RTC-TH Jun 2014 Update

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

ชุมชนตามสิ่งแวดล้อมศึกษาเพื่อการพึ่งตัวเองและยั่งยืนชนบทขนาดเล็กครอบครัวฟาร์ม

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Couped Up in Thailand

May was a watershed month for Thai politics.

07 May: The Thai Constitutional Court ordered Prime Minister Yingluck Shinawatra and several cabinet ministers to step down. The cabinet appointed Niwattumrong Boonsongpaisan as caretaker prime minister. [Note: Yingluck dissolved parliament in Dec 2013, help elections in Feb 2014, but a court nullified the elections.]

Thai generals hold a press conference after the announcement of martial law on 20 May 2014

20 May: Martial law is declared about 0200 local time. We awoke to all TV stations carrying the same logo and "news" announcements from the military. The military assembled various political leaders to talks in an attempt to resolve the past several months of political protests. When no agreement or resolution appeared, the military declared martial law to stop the protests and restore order in the streets.

This logo and military news dominated the air waves

The key martial law points were:

- Curfew from 2200-0500 each night (later adjusted to 2400-0400 for tourist areas). "Critical travel" is allowed (e.g. tourists needing to catch late night air flights).
- No political gatherings of 5 or more people. However, as large groups of coup protestors hit the streets, no mass arrests were made.
- No carrying of weapons.
- News media ban: All radio and TV were put under military control. It seemed foreign news media were largely blocked (however, it seemed German, French, Spanish, and a few others could be received….but not BBC and US media reports). Facebook was out for a while. The military claimed it was a technical problem.

In This Issue

These restrictions really didn't affect our daily life in Ban Na Fa. (It goes without saying that criticism of the military is unacceptable behavior.) As with the 2006 military coup, life for most goes on as usual. The most notable difference is seeing uniformed soldiers at road check points normally only staffed by the police.

22 May: Military coup declared. The elected civilian care taker government was deposed. Coup leader Thai Army Commander in Chief General Prayuth Chan-ocha acts as the duties of Prime Minister and Cabinet until a new one takes office. The 2007 constitution (created under the previous military coup) is thrown out except for the part declaring the King the head of state. The police are now under the military. The Senate and other state agencies (including the courts) and independent state organs remain intact.

Coup leader General Prayuth Chan-ocha

23 May: An announcement stating long and short term policies are the duties of the coup leader. The coup reaffirmed its commitment to strictly enforce *lése majesté* and ordered all government officers to uphold the law. Various generals are appointed to head Thai government ministries (e.g. Coup leader Thai Army Commander in Chief General Prayuth Chan-ocha is also in charge of the Internal Security Command, Ministry of Justice, National Money Laundering Office, National Budget Bureau, National Intelligence Agency, National Police Agency, National Security Council, and Office of the Attorney General. General Thanasak Patimaprakom, Chief of the Armed Forces is in charge of 4 Ministries: Defense, Foreign Affairs, Information & Communication Technology, and Interior. Admiral Narong Pipattanasai is in charge of 3 Ministries: Education, Public Health, and the Social Development & Human Security. Air Chief Marshall Dr. Prajin Jantong is in charge of the 5 Ministries: Agriculture & Cooperatives, Commerce, Labor, Finance, and Transport).

24 May: The King acknowledged the coup but stopped short of endorsing it. The coup dismisses Thai Senate. This places all parliamentary law making power in the hands of the military. The National Peace and Order Maintaining Council (NPOMC, official name of the coup) is changed to National Council for Peace and Order (NCPO).

26 May: The NCPO announces members of the Board of Consultants consisting of a Chair, 2 Vice chairs, and 7 consultants (one of who also serves as Secretary). They are drawn from the military, former civilian administrations of past cabinets / governments with leanings toward groups of both current opposing parties.

