

TDRI

Quarterly Review

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Small-scale water resource development project is crucial for local livelihood. This deep well in Chanthaburi province constructed by the Department of Mineral Resources makes water available to all users in the village. See related article on page 13.

Strategy for Economic Development in Southeast Asia^{*}

Narongchai Akrasanee^{**}

The countries in Southeast Asia have to continuously formulate and adjust economic development strategy. In doing so, we are influenced by at least four groups of issues:

- 1) Socio-economic phenomena
- 2) Economic theory
- 3) The country's experience, and
- 4) The changing business paradigm.

Making decisions on today's economic development strategies depends on those considerations, plus where we are with regard to the development mode of trade, finance, and technology.

1. SOCIO-ECONOMIC PHENOMENA

Each of us may have had a different socio-economic history, but all of us have had some experience of Western domination. Those who suffered more have taken more time to accept the Western model of market capitalism and democracy.

Almost all of us have now adopted the global market capitalism, and some form of democracy, depending upon the different concerns about security issues in each of our countries. Each of us has had different degrees of success with market capitalism. So some countries are skeptical about market capitalism, and are trying to develop their own model of economic development.

Recently, Asia has gained more economic power, particularly because of China. Thus, the new economic development model is focusing more and more on the inter-Asian economy.

2. ECONOMIC THEORY

If we learned economics in the West, we tend to support market capitalism. David Ricardo told us more than 200 years ago that in market capitalism trade should be based on a comparative advantage. This concept was supported by the works of such economists as Heckscher and Ohlin, and Stolper and Samuelson.

Theory tells us that trade liberalization through optimal allocation of resources and factor price equalization would be welfare enhancing, even reaching the Pareto optimum. However, that would require a perfect market, which Edwin Chamberlain and Joan Robinson told us does not exist.

Our countries liberalized trade and gained from trade, but often with unfavorable terms of trade. Joe Stiglitz, a Nobel Laureate in economics, tells us that this is so because we have "asymmetry of information," meaning that we know less than our trading partners.

On finance, we learned from economists such as J.R. Hicks and Harrod/Domar that capital is the engine of growth. Our economies can grow only as much as capital accumulation enables us to grow. So we are encouraged to foster domestic savings and to borrow from overseas sources. We are encouraged to open our capital accounts and to liberalize our financial sector. Some of our countries did so, including Thailand and Indonesia in the early 1990s. Yes, our economies grew a lot, but look at what happened in 1997 and 1998. We have now learned that by joining the global financial market we are faced with unfavorable terms of risk.

On technology, we learned from Joseph Schumpeter about the power of innovation. We learned from Dale Jorgenson about growth as a result of productivity improvement. We learned that, to benefit from productivity-driven growth, we must have a good system of intellectual property rights (IPRs). Now most of us are grappling with this concept. It is not a part of our culture. This is now a necessity, as Paul Krugman said, because we have exhausted our labor and natural resources. To grow, we must rely on productivity and creativity through the development of the IPR system.

3. THE COUNTRY'S EXPERIENCE

Countries in Southeast Asia have had different experiences with the economic development strategy that we adopted. Thailand and Indonesia could claim some success in terms of trade liberalization, but failed at financial liberalization. Malaysia has done better in both

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areas, and Singapore has done very well. The Philippines has not opened its capital account as much. Meanwhile, Vietnam has been experimenting with trade liberalization. Thus, it can be seen that each of us has different views about trade and financial liberalization.

We have been told that, to really benefit from liberalization, we must have the following:

- Proper sequencing;
- The practice of good competition policy;
- The practice of good governance; and
- The maintenance of a sound macroeconomy.

As we could not claim to have all those virtues, the bad experience that some of us have had with liberalization was said to be entirely our own fault. The critics say that there is nothing wrong with the liberalization model.

4. THE CHANGING BUSINESS PARADIGM

As we open up to do business, we are constantly being confronted with the changing business paradigm initiated by the West. This paradigm has an important bearing on our competitiveness, and we continuously have to play a catching-up exercise.

Factors which have influenced business practices the most are transportation and telecommunication technologies. Computation technology, which is evolving very rapidly, is now having the biggest impact on the business paradigm.

Transportation determined the trading mode ever since the steam cargo ships started to travel from Europe to Asia in the early 19th Century. Now we live in the era of containerized ocean liners and cargo jumbo jet planes, which contribute toward ever-growing intra-industry trade and specialization.

The continuous advancement of telecommunication technology has transformed commercial transactions into electronic—thus the emergence of e-commerce in all areas.

Currently, behind the changing business paradigm is the rapid progress of computation technology, which is happening so fast that even Moore's Law has become obsolete. Moore's Law states that "at the same cost, computation capability doubles every 18 months." In the last three years, computation capability in all categories, including processing, storage, and transmission, increased many fold. These developments were happening along with the development of software and expansion of the Internet.

The development of computation technology has made computing ubiquitous, meaning computing everywhere. Now we have computational biology, cognitive devices, e-commerce, etc. Thus, the business paradigm is changing from:

- Economy of scale to economy of speed;
- Mass production to customized production;
- Owning assets to accessing assets;
- Tangible assets to intangible assets;
- Intermediation to e-mediation, etc.

This fast-changing paradigm is prompting Juan Enríguez to threaten that if we do not change, we shall be "caught by our future."

5. OPTIONS FOR AN ECONOMIC DEVELOPMENT STRATEGY

What should we do about our economic development strategy for the next phase of our development? The answer to this question depends on our background and our economic situation at this time.

Members of the general public may be concerned about globalization and Western domination, and may prefer a less open economy.

Economists may continue to insist on an export- and foreign-investment-oriented strategy, with additional focus on productivity/creativity improvement.

Technocrats may insist on restructuring and reform, with emphasis on sequencing.

Businessmen may ask for both protection and promotion, with support for e-commerce development.

For myself, I do not believe we have a ready-made formula for an economic development strategy. The formula of the three "t's"—liberalization, deregulation, and privatization, as endlessly advocated by the World Bank and the IMF—cannot be taken as a "cure-for-all" strategy.

I think the strategy should cover at least three major areas, with each one designed according to the development mode of the area.

Area 1 is foreign trade.

The three modes are:

- More for more;
- More for less; and
- Less for more.

Thailand is in the mode of "more for less," because we are producing and selling products at lower prices, partly because of more competition among low-cost producers in the United States and the European Union markets. In this case, we must move to the mode of "less for more." We have to emphasize "productivity driven growth," particularly in sectors where we believe we can compete internationally, such as food processing, tourism, and automobiles. For the purpose, we also need sub-regional, and regional cooperation in the form of the Greater Mekong Subregion (GMS), ASEAN, and ASEAN+3.

Area 2 is international finance.

The three modes are:

- No access;
- Accessing without owning; and
- Accessing and owning.

Again, for Thailand before 1990 we were in the mode of "no access." We had no access to international

money and capital markets. Our government could borrow overseas, but not the private sector. We had some foreign direct investment, but with foreign control. In the 1990s we moved to the mode of “accessing without owning.” We had access to global finance, but we ended up owning hardly any assets bought by that money.

Now we need to move to the mode “accessing and owning.” We must make sure that reliance on foreign financing must be for the purpose of eventually owning business. For this purpose, we must be aware of the volatility, mobility, and sensitivity of global finance. As the 2002 Nobel Laureate in economics, Daniel Kahneman, teaches his students, decision-making under uncertainty is determined more by psychology than economics. The best demonstration of his theory is how global finance works. Thus, we cannot afford a fully open capital account, despite whatever the IMF tells us, and we need to have regional financial cooperation to cushion the volatility effects of global finance.

Area 3 is technology.

The three modes are:

- Pirating and reverse engineering;
- Accessing with conditionality; and
- Own technology.

Thailand is moving only from mode 1 to mode 2. Now we can access technology, but with a lot of conditionalities on IPRs. We have to develop a system conducive to innovation, which involves a very comprehensive IPR system, apart from strong science and technology infrastructure.

Thailand’s economic development strategy

For Thailand at this time we are trying to take all those actions mentioned here. We continue to promote exports, but we put much more effort into the domestic

market than before. Domestic capacity enhancement is the key issue. For foreign markets, we put more emphasis on ASEAN, East Asia, and other countries in Asia such as India. We are active in the GMS, ASEAN economic cooperation, and ASEAN+3. We have initiated Asia-wide cooperation, the Asian Cooperation Dialogue (ACD), while we also maintain links with our traditional trading partners in the West.

We refer to this strategy as “Local/Regional Link—Global Reach.” This is more popularly known as the “Dual-Track Economic Policy.”

In all, I hope I have given you some issues to think about, in your consideration of and deliberations on economic development strategy for Indonesia. I hope they are of some relevance to the Indonesian case.

I hope you do not shut out the West, their ideas and ideals, for there are a lot of good things in them.

I hope you do not ignore economic theory, for it is the truth. It is the interpretation and application of the theory that is sometimes the problem.

I hope you will not give up the technocrats, despite their improper sequencing, for they certainly did a fine job for your country until the early 1990s.

I hope you do not blame only the businessmen for the economy’s heavy debts. The crisis of 1997/1998 was a systemic failure, for which all parties must share the blame.

I am a true believer in the growth and development prospects for Southeast Asia. I believe that we can achieve such growth and development by taking a multi-dimensional approach to our economic development strategy.

I believe Indonesia can do it. It is important for Southeast Asia, and for Indonesia to be able to do it. That is because—for Southeast Asia and for ASEAN—we can grow only as far as Indonesia allows us to grow.



Foundation and Prospects of the ASEAN Economic Community's Establishment*

Chalongphob Sussangkarn**

ASEAN leaders are now paying more attention to the need for further integration of ASEAN beyond the ASEAN Free Trade Area (AFTA), even to some form of ASEAN Economic Community (AEC). At the 8th Summit in Phnom Penh in November 2002, the “Leaders considered the idea of an ASEAN Economic Community as an end goal for the Roadmap for the Integration of ASEAN and Vision 2020 which ministers could study.”¹ Actually, there have been numerous ideas for further ASEAN economic integration beyond AFTA to make the region more competitive and attractive as an investment destination. Documents such as the Vision 2020, the Hanoi Plan of Action and the report of the ASEAN Eminent Persons Group on Vision 2020 all contain elements that will move ASEAN forward along the path of deeper economic integration consistent with establishing some form of Economic Community for the region in the future.

Prior to the 1997 crisis, most ASEAN economies were doing well, growing at more than 5 percent per annum (except the Philippines), so the need for serious attention on further regional integration beyond the implementation of AFTA was not that strong. With the crisis, the region was faced with urgent problems that each country had to tackle. The crisis also substituted the necessity for deeper integration to increase ASEAN's competitiveness by the general depreciation of the regional currencies, and this served to prolong the region's ability to compete in the export markets. However, competitive advantages from the depreciation of currencies are now likely to be over, and with the emergence of China, ASEAN has seen its competitiveness and attractiveness as an investment destination dwindled. It is therefore appropriate for ASEAN to pay more attention to going beyond AFTA and push ahead with deeper regional integration at this time, particularly also given that tariff reductions under AFTA for the vast majority of items have already been carried out. This will make ASEAN a more integrated production and trading region and should increase competitiveness and attractiveness for investment.

