

SUFFICIENCY ECONOMY AND A HEALTHY COMMUNITY

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ABSTRACT: During the past decades, Thailand has experienced mixed results of development. While success in economic progress has been achieved, improvements in social sector seem to lag far behind. Meanwhile, natural resources and environment have been deteriorated. An impact of rapid modernization on natural resources and environment has two dimensions: macro and micro. At the macro level, growth-oriented development has induced deforestation, high rate of energy consumption, wider use of hazardous chemical products without proper treatment, etc. At the micro or community level, economic progress is traded off with poorer environmental condition and lower social quality.

To progress toward a more balanced development, there needs a shift of conceptual thinking that is in line with the forces of globalization, while protecting both the community and the nation from adverse impact arising from various shocks. The philosophy of Sufficiency Economy (SE), bestowed by HMK, is a holistic concept of moderation that acknowledges interdependency among people and with nature. It calls for a balanced and sustainable development as its objectives of development.

This paper explores two case studies, which elaborate how to apply SE in reducing poverty and achieving healthy community. One case looks at the Royal Development Study Center where people can learn how to apply appropriate technology to conduct sustainable agriculture through revitalizing and preserving natural resources. Another case explores a community that applies SE in their integrated community development activities, leading to healthy community. These two cases are among many in Thailand, which demonstrate that balanced and sustainable development can be achieved, if the framework and the process of development are appropriate with social and natural conditions. The paper draws lessons learned from development at the community level to apply at the national/global level. The lesson includes knowledge on managing community toward a healthy community in a sustainable way based on SE.

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1. INTRODUCTION

The world is now experiencing severe problems of natural resource depletion and environmental degradation. This deterioration has been justified by the so-called "development process". In this context, developed countries have set the standard of material comfort to which the growing population of developing countries are now aspiring. At the same time, those who have enriched themselves from exploiting resources and the environment have not ceased to acquire more. With the limits of natural resources and the Earth's finite carrying capacity, this situation is of global concern.

In 1992, the international community focused on the United Nations Conference on Environment and Development (UNCED) where a plan for sustainable development, Agenda 21, was conceived. "Sustainable development" can be defined as a development approach, which aims at accommodating the needs of present generations without compromising the availability of resources for future generations. Equity among present generations and between this generation and those that follow is a critical component of this concept. It is also important to note that this concept is additionally compelling because it comprises two objectives usually considered to be conflicting, namely development and the protection of the environment. However, in reality it is not easy to achieve sustainable development.

In the case of Thailand, the country has experienced mixed results in development during the past four decades of modernization. While success is primarily measured in terms of economic progress and attainment of a higher standard of material comfort, improvements in the social sector seem to lag far behind. Meanwhile, natural resources and the environment have been severely deteriorated. Achieving sustainable development through balancing economic growth and environmental conservation is therefore Thailand's greatest challenge (NESDB, 2002).

This paper explores the trends of the development process in Thailand and their impact on natural resources and the environment. It highlights the current attempts to achieve sustainable development by introducing a shift of conceptual thinking or guiding principles on development and administration. The new concept of modernization is still in line with the forces of globalization while protecting both the community and the nation from the adverse impact arising from various types of changes. The philosophy of the "Sufficiency Economy" (SE), graciously formulated by His Majesty the King is a holistic concept of moderation in consumption and production, while acknowledging interdependency among people as well as between humanity and nature. The SE calls for balanced and sustainable development as its objective.

Two case studies are investigated in order to illustrate how to apply the SE in achieving a healthy community, without sacrificing its natural or social capital. Lessons from development activities at the community level can be drawn for application at the national and global levels. These lessons include knowledge on

managing the community in a sustainable way while being able to cope with the changing world based on the SE.

The paper is divided into 5 sections. The first section is an introduction. The second section elaborates recent trends in the development process, followed by an analysis of their impact on natural resources and the environment in Thailand. Section 3 discusses the concept of the “Sufficiency Economy”, and its interpretation. Section 4 explores two case studies that apply the SE in reducing poverty and achieving healthy community. We conclude with lessons learned in section 5.

2. TRENDS IN THE DEVELOPMENT PROCESS AND THEIR IMPACT ON NATURAL RESOURCES AND THE ENVIRONMENT IN THAILAND

Thailand enjoyed double-digit growth between the period 1988 to 1990. During the past three decades, economic growth has exceeded 4% (except during the economic crisis) (Phongpaichit and Baker, 2000). Per capita income increased from 8,725 Baht in 1961 to 51,065 Baht in 2002 (NESDB, 1961; 2002). However, the development process in achieving this affluence has not come without high costs. Apart from the social impact and income disparity problems, there is also the problem of natural resources and environmental degradation.

This paper focuses on the impact of rapid modernization on natural resources and the environment which comprises two dimensions, namely the macro or national level and the micro or local level. At the macro or national level, globalization has given impetus to growth-oriented development, which has in turn induced deforestation, a high rate of energy consumption, and wider use of hazardous chemical products without proper treatment. At the micro or local or community level, economic progress has been achieved only at the cost of a poorer environment and reduced social quality. In this regard, the paper will focus on the rural grass-root sector.

2.1 At the Macro or National Level

In the past, Thailand strictly followed the mainstream development path generically recommended by major development agencies, starting from export-oriented model based on agricultural products and followed by manufacturing products through industrialization. Farmers also switched from practicing traditional agriculture, which is a mixture of different variety of crops to commercial agriculture, which focuses on monoculture.

As a result, the share of the country’s GDP originating from the agricultural sector increased from 63,628 million Baht in 1961 to 326,773 million Baht in 2002¹ (NESDB, 1961; 2002). However, the growth of mono-cultured crops coupled with the construction of road networks to provide market access for these products

¹ Excluding forestry, logging and related service activities

during 1960 to 1990 resulted in the loss of 14.4 million hectares of the terrestrial forest area, approximately 50 percent of the total forest area (Kaosa-ard, 1993).