Little to No US Media Coverage

Considering the importance of Thailand to the US policies in Asia and global trade, we are surprised to learn from US friends there is so little US news media coverage about the current political situation in Thailand. Thailand is the staunchest US ally in the region. Recent US efforts to re-establish its influence in Asia makes Thailand a key partner. In terms of international trade, Thailand is one of the key food exporting nations and a significant industrial exporter as well. In 2008, Thailand was ranked as the world's number #1 major food exporter. Thai exports include canned & processed tuna, canned & processed pineapple, rice, sugar, rubber, tapioca, processed & frozen chicken and frozen shrimp, leading supplier of tropical fruits (e.g. longan, durian, mangosteen and longkong), and corn. Other leading products include cut flowers, gems & jewelry, cars/light trucks, auto parts & accessories, hard disk drives and integrated circuits. (FFI: Thai exports/imports http://atlas.media.mit.edu/profile/country/tha/)

30 May: An announcement that no elections will be held for a year or more. First, peace and order must be restored and reforms put into place.

The declining Thai economy and the need for reforms are the primary concerns. Most people want the economy to get back on a growth mode track. While many can agree reforms are needed, exactly what is to be reformed and how is a hot button topic. There has been much talk about education reform (something pushed strongly by the past political party ousted by the 2006 coup). Many realize that Thailand's future economic growth depends of improving the education system (especially in science & technology and English language proficiency). Anti-corruption is another hot button topic. Hard statistics are not available, but in business circles corruption is said to be 30-50% of a project's overhead costs.

Here are some of the immediate actions taken (relative to the economy) by the coup in the past few weeks:

- **Rice payments to farmers:** The Yingluck government was unable to pay farmers for the rice pledging scheme (a major campaign promise) since Oct 2013. They had trouble securing funding and loans for the program. The plan called for the government to buy rice direct from the farmers at substantially above market prices. The military coup began making payments immediately and promised to complete all payments in 30 days.
- **Large infrastructure projects resumed:** The Yingluck government was criticized for its large spending plans for major infrastructure projects (including high speed rail lines). The military coup announced these would be continued with some modifications (presumably to deal with procedural irregularities and corruption).
- **Consumer prices frozen for 6 months:** 205 categories of necessary consumer goods (e.g. beverages, rice, palm oil, instant foods, dairy products, household products, animal feed and fertilizer). Recent inflation crept up to 2.6%, so the price freezes should ease consumer anxiety and boost consumer confidence.

W.H.A.M.: The Coup Strikes Back

In an attempt to "Win Hearts and Minds" and defuse tension in the streets, the coup launched a "Happiness" campaign. With free concerts (replete with performers camouflage mini-skirts and military uniforms) and free food, the coup appealed to the people to cooperate and give them time to restore order and implement reforms before holding free elections (perhaps a year or more into the future).

A thumbnail chronology of Thai history can be found at http://www.bbc.com/news/world-asia-15641745

Disclaimer: This article is intended to inform people about the current political situation in Thailand. It does not analyze or present opinions about the situation. The RTC-TH is not politically active and does not advocate any political agenda. We focus on community-based education for the self-sufficiency and sustainability of small rural family farms.

Reviewing the King's Theory

When Saifon's parents began their farm in the late 1970's, the King's Theory was a major influence. A basic goal was the self-sufficiency of rural farm families. Based on the average Thai family farm of 15 rai (~ 2.4 hectares or 6 acres), the land use suggested by the King was:

- **30% for Ponds:** Water is critical for growing the family's annual rice supply. The family could also raise fish and aquatic plants for food. If they had a surplus and if local market conditions were favorable, they could earn extra cash.