In moving toward something like an Economic Community, push factors will be needed. This is because there will also be resistance from those sectors and parties that prefer the status quo. The benefits of deeper integration may not be so clearly perceived as those who might emerge as real winners as a result of the integration are not so evident at the current time. In the case of Europe, conflicts between sovereign nations that led to the destruction of the World Wars provided important push factors that led to the Shuman Plan and the establishment of the European Coal and Steel Community (ECSC) that took away member states' sovereign roles in these sectors.²

In ASEAN, there is no comparable history that could push ASEAN integration along the same path as in Europe. However, there are other irreversible push factors that arise from the emergence of China and evolving trade and economic regimes in the region. These push factors could provide the necessary impetus for ASEAN countries to seriously move to become a more fully integrated region, and eventually an Economic Community of some form. This paper will look at these push factors in the next section and briefly discuss the prospects of an AEC in the last section.

PUSH FACTORS FOR ASEAN INTEGRATION

There are at least three sets of factors that should provide important impetus for deeper ASEAN regional integration. These are the emergence of China, the regional free trade agreements (FTAs) and the movement toward deeper East Asian cooperation and integration.

Emergence and Impacts of China

The integration of China into the world economy over the last decade has had a profound impact on the economies in the region and also globally. This is not surprising given the size of China, with a population of about 1.3 billion and a workforce of about 700 million.

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Integrating an economy this size into the world economy is bound to affect the world trade and investment regimes. Since 1990, China's exports and imports have increased by more than 5 folds. China's exports amounted to about US\$ 325 billion in 2002 or about 5.1 percent of world exports compared to only 1.8 percent in 1990 (see Table 1).

Table 1 China's Exports and Imports (Million US\$)

	Exports	Imports	Share in World Exports
1990	62,091	53,345	1.80%
1991	71,910	63,791	2.05%
1992	84,940	80,585	2.26%
1993	91,744	103,959	2.43%
1994	121,006	115,615	2.80%
1995	148,780	132,084	2.88%
1996	151,048	138,833	2.80%
1997	182,792	142,370	3.28%
1998	183,712	140,237	3.35%
1999	194,931	165,699	3.42%
2000	249,203	225,094	3.88%
2001	266,098	243,553	4.31%
2002	325,565	295,203	5.07%

Source: World Trade Organization.

If one compares ASEAN exports with China, it can be seen that ASEAN's exports have also increased substantially between 1990-2002, increasing from about US\$ 144 billion to US\$ 401 billion (see Table 2). However, the relative pattern of export increases over time between ASEAN and China is illuminating. Between 1990-96 (prior to the financial crisis), ASEAN exports increased by about US\$ 200 billion while China's exports increased by about US\$ 90 billion. So ASEAN exports increased by about twice those of China during that period. Since 1996, however, China's exports have increased by much more than ASEAN's, increasing by about US\$ 175 billion between 1996-2002 compared to an increase of only about US\$ 60 billion for ASEAN exports during the same period. Also, if one ignores intra-ASEAN exports then China's exports are now larger than ASEAN's exports in absolute value.

Table 2 ASEAN Exports (Million US\$)

	Exports	Share in World Exports	Extra-ASEAN Exports
1990	144,149	4.18%	
1991	165,184	4.70%	
1992	186,345	4.95%	
1993	212,327	5.62%	167,845
1994	262,142	6.06%	202,094
1995	321,408	6.23%	249,153
1996	340,733	6.32%	258,935
1997	353,037	6.33%	267,459
1998	329,674	6.00%	258,360
1999	359,229	6.30%	281,037
2000	427,515	6.65%	331,051
2001	381,611	6.18%	296,309
2002	401,264	6.25%	

Source: World Trade Organization and ASEAN Secretariat.

The above data show that ASEAN is now finding it more and more difficult to compete with China in the world market. Thus far, the full impacts of China's greater competitiveness on ASEAN exports may not have been seriously felt. This is because ASEAN exports have still been increasing, although at a much slower rate compared to before the crisis. However, one needs to take account of the fact that as a result of the crisis ASEAN currencies have weakened considerably against the Yuan which has been virtually pegged to the US\$. Using export shares of ASEAN member countries as weights, the weighted real exchange rate index of ASEAN currencies relative to the Yuan has depreciated by about 27 percent between 1996 and 2002. This has helped to keep ASEAN export growing. However, even with the depreciation, ASEAN is finding it difficult to compete with China. And with ASEAN currencies entering a more stable phase over the last year or so, it is unlikely that ASEAN can rely on this source of increased competitiveness to boost its exports relative to China in the future.³

The greater competitiveness of China is also reflected in the huge amount of foreign direct investment (FDI) that flows into China each year, amounting to about US\$ 40 billion per year over the past six to seven years (Table 3). At the same time this Table also shows the alarming decline in net FDI coming into ASEAN over the past couple of years.

Table 3 Net Foreign Direct Investment (Million US\$)

	ASEAN	China
1990	10,181	2,657
1991	12,718	3,453
1992	10,515	7,156
1993	12,102	23,115
1994	13,292	31,787
1995	17,879	33,849
1996	18,197	38,066
1997	18,215	41,674
1998	18,813	41,117
1999	15,588	36,978
2000	3,847	37,483
2001	2,452	37,357

Source: World Bank.

The emergence of China and its impacts on world trade and investment flows should be matters of great concerns to ASEAN. The message is likely to become clearer and stronger that size does matter, and that ASEAN will need to integrate a lot more and a lot quicker to reduce the cost of doing business in ASEAN, to make the region more competitive and more attractive to foreign investment. Unless ASEAN takes the challenge of China seriously and push quickly ahead with much deeper regional integration, there is the danger that each of the ASEAN economies will become marginalized. This would be a great pity, since ASEAN as a group is certainly not small. With a population of about 530 million and total GDP (current US\$) of about US\$ 560 billion, the region is about half the size of

China and should be able to compete equally with China, whether in terms of exports or the ability to attract FDI.

Proliferation of Regional FTAs

Apart from the China factor, the proliferation of various FTAs or Economic Partnership initiatives between ASEAN and key external partners, such as China, Japan and the United States (U.S.), should also provide an additional impetus for deeper integration within ASEAN.

From what was written in the last section, it may be surprising that the China-ASEAN FTA was developed and agreed over a relatively short period of time. The "Framework Agreement on Comprehensive Economic Cooperation between the Association of Southeast Asian Nations and the People's Republic of China" was signed on November 4, 2002 in Phnom Penh only a couple of years after the idea was introduced by China. However, a number of reasons may explain why the China-ASEAN economic cooperation framework has progressed very quickly.

First, the Chinese economy has been the fastest growing economy in the region for a number of years, and has been playing a more and more important role in absorbing some of the exports from ASEAN countries. Between 1997 and 2001, exports of ASEAN countries to China grew by an average of about 36 percent per annum. By 2001, ASEAN exports to China totaled about US\$ 31.5 billion or about 8.2 percent of total ASEAN exports.⁴ Of course, imports from China have also increased, but so far imports from China to ASEAN have grown more slowly than ASEAN exports to China. Imports from China to ASEAN increased from about US\$ 13.5 billion in 1997 to about US\$ 23.8 billion in 2001. This is probably because China's exports are mostly targeted to the advanced (rich) economies. Only in the last couple of years or so have high-end Chinese products, such as electrical appliances, become more widely available in the middle income ASEAN countries.

Secondly, apart from being a rapidly growing market for ASEAN exports, there are also plenty of investment opportunities in China for the larger and more competitive ASEAN companies to exploit. The CP Group in Thailand, for example, is a major investor in China.

Thirdly, the introduction of the "Early Harvest Programme" makes the China-ASEAN FTA stand out. Many ASEAN economies have some comparative advantages in some food and agriculture sectors included as part of the program, and these economies are therefore attracted to the benefits that could be gained in the relatively short-term. Some of the sectors are also complementary between tropical ASEAN and the more moderate climate China, such as fruits and vegetables.

Finally, for geo-political reasons, the China-ASEAN FTA is also of benefit to the ASEAN economies. Japan had to respond quickly to the China-ASEAN initiative to maintain its regional leadership role, and a "Joint Declaration of the Leaders of ASEAN

and Japan on the Comprehensive Economic Partnership" was announced on November 5, 2002, in Phnom Penh just one day after the signing of the China-ASEAN economic cooperation framework agreement. Even the U.S. took notice of China's initiative, and also introduced an Enterprise for ASEAN Initiative (EAI) that opened the window for possible bilateral FTAs between the U.S. and members of ASEAN along the lines of the Singapore-U.S. FTA.⁵ The China-ASEAN economic cooperation initiative therefore led to much indirect benefits for ASEAN. For ASEAN, it should be of more direct benefit to develop an FTA with an economy that is at a more advanced stage of development than with a country that is still at a lower level of development compared to ASEAN. While the agreement with China may be risky in competitive terms, if it can bring about indirect benefits through FTAs with countries such as Japan and the U.S., the net benefits are likely to be significantly positive.

The China-ASEAN framework agreement has set the goal to achieve zero tariffs for all products in the "normal" track by 2010 between China and ASEAN-6 and by 2015 between China and the newer ASEAN member countries. While it is hard to anticipate whether detailed negotiations under the China-ASEAN FTA will proceed smoothly, it is clear that this kind of regional FTA should provide added impetus for deeper ASEAN integration.

The China-ASEAN FTA will bring increased competition for companies in a particular ASEAN country, both in the domestic market of that company, and also in the market of the other ASEAN countries. This should provide the impetus for businesses to pressure their governments to make sure that any barriers for intra-ASEAN trades are minimized, and certainly should match any deals made between various ASEAN countries and China. ASEAN based companies will also need to increase efficiency and competitiveness to compete with Chinese producers. For many multinational companies in the region, this will involve a shift from a country focused investment and production strategy to a regional focused investment and production strategy in order to exploit scale economies. This shift will only be effective if ASEAN can implement further integration measures to develop ASEAN into a truly integrated regional production area where components, parts and final products can move at low cost (whether in terms of tariffs and non-tariff barriers, customs and other clearance procedures, transportation cost etc.). Thus, there will be pressures from multinationals that have invested heavily in ASEAN in the past for deeper and faster integration of ASEAN.

One strand of thinking behind the ASEAN-Japan Comprehensive Economic Partnership (AJCEP) is precisely about the need for further ASEAN integration to become an integrated trading and production region. This is particularly important from the Japanese perspective. Even though Japan's FDI flows in recent years have focused more on China compared to ASEAN, the cumulative stock of Japanese investment in ASEAN

is still over three times larger than that in China. Therefore, it is important for Japanese companies to maximize the effectiveness of these investment given the emerging challenges posed by China. This involves exploiting scale economies by changing investment and production strategies from country based as in the past to regional based. However, at present, there are still important barriers to this regional strategy.