During the past three decades, approximately 0.2 million hectares of the mangrove area has been lost. There are several factors contributing to the disappearance of the mangrove area. Expansion of shrimp farming areas is one of the major factors. The drastic increase in frozen shrimp export during 1986 to 1996 corresponded to a 30,000 hectares loss of the mangrove area as pioneering shrimp farming mainly encroached into mangrove forests (Barbier and Sathirathai, 2004). A study on the economic evaluation of mangroves also demonstrated that the conversion of mangrove forest into commercial shrimp farming might be financially viable (from the private sector's point of view) but not economically feasible (from society's point of view) (Sathirathai and Barbier, 2001).

The path of the development process in Thailand is no different from other countries in the developing world. Thailand has made tremendous efforts to leave its agricultural past behind and advance towards the dream of modernity and industrialization. The development of large industrial infrastructure projects, such as the Eastern Seaboard Project, the desire to be accepted among the ranks of the NICs, the opening of Thailand's financial system to international players before the Asian economic crisis, all reflect efforts to industrialize Thailand. The number of factories in Thailand jumped from 40,212 in 1966 to 118,176 in 2003 (DIW, 1966; 2003).

Before continuing to discuss Thailand's development path towards industrialization, it is interesting to observe the current trend of globalization. High labour costs coupled with strict environmental protection measures in the developed world have pushed forward the policy of outsourcing or de-industrialization. There is currently a trend for developed countries to relocate their manufacturing to developing countries. This is done through Foreign Direct Investment (FDI). Between 1970 and 1998, global FDI increased nearly 15 fold from 44 billion US dollars to 644 billion US dollars. At the same time, investment in developing countries increased 11 fold from 21 billion US dollars to 227 billion US dollars with the contribution from private sources doubling during the same period (French, 2000).

At first glance, this transfer of production might be seen as bringing benefits to the recipient countries. However, the majority of these industries are heavy industries including those involved with toxic substances such as automobile and computer assembling industries. While there have been many efforts to raise awareness of these negative impacts of industrialization in developing countries, industrialization remains the main engine of growth in many countries around the world, particularly the developing countries. Thus, countries in the Third World extend their open arms to industry and foreign direct investment, and compete to maximize the benefits by instituting policies that give priority to foreign investment and by creating the appropriate "investment climate" regardless of the costs.

Industrial pollution has been a problem since the very beginning of industrial development in Thailand. As early as 1964, workers in a Bangkok factory were suffering from manganese poisoning. From 1967 onwards, unplanned and unregulated use of natural resources for industry became an increasingly severe and widespread problem. In 1972-1973, discharge of wastewater from a factory on the Mae Klong River, and the subsequent fish kill and water quality problems were a stimulus for the birth of the environmental movement in Thailand. From 1977 onwards, diverse forms of pollution became more apparent to society with work-related illnesses such as lead poisoning and asbestosis becoming increasingly common (GSEI, 2002). In 1993, 12 electronic workers from the Northern Region Industrial Estate in Lamphun Province died mysteriously after their involvement in a process that repeatedly exposed them to chemicals. Recently, the result of a blood test on electronic workers from the same industrial estate who often complain of headache and fatigue revealed abnormally high levels of some heavy metals (GSEI, 2003).

The Eastern Seaboard project also provides a clear demonstration of the effects of industrial pollution in an area of heavy industrial development. Since the beginnings of investment and development of this area, there have been continual reports of environmental problems, health issues for local communities relating to air emissions, illegal use of public land, problems with disposal of industrial wastes, disregard for zoning restrictions, accumulation of pollutants in coastal habitats and in fish stock in the Gulf of Thailand, and industrial accidents.

Industrial development also increases the production of industrial waste. Unfortunately, Thailand's capacity to deal with industrial waste is very limited (there are only two plants in the country equipped to handle hazardous wastes). It is therefore of no small concern that hazardous waste production has increased from 1.01 million tonnes per year in 1994 to 1.80 million tonnes per year in 2003. No more than 25 percent of all hazardous waste is generated in communities in Thailand; the rest is industrial waste (PCD, 2003). The majority of this waste is produced by the electronics industry, the automotive parts industry, and the chemical industry.

Consumption of commercial energy also increased drastically from 8,112 KTOE in 1977 to 43,936 KTOE in 2002 (NEA, 1986; DEDE, 2002). In order to match the rising demand, new sources of energy supply are being sought. These include traditional energy sources such as hydroelectric and coal power which has negative impacts on the environment. Apart from the impacts of this development process on natural resources and the environment, there are also the continued problems of poverty and increasing inequality in social power and in incomes, which quickly translate into social problems.

The above discussions indicate that Thailand under this development path is unlikely to achieve sustainable development. In attempting to measure sustainable development in Thailand, the index of sustainable economic welfare or ISEW was developed during 1998-1999. It demonstrated that despite the underestimation of

the social costs of natural resources and environmental degradation, per capita ISEW was approximately 24% below the per capita GDP (Panyawadee, Chanyaswad, and Kaosa-ard, 2002).

It is, nevertheless, noteworthy that the last financial crisis served somewhat as a wake up call for some academics and policy-makers to reconsider the development policy. This is especially the case when they learned of the surprising fact that the lagged behind sector (in terms of level of development) such as the agriculture and rural sector helped absorb almost 2 million unemployed workers after the closure of some industries as a result of the crisis (Phongpaichit and Baker, 2000).

Consequently, there are several attempts to find alternative development strategies. For example, the present government has embarked on “the dual-track economy” development policy that emphasizes not only industrial and financial sectors but also on increased investment into the grass-root economy. This may be considered as an improvement. However, the current development trend continues which places emphasis on financial gains and economic growth while overlooking other factors such as social and environmental impacts.

