

9,999,999 Trees: A Comprehensive Approach to Sustainable Rural Development

by

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Abstract

The world has undergone a massive transformation from rural-agrarian to urban-consumer society over the past three centuries. It began in the West and is now moving rapidly in Southeast Asia. A major part of this process has involved the move from local-use subsistence to export-oriented market farming. This has generally been a helpful and progressive force, generally increasing the quality of life for many. Much of rural Southeast Asia has experienced this enhanced quality of life, with lower mortality and morbidity, greater education and enhanced opportunities.

However, there are often downsides to this development. Mono-cropping for consumption in a distant market exposes farmers to serious economic risks. Pesticides and commercial fertilizers pollute the environment, often leading to ever-increasing costs and spiraling debts. Traditional knowledge that helps people cope is lost. Individuals become more isolated and the stress on the family unit increases. It is common for drug use to increase. Many need to seek employment far away from where they live.

Promotion of a more indigenous, broad based, environmentally sustainable rural development is one way to break this cycle. This case provides an example from rural Thailand, where a locally based alternative approach to community development program has been undertaken. The Sustainable Community Development Foundation brings together a variety of resources as strategic partners that share the goal of building self-reliant rural people and communities. This chapter describes the processes used and summarizes how water shortages, the growing of food for local consumption and tree planting for farming and economic development were undertaken.

Keywords: Thailand, Ubonrat, Environment, Public Participation

The Setting

Ubonrat is the main town of Ubonrat district in Khon Kaen province in the Northeast of Thailand. The district has a population of about 45,000, with about 15,000 in the town itself. The district has 68 villages, with roughly 30,000 people. Thailand is somewhat remarkable in being far less urbanized than other countries of the same level of development. For example, the country is now roughly 30 percent urbanized, while the Philippines is over 50 percent urbanized, but is

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only half as wealthy as Thailand. The country has been called a country of commuters; many people continue to live in the villages and to commute to towns for work.

This project also works in three other districts in Khon Kaen Province: Phon, Waeng- Noi and Waeng-Yai. Together all four districts contain 322 villages with a total population of 202,105.

The Northeast, also known as Isaan, has long been one of Thailand's poorest regions. It has a long history of sending waves of poor to Bangkok, many working as taxi drivers in Bangkok. The region lies on a plateau with an elevation of roughly 500-meter that drains into the Mekong River. Agriculture has long been the main industry, with rice the major crop. Agriculture is rain fed, with little irrigation. The climate has three seasons; a four-month winter cool season during November through February, a hot, dry season from March through May, and a rainy season from late May through mid-October. The dry season sees one or two days of rain with less than 20 mm per month. In the rainy season, there are 14-18 days of rain producing 150-230 mm per month. The dry season poses major challenges for agriculture and for simple healthy living in the villages.

In the past half century, the central government has directed considerable resources toward developing the Northeast. Universities have been established, an extensive road system has been built and some efforts have been made to promote industrial development. There has been some investment in water resources, and Ubonrat has a major dam to provide water and electricity to the town. The region remains largely rain fed, however.

More recently, the region has seen the expansion of rubber plantations along the Mekong River, as the government has developed a new drought resistant form of rubber adapted to the long winter dry season. The agricultural development and road programs have produced a substantial increase in rural incomes, but have not solved all the problems. Some forces have created new and more serious problems, which we examine below.

Much of rural Thailand, especially in the Northeast, has a long tradition of local crafts. Houses are typically built on stilts, some 4-8 feet off the ground. Under many houses are looms for weaving. Silk worms are cultivated and silk is spun and woven. Cotton is also spun and woven. These traditional skills have been the basis for a modern textile and fashion industry worth tens of billions of dollars in both export and local sales. Other traditional skills include silver working, brass sculpture, woodcarving, and ceramics. All can provide substantial income for rural Thais.

One of the most significant developments for Ubonrat, and all of Thailand, has been the development of health and medical services. In the past half century, Thailand has built a remarkably successful health care system, with a hospital in every district, providing effective primary health care and an upward referral system. Thailand achieved one of the world's most rapid fertility declines in the three decades after 1970, a period which also saw a rapid drop in infant mortality. HIV/AIDS has become a major problem since the 1980s. The first reactions of government were to deny the problem. By 1985-90, however, the government developed an effective preventive and curative program that greatly reduced the incidence and brought new drug therapies to even the most remote rural areas. The northeast region, and Ubonrat itself, have benefitted greatly from these developments.