While most intra-ASEAN trades now face 0-5 percent tariff (in ASEAN-6), there are still important sensitive products that various countries are still protecting. In the case of automobiles, for example, because Malaysia is delaying its tariff reductions, in reciprocal fashion Thailand's tariffs on automobile related products from Malaysia remain high. Automobile parts shipped from Malaysia to Thailand still face a tariff of between 30-42 percent. This causes a lot of problems for some Japanese producers who have plants producing automobile parts in Malaysia and would like to transport them to Thailand for final assembly. Apart from inefficiencies arising from various sensitive products, there are of course many other implicit barriers that add to the cost of sourcing parts and supplies among ASEAN countries, such as customs, standards and other trade facilitation measures.

A recent joint study by 10 research institutes in ASEAN (one from each ASEAN member country) plus IDE/JETRO from Japan on the AJCEP⁶ recommended a number of tasks to be pursued in achieving the AJCEP. These included the need to complete the single ASEAN market, further structural reforms in ASEAN economies emphasizing competitiveness enhancing policies, and reductions in barriers to trade, services and investments. The goal for ASEAN should be to make the region as integrated and competitive as possible. This will enable ASEAN to take full advantage of the current situation where ASEAN seems to be a hub of interest for FTAs by key countries.

Another important initiative that could provide an impetus for further ASEAN integration is the EAI. This could lead the way to an ASEAN FTA with the U.S. The U.S. has already concluded a comprehensive FTA with Singapore. This covered a broad range of trade and non-trade issues, including: *Goods Trade*; elimination of bilateral duties; *Services Trade*; includes improved market access opportunities in the area of professional services and express delivery; *Financial Services*; new market access in the banking and security sectors, including access to ATM networks, and increased market access in the insurance sector; *Telecommunications and E-Commerce*; market access and competition safeguards, including permanent duty-free status of products delivered electronically; *Competition Policy*; commitments by Singapore to develop competition law and regulatory regime and commitments that government enterprises will operate commercially; *Intellectual Property*; strong intellectual property and an agreement to limit the use of compulsory licenses; *Labor and Environmental Standards*; agreement on high legal

standards of environmental and labor protections and enforcement.

Under the EAI the U.S. and each member of ASEAN will jointly determine if and when they are ready to launch an FTA negotiation, but the potential ASEAN partner must already have concluded a Trade and Investment Framework Agreement (TIFA) with the U.S. The EAI also states that the bilateral FTA with each ASEAN country will be based on the model of the Singapore-U.S. FTA. Given the comprehensiveness of the U.S.-Singapore FTA, this will imply that the ASEAN partner will have to substantially liberalize its trade and investment relations with the U.S. and will need to adopt most of the international standards on such issues as competition regimes, intellectual property rights and labor and environmental standards. While many of these latter issues are still very controversial, for example about compulsory licensing of key medicines, the large markets in the U.S. and potential trade diversions from other FTAs that the U.S. has been pursuing with other partners (such as the Free Trade Area of the Americas, FTAA) may push ASEAN countries to pursue an FTA with the U.S.

Currently, the starting of FTAs negotiations between the U.S. with Malaysia, the Philippines and Thailand are being explored. If one or more of these countries conclude an FTA with the U.S. then the incentives for other ASEAN countries to do the same will become much greater in order not to become disadvantaged. Business pressures on governments to increase competitiveness and further facilitate intra-ASEAN trade would come into play just as in the case of the China-ASEAN FTA and the AJCEP. In addition, the broad range of issues covered by an FTA with the U.S. would provide a very useful example of how these issues could be tackled in the further integration of ASEAN, particularly if ASEAN is to move toward something like an Economic Community.

Movement Toward Deeper East Asian Cooperation and Integration

The 1997 economic crisis in the region has provided the impetus for economic and financial cooperation in East Asia. Prior to the crisis, it was hard to imagine a group such as the ASEAN+3 forming. Countries in the region have realized that their economic fortunes are closely tied together. Contagion of the crisis from one country to another made this abundantly clear. Countries need more cooperation to strengthen the whole region and provide better protection against the risks and volatilities arising from the global financial system.

It is noteworthy that the first concrete area of cooperation of the ASEAN+3 group was in the financial area. This is in contrast to the European Union (EU), where a long history of trade and investment integration preceded financial integration. Of course, financial cooperation in East Asia is still no where near the EU's common currency and monetary union. Thus far, financial cooperation has led to the Chiang Mai initiative

and the Asia Bond Market initiative. However, greater dialogues between all the East Asia countries have also been the springboard for initiating other areas of cooperation, particularly on the trade side. And while concrete steps for FTAs have emerged through the ASEAN+1 processes (China-ASEAN and Japan-ASEAN) rather than the ASEAN+3, there is always in the background the idea of an eventually East Asian FTA somewhere into the future. Many also realize that as trade and investment relations in the region deepen, greater financial integration will also be needed to facilitate these other areas of economic integration. Issues such as greater exchange rate coordination, currency bands, and even a common currency and monetary union for East Asia have been discussed and researched.⁷

The movement in East Asia in the direction of greater economic and financial cooperation and integration should provide a strong impetus for ASEAN to deepen its own economic integration. As a group of 10 countries in an East Asian region dominated economically, technologically and in terms of size by Japan and China, only by integrating closely as a unit will ASEAN have sufficient clout to take full advantage of East Asian integration.

PROSPECTS OF ASEAN ECONOMIC COMMUNITY (AEC)

The push factors indicated in the previous section should provide good reasons for ASEAN countries to work actively toward an AEC. Yet there seems to be many obstacles in the way, particular if the AEC is looked at as being along the model of the EU together with common currency and monetary integration. It is often pointed out that ASEAN countries are still very diverse, with huge differences in economic development

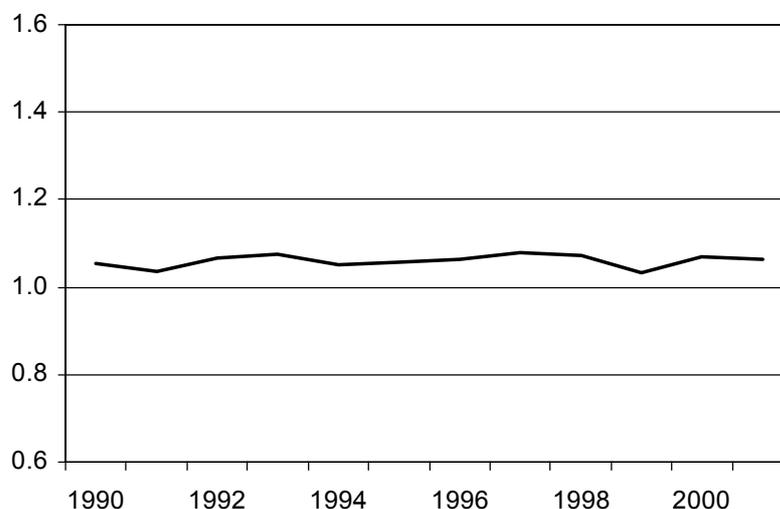
and per capita incomes. And certainly the variation in development level of ASEAN countries is much larger than that for the original European Economic Community (EEC) six back in the late 1950s, or the EU when the single currency was introduced, or the expanded EU including the 10 new member countries, or the North American Free Trade Agreement (NAFTA) when it was formed.

To see the range of differences, Figure 1 shows the coefficient of variation⁸ of the per capita GDP of the ASEAN member countries between 1990 and 2001.⁹ It can be seen that this ranges between 1.0-1.1 for the whole period. In contrast, the coefficient of variation of the per capita GDP of various other groups are as follows:-

Group	Date	Coefficient of Variation
Original Six European Economic Community (EEC) Members	1960	0.29
European Union	2001	0.34
European Union Plus 10 New Members	2001	0.64
NAFTA	1994	0.67

For the original six members of the EEC near the time when the Treaty of Rome was signed, the coefficient of variation was only about 0.29. Thus, these six countries were at a very similar levels of development. For the EU of today, the coefficient of variation is about 0.34, which is still very low. If we take account of the current EU expansion plan and add the 10 new members, then the coefficient of variation increases to 0.64. This is still much less than that for ASEAN and is about the same as that for NAFTA when it was formed (1994).

Figure 1 Coefficient of Variation of ASEAN Per Capita GDP



Another feature of Figure 1 is the very stable values for the coefficient of variation for ASEAN over the whole period from 1990 to 2001, meaning that there is no sign of convergence of the per capita GDPs among ASEAN member countries. Thus, if less dispersion in the level of development is an important step before being able to successfully form an Economic Community, then extra efforts will be needed to close the development gaps between ASEAN members.¹⁰

In spite of the fact that the coefficient of variation for ASEAN is much higher than that for the other groups that have successfully formed a fairly integrated (or very integrated) economic region, this may not be an insurmountable obstacle. If one looks at the notion for the FTAA and consider the variation in development levels between various countries that may form the core of the FTAA, it turns out that the dispersion in development level is similar to that in ASEAN. If one takes the NAFTA countries and add the four countries in Mercosur¹¹ plus Chile, then it turns out that the coefficient of variation of per capita GDP of these eight countries are very similar to that for ASEAN. For these countries, the coefficient of variation was about 1.1 in 2001 and has been relatively stable since 1990, just like in the case of ASEAN. So if one takes the example of the move to form the FTAA, then the variation in development level of ASEAN countries should not be an insurmountable obstacle for the establishment of some form of AEC.

A more important obstacle would be steps toward an AEC that would lead to a major sacrifice in sovereignty for various ASEAN countries. This is quite understandable as ASEAN history is very different to that of Europe, which, for good historical reasons, could start its economic integration process by embarking on an initiative that involved important sacrifices in the role of nation states.

For Europe, a major concern in the early days of European integration was to avoid conflicts between sovereign nations that led to the devastations of the World Wars.¹² It was therefore possible to start with an initiative such as the Shuman Plan that established the European Coal and Steel Community (ECSC) in 1952 where the roles of the six national states that formed the ECSC for these sectors were completely submerged by a supranational body.

In the ASEAN of today, the sovereignty of each nation state of ASEAN in important policy matters is still jealously guarded, and also not considered to be something that would bring about great harm to the region. Therefore, the move toward an Economic Community need to put most efforts on initiatives that achieve the underlying objective for integration without requiring unrealistic sacrifices in sovereignty from member countries. In particular, aiming for something like a common currency for ASEAN would meet with great resistance at the present time. Instead, the aim should be to stress the underlying objective of greater integration, particularly to increase ASEAN competitiveness and the attractiveness of ASEAN as an

integrated trading and production region where firms can exploit the aggregate size of ASEAN to achieve the necessary scale economies and efficiencies.

Ideas from the Institute of Southeast Asian Studies (ISEAS) in Singapore for an FTA-Plus type of Economic Community incorporating an FTA together with some elements of a common market for labor and capital to be achieved by 2020 appears realistic.¹³ However, for many sectors, it is unlikely that ASEAN can afford to wait that long to fully integrate ASEAN markets. By that time, ASEAN may have already fallen so far behind in competitiveness that the production base may have long moved out of ASEAN to China and elsewhere. Therefore, proposals to develop integrated markets for specific products in the relatively near future as proposed by McKinsey & Co in the study that ASEAN commissioned on ASEAN competitiveness should be actively pursued.