2.2 At the Micro or Local Level

The mainstream development process has a significant impact on local community and their livelihood. A shift from traditional agriculture to commercial practice in the form of mono-cultured crops may raise the farmers’ income but at the same time increase their dependency on financial sources and inputs such as fertilizers and pesticides. While some are better off, the majority of them end up with high debts.

There are also impacts on their health arising from the overuse of chemicals for cultivation. Annual consumption of pesticides and fertilizers per hectare of cultivated land increased respectively from 7 kg and 0.3 kg in 1961 to 183 kg and 2.6 kg in 1999 (DAE, 1961; OAE, 1999). Each year, two to four thousand patients have been both fatally and non-fatally injured from chemical exposure in the agricultural sector (OEPP, 2001). The figures are likely to be under-reported, as they do not include those unattended by doctors. The practice of monoculture with high use of fertilizers have deteriorated soil quality and precipitated soil erosion. It is estimated that around two-thirds of the countries’ cultivated area is affected by soil erosion problems (Phantumvanit, et al., 1990).

Industrialization also has a significant impact on local livelihood. On the positive side, it increases income and employment opportunity for local people. However, it can make local communities heavily dependent on industries for their economic security. The imposition of industries upon an area causes a rapid and radical change in the way of life. Local communities have frequently been divided by internal friction over division of benefits, changes in resource use and accessibility. In many cases, the supply of natural resources such as water has been

diverted to serve the needs of industries, and communities have found their water supplies degraded and insufficient for their needs.

Finally, air and water pollution problems are common in areas near industrial estates as are waste disposal issues. However, despite the fact that many in the community see industrialization as having adversely affected their quality of life, they are unwilling to raise problems associated with industrialization as such discussion could deter investment. This clearly demonstrates the high economic dependency of local communities on industry and problems related to the unequal distribution of income.

It is however interesting to observe that local or indigenous wisdom can thrive amid all the problems. Several wise people are farmers who had practiced commercial monoculture to the extent that they ended up with poor quality of land and high debts. After learning the hard lessons, they struggled to seek alternative development strategies. They have resorted to traditional agriculture and applied their indigenous knowledge to their own style of mixed cultivation, some of which are in the form of agro-forestry and organic farming. However, these individuals are practicing not only sustainable agriculture but also seeking a life style that is in harmony with nature (details will be discussed in the next section).

Local people also develop conservation wisdom at the community level. Successful protection of forest requires collective action with effective rules to prevent free-riding problems. There are several successful cases of community forests all over the country. In the North, some communities had experienced water shortage after cutting down trees in the headwater-forests uphill. Consequently they learn to conserve the forests by instituting strict community rules for their usage and preservation. (Sathirathai, 2000).

Local communities also have incentives to protect both terrestrial and mangrove forests as they realize the benefits of doing so. For example, a study demonstrates that the net benefits per annual from a collection of non-timber forest products (NTFP) in only certain parts of Mae Yom forest are as high as 122 million Baht. The net benefits have been calculated based on only 10 major NTFP collected by villagers, which did not include medicinal plants (Sathirathai, et al., 1998).

In the case of mangrove conservation in the South of Thailand, local fishermen realize the importance of mangroves, which serve as nursery grounds for spawn. They could observe the relationships between the disappearance of mangrove areas and the decline in their captured fishery products. Local villagers also realize the benefits of mangrove forests in terms of their coastal zone protection from potential erosion problems. There were several incidents in which these local communities organize themselves to protest against shrimp farming that encroached into mangrove areas (Sathirathai, 1998).

If we compare the problems at the micro or local level to that of the macro or national level there are some similarities. At the macro level, the forces of globalization have imposed certain ways of life leading to modernization. This includes all major aspects such as economic, social, ecological and technological, the

results of which are mixed depending on how to find a well-balanced development. For example, the on-going development path, which put too much emphasis on financial, gains and economic growth without enough consideration on social and ecological aspects leads to unsustainable development.

At the micro or local level, the national development policy also imposes drastic changes in the way of life of villagers and local communities. For example, the industrial policy encompasses the expansion of industrial estates into community areas. Moreover, as earlier discussed, the agricultural policy has forced farmers to adopt intensive monoculture. However, at the micro or local level, there seems to be successful cases of alternative development strategies. As local people's livelihood and nature are closely interconnected, they can see the impacts of development more easily. At the same time, many of them tend to possess local wisdom that help them seek a more balanced way of life. This is probably more difficult to achieve at the macro or national level whereby the economic system and ways of life are much more complex.

With more than 50 years of first hand experience in rural development, His Majesty the King has seen through the development path and its impact at both local and the national levels for several decades. His Majesty the King has therefore graciously conferred the philosophy of the "Sufficiency Economy" (SE), which is the guiding principles achieving a balanced and sustainable development both at the macro and micro levels. The philosophy is discussed in length in the next section.

3. CONCEPTUAL FRAMEWORK OF "SUFFICIENCY ECONOMY"

3.1 The Philosophy of "Sufficiency Economy"

The strength of the Thai Nation has been nurtured and developed by His Majesty King Bhumibol Adulyadej, who is the soul of nation. Through His caring leadership, His Majesty has earned the abiding love and profound respect of His people, and through His thinking His Majesty has graciously laid the foundation for and inspired his country's development strategy. His Majesty's philosophy of "Sufficiency Economy" (SE) lies at the heart of Thailand's development thinking, and indeed it can serve as guidance for the country's sustainable developments.¹

Over the past three decades, His Majesty has graciously reminded Thai people through his royal remarks on many occasions of a step-by-step and balanced approach to development based on a principle of self-reliance, which is now known as *the Philosophy of Sufficiency Economy*. The philosophy provides guidance to appropriate conduct covering numerous aspects of life. The following is one example of an excerpt from His royal speech in 1974:

"Economic development must be pursued sequentially step by step. It should begin with the strengthening of our economic foundation, by assuring that the majority of our

¹ Excerpt partly from the conference statement of the 10th UNCTAD in February 2000, in Bangkok.

population has enough to live on. ... Once reasonable progress has been achieved, we should then embark on the next steps, by pursuing more advanced levels of economic development. Here, if one focuses only on rapid economic expansion without making sure that such plan is appropriate for our people and the conditions of our country, it will inevitably result in various imbalances and eventually end up as failure or crisis as found in other countries.” (Royal Speech, 1974)

After the economic crisis in 1997, His Majesty has reiterated and expanded on the concept of *Sufficiency Economy* in remarks made in December 1997 and the following years. The concept points the way for recovery that will lead to a more resilient, balanced and sustainable development, and to better able to meet the challenges arising from globalization and other changes.

