

RRP-JHA 29164

# ASIAN DEVELOPMENT BANK

REPORT AND RECOMMENDATION

OF THE

PRESIDENT

TO THE

BOARD OF DIRECTORS

ON A

PROPOSED LOAN AND TECHNICAL ASSISTANCE GRANT

TO THE

BANK FOR AGRICULTURE AND AGRICULTURAL COOPERATIVES

FOR THE

SMALL FARMER CREDIT PROJECT

IN THE

KINGDOM OF THAILAND

November 1995

## CURRENCY EQUIVALENTS

(as of 9 November 1995)

Currency Unit	=	Baht
\$1.00	=	B25.17
B1.00	=	\$0.0397

For the purpose of calculation in this Report an exchange rate of \$1.00 = B25.17 has been used. This was the rate generally prevailing during Appraisal of the Project.

## ABBREVIATIONS

AMC	Agricultural Marketing Companies
BAAC	Bank for Agriculture and Agricultural Cooperatives
BMR	Bangkok Metropolitan Region
BoT	Bank of Thailand, the central bank
DOAE	Department of Agriculture Extension
EU	European Union
EGP	Green European Project
ESR	Environmental Survey Report
ETZ	Environmental Conservation Zone, the natural reservation
EE	Environmental Engineering
KV	Kilovolt
MOAC	Ministry of Agriculture and Cooperatives
MOF	Ministry of Finance
MOSTE	Ministry of Science, Technology and the Environment
NEB	National Environment Board
OAG	Office of the Auditor General
OECF	Overseas Economic Cooperation Fund, Japan
RBAD	Regional Branch Administration Departments
TABCO	Thai Agribusiness Company

## WEIGHTS AND MEASUREMENTS

rai	=	0.16 ha
kg	=	kilogram
ha	=	hectare

## NOTES

- (i) The fiscal year of BAAC ends on 31 March.
- (ii) In this Report, "S" refers to US dollars.

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(i)

## LOAN AND PROJECT SUMMARY

<b>Borrower</b>	:	Bank for Agriculture and Agricultural Cooperatives (with Government guarantee)
<b>Project Description</b>	:	The Project will provide credit for small farmers in Thailand for investment in agriculture-related enterprises with higher value added, and thus increase their income and create rural employment in backward regions of the country.
<b>Classification</b>	:	Primary Objective - Growth Secondary Objective - Promotion of Women-in-Development Environmental Category - B
<b>Rationale</b>	:	Although the per capita income in Thailand is now more than \$2,000, about 30 percent of the population still lives in poverty. The imbalance in income among the regions is severe with the incidence of poverty being lowest in the Bangkok Metropolitan Region at 3.4 percent, and the highest in the Northeast at 37.5 percent and in the North at 32.2 percent. The persistence of low productivity in the rural sector, which is largely agricultural, is the major reason for the continued high incidence of rural poverty despite the rapid economic growth at the national level. Thus, there is a need to upgrade Thailand's agricultural technology base, to encourage a shift towards higher value crops and livestock, and to diversify into more value added industries to improve the livelihood of the rural population.
<b>Objectives and Scope</b>	:	The objectives of the Project are to: (i) increase the income of small farmers and create employment opportunities in rural areas by providing medium- and long-term credit for investment in agriculture-related activities which will increase the value of their produce; and (ii) support BAAC in extending its lending to agriculture-related activities through training and operational reforms. The loan will target small farmers in the rural areas and specifically exclude Bangkok and the surrounding five provinces.
<b>Cost Estimates</b>	:	The total cost of the Project is estimated at \$110 million of which \$50 million is foreign exchange cost and \$60 million is local currency cost.

(ii)

**Financing Plan**

(\$ million)

Financing Sources	Foreign Currency	Local Currency	Total	Percentage Financing
Bank	50.0	-	50.0	45.0
BAAC	-	28.0	28.0	25.0
Subborrowers	-	32.0	32.0	30.0
<b>Total Cost</b>	<b>50.0</b>	<b>60.0</b>	<b>110.0</b>	<b>100.0</b>

**Loan Amount and Terms:**

The loan of \$50 million will be from the Bank's ordinary capital resources, with interest to be determined in accordance with the Bank's pool-based variable lending rate system for US dollar loans and with an amortization period of 15 years, including a grace period of 4 years.

**Relending Terms**

BAAC will relend the proceeds of the loan to eligible subborrowers at commercial rates of interest, which will be decided by its Board of Directors. The interest rate will cover all operating costs and will include a premium to cover foreign exchange risk. The repayment period will be up to 15 years and grace period, up to 4 years. The maximum size of a subloan will not exceed B5.0 million and not more than 10 percent of the loan proceeds will be used to finance subloans of more than B2.0 million. The Bank will finance 45 percent of the cost of each subproject, while BAAC will finance up to 35 percent. The subborrowers will fund the balance from their own resources.

**Period of Utilization**

The loan will be committed within two years and disbursed within three years from the date of loan effectiveness.

**Executing Agency**

Bank for Agriculture and Agricultural Cooperatives

**Procurement**

In accordance with Bank guidelines for loans to financial intermediaries.