One area of serious depletion has been the forest cover. The region was the home to extensive teak forests where logging was so heavy that it nearly drove the species to extinction. Starting in the 1980s, the government began to restrict logging, with it finally being completely eliminated. Now, extensive replanting schemes hold out the promise of a more sustainable

industry, though that still lies somewhat in the future. Finally, the region has developed politically over the past half century (Keyes 2014).

Along with the North, it now has a large and active educated middle class, with a stronger political voice. The area has recently supported an emerging opposition to the old ruling Bangkok elite, and has also produced tension with the military officers who took over the national government in 2014.

The Problem²

It is not sufficient to think that the health of the community is simply a matter of improved medical services and applying more advanced technology. When the family does not have enough to eat, is overburdened by debt, or is falling apart from stress, no amount of medicines, iron supplements, or immunizations can help. What is needed is a much more radical approach to the health and wellbeing of the community, one that goes beyond the distribution of medicine, providing immunizations and health education. The root causes of illness often lie in the economic and social conditions of the community. In-patient admissions in Ubonrat community hospital increased from 3-5 patients per day in 1985 to 30–50 patients per day in 2015. Today more than 70 percent of patients who visit Ubonrat Hospital suffer from easily preventable conditions, such as peptic ulcers, dental caries, diarrhea, or injuries from accidents. While the public health system has been successful at overcoming many preventable diseases like polio, smallpox, tuberculosis, and HIV/AIDS, it still has a long way to go in its health promotion and disease prevention activities.

As a result, most health promotion and disease prevention activities fail repeatedly. In 2013 the Sustainable Community Development Foundation did a survey of 2,500 households in its project area and found that adolescents and the elderly are the two groups that suffer the most from mental health problems. Adolescents want to experiment, to express themselves, and be individuals. The elderly commonly have problems concerning stress, insomnia, and having no one to look after them. Less than 5 percent of the people in Ubonrat district exercise regularly.

There are other dimensions of this problem. For the last fifty years, foreign companies, with cooperation of the Thai government, have been extracting much of the country's environmental capital. For instance, trees have been cut down to be traded for foreign currency that can be used to buy still more high-impact technology. The forest cover in northeast Thailand has been reduced from 30 percent in 1973 to 15 percent today (Office of the Forest Land Management, 2014). This has had adverse effects on a rural Thai society that traditionally depended on the forest, with the poor losing a major source of their livelihood.

Exacerbating the problems of the poor, the government has initiated many farming programs that focus on mono-cropping, the products of which are used primarily for export. Cash cropping makes farmers reliant on the financial returns from their harvest to meet their own dietary needs and other basic needs. Their food no longer comes from their own farms, but from the markets. This increases the uncertainty of obtaining a balanced diet and maintaining good health.

² Sources of information for this case rely heavily on the records of Ubonrat Hospital and the Sustainable Community Development Foundation.

Many farmers have found the profits from cash cropping to be far from certain, contrary to their expectations. Unlike subsistence farming, producing for the market is a high investment business. Heavy equipment, commercial fertilizers and pesticides all need to be purchased. Moreover, when the government promotes a particular crop, the market can easily become flooded, leading to depressed prices. In addition, intensive farming destroys biodiversity and soil fertility. Droughts and pests can decimate an entire monocrop, leaving the farmer with little or nothing. Ever larger doses of chemical fertilizers are needed to maintain soil fertility and boost yields. More chemical pesticides are employed to keep pests away. After just one bad harvest, the agrochemical bills alone can be enough to push farmers into a cycle of rising debt. This in turn eventually becomes impossible to pay off through farming activities, putting elderly villagers, in particular, under tremendous psychological stress. Many farmers find themselves struggling to find a way to survive in a world in which their experience, traditions and education have ill equipped them to cope.

The rise of commercialism, the flood of hard-to-interpret information, the powerful influence of central government policies, and the growing dependency on a monetary economy in which the farmers often find themselves among the poorest have effectively paralyzed many communities. They are still trapped in an endless cycle of debt after many years of working diligently.

Poverty, debt, and the growing unattractiveness of this lifestyle have led to large-scale labor migration. Migrant labor, for example, fuels the massive growth of infrastructure in the Thai capital of Bangkok. The father, the head of the household, has to migrate to sell his labor in the big city, which might be in Bangkok or could even be abroad, to prevent his family from starving. It is well known that many people sell their children as factory labor, and their wives and daughters must work as prostitutes.