With an aim to encapsulate this profound thinking, during the year of 1999, the National Economic and Social Development Board (NESDB) invited a group of eminent persons to construct the definition of the philosophy of *Sufficiency Economy*. The endeavor has resulted as the following definition:

*“Sufficiency Economy” is a philosophy that stresses **the middle path** as an overriding principle for appropriate conduct by the populace at all levels. This applies to conduct starting from the level of the families, communities, as well as the level of nation in development and administration so as to modernize in line with the forces of globalization.*

“Sufficiency” means moderation, reasonableness, and the need of self-immunity mechanism for sufficient protection from impact arising from internal and external changes. To achieve this, an application of knowledge with due consideration and prudence is essential. In particular, great care is needed in the utilization of theories and methodologies for planning and implementation in every step. At the same time, it is essential to strengthen the moral fibre of the nation, so that everyone, particularly public officials, academia, businessmen at all levels, adhere first and foremost to the principle of honesty and integrity. In addition, a way of life based on patience, perseverance, diligence, wisdom and prudence is indispensable to create balance and be able to cope appropriately with critical challenges arising from extensive and rapid socioeconomic, environmental, and cultural changes in the world.”¹

3.2 Interpretation of “Sufficiency Economy”

Based on the foregoing official definition of the philosophy and conferring with relevant Royal speeches, a working group in the NESDB concludes that ‘*Sufficiency Economy (SE)*’ is a philosophy that guides the way of living or behaviour of people at all levels through a middle path (Piboolsravut, 2003a). The aim of SE is to create balance and be able to cope appropriately with critical challenges arising from extensive and rapid changes. Its application domain is scalable and universal: individual, household, community, project, business, management, institution, polity, society, nation state, region, humanity, and biosphere. As the foundation for

¹ Unofficial translation of the Thai working definition approved by His Majesty and sent by His Majesty’s Principal Private Secretary to the NESDB on November 29, 1999.

an economic framework, SE is complete, governing everything from *motivation* (utility, drives, etc.), to *criteria* (goals, objectives, etc.), from *behaviour* (production, consumption, investment, etc.), to *system* (collectivity, connectivity, etc.), and can be said to, at least implicitly, address all issues within a dynamic setting.

Regarding its relevant contexts, SE serves as the basis for *Thai way of living* to maintain balance with nature and suitable with and sociological conditions, before modernization process has set in. However, in the post-crisis environment, SE has been reemphasized as the solution to globalization and changes. As the future course of development, *the middle path* remains critically needed, particularly now with the process of pursuing development to keep pace with globalization. SE lays emphasis on a balance development path and readiness of people and society to cope with fast and extensive changes with respect to materials, society, environment, and culture. As a paradigm shift, SE is revived against the backdrop of globalization driven integration of the world and the pace of technological-cultural-social changes.

The working definition of ‘Sufficiency’ entails three components: *moderation, reasonableness, and requirement for a self-immunity system*, i.e. able to cope with shocks from internal and external changes. Two underlying conditions are necessary to achieve SE: ‘*knowledge and morality*.’ Knowledge conditions of SE require breadth and thoroughness in planning, and carefulness in applying knowledge and in the implementation of those plans. Meanwhile, the moral or ethical criteria of SE enforce the conditions that people are to uphold honesty and integrity, while conducting their lives with perseverance, harmlessness and generosity.

In sum, “Sufficiency Economy” is a holistic concept of moderation and contentment. It sets out to shield the people and the country from adverse shocks, and acknowledges interdependency among people at all levels, as well as with nature, against the backdrop of globalization. It emphasizes the use of knowledge wisely with due consideration. Its values include integrity, diligence, harmlessness and sharing. Finally, it aims to achieve balance and sustainability.¹

3.3 The New Theory Agriculture as One Example of Application

The philosophy of “Sufficiency Economy” calls for a moderation and self-immunity from shocks through a *sequencing step-by-step* development and *self-reliance* principles. As a practical example of applying the SE, His Majesty the King has graciously developed systematic guidelines for proper management of natural resources, especially land and water, based on HM’s experiments with integrated farming over the years.² This system of agriculture is commonly known in

¹ Literature review related to applications of Sufficiency Economy is summarized in Piboolsravut (2003b). Selected literature include: Na Ranong (1999), Nedtayarak (2002), Panthasen (1999), Peng-Aun (1997), Senanarong (1999), Songerd (2001), Samutvanich (1998), Tantivejkul (1998), Wasi (1999), Wibulsawasdi (1987).

² Royal Speech, December 4, 1994, p.12, 80, 82, 84, 86. The New Theory stems from HM’s visit to the people in the Northeast in 1995. Seeing the low yields of crops caused by a lack of water for cultivation, HM initiated

Thailand as *New Theory Agriculture (NTA)*, which is also regarded as a new sustainable agricultural model towards self-reliance for the rural household.

