



**Consultative Group to Assist the Poorest (CGAP)
Working Group on Savings Mobilization**

**BANK FOR AGRICULTURE AND
AGRICULTURAL COOPERATIVES
(BAAC), THAILAND (CASE STUDY)**

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ABBREVIATIONS

ADB	Asian Development Bank
ATM	Automatic Teller Machine
BAAC	Bank for Agriculture and Agricultural Cooperatives
BMZ	Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung
BOT	Bank of Thailand
Bt	Baht
CGAP	Consultative Group to Assist the Poorest
FRA	Financial Sector Restructuring Agency
FY	Fiscal Year
GDP	Gross Domestic Product
GHB	Government Housing Bank
GOT	Government of Thailand
GPP	Gross Provincial Product
GSB	Government Savings Bank
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit GmbH
IBRD	International Bank for Reconstruction and Development
IFAD	International Fund for Agricultural Development
IFCT	Industrial Finance Corporation of Thailand
IMF	International Monetary Fund
JLG	Joint Liability Groups
KfW	Kreditanstalt für Wiederaufbau
MFI	Microfinance Institution
MOF	Ministry of Finance
NGO	Non-governmental Organization
NPL	Non-performing loans
OAG	Office of the Auditor General

OECF	The Overseas Economic Cooperation Fund, Japan
OSTC	Om Sap Thawi Choke
RBAD	Regional Branch Administration Department
SDI	Subsidy Dependence Indicator
SHG	Self-Help Group
SOE	State-owned Enterprise
TRIS	Thai Rating and Information Service
USAID	The US Agency for International Development

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1 CONTEXT

1.1 Macroeconomic context

1.1.1 A period of economic growth and stability (1986-1996)

Even by the impressive standards set in Southeast Asia, in recent years, Thailand has exhibited one of the most enviable records of economic growth. From an economy based on a relatively narrow range of primary commodity exports - rice, rubber, tin and teak - the country has developed a much more broadly based production and export base. During the period 1986 to 1996, real Gross Domestic Product (GDP) grew at an annual rate of almost 10% and real per capita income more than doubled, so that by 1996, GDP per capita had risen to about US\$3,100.¹ This remarkable growth performance has been based on both favorable external factors and sound policy fundamentals, including prudent fiscal management, aggressive export promotion, trade policy liberalization and market-friendly policy interventions. These were bolstered by well-conceived public sector investment programs in human capital and physical infrastructure. The prudent fiscal, monetary and trade policies that underpinned this period of rapid growth resulted in relative price stability.

Since the early 1980s, this rapid growth has considerably transformed the Thai economy. During this period, the manufacturing sector expanded rapidly, propelled by rapid export growth. Concurrently, while agricultural output continued to grow, the sector's share in total GDP fell by half, to about 10%, while industrial output rapidly grew to represent 38% of GDP by 1995. This growth in overall output has been accompanied by a relatively rapid growth in employment, although the sectoral distribution of the labor force has considerably lagged in adjusting to the change in the sectoral distribution of output; by 1994, some 20 million persons - about 58% of the labor force - were still engaged in agricultural activities.

With progressive implementation of trade liberalization policies during and since the 1980s, the economy has become increasingly outward-oriented. Export growth (in real terms) averaged over 17% p.a. in the period 1987-1995, rising to represent about 42% of GDP. The structure of exports has also changed, with an increasingly diversified range of manufactured goods rising from about one-third of the total exports a decade ago to over two-thirds by the mid-1990s, sharply eroding the share of agricultural exports. Also during this period, domestic savings represented a relatively high share of GDP. Nevertheless, high rates of private and public sector capital formation led to recourse to external savings and a consequent increase in external debt.

The total area of Thailand is 513,115 square kilometer, while the 1996 population was 60.4 million - resulting in a population density of 118 per square kilometer. The population growth rate in recent years has fallen to about 1.5%. About one-fifth of the population lives in urban areas, primarily in the Bangkok metropolitan area. Living standards vary widely between the different regions of Thailand, demonstrated by the following World Bank estimates of the respective levels of per capita gross provincial product (GPP).

¹ In current US\$, based on the estimated 1996 GDP growth rate.

Table 1: Per capita gross provincial product

Region	1994 per capita GPP (US\$)
Northeast	805
North	1,235
South	1,582
Central	2,767
Bangkok and vicinity	7,402
Whole Kingdom	2,438

Source: World Bank (1996).

1.1.2 The Thai rural economy

The country is comprised of four main upland regions in the west, north, north-east and south-east, surrounding a large central plain.

- The western hills (up to 900 meters) are formed by a series of north-south ridges covered by monsoon forest.
- In the northern uplands, altitudes are higher than in the west (up to 1,500 meters). Natural vegetation has deteriorated due to shifting cultivation.
- The north-eastern plateau is mostly of a lower altitude than the western and northern uplands. Owing to lower rainfall, it is less suitable for agriculture, other than in the irrigated areas.
- In the south-east uplands, the rainfall is highest and the altitude is moderate.
- The central plain, which is well served by a natural water system, has fertile alluvial soils and is the most important region for agricultural production.

44.6% of the Thai surface is classified as productive agricultural land. Presently about 38% - some 20 million hectares - of the country's area is used for agricultural purposes. One-third of the cultivated area is irrigated. About one-half of the area is in paddy, one-quarter under other field crops and the remainder in tree crops. Agriculture is centered mainly on the Central Plain, which produces most of the country's rice. Principal crops in the upland areas are maize, cassava, cotton and pineapple. In recent years, such high-value activities as vegetables, horticulture and shrimp farming have also expanded rapidly. In the southern region of Thailand, rubber production has expanded at the expense of the timber resources.

During the past five years, agricultural GDP has grown at an appreciable rate, although at a lesser pace than the non-agricultural sectors. Overall, the main agricultural products are sugar cane, cassava, rice, maize, and rubber, while the principal agricultural exports are rice, cassava, maize and vegetables. In addition to these farming activities, non-agricultural activities provide an increasingly important source of income in rural areas. For agricultural households, non-farm production accounted for 42% of total income in 1994, compared to only 9% in 1975.

1.1.3 Advances in alleviating rural poverty in recent years

The impact of the structural transformation of the agricultural sector in recent years has been notable. With rising rural incomes, new employment opportunities in urban areas and increased public investment in the rural infrastructure, poverty in remote areas has fallen.

The farmers who have benefited most during the last decade are the small and medium farmers who produce cash crops, which account for 50% agricultural GDP (sugar, pineapples, rubber, vegetables for processing, poultry, and pigs). Small-holder farmers (especially rice producers), who account for the remaining 50% of agricultural GDP and make up the majority of farmers, have shared to a lesser extent in the growing rural prosperity. The relatively more rapid growth of employment opportunities and incomes in the principal urban areas - especially Bangkok - has motivated many rural dwellers to migrate in search of higher incomes. This movement has been of both a permanent and temporary nature, depending on the seasonal rhythm of farm work. The combined result of these various forces has in recent years led to important reductions in the incidence of poverty in many parts of the country:

Table 2: Percentage of the population living below the poverty line

Region	1988	1990	1992	1994
North	31.6	22.2	24.7	12.6
Northeast	42.1	33.5	38.0	22.8
Central	21.7	17.2	11.7	7.5
South	35.6	29.5	21.9	19.0
Bangkok vicinity	7.0	3.0	1.7	1.2
Whole Kingdom	29.9	23.5	23.1	14.3

Source: Kakwani and Krongkaew (1997).

1.1.4 The financial and economic crisis since mid-1997

The rapid economic development of the country came to a halt in mid-1997 with the outbreak of the severe financial and economic crisis that affected most countries in Southeast Asia. The Asian financial crisis had its origin in Thailand when the Thai Baht came under speculative pressure and the government decided to float the currency in July 1997. The main problem was the private sector's foreign debt that came with an intricate web of connections among family-owned corporations, banks and the government. In the two years preceding the crisis, the country saw more foreign loans pouring in than in the entire decade before. The bulk of the cheap and easy money, however, was not hedged against the currency risk. As a consequence, the currency plunged from 25 Baht to a low of 56 Baht against the US dollar in January 1998.

The IMF was called in for assistance but the bail-out package of US\$17 billion and the associated reform measures have not brought the expected results. What was diagnosed as a currency crisis transformed into a solvency crisis in the financial system that rapidly spread to all economic sectors. The economy contracted by 0.4% for the whole of 1997 and shrank further by around 6% to 8% in 1998. Unemployment is expected to double to more than two million people. The rate of inflation also increased to over 8% at the end of 1998.

The situation has somewhat stabilized but the economy is far from recovery. It is still too early to fully assess the impact of the crisis. The value of the Thai currency recovered to around Bt36 against the US dollar in the course of 1998. However, a fundamental improvement cannot be expected unless the root causes of the problem are tackled - and these root causes lie in the financial sector.

1.2 Financial sector context

A wide variety of financial institutions has evolved in Thailand; most are privately owned. In terms of asset size, geographical coverage and roles in mobilizing savings and financing the economy, commercial banks are the leading participants in Thai financial markets. Second in size are finance companies, which mobilize deposits from the public by issuing promissory notes, credit foncier (mortgage) companies, mutual fund management companies, savings cooperatives and life insurance companies. Finally, additional financial market participants include a number of specialized financial institutions established by the Government of Thailand (GOT) for various development purposes, including the Government Savings Bank (GSB), the Government Housing Bank (GHB), the Bank for Agriculture and Agricultural Cooperatives (BAAC) and the Industrial Finance Corporation of Thailand (IFCT), inter alia.

1.2.1 Role of the central bank

The Bank of Thailand (BOT) was established in 1942, to become the country's Central Bank, acting as the note-issuing authority, banker to the GOT and financial institutions, and agent for the government in dealing with international monetary organizations. Currently, all commercial banking businesses in Thailand are regulated by the BOT. The Commercial Banking Act of 1962 (as amended) authorizes the Ministry of Finance (MOF) and the BOT to issue notifications to financial institutions in various matters, e.g., prudential requirements and reporting standards. State-owned specialized banks, i.e., the GSB, the GHB and BAAC, are not under the supervision or regulation of the BOT. The BOT is also authorized by the MOF to manage public debt and official international reserves, to administer exchange controls, and to supervise commercial banks, finance companies, finance and securities companies and credit foncier companies. Finally, the BOT is responsible for conducting domestic monetary policy to achieve sustainable economic growth with stability.

