growth is based on the productivity resulting from the combination of capital and labor.

Since the 2014 coup, foreign investment in Thailand increased slightly, but there seems to be a wait and see attitude. Many foreign firms put a temporary hold on expanding operations in Thailand. Others began to look at other ASEAN neighbors. So the future capital outlook is vague. The AEC launch in Dec 2015 could tip the balance for some companies to set up operations in other ASEAN member states.

As you can imagine, reliable statistics on illegal workers are hard to come by. An estimated 2 million are in Thailand. The coup's law and order crackdown

seems to have created an outmigration of cheap labor from Thailand. Recent news reports 220,000 Cambodians crossed the Thai border returning home. About 70% of the workers in warehouses and docks have left Thailand. Loading slowed to 500 tons / day contrasted to 2,000-3,000 tons / day in more normal times. This could result in a month delay in shipments. The labor shortage and tight supplies may force up short term rice prices. Short term profits might be up for some, but productivity is decreased. **[Note: The Army recently stopped sales and movement of rice to review the quantity and quality of rice acquired in 2011.]**

Leading up to the coup, the Thai media was full of reports critical of the Thai education system for failing to produce sufficient numbers of technically proficient workers. With English as the official language of the AEC, many critics blame the education system for the low ranking of English proficiency among Thais. On the flip side, many ASEAN students see Thailand as a prime education destination. Most Thai universities are not so highly ranked internationally. The reasons include reasonable costs (relative to other destinations), the warm hospitality of the Thailand.



*We assume the previous Ministry of Education 3-year plan for ASEAN has been scrapped.*

One Education reform push by the coup is in the area of citizenship education linked to reconciliation. The idea curriculum includes human rights, discipline, honesty, anti-corruption, Thai history. These are organized about the idea that a citizen should know their duties and responsibilities for the sake of the nation and reconciliation. New books are to be distributed for the upcoming new school term (Oct / Nov 2014). Some concern has been expressed about the distinction between patriotism and nationalism relative to the "harmonizing" for the AEC. So much of Thai history with its neighbors has been less than harmonious. 🌐

*Images for this article from the Internet: Educational fair use clause*



*Porch Ponderings*

## Disaster Risk Management

Asia suffers more than 80 % of the world's disasters. "Nine of the world's 10 most significant disaster events last year [2013] by fatalities occurred in the Philippines, India, Pakistan, Japan and China. Some 14,500 lives were lost in tropical cyclones, floods, heat waves, cold waves and earthquakes." (<http://www.trust.org/item/20140620082335-t8grp/>)

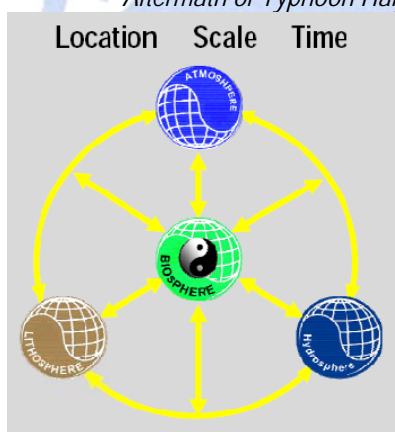


Photo from the Internet: Educational fair use clause

Aftermath of Typhoon Haiyan, Philippines 2013

Three core thoughts come to mind about disaster risk management: 1) awareness and perception of local geo-hazards; 2) individuals are responsible for their safety and preparedness; 3) the farther from an administrative center, the longer it may take for help to arrive; 4) prevention and preparedness are improve disaster resilience.

The RTC-TH teaches people to use the Geographic Systems



*The Geographic Systems Model\* shows the basic environmental spheres and their inter-connections.*

*[Note: Other parts of the world may have other types of hazards (e.g. tsunamis, ice storms, avalanches, etc.)] Model\* to systematically identify and assess local geo-hazards.*

Some people are overwhelmed by the complexity and multiplicity of geo-hazards in their area. At greater risk are the illiterate, impoverished, and marginalized members of society. These people lack access to education and information about disasters, risks, prevention, mitigation, and resilience.

Awareness of a problem or risk is the first step to seeking a solution. The RTC-TH advocates "avoidance and prevention" as the first defense for disasters. Reviews of past disasters revealed each \$1 spent on prevention yields a long term savings of \$4-\$8. Such cost savings warrants the attention of governments and individuals. Disasters cannot be totally prevented. Effective planning, avoidance, prevention, and mitigation can minimize risk and increase resilience.