The main purpose of the NTA is to make farmers more self-reliant through an integrated management of their land, while living harmoniously with nature and within society.¹ The complete NTA has three stages: (1) sufficiency at the household level, (2) sufficiency at the community level, and (3) sufficiency at the national level.²

The first stage aims to create self-reliance and self-sufficiency at the household level; the so-called integrated *self-sustaining agricultural landscapes*. For example, a household with 4-5 members—an average household size in Thailand, requires the average of 15 rai³ area of land. The land shall be divided into 4 parts with a proportion of 30/30/30/10. The first 30% segment of the land is for rice cultivation, while the next 30% is for field and garden crops. The third 30% is to dig a pond of 4 meters deep, which will have a storage capacity of 19,000 cubic meters. The remaining 10%, or an average of 2 rai, are for housing and other activities.⁴

In order to increase the sustainability of farming systems, a holistic way of management practices that have multiple benefits is suggested. Among these practices is making use of interrelationships like insect and weed control, water and soil management, integrating livestock and crop production operations, and the use of non-crop species of plants for nutrient cycling and soil protection.⁵

The first stage of NTA allows farmers to be at least self-sufficient in terms of food, live a healthy life through using less chemical products, and be able create proportionate income from selling extra crops and products beyond necessary consumption of the household. It will also lead to improving health conditions of household members as farmers minimize their use of chemical products, but rely more on bio-diversity in production. This way, it provides basic self-immunity for

an experiment applying the New Theory on land and water resource management at Wat Mongkhol Chaipattana, Saraburi Province.

¹ This is different from the agricultural development strategy in the past, which put more emphasis for specialization in mono-crop and to produce in response to market demand. As a result, farmers were put under a well-known cob-web situation of price-quantity adjustment.

² For full details, see Royal Speech, *December 4, 1994*, p.80, 82, 84, 86

³ A rai is 0.6 hectare.

⁴ The above proxy numbers regarding the size area for each purpose are calculated to support food sufficiency of the household. As long as the ratio is used, however, the size of land is of no importance. For example, the New Theory estimates that, if each family cultivates rice over an area of 5 rai (2 acre), they will be ensured with a whole year's supply of rice for consumption--self-sufficient in terms of food.

⁵ These guidelines have wide applicability over a large proportion of the rural areas of Thailand, especially in the Northeast where water supply is relatively scarce compared to land. Where land is relatively scarce or water supply is not a problem, the same concept minus the turning of land into water reservoirs can also be implemented. It is also recognized that the construction of water reservoirs would require large initial expenses, which are likely to call for assistance from the government and other sources. The operation expense can however be absorbed by the farmer.

farmers against diverse adversities; a solution for both poverty reduction and creating healthy community.¹

The next step, the second stage of NTA, aims to create sufficiency at the community or organization level. It is based on cooperative activities with members within community based on a concept of sharing excess resources of each household. The activities can be different for each community depending on their conditions; *there is no blueprint of activities*. The activities usually start from community enterprises or co-op based production, including rice bank, cow/buffalo bank, bio-fertilizer production group. Then it naturally expands to other activities: saving groups, community healthcare center, community learning center, for example. These activities lead to a more self-reliance and strength of each community, while enhancing capacity of community members in reducing costs of living, or increasing income, or creating community social safety net.²

In the *third* and most advanced stage, the community is encouraged to expand their activities through reaching out to other communities, co-operative firms, banks, and other outside sources. The expansion across different levels of organizations or activities can be compared to developing a value-chain in production. The expanded activities include fund raising, creating direct sales channel, seeking fund for establishing community rice mill or cooperative stores, for example. At this stage, various institutions will join hands in a collaborative way to create sufficiency at the provincial or national level.³ Private firms can initiate corporate social responsibility to reach out to communities. While public sector is to promote different types of associations, non-governmental organizations can collaborate in various activities they are keen in to strengthen the sufficiency at all levels.

4. APPLICATION OF “SUFFICIENCY ECONOMY” IN BUILDING HEALTHY COMMUNITY: CASE STUDIES

4.1 The Royal Development Study Center (RDSC) and Poverty Reduction

(a) Background of the Royal Development Learning Center

During 1970s, His Majesty the King traveled extensively throughout the country, and observed extreme poverty, mostly in the rural agriculture.⁴ Based on

¹ During past decades of promoting mono-crop planting in Thailand, various communities found that their major expenses are related to health care due to over-utilization or mis-use of chemical products—fertilizer and pesticide--using in growing crops. This issue will be discussed in details in section 4 below.

² It can be compared to a cluster development of businesses in the same locality with similar activities, to achieve economies of scale as well as economies of scope in production, consumption and marketing activities.

³ It is clear that SE recognizes modernization in line with the forces of globalization, and does not refuse agricultural production for exports in appropriate areas. But for the marginal producers with high transaction costs, the production should be based on a holistic agro-system, which is shielded from instability by spreading and minimizing the risks involved.

⁴ Oea Meesook (1979) calculated poverty incidence during 1975/1976 to be as high as 31%, with 75% are rural farmers. The latest figure in 2002 is 9.8%, with approximately 6 million Thai living under poor condition.

His deep understanding of the root causes of poverty as well as sociological conditions of Thai society, His Majesty has proposed a way out through basic principles, based on SE. That is, development should be conducted in the right sequence that keeps balance with nature, through providing appropriate knowledge and know-how to create self-reliance of the people and community, so that they are able to cope with the changing world.¹

As an example to stimulate a learning process in the country, His Majesty has initiated the establishment of Royal Development Learning Center (RDSC). His Majesty's explanations of the RDSC are, "*centers or places where studies can be made to see what can be done to carry out beneficial development.*"² The purpose of the RDSC is ultimately to enable the people, mostly rural farmers, to achieve sufficiency—have enough to live a healthy life and even more to share—suitable to their geographical and social circumstances. The activities include the followings (RPDP, 1997):

- ❑ To demonstrate integrated development for making a living in that locality--as living natural museums, so that people can learn techniques and methodologies for making their living sufficiently.
- ❑ To conduct research and studies suitable to each locality, which differs from one another in terms of climate, environment, and sociological features.
- ❑ To be places where ideas and experiences on different development approaches are exchanged, and activities are coordinated.
- ❑ To disseminate the results of studies, as well as providing extension of activities and unified services to the people from all distant settlements so that the greatest benefit can be achieved.