With respect to the supervision of commercial banks, finance companies, finance and securities companies and credit foncier companies, the objective of the BOT is to ensure the soundness and solvency of these financial institutions. At the same time, the BOT strives to allow them to develop and operate more efficiently under market mechanisms, while upgrading them to meet international standards in line with the process of financial globalization.² In this respect, the BOT operates the Financial Institution Development Fund to provide financial and managerial assistance to financial institutions facing difficulties.³

In addition to the traditional "lender of last resort" function of the BOT, it also operates refinancing facilities that provide credit to "priority" sectors, through the commercial banks, IFCT and specialized banks, at concessional interest rates. This latter function has, however, become of less importance in recent years. The BOT also monitors and enforces the credit portfolio allocation rules for the commercial banking system.

² The banking and finance sector under the purview of the BOT has experienced several serious problems with respect to proper management (e.g., the Bangkok Bank of Commerce case) and possible bankruptcy (property finance companies) in recent years. As the financial sector has become more diversified and a variety of new products introduced in recent years, the regulatory and supervisory burden on the BOT has clearly become more complex. In these circumstances, international rating agencies have downgraded several Thai banks in recent months.

³ As pointed out later, there is no formal deposit insurance mechanism operating, although the actions of the GOT/BOT in response to recent financial difficulties in some banks and financial agencies have demonstrated an implicit deposit guarantee policy. In important respects, such an approach may inject considerable uncertainty into the calculations of both bank depositors and bank management; an explicit, risk-based, contributory deposit insurance fund for participating banks may deserve serious consideration on the part of the authorities.

1.2.2 General development of the banking sector

Commercial banking first came to Thailand in 1888, with the establishment of the Hong Kong and Shanghai Bank branch. Other foreign banks arrived in the next decade, and the first domestic commercial bank was chartered in 1906. By the mid-1990s, there were 15 Thai commercial banks (with some 3,000 domestic branches and 49 overseas branches) and 14 foreign bank branches, as well as 44 bank representative offices in Thailand. Total deposits of the commercial banking system, in mid-1996, amounted to US\$138 billion, about 63% in the metropolitan Bangkok area and the remainder in the rest of the country. Most commercial banks provide a wide range of financial services to their clientele, e.g., all branches are on-line, ATMs are widespread (apparently an important marketing device), payroll direct deposit services are available, etc.

1.2.3 Outreach and characteristics of state financial sector interventions

As befits a rapidly growing, transforming economy, the financial services sector is broad and diverse. While the Bank of Thailand has followed a relatively conservative monetary policy in general, in recent years, it has presided over a relatively rapid increase in the money supply for credit expansion. There has been considerable movement in the deregulation of the financial sector, although mandatory credit allocations are still enforced for (increasingly more broadly defined) "priority" sectors. Formal controls on interest rates have been removed, although the BOT continues to exercise close discipline through policy instruments and "moral suasion." While the operations of foreign financial institutions were relatively restricted in the past, the authorities are now aiming to establish Thailand as a regional financial center, extending licenses to overseas banking institutions to provide offshore banking services. In this process, domestic banking institutions are instituting international standards of accounting, reporting and capital adequacy.

With respect to the oversight and regulation of the domestic banking sector, the BOT has occasionally appeared to move slowly in both detecting questionable banking practices and in taking measures to correct situations once they have been detected. Specific examples of this tendency include serious problems with finance and security companies in the mid-1980s, deteriorating portfolios of property finance companies in the mid-1990s, and a case of mismanagement and possible fraud leading to the collapse of a major commercial bank. In these instances, the BOT moved to the rescue of troubled firms with public funds in order to divest the troubled firms of depressed assets.

However, the BOT's weaknesses became most apparent in the context of the severe financial crisis since mid-1997, which induced major changes. In fact, the crisis has forced a shift in the nature of the BOT's role from the past's relatively reactive and formalistic enforcement of rules to a more proactive and timely assessment of financial institutions' procedures and practices.

1.2.4 Social security system

There is no system of social security or old-age pensions with universal coverage. In the past, government and state-owned enterprise employees received pensions on their retirement, while some large private firms also provided some retirement benefits. This panorama was altered in 1995, when the GOT enacted laws supporting the establishment of privately-managed provident funds based on a combination of employee and employer contributions. Similar defined-contribution provident funds are also being established for

government agencies and state-owned enterprises (SOEs).⁴ Otherwise, there is no system that would encourage or support pension or retirement income programs for small private farmers or rural entrepreneurs. This has traditionally been a family responsibility.

1.2.5 The crisis in the financial sector

What started as a currency crisis rapidly developed into a severe crisis of the banking sector. In late 1997, 56 finance companies were closed and four commercial banks brought under the regime and control of the BOT and the newly established Financial Sector Restructuring Agency (FRA). Over a decade of rapid economic growth, Thai financial institutions accumulated a mountain of problem loans, many of them in the property sector. Non-performing loans (NPL) have reached dimensions never experienced before. At the end of 1998, an estimated 40-50% of the total loans in the banking system were classified as non-performing and - worse still - the NPL continue to rise, consuming the earnings and capital base of the banks.

Shortly after the crisis erupted, the government - under the auspices of the IMF - launched an austerity program that sent interest rates to levels not seen in more than a decade. The minimum lending rates were raised to more than 20% and time deposit rates averaged around 12%. The high lending rates combined with the bad debt problem resulted in a serious credit crunch that particularly affected the enterprise sector. Although the interest rates decreased considerably in late 1998, the credit crunch is still persisting with no relief in sight.

The non-performing loans have left the banks seriously under-capitalized. A comprehensive restructuring and recapitalization is needed but, so far, only few banks have taken adequate steps. Due to massive loan loss provisionings, the commercial banks posted considerable losses in 1998. A real solution to the problem is contingent upon the bankruptcy and foreclosure laws that have been debated in parliament for several months. Unless these laws are passed in due course, a fundamental improvement and recovery of the banking sector cannot be expected.

1.3 Classification of the macroeconomic, financial and socio-cultural context

With an enviable rate of GDP growth and a modest population expansion (about 1.4% p.a.), Thailand has experienced a decade of solid growth. The population is relatively ethnically homogeneous and predominately of the Buddhist faith. The GOT has made a solid contribution to economic growth through public sector investment in both human capital and infrastructure. In addition to the extension of physical infrastructure and public education facilities into rural areas, the Ministry of Health maintains health centers in every group of villages and hospitals at the district and provincial levels, also redressing the imbalance in amenities and services between the rural and urban areas. Nationwide, primary education enrollment is high (97%), though the figures are lower for secondary education. About 20% of the college-age group is enrolled in an institution of higher learning. Adult literacy is about 94%. Although on-farm activities are becoming a progressively smaller source of rural incomes, some 80% of the population is still formally classified as rural. This figure will continue to decline as the rate of growth of the urban population, attracted by the employment opportunities and urban amenities, has been 2.4% in the last decade and a half. About 12% of the total population currently resides in the Bangkok Metropolitan area.

⁴ Employers of more than ten staff, employees, and the government are each legally obliged to contribute 1.5% of the payroll to the social security fund, providing medical, maternity, death and disability benefits to covered employees.

2 INSTITUTIONAL ANALYSIS

2.1 Rural financial markets in Thailand

In addition to the Bank for Agriculture and Agricultural Cooperatives (BAAC), there are 15 commercial banks that provide financial services in rural areas of Thailand. Most of these commercial banks concentrate on deposit services, with some providing loans to large-scale commercial farmers cultivating cash crops for export, who are able to adequately collateralize their loans. These banks also provide a variety of other services to their clientele, e.g., letters of credit, foreign exchange transactions, etc., which do not yet form part of BAAC's product line. Small-holder access to commercial bank services is primarily for savings, a service also provided in rural areas by the widely-branched Government Savings Bank (GSB). Finance companies have a small share of the rural financial markets, while agricultural cooperatives also provide credit to members (usually with loan funds obtained from BAAC for on-lending to their members). Finally, informal financial markets are estimated to supply only about one-fifth of total rural credit demands in recent years, compared to about 40% a decade ago.

An oft-cited barrier to greater commercial bank lending to farm producers is the precarious nature of property titles issued under the land reform laws. Those titles that are issued by the Land Reform Office protect farmers' inheritance rights but cannot serve as a basis for land sales or mortgages, nor can they be foreclosed upon. Since land is the principle asset of small farmers, agricultural lenders have had to search for alternative forms of collateral in order to safeguard their loans. In this context, BAAC, as the country's specialized agricultural lender, has developed an innovative loan guarantee mechanism based on joint liability groups as a substitute for more traditional land collateral instruments for small loans to farmers.

2.2 General characteristics of BAAC

The Bank for Agriculture and Agricultural Cooperatives (BAAC) was established in 1966 as a government-owned bank to provide credit to agricultural producers, either directly or through agricultural cooperatives and farmers' associations. BAAC assumed the functions of the Bank for Cooperatives (which had been established in 1947). In 1997, BAAC had an extensive rural network of 535 branches and sub-branches and over 850 field offices throughout the country. BAAC's function is to provide loans at low interest rates directly to farmers, and through agricultural cooperatives and farmers' associations. Most loans are short- and medium-term, although the long-term lending portfolio, with maturities of over three years, is growing. In March 1993, BAAC was also authorized to lend to farmers for agriculturally-related activities, e.g., cottage industries, and since recently, also for non-agricultural activities. BAAC is also engaged in supporting a number of special government projects through lending operations. The mobilization of financial resources through the provision of savings services to its clientele has only become an important BAAC activity in recent years.