**Consultant Services**

nil

**Project Benefits and Beneficiaries**

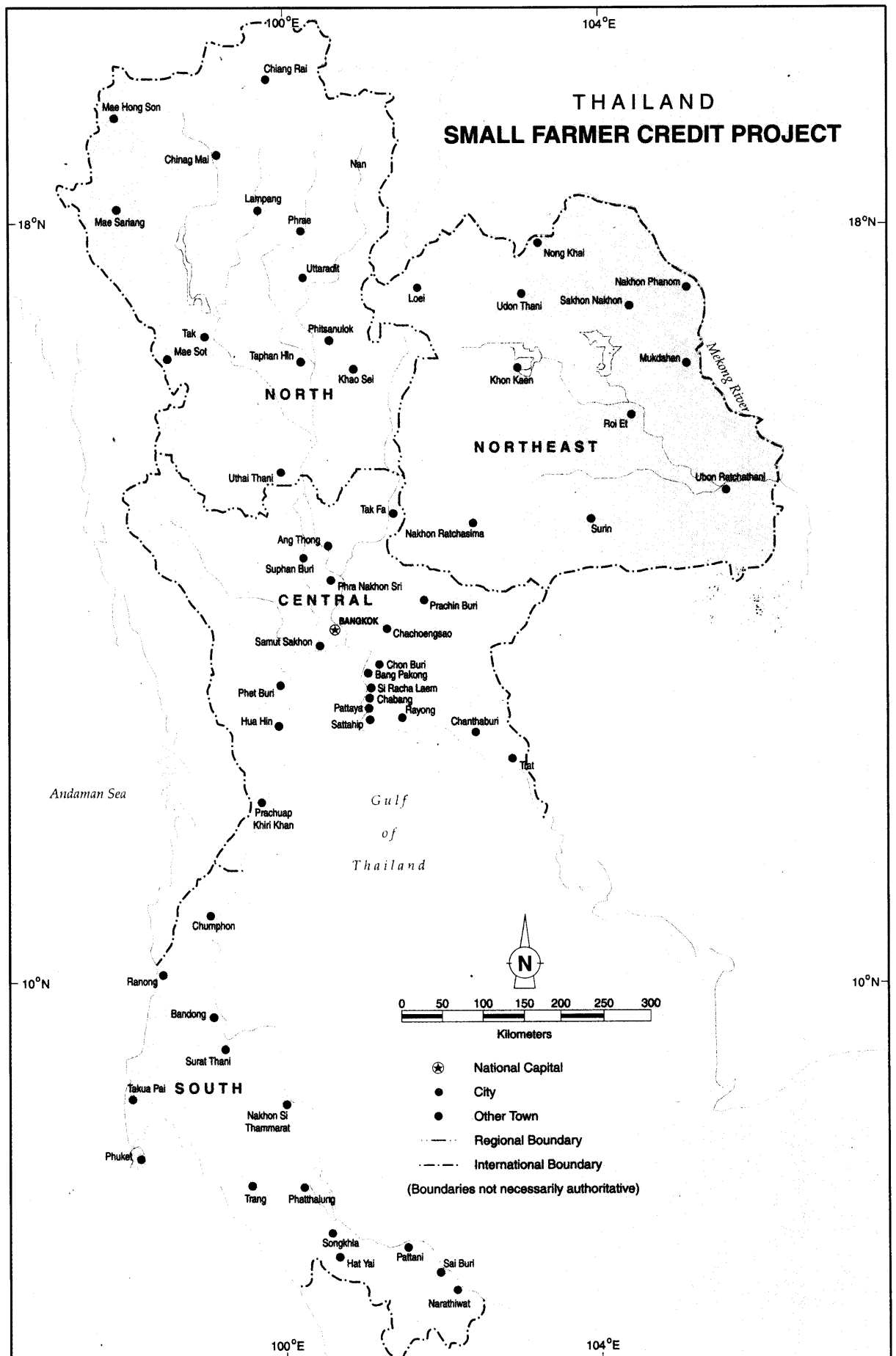
The main direct benefits of the Project will accrue in the form of increased income for about 15,000 small farmers and direct employment in the rural areas. More than 20 percent of subborrowers are expected to be women and more than 50 percent of employment generated would be for women in poor households. In addition, sectoral linkages will be strengthened and the skills base will be

(iii)

extended. The distribution of national income will also be improved and the pressures for seasonal and permanent migration of female workers compelled by economic circumstance to seek work in low paying jobs in urban areas will be lessened.

**Technical Assistance :**

The Bank will provide advisory technical assistance (TA) in an amount of \$500,000 for institutional strengthening of BAAC. Specifically, credit officers and prospective clients of BAAC will be provided training in environmental economics; assessment and mitigation of environmental impacts; project investment analysis including identification, evaluation, and supervision; and foreign exchange risk management. The TA will be executed by BAAC.



## **I. THE PROPOSAL**

1. I submit for your approval the following Report and Recommendation on a proposed loan to the Bank for Agriculture and Agricultural Cooperatives (BAAC) for the Small Farmer Credit Project. The Report also describes a proposed technical assistance (TA) for a Project Evaluation and Supervision Training Project. If the proposed loan is approved by the Board, I, acting under the authority delegated to me by the Board, shall approve the technical assistance.

## **II. INTRODUCTION**

2. The Project has been formulated under a Bank-financed small-scale TA for the Small Farmer Credit Project.<sup>1</sup> A Bank Fact-finding mission visited Thailand in May 1995 to assess the feasibility of the Project, its environmental and social implications, and to discuss with BAAC and the Government the scope, implementation arrangements, and relevant policy issues concerning the Project. This was followed by an Appraisal Mission, which visited Thailand from 19 July to 3 August 1995, to finalize the scope of the Project.<sup>2</sup> This Report is based on the findings of Bank Missions; discussions with a cross-section of prospective beneficiaries; and detailed discussions with Government agencies, bilateral aid agencies, and multilateral agencies including the World Bank [WB], International Labor Organization [ILO], United Nations Development Programme [UNDP] and United Nations Industrial Development Organization [UNIDO].

## **III. BACKGROUND**

### **A. Agricultural and Rural Sectors**

#### **1. Macroeconomic Context**

3. The economy of Thailand grew by more than 10 percent in the 1980s, by 8.2 percent in 1993 and by 8.5 percent in 1994. The annual per capita gross domestic product (GDP) grew at a real average annual rate of 7.6 percent from B29,160 (\$1,190) in 1988 to B42,480 (\$2,114) in 1994. See Appendix 1 for the key social indicators and growth rates. However, the rapid growth has spawned social, regional, and environmental problems. The key issues, among others, are the unequal income distribution, the persistence of rural poverty, mass migration to the cities, severe regional imbalances, and the adverse impact on traditional values and way of life.