The government commonly is not very helpful in addressing these issues. The political system, which should be a source of hope, is suffering from an ongoing crisis of faith because of a pattern of patronage and extensive vote buying. Elected officials then try to recover their investment in every way possible.

The administrative system is highly centralized with many rules and regulations, resulting in low efficiency. Accountability for government agencies is at a low level. The budget is not continuous but is allocated on a year-by-year basis. Local government officers in this centralized system in turn have no decision-making power, lack confidence, and feel that it is better to do nothing because it is less risky to their positions.

Education aims to satisfy the requirements of the industrial and service sectors in a modern economy, attaching less importance to the agricultural sector, despite it being an important foundation of Thai society. The philosophy of promoting only the truly gifted students, instead of helping everyone to achieve their full potential according to their individual ability, fails many children every year.

The Intervention

The creation of knowledge that leads to mutual self-reliance is the most pressing task facing Thailand, if it is to avoid irreparable damage. This task must undoubtedly fall to the villages.

Ubonrat Hospital is a public hospital located in Ubonrat district, Khon Kaen province, in northeastern Thailand. The hospital was established in 1983, in accordance with the national development plan to have community hospitals in every district. It has become a place for comprehensive community development in terms of service, research and training. The hospital serves its traditional role of treating patients and providing services for the sick. It is involved in health promotion activities, which include preventive health care and health education. It has also taken a number of community development initiatives and mainstreamed them into the health care agenda of the hospital. In addition, it is a site for research activities on areas such as self-help health care, childhood diarrhea, and iron supplement tablets for expectant mothers. The hospital has become a place of study for groups of villagers, academics, high-level administrators, and politicians. It facilitates learning through processes in which individuals and groups think and exchange ideas.

Ubonrat district hospital aims to provide comprehensive health care by taking into account curative, preventive, and community development aspects of health care. The sick are provided with medical attention close to home when needed, followed by an effective referral system if necessary. People are protected from illness through good health promotion and disease prevention measures. They are able to have a good quality of life through sustainable development that focuses on the economy, environment, society, and culture.

Hospital activities aim to empower people so that they are self-reliant, and self-sufficient. Methods include encouraging proper health care at home supported by a referral system; establishing a system for distribution of medicine; guaranteeing access to health care services; building an effective system of record keeping; developing more efficient service techniques to decrease reliance on government funding; improving health care personnel competency; and increasing community participation in patient services.

In 1988, the Ubonrat Public Health Cooperation Committee (UPHCC), with support from the Academic Department of the Food and Drug Administration, invited 30 interested representatives of medicine funds and general stores to hold ongoing monthly discussions to figure out how to distribute sufficient quantities of good quality, safe, inexpensive medicines in the villages. UPHCC began by designating the Ubonrat Hospital dispensary as the central dispensary for the district, with health centers purchasing medicines from this central store. The goal was to enable patients suffering from the same complaint to obtain the same type and make of drug from both the health centers in their villages and the hospital. In order to provide an incentive for the health centers to run well, the UPHCC allocated welfare benefits provided by the Government Pharmaceutical Organization for the health centers and the District Office of Public Health. The UPHCC then sent a working team to inspect each health center every six months. This team consists of representatives from each of the health centers, from the District Office of Public Health, and from Ubonrat hospital.

This led to creation of the District Pharmacy Association in 1996. The aim was to establish a research and development project covering medicine distribution in the community, and to provide funding to reduce the cost of medicines by 25 percent. This funding enables the medicine funds and general stores to sell household medicines at the price set by the Association, while being competitive with medicines sold on the open market and maintaining profitability. The primary desire of its members is to help people in the community in times of sickness. In 1995, 18

traditional healers were invited to meet every two weeks to discuss the future of medicinal herbs and traditional medicine in Ubonrat district.

In order to encourage good health care workers to continue working in the Ubonrat area, UPHCC sponsors joint working activities, like the annual Village Health Volunteers Day, Sports Day, and annual training sessions for village health volunteers. Hospital personnel also have the opportunity to undertake short-term training outside the hospital. The Administrative Committee provides an annual budget of 100,000 Baht for these activities. Money is also available for hospital personnel to undergo long-term training outside the hospital if the Academic Committee approves.