2.2.1 Trends in BAAC savings mobilization

While the volume of agricultural lending has grown rapidly over the last ten years (as summarized below), levels of savings mobilization have shown even faster growth. Throughout Thailand, over the period 1986 - 1996, time and savings deposits at commercial banks have increased almost six-fold to some US\$139 billion. This rapid savings expansion has not been uniquely an urban phenomenon; about 40% of the growth of these deposits took place outside the Bangkok metropolitan area, to the order of US\$53 billion. In the case of BAAC, during this period, time and savings deposits increased some twenty times, to

almost US\$5 billion.⁵ While still a minor participant on the national scale in terms of savings mobilization, BAAC's share of time and savings deposits from outside of the metropolitan Bangkok area has risen from 2.7% in 1986 to 10.4% in 1996.⁶ This increasing market share reflects the advantage that BAAC has of a relatively dense branch network, concentrated outside the Bangkok metropolitan banking market. Very clearly, the rapid rate of income growth has fed a rising demand for the financial savings services of the commercial banking system and - as rural incomes have also been growing rapidly - the savings services provided by BAAC.

2.2.2 Trends in agricultural lending⁷

During the last decade, lending to the agricultural sector by both the commercial banking system and BAAC have expanded considerably. Despite BAAC advantage of an extensive rural network, the commercial banks have covered an important share of rural loan demand. Commercial bank borrowers are typically large clients, while BAAC concentrates on the small and medium scale agricultural producers.

The considerable rise in lending to agriculture is due to several factors:

- BOT-mandated portfolio allocation targets for commercial banks to lend to the agricultural sector,⁸
- BOT-mandated interest rates for agriculture not higher than non-agriculture lending;
- Expanded capitalization by the government of BAAC;
- Aggressive BAAC expansion of its lending activities; and
- Although to a lesser extent in recent years, BOT rediscount facilities for priority sector lending.

2.3 Institutional type, governance and organizational structure

2.3.1 Institutional type and governance

BAAC is governed by a Board of Directors appointed by the Council of Ministers comprised of 11 members, including a Chairman (the Minister of Finance), Vice Chairman (a representative of the Ministry of Agriculture and Cooperatives), Secretary (incumbent President of BAAC) and eight other Directors. The Board controls the policies and business operations of the bank. BAAC's enabling legislation requires that Board membership also include representatives from the Prime Minister's Office, the Ministry of Finance, Ministry of Agriculture and Cooperatives, Cooperative Promotion Department, the Agricultural Land Reform Office, the Bank of Thailand, and at least two members of the private sector, one of whom must be a representative of the Agricultural Cooperative shareholders. Directors have

⁵ Other government-owned banks, i.e., the Government Savings Bank and the Government Housing Bank, have also experienced high rates of deposit growth.

⁶ An additional important factor in the growth of BAAC's deposits is the mandate that government agencies utilize BAAC's banking services, both for savings and time deposits. At a later point we will discuss in more detail BAAC's deposit mobilization efforts.

⁷ As the principal focus of this report is savings mobilization, agricultural lending activities will be only very briefly discussed.

⁸ These mandated portfolio allocation targets commenced in 1975, when they were set at 5% of the commercial banks' previous year's lending. The target was changed to 7% of the previous year's total deposits in 1976. It was increased to 11% in 1978, when an additional 2% lending to agribusiness/agroindustries was also mandated. These mandated shares continued until 1987, when they were increased to 14% for agriculture and 6% for agribusiness. Shortfalls in these targets were to be deposited in interest-bearing accounts with the BAAC.

three year terms and can be re-appointed. Thus the Board is mainly comprised of public officials reflecting the interests of the government, while there is a remarkable scarcity of financial enterprise acumen and experience.

This composition of the Board of Directors reflects the ownership patterns of 74,997,438 issued and paid-in shares of BAAC's US\$4 par value stock (in March 1996). The Ministry of Finance owns 99.7% of these shares of stock. All the remaining 0.3% of issued and paid-in shares is reported as belonging to cooperatives (to an important extent, government-sponsored entities with a very poor repayment performance as regards their loans from BAAC, as we will see later) and private shareholders. In these circumstances, the authorities have full control over the composition and membership of the Board of Directors. There is no effective opportunity for external candidates to be chosen to sit as a Board member and to express views at variance with the official sector. We will return to this question of access to BAAC stock ownership and effective representation on the Board of Directors as it relates to governance, accountability and transparency issues at a later point in this paper.

Responsibilities of the Board include:

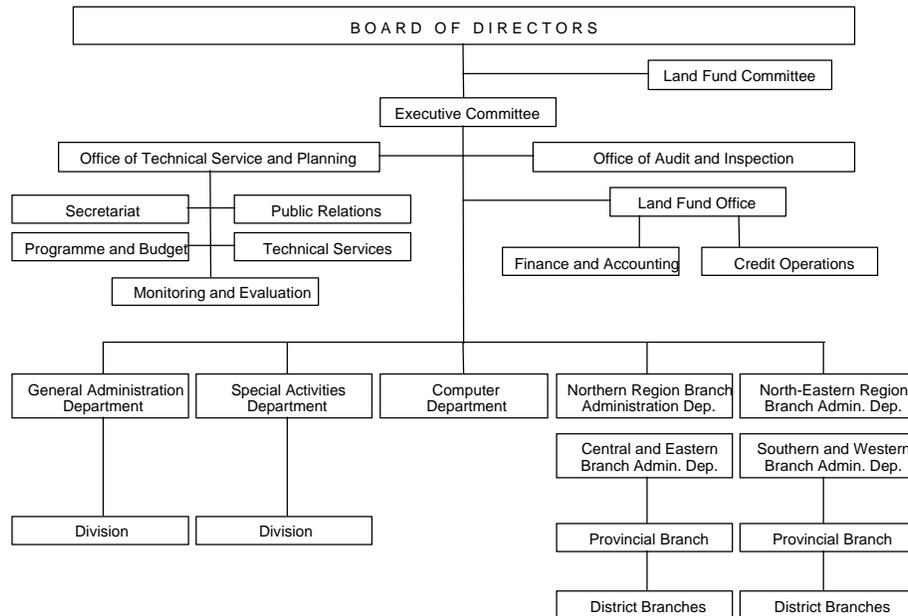
- Appointing and monitoring performance of the President and other senior officials;
- Establishing operating policies of BAAC set out as "Board Regulations;"
- Determining BAAC's organizational and branch structures;
- Defining management powers;
- Deciding staff remuneration and benefits; and
- Overseeing credit policies and other aspects of asset and liability management.

The BAAC President is a member of the Board and is responsible for the administration of all BAAC activities according to the policies set out by the governing Board.

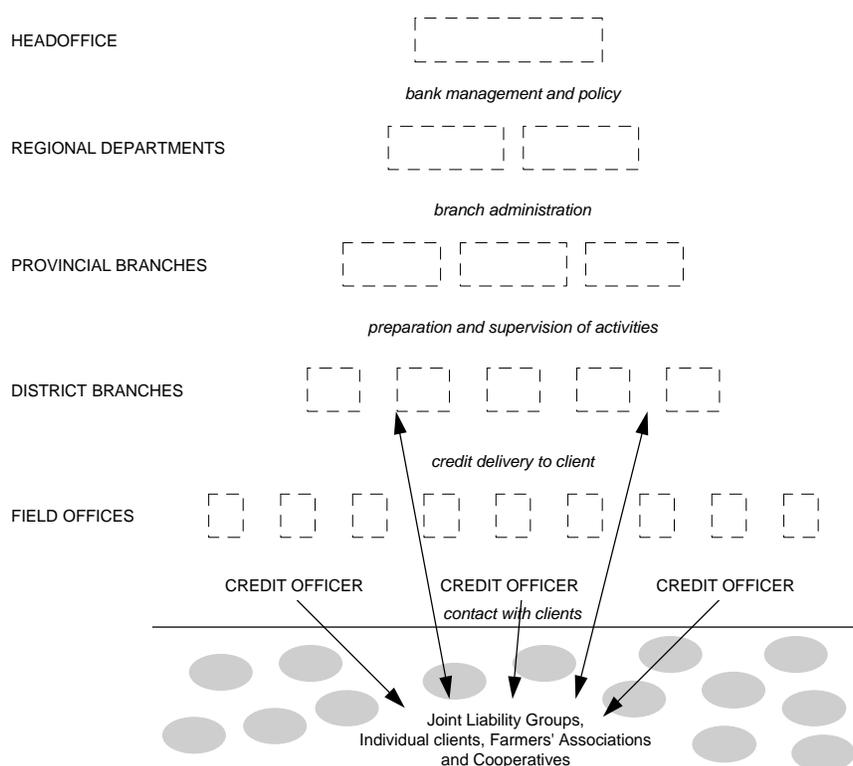
BAAC is audited annually by the Office of the Auditor General of Thailand, an agency of the GOT, and in October 1998, BAAC came under the reporting and supervision requirements of the BOT. Internal audits, financial performance analysis and control mechanisms are reviewed throughout the year by an internal audit department.

2.3.2 Organizational structure

Organizational decision-making is undertaken by an Executive Committee that is comprised of the President and four Executive Vice-Presidents of the Bank. Their function is to ensure that the bank implements its corporate plan and is prudentially managed according to the guidelines established by the Board of Directors. There are 12 departments, each one under the jurisdiction of one of the Senior Vice-Presidents. Recent additions to the structure include the Savings Promotion Division and the Land Fund Office (a special fund which will eventually be spun off to create a separate institution known as the Land Bank). Five departments deal with administration, human resource management, banking and accounting and computing. The remaining four are regional branch administration departments for the main Thai regions: northern, north-eastern, central and eastern, and western and southern regions. Each Regional Office is responsible for operations of a network of provincial branches and sub-branches, each with additional field offices at the district level.

Graph 1: Organigram of BAAC

BAAC operations are highly decentralized through an extensive branch system. An important expansion of its network was undertaken during the late 1980s. Field offices provide BAAC's most important outreach unit. Each field office employs eight to nine credit agents who are responsible for coverage of specified districts. Field offices do not have facilities for disbursing loans or for collecting debt repayments and mobilizing deposits. These functions are managed at the branch and sub-branch levels to which the respective field office is affiliated. BAAC plans are to transform these units in order to broaden the variety and the quality of their services to clients and improve savings mobilization capacity. The field officers represent the "front line" with respect to BAAC's linkages to the farmers. They are responsible for farmers' training and monitoring and also must overcome any obstacles to timely loan repayment. On average, a credit officer services 400 to 500 farmers. The high ratio is related to the joint liability group mechanism, which is intended to facilitate the heavy workload of the field officers.