4. The agricultural sector's growth rate has been positive at 2.4 percent in 1993 and an estimated 3.0 percent in 1994, but its share of GDP has declined from 16.2 percent in 1988 to 10.8 percent in 1993. Growth in industry (11.1 percent in 1994) and services (7.1 percent in 1994) have outstripped the growth in the agricultural sector. However, the agriculture sector remains important and accounts for about 18 percent of total exports by value and employs 60 percent of the labor force or about 19 million people.

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<sup>1</sup> TA No. 2306-THA: *Small Farmer Credit*, for \$100,000, approved on 6 March 1995.

<sup>2</sup> The Mission comprised A.M. de Alwis (Mission Leader), K. Morizono (Senior Programs Officer) and H. Pitney (Counsel).



## **2. Agriculture in the Economy**

5. Agriculture is dominated by the production of field crops for both domestic consumption and export. It is overwhelmingly based on smallholders who account for about half of the agricultural sector GDP and are mainly involved in rice cultivation. Large estates and commercial companies that mainly produce sugar, pineapples, rubber, processed vegetables, and poultry and pigs account for the other half.

6. Rice is the traditional staple crop in the country and is grown on about 45 percent of the cultivated area. It has been increasingly complemented by newer commercial crops such as cassava, maize, sugar, kenaf, beans and pineapple. Rice yields have averaged about 1.95 metric tons per hectare (t/ha) since 1982, much less than the average yield in monsoon Asia, because most of the rice farmers in rainfed areas cling to outmoded farm practices and are reluctant to invest in new farm technologies as a result of the uncertain rainfall conditions and rice prices. Even in the Central Plains region, dry season cultivation is affected by the competition for water and the demand for water in Bangkok. Despite these problems, Thailand continues to remain the world's top rice exporter.

7. Recently, the yields of other major crops have stagnated. Overall production indexes for food and fiber crops actually show a small decline in 1992, while oil seeds show only a modest increase. The growth in production in the sector now comes from newer crops and products, including fruits and vegetables, sericulture, flowers, and cultivated timber. The planted area and production of cassava have been falling and are being replaced by rubber. The production of rubber grew by over 34 percent during the last four years and make Thailand the world's largest rubber exporter. Corn production is declining, because it is often affected by droughts. However, sugar production as well as farmgate prices have increased, although this situation is not sustainable and the sugar estates may be relocated to lower cost areas such as the northeast and north, to ensure its viability. While the areas and the yields of pineapple increased in 1994, prices fell.

## **3. Characteristic and Problems of the Agricultural Sector**

8. The agricultural sector is characterized by a generally high outward migration of labor. Due largely to population pressure, the arable land area grew from 10.32 million ha in 1960 to 23.64 million ha in 1991, often by encroaching on low productivity forest lands. The increase in arable land was accompanied by a decline in the forest area from 27.36 million ha to 14.4 million ha, which were encroached by illegal settlers and partly explains why about 30 percent of the land area has no effective title.

9. The range of problems affecting small farmers at the production level include the lack of technical knowledge, the high costs of adopting new farm techniques and crops, the lack of credit for medium- and long-term investments, the deteriorating resource base, and the declining terms of trade. These problems often result in the farmers selling their land, which is then frequently used for nonfarming purposes. The virtually static yields of traditional staple crops, the unavailability of land for further agricultural expansion, the deterioration of environmental quality, the highly competitive world export prices for major crops, the increase in the size of the rural population and the wide disparity in urban and

rural income have combined to make the development of new initiatives and activities in agriculture essential for Thailand.

#### **4. Major Government Policies in the Agricultural Sector**

10. The Government's agricultural policies are based on the present Seventh Economic and Social Development Plan (Seventh Plan, 1992-1996). The main aims of the policies are to increase agricultural productivity generally and to diversify into new products and processes with higher value added. The overall emphasis is on the sustainable production of high quality agricultural products as inputs to integrated processing activities so as to maximize rural employment, incomes, and value added and to contribute to both export promotion and domestic needs.

11. In response to the perceived threat to the natural resource base, the Government has increased its emphasis on conservation of resources in watersheds, forest areas, and coastal areas affected by aquaculture. The approval of the 1992 National Environmental Quality Act (NEQA) marked a new phase in general environmental protection in Thailand. The Act established the National Environment Board (NEB), at the ministerial level, as the main policy, planning and coordinating agency for environmental issues. Some functions previously delegated to other ministries are now coordinated under the Ministry of Science, Technology and the Environment (MOSTE). The Act devolves authority in environmental matters to provincial governors and local mayors and specifies the powers of MOSTE and the role of nongovernment organizations (NGO) and public participation in environmental policy formulation.

12. The Government is also increasing its efforts to provide title for farmers to agricultural and other land through the Accelerated Land Reform Office. The Department of Agricultural Extension (DOAE) in the Ministry of Agriculture and Cooperatives (MOAC) provides extension support to smallholder individuals and groups. The Department of Agriculture conducts research on a crop-by-crop basis. Because many small farmers are members of cooperatives, MOAC has an active Cooperative Promotion Department, which assists farmers in a wide range of activities.

13. To develop new crops and products, the Government has been supporting a diverse range of area-specific and crop-specific projects and programs, frequently in association with bilateral and multilateral development agencies. Examples are: development of irrigation and other physical infrastructure in the northeast (the Green Isaarn Program, financed by Australian and other aid agencies); programs to reduce the areas planted to cassava and to increase the areas of rubber, fruit trees, and silk production (supported by the European Union [EU]); projects linking agricultural and social development in hill-tribe areas and linking self-help groups to financial services (supported by Deutsche Gesellschaft für Technische Zusammenarbeit [GTZ] and Kreditanstalt für Wiederaufbau [KfW]); and programs to encourage oil palm farmers to plant fruit trees and to upgrade the technology in the southern part of Thailand (supported by Canadian International Development Agency [CIDA] and UNDP. In addition, there are a wide range of projects, which often include TA, for newer activities such as dairying (with Danish support), cattle and sheep breeding (with support from the United States and New Zealand), and fruits and flowers for export markets (with support from Germany and the Netherlands). BAAC has also cooperated with private corporations and Government

agencies in supplying a package of inputs, including technology, marketing, and personnel, to farmers and cooperatives under a number of agricultural development projects, such as the Rice Production Promotion Project, the Para-Rubber Production Promotion Project, and the Agricultural Development Project in land reform areas.

