



RTC-TH Oct 2013 Update 2

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

ชุมชนตามสิ่งแวดล้อมศึกษาเพื่อการพึ่งตัวเองและยั่งยืนชนบทขนาดเล็กครอบครัวฟาร์ม

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

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New Plants for Our Farm



Giant tamarind (about 4X larger)

Before the end of the 2013 rainy season, we embarked on a trip to find new plants for our farm. We focused on plants not readily available in our area. Near the top of the list was a giant form of tamarind. The seed pods are 4 times larger than the tamarind in our area.

We bought a Giant Custard Apple at a roadside stand in the mountains. We are hoping we can save the seeds and try to grow this in our area.



We acquired about 65 giant tamarind seedlings.




Giant Custard apple next to a regular-sized one.

We also got another kind of chestnut seedling that is different than the type available in our local area. The nursery gave us 15 more plants bringing the total inventory of this plant to 65 for this trip.



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This species of bamboo produces shoots that can be eaten raw.



We made contact with a nursery source of Arabica coffee seedlings

During the trip, we learned of the potential to earn more from a plant nursery operation than from the fruit produced by the seedlings we bought. We are now rethinking our plans for the plants we bought on this trip. Some will be planted on the farm. But we are now thinking about starting a plant nursery.



When we returned, we managed to sell some seedlings at a substantial profit. We started a pilot nursery at our business location in Ban Wangwa. The photos on the right and below are some of the plants available for sale. There is more business traffic exposure along the highway than our village location. The timing couldn't be better. A neighboring business dealing with garden wares and plants recently closed. 🌐



Garden Shade Structure

With a few weeks of the rainy season remaining, we began preparing for the backyard garden for the hot season. The new carport shades the garden from the afternoon sun. We set up a lightweight shade structure of bamboo and shade cloth.



We cut bamboo for the shade structure from our Hill Top bamboo patch. We trimmed the poles and carried them off the hill and went back home.



Placing the shade structure over the raised bed also provide added shade for the radio station East wall. After the initial set up, we decided to add a short curtain to give more shade during the intense early and mid-morning sun.

When the hot season arrives, the backyard garden beds will need all the shade they can get to reduce evaporative losses and heat stress on the plants. 🌍



Rainy Season is Bug Season



Mole crickets (Krachorn, Jee kung)

Tropical heat and moisture combine to create a suitable habitat for many life-forms. The wet season brings on an explosion of life. For many northern Thai people, this means....yummy times! The abundance of insects gives the Lanna Thai people many delicacies and treats for their table and palates. Here are samplings of some of these delicacies. It all goes to show how close northern Thai people live to nature. They enjoy the bountiful array of natural foods here.



Spur-throated grasshopper (takatan)



Ground cricket (Jing reed)



Giant flying red ant (Meng mun)



Cicada larvae (juk jan)



Silk worm pupae (Duck dae tua mai)



Bamboo caterpillars (Rot duan, Duang mai pai)



Wasp pupae (Tor)



Bee pupae (Duck dae phung)

We came across a Thai government nutritional report on some of the food insects. A table of selected nutritional data is presented below from that report.

| Essential Amino Acid content of Thai Edible Insects (mg/100g dry weight) and Daily Requirements for Humans (mg/kg body weight per day) | | | | | | | | | | |
|--|------------------------------------|------|------|---------------------|---------|------|------|------|------------------|----------------------------------|
| Insect | Essential Amino Acids ¹ | | | | | | | | Amino Acid Score | Limiting Amino Acid ¹ |
| | Ile | Leu | Lys | Met+Cy _s | Phe+Tyr | Thr | Trp | Val | | |
| Ground cricket | 29.8 | 60.9 | 46.0 | 30.9 | 62.4 | 29.0 | 24.4 | 34.4 | 68.7 | Thr |
| Silk worm pupae | 46.1 | 70.6 | 77.2 | 36.3 | 122.0 | 45.3 | 19.0 | 52.2 | 100 | ----- |
| Spur-throated grasshopper | 32.7 | 59.5 | 35.7 | 20.9 | 60.0 | 22.3 | 17.3 | 35.6 | 55.8 | Thr |
| Bamboo caterpillar | 33.9 | 60.0 | 56.0 | 41.8 | 100.8 | 34.9 | 41.1 | 38.8 | 77.5 | Thr |
| WHO / FAO | | | | | | | | | | |
| Preschooler | 28 | 66 | 58 | 25 | 63 | 34 | 11 | 35 | | |
| Adult | 13 | 19 | 16 | 17 | 19 | 9 | 5 | 13 | | |
| Note 1: Ile = Isoleucine; Leu = Leucine; Lys = Lysine; Met = Methlonine; Cys = Cyusteine; Phe = Phenylalanine; Tyr – Tyrosine; Thr – Threonine; Trp = Tryptophan; Val = Valine | | | | | | | | | | |
| Adapted from Bureau of Nutrition, "Amino Acid Content of Thai Foods", Dept. of Health, Bangkok, 2001: pp. 50-51 | | | | | | | | | | |