All parties worked together to raise funds. A fundraising drive in 1987 collected over 9,600 USD, which was used to convert an equipment storage building into a ward for monks. They continued to raise funds to buy medical equipment and to establish the Ubonrat Hospital Foundation in order to provide better health services. The village health volunteers keep surveillance on nutritional conditions by weighing children up to five years of age every three months. Teachers also weigh school children twice a year.

The UPHCC has tried to create civic networks at village, *tambon*, and district levels to enable community leaders, teachers, and others who are interested to meet and discuss problems of mental health in the community. The UPHCC also facilitates interest groups for the elderly by providing a space for the group to meet, inviting guest speakers, and organizing study tours to various successful groups of elderly people. In 1998 a savings group was started to provide funds to help in times of need and to assist members and relatives in developing their careers. The UPHCC organizes an annual run on Mahidol Day (September 24) using donations from shops and stores as prizes.

The Sustainable Community Development Foundation (SCDF) evolved from these activities as well as others that aimed at improving the health of the population. The original ideas came from two young doctors who wanted to have an impact that went beyond their medical work and focused on having a sustainable, healthy community. Realizing they were too young to have the credibility and respect needed, they sought help. SCDF was started officially in 1993 under the leadership of Dr. Werapan Supanchaimart³, then deputy director of Khon Kaen Hospital, working with the Well Child Survival Project and the Self-Care Development Program. There also was financial support for training from the World Vision Foundation of Australia (WVF). However, the impressive macro-economic figures for Thailand from 1993-1994 meant that many projects that had received foreign aid no longer did. Finally, in 1995, SCDF was established as a foundation in order to obtain charitable funds to make up for the loss of funding from WVF.

In 1995 and 1996, UNICEF provided funding for learning and for activities in strengthening child rights in schools in the project area, with each school receiving approximately 20,000 baht per year (790 USD at the 1996 exchange rate). However, this work showed that it was impossible to focus solely on child welfare without addressing the larger problems at hand. Issues of child rights would get addressed in the process of tackling other issues.

From 1994 to 1996, the UPHCC and the SCDF, relying on the remaining funding from the World Vision Foundation, hired three NGO development workers to join with public health

³ Dr. Werapan Supanchaimart has received awards for "Outstanding Rural Doctor" from the faculty of Medicine of Siriraj Hospital and "Good Thai Citizen" from the Tarnnamjai Foundation.

workers in six villages in Ubonrat district. Emphasis was placed on strengthening learning processes at both individual and group levels by organizing monthly village-level forums for all members, and monthly district level forums for natural leaders from various villages.

UNICEF replaced WVF and from 1997 to 1998 provided funding to create forums at the village, district, and provincial levels. These forums helped to create different kinds of networks. A few examples are the "Ruam-Jai-Chao-Khon-Kaen Cooperative," a savings cooperative that operates through male community leaders; "the Mit-Mai-Fai-Ngam Women's Group," run by female community leaders; the Teachers' Network; the Public Health Workers' Network; the Village Philosophers' Network of Khon Kaen Province; and the Northeast Region Village Philosophers' Network.

The SCDF approach emphasizes forming groups at the village level that have a shared interest or reflect a similar vision of the future. These groups are connected in a horizontal network with the existing vertical governmental system. Meetings and discussions are held to identify problems, collect and analyze data, understand existing inter-relationships, and find alternative solutions through brainstorming, guest speakers, and study tours. This process was developed gradually and emphasized providing support for regular group meetings, and opportunities to learn about self-reliance, self-awareness, dealing with money, economizing, saving soil quality, water resources, animals, trees, strategic partners, and problem solving.

Today the essence of the SCDF model is to develop individual and community thinking and, in the process, foster a means of dynamic learning that implants itself in the fabric of community life and restores self-reliance. A basic SCDF principle is that self-knowledge makes mutual self-reliance possible. One must have knowledge and understanding in order to adapt to ever-changing conditions, including technology, and to make it possible for communities to become mutually self-reliant.

The SCDF uses three criteria to select cooperating villages:

- They must be agricultural villages;
- There must be no significant conflict in the community that could jeopardize cooperation between villagers; and
- They should be at a level of poverty where they need help but still have enough resources to effect change.