14. The experience during the last three years with agricultural development under the Seventh Plan is being discussed at seminars and workshops throughout the country. The Eighth Plan is expected to emphasize the qualitative and distributive aspects of development among groups and across regions, as well as policies to improve environmental conditions, natural resource management, and human resource development. In agriculture, the Eighth Plan will attempt to broaden farmers' choices of crops, production technologies, and marketing channels and credit activities will be widened to include very small farmers and nonfarm lending and to increase the proportion of medium- and long-term credit in BAAC's portfolio.

## **5. Rural Poverty**

15. Poverty in Thailand occurs largely in the rural areas and arises because of low productivity and low value added in the majority of agricultural activities. For example, the incidence of poverty<sup>1</sup> is lowest in the Bangkok Metropolitan Region (BMR), where only 3.4 percent of the population lives in poverty and highest in the Northeast where 37.5 percent of the population lives in poverty. The corresponding figures for the other regions are 32.2 percent in the North, 21.5 percent in the South, and 16 percent in the Central Plains. It is estimated that about 75 percent of the national value added originates in BMR, the five surrounding provinces and the urban centers of Chiangmai, Hat Yai, Nakhon Ratchasima, and Khon Kean.

16. The absence of a large class of landless farmers, the existence of possibilities for seasonal migration to Bangkok and for longer-term migration and employment overseas, and the relative prosperity of nonagricultural occupations throughout rural areas, mean that poverty is largely confined to those households engaged in agriculture with limited resources and a low technological base. However, their problems are compounded by the lower than average levels of education and higher than average family size. In the mid-1970s, the national incidence of poverty was about 30 percent. It fell to less than 23 percent by the early 1980s, but it rose again to 29.5 percent in 1986 because of unfavorable weather conditions and depressed crop prices. Recent estimates indicate the incidence is about 25 percent. Those affected include the farm households settled on marginal land that grow traditional crops and typically earn incomes that are one tenth or less of the urban average. These households can be found in the northern region in hill areas, in the northeast on the Tung Kula Ronghai plain growing cassava, in the reserve areas in the provinces on the eastern part of the country, and in the south where they are involved in salt-farming and small-scale fishing.

17. Poverty in rural areas is frequently a function of both the level of agricultural technology employed and the absence of opportunities to add value through processing

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<sup>1</sup> Defined in 1994 as the proportion of households living below an annual income poverty line of B4,989 in rural areas and B7,619 in urban areas.

of farm produce. Therefore, improved farm practices need to be introduced and the value added needs to be increased through agroprocessing and agriculture-related activities to reduce rural poverty.

## **6. Prospects**

18. The options for expanding cultivable land to increase agricultural production no longer exist. Intensification will be constrained by scarce water resource. Therefore, proper land use, land and soil management, improved farm technologies, and water resource conservation are critical to the sustainability of agriculture. There is a need to upgrade Thailand's agricultural technology base, and to shift towards the production of higher value products in both the commercial and smallholder sectors. Therefore, production by intensive methods and crop diversification is now being encouraged. Most of the recent growth in agricultural production value added has come from new crops and products. It is estimated that there are now over 400 types of produce emanating from the agricultural sector, although many of these are in small quantities and are not suitable for export.

19. The most appropriate way to increase farm income and employment opportunities is to encourage backward and forward linked agribusinesses, especially small- and medium-scale agroprocessing industries in the rural areas where there is significant scope for adding value through innovative agricultural enterprises based largely on farm family operations. Thailand has been relatively weak in the formation of small- and medium-scale enterprises in all sectors including agriculture. Consequently, the Government and international programs (e.g. UNDP's Small and Medium-Scale Enterprises Development Programme) aim to promote small-scale enterprises by introducing new types of ventures and by improving management skills. By making credit available in rural areas, more agriculture-related small- and medium- industries can be developed, which will increase employment and provide supplementary incomes for small farmers.

## **B. Rural Financial Sector**

### **1. Overview**

20. Formal financial services in rural areas are provided by 19 commercial banks and BAAC. Finance companies also have a small share of the market in rural finance. The agricultural cooperatives provide credit to their members with funds provided by BAAC for onlending. Prior to the establishment of BAAC in 1966, the formal rural sector was dominated by the commercial banks, but their lending to farmers was minimal and accounted for less than 2 percent of their portfolios. Farmers were mostly dependent on informal loans, with high rates of interest. Therefore, BAAC has performed a very useful role as a source of rural finance to farmers.

21. At the end of 1993, commercial banks reported outstanding credits in all sectors of B2,671 billion (\$106.8 billion). Credit to farmers (mostly for rural and agriculture-related activities) totaled about B149 billion (\$6 billion) or about 6 percent of the total outstanding commercial bank credit. This credit was equivalent to about two-thirds of the formal farm credit. BAAC's outstanding credit to farmers (mostly for agricultural production) totaled about B80 billion (\$3.2 billion) and was equivalent to about one-third of formal farm

credit. The formal agricultural credit outstanding from BAAC amounted to about 25 percent of agricultural GDP in 1993, a very large proportion.

## **2. Impact of BAAC**

22. BAAC has played an important role in the development of smallholder agriculture in Thailand. Its client base at the end of FY1993 was over 4.0 million farm households. This is equivalent to 76 percent of the 5.24 million farm households in Thailand, while commercial banks lend to only about 10 percent of the farm households. The remaining 14 percent either obtain credit from informal sources or are self-financing.