The need for ASEAN to move beyond AFTA to become an integrated and efficient production and trading region has long been well recognized. It is also an important focus of ASEAN Leaders and Economic Ministers. Much remains to be done. Even as recently as in July 2003, ASEAN Economic Ministers at their informal meeting in Indonesia noted that the process toward the ASEAN trade integration, which had started about 10 years ago, remains insufficient. A lot of intra-ASEAN trades are impeded by non-tariff barriers such as complicated customs procedures, various regulations and different standards of products. Apparently, agreement was reached at the meeting for the first time on problems in trade and investments concerning dispute settlement, certificate of origin and standard and procedures in customs offices. The Ministers also initiated a process to explore regional integration of specific economic sectors similarly to that suggested by McKinsey.¹⁴ These developments appear to show that ASEAN is now much more serious about deepening its regional integration beyond AFTA.

Plenty of visions and plans of actions consistent with the development of the AEC are already available as earlier indicated. The main task now is to seriously implement these. With recent developments that appear to put higher visibility and seriousness on the need for deeper regional integration beyond AFTA, possibly the push factors that were highlighted in the last section are now becoming more effective. It is hoped that this will help to push ASEAN along a path toward some form of Economic Community that will allow ASEAN to retain its competitiveness and revitalized the whole region back to some semblance of dynamism that was so evident in the region in the decade period prior to the crisis.

ENDNOTES

- ¹ Press statement by the Chairman of the 8th ASEAN summit, the 6th ASEAN+3 summit and the ASEAN-China summit. Phnom Penh, Cambodia, 4 November, 2002.

- ² See Richard Baldwin and Charles Wyplosz. *The Economics of European Integration*, Chapter 1. Forthcoming. Available on line at http://heiwwww.unige.ch/~baldwin/papers/BW/BW_May03.htm.
- ³ Of course, if China is somehow pressured to revalue the Yuan, then this could provide a few more years of breathing room for ASEAN exports. However, the combined current account surplus of ASEAN countries are much larger than China's (about US\$ 40 billion for ASEAN in 2002 compared to about US\$ 23.4 billion for China) so that there are also likely to be pressures on ASEAN countries to appreciate their currencies as well.
- ⁴ Data from ASEAN Secretariat.
- ⁵ The EAI was announced by President George W. Bush to the ASEAN Leaders in Los Cabos, Mexico on 26 October 2002.
- ⁶ ASEAN-Japan Research Institute Meeting Joint Study Report. *ASEAN-Japan Comprehensive Economic Partnership: Vision and Tasks Ahead*. IDE/JETRO, Japan, July 2003.
- ⁷ With so many ongoing regional cooperation activities, Prime Minister Mahathir Mohamad has reactivated his initiative calling for the formation of an East Asian Economic Grouping (EAEG) with the rationale that East Asian countries need no longer hide behind the ASEAN+3 name. See New Strait Times, August 5, front page.
- ⁸ Standard Deviation divided by the Mean.
- ⁹ This excludes Myanmar as reliable Per Capita GDP is not available and also excludes the small by very high income economies of Brunei and Singapore. Including the latter two would increase the coefficient of variation to about 1.5, but would tend to give a distorted view as it would overstate the importance of these economies in the overall picture of ASEAN (not taking account of their small population size).
- ¹⁰ Through such schemes as the Initiative for ASEAN Integration (IAI), and also through special bilateral assistances from the richer members and outside donors.
- ¹¹ Argentina, Brazil, Paraguay and Uruguay are members of Mercosur.
- ¹² Richard Baldwin and Charles Wyplosz, Op. Cit.
- ¹³ See for example Dennis Hew. *Towards an ASEAN Economic Community by 2020: Vision or Reality? Viewpoints*. Institute of Southeast Asian Studies. 16 June 2003. Available on line at <http://www.iseas.edu.sg/viewpoint.html>.
- ¹⁴ Business News, Jakarta, July 18, 2003.



Small-Scale Water Resource Development*

Acharee Sattarasart**

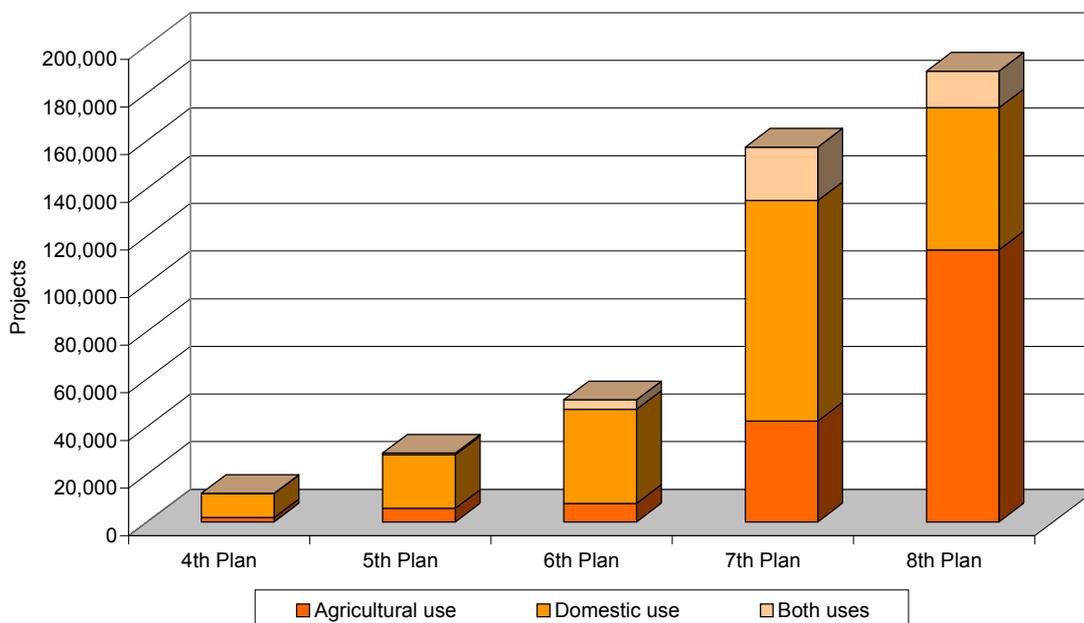
“Water – Two Billion People Are Dying for It!” is the theme of World Environmental Day 2003, or “รักษาน้ำเพื่อสรรพชีวิต ก่อนวิกฤตจะมาถึง”¹ for Thailand.

Water resource development has played an important role in the economic and social development of Thailand. Prior to the 4th Plan (1977-1981), water scarcity in the rural areas was acute. The government responded to the problem by announcing a water resource development policy in 1977. The policy aimed to raise the standard of living of the rural Thai population via small-scale water resource development. Since the implementation of 6th - 8th Plans, in the last 15 years, a total of around 200,000 million Baht has been allocated to small-scale water resource development projects. The public investment in small-scale water resource projects peaked during the 6th - 7th Plans, as the emphasis then was to increase water sources for domestic utilization (Figure 1). Later during the 8th Plan, the focus

shifted to small-scale water resource development for agriculture.

Of the 439,411 small-scale water resource development projects² constructed during 1977-2001 as much as half are located in the northeastern region of Thailand, followed by the northern region, the southern region, the eastern region, the western region and the central region (Figure 2A). The distribution of water was assigned as per the following breakup: domestic (52%), agricultural (38%) and combined usage (10%) (Figure 2B). It is seen that despite the sizable investment in infrastructure, the plan has achieved limited success. For the domestic purpose, there are about 20 percent of the rural villages inaccessible to safe water (กระทรวงมหาดไทย 2545), while improper management led to inefficiency in water utilization has been discovered in the small-scale water resource projects for agriculture.

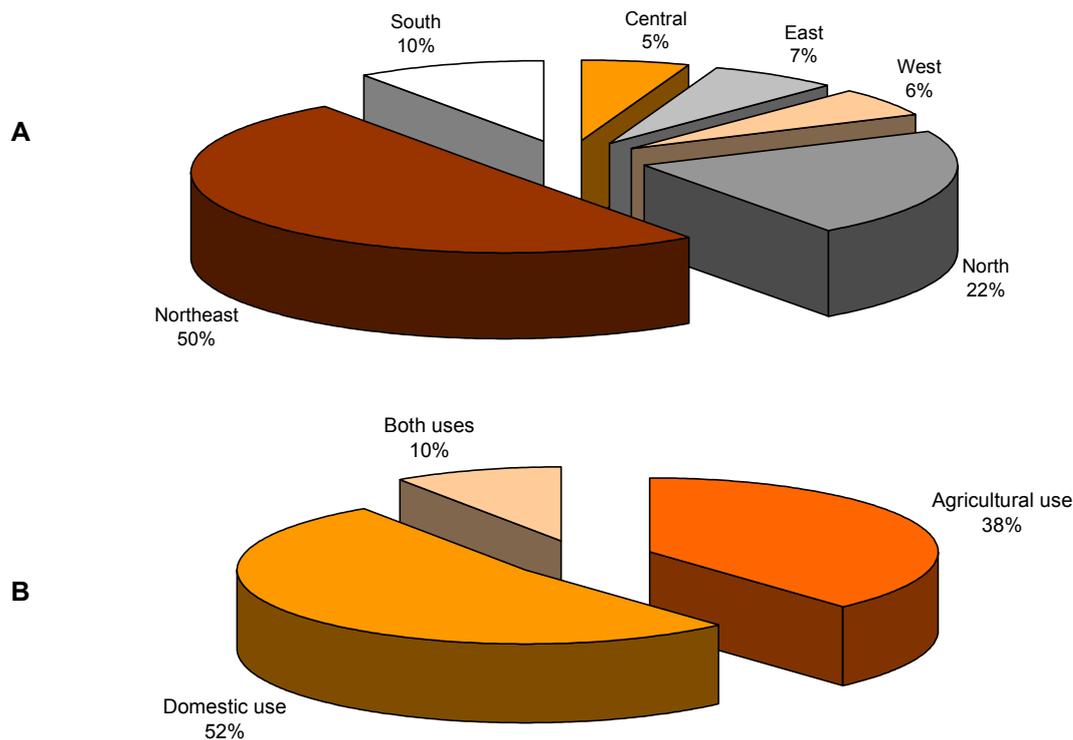
Figure 1 Small-Scale Water Resource Development Projects during 4th Plan to 8th Plan



Source: TDRI (2545).

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Figure 2 Small-Scale Water Resource Development Projects Classified by Regions and Uses, 2001

Source: TDRI (2545).

This article has four parts. Part one describes the government agencies responsible for the small-scale water resource development before and after reorganization of the Thai government (in October 2002), including the decentralization. Part two analyzes impacts of the small-scale water resource development on improving the standard of living of the rural Thais. Part three presents investment challenges for the small-scale water resource development. The last section is recommendation.