Once a project team has selected a village, a volunteer visits a few times and holds informal discussions to get a rough picture of the wants and needs of the community. During this time, the "natural leaders" will emerge. They will serve as the core group of people the hospital volunteers work with. In the formal process, villagers discuss the past problems in their community, their current situation, and their ideal vision for the future. They also will identify the kinds of information and knowledge they need in order to be able to meet their goals. The hospital volunteer facilitates these meetings and provides resources to fill the knowledge gaps that have been identified by this process. In addition, SCDF seeks to fill in the gaps of missing knowledge through study tours chosen by group members.

Part of the activity of the SCDF therefore involves facilitating group formation, and providing financial support for the activities of these groups. The Ubonrat District Civic Group, made up of active representatives of various interested groups, established some high-priority

research and development work. It participated with other government organizations, nearby NGOs, and local people to facilitate members in setting up a number of groups in the community.⁴ Members of these groups continue to join and work together to make a Healthy Ubonrat district.

Group representatives also are appointed to take part in the SCDF learning curriculum, which is apart from regular meetings at the village level. From our experience, the curriculum can successfully change people's ideas and therefore we provide financial support for these group activities. Through this process SCDF addresses a wide variety of issues.⁵ Three of these, work pond building, integrated gardening, and tree farming, illustrate how the process works.

Collective learning enabled every village to recognize the problems created by drought. In the light of understanding its importance, people at first dug their own ponds by hand; later, they used their own money or with the help of the Foundation hired excavators, resulting in 266 ponds. Once it was clear that farmers were successful in creating the ponds, others were able to borrow money from the Bank of Agriculture and Agricultural Cooperatives (BAAC) to dig another 348 of them. The Prime Minister's Office provided funding for a further 160 ponds, and funds borrowed from the Thai-German Foundation provided 70 more ponds. The UNDP, in 1998, provided funds for another 50 ponds and other funds produced another 102 ponds.

The role of the Foundation throughout this time was to screen and recruit individuals into the program, build capacity among those participating, and monitor how the program was unfolding. The accounting requirements that came with these funds were complex because pond building is complicated. Because of this it backed away from direct involvement. Nonetheless pond building continued and a saturation point has been reached, either because there is no more space available or it would have to be taken from land that has high agricultural potential.

The gardens project is a response to the vicious cycle associated with "normal" development. In this cycle people become dependent on the external environment for employment, financing their businesses, and for needed farm products. Often the employment is far away and doesn't pay well, the financing creates debt, and the products for farm use are expensive and ecologically unfriendly (e.g., pesticides).

Farmers, with training assistance from the SCDF, developed the integrated gardening project. It is an agricultural activity that serves people who have a water supply problem. If they have a monocrop, such as sugar or rice, they have only one source of income per year. When they integrate different crops and animals they get more regular work, a more consistent income, as well as food they can eat. The training for this didn't consist of expert lectures on what they should do. Instead it focused on facilitating community members' understanding of their own situation, and then creating a plan for the future that brings something better than what they have had or now have and makes sense.

⁴ The groups are: Integrated Farming and Environmental Protection Network, Women's Network, The Traditional Healers' Network, The Monks for Good Environment Network, The Elderly Citizens' Network, The Health Volunteers' Network, Civil Servants' Network, Health Officer's Network, The Village Headmen's Network, Tambon Civic Society and the Ubonrat District Civic Group.

⁵ These include producing organic fertilizer, organic insect repellent, saplings, and intensive farming. SCDF also provides support to solve problems such as child malnutrition, refuse, dengue hemorrhagic fever, HIV, river conservation and environmental protection.

This program of course does not respond to everyone's situation and not all farmers who started have stayed with it. Some sold their land in order to finance the costs of college education for a child. Others moved away. Overall however it has had a positive impact.

The Treebank Project, after which this article is named, developed in accordance with the principles of best practice in management, networking, and the creation of new knowledge to improve socioeconomic status, environment, social cohesion, lifestyle and health. It comes from community members understanding of the importance of growing trees for fruit and timber, as well as to improve the environment and their own economic conditions. The BAAC created a project named "Treebank for debt relief". The reasoning behind the project was that in the long-term timber trees have a substantial commercial value and can provide shelter, herbal medicine food and biofuel.

The treebank process requires at least nine members in the community to form a group to survey and count the number of timber trees on each member's land. This then is sent with specific GPS coordinates to BAAC staff who record the data and recheck them every year using Google Earth.