23. BAAC has had substantial impact on agricultural production and social development by providing formal credit on reasonable terms to farm families who otherwise would not have benefitted the development of the economy. The benefit monitoring studies of individual projects suggest that the availability of credit from BAAC for long-term investment, in the form of loans tied to packages of specific inputs, has been a major reason for small farmers diversifying into new crops. The rates of return to participating farmers are typically about 14 percent for the fruit and vegetable project and 16 percent rubber project, both funded by EU. Studies of project completed in the early 1990s funded by KfW and the Overseas Economic Cooperation Fund (OECF), Japan for power tillers indicate similar results.

24. Lending to cooperatives and other rural institutions has also been successful in establishing new activities and enterprises. The recent establishment of 67 Agricultural Marketing Cooperatives (AMCs) with advice from BAAC is a good example. The AMCs are poised to undertake new agribusiness activities. Increasingly, BAAC can be expected to lend for these new types of enterprise. BAAC also administers five central agricultural markets on behalf of local provincial governments. These markets are encouraging competition among traders in the purchase of crops and providing the facilities for weighing, drying, storing, and buying and selling paddy and other crops.

25. An increasing component of BAAC's lending is agriculture-related activities. These typically involve processing of smallholder crops; milling of the staple crops; processing of fruits and vegetables, livestock, poultry and fish; processing of root and oil crops; postharvest activities; use of by-products; and manufacture of handicrafts. Over B1.0 billion (\$40 million) was disbursed in FY1993, the first year of this type of lending.

## **3. Issues and Reforms**

26. BAAC is subsidized through: (i) the low cost of funds from the Bank of Thailand (BOT), the central bank, linked to Government's policy lending; (ii) its exemption from institutional taxes and reserve requirements; (iii) its lack of mobilization costs for the deposits from the commercial banks; and (iv) the Government's waiving of dividend payments on its profits. The degree of subsidization has been decreasing as reflected in

the subsidy dependence index (SDI)<sup>1</sup> which fell from 28 in 1986 to 3.72 in 1989 and to 0.67 in 1993. It has been estimated that in 1989, it would have been necessary for BAAC to add an average of 0.4 of a percentage point to its onlending rate if subsidized funding sources had not been available. In 1993, it would have had to add 0.07 of a percentage point because of the reduced importance of subsidized sources of funds and compulsory commercial banks deposits with BAAC. Thus, the recent trend has been for BAAC to obtain funds on an increasingly commercial basis.

27. However, the Government continues to require BAAC to pass on subsidies to targeted groups of borrowers through both lower interest rates and certain support activities. BAAC operates subsidized lending for crop pledging, disaster relief, 27 special projects sponsored by the Government, 232 special projects sponsored by BAAC, and 3 credit schemes of other Government agencies. The number and concentration of these special projects in certain regions have created confusion about the eligibility of borrowers among both the borrowers themselves and the BAAC staff. In addition, the administration of the special projects utilize a disproportionate amount of BAAC's resources. In the case of some activities, for example, the operation of central agricultural markets and the provision of management services to AMCs, the costs are borne completely by BAAC without any support from the Government.

28. As a state-owned bank, BAAC is required to continue to be both a developmental agency and a commercial bank. Ideally, there should be stringent criteria that eliminate nonviable projects and BAAC should not be required to assume the credit risk for policy-based projects or directed lending. However, as a consequence of the present arrangements, the subsidized components of BAAC's costs of funds are identifiable, but the beneficiaries of subsidized operations are not always clearly defined and the operational costs of administering and delivering the subsidies are not easily identifiable. BAAC needs to formulate clear guidelines to determine borrower eligibility for policy loans. This needs to be supported by a strategy to manage such loans in the context of the increasing commercialization of BAAC and its need to raise funds in the market. The strategy should ensure that the full costs of implementing the policy lending schemes are transparent and are recovered to sustain the long-term profitability of BAAC. The present accounting practices of BAAC do not provide the analysis required for policy lending. In recognition of these shortcomings, BAAC has recently recruited the services of an international accounting firm to review and design a new chart of accounts, which will improve its cost accounting and management information systems, and to redesign its business processes and financial management information system.

29. To maintain long-term viability and competitiveness of BAAC, it is also desirable that it should adopt the same prudential standards as the commercial banks with which it competes. The maintenance of capital adequacy in line with international standards established by the Basle Committee on Banking Supervision and the adoption of a more conservative provisions for bad debts are important. To comply with the latter,

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<sup>1</sup> SDI is defined as the percentage increase in onlending interest rate necessary to fully eliminate subsidies. In-depth analysis (WB Discussion Paper on 'Successful Rural Financial Institutions' by Jacob Yaron, 1992) indicates that the SDI for BAAC at 3.7 in 1989 has been modest. The corresponding SDIs for the Badan Kredit Kecamatan (BKK) in Indonesia was 20 and Grameen Bank (GB) in Bangladesh was 130.

initially BAAC will need to reduce the accruals of arrears in the profit and loss account from four years to one year beginning in FY1995. The management of BAAC is currently evaluating the impact on the balance sheet of a change in provision policy for principal arrears, from fully covering the arrears in equal installments over ten years or at the end of five years. A decision on the revised policy and the timing of its introduction is expected by the end of 1995.

30. The financial sector in Thailand is undergoing rapid reform. The BOT is implementing financial reforms through three-year financial development plans, from 1990 to 1992 and 1993 to 1995. While these reforms do not affect BAAC, because it is supervised by the Ministry of Finance (MOF), it has indicated that it would adopt some of the reforms to conform with international standards and its recently approved corporate plan. The financial and accounting policies and the financial performance of BAAC are discussed in more detail in Chapter IV and in Appendix 2.