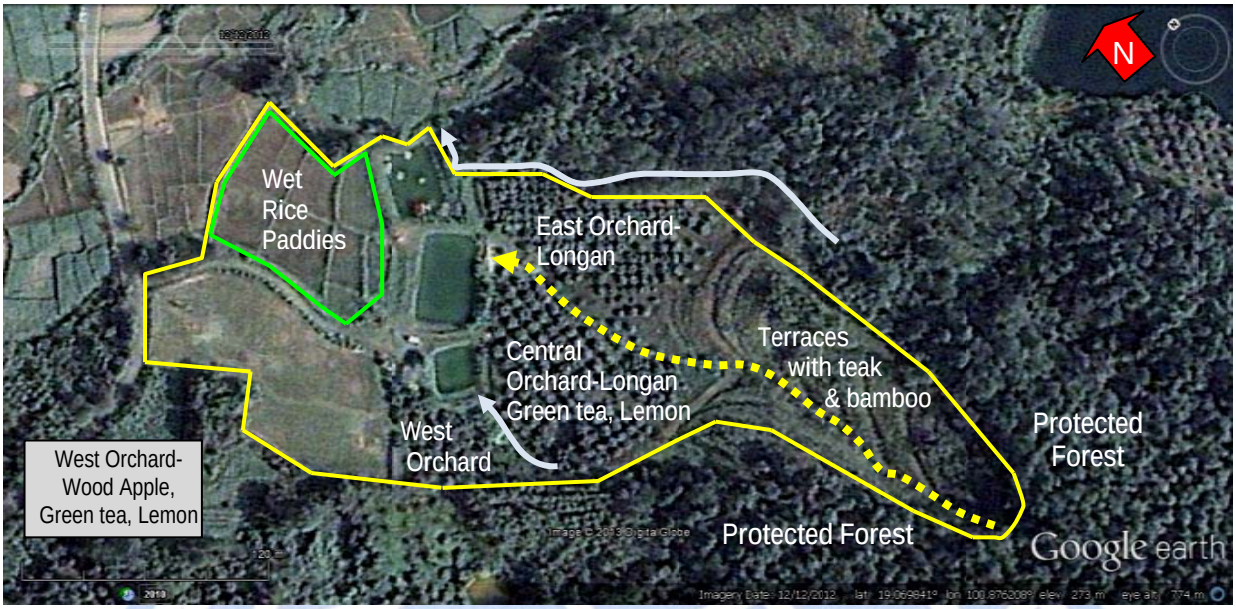
- **30 % for Rice:** This is the staple crop for Thai families. A critical benchmark for success is producing the family's annual supply.
- **30% for Crops:** This includes trees, fruits, herbs, vegetables, and a wide variety of food and fiber plants to meet the family needs. This diversity for self-sufficiency is also consistent with protecting the local bio-diversity.
- **10 % for Housing and Other Activities:** No more than 10% of the land should be used for housing, roads, pathways, earthen bunds, farm buildings, animal pens, plant nurseries, and backyard gardens.

The topographic and climatic variations in Thailand preclude a "one size fits all" approach for sustainable agriculture. So the King advised farmers to adapt the land use proportions to the particular conditions of their farm. Our farm is a case in point.

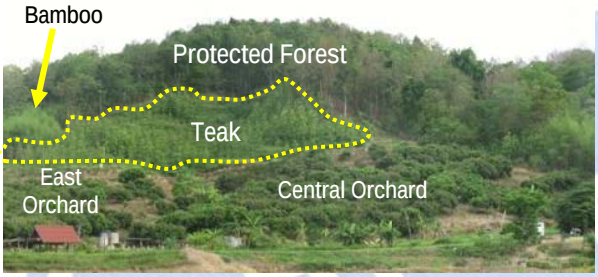
Saifon's parents were the first farmers in our area to dig a fishpond on their farm. They did it manually. They couldn't afford to hire a back hoe. There are no records about the planning for this fishpond. Saifon's father passed away nearly 2 decades ago.


The first fishpond and original sala built by Saifon's Dad

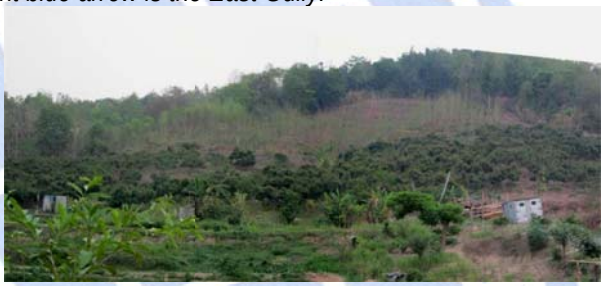
Reading the landscape using the geographic systems model, it seems he was well aware of the topography of his farm. The government protected forest above the upper slopes of the farm created the watershed that fed the Central Gully in the rainy season. During the Winter and Summer dry season, ground water seepage maintained the water level in the pond.