Many cultures in Africa, Asia, and Latin America include a wide variety of insects in their diets. Mexico leads the world in the count of species of edible insects. Thailand is second with 172 edible insect species. The Thai count goes like this:

| Insect group | Number of species |
|--|-------------------|
| Beetles | 61 |
| Lepidopterans (butterflies, moths, skippers) | 47 |
| Crickets and grasshoppers | 22 |
| Hymenopterans (bees, wasps, and related forms) | 16 |
| Hemipterans (true bugs) | 11 |
| Homopterans (cicadas, aphids, etc) | 11 |
| Dragonflies | 4 |

Eating insects has captured the attention of the UN FAO to meet the food needs of impoverished people around the world. Considering the wide distribution of insects (and their prolific numbers), the use of edible insects in food relief efforts could be a very feasible approach. It would be cost effective, too. Using local insects eliminates costly shipping charges to move relief food around the world. While eating insects may not appeal to many in developed countries, it is a very practical approach for cultures already doing it. 🌐

Scout Trip: Sparky Near Ban Sali



The scout trip route: paved road (solid yellow line); dirt road (dashed yellow line).

This scout trip explores a dirt road across the Nam Yang floodplain west of Ban Sali. The map above shows the general route from our Ban Na Fa station.



The dirt road crossing the Nam Yang flood plain.



Paddy rice is the dominant crop in the Nam Yang flood plain.



The numbers on the photo map correspond to the ID numbers on the photos.



As we approached the Nam Yang, the road had more gravel and scrub vegetation replaced the rice paddies.



We found machinery for a small sand / gravel quarry. A pond and pump supplied the wash water system.



Scout trips like this prove the Sparky can traverse dirt roads with careful driving. Knowing the tread width and wheel base enables careful judgment to negotiate potholes, mud holes, and rocky spots that threaten to high center Sparky. A big challenge is a narrow “dead end”. With insufficient space to turn around, we have to make the return trip in reverse. Success comes with going slow and taking our time. No need to rush things....hahahaha...after all, we are retired!

The bonus of a scout trip is the chance to see different perspectives of the Nam Yang Valley and the vicinity. 🌐



Our destination: A crossing on the Nam Yang west of Ban Sali. Some farmers wade across to get to their fields.

Growing in the Garden

Here are some photos of the bounty from our backyard garden. 🌐



Thai Custard Apple (aka Sugar Apple; annona squamosa)



Bananas and banana buds



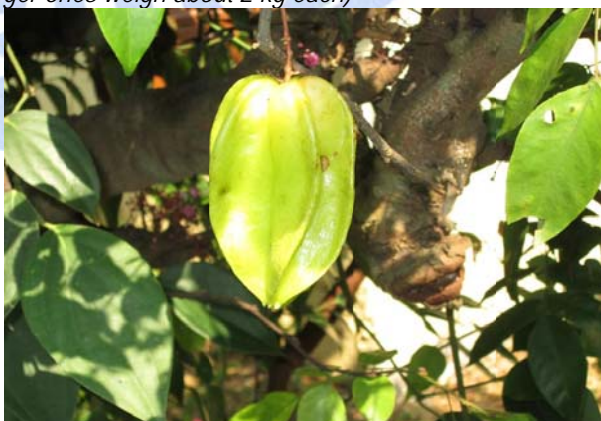
Red weaver ants (Thais love the eggs)



Papayas (about 1-4 each day; larger ones weigh about 2 kg each)



Guavas



Star fruit

Our Rice Crop

We started planting dry land sticky rice as a hedge against the drought. We planted the dry land rice in late June.



We set out bird chasers to protect the dry land rice with well formed panicles.



Close-up views of the dry land rice grains that are nearly fully formed.



The dry land sticky rice on the Hill Top site is at nearly the same stage of development as the main farm.



Our paddy rice (planted after the dry land rice) has yet to flower.

Farm Fresh Firewood

As part of our on-farm nutrient-energy cycling, pruned branches from the orchard are gathered and cut to size for the farmhouse stove. Other than the occasional cooking fire, our main need is firewood to steam the tea leaves for pickling. Since the tea plants matured, there is a marked increase in producing *miang* (the pickled tea leaf energy tonic used by local workers).

Stockpiling firewood is also part of the emergency preparedness plans for the farm. While most homes in the village



Pruned branches are gathered from the orchard.



Leaves will be used for mulch



The branches are piled near the farmhouse
use LPG (bottled liquefied petroleum gas) as the main cooking fuel, you can find the traditional wood and charcoal stoves, too. When the subsidy for LPG is reduced or removed, more families may shift to use wood and charcoal for daily cooking.

For now, wood fire is our main way to heat water to steam the tea leaves for pickling. The wood ash is used to make lye. Lye can be used as liquid bleach for whitening laundry. We also dilute it for use as a weed killer. 🌐



They are cut to suitable size and stacked



Supporting GERC's JOTA 2013

Another year, another October, and the RTC-TH EmComm EchoLink® station once again joined the Glendora Emergency Radio Communication's (GERC) EchoLink® demonstration for Jamboree On The Air (JOTA) 2013.