### **C. External Assistance to the Sector**

31. International assistance to the agriculture sector in Thailand has declined in parallel with the general reduction in lending to the country as the economy has developed. World Bank lending to Thailand has declined from over 50 percent of the total financing for the public sector development plan in the early 1960s to less than 10 percent during the Seventh Plan. The lending from the Bank has fluctuated from about 7.7 percent of total financing for public sector development in the Fourth Plan to 12.2 percent in the Fifth Plan and to about 6.2 percent in the Sixth Plan). Lending to the agriculture and irrigation sector has also declined. The Bank's lending to the energy sector, which accounted for a major portion of Bank lending before 1993, has fallen as the Bank shifts its focus, under its new Country Strategy, to the social sectors and to supporting regional development.

32. The most active donors in the agricultural sector in Thailand have been the EU (mainly for the Northeast Action Programme, with a budget of about \$100 million), and the Australian Agency for International Development (AusAID), which presently disburses about \$25 million annually for the agriculture sector. In addition, OECF has about 13 separate loan agreements with BAAC at present, and KfW has 3. The assistance from Germany is provided through GTZ in the form of advisory TA to link self-help groups to financial services, while CIDA is active in promoting rural diversification and technological upgrading. UNDP supports several national development initiatives, among which is the Rural Income Opportunities Program.

### **D. The Bank's Involvement and Lessons Learned**

33. The Bank has assisted the agricultural sector in Thailand with 20 TAs amounting to \$3.235 million and seven loans amounting to \$140.1 million, of which two were credit lines amounting to \$70 million for BAAC. The Bank-assisted credit projects were: Agricultural Credit Project, Loan No. 664-THA, approved in 1983; and Brackishwater Shrimp Culture Development Project, Loan No. 787-THA, approved in 1986. However, only \$30.4 million was utilized. Both projects have been completed and have generally achieved their objectives.

34. Project completion reports have been prepared for the two credit projects, but only the Agricultural Credit Project has been postevaluated. It was found to be generally successful<sup>1</sup>. The experience of BAAC with Bank's earlier loans was not very favorable. The Agricultural Credit Project, was approved in 1983 for \$50 million equivalent, but only \$28 million was disbursed and the rest of the loan was canceled. The loan was repaid in 1987 because the foreign exchange fluctuations under the Bank's multicurrency pool-based lending facility escalated the debt of BAAC to the Bank by about 70 percent. Under the Brackishwater Shrimp Culture Development Project, BAAC had similar problems and therefore it utilized only \$2.38 million of the loan funds, but it completed the rest of the project with its own funds. Because BAAC lacked the capacity to manage the foreign exchange risks and the Bank's exchange risk pooling system (ERPS) policy made it difficult for BAAC to hedge against the changes in composition of the pool of currencies and required it to repay the loan in currencies selected by the Bank at short notice, BAAC has not borrowed from Bank since 1986. The postevaluation findings highlighted the importance of exchange risk and the need for the Bank to explain to its borrowers its ERPS and suitable mechanisms considered to allow agricultural financial institutions to hedge against foreign exchange losses on loans financed by the Bank. These lessons were considered in the formulation of this Project and it is proposed the Bank's single currency pool-based variable lending rate system or the recently approved market-based lending window for US dollar loans, which improves the opportunities for foreign exchange risk management, be used.

35. The Bank's first loan to BAAC for the Agricultural Credit Project had the objective of supporting intensification efforts in the agricultural sector by providing farmers with credit facilities to improve production practices and promote diversification through two credit schemes, viz., Crop Loan Scheme and the Equipment Loan Scheme. The project helped BAAC expand its fertilizer-in-kind operations and successfully introduced better agronomic practices and new equipment (especially power tillers) to farmers, which improved their efficiency and returns. Through the project and TA provided, BAAC was strengthened as an institution. Consequently, it was able to expand its credit-in-kind and equipment operations and about 66,000 families benefited from the project.

#### **E. The Bank's Sectoral Strategy**

36. The Bank's operational strategy in Thailand is aimed at helping the country address the central issues likely to affect the next phase of its development. The overall objectives of the strategy are to assist Thailand develop the basis for long-term competitiveness and to assist in achieving more equitable development, with emphasis on decentralization and regional dispersal of economic activity. The Bank's assistance attaches high priority to the less developed regions of the country and supports the Government's rural development and decentralization objectives. This implies developing stronger linkages between agriculture and other sectors. In view of the availability of a single currency pool-based variable lending rate system and a market-based lending window for US dollar loans, the previous problem with foreign exchange fluctuations faced by BAAC can be minimized and the agriculture sector once again has a role in the Bank's lending strategy for Thailand.

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<sup>1</sup> Report No. PE-272



#### IV. THE PROJECT

##### A. Project Rationale

37. Thailand's impressive economic performance has spawned many social, regional, and environmental problems. Unequal income distribution, persistence of rural poverty, internal migration, and congestion in the Bangkok Metropolitan Region are examples of these problems. Although the country's per capita income is now more than \$2,000, about 30 percent of the population still lives in poverty, defined as a rural household income of less than B4,989 or \$260 per annum in 1994. Less than 20 percent of the population produces an estimated 50 percent of GDP. The regional imbalance is severe with the incidence of poverty being lowest in the Bangkok Metropolitan Region at 3.4 percent, highest in the Northeast at 37.5 percent, 32.2 percent in the North, 21.5 percent in the South, and 16 percent in the Central Plains. The persistence of low productivity in the agriculture sector is the main reason for the continuing high incidence of rural poverty despite the strong economic growth at the national level.

38. Thailand has been relatively weak in the formation of small- and medium-scale enterprises in all sectors including agriculture. Onfarm processing and other agriculture-related activities provide opportunities for creating employment and for supplementing the income of farm households. In the process of realizing these opportunities, the imbalance in regional income distribution can be rectified as well. It is widely recognized by the Government that there is a need to upgrade Thailand's agricultural technology base, encourage a shift towards higher value crops and livestock, increase agricultural productivity generally, and diversify into new products and processes with higher value added. Accordingly in 1992, the BAAC Act was amended to allow it to lend for agriculture-related activities.