The approximate boundary of our farm. The Central Gully is the dashed yellow arrow. The short light blue arrow is the West Gully. The medium light blue arrow is the East Gully.



The upper terraces in the rainy season



The upper terraces of our farm in the dry season

Water is critical to agriculture. The SW monsoon is the source of rain, and our farm is dependent on rain as the main water source. We get very little irrigation water from the nearby reservoir. So a large portion of our farm (e.g. the orchards and terraces planted in teak) help to extend the natural forest watershed for our farm. This watershed supplies year-round ground seepage to fill our fishponds. This is a key factor in our ability to grow our family's annual rice supply. The combined watershed ground and fishpond seepage feeds the shallow wells we use for our gardens. Rainwater harvesting fills our 9 water tanks to water gardens and supply the farmhouse. In the summer dry season, we sometimes fill the water tanks using water from the wells and fishponds.

Our farm building with water storage tanks.

No system is perfect. Building fishponds and water tanks is expensive. So we also try to store water in the soil. This is easier for most Thai farmers, but it is not practiced widely or often. This is an area for improvement.

Soil water storage combines various methods: mulching; composting; growing soil biota; check dams; redirecting

surface flow, using planted flow paths, and making swales to surface water flow and increase water infiltration to the soil.

Other soil building practices include: no-till / low till (no or minimal plowing); crop rotation, companion planting and mixed cropping, using green manures and other nitrogen-fixing cover crops. Many farmers focus on growing crops and tend to forget or ignore "growing soil."

Planting rice using dibble sticks rather than plowing

Soil formation is often regarded as a natural ***geological*** process. We see soil development and sustainable enhancement as a primary activity for small farmers.

It is generally accepted the use of synthetic agricultural chemicals is NOT conducive to most forms of soil biota. A good low-cost non-technical indicator of soil health is an earthworm census and visually inspecting soil for diverse soil organisms. Increasing attention is paid to soil micro-organisms and the use of effective or indigenous micro-organisms (EM or IM respectively). Most rural farmers can get or make these free or at very low cost. The results can be astounding increases in productivity ranging from 40%-250%. In contrast to expensive synthetic agricultural chemicals, there is just no cost-benefit comparison.

COMPOST (Creating Our Most Precious Organic Soil Treatment) shows small rural farm families how to turn discarded, freely available organic matter into a valuable farm resource. Taking an integrated approach to farming helps recycle nutrients on the farm to reduce off-farm expenses. The cost savings can then be used to help get the family out of debt. Poor soil and debt seem to be universal traits of impoverished rural farmers.

We focus our attention at the lowest level of the King's Theory: the small rural farmer. For us, the top priority is family food security; making money is a lower priority. We avoid debt by living within a limited budget. Admittedly, this does not build a national food supply. But if more small farmers had food security and no debt, there would be fewer people living in poverty. This decreases the number of hungry poor people in a country.

Once out of poverty, the next step is to enable more rural farm children to get an education. The education should include practical links of classroom lessons to sustainable agriculture and effective management of family finances. Young students can carry the lessons back to the family and farm. This forges an important information conduit from theory to practice. Many sustainable agricultural practices exist and have worked successfully for decades. But many rural farmers lack access to the information. It is a basic reality that making money in the short-run takes priority over the long term of environmental balance and sustenance. And we know the small rural farmers and their families and children suffer for it.

Enjoying the Fruits of Our Labor

One of the great benefits of having our farm is the variety of fresh fruit on our table. Mangos are ripening, and this year the trees along the driveway are producing lots of fruit. Other fruits that will be ripening soon are Wood apples, Jack fruit, bananas, limes, pineapples, and papayas.

We think ourselves fortunate Thailand has water resources and a mild climate to allow growing food year round. These were key points in our plan to move here.

Wrapped mangos on a tree along the farm driveway

Joy and Net unwrap mangos from our farm

The abundance of mangos creates a surplus for sale and barter.

In season, we have mangos at all 3 meals each day.