The Outcomes

Today, SCDF is a non-governmental organization that works in 26 villages in Ubonrat district, 14 villages in Pol district, 9 villages in Wang-yai district, and 3 villages in Wang-noi district -- a total of 52 villages in 4 districts of Khon Kaen province -- and in three district hospitals in Khon Kaen province. It seeks to help poor rural communities become self-reliant. SCDF's goal is to expand people's organizations and their networks, consisting of government development workers, NGO workers, academics, business people, and the media, in order to learn and think together about how to solve the problems of Thai society.

Most of the funding had come from the Thai Health Promotion Bureau (THPB). The THPB receives 1 percent of the taxes on cigarettes and alcohol. Normally the THPB promotes specific health campaigns, such as no smoking and not drinking while driving. We challenged it to support us in our ongoing holistic approach to health promotion and they agreed and funded us for 12 years. Now we do not ask directly for support from local government, but as a result of our kind of capacity building the farmers are able to coordinate with the relevant local authorities to provide funding for their activities.

The SCDF also gets funding from some businesses. For example, the Tree Bank Project has been both a means of funding and of evaluation. The whole process is now much more simplified and straightforward. This allows a much less hands on approach but with the ability to follow the farmers' progress. SCDF can facilitate this more easily while the farmers are able to manage the project themselves in conjunction with any company willing to pay. Farmers who participate are able to generate income from the Tree Bank and do not need further support from SCDF for training and evaluation.

SCDF collects data on changes and other indicators of our work to evaluate it every 4 years. In reality the few development indicators that are available today cannot adequately capture the successes of programs. There are, however, strong indications that the years of using these working methods has produced many changes in society, environment, economy, health, and children's welfare. It appears that the groups formed after the creation of the

Foundation have been able to learn together and undertake activities to solve the problems that are prioritized by their members. The following describes how the SCDF programs have impacted communities.

Thirty-eight natural leaders have developed in the Ubonrat district groups, with the project having a total of 108 such leaders from the 52 villages. These natural leaders are gifted communicators, both within their groups and with outside society. They are intelligent, unselfish, and readily accepted by their members. Fourteen of these natural leaders were elected as Tambon Administration Office (TAO) members in 1997, and people have continued to reelect many of them. They continue to voluntarily meet every month at the village, district, and province levels in order to learn together and exchange experiences. Leaders from three *tambons* are currently coordinating with interested TAO members in their own and other *tambons* to create an "ideal TAO," one that can create a civic society that is capable of achieving mutual self-reliance for all members of society.

The children of forty-eight of the members, who had migrated to work as laborers in big cities, have now returned to help their parents. Parents and children can live together, and everyone has work to do. In addition, we have found that 22 families who once migrated every year to find work no longer need to do so after being in the project for only two years.

Efforts to help villagers in 52 villages meet together for discussions and to send their leaders to meet together, in what we call *Glum Soe*, have led to the building of trust and love for each other. For example, people organized to collect small trees to donate to Paw Samarn of Nontae village when a forest fire destroyed all his trees. Due to these charitable efforts, he was able to re-establish himself very quickly. Other examples include the charity drive to solve water shortages in Talard Noi village, and regular visits to members' farms to provide mutual encouragement and motivation. These examples show that these groups help create mutual generosity, and further strengthen community organizations.

Their formation at every level gives community groups greater bargaining power. Villagers can now excavate ponds at a cost of only 8 baht per cubic meter, as opposed to 25 baht in the past. They can buy small fish for only 5 to 10 satang each, request trees from the relevant authorities, and can establish projects to request funding from the government sector and international sources. The formation of women's groups at the village, district, and provincial level has meant that members can buy cotton and silk thread more cheaply. The bimonthly meeting of the Mit-Mai-Fai-Ngam group gives the members direct access to consumers so they can sell silk and organic fruit and vegetables at much better prices than in their villages.

The Foundation's networks have gradually expanded. Teachers interested in its ideas have begun applying them both at school and at home. Midday meal programs in 26 schools now feature organic fruits and vegetables and the school environment is shady and green. Many schools have received support from the local community and from former pupils, both in the form of annual charity drives and ongoing donations. Seventeen educational funds have been established, with a total of 402,945 baht (about 13,000 USD) to strengthen learning processes for teachers and pupils.

Farmers have effectively addressed the problems of drought. There are now 2,158 ponds with a total storage capacity of over 2.3 million cubic meters, with every member having between 1 and 5 ponds, thus helping to reduce water shortages.