Graph 2: BAAC delivery structure

According to its mandate, BAAC loans are for agriculture and agriculturally-related activities, as defined within its governing statutes, which require that all BAAC clients be farmers or members of farm households. These include small-holders and medium-sized agricultural producers with relatively established farms, as well as members of farmers' associations and cooperatives. Deriving from its nature as a government-owned specialized financial institution, BAAC also carries out a number of government programs, usually grouped under the label policy directed programs and special projects. In 1996, BAAC operated 264 project-type credit operations for a wide variety of purposes. Often these special programs have highly subsidized interest rates and follow different policies and procedures, while borrower recruitment and loan approval may not primarily rest with BAAC staff. As a result, the overall loan recovery rate is poor, representing significant default risk.

BAAC staff also supervise and provide logistical support to the 73 agricultural marketing cooperatives and three agricultural central markets which have been created. Many of these activities are time-consuming for BAAC staff. In some instances, the institution is reimbursed a service fee, but in many cases there is no compensation for the time spent by BAAC staff in these assignments. On balance, it appears that these special activities represent a distraction of BAAC staff and financial resources from their primary duties.

2.3.3 Lessons learned in institutional type, governance and organizational structure

BAAC's governance structure has been inherited from earlier years in which the institution acted primarily as a dispenser of financial resources received from the government and foreign donor agencies or (as in the case of the mandatory commercial bank deposits) on behalf of the government. The situation has now changed; BAAC is now responsible for the

stewardship and safe-keeping of a large volume of resources from its new depositor-clientele. In this context, two important questions arise:

- To what extent has BAAC's success in mobilizing significant volumes of savings and time deposits been uniquely related to its status as a state-owned enterprise (SOE) and the numerous subsidies afforded it?
- To what extent should these radical changes in BAAC's resource base require that BAAC's governance structure be adapted to accommodate the dramatically altered array of stakeholders in BAAC's fiduciary responsibility and financial performance?

As far as the nature of BAAC as a state-owned enterprise is concerned, a couple of factors may be important to current and potential clients:

- The implicit guarantee that depositors' funds are safer in a government-owned institution than in a privately-owned institution; and
- Ease of access to financial services (including low implicit transactions costs).

With respect to the security of depositor funds, as pointed out earlier, there is no formal deposit insurance program in the Thai banking sector. On the other hand, on a case by case basis in the past, the authorities, through rescue operations operated or overseen by the BOT, have not allowed depositors to lose their funds. Unfortunately, this type of implicit guarantee approach may not be very conducive to depositor peace of mind, and may create perverse managerial incentives for bankers; the implicit "safety net" encourages bankers to pursue overly risky lending operations. As a result, BAAC's portfolio quality is poor.

Further financial market distortions are created when the public perceives that such implicit government guarantees are operated in an uneven manner between state-owned and privately-owned financial institutions. An appropriate explicit deposit guarantee framework would be a risk-based deposit insurance program in which each participating financial institution (whether state-owned or privately-owned) would contribute to the deposit insurance fund an amount based on an independent assessment of that specific institution's portfolio risk. Thus, in summary, a perception on the part of depositors that their funds may be safer in an SOE than in a private deposit-taking institution reflects a policy-induced distortion in Thai financial markets. In the Thai financial market context, therefore, maintaining at least part of one's deposits in an SOE may represent a rational depositor response, rather than representing an inherent advantage of state-owned financial institutions in mobilizing deposits, vis-à-vis private financial institutions.

As regards ease of access, BAAC has developed an extensive branch net work over the years outside of the metropolitan Bangkok banking market. These branches are fundamental to providing deposit services to clientele in rural areas. On the one hand, as described below, BAAC provides a variety of savings instruments that appear to be well-tailored to the rural milieu. A successful experiment in this regard is described.

On the other hand, BAAC has moved relatively slowly, compared to other banks, with respect to new technologies and products (on-line banking, ATMs, foreign exchange transactions, letters of credit, leasing, etc.) to better serve its clientele and consolidate its competitive market position. These service shortcomings are inconsistent with the outwardly-oriented policy framework that has been an important underpinning of much the growth of the Thai rural sector in recent years. One problem in this respect has been the political mandate which - as an SOE - BAAC is obliged to obey. For example, until 1993, BAAC was not allowed to lend to farmers for non-agricultural activities. Even after the amendment of the Act, BAAC is not permitted to lend to *non-farmers* for rural activities. This restriction impedes BAAC from making an important contribution to the likely locus of much of the future growth in the rural Thai economy. At the same time, owing to SOE status,

important BAAC staff and financial resources are diverted into other "special focus" and subsidized programs, as described earlier.

Despite the radical change in BAAC's financial resource base, there has so far not been an adaptation of the membership of the Board of Directors to reflect the substantial shift in the array of the institution's stakeholders. Nor have the opportunities for ownership of the institution been modified or broadened, in an important respect, to respond to these new interests. It is important to recognize that the interests of BAAC's depositors is very much at odds with continuation of past patterns of political intervention in the management of BAAC's financial resources and the erosion of its financial performance in order to further populist "cheap credit" schemes and undermine the credit discipline of BAAC.

The empirical data on BAAC's loan recovery rates demonstrates the poor quality of BAAC's loan portfolio. BAAC's poor management of this primary asset poses a great risk to BAAC's depositors; mitigated only by government subsidies and accounting procedures that serve to mask the seriousness of the situation. The incorporation of the depositors into the ownership and governance structure of BAAC is a major challenge that must be addressed and properly resolved if BAAC is to continue to evolve as a viable and sustainable rural financial institution.

While a change in the governance structure of BAAC would not resolve problems of a systemic nature (e.g., the implicit deposit guarantee issue outlined earlier), it could make an important contribution to addressing some of the stakeholder issues that fall outside the original SOE design concept. We return to these questions in a later section.

2.4 Demand-oriented savings products and technologies

In the past, BAAC was essentially a lending institution, with little attention paid to the mobilization of financial resources through the provision of deposit services. This was owing to the availability of low cost funds from the government and BOT-mandated deposits from the commercial banks. Since the mid-1980s, however, BAAC has increasingly focused on savings mobilization as a major source of financial resources. In addition to offering the standard range of savings products, i.e., both savings and fixed term (time) deposits, a variety of specialized products tailored to the Thai rural milieu (e.g., funeral aid associations, personal accident insurance, women's savings programs, savings for the hadj pilgrimage, etc.) are offered to BAAC's clients. A recently introduced and notably successful product, OM SAP THAWI CHOKE ("Multiple Fortune" savings account) is described below. System-wide savings mobilization efforts have, in the last decade, doubled BAAC's share in savings and time deposits held by banks outside the Bangkok Metropolitan Area, rising from less than 3% to almost 10%. Energetic savings mobilization, which is one of the criteria used by BAAC managers to assess branch staff performance and award bonuses and promotions, has transformed some BAAC branches into self-financing units, wherein the value of savings has out-stripped that of credit portfolios.

A further gauge of the effort to mobilize financial resources through the expansion of deposits is the rising deposit to loan ratio for recent years:

Table 3: Deposit to loan ratio FY1986-1996

Fiscal year	Deposit from the public (US\$ million)	Loans outstanding (US\$ million)	Deposit to loan ratio
1986	270.6	886.2	0.31
1987	342.9	909.5	0.38
1988	452.9	998.6	0.51
1989	662.0	1,210.3	0.51
1990	819.2	1,528.2	0.54
1991	1,235.5	2,000.0	0.62
1992	1,470.2	2,753.0	0.53
1993	2,064.0	3,146.7	0.66
1994	2,728.9	4,063.5	0.67
1995	3,661.2	5,402.8	0.68
1996	5,050.8	6,878.5	0.73

Sources: BAAC, 1986-96, *Annual Reports*

While this rising loan to deposit ratio is evidence of the considerable progress that BAAC has made in the last decade in moving towards self-financing, substantial efforts remain to be made to improve BAAC's portfolio quality and to lessen BAAC's dependence on government capital contributions and external resources with an important subsidy element and considerable foreign exchange risk.⁹

Interest paid by BAAC on deposits has in general been competitive with rates offered by commercial banks and positive in real terms. Recent rates have been as follows:

Table 4: Interest rates on deposits (% p.a., Nov. 1996)

Account type	Commercial banks	Government Savings Bank	BAAC
Savings	5%	4.75%-5%	5%
Time deposits:			
less than three months	---	---	---
3 months to less than 6 months	9%-10%	---	9.13%-9.63%
6 months to less than 12 months	8.75%-9.5%	8.88%-9.38%	8.63%-9.13%
12 months	8.75%-9.5%	8.88%-9.38%	8.63%-9.13%
12 months to less than 2 years	8.75%-9.5%	---	8.63%-9.13%
2 years and over	---	8.88%-9.38%	---

Source: BOT, *Monthly Bulletin*, Nov., 1996.

⁹ It should be noted that some 40% of deposits are from government offices and SOEs, owing to an official policy requiring that all government funds be deposited in government-owned banks.

A client survey conducted by BAAC in 1994 indicated that 56% of BAAC borrowers have savings accounts, while another 8% hold accounts with other commercial banks.¹⁰ The survey demonstrated that small farmers from all regions were savers, with 30% deposits originating from the poorer northern and north-east provinces. As of May 1994, the value of savings varied from region to region; in the central region the share was highest with 39% of the total savings, the north-east and southern/western region amounted each for 21% and the northern region for 19%.

Table 5: Size distribution of savings deposits, March 1997

Size of savings deposit (US\$)	Individuals	Cooperatives and Farmers' Associations (% share of deposits)	Public sector agencies	Total
<200.8	84%	40%	34%	83%
200.8-2,008	14%	30%	39%	14%
2,009-20,080	2%	16%	12%	2%
20,081-40,161	0.1%	5%	3%	0.1%
>40,161	0.1%	8%	12%	0.2%
Total deposits (US\$ million)	1,750.9	85.6	1,318.3	3,154.9
# accounts	5,561,608	6,740	37,022	5,605,370
Average account (US\$)	315	12,705	35,609	563

Source: BAAC Department of Planning.

In the above table, we see that private individuals account for over one-half of the amount deposited with BAAC. The total number of private depositors was about twice the number of individual farmers actually borrowing from BAAC at that time.