We also continue to get Thai egg plants and Japanese egg plants from the farm garden beds. The monsoon rains haven't arrived yet, but it seems the mulching and composting improved the soil moisture retention in the gardens. We do minimal watering to keep the gardens going.

For most fruits, the harvest season is similar for a particular fruit and farm in the same general area. So far we harvest over 100 kgs of mangos. Thus market prices are depressed. Thus we focus on using our fruit as 1) family food; 2) barter with relatives and friends who don't grow what we have; 3) goodwill gifts to reinforce our social and food safety network; 4) possible sale if market conditions are right. This makes it harder to calculate the financial success of our farm in dollars.

One of the 6 types of bananas from our farm

Red bananas for our table

We get papayas year round at home and on the farm

Banana buds and pineapple

Thai egg plants keep coming in

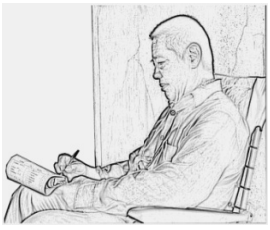
Japanese egg plants from the driveway garden beds

Dragon fruit blossoms mean more fruit on the way

We start pickling tea leaves again.

Porch Ponderings

Pre-Emptive Consumer Conservation



As the sky darkened and thunder sounded, we took shelter on the farm porch. It was a nice time to take a break and think. Poverty is often defined by an income level (or perhaps a lack of money). So I wondered what role can this play in the solving of global environmental problems. Last month we mentioned our paper "Funding Farmers for Climate Change Mitigation" ($F2C^2M$).

When I left home and headed to the farm, I walked pass laundry put out in the backyard to dry. Now, sitting on the porch, I began to think about things poor people do that make them part of the solution to some global environmental issues by being "non-players." For example, drying laundry in the sun doesn't use other energy as it does in the developed world. Many poor farmers don't have a truck, so they don't use much gasoline or diesel fuel. This also means they are not buying many of the consumer good that create so much of the environmental problems we have regarding toxic wastes and other forms of pollution. So rather than being a part of the problem, their non-participation actually reduces the potential pollution problem. Consider China's growth in personal automobiles relative to the air pollution they have today. Then contrast it to the time when most common people only had a bicycle.

Drying clothes to dry in the sun has minimal impact

We are not saying people should NOT buy things to improve their lives. What we are saying is why not reward people who chose NOT to buy (or who do not buy) things that are known to create pollution and environmental problems? For those in poverty, who probably cannot afford to buy, consider the typical pattern of economic growth. As incomes rise, these people tend to WANT to buy things associated with the middle and upper classes. However, a program micro-credit access linked to sustainable agricultural practices gives impoverished rural farmers new options and opportunities for survival and success.

Can a similar approach be combined with water and energy conservation? It has been established that conservation efforts provide a better return on investment than trying to expand water and energy supplies. Many past water / energy rationing plans calculated rationing levels based on past consumption. These schemes seemed to punish those who conserved and rewarded the more wasteful. However, linking micro-credit access to efficient water / energy conservation practices could be a way to better reward consumers. This might be doubly so if the spending were directed to improving consumer conservation equipment and practices.

The Red Sun Season

Smoke and haze from land clearing fires makes for blood red sunrises and sunsets. Recent laws restrict and prohibit burning, but enforcement is ineffective. Burning to clear fields is a cultural tradition that is hard to change.

During dinner, we heard the crackling of fire. A quick glance across the river revealed the source of the sound. By the time we got a camera, the flames were dying. Many fires to clear fields flare up and die quickly due to the nature of the fuel. These are similar to grass fires. Grass is fine textured and tends to burn rapidly. Once the fuel is exhausted the fire dies. There doesn't appear to be much smoke. But it all adds up. All through the Nam Yang valley, farmers burn their fields.

Next to our farm, a fire drives smoke into the sky. When clearing land that had bamboo, the fire is puncutated with explosions from the bamboo cells. The sound is like large firecrackers.