As a result of the Treebank Project the number of trees has increased by over 200,000, with a wide variety producing bio-diversity, using local types of trees that are well adapted to the climate and are also resistant to insects. The goal, from 2015 – 2024, is the creation of a treebank with 9,999,999 trees.⁶ The process of doing this will create a learning network in which farmers can share their knowledge, strengthen relations among community members, and further advance the goal of community self-reliance.

In 2009, the Khon Kaen Civic Network took into account the number of trees that were verified as being planted and concluded that the Treebank Project was a great tool for building healthy communities and reducing debt. We found, in an evaluation done in 2013, that in addition to growing trees 1,034 families (about 70 percent of total membership) are now aware of the dangers of chemical insecticides, and have planted herbs believed to repel insects, such as citronella and galangal. Others are also involved in growing certain types of flowers that help to reduce the incidence of insect attacks, and planting local types of vegetables resistant to insects while not requiring insecticides. Over one thousand, or about 70 percent, of families now recognize the importance of improving soil fertility and use organic fertilizers as well as growing legume crops to improve the soil. Many people also raise chickens, cattle, or pigs to provide a free source of organic fertilizer for soil improvement.

Coming together to analyze problems has meant that members have been able to identify many areas of unnecessary expenditure, while the alternatives provided by integrated farming enable families to reduce their inputs considerably. In terms of food, they can plant vegetables and raise animals for their own consumption. Many people have a surplus for distribution to friends and relatives, thereby strengthening village unity. Others have a surplus to sell in order to increase income and reduce debts. Indeed, some people who had small debts are now debt-free and those with large debts have been able to reduce them substantially.

In every village there are now farmers who have been able to substantially increase their income, with wholesalers coming to the fields to buy all kinds of agricultural products, such as vegetables, bananas, papaya, fish, ducks, and chickens. In addition, women's groups from 38 villages have cotton and silk to sell all year round. Sales that totaled 2,000 pieces in 1997 were up to 13,000 pieces in 2014. The women also make natural dyed bags with prices from 20 – 150 baht (0.60 to 5USD) per piece, and in 2014 sold 1,500 of them.

Farmers in the project feel satisfied and happy to see their trees and fish get bigger every day. They have crops, vegetables, fruit, fish, and meat to eat in sufficient quantities. In two villages, Dong-bang and Kam-pla-lai, there are no children with protein calorie deficiencies because the parents are keenly aware of the importance of good nutrition. Members have money to build proper toilet facilities and to buy large rainwater containers and food cupboards, as well as good quality medicines. Farmers have work to do every day in their fields, which means that they get good exercise. They have regular opportunities to meet with development workers, teachers, agriculture workers, and health workers, and learn about health

⁶ In August 2015, the BAAC adopted a policy supporting the planting of trees nationally by providing an interest-rate incentive to bank depositors. The money from the higher rate, with the consent of depositors, will be used to support tree planting. The goal is to plant 2,000,000 trees annually starting in 2018.

promotion and disease prevention. Dong-bang, Kok-klang, and Subsomboon villages have established regular “Health Markets” that integrate traditional and modern medicine to provide an alternative means of medical care while reducing the workload at public health care facilities

Communities are beginning to overcome very difficult problems, such as accidents, alcohol, cigarettes, drugs, AIDS and others. These only can be solved by shared understanding and cooperation. According to a survey carried out in 2013, 132 members have been able to analyze their problems and stop smoking for a period of at least 1 year, and 113 members have been able to stop drinking alcohol.

Teachers have also initiated many integrated farming activities in the schools. Funding from the Ministry of Education and some from UNICEF has been able to reduce the incidence of serious malnourishment in schoolchildren. Continued meetings between community members, teachers, public health workers and NGO development workers have meant that all children now have toothbrushes and toothpaste for use at school and at home. Children are regularly tested and provided with the treatment for intestinal parasites. Children and young people have taken part in an educational camp to highlight and improve understanding of the dangers of AIDS and the importance of preserving the environment.

UNICEF has provided financial support for children, parents, community leaders, teachers, public health workers, and NGO development workers to hold regular meetings at village, district, tri-district, and steering committee levels. This has led to a widespread exchange of ideas and experiences, enabling interested network communities and schools to learn together, to adapt, and apply various ideas that are suitable for each community and school. This has had a positive impact on the local curriculum, parent forums, child forums, in-school activities, and funds for education.