GOVERNMENT AGENCIES

Administratively, small-scale water resource development was scattered among seven ministries (Table 1) before the reorganization of the Thai government. Some of these government agencies were responsible for different types of small-scale water resource projects while these different types of projects have different objectives. However it was found that even for the same type of projects, many government agencies were involved. This administrative apparatus introduced complexity in project management and hence lack of unity. Overlapping responsibilities among government agencies and lack of coordination among them are factors that have contributed to limited success in small-scale water resource development. These problems then question the effectiveness of small-scale water resource development in Thailand and their impact on improving the standard of living of the rural Thais.

Under the new structure, the scattered government agencies responsible for small-scale water development projects now no longer exist. They have been relocated with the Department of Water Resources and the Department of Groundwater Resources, the Ministry of Natural Resources and Environment. More importantly, these new government agencies from March 2003 will: (a) handle technical and management advisories, (b) revise legislation such as the Announcement of the Prime Minister Office on National Water Resource Management, and (c) support and encourage local government through the Watershed Committee.

In June 2003, the Ministry of Natural Resources and Environment has set its target for solving all rural villages inaccessible to safe water by providing water pipe system for every rural village in Thailand within three to five years. The integrated plan to alleviate the water shortage problem in the rural villages was approved by the cabinet in June 2003. The Department of Groundwater Resources, the Ministry of Natural Resources and Environment was assigned as a responsible agency in cooperation with other relevant agencies. Sixty-two percent of 29,920 villages are identified as the target villages after the rapidly survey done during May 2003. These villages are classified into three groups regarding their potential for water resource development namely (a) villages with potential for groundwater development (9,952 villages); (b) villages with potential for surface water development (1,728 villages); and (c) villages with insufficient water source (6,831 villages).

Table 1 Government Agencies Responsible for Small-Scale Water Resource Development before Reorganization of the Thai Government

Government agencies	Starting year	Responsibility		
		Provision	Water use promotion	Setting policy
Ministry of Agriculture and Cooperatives				
- Royal Irrigation Department	1977	X	X	X
- Department of Fisheries	1982	X	X	
- Royal Forest Department	1975	X		X
- Land Development Department	1982	X	X	X
- The Cooperative Promotion Department	1967	X	X	
- Agricultural Land Reform Office	1978	X	X	X
Ministry of Defense				
- Supreme Command Headquarters	1974	X	X	X
Ministry of Interior				
- Department of Local Administration	1977	X	X	X
- Department of Accelerated Rural Development	1977	X	X	X
- Public Works Department	1977	X	X	X
Ministry of Labour and Social Welfare				
- Department of Public Welfare	1994	X	X	
Ministry of Science, Technology and Environment				
- Department of Energy Development and Promotion	1965	X	X	X
Ministry of Public Health				
- Department of Health	1964	X	X	X
Ministry of Industry				
- Department of Mineral Resources	1959	X	X	X

Source: Adapted from TDRI (2545).

The decentralization and reorganization of the government agencies, as per the 1997 Constitution, that are being carried out may help improve the small-scale water resource development, utilization and management. Small-scale water resource management projects come under the jurisdiction of the local government. Therefore, there are many challenges that relate to decentralization. These include:

- (a) Under the new decentralization plan local government staff will have 31 responsibilities. This will put additional burden on the staff as local governments have limited personnel;
- (b) Technical skills of local government staff relating to small-scale water resource management are limited;
- (c) Because many small-scale water resource projects are inoperative, many local governments are reluctant to undertake these central government projects; and
- (d) There is lack of awareness among local governments regarding environmental and social impact, as government bodies do not network. For instance, the problems relating to pervasive groundwater extraction on the environment was not highlighted, which resulted in saltwater intrusion and contamination of drinking water.

IMPACTS OF SMALL-SCALE WATER RESOURCE DEVELOPMENT

Ultimate aim of the small-scale water resource development program is to improve the standard of liv-

ing of the rural Thais. Therefore, there is a substantial need to analyze the impacts of the small-scale water resource development according to its objectives, on quality of life, and on meeting household needs.

Impact on Objectives

Three main objectives of the small-scale water resource development projects are domestic use, agricultural use and combined usage. That 76 percent of the rural villages in 2001 have gained access to pipe water system³ (กระทรวงมหาดไทย 2545) reveals the impact of small-scale water resource development for domestic projects. Twenty percent of the rural villages do have difficulty in accessing safe water. This is because as much as half of these villages are located in the north-eastern region. These specific rural villages are classified into two groups regarding the level of problem namely (a) villages with severity water shortage (7,938 villages), and (b) villages with moderate water shortage (24,334 villages).

The impact on health due to small-scale water resource development projects during 1988-1996⁴ shows that the illnesses and deaths resulted from water-borne disease have decreased but incidences of diarrhea, dysentery for children and gallstone bladder for adults are still high.

The objective of small-scale water resource development for agriculture is not explicitly specified but is generally described as efficiency in water utilization. Most of the problems found in small-scale water resource development for agriculture are overlapping of projects, project mismanagement, lack of people participation during project formulation stages, and lack of adequate water for dry season cultivation.

Impact on Quality of Life

The evaluation of the impact of small-scale water resource development on quality of life is carried out via examination of the causal relationship between various development inputs and the final outcome that is measured by Human Development Index (HDI). HDI comprises of three factors: education attainment, health status and income level. Based on the NRDC Village Census Data 1996, the adjusted HDI at district level is calculated, with some adjustment according to the data available. The number of the healthy population is used for calculating the health index for this analysis due to unavailability of the longevity from the NRDC Rural Village Census Data.

In the experiment, the development inputs are irrigation water, electricity, population density and water resources. It is found that irrigation water, electricity and population density have positive impact on quality of life as measured by the adjusted HDI. As for water resources, it is found that villages that have safe drinking water all year round tend to have a better quality of life. It is also found that public investments in small-scale water resource development projects eventually lead to safe drinking water all year round and hence improved quality of life. These projects are pipe water system, surface water development, private deep wells and private shallow wells. Public deep well and public ponds do not have an impact on increasing the availability of safe drinking water all year round.

Impact on Meeting Household Needs

One of the aims of the small-scale water resource development is that households in the rural areas gain access to safe water for domestic uses and also adequate water for subsistence agriculture. Government agencies responsible for small-scale water resource development must then operate in such a manner so as to meet the basic needs of water for domestic use and subsistence agriculture for rural households. Domestic water scarcity index is calculated based on the NRDC Village Census Data 1996. A "1" score is given to the villages which have less water scarcity problem. A "3" score is given to the villages which have moderate water scarcity problem and "5" score for the villages have severe water scarcity problem. The index range between one (less problem) to five (severe problem). The data on investments on small-scale water resource development project is calculated in terms of the number of the projects per 100,000 population for the year 1996, 1998, 1999 and 2001.

Based on the NRDC Village Census Data 1996 and the data on investments on small-scale water resource development project in 1996, 1998, 1999 and 2001 at the district level, there exists no relationship between water scarcity index and investments in small-scale water resource projects (Figure 3). The correlation

coefficient (R value) ranges from -0.027 to $+0.130$. This shows that investment in small-scale water development projects for domestic uses was scattered through all the villages in Thailand and was not specifically targeted to meet urgent needs of the villages. On the other hand certain villages, although had no urgent need, were allocated many small-scale water development projects. This pattern of investment has led to unfair and inequitable distribution of public funds. It is necessary to note here that the physical constraint for water resource development was not incorporated in the analysis.

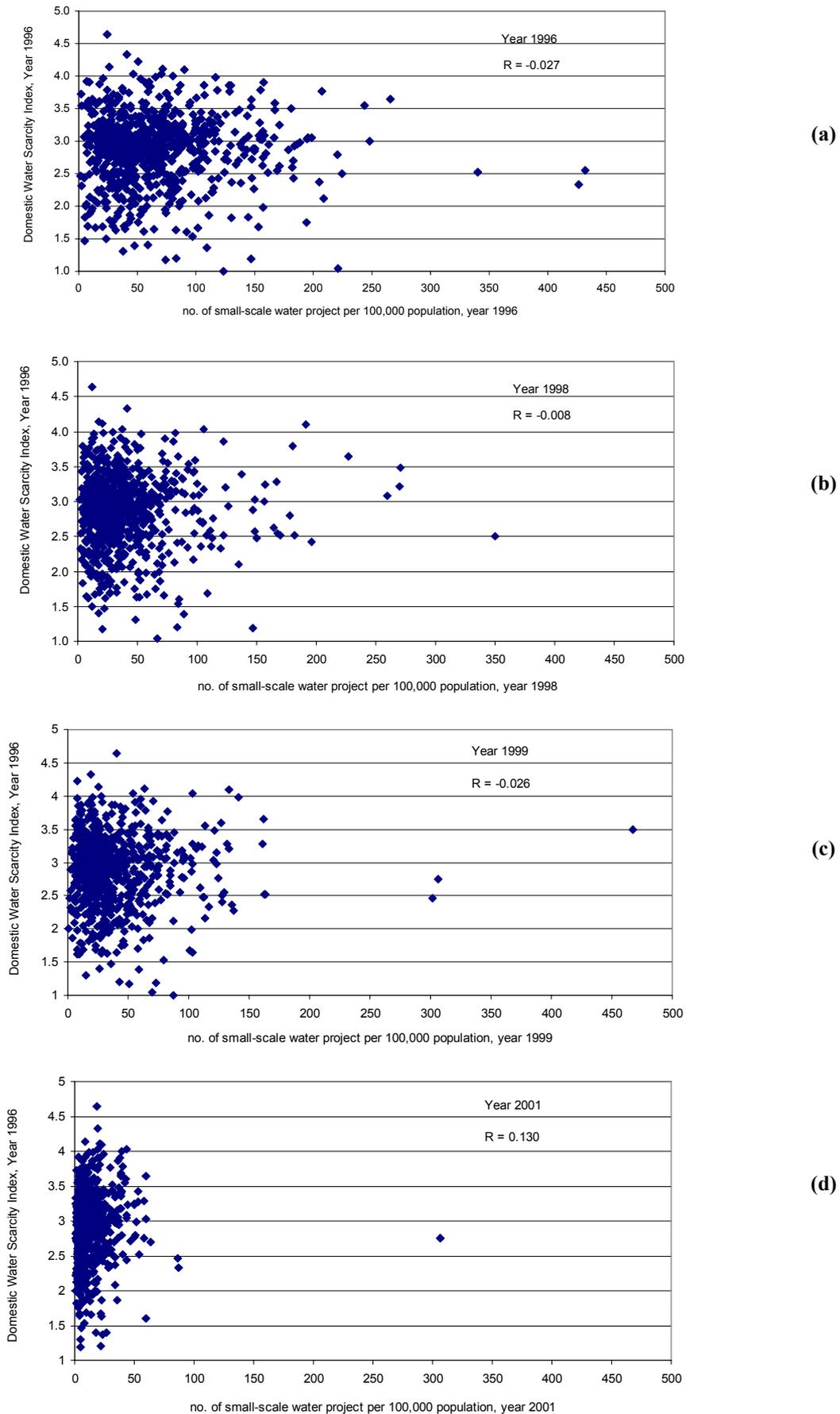
INVESTMENT CHALLENGES FOR SMALL-SCALE WATER RESOURCE DEVELOPMENT

The overall performance of small-scale water resource development in Thailand reflects many problems; these are: overlapping of projects, conflicting criteria used for project approval, or political interference in project approval procedures. These problems arise because government agencies responsible for small-scale water resource development place more emphasis on completion of projects rather than the impact that these projects will have on rural life. It is thus seen that investments are not fairly disbursed, additionally; unclear investment guidelines make the small-scale water resource development projects ineffective, enabling political factors to enter project approval procedures. Thus, public funds are eventually utilized to enhance local politicians' popularity.