At present, six centers have been established in the country's four regions to demonstrate how to appropriately cope with different local conditions. They are:

- (1) Khao Hin Sorn RDSC, Chachoengsao Province east of Bangkok, was established in 1979. This Center focuses on renewing basic natural resources especially developing soil and reforestation.
- (2) Khung Kraben Bay RDSC, Chanthaburi Province close in Eastern Seaboard area, was located as a site in 1981, and continued to demonstrate development of coastal environment: including fisheries and coastal forest.
- (3) Huai Sai RDSC, Phetchaburi Province in the upper south region, has been in operation since 1983, and focused on mixed-use forest especially rehabilitating degraded forest to restore the balance of nature.

¹ See Royal Speech (1974) cited above.

² Royal Development Projects Board (RDPD) 1997, p.261.

- (4) Pikun Thong RDSC, Narathiwat Province in the southernmost area, started their activities in 1981 to study improvement of peat soil so that it can be used for agriculture.
- (5) Huai Hong Khrai RDSC, Chiang Mai Province in northern region, was established in 1982, to study methods for developing degraded forests at watershed sources, while using hill irrigation systems and three-type forests for income generation.
- (6) Phuphan RDSC, Sakhon Nakhon Province in the Northeast region, began their activities in 1984, which include irrigation development, integrated farming systems, plant and livestock varieties that are suitable for certain localities.

This paper takes an example of Khao Hin Sorn RDSC and surrounding community to explore further how SE can be applied to alleviate poverty while building a healthy community in the surrounding areas.

(b) The roles of Khao Hin Sorn RDSC in creating healthy environment and reducing poverty in surrounding areas

The Khao Hin Sorn Royal Development Study Center emphasizes restoration and improvement of natural resources as the basis for sustainable agricultural development, in accordance with His Majesty's initiatives. These activities include:

- ❑ *Soil development*: working demonstrations include developing soil and conserve soil and water, breeding plants for conservation of soil and water, making fermented fertilizer, proper utilization of soil, sustainable farming, research in soil and water conservation, building water sources in fields, planting vetiver grass for soil and water conservation, and training of farmer-leaders--so-called volunteer soil doctors, Royal rice mill, and sun-dried latex sheets.
- ❑ *Resource conservation and restoration*: raising saplings for reforestation, studies in proper watering methods for reforestation, soil rehabilitation, and rehabilitation of water sources.
- ❑ *Irrigation*, i.e. procuring stored water sources and conveying water to farmers' fields.
- ❑ *Promotion of healthy agricultural products and botanical applications*: promotion of orchards, human and environmentally friendly garden produce, and testing of herbs and spices, improvement of herbal gardens, improvement of forest-based herbal production, and herbal products project.
- ❑ *New Theory integrated farming*, by setting up demonstration plots and applying them on a larger scale to the farming villages around the center.
- ❑ *Crop studies*, e.g. tests of crop planting, testing of the integrated farming system, testing of field and garden crops, testing of Para rubber, testing of

an integrated Saa fiber operation, testing of mulberry plants, studies, testing, and conservation of herbs, and agricultural technology transfers.

- *Livestock farming*, e.g. demonstration livestock raising, promotion of raising fowls and swine, and health development for farmers' pets.
- *Fisheries and aquaculture*: release and distribution of aquatic species in bodies of water, a working demonstration of raising aquatic life, promotion of aquaculture and processing of aquatic animals for food.
- *Community development*: promotion of co-operatives, through marketing support and provision of supplementary income sources for members, support for women's development activities by women's organizations, organization of youth camps in support of natural resource conservation and the environment, and promotion of various types of livelihood.

(c) Selected farmer cases in community surrounding Khao Hin Sorn RDSC

Case 1: Mr. Somboon Pueng-kasem is a Buddhist farmer living in Ban Song Mai, Khao Hin Sorn, Chachoengsao Province. He raised a farmer family, received education of grade 4, married with one son and one daughter; a typical Thai farmer household. His own farming plot covers 25-rai.¹

In 1999, Somboon participated in a training course on NTA and farming accounting, provided by Khao Hin Sorn RDSC. When the course was over, he then changed his point of view on farming and started to apply the NTA. He used the lands for paddy 5 rai, for gardening and orchards 9 rai, and for cassava 10 rai. Also, with support from the Center, he began various types of activities: dug up 2 farming ponds, water sprinkle system for vegetables and herbs, fish breed, orchard seeds, fermented fertilizer, water organic fertilizer, and fresh plant fertilizer for adjusting soil surface and planting vetiver grass for preventing soil degradation.

Furthermore, Somboon frequently participates in technology learning course for sustainable agriculture from the Center. Last year, his annual income has increased significantly to more than 180,000 baths; from planting gardening crops like acacia, gourd and peas; selling custard apples, wild mangosteens, and cassava. He and his family are more than sufficient in rice production in 5 rai of paddy field; half of the harvested rice is sold and raised more income.

Case 2: Mrs. Boonshu Songsomboon is also a farmer in Huai Somrong Tai, Khao Hin Sorn subdistrict, Chachoengsao Province. She is a 56-years-old widow with 3 sons and 5 daughters, with grade 4 education. Her own farming plot covers 80-rai. She was brought up in a farmer family in Ayuthaya province, her hometown. Due to flooding, her family moved to Khao Hin Sorn and started planting soybeans, corns and cassava as their main farming produces.

¹ Two case studies and an assessment presented here excerpted from documents disseminated at Khao Hin Sorn RDSC (2004).