The successes have resulted in overcoming a number of challenges. Focusing on money as the method and ultimate target of rural development by emphasizing increased income, expenditure, and borrowing clearly has many limitations. Mainstream development has taught people to believe that all pleasure can be bought with money. As a result, money has always been the most important factor in development: whatever you produce is based on the market, funding, and help from a government organization. Many people withdraw from such projects when assistance is not provided. Yet at the same time development based on just “correct thinking,” with physical, mental, social, and intellectual wellbeing as the starting point, also has many limitations. The SCDF has tried to address and remove these limitations by the process it uses in its community development and sustainability work.

There are other economic challenges. Because more than 90 percent of farmers have large debts and some have lost their land, some members have had to withdraw from the project and migrate to work in the city to pay back their debt or buy back their land. To reduce this limitation, we have emphasized small-scale intensive farming and the creation of the Tree Bank to provide guaranteed long-term security for the farmers.

Deforestation, the use of agricultural chemicals, and degraded soil quality have all brought about environmental issues that are extremely difficult to address. Many farmers have found it hard to get good results in the short term and have withdrawn from the project. To address this, we have emphasized small-scale intensive farming by reducing daily expenses, soil improvement through organic farming, good soil management, and biodiversity.

Many farmers do not care about farming because the modern lifestyle emphasizes money and consumerism. They want their children to study to a high level so they can get good jobs in urban areas. As a result, it is very difficult to persuade the younger generation to stay in rural areas. To address this, we emphasize forming groups and holding regular meetings to help the young people see the positive benefits of farming and that it is possible to live a happy life in rural communities.

Of course, funding has been an issue for SCDF. Although funding is not the deciding factor in development, it still plays an important role, especially in the promotion of learning and creating social and intellectual capital. Funding is still a challenge with respect to both expectations and sources.

When farmers join a project they usually expect to receive financial support. When support stops, most projects collapse. The SCDF emphasizes using funding for training and creating intellectual capital and then to promote those activities that will sustain a community, such as soil quality, water resources, animals, trees, money, strategic partners, and knowledge in problem solving.

One way to deal with these challenges is to identify interesting people who can then spread their ideas to friends and relatives. By doing this we are able to increase project membership in our target communities.

Most funding providers attach conditions to their support and sometimes these conditions conflict with the methodology of the SCDF. Because we are an authorized foundation, we are able to participate in government projects that give us the flexibility to use the funding to strengthen community groups and improve learning processes. We do not ask for funding to buy production factors like chickens, cows, and so forth. However, to help the farmers overcome water resource problems, we accepted funding for digging ponds and drilling underground wells. For example, SCDF obtained funding from the Ministry of the Interior to create a revolving fund for solving water shortages. This fund has been in operation for 15 years.

For the future, the Ubonrat District Hospital hopes to maintain the present activities where all networks and villages cooperate in areas such as environment, child health, and fund raising. Additionally, SCDF hopes to encourage sustainable development in new villages. This will be done through networks of community leaders, teachers, health personnel, and NGOs.

The hospital staff with some network leaders is planning to establish a "People's College." The curriculum will not be sanctioned or imposed by the government as it does in its own schools. Education will be relevant to their environment, economy, and culture. The aim of the College will be to develop "change agents," people who can be leaders in their communities, facilitate group formation, and mobilize their community into forming civic groups. Only through these "homemade" change agents can the knowledge and ideas be spread far enough to reach everyone.

The hospital has been successful in many of its activities but still has a long way to go before reaching its goals. The Ubonrat Civic Group has a common vision:

- The citizens of Ubonrat, whenever they are sick, have guaranteed access to good medical care close to home complimented by an efficient public health care system.

- There should be fewer people suffering from preventable illnesses, thereby reducing medical care costs.
- People can be mutually self-reliant, leading to physical, mental, social and spiritual happiness.

Currently, there are 2,500 families involved in all the networks run by SCDF. In the next 9 years, we hope to have one million families who understand self-reliance and can have a good quality of life within this region of Thailand.

The SCDF, in conjunction with the Northeast Region Village Philosophers' Network, is undertaking research to develop family happiness indicators for the Northeast. Each family will have a means of self-assessment that can override pure income indicators in order to avoid the scenario of success being measured only in terms of money accumulated. If happiness comes from many different elements, then we need to collect information on individual family happiness and produce happiness indicators for each group, *tambon*, district, province, and region. This can be adjusted to accord with the economy, society, culture, and environment of each area. Eventually the goal is to create a Gross Domestic Happiness Index for the whole nation.

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