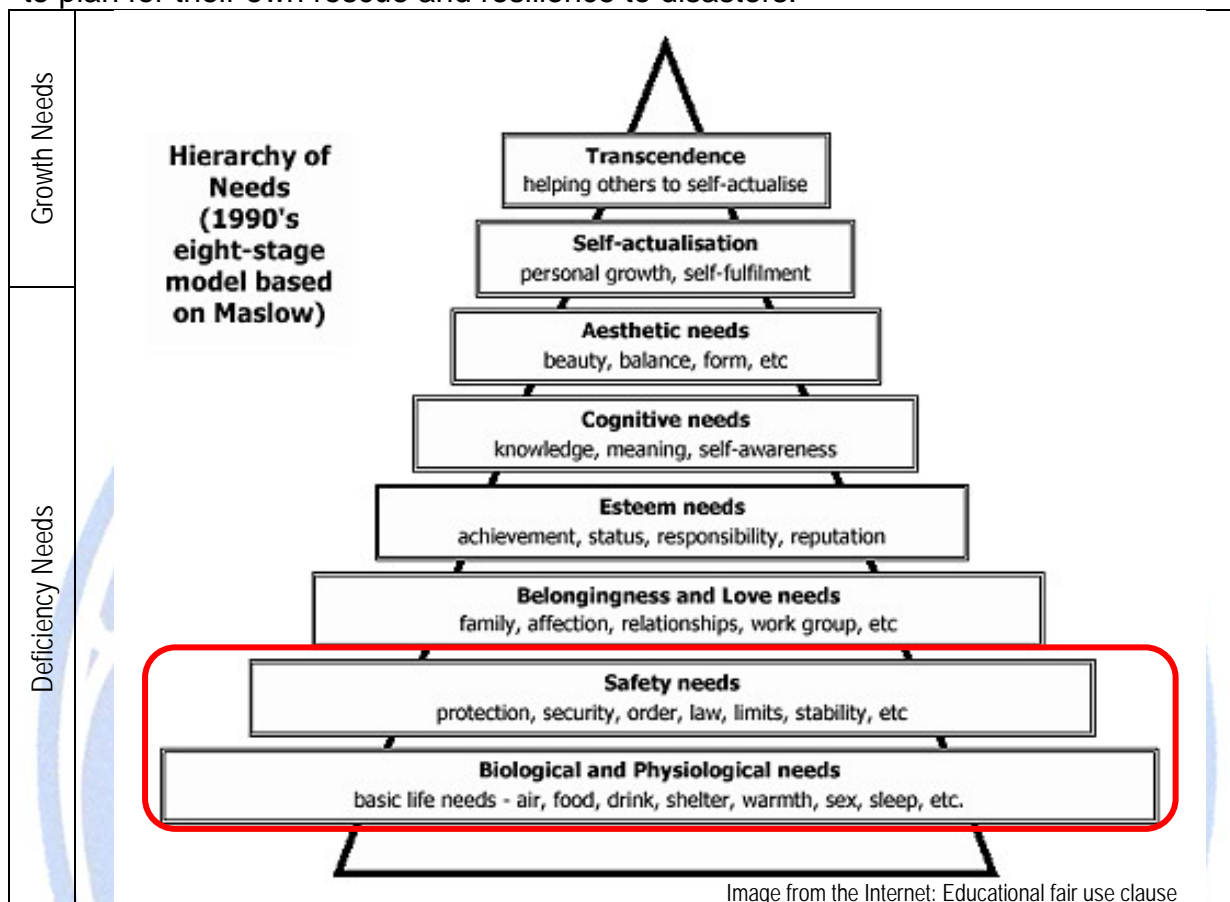
\*The geographic systems model is available at [www.neighborhoodlink.com/RTC-TH\\_Tech/pages](http://www.neighborhoodlink.com/RTC-TH_Tech/pages)

Geo-sphere	Natural Hazard
Atmosphere	Severe storms Lightning
Lithosphere	Earthquakes Landslides
Hydrosphere	Floods Flashfloods
Biosphere	Wildfires Epidemics
	Human activity

*A simplified summary of the geo-hazards pertinent to Ban Na Fa, Thailand is shown on the matrix above. The arrows show the complex inter-relations between some of the hazards.*



The RTC-TH emergency preparedness ideas are based on Maslow's Hierarchy of Needs (see diagram below). Safety Needs are the next level of concern after meeting the basic biological needs of life. This is consistent with our thinking of self-sufficiency and sustainability. More people need to understand and use this insight to plan for their own rescue and resilience to disasters.



The RTC-TH EmPrep (Emergency Preparedness\*\*) lesson series is available for self-study to empower people to prepare for disasters.

We believe individuals and families must be pro-active and strive to learn how to prepare for emergencies and local natural disasters. They need to help their relatives and neighbors to do the same. They need to do this at a grassroots level. They cannot wait for the government to do it for them. This is especially true for people living farther from government centers and urban areas. The simple fact is the government will try to do the most good for the most people as quickly as possible. This means people living farther away need to wait longer for government help. Those better prepared will be more resilient.

There is some financial cost involved in getting prepared. It will not be easy for impoverished people. Do the best you can for your circumstances. It is better to be prepared and need it than to need it and not be prepared and need it. 🌐

\*\*The RTC-TH Emergency Preparedness lessons are available at [www.neighborhoodlink.com/RTC-TH\\_Tech/pages](http://www.neighborhoodlink.com/RTC-TH_Tech/pages)