39. The proposed Project is designed to meet part of this need, by making credit available through BAAC to farmers to invest in agriculture-related activities. The expansion of these activities will assist in the diversification and restructuring of the sector and in strengthening the linkages between agriculture and industry. It will also widen and upgrade the rural skills base, encourage the participation of more women in value added activities at or near home, foster new types of small- and medium-scale enterprises, and produce new types of goods for the domestic market and for export. It will alleviate regional imbalance by promoting agriculture-related enterprises in rural areas that will enable the rural economy to be integrated into the growth led by the export-oriented urban industries. The Project represents a return of the Bank's assistance to agriculture in Thailand through BAAC, the premier agricultural finance institution in the country with a clientele comprising about 80 percent of farm households.

##### B. Project Objectives and Scope

40. The objectives of the Project are to: (i) increase the income of small farmers<sup>1</sup> and create employment opportunities in the rural areas by providing medium- and long-term credit for investment in agriculture-related activities that would increase value added

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<sup>1</sup> Defined as those with a per capita income of less than B60,000 per annum in 1995.

in their production; and (ii) support BAAC in extending its lending to agriculture-related activities through training and operational reforms. The achievement of these objectives will contribute to greater equality in national income distribution, better sectoral balance and linkages, increase the participation of women in development, and strengthen BAAC's role as a rural finance institution.

41. The Project will be implemented in all regions of the country, except Bangkok and the five surrounding provinces of Nonthaburi, Pathum Thani, Nakhon Pathom, Samut Sakhon and Samut Prakan. The recipients of loans will be small farmers. The Project will provide a credit line to BAAC for onlending to farmers for investment in new and existing agriculture-related activities. The Project will support small farmers' investments that will improve productivity, enhance product quality, and are environmentally sound. Potential enterprises (subprojects) include, but will not be limited to:

- (i) production of agricultural inputs and agricultural support services (for example seed production, drying, and cleaning; organic fertilizer manufacture; mechanization services; and ice making);
- (ii) processing of fruits, vegetables, and other horticultural crops (for example grading produce; chilling; freezing; packing; juice extraction; and production of jams, sauces, preserves, dried and salted products, pastes, and candies); sapling and plant production);
- (iii) processing of cereal and root crops (for example drying, milling, grinding, manufacturing noodles and snack food, and producing starch and derivatives);
- (iv) processing of industrial crops including oil seeds, fibers, rubber, oil palm, coconut, but excluding tobacco (for example oil expelling; solvent extraction; oil seed cake production; shelling, grading, and roasting of confectionery products; soya milk and curd production; jute, kenaf, and hemp washing, spinning and weaving; hand-made paper; silk spinning and weaving; rubber and smoked rubber sheet production; palm oil production; and coconut milk, ice cream, and coconut fibre production);
- (v) processing of nuts (for example drying, cracking, grading, roasting, salting, and packing);
- (vi) processing of wood products (for example saw milling and furniture component manufacture);
- (vii) processing of livestock products (for example cutting, deboning, drying, salting, smoking, freezing and packing; skin preparation and skin product manufacture; feather processing; milk collection, yoghurt and cheese manufacture; wool washing, scouring, and knitting; honey collection, concentration, packing, and manufacturing pollen products);
- (viii) processing of fish products (for example drying, smoking, and freezing); and

- (ix) cottage industries using materials from agriculture (for example basketry, furniture manufacture, weaving, and production of bags and mats);

42. Subprojects excluded from financing under this Project will include: the refinancing of existing obligations to BAAC, the purchase of land or land-use rights, tobacco-related products, and wood processing projects, which use timber from virgin or primary forests.<sup>1</sup> The financing of pickups and trucks, unless substantially used for agriculture-related activities, and the financing of agricultural trade in which there is no value added through processing will also be excluded.

43. Based on BAAC's experience in agriculture-related lending in 1994, the average investment cost of a subproject was about B97,500 or \$3,900 and the average loan size, was about B78,000 or \$3,100. Disbursements were about \$68 million (B1,703 million in FY1994 to 21,810 borrowers. BAAC has an active pipeline of subprojects and anticipates no difficulty in committing the proposed Bank assistance in two years.

### C. Proposed Financing

#### 1. Cost Estimates

44. The total cost of the Project is estimated at B2,700 million (\$110.0 million). Based on the potential subprojects to be financed under the Project, the foreign exchange costs are estimated at B1,220 million (\$50 million), or 45 percent of the total cost of the Project. The local currency costs are estimated at B1,480 million (\$60 million), or 55 percent of total cost of the Project.

#### 2. Financing Plan

45. It is proposed that the Bank provide a loan of \$50 million to finance 45 percent of the total cost of the Project. BAAC will fund part of the local currency cost amounting to about \$28 million or 25 percent of the total cost of the Project. The subborrowers will fund about \$32 million or about 30 percent of the cost of the Project through equity contributions. The costs of taxes and duties will not be eligible for financing under the Bank's loan. The financing plan is shown in Table 1.

**TABLE 1: Financing Plan**  
(\$ million)

Financing Sources	Foreign Currency	Local Currency	Total	Percentage Financing
Bank	50.0	-	50.0	45.0
BAAC	-	28.0	28.0	25.0
Subborrowers	-	32.0	32.0	30.0
<b>Total Cost</b>	<b>50.0</b>	<b>60.0</b>	<b>110.0</b>	<b>100.0</b>

<sup>1</sup> Wood processing projects must demonstrate that timber is sourced from sustainably managed forest or plantations.

## **D. Main Terms and Conditions**

### **1. The Bank Loan**

46. The proposed loan will be made to BAAC from the Bank's ordinary capital resources at an interest rate determined in accordance with the Bank's pool-based variable lending rate system for US dollar loans. The Government will guarantee the loan. The loan will carry a maturity of 15 years including a 4 year grace period. A commitment charge of 0.75 percent will be levied in accordance with the Bank's present policies.