The following table provides striking evidence of the growth of BAAC's savings mobilization efforts. The total volume of savings deposits grew almost twenty times during this period. Savings mobilized per branch almost tripled and savings per branch officer increased by a factor of eight.

¹⁰ Cited in Sacay, et al, 1996, *The BAAC Success Story*, Financial Sector Development Department, World Bank, Draft, Washington, D.C., p. 38.

Table 6: Indicators on savings outreach¹

Fiscal Year	1986	1988	1990	1993	1996
No. of branches and sub-branches	70	96	168	304	535
No. of branch officers/employees	5,230	5,762	6,845	8,812	12,103
Volume of savings (US\$ million)	270.6	452.9	819.2	2,064.0	5,050.8
Value of savings per branch (US\$ million)	3.9	4.7	4.9	6.8	9.4
Value of savings per staff member (US\$,000)	51.8	78.6	119.7	231.6	417.3

Source: BAAC, 1986-96, *Annual Reports*.

¹ Excluding deposits from commercial banks.

2.4.1 Characteristics of demand-oriented savings products and technologies

Until 1979, BAAC maintained a mandatory savings program for borrowers, requiring that each borrower deposit an amount equivalent to 5% of the loan value in a savings account. This program was discontinued because it was costly to administer, especially since its branch offices were at that time ill-equipped to manage funds. These deposits also represented an expensive source of funds compared to alternatives then, with interest rates of 9% paid on deposit balances. Currently, forced savings components are not a major consideration in BAAC's activities although they may be included as part of some special project lending initiatives, such as lending to Self-Help Groups (SHGs), but are of minor importance and not part of normal lending programs. BAAC has neither the staff capacity at the branches nor an imminent interest in these groups, given that the bank has worked with its own Joint Liability Groups (JLG) for several years. The financial performance of these groups has been mixed, with total savings actually decreasing over the past few years. Primary responsibility for managing such programs are located outside BAAC, for instance in the Cooperative Development Department of the respective Ministry.

2.4.2 Design of demand-oriented savings products

Since the mid-1980s, BAAC has increasingly focused on savings mobilization. The Savings Promotion Division in BAAC has primary responsibility for the design, testing and evaluating of the various savings instruments that BAAC has in its product line. In addition to offering the standard range of savings products, i.e., both savings and various fixed term (time) deposits, a variety of specialized products tailored to the Thai rural milieu (e.g., funeral aid associations, personal accident insurance, women's savings programs, savings for the hadj pilgrimage, etc.) are offered to BAAC's clients.

These modalities represent an important effort to incorporate social and familial characteristics common to rural areas into BAAC's product line of savings instruments. While the volume of resources so mobilized may be relatively small, they represent an important marketing tool and reinforce the positive image of BAAC as a financial intermediary. They also provide BAAC with information on clients' savings practices, which may be useful in assessing their creditworthiness as potential borrowers. With respect to procedures for opening a regular passbook account, these are also straightforward and not time-consuming - although there appear to be some occasional problems of peak usage and waiting lines in

the branches.¹¹ In the branch offices, visual promotion of savings products is lacking, which is a shortcoming on the public relations front.

In 1995, BAAC introduced an innovative savings product primarily targeted to the low-income market. This product was developed by BAAC Savings Mobilization Division together with GTZ's Self-Help Linkage Project. The new savings product is called OM SAP THAWI CHOKE (OSTC). The minimum opening deposit is only US\$2, and, although the interest rate of 4% paid on deposits is one percentage point below the standard rate BAAC pays for savings accounts, the account owner is entitled to participate in regular semi-annual lotteries offering goods popular in rural areas as prizes.

This new approach was initially piloted at BAAC branches in four provinces in 1995. It proved to be a popular savings vehicle and has been appropriately adapted and subsequently incorporated nationwide into BAAC's product line. Incentives to save include a ticket for every US\$79 saved and held in an account over a three month period. A drawing is held every six months for ticket holders. Savings accounts have unlimited withdrawals; however, balances that drop below US\$79 are not eligible to participate in the drawing.

This new savings product was rapidly accepted in both the pilot area and on the subsequent national-scale introduction. At the end of 1997, two years after its launching, the number of participating savers had risen to more than one million with savings deposits amounting to more than US\$100 million in all BAAC branches nation-wide.

2.4.3 Lessons learned in the design and handling of demand-oriented savings products and technologies

The success of the OM SAP THAWI CHOKE product is evidence of the strong client demand for secure and convenient savings services. BAAC studies indicate that the lottery aspect is an attractive element for the participating savers, but not the principal incentive. BAAC staff have also indicated that the program significantly contributes to BAAC's deposit mobilization performance. This marks an evolution in BAAC's previous perceptions of its client market as poor, unable to save and in need of (low cost) credit rather than deposit services.

System-wide savings mobilization efforts have tripled BAAC's share in savings and time deposits held outside the Bangkok Metropolitan Area in the last decade, rising from less than 3% to about 10%. BAAC has sought to provide a varied product line of savings instruments to its savings clientele, tailored to the rural milieu. This success represents an efficient exploitation of BAAC's comparative advantage with its rural branch network. Energetic savings mobilization, which is one of the criteria used by BAAC managers to assess branch staff performance and award bonuses and promotions, has transformed some BAAC branches into self-financing units, wherein the value of savings has out-stripped that of credit portfolios. Nevertheless, it may be illustrative of the difficulties of shifting the *corporate culture* that in the BAAC annual report, the topic of savings mobilization has barely two paragraphs devoted to it and there is not a single table in the annual report focusing on savings mobilization data (other than the single general balance sheet entry).

¹¹ Branches are open to the public from 8:30 a.m. to 3:30 p.m., Monday through Friday. There is no regular provision for evening or weekend banking services.

2.5 Management capabilities

2.5.1 General management capabilities

According to BAAC enabling legislation, the President must have expertise in either banking, economics, agriculture, cooperatives or law. The President administers BAAC's activities in accordance with the policies and regulations established by the Board of Directors. In carrying out these duties, he is assisted by four Executive Vice Presidents, who are normally BAAC career staff. Together, they form the BAAC Executive Committee, which oversees the Bank's day-to-day management. There are twelve Senior Vice-Presidents who head three Offices and nine Departments (including four Regional Branch Administration Departments - RBADs). All Senior Vice-Presidents are based in Bangkok. The RBADs supervise provincial branches; provincial branch managers supervise district branches. provincial and district branches, in turn, supervise the operations of the field offices under them.

With the exception of the President, all BAAC staff are remunerated according to their grade. There are fourteen grades for officers and three grades for other staff, with some overlap of salaries between grades. In addition to the basic salary, there are additional benefits and a bonus system linked to performance. The maximum bonus payable is the equivalent of five months' salary. Both staff and branches are evaluated on the basis of performance. Branches are ranked according to criteria covering repayment performance, arrears collection, client numbers, average loan size, deposits and profits. These ratings are important for both tracking efficiency and awarding bonuses and staff promotions.

Training is the responsibility of the Training Division in the Human Resource Development Department. In recent years, the training budget has been about US\$2 million. Training provided includes in-house training courses, short courses in Thailand and overseas, and post-graduate courses in both Thailand and abroad. Training is also provided to members of agricultural cooperatives and farmers' associations.

While training can play an important role in maintaining and upgrading BAAC's human capital base, care must be taken to avoid excessive managerial "inbreeding."¹² An effort should be made to recruit middle and upper management staff with experience from a variety of financial intermediary institutions - especially as the savings and lending product lines become increasingly diversified. It could also be useful to consider introducing an external service program that permits both operating and managerial staff to work in other Thai financial institutions.¹³

2.5.2 Special management capabilities: Risk management

Yaron (1997) identifies three types of risk which rural financial institutions must confront in their operations:

- Subsidy risk, as subsidy dependence threatens the longevity of an institution when such subsidies may be withdrawn.
- Covariant risks, owing to the concentration of the lending portfolio in rural and agricultural activities that are seasonal in nature and subject to covariant shocks.

¹² The BAAC's compulsory retirement age of 60 is a further instrument to maintain some renewal in its senior ranks, although this policy could also militate against bringing in seasoned outsiders in order to benefit from their experience.

¹³ For example, in Bolivia one of the major commercial banks, Banco Industrial, S.A., encourages its junior loan officers to take a limited term assignment with a well-known microfinance institution, *BancoSol*.

- Default risk, which requires careful selection and screening of clients, enforcement of credit discipline, monitoring of loan performance and adequate provisioning for doubtful loans.

In its operations, BAAC senior management have sought to instill a culture of cost effective credit delivery and recovery, relying on close tracking of branch efficiency indicators and substantial employee bonus systems (up to five months salary) for rewarding performance. This has not kept BAAC immune from political pressures to push small loan interest rates below its financial and operating costs, or supporting GOT "special project" initiatives. Owing to the composition of its Board of Directors - virtually all political appointees - few voices are raised there against political interference. Among the ad hoc defense mechanisms used by BAAC management in the past are, e.g., pressuring for access to lower BOT rediscount rates, lowering the interest rates paid to commercial banks for mandated deposits at BAAC, introduction of "service charges" on larger loans, and substantial reduction in the share of lending provided in small loans at the lower interest rates.

Unfortunately, the narrow BAAC mandate to lend only to farmers constrains its attempts to spread its portfolio risks. Only in 1993 was it permitted to lend to farmers for agriculturally related activities. Beyond this, it cannot even legally lend for non-agricultural activities in rural areas - even to farmers. Not only does this policy inhibit BAAC from diversifying its lending portfolio to manage risk, it is at variance with the likely sources of future economic growth in rural areas, where, increasingly, value-added will occur in post farm-gate activities and the provision of rural services. BAAC's management is seeking relief from these constraints.

With respect to controlling default risk, BAAC maintains an up-to-date loan repayment tracking system that allows for fast and reliable follow-up by credit agents. Regular reports generated indicate due dates for payments. These are cross-examined with delinquency reports. In cases of missed payments or information about potential loan difficulties, credit officers visit clients immediately and the case is monitored closely. However, loan recovery remains significantly below international standards and brings BAAC's financial viability and sustainability into question.