In 2000, she received training on NTA from Khao Hin Sorn RDSC. She then began carrying out various farming activities: 7 rais of paddy fields, 5 rais of vegetables and gardening, 3 rais of herbs, 55 rais of mixed orchards and 5 rais of cassava plots. Other activities supported by the center, including preparing 1 farming pond, 1 sediment pond and water sprinkle system in vegetable and herb plots, fish breeds, orchard seeds, fermented fertilizer, water organic fertilizer, and fresh plant fertilizer for adjusting soil surface and planting vetiver grass for preventing soil degradation. She continuously participated in technological training course on sustainable agricultural plan, and joined in many activities of the center.

In 2002, she initiated a pilot project on herb planting, which brought her an increased annual income of 134,700 baths (income from orchards, vegetables and herbs amounted to 33,400 baths and income from cassava at 101,300 baths.) Her family also planted rice for their own consumption.

The Center has assessed its services through conducting a survey among farmers participating in NTA. The results showed that farmers were satisfied with their improved lives because this way of farming helps them reduce risk associated with agricultural productions, while increasing income. Each family has sufficient food to consume in their households, so they have more freedom in their lives and occupations. Most farmers agree that they are more fortunate than other farmers to be assisted by Khao Hin Sorn RDSC on farming techniques.

In sum, Khao Hin Sorn RDSC has demonstrated how to restore degraded soil to be suitable for sustainable farming, while successful reforestation has gradually improved quality of soil and wetness in the area, once unusable for farming. There are 15 villages surrounding the Center, covering an area more than 100,000 rai, benefit directly from the Center's activities and able to revive their sustainable agricultural activities. For most surrounding communities, basic food is secured and sufficient, with less risk in health deterioration that may arise from over-using harmful chemical farming products. Meanwhile, income has been increasing from various production activities, and strong community gradually emerged as a result.

4.2 Applying Sufficiency Economy in Building Healthy Community

(a) A Case Study of Mairiang Community

During the decades between 1970s to 1990s, economic development was seen as a single formula to move millions of rural workers and farmers from poverty to prosperity. On the contrary, Mairiang community located in Nakhon Sri Thammarat, Thailand's southern region, had experienced the several crises due to severe natural disaster and the impact of globalization that have changed the pattern of living of the villagers.¹

¹ Information of Mairiang community discussed here excerpted from various sources, esp. NESDB (2001), NESDB (2003), and RMAF (2004).

Their cultivation of rubber, a promising cash crop for the export market, caused suffering to the villagers when rubber price plummeted, whereas the production cost had been increasing. Clothes, medicine and any other items were to be bought from outside due to inability of production. People's debt accumulated. It was recorded that the community overall debts reached 70 millions bath more or less. With increasing debts, the villager faced the worsen situation of their health due to pollution from chemical fertilizers and pesticide substances ruined their health and natural environment. Life expectancy was lower whereas rate of people inflicted by cancer multiplied. A community in which money flowed out quickly but returned slowly has succumbed to poverty. Dislocation was commonly understandable due to the shortage of work amid the severity of accumulating problems.

After several years of decreasing rubber price, a group of farmers led by Mr. Prayong Ronnarong¹ has initiated community self-reliance in response to the crises. They started by building a rubber processing plant to produce high quality latex for the better prices of Bangkok market. But later, they realized that rubber farming was only a part of the way of life of the community and could not solve new problems facing them. They learned that the community must deal with the issues in an integrated approach by addressing the overall picture and concerting individual efforts in responding to the community's needs and conditions of localities, while emphasizing the process of learning. In conducting such practice, the villagers also identified the potential of community and means of strengthening them. The new approach to community development has helped in solving their immediate concerns while preventing new problems from arising.

Through the process of learning, community empowerment was accumulated. A council of leaders was created to plan Mairiang's future collectively, and continuously preparing a next generation of leaders. The Community Learning and Development Center was built to study development alternatives. The key principle of its activities is putting priority on *cost reduction* instead of targeted earning. Production in the community has been shifted toward sustainable agriculture and diversification to reduce risk. The chemical-free vegetable and the environment friendly agriculture have played their roles in producing healthy food and traditional medicine for the community. Many plants, which used to be treated as weed or unwanted plants were developed to be farmed as economic plants. When the villagers valued these useful natural plants, they also stopped using chemical substances in rubber plantation, which in turn helped in preserving the environment. As a result, health conditions were recovered and expenses on health-care decreased. Many of daily basic products, such as soap, shampoos, etc., are produced in the community to reduce cost of living. Through clustering and the linkage of community enterprises, Mairiang has moved toward development with strength.

¹ Prayong Ronnarong is an advisor of Mairiang Community Leaders Council. He won the *Magsaysay* award, sometimes dubbed the 'Asian Nobel Prize,' for Community Leadership in August 2004.

The Mairiang community demonstrated that the model of self-reliant local enterprises, supported by active community learning, is the path to a balance and healthy community development in Thailand. In the process, the empowered community created a '*Community Development Master Plan*' for Mairiang that promoted not only community enterprises but also education, health and welfare measures funded from the profit of these enterprises-including scholarships for the youth and a social fund. At present the direct beneficiaries of the plan are nearly nine hundred families.

(b) *Building A Learning Network of Healthy Community Based on SE*

Mairiang community development is one example among many that are in accordance with the philosophy of "Sufficiency Economy". Its development process has been conducted step-by-step, starting with identifying their community conditions including problems and assets first. The best assets of Mairiang community are people, knowledge and resources. Combining all these assets empowers the community's strength to deal with challenges. The community has tackled physical health issues and polluted environment first, as they are the foundation of development. The target of income creation is not set, rather the community aims toward building self-reliance along a middle path. The approach is integrated where production is balanced with healthy life and preservation of nature. Sources of income earning have been diversified in order to reduce risk. The community prepared themselves to cope with the changing world through the process of learning together and working together. They share experiences both within, and among others across the country.

Mairiang learning process has been adopted across the country. The learning process of Mairiang community is supported by the network called Yomna,¹ a provincial network of community-based organizations in Nakhon Sri Thammarat. This provincial network consists of three sub-networks of Para-rubber farmers, fruit planters and rice growers. Later, the Yomna network has linked with several community networks in other regions, to share knowledge, know-how experiences, and trade their organic products.