Given the problems described above, new investment guidelines for small-scale water resource development projects are needed. Such guidelines can be formulated in many ways. One suggestion is that the net economic returns to the projects be emphasized. The beneficiaries must help pay the investment costs or the government be involved so that these costs may be absorbed. In deciding the type of investment guideline, it will depend largely on the preference or the choice of the general public on this issue.

The current national water policy is adopted as the guiding principle in drawing the investment guidelines for small-scale water resource development project. The current national water policy states, "...the Government shall provide adequate water to meet the basic needs of the people in terms of agriculture and domestic uses. Water allocation for this purpose must be fairly distributed. Water used for commercial purposes must emphasize efficiency, cost recovery and the beneficiaries must pay for the services they receive..." For this reason, the investment guidelines for small-scale water resource development must focus on principle of *fair and equitable distribution*. In addition, environmental impact should also be considered in the investment guidelines.

Figure 3 Scattered Diagram of Domestic Water Scarcity Index 1996 and Small-Scale Water Resource Development Projects per 100,000 Population in 1996 (a), 1998 (b), 1999 (c) and 2001 (d)



Source: TDR*I* (2545).

In complying the upcoming decentralization procedures, the local administration will be more responsible for many investment decisions in their locality. In this regard, the investment decisions of small-scale water resource development will also be transferred from central government agencies to each respective local administration as well. The only responsibility that should remain with the central government agency is the environmental aspects of small-scale water resource development, as a technical advisor. For instance, the investment guideline that the central agency may impose on small-scale water resource development is to assess environmental impact of each development project.

RECOMMENDATION

Despite the sizable investment in small-scale water resource development projects for two decades, 20 percent of the rural villages have difficulty in accessing safe water. The analysis reveals that the impact and success of the small-scale water utilization management is limited, therefore; when re-organizing the decentralization activities of the government, the study proposes the following directions:

- Clean water for domestic consumption should be equally provided to all rural communities.
- Environmental management should be integrated into water resource development and management. This will help mitigate negative impact such as saltwater intrusion and contamination of drinking water.
- Monitoring plans for decentralization procedures have to be established to facilitate transfer of responsibility of small-scale water resource development to the local government.

The recommendation of small-scale water resource utilization and management from the study proposed by the NESDB was approved by the cabinet in March 2003. Consequently, the National Water Resource Management Council is revising the legislation of the small-scale water resource utilization and management 1982. The Department of Water Resources and the Department of Groundwater Resources, the Ministry of Natural Resources and Environment, have been given specific role in water resource development, utilization and management with aim to provide water pipe system to all rural communities within three to five years.

ENDNOTES

- ¹ “Save Water for Life before Crisis!”
- ² This number does not represent the status of the projects whether they are in good condition or not.
- ³ It was calculated from the NRDC (the National Rural Development Committee) Village Census Data that are being collected every two years, by the Department of Community Development, the Ministry of Interior.
- ⁴ Unfortunately, the water-borne disease data have no longer been collected from the NRDC Village Census after 1996.

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Grants-In-Aid To Local Governments for the Development of Water Resources

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Pacharee Bumrungham**

Grants-in-aid are fund transfers from the central government to local governments in support of specific purposes, such as the development of local infrastructures for water resources, local roads, and education. They are not tied to projects, and not subject to the normal project budgeting procedures and requirements. This paper examines recent initiatives by the Bureau of the Budget to base grants-in-aid allocations on transparent and accountable criteria with reference to socio-economic profiles drawn from the NRDC rural villages database. If more and better distributed resources are made available to local governments through grants-in-aid, which can be shown to better match local needs, it would be a move away from misplaced micro-management in the right direction, not only for budgetary practice but also for the devolution of executive authority as endorsed by the constitution.

The Thai government has recently introduced a rules-based regime for the allocation of funds to local governments. The new regime sets transparent rules for local development through local institutions funded by transfers from the central government budget. The initiative marks a shift in emphasis away from the culture of micro-management based on line-item approach by the Bureau of the Budget (BOB). Although modest in coverage and not without certain limitations in implementation, the new emphasis on local management and fiscal responsibility at provincial and sub-provincial levels supports the program of decentralizing executive power and devolving decision-making to local governments, as endorsed by the 1997 Constitution.

The money allocated from the annual budget under the new budgeting rules are grants-in-aid for specific purposes, notably for small-scale water resource developments. Such transfers from the central government substantially supplement locally-raised revenues collected at the sub-district (*tambon*) level by *Tambon* Administrative Organizations (TAOs) or their smaller counterparts the *Tambon* Councils (TCs). TAOs' and TCs' responsibilities typically span the administrative boundaries of about 10 rural villages. In 2002 there were 6,743 TAOs and 216 TCs in all of 75 *changwads* or provinces outside of the capital city of Bangkok. The median population at *tambon* level under the jurisdiction of the TAOs and TCs was about 5,600 and their median reported annual revenue was 1.67 million baht in 2000 and 2.16 million baht in 2001.

The relative levels of financial support to local governments under the new rules for grants-in-aid are determined by geography (area), by demography (population), by socio-economic indicators (water sufficiency) as established from computerized databases, and by the capacity to raise local taxes and other revenues on the

part of TAOs and TCs. The main body of the pertinent socio-economic data are drawn from the National Rural Development Committee (NRDC) bi-annual village census database, from which are derived the indicators of local needs for infrastructures and provision of public services at village and *tambon* levels. To the extent that the NRDC census database and other data in the public domain are accessible and verifiable, decisions bearing on grants-in-aid to local governments from the budget are transparent and accountable. Discretionary biases normally associated with micro-management and highly centralized or politically-motivated decision-making are therefore less likely under the new rules for block grants.

LOCAL REVENUES

The capacities of local governments to raise basic revenue differ widely in Thailand and if left to rely on their own revenue resources to meet local needs the amounts available would be insufficient and unfairly distributed.

The frequency distribution of local revenues reported by local governments at *tambon* level in increments of 500,000 baht, up to 10 million baht, for the years 2000 and 2001 are shown in Figures 1a and 1b, both for the number of *tambons* (TAOs and TCs) and for the amount of reported revenue, in units of million baht, for each frequency class. The distributions are shown to be skewed with long "tails" trailing off to the right of the histograms, with proportionately very few numbers reporting very high revenues. Figures 1a and 1b show the distribution of *tambon* revenues to be highly concentrated in the frequency classes of between 1.0 and 2.0 million baht.

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Figure 1a
Frequency Distributions of the *Tambons'* Revenues and of Respective Revenue Totals
2000

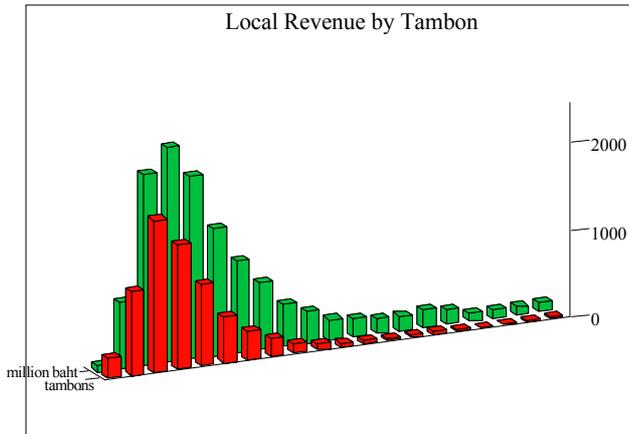
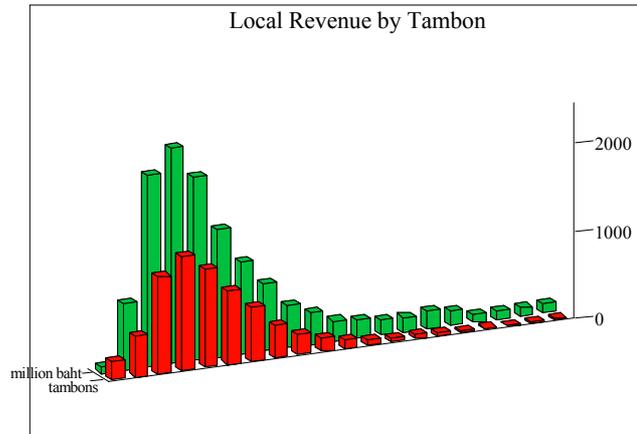


Figure 1b
Frequency Distributions of the *Tambons'* Revenues and of Respective Revenue Totals
2001

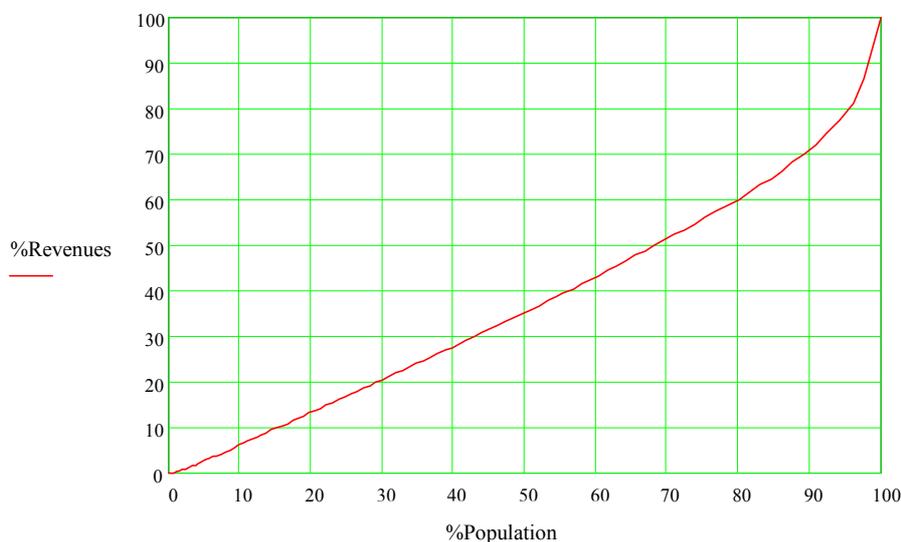


In such highly dispersed distributions the mean value statistic will differ considerably from the median statistic, at the 50th percentile, which would be a better indicator of the typical or representative value of revenue capacity. In 2000 the mean value of the *tambons'* revenues was 2.37 million baht, as against the median value of 1.67 million baht. In 2001 the mean local revenue was 3.05 million baht, as against the median value of 2.16 million baht. The standard deviation (from the mean statistic) as a measure of the standing of a *tambon* in relation to the rest, in assessing its financial need for grants-in-aid, is not a good statistical yardstick. In view of the skewed distribution of the local revenues, the uses of percentiles and the median are preferable as points of reference in determining a *tambon's* handicap for entitlement to financial support.