Through the application of the joint liability lending mechanism for smaller loans, BAAC has successfully instilled a culture of credit discipline in some of its borrowers, though JLG lending is negligible in terms of total volume.¹⁴ Borrowers are initially provided with relatively small short term loans; through demonstrating a reliable repayment record, they graduate to large loan sizes and other loan instruments. The status of loans to members of JLGs are monitored through periodic meetings or informal monitoring procedures established by members. Credit agents make periodic visits to different groups. In JLGs, the performance of each group member affects the future access to loans for the entire group. Late or missed payments of each individual member impacts on the credit rating of the group as a whole and can affect the amount of subsequent loans. As an incentive for timely repayment, increasing loan amounts are based on a good track record. Individual cases of loan delinquency can result in disqualification of all members. This promotes active peer monitoring by group members and mutual support or even cross-financing by group members when individual members face repayment problems. In addition, financial sanctions for overdue repayment include a late payment penalty of 3% p.a.

A final instrument of risk management has been BAAC's effort to expand savings services to rural areas and its borrowers. When borrowers have a savings nest egg to fall back on when

¹⁴ Through the JLG mechanism, a member may borrow up to US\$1,976 without further collateral. An additional US\$1,976 may be borrowed by a JLG member on the basis of two guarantors. Amounts beyond this normally require mortgage collateral. Mortgages on movable property, e.g., trucks, cattle, etc., are not acceptable.

they encounter temporary difficulties, they may be less likely to default on loan repayments. As depositors demonstrate habits of thrift in their savings performance, they may be evidencing a financial discipline that indicates greater creditworthiness.¹⁵

In the event of natural calamities, loans are classified as "authorized arrears" and are restructured for longer repayment periods. No penalties are charged under these circumstances. Specific programs designed to assist clients during these special circumstances (which have an element of government subsidy) are made available under these conditions. The net result for BAAC is a low cost incentive mechanism that effectively promotes good client repayment performance. However, once again, the subsidies involved in this program increase the subsidy risk identified by Yaron.

Loan recovery experience has been much more favorable among BAAC's individual clients; cooperatives and farmers' associations are markedly less reliable in terms of repayment, although BAAC reportedly monitors this closely and ranks these groups in this regard.¹⁶ BAAC appears to most closely track its portfolio in arrears with respect to individual client farmers. Nevertheless, at some 22% of the amounts due at the end of FY96, individual client farmers' arrears are especially serious for that one-third of the individual client loan portfolio representing long-term investment in agriculture.¹⁷ Individual client short-term loan arrears are at the lower, but still worrisome, level of 12%. It may also be important to address the problem underlying the large amount of net accrued interest receivable reported on the balance sheet. In FY96 this accrual represented some 40% of interest earnings from loans to client farmers. On the other hand, BAAC's efforts in vigorously enforcing repayment in recent years have led to a rapid decrease in arrears of more than two years for loans to individual client borrowers.

The loan recovery performance of agricultural cooperatives and farmers' associations is especially poor. During the last ten years, arrears for loans to these groups have often been in the range 30% to 40% of amounts due. While loans to these entities may represent only about 8% of the BAAC loan portfolio, they demonstrate poor credit discipline and appear to represent a serious risk to the institution's profitability, capital base and financial sustainability. Unfortunately, unlike the case with the loans to individual client farmers, BAAC does not present an aging analysis of the loans in arrears for these entities. This is an area where a strenuous effort should be made to more vigorously screen loan requests and to seriously upgrade loan recovery performance. Should individual client farmers observe these other entities to have continued access to BAAC resources despite these entities' poor repayment performance, there may be a tendency for poor repayment performance to spread to the individual client farmers. Moreover, for loans to these groups which continue to demonstrate such poor credit discipline, special provisioning arrangements for principal and interest in arrears is necessary.

With respect to the physical security of cash on hand, BAAC branches appear to follow standard procedures with respect to teller controls and transfer of coin and currency.

¹⁵ Siamwalla (1989) reports that in some cases BAAC borrowers resort to the informal financial markets in order to service their BAAC loans.

¹⁶ The figure for cooperative repayment relates to member repayment to the cooperative, not the cooperative's repayment record to BAAC. Cooperatives may withhold up to 20% of their recoveries of BAAC loans, for "capitalization" purposes.

¹⁷ Arrears are booked as such as soon as a repayment is late, although only the amount in arrears and not the total principal amount is so recorded. There is some question as to the current BAAC practice of provisioning for only 10% of arrears up to one year. The provisioning percent is increased by 10 percentage points for each additional year, up to a total of 10 years, or 100%. There is some discussion of introducing higher provisioning rates.

Transfers between accounts, e.g., on the basis of payment orders between borrowers and suppliers, are becoming increasingly common, reducing the needs for cash.¹⁸ In some cases, BAAC branches may be outside the downtown areas and thus their security less than otherwise. With the increasing penetration of credit and debit cards and the use of ATMs in Thailand - vehicles not yet offered by BAAC - some of the considerations with respect to on-site security may be modified.

2.5.3 Special management capabilities: Liquidity management

The relative importance of the various sources of financial resources for BAAC has shifted notably in recent years. Mandated commercial bank deposits have become less important, though they remain significant. They have been supplemented, firstly, by savings deposit mobilization from the public, followed by external borrowing, retained earnings and continued government capital injections. In order to cope with institution-wide liquidity imbalances, BAAC may also occasionally have recourse to the Thai interbank market, but occasionally it will enter that market as a seller of funds.¹⁹

For purposes of internal liquidity management, BAAC arranges intrabank transfers between surplus and deficit branches using an accounting price. This so-called transfer price is set at one percentage point above the interest rate on time deposits, thus providing an incentive to the branches to mobilize their own funds through deposits.

2.5.4 Lessons learned in management capabilities, especially risk and liquidity management

BAAC has sought to vigorously enforce credit discipline among its clients in order to defend against the potential default risks it faces. BAAC has achieved some success in this area, though loan recovery remains unacceptably low. The GOT's political agenda has hampered BAAC's broadening the range of rural activities it can lend for in order to spread the covariant default risk. While BAAC management has sought to lessen the subsidy risk by seeking out new, market-based financing sources, political interference in the bases for its income streams continues to hamper this market-oriented effort.

2.6 Regulatory and supervisory framework

2.6.1 External regulation and supervision mechanisms

The annual external audit of BAAC is performed by the Office of the Auditor General (OAG) of Thailand, a GOT agency. The OAG maintains a permanent team of professionals on site at BAAC to carry out the ongoing review of the institution's operations.

BAAC's performance has also been assessed by the Thai Rating and Information Service (TRIS), under a recently initiated GOT program for SOEs. Consideration could also be given to inviting external rating agencies, e.g., Moody's, Standard and Poors, etc., already active in assessing Thai financial institutions, to begin rating BAAC according to their standard criteria. BAAC's present status, with respect to external regulation and supervision, puts it in an uncertain limbo with respect to the standards of prudential performance to which it is being

¹⁸ The use of checking accounts appears to be relatively less common than in many of the developed market economies.

¹⁹ Since the BAAC fiscal year does not coincide with that of commercial banks, the latter may occasionally approach the interbank market for year-end "window-dressing" in a period coinciding with BAAC liquidity arising from its agricultural cycle loan recoveries.

subjected and according to which it is being assessed, especially as regards other Thai financial intermediary institutions or the broader global financial marketplace.

2.6.2 Internal regulation and supervision mechanisms

BAAC has an Office of Internal Audit and Inspection for the ongoing financial and management audit of its operations. Periodic reports from the provincial and branch offices are channeled to BAAC's senior management in order to monitor the sources and uses of financial funds in an increasingly complex rural setting. Special attention is paid to the costs of mobilizing financial resources, non-financial operating costs and loan recoveries, major considerations in avoiding an erosion of the institution's financial viability and sustainability. However, persistent high levels of loan arrears demonstrate that internal risk management regarding default risk must be improved in order to ensure financial viability and sustainability. On the basis of this information, the senior management occasionally approaches the GOT seeking some form of *quid pro quo* for implementing government-sponsored programs that have a demonstrably adverse effect on the institution's cost structure and financial viability.

2.6.3 Analysis of lessons learned in external and internal supervision and regulation mechanisms

BAAC's Board of Directors represents a variety of political and bureaucratic interest groups. As such, it responds to interests other than those relating primarily to the ongoing and future financial health and evolving role of the institution. As a result, BAAC continuously faces pressures from government authorities to meet their political agenda. For example, the government which came to power in 1995, forced BAAC to reduce interest rates from 11% to 9% for loans under US\$2,400, signifying a serious erosion in BAAC's earnings and self-capitalization capacities.

Such politically-motivated interventions distract BAAC management and represent an ongoing struggle with the government meddling in the financial affairs of the institution. This is a price that must be paid as long as the institution continues to rely on recourse to subsidized resources and does not vigorously advocate a broadening of the representation on its Board of Directors. Access to private equity markets would free BAAC from subservience to political agendas that are at odds with transforming it into a financial institution more supportive of the dynamic evolution of the Thai rural sector.²⁰

In October 1998, BAAC was shifted to the supervisory and regulatory purview of the BOT, putting it on the same footing as other commercial banks in Thailand. BAAC is currently working on the adjustment of its internal regulation and supervision mechanisms. The BOT is expected to exercise the appropriate regulatory and supervisory oversight that will protect the financial viability and sustainability of BAAC and ultimately the interests of BAAC depositors in a better way than in the past.

²⁰ Two partially government-owned financial institutions, the Krung Thai Bank and the Industrial Finance Corporation of Thailand, are partly privately-owned and their shares are currently traded on the Stock Exchange of Thailand. In addition to requiring important provisions of information to the public through the filing of a prospectus and the periodic financial reporting appropriate to registration on the public securities exchange, and providing access to a new source of capital, such public trading of the bank stocks provides an ongoing and transparent market-based assessment of the financial performance of the banking institutions.

2.7 Cost analysis of savings mobilization

2.7.1 Scope and quality of accounting and cost analysis

Until very recently, BAAC has not been subject to the BOT's supervision and regulation, nor BOT audit. Instead, the Auditor General of the GOT undertook the role of an independent external auditor for BAAC. As a result, deficiencies still exist in BAAC's accounting practices, most notably in regards to provisioning for loan loss, the treatment of accrued interest and the treatment of personnel costs arising from the bonus incentive system. These accounting practices have resulted in a significant overstatement of BAAC's real profitability. However, in October 1998, BAAC came under BOT supervision and is currently in the process of adapting its accounting system and procedures to BOT standards, in the same or similar manner as all commercial banks.