Our support prior to the event included recruiting other EchoLink® stations to participate, assisting in making customized event QSL cards for Dennis, KI6NQG (GERC's JOTA EchoLink® control operator), Phill VK2BYC and George KC9TIJ, the Port Orford Amateur Radio Club, and Ray AH6TY (participating remote EchoLink® stations). These cards are given to visitors to the K6U GERC event who make a radio contact with a station. Dennis (KI6NQG), as the control operator, will facilitate the contacts and issue the appropriate QSL cards.

Scouts who take the Radio Merit Badge class must either make an actual radio contact or visit a radio station to complete the course. So this event and QSL card can help them fulfill that requirement. Having international contacts for JOTA adds to the excitement and awe of ham radio!

K6U
Kilo Six Uniform
N 34.088866 W 117.865404
UTC-8 ITU 6 CQ 3
Echolink node 358124 E-mail: n7yla@arri.net

Dennis KI6NQG
EchoLink Control Operator

Confirming QSO with Date/Time (UTC) Freq/Mode Power Report
K6U EchoLink N/A 5/9 Thanks for the QSO de K6U

HS0ZHM GREG
Hotel Sierra Zero Zulu Hotel Mike
Station 3: Ban Na Fa (Village)
Ban Na Fa, Jompra, Thawangpha, Nan Province 55140 Thailand

N 19.0745889 E 100.8663806
250 m AMSL UTC +7
OK09kb ITU 49 CQ 26
Email: hs0zhm@gmail.com

The Rural Training Center-Thailand EmComm ready to serve and sustain our community.

Confirming QSO with Date/Time (UTC) Location Freq/Mode Power Report
K6U USA Echolink N/A 5/9

George KC9TIJ
Kilo Charlie Nine Tango India Juliet
N 40.525800 W 85.643276 EN70em
UTC -5 ITU 8 CQ 4
Echolink node 553653

George Cooper
7 Colonial Park Drive, Marion, IN 46953 USA

Confirming QSO w/ Date/Time(UTC) Freq/Mode Power Report
K6U EchoLink N/A 5/9 Thanks for the QSO de KC9TIJ

VK2BYC Phill
Victor Kilo Two Bravo Yankee Charlie

33.26 S 151.21 E
UTC +10 QF56qn ITU 59 CQ 30
Email: onerainbowrider@yahoo.com.au

7/123 Wells Street
Springfield NSW 2250 Australia

Confirming QSO with Date/Time (UTC) Location Freq/Mode Power Report
K6U Glendora, CA-USA Echolink N/A 5-9

Port Orford Amateur Radio Club
N 42.74132 E 124.502879 32 m AMSL UTC-8 CN72rr ITU 6 CQ 3

K7POH
Kilo Seven Papa Oscar Hotel
EchoLink Node #721727 on the POARC repeater
K7POH 146.200 MHz
+ Offset PL 118.8

Confirming QSO with Date/Time (UTC) Freq/Mode Power Report
K6U Echolink N/A 5-9

USS Missouri
JOTA Boy Scouts
Oct 19-20, 2013

Operating Portable from BB-63 USS Missouri

Confirming QSO with Date/Time (UTC) Mode/Freq Power Report
K6U Echolink N/A 5/9 Thanks for the QSO de AH6TY



The general GERC 2013 JOTA site layout diagram

A week prior to the event, Mark emailed a request to help prepare a site layout diagram. We got a Google Earth image of the K6U GERC JOTA site and prepared adjustable labels. This gave Mark the flexibility to adjust the positions of the various radio stations as needed.

The plan is to move small groups of about 6 scouts at a time through all 5 stations. Leading up to JOTA, GERC



members Jim KG6TQT and Frank KG6TQV taught 2 Scout radio merit badge classes. The GERC JOTA event gave scouts the opportunity to use 2 HF radios, 2 VHF stations each on a different repeater, a UHF station and EchoLink®. EchoLink® is a consistent performer for GERC's JOTA scouts and visitors.

We got our station up and running on Sunday morning (early). It was a day of two breakfasts for us. It was late Saturday afternoon for the K6U GERC station. We made contact with 3 visitors (Steven, Basil, and Ken), the 2 GERC K6U control operators (Dave, AG6VH and Dennis, KI6NQG), and some of the supporting EchoLink stations (George, KC9TIJ in Indiana; Jimmy, KE7FXM in Oregon; Phill VK2BYC in Australia). As the dust settles, we begin thinking of plans for next year! 🌐



Greg (HS0ZHM), on EchoLink for the GERC JOTA



The popular GERC EchoLink® Station: Dave AG6VH, EchoLink® control operator assisted Dennis KI6NQG who attended in while enduring a chest cold.



Some key GERC-JOTA 2013 personnel (L to R): Victor KK6FXF control operator for the 2m repeater station, Jim KG6TQT, Mark N7YLA, Frank KG6TQV.