In 2000, the revenue class of between 1.0 to 1.5 million baht had the highest frequency of 1,728 *tambons* (25% of the total); but in 2001 the revenue class of 1.5-2.0 million baht had the highest frequency of 1,297 *tambons* (19% of the total). In both years the frequency class of 1.5-2.0 million baht showed the highest respective revenue figure, of 2,450.3 million baht in 2000 (15.0% of the total revenues of 16,310 million baht), and 3,228.2 million baht in 2001 (15.4% of the total of 20,994 million baht).

Figure 2 plots the percentages of local revenues in 2000 of 6,958 *tambons* against the percentages of their population. Reading from the vertical axis of Figure 2, half the local revenues is seen to have been collected from 68 percent of the population; but (reading from the horizontal axis) half the population is seen to have accounted for only 35 percent of the revenues.

Figure 2
***Tambons'* Revenues and Population 2000**



The application of the rules-based regime for grants-in-aid is designed to supplement the local governments' base revenues so that the total resources available for needed outlays in development are more equitably distributed. In order to parcel out the grants-in-aid budget for the development of local water resources, the Bureau of the Budget awards handicap points to each listed *tambon* on the basis of reported water sufficiency as established from the NRDC database, and to each *changwad* on the bases of population, geographical area, and combined local revenues from TAOs and TCs. The handicap points are assigned relative weights for a final tally as follows:

- 25% for local revenue capacity, inversely related;
- 35% for population, positively related;
- 10% for area (non-irrigated), positively related;
- 30% for water sufficiency (for drinking, domestic use, and agriculture), inversely related.

The total tally of handicap points represents local need indicators, which are used for deciding the proportionate allocations of the grants-in-aid from the annual budget to the 75 *changwads*.

Since data at *tambon* level are available not only for water sufficiency (from the NRDC database) but also for population, area, and revenue (from the Department of Local Administration), the local need indicators on similar bases can also be notionally compiled at *tambon* level to give a more refined picture of the distribution of needs than that of the Bureau of the Budget model which is *changwad*-based. The percentage distribution of the *tambons*' notional handicap points ("BOBTotalPoints") is shown plotted against the percentage distribution of their population in Figure 3.

For comparison Figure 3 also plots the unweighted distribution of handicap points based on revenue capacities ("RevenuePoints"), awarded as in the Bureau of the Budget's model against each *tambon*'s re-

ported revenue on the basis of deviation from the mean (no handicap point for *tambons* whose revenue exceeds one standard deviation from the mean; one handicap point for those within one standard deviation from the mean; and an extra point for those falling short of one standard deviation less than the mean).

Comparison of the two plotted lines in Figure 3 shows that at *tambon* level, half the total awarded points as assigned by the specifications of the Bureau of the Budget model go to 68 percent of the population, whereas half the unweighted revenue points go to 63 percent. The marginal increase indicates a net gain in distributional equity which results from taking into account factors other than revenue capacities. It can be concluded that the system of weights and handicap scores for factors other than for a *tambon*'s revenue profile, i.e. population, area, and water sufficiency, contributes marginally but positively to a more equal distribution of the grants-in-aid.

THE DISTRIBUTION OF GRANTS-IN-AID FOR WATER RESOURCES

The amount allocated as grants-in-aid for the local development of small-scale water resources in fiscal year 2003 was 8,345 million baht. The sum represented 51 percent of the local revenues of 16,373 million baht raised at *tambon* level by TAOs and TCs in the year 2000. The final allocations as reported in the 2003 budget documents were made out in terms of the 75 *changwads* to which the TAOs and the TCs belonged and to which they were administratively subordinated. The Bureau of the Budget model gives guidelines for the allocations of grants-in-aid which make use of *tambon* variables, but their actual disposal by the *changwad* authorities are not subject to the guidelines.

Figure 3
Total Handicap Points 2003 and Handicap Points for Revenue by *Tambon*

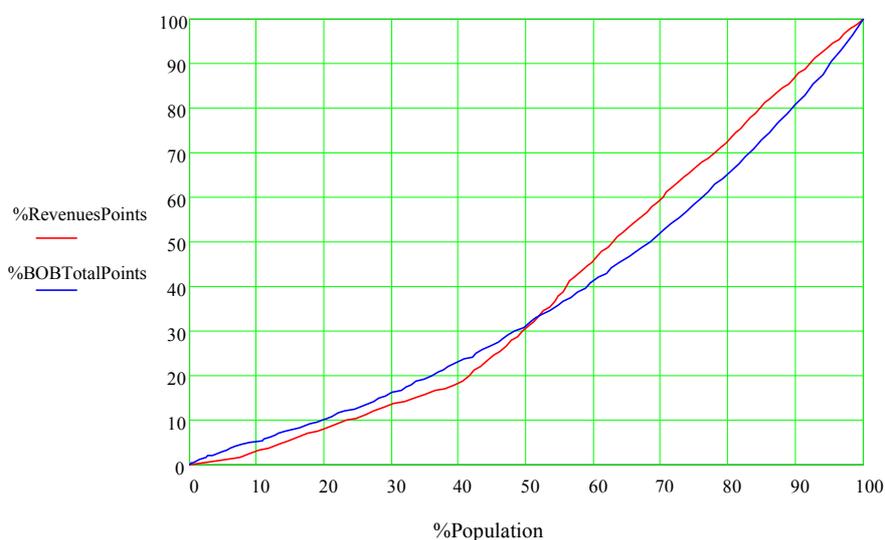


Figure 4 shows on the vertical axis the percentage distribution of basic local revenues at *changwad* level, compared to the percentage distribution of the total amounts at disposal together with the grants-in-aid for water resource development. The horizontal axis shows percentages of the population. With grants-in-aid from the central government, the percentages of the total financial resources available to the *changwads* are seen to be nearer to the diagonal and therefore more equitably distributed. Figure 4 shows that with the grants-in-aid added to local revenues, half the population receive 53 percent of the total resources made available (“TotalFinance”), as against 44 percent they would otherwise be

receiving if the resources were entirely from the local revenues (“Revenues”).

The comparative distributions in Figure 4 translate into the total available resources for all of the 75 *changwads* in the amount of 24,718 million baht, classified by region in Figure 5, with grants-in-aid for water resources from the central government shown in proportion to the local revenues. Proportionately to the total resources as shown in Figure 5, the north has the most grants-in-aid for water resources at 39 percent, compared to the south at 37 percent, the northeast at 36 percent, and the central region at 26 percent.

Figure 4
Distributions of Revenues, and of Revenues with Grants-in-Aid for Water, by *Changwad*

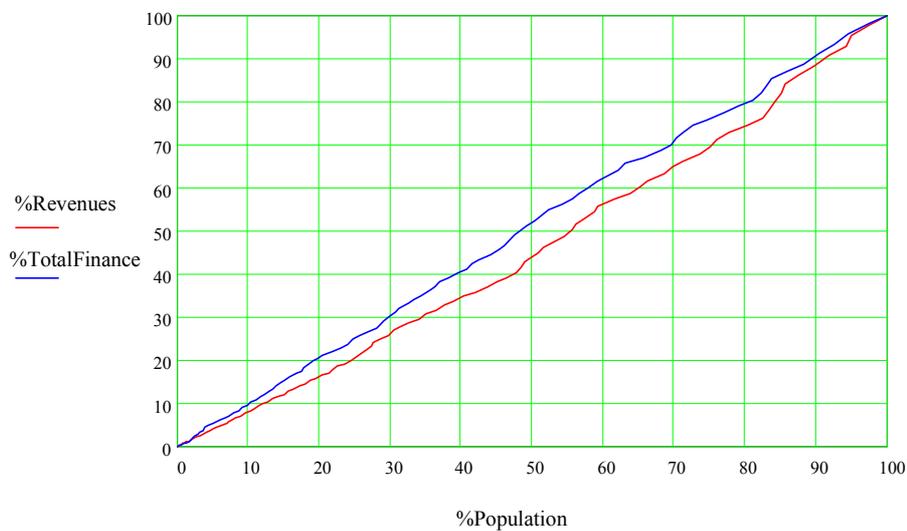
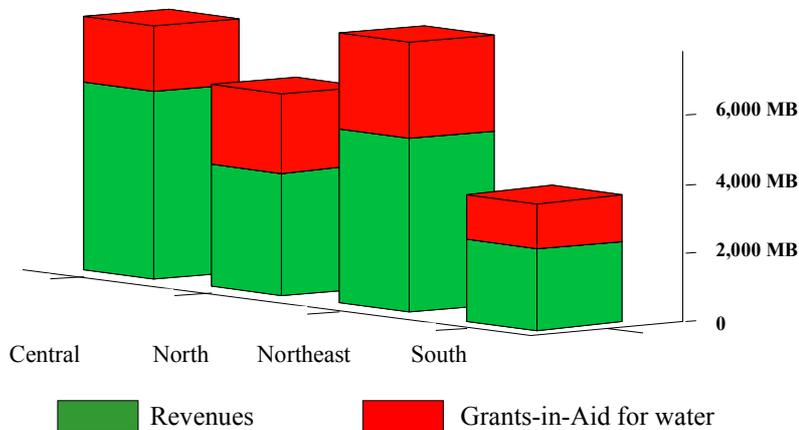


Figure 5
Local Revenues and Grants-in-Aid by Region





THE INDICATORS

It would be reasonable that the grants-in-aid for the development of water resources should be allocated according to the relevant indicators from the NRDC database. Such indicators represent the availability and sufficiency of water for different purposes at the village level: clean drinking water, water for domestic use (general purpose), and water for agriculture. The NRDC data show that only small proportions of rural households remain in want of clean drinking water and water for domestic use. Threshold levels are defined for “sub-standard” villages in which less than 63 percent of the households have ready access to clean drinking water, and where less than 70 percent of the households have enough water for domestic use. Such problem villages are entitled to extra points in the scheme of priorities for grants-in-aid entitlements: but for drinking water they account for only 11 percent of the villages in 1999 and 7 percent in 2001; with regard to water for domestic use the “sub-standard” villages account for only 8 percent and 5 percent respectively. Figures 6a and 6b show the

percentages of village households with access to clean drinking water and which have enough water for domestic use on the vertical axis, against the percentages of the villages on the horizontal axis for 1999 and 2001.

Although the NRDC indicators for adequate accesses to clean drinking water and to water for domestic use are employed as points of reference in the Bureau of the Budget’s system of assigning priorities, the indicator for the adequacy of water for agriculture is not included. The “level of development” status of the village is used instead as proxy indicator for sufficiency of water for use in agriculture, with quite different outcomes. Unlike clean drinking water and water for domestic use, the adequacy of water for agriculture remains an outstanding problem in Thailand. The development status of a village does not address the problem and gives no indication of the need for water used in cropping. Figures 7a and 7b show graphically the differences between classifications of villages according to the development status index and according to criteria indicating the sufficiency of water for agriculture.