2.7.2 Methodologies to keep operating and transaction costs low for the financial institution

BAAC's main concern has been to maintain a cost-effective mechanism for mobilizing financial resources and lending them to farmers, while striving to cover its costs and contribute to capital growth. In this context, BAAC has developed the Joint Liability Group (JLG) concept as a cost-effective tool to lend to large numbers of small farmers in a situation where normal loan collateral instruments (land titles) are not available. Additional clientele are served through "wholesale" lending to farmers' associations and cooperatives. While JLG and co-guarantor arrangements may define the relationship with some 85-90% of its individual borrower clients, the bulk (ca. 55%) of loan funds are disbursed to individual clients under more commonplace collateral arrangements for loans over US\$3,952.

BAAC introduced the profit center concept at its branches in 1994. BAAC management closely tracks branch performance, and uses productivity parameters to award salary bonuses and promotions. In recent years, the average cost of financial resources has fluctuated between 7% and 10% of the outstanding loan portfolio. BAAC's non-financial operating costs have been maintained at a relatively low range of 3.4%-5%, especially in the last few years. Given this overall cost structure, in recent years, profits have been in the range 0.7-1.1% of average loans outstanding. However, BAAC is not currently able to cover the costs of loan operations from its current interest spread. Rather, BAAC's investment income offsets the costs of lending to generate a profit. Preferential status from the Bank of Thailand and exemptions provided to BAAC are essential to BAAC's profitability. Consequently, the rate of return on BAAC's equity in recent years has fluctuated in the range 6%-10% p.a.

Care must taken, however, in interpreting these financial results. The actual profit figure may be only about one-half of the reported figure in FY95, for example, owing to the practice of not including the generous employee bonuses (about one third again as much as the 1995 wages salaries and fringe benefits and over one-half of net profit for that year) in the annual profit and loss statement. Thus the net profit figure is *before* the recognition of these payments. These payments are instead reported on the balance sheet *after* the end of the financial year as a "use" of retained earnings, rather than a current operating expense. In addition to considerably overstating actual BAAC profits, over the years this practice has absorbed a significant part of what could have otherwise been important contributions to BAAC's capital base.²¹

²¹ Given the traditional importance of such employee bonus incentive schemes, BAAC management could consider altering the current arrangements, so that - in lieu of cash - an important part (perhaps up to one-third or one-half) of the bonus would be in the form of BAAC stock. This would represent an important savings on the part

With respect to a recent innovative savings product, OSTC, discussed earlier, more detailed calculations of product costs have been carried out. In the case of four participating branches in the second half of 1996, for example, transactions cost to operate the program were estimated to represent about 2.9% of the program's average outstanding deposit balance. The financial costs of mobilizing those funds were 5%, i.e., the 4% deposit interest payment and the cost of the lottery prizes of about 1% of the outstanding balances. The resulting overall cost of mobilizing the funds, 7.9%, was about 3.3% less than the average cost of mobilizing funds on the interbank market at the time and in line with the average cost of funds for FY1996.²²

2.7.3 Methodologies to keep transaction costs low for savers

While BAAC has demonstrated considerable success in recent years in mobilizing savings deposits, there are several measures that it could take to reduce savings transactions costs and/or encourage more frequent client interaction, e.g.:

- Expanded counter service hours - the branches are presently open to the public from 8:30 a.m. to 3:30 p.m., but are not open in the evenings or on Saturdays.
- Branches are not yet electronically connected through computer connections.
- There are no ATMs in BAAC system, an oft-cited advantage of the competing commercial banks.
- Loan products may not presently be designed to maximize opportunities to encourage more frequent client interface, e.g., scheduling loan repayments on an annual or semiannual basis may not match more regular cash flows characterizing the new farm-related activities financed by BAAC, and may reduce the frequency of client visits to BAAC for deposits.
- There may be opportunities for greater use of mobile banking services.
- While BAAC has the best rural branch network of any bank in Thailand, it has relatively little presence in the Bangkok metropolitan area, an important consideration where rural-urban links of both a familial and commercial nature are so important and can affect a client's choice of banks.

2.7.4 Analysis of lessons learned in the reduction of operating and transactions costs for the financial institution and the savers

Since its establishment, BAAC has benefited from a number of special privileges that represent - in an overt or covert manner - subsidies so that it may continue to operate. In addition to the direct equity contributions from the GOT, these have included:

- Bank of Thailand provision of rediscounting facilities at preferential rates designed specifically for agricultural lending (although of decreasing relative importance in recent years).
- Freedom from BOT-mandated reserve requirements for all commercial banks.
- Exemption from corporate income taxes charged to all commercial banks.

of retained earnings, and at the same time give the employees an important stake in the financial success of BAAC and an opportunity to be represented as an independent voice on BAAC's Board of Directors.

²² Actually, the OSTC figure is lower than the FY1996 average, since the OSTC includes operating costs as well as the financial costs in FY1996 estimate. Moreover, the FY1996 figure is underestimated, as it does not provide for a return on BAAC's own capital base.

- Commercial banks that did not achieve the BOT-mandated priority sector lending targets were obliged to deposit their respective shortfalls with BAAC.²³
- Concessional loans and grants from foreign sources, though diminishing, were still significant in FY95 when foreign borrowings amounted to US\$450 million, including Japan's OECF (74%), IBRD (16%), and smaller amounts from IFAD, ADB, USAID, and KfW.

Reduced access to low cost funds and higher risk associated with fluctuating exchange rates on foreign currency loans has encouraged BAAC to mobilize funds from domestic commercial sources (especially client deposits). Lifting of interest rate ceilings on mandatory deposits of commercial banks placed at BAAC also played a role in stimulating BAAC's interest in savings mobilization.

Yaron (1994) assessed BAAC's financial self-sufficiency through his calculation of the Subsidy Dependence Index of 28% in 1986 and 26% in 1988. Sacay et. al. (1996) extended the calculations of the SDI for an even longer period of time.²⁴ These calculations of BAAC's Subsidy Dependence Indicator (SDI) indicated a steady decline from 39% in 1989 to 6% in 1993. Based on the figures available, the authors estimated that in 1993 BAAC would have had to raise its average lending rates by 0.7 percentage points in order to become fully self-sustaining. During the years studied, the SDI declined due to increasing savings mobilization, a reduction in market interest rates on deposits and in the amount of obligatory deposits, and stabilization of the BAAC on-lending rate.

Nevertheless, as a government-owned and supervised finance institution, BAAC must walk a fine line between its financial viability objectives and its institutional mandate to pass on subsidies to targeted groups through low interest rates in its regular lending operations, as well as a variety of concessional lending programs, e.g., agricultural input marketing, farmers' markets, the paddy rice pledging, disaster relief, 27 government development projects, 232 BAAC special projects, three government agency schemes, etc. These latter programs consume a disproportionate amount of BAAC resources and undermine its profit and loss figures and its balance sheet. Such activities should be carried out on a full-cost recording basis and be fully reimbursed by the responsible government agencies. They should not be permitted to contaminate BAAC's balance sheet. Efforts in this direction by BAAC management should be supported.

2.8 Impact of the financial and economic crisis on BAAC

Since mid-1997, the financial and economic crisis in Thailand has expanded to all sectors of the economy and is still unfolding. While a conclusive assessment of its impact on BAAC would be premature at this point, some preliminary observations can be made.

So far, BAAC has been much less affected than the commercial banks and the finance companies. Loan recovery performance has declined and NPL increased to about 13% of BAAC's portfolio in late 1998. This figure is still low compared with the rest of the banking sector where bad loans are estimated at 40% to 50% of the total portfolio. The relative better performance may derive from BAAC's orientation towards farmers as its client base and the bank's exposure to the agricultural sector, which was least, affected by the crisis. In fact, the

²³ In reality, beginning in 1992, the overall level of commercial bank lending to (the greatly expanded list of) priority sectors has exceeded the global target. Nevertheless, as the amounts are mandated on a bank-by-bank basis, several banks continued to fall short of their respective targets and thus had to maintain deposits with BAAC. In these circumstances, it would be appropriate for the BOT to revise its approach.

²⁴ The SDI was shown to be highly variable, demonstrating the sensitivity of this measure to the underlying data.

largely export-oriented agricultural sector has emerged as the backbone of the economy and "savior of the nation."

With regard to deposit mobilization, two trends have been observed. On the one hand, institutional depositors, mainly government and municipal agencies, withdrew considerable amounts from their accounts in view of liquidity and budget problems caused by the austerity measures. On the other hand, deposits from individuals continued to grow by 22% in FY1997/1998, at an ever higher rate than in the previous financial year. To some extent, BAAC has benefited from a shift of depositors from private banks which points to its comparative advantage as a government-owned institution.

The devaluation of the Thai Baht, however, had a serious impact on BAAC's profitability. Because a major part of BAAC's borrowings from foreign sources was not hedged, the plunge of the Baht resulted in a loss of Baht 7 billion (US\$280 million at the pre-crisis exchange rate), slashing more than half of BAAC's capital and leaving BAAC seriously under-capitalized. The government already injected some Baht 3 billion bringing the capital adequacy ratio to 4.5% in 1998; additional tranches for re-capitalization are envisaged.

3 CONCLUSIONS

During the past decade, Thai financial markets have demonstrated remarkable growth and diversification. During this period, the Thai authorities have embarked on a conscious effort to incorporate the financial sector into global financial markets. This process has taken place against the background of a relatively stable macroeconomic environment and rapid economic growth, fundamental elements to favor and support a substantial expansion of private savings in formal financial intermediary institutions.