The development of a healthy community and a network of its kind are practically in accordance with the second and third stages of the NTA. To implement the sufficiency at the community level along with the decentralization policy, the government, with the NESDB as a main coordinating agency at first, has engaged in the program of facilitating each community to develop its own *Community Development Master Plan (CDMP)*.² The program has now been adopted as a poverty alleviation core strategy in Thailand, and implemented through the

¹ In Thai, the word is an acronym from three words, namely Yang (pararubber), Maipol (fruits), and Na (rice fields).

² Wong Cha-um (2001) discusses the historical development of CDMP, and explains in details how to utilize the process of preparing CDMP as an empowerment tool for communities in Thailand.

mechanism of the *National Center on Fighting with Poverty*, chaired by the Deputy Prime Minister.

The government plans to facilitate over 3000 communities in Thailand to prepare their CDMP within the next three fiscal years; *FY 2003/04 – FY 2005/06*. It aims to empower community through people participation, and to build capacity for community management through a learning and doing together process. The preparation of CDMP is designed to proceed step-by-step as follows.

1. Community members are to organize a consultative meeting to share the understanding of the purpose of CDMP, its benefits and application for the community.
2. After having learned the CDMP objectives, community members join together to explore the information and data related to situations of community: *income and expenditure, natural resources, public utilities and services available, etc.* Some sets of data such as expenditure and income are collected by community committee with the cooperation of all villagers, some are searched from government agencies; some may be extracted from the experiences of the community members.
3. Then community members convene another meeting for presenting and discussing the obtained information/data. From such discussion, the members will learn the strengths and weaknesses of their community;
4. Knowing oneself, the meeting, thereby leads to forming a shared-vision to develop one's own community, with a work plan to make that vision comes true. The vision can range from reducing expenditure on food by producing more consuming crops or organic vegetables within the village that can lead to more self-reliance, setting up a saving fund within the village for members to borrow in times of need, assisting those in the community who are in need of help to reach a self-reliant stage.
5. In case the community members cannot figure out the solutions, they may need to visit other communities, so as to learn from the experiences of external sources. Throughout the process of preparing CDMPs, learning among people or learning from those who have succeeded, are encouraged than passively listening to government officers or experts.

As an application of SE at a national level, several governmental agencies, including the NESDB, have changed their roles from directing development towards facilitating and supporting communities in planning and implementing community programs and projects. At the moment, the government still has a major role in providing learning forum and facilitating the process. This shift of roles will set the course of community self-reliance and development path toward SE.

5 LESSONS LEARNED FROM SE-BASED DEVELOPMENT AND CONCLUDING REMARKS

There are many examples of healthy communities in the whole kingdom that have learned to change their course of development toward “Sufficiency Economy”. Their activities are wide ranging based on the problems they are facing. Examples range from sustainable agriculture, as discussed here in length, to fighting narcotic drugs, coping with HIV/AIDS patients, preserving the community forest, sharing water resources, to name a few. There are some lessons we learned during the process, both success and failure.

Managing the Environment to Build a Healthy Community

Lack of appropriate knowledge and know-how to manage the environment during the process of economic activities contribute to natural resource and environmental degradation. However, as rural ways of life are highly interconnected with nature, some local people can observe the relationships between the deterioration of the environment and the worsening of their livelihoods. As earlier discussed, the impacts include both economic hardship and poor physical health. Through their painful experiences, they learn to see the importance of and necessity for the conservation of natural resource and the environment. This is especially the case with those who are well equipped with local wisdom and indigenous knowledge. These wise locals not only practice sustainable agriculture and protect the forests but also live in harmony with nature. Local communities led by these people also learn to live wisely in accordance with the SE concept. The philosophy of SE suggests that production and consumption should be *moderate and reasonable*, for us to live in balance with nature in a sustainable way. To preserve natural resources and to manage environment skilfully are ways of creating self-immunity for both the individual and community, as prescribed in SE.

A Community Self-reliance Building Approach

The underlying principle to implement SE is self-reliance. Community self-reliance does not mean isolation. It means moving toward or finding ways to best utilize its resources first before looking for external support. On the economic front, it implies expanding the base to produce basic necessities for residents. Later, it can focus on existing resources for more value-added production. This way, the community will be better insulated from sudden shifts in the price and supply. At the environmental front, the principle of self-reliance will force community to give emphasis on preservation of natural resources and environment—one of their important assets. At an advance stage of “Sufficiency Economy”, a network of self-reliant communities could pool some of their funds and invest in one another’s community corporations. This would diversify investment options and lower risk, in a way that continues to benefit businesses that are locally owned and operated. The self-reliance principle is in line with the step-by-step development approach.

A Sequential Step-by-step Development Approach to cope with Changes and Globalization

The philosophy of SE emphasizes the right sequence and step-by-step approach of development. In the rural area, or where applicable, each household or community should be able to obtain food security, at minimum, to achieve sufficiency at the smallest unit. The next step is to work cooperatively and generously towards one another in building a strong community. To ensure sustainability, these steps must be *burst out from within*, not by imposing or pressuring from outside. The lessons from our development experiences show that a development approach, which aims at rapid economic progress but incompatible with the country or people conditions, will give rise to imbalance in many fronts and consequently heightening the problems, as seen in the past or in many countries.

Thailand's Development at the Crossroads

At present, many policies and programs initiated by the government as the so called dual track development approach mark an improvement in attaining the development approach of SE as discussed above. However, there are still some discrepancies that need to be noted. For example, some programs are aimed at increasing income, while ignoring the importance of reducing expenses. Others may aim at expanding opportunities without preparing the people with appropriate knowledge or know-how. Sequencing and step-by-step development appear to be ignored both at the policy and implementation stages. It is vital that good and firm foundation serves as a strong basis for development otherwise it may shift development out of a sustainable track.

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