Figure 6a
Householders’ Access to Water 1999 and 2001

Figure 6b

Drinking Water
Access by Households (hh)

Water for Domestic Use
Access by Households (hh)

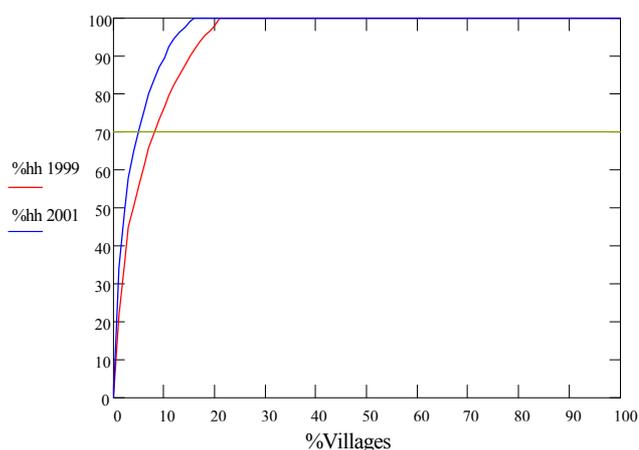
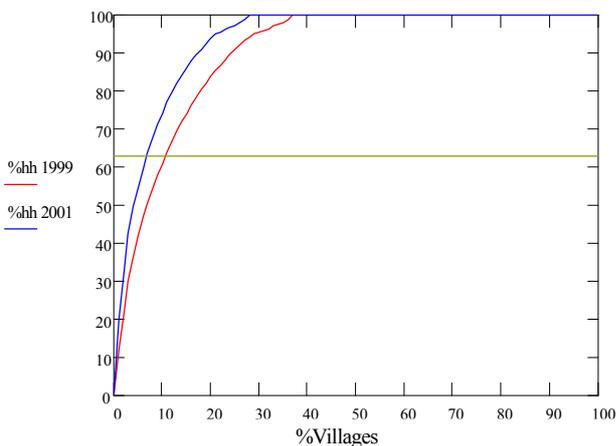


Figure 7a
Villages' Development Status Indicator and Adequacy of Water for Agriculture 1999 and 2001

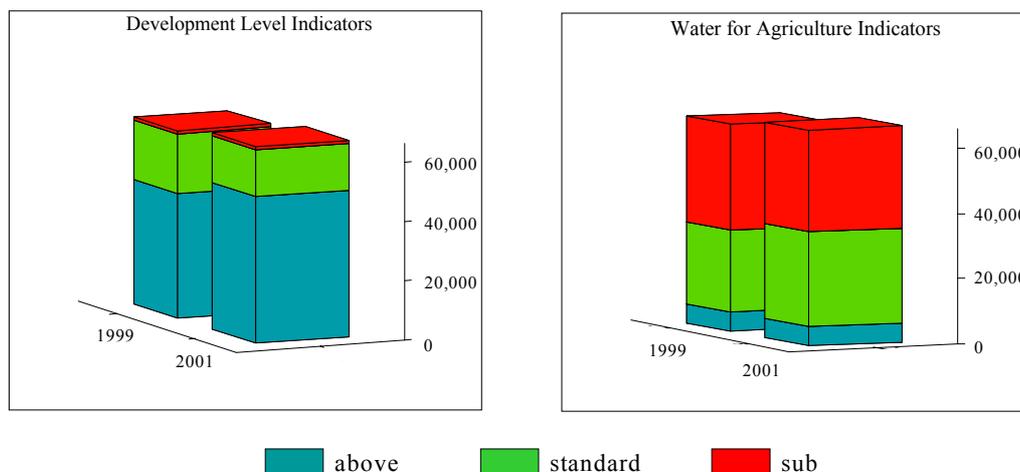


Figure 7a represents the number of villages in years 1999 and 2001 which are classified in the NRDC database as being “sub-standard”, “standard”, or “above standard” with regard to their “level of development” status. Figure 7b shows in comparison the number of villages similarly classified for the same years with regard to the sufficiency of water for agricultural use, in accordance with NRDC’s criteria.

The NRDC criteria used in defining standards of sufficiency of water for agricultural use, recorded for all rural villages numbering over 63,000 in 1999 and over 66,000 in 2001 are as follows:

Above Standard (category 3): in cases where there is dry season cropping using surface or underground water sources, or where there is double-cropping of paddy;

Standard (category 2): in cases where there is dry-season cropping using rain water or residual water in the fields, or where water is insufficient or unwanted for double-cropping of paddy or dry season cropping.

Sub-Standard (category 1): in cases where water is insufficient for double-cropping of paddy or for any one specified dry-season crop.

In deriving the numbers for Figure 7b from the NRDC database, there was a problem of overlapping definitions in classifying villages as “standard” or “sub-standard”. This was solved by identifying the villages meeting the conditions of “above standard” and “sub-standard” criteria, leaving the residual number of villages as “standard”. But it is clear that however the given definitions are interpreted, the number of villages belonging to the different standard categories that Figures 7a and 7b represent are quite different, and that the “level of development” status classifications shown in Figure 7a cannot be rightly used as proxy indicators for the sufficiency of water for agriculture as classified in Figure 7b.

The difference is of particular relevance for the way in which the Bureau of the Budget model assigns

handicap points only to “sub-standard” and “standard” cases (one point for “standard” category and two points for “sub-standard”), and is significant in that no handicaps are given for cases in the “above standard” classification. Villages with category 3 indicators in the NRDC database are seen as being no problem, their relative standing recognized as being above the rest of the field. Villages classified as “above standard” in regard of their “level of development” status numbered 42,089 in the 1999 NRDC census and 49,636 in 2001, respectively 66.6 percent and 75.0 percent of the total. In contrast, villages of “above standard” classification in regard of sufficiency in water for agriculture as represented in Figure 7b numbered only 5,842 in 1999 and 5,872 in 2001, respectively 9.2 percent and 8.9 percent of the total. It is clear therefore that in using the development status indicators as proxy for the sufficiency of water for agriculture, significantly large handicap scores were withheld that would otherwise have been assigned to villages reportedly in want of water for agriculture. The loss of handicap scores in using the proxy indicators of “development status” had very real consequences for the distribution of the grants-in-aid for local water resources development. The distortion of the given scores misdirected and misplaced shares in the resources that might otherwise have been used to meet the real needs of water for agriculture.

WATER FOR AGRICULTURE

The needs of the villages are shown in Figure 8, which derive from indicators of “sub-standard” villages in the NRDC database with regard to water for agriculture. The percentiles of households in *tambons* with such villages are plotted on the vertical axis against the percentages of all *tambons* in the NRDC database for 2001, classified by region.

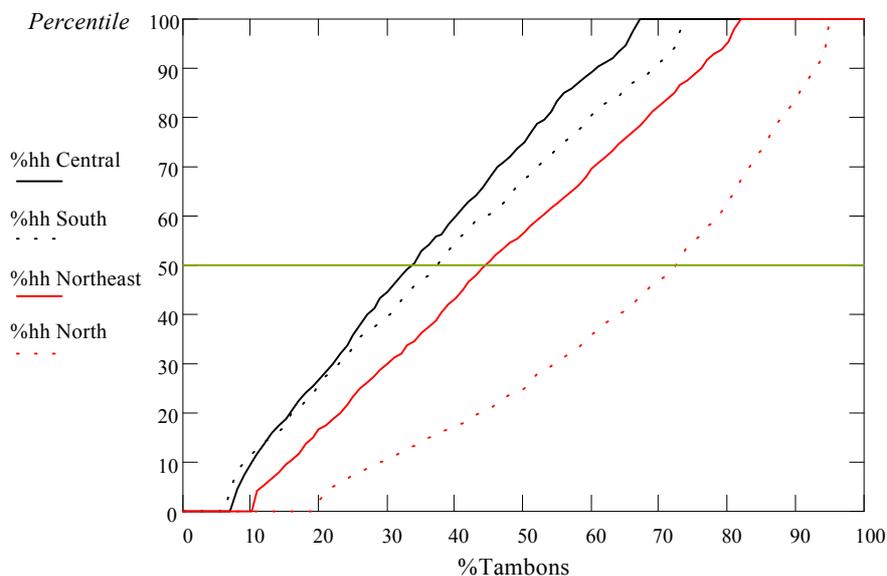


Figure 8 shows that the deficiency of water for agriculture is a problem of quite different order of magnitude from the deficiencies of clean drinking water or water for domestic use. In relative terms the north is the most deficient in water for agriculture. The percentile

schedule for the north region in Figure 8 is furthest to the right. About 20 percent of its *tambons* have satellite villages all in the “sub-standard” (category 1) classification and their households are entirely in want of enough water for agriculture. The sufficiency rating is zero for these 20 percent of the north’s *tambons*, compared to about 10 percent for the northeast, 7 percent for the central region and 6 percent for the south. For the north, 73 percent of its *tambons* have a mix of “sub-standard” villages whose households account for half of the total number within the respective *tambons*, equivalent to a sufficiency rating of 50 percent. The northeast schedule shows that on similar basis the region has about 45 percent of its *tambons* with 50 percent sufficiency rating. The problem is the least severe in the central region, with about 34 percent of the *tambons* at 50 percent sufficiency rating, and whose schedule is furthest to the left at the 50th percentile marker in Figure 8.

It is clear that the problem of adequacy of water supply for agriculture is far from having been resolved, unlike the residual problems of adequate clean drinking water and water for domestic use. In the Bureau of the Budget’s system of handicap scores for the local governments’ shares of grants-in-aid for water resources, the deficiency of water for use in agriculture deserves to be directly dealt with. It is a missing crucial variable in the ongoing process of devolved decision-making which requires matching resources to the local needs. The outstanding want of water for agriculture should be recognized and directly and transparently addressed, with the necessary budgetary resources made available and re-directed as needed in a re-design of the present system.

Figure 8
Percentiles of *Tambons*’ Households (%hh) with Adequate Water for Agriculture by Region in 2001



CONCLUSIONS

The initiatives by the Bureau of the Budget set new standards of transparency and accountability in budgeting for local development and the provision of block grants. The budgeting guidelines for grants-in-aid assign priorities by handicap scores and systematic use of the NRDC database as an instrument for fair allocation and redistribution of resources. The data transparently identify needs at the grassroots level. But the current design of the system puts emphasis on how the given resources are proportionately shared out, rather than to budget for the pertinent and necessary amounts of funding to make an impact on problems.

The handicap scores derive from NRDC indicators ranking the severity of a local problem, and from local deviation from the statistical mean of certain chosen variables - populations, areas, and revenues. But the use of percentiles (or deciles or quartiles) is recommended as statistically preferable to the use of standard deviations to ascertain the severity of a local problem in relation to the rest of the population.

In assigning priorities for grants-in-aid for the development of local water resources, the system has not addressed the deficiency of water for agriculture, which is a problem quite different to the residual issues of clean drinking water and water for domestic use. The use of an unsuitable proxy indicator distorts the allocation of resources and the entitlements of local communities in need of water for growing crops. A refinement of the system will also need to incorporate follow-up and monitoring measures, to ensure that the block grants to the 75 *changwads* are in fact redistributed down to the subordinate *tambons* and villages on similar allocation guidelines and similar indicators of local wants.

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