The Thai rural sector has participated in an important way to this economy-wide process of rising incomes. BAAC has made an important effort to tap into the flow of savings to the formal financial intermediation process, primarily in rural areas, which has accompanied the rising incomes in those areas. In the course of rapidly expanding its lending services in rural areas, in the past decade, BAAC has come to appreciate the importance of a market-based financial resource mobilization strategy. Exploiting the comparative advantage of its branch network and the already close links it had developed with its client population through lending programs, BAAC has developed its deposit base remarkably quickly, providing both standard and specially-tailored savings instruments to its clientele. A simple gauge of this success is that today BAAC has more savings depositors than active individual borrowers. In this effort to mobilize deposits, BAAC has faced considerable competition from other Thai banks, but has nevertheless increased its market share of savings deposits outside the Metropolitan Bangkok area.

BAAC is an oft-cited example of one of the few government-owned specialized financial institutions that has complied with their politically-mandated lending objectives in a financially responsible manner, without unfettered recourse to subsidies. BAAC is currently in the process of shifting from a primarily subsidized financial base to mobilizing financial resources in an increasingly sophisticated financial market environment. In the process of carrying out its mandate, BAAC has demonstrated to other Thai financial institutions that lending in rural areas can be a profitable activity, thus encouraging an increase in such lending by other Thai banks. At the same time, all Thai banks have acquired an improved appreciation of the rising demand for savings services on the part of the rural population.

One element that may influence some savers' decisions to maintain deposits with SOEs such as BAAC is the absence in Thailand of a formal risk-based deposit insurance fund financed by assessments on participating depository institutions. In such circumstances, depositors may assume that SOEs may have preferential access to government-financed bailouts. This appears to represent rational depositor behavior in the presence of a policy-induced market distortion. In addition, the author suggests that the focus of BAAC's management on the "bottom line" and a corporate culture that recognizes and rewards cost effectiveness and efficiency are principal elements accounting for BAAC's relative success as a financial intermediary institution, despite its character as an SOE. Experience suggests that these "results-oriented" behavioral characteristics more often than not appear to be notoriously scarce or difficult to introduce into both financial and non-financial SOEs in both developed and developing countries.

However, the radical changes in the financial resource base of BAAC, as it has increasingly mobilized deposits from private individuals in order to carry out its financial intermediation role, raises serious questions about the adequacy of the SOE governance structure inherited from the past when BAAC was primarily a vehicle for transferring politically-mobilized financial resources into rural areas. The political agendas underlying BAAC's activities in that earlier period may pose strains on and inconsistencies for its fiduciary responsibility to its expanding and increasingly sophisticated private depositor base. These political agendas mandate such questionable practices as unreasonably low (i.e., loss-inducing) interest rates on farmer loans and distraction of staff time and resources into ancillary non-banking

activities. In such circumstances, a broadening of the governance base, including bringing BAAC under the regular BOT regime of prudential regulation and supervision appropriate for commercial banks, periodic assessment of BAAC by financial rating agencies as commonly carried out for Thai commercial banks, and opportunities for moving to majority private ownership of BAAC stock may represent important elements to reassure and protect the new depositors with respect to the safety of the financial resources they have entrusted to BAAC.

On the strictly operational plane, nevertheless, there remains important scope for future improvements in the savings services that BAAC provides to promote the economic development of the rural areas of Thailand. On the one hand, some relatively straightforward technological changes (e.g., on-line banking, ATMs, etc.) and administrative enhancements (e.g., extended counter service hours) could be introduced. Additional innovations to augment the frequency of client/BAAC interaction should be explored. However, the politically-mandated legal proscription on the ability of BAAC to lend to non-farmers for rural-related activities remains a major impediment to improving the breadth and impact of BAAC's activities. These new activities would provide important additional opportunities for both lending to and deposit mobilization from an expanded clientele base on the part of BAAC.

The financial and economic crisis, which has rocked the country since mid-1997, has put much of the development and the achievements of the past decade at stake. The financial sector faces serious problems, with no effective solutions in sight. So far, BAAC has been far less affected than the commercial banks in terms of deposit volume, loan portfolio quality and profitability. However, the worst is still to come as the crisis is unfolding and deepening, especially in the rural areas where BAAC's clients live and work. Therefore, a comprehensive and conclusive assessment of the crisis and its impact on BAAC would be premature at this point in time.

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5 ANNEXES

5.1 Annex 1: Macroeconomic, financial and social data

	1991-94	1994	1995	1996	1997
Macroeconomic data:					
GDP (US\$ billion)	n.a.	144.1	168.2	181.8	n.a.
GDP growth rate (%)	8.3	8.8	8.7	6.9	-0.4
GDP/capita (US\$)	n.a.	2.438	2.827	3.100	n.a.
Sectoral distribution of GDP:					
• Agriculture (%)	11.4	10.5	10.9	10.6	n.a.
• Industry (%)	36.5	37.0	37.6	37.8	n.a.
• Services (%)	52.1	52.5	51.5	51.5	n.a.
Financial data:					
Ann. inflation rate (%)	4.5	5.0	5.8	5.9	5.6
Exchange rate (Baht/US\$)	25.4	25.2	24.9	25.3	40.0
M2/GDP (%)	76.5	78.7	79.4	81.0	n.a.
Gross national savings/GDP (%)	34.0	34.5	34.4	33.2	n.a.
Gross domestic investment/GDP (%)	41.1	40.3	41.6	41.7	n.a.
Social data:					
Population (million)	58.0	59.1	59.5	60.1	60.8
km ² (thousand)	513.12	513.12	513.12	513.12	513.12
Population/km ²	113	115	116	117	119

5.2 Annex 2: Institutional data

	1994/1995	1995/1996	1996/1997	1997/1998
General information:				
No. of branches	365	494	535	586
No. of field offices	840	847	875	884
No. of employees	11379	12812	13369	13382
Balance sheet structure:				
Assets (US\$ m)	5.258	6.555	8.182	5.882
• Cash (%)	3.7	4.8	2.8	1.5
• Financial assets (%)	9.4	3.6	5.6	10.8
• Outstanding loans (%)	77.3	82.4	83.1	79.6
• Fixed assets (%)	2.5	2.9	2.5	2.3
• Other assets (%)	7.1	6.2	6.0	5.8
Liabilities (US\$ m)	4.863	6.114	7.701	5.718
• Amounts owed to private customers (deposits) (%)	62.3	59.9	64.8	60.4

	1994/1995	1995/1996	1996/1997	1997/1998
• Borrowings (%)	30.9	27.8	27.1	34.8
• Other liabilities (%)	6.8	12.4	8.1	4.8
Capital (US\$ m)	395	441	481	167
Loan portfolio:				
No. of registered borrowers	3,017,545	3,334,592	3,423,339	3,396,909
No. of outstanding loans	n.a.	n.a.	n.a.	n.a.
Vol. of outstanding loans (US\$ m)	4,213	5,549	6,999	4,859
No. of loans disbursed during the year	n.a.	n.a.	n.a.	n.a.
Vol. of loans disbursed during the year (US\$ m)	3,711	4,518	5,494	3,132
% of borrowers who have sav. acc./time dep.	100	100	100	100
Nominal lending rates (%)		9-13.5	10.0-13.5	10.0-13.5
Savings deposits:				
No. of savings accounts	4,169,927	4,423,460	5,605,370	6,723,521
• Private individual accounts	4,148,041	4,397,091	5,561,608	6,665,798
• Institutional accounts	21,886	26,369	43,762	57,723
Volume of savings deposits (US\$ m)	1,544	2,095	3,155	2,132
• Private individual deposits	952	1,369	1,751	1,421
• Institutional deposits	592	726	1,404	711
Time deposits:				
No. of time deposits	248,223	256,519	273,469	284,537
• Private individual accounts	246,498	254,589	271,095	280,630
• Institutional accounts	1,725	1,930	2,374	3,907
Volume of time deposits (US\$ m)	1,203	1,544	1,882	1,192
• Private individual accounts	564	738	779	501
• Institutional accounts	639	806	1,103	691
Deposit loan ratio (%)	67	68	73	68
Interest rates:				
Nominal savings deposit rate (%)	n.a.	n.a.	5	5
Nominal time deposit rates (%)	n.a.	n.a.	8.6- 9.6	10.5-12.25

5.3 Annex 3: Performance indicators

	1994/1995	1995/1996	1996/1997	1997/1998
Operational efficiency:				
1. Deposit volume per staff (US\$)	241,410	284,031	376,767	248,393
2. No. of deposit accounts per staff	388	365	440	524
3. Loan volume disbursed per staff (US\$)	326,127	352,638	410,951	234,046
4. Loan volume outstanding per staff (US\$)	370,243	433,110	523,525	363,100

	1994/1995	1995/1996	1996/1997	1997/1998
5. No. of borrowers per staff	265	260	256	254
Risk assets:				
6. Capital adequacy ratio (%)	8.3	7.5	6.5	3.0
7. Loan recovery rate (principal repaid/principal matured) (%)				
• Individual client farmers (%)	88.2	86.1	87.2	82.6
• Agricultural cooperatives (%)	68.3	70.2	69.3	61.9
• Farmer associations (%)	59.3	67.9	72.7	57.1
8. Provisions for doubtful loans/av. loans outstanding (%)	0.0	0.4	1.1	1.5
9. Loans written off/av. loans outstanding (%)	0.03	0.01	0.00	0.02
Quality of financial intermediation:				
10. Net interest margin ([interest income – interest expenses]/av. ann. assets (%)	3.4	3.1	3.4	3.7
11. Other income/av. ann. assets (%)	0.6	0.8	0.7	0.7
12. Spread (net interest margin + other operating income margin)/av. ann. assets (%)	4.0	3.9	4.1	4.4
13. Administrative expenses/av. ann. assets (%)	2.8	3.1	2.8	2.3
14. Other financial expenses/av. ann. assets (%)	0.1	0.5	1.0	1.5
15. Net utility margin (spread - adm. costs + Other fin. expenses)/av. ann. assets (%)	1.0	0.3	0.4	0.6
16. Interest income from lending/av. ann. Outstanding loans (%)	10.2	10.6	10.4	10.8
17. Interest expenses/av. ann. outstanding loans (%)	6.8	7.6	7.1	7.7
18. Interest rate spread (20.-19.)	3.4	3.0	3.3	3.1
Profitability:				
19. Return on assets (net income before tax/av. Ann. assets) (%)	1.0	0.8	0.8	0.6
20. Return on equity (net income before tax/av. Ann. capital) (%)	13.7	11.8	12.5	n.a.