In Ban Na Fa, villagers pay for trash collection service. Yet some people still burn their trash. These trash fires include all sorts of materials: natural vegetation, paper, cardboard, plastic (bottles, bags, and wrappers). The hidden menace is the fact that some plastic bottles being burned may have contained a wide variety of chemicals (from cleaners to pesticides). The trash fires create smoke that is more dangerous than that of land clearing fires.

We advocate composting and recycling as much of household trash as possible to reduce the total bulk of materials going to the local landfill. [Note: Landfills can pose a significant threat to water quality due to leaching and runoff.] Much of the trash consists of plastic bags and food wrappers. In the past, many traditional Thai foods were wrapped with leaves. When finished eating the food, the leaf wrappers were tossed to decompose. With new plastic wrappers, the habit of tossing continues and this creates problems for us today.

Thailand's Water Supply

Thailand is unlike its SE Asia neighbors in two unique ways: 1) it was never colonized by another nation; 2) the Kingdom's major river basin, the Chao Phraya, is entirely within its boundaries. In contrast, Britain occupied (Burma, now Myanmar; and Malaysia) while the French claimed Laos and Cambodia. The headwaters of the major rivers of these Thai neighbors are in China. As more dams are built in China along these rivers, downstream water supply is a potential big problem. Water is critical for agriculture, and China, in particular, is taking steps to secure more water.

Thailand's water supply depends on the annual SW monsoon rains. While no one can control this, there are threats to Chao Phraya basin's water quality from human sewerage, industrial / manufacturing, mining and agricultural pollution. UN estimates are 25% of rural people and 40% of urban people have access to safe water. Only 21% of daily community wastewater is treated. The UN report expressed concern that no government agency was in charge of monitoring water quality inside the household. We have to wonder if major benefits and cost savings can be realized using composting toilets advocated by Jenkins (re: Humanure Toilets https://humanurehandbook.com/instructions.html). Humanure composting toilets are more suitable in rural areas, but consider that more than half of Thais live there. Among the possible savings: reduced need to build sewer systems and wastewater treatment facilities, fewer cases of gastrointestinal diseases and associated illnesses / deaths, etc.

Annual flood waters ultimately flow past Bangkok into the sea. That water is lost to the national water inventory. Ultimately, it returns via the hydrologic cycle.

Global climate change models suggest longer, hotter, drier periods may be in store for Thailand. Recent droughts seem to lend credibility to these forecasts. The economics of water use show greater return liter for liter when water is used for industry than for agriculture. However, everyone needs to eat, so agriculture still plays a vital role in a nation's overall security. The realities are: city populations are growing faster (while rural areas see overall declining populations) and political power rests in cities (the seat of government and home to industries). Another climate change related issue is rising sea level. Salt water contamination of coastal freshwater wells increases the water supply needs of citizens and industries. Farmers are also being negatively impacted as salt water reduces crop production. It seems self-evident that farmers (who currently use more than half of the Kingdom's water) will get less water as a larger share goes to cities.

There are no easy answers to any of these issues. It is very clear to us that water and food supplies are:

- vital to national security;
- highly connected with environmental and economics;
- urban to rural migration creates farm labor shortages;
- farmers must produce more food with less water.

Some RTC-TH Fans

You've heard that old saying "two heads are better than one." Well, the RTC-TH can expand on that with "4 Moreheads are better than one!" Pictured below are Wes (KC5ZGC) and his family (Kait, Lois, and Kyli) enjoying the RTC-TH lesson "Making Paper from Elephant Dung." They have been going through the lesson archive website and enjoying it.

Christina Hayden (daughter of Mark & Carolyn Hayden) visited Thailand and the RTC-TH in March 2010. When she returned home (Salt Lake City, UT) she launched Global Butterfly to adapt RTC-TH sustainable methods and Community-based Education (C-bE) to serving local communities (especially resettled refugees). At the time she was working at the Hser Ner Moo Community and Welcome Center.

Christina is a firm believer in the RTC-TH slogan "it is better to network than to not work." Living this idea to the fullest, she was able to bring together resettled refugees from many nations, local business sponsors / donors, and people to launch a number of community garden projects. FFI: www.neighborhoodlink.com/Global_Butterfly