### **2. Proposed Relending Terms**

47. BAAC will onlend the proceeds of the proposed loan in baht to eligible subborrowers at an interest rate that will cover the cost of funds, intermediation costs, and risks - currently estimated to be about 11.5 to 12.5 percent. Not more than 10 percent of the loan will be used to finance subloans of more than B2.0 million (about \$80,000) and no subloan will exceed B5.0 million (about \$200,000). BAAC will evaluate all proposed subloans in accordance with its standard procedures, supplemented by a discounted cashflow and debt service analysis wherever necessary. It will also refine its loan appraisal procedures for the analysis of agriculture-related small businesses.<sup>1</sup> BAAC will maintain comprehensive credit files on all subloans in accordance with its standard practice.

48. Each subborrower will enter into a subloan agreement with BAAC. Such an agreement will be based on BAAC's standard loan agreement and will be in accordance with prudent banking practices. If the terms and conditions of a particular loan necessarily vary from the standard BAAC loan contract, BAAC will issue a side letter to the subborrower. The terms and conditions will include, but not be limited to the following:

- (i) the subloan maturity will be consistent with the projected implementation period and debt service capacity of the subproject financed;
- (ii) the grace period will be consistent with the expected subproject cashflow;
- (iii) ordinary and penalty interest rates will be determined by BAAC on a commercial basis and will not be less than the rates offered by BAAC on its ordinary loans<sup>2</sup> for similar activities that utilize other sources of funds; and
- (iv) the repayment schedule will be consistent with the expected subproject cashflow, where possible at quarterly or shorter intervals.

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<sup>1</sup> Such improvements will be introduced through training courses to be supported by Bank-funded TA.

<sup>2</sup> "Ordinary loans" refers to those loans that BAAC makes in the normal course of its business from its own resources without policy direction or special project status.

**a. Subborrower Selection Criteria**

49. Subborrowers will be required to be small farmers, i.e. have a per capita income of not more than B60,000 or \$2,500 per annum, and meet the following minimum criteria:

- (i) be registered as a BAAC client pursuant to the standard registration procedures of BAAC;
- (ii) have a satisfactory overall financial condition;
- (iii) have a satisfactory credit repayment history and not have any currently rescheduled borrowings or have defaulted on any previous loan contract (except through reason of natural calamity);
- (iv) be able to provide the standard security required by BAAC;
- (v) be able to make an appropriate contribution to equity (including equity in kind) which will be between 20 and 30 percent of the total subproject cost;
- (vi) wherever appropriate, be able to maintain financial records of income and expenditure for BAAC's periodic inspection;
- (vii) comply with the requirements of environmental laws and regulations and undertake simple environmental improvement measures concerned, such as reducing waste emissions, and installing energy saving technology; and
- (viii) wherever appropriate, women borrowers will be given priority for subloans.

**b. Subproject Selection Criteria**

50. Subprojects will be required to meet the following criteria:

- (i) be an agriculture-related activity as defined under BAAC's Regulation 42;<sup>1</sup>
- (ii) be located in the designated area covered by the Project;
- (iii) be technically, managerially, and environmentally sound;
- (iv) comply with applicable national and local environmental regulations;
- (v) have a satisfactory projected cashflow and subproject implementation plan covering the loan maturity period demonstrating the financial viability of the enterprise; and

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<sup>1</sup> Agriculture-related activity refers to the small-scale processing of agricultural produce into semifinished or finished goods and the production of agricultural inputs or provision of agricultural services.

- (vi) have net cash income from the operation of the subproject equal to a minimum of 1.5 times the required debt service.

### **3. Retroactive Financing**

51. Eligible subloans approved by BAAC after completion of loan appraisal will be entitled to retroactive financing up to 10 percent of the loan amount. All advance procurement action has to be undertaken in accordance with the Bank's *Guidelines for Procurement*.

### **4. Subloan Appraisal Review**

52. BAAC will monitor compliance with the eligibility criteria for the subborrowers and the subprojects through its own internal Audit and Inspection Office, and certify to the Bank that it has carried out such monitoring. BAAC will maintain appropriate subsidiary records to clearly indicate disbursement and recovery of each subloan made from the loan. BAAC will provide the Bank all reports and information that it may reasonably request concerning the utilization of the loan proceeds and the evaluation of subprojects.

## **E. Implementation Arrangements**

### **1. Executing Agency**

53. BAAC will be the Executing Agency for the Project. It has been the Executing Agency for two Bank-assisted agricultural credit projects and is the only institution in Thailand, with a wide network of field offices and extensive experience in agricultural credit financing able to meet the credit requirements in the rural areas. Its financial health and management controls are in good shape and do not pose unnecessary risk in the implementation of the Project. The Regional Branch Administration Departments (RBAD) of BAAC will supervise the use of the loan proceeds by its branches and ensure compliance with environmental laws and regulations while the Monitoring and Evaluation Division of the Office of Technical Services and Planning will monitor and evaluate the implementation of the Project. The Programme and Budget Division will coordinate with all divisions and departments concerned for implementation of the Project and the preparation and submission of reports required by the Bank.

### **2. Procurement**

54. Subborrowers will follow the Bank's *Guidelines for Procurement* applicable to Bank loans for development finance institutions. BAAC will require the subborrowers to demonstrate that the goods and services to be financed by subloans are purchased at reasonable prices, that the procurement procedures adopted by them are appropriate in the circumstances, and that the goods and services are procured from Bank member countries.

### **3. Benefit Monitoring and Evaluation**

55. BAAC will monitor and evaluate the implementation and benefits in accordance with the objectives of the Project. Procedures to be followed will be as close

as possible to those applied under its current procedures for agriculture-related enterprise lending and in line with the Bank's *Guidelines on Benefit Monitoring and Evaluation* (A Handbook for Bank Staff, Staff of Executing Agencies and Consultants, March 1992).

56. The implementation of the Bank will be monitored through standard financial accounting practices describing disbursement of funds, plus the collection of data already recorded on normal BAAC client registration and loan application forms. This data will be summarized on a yearly basis for subborrowers under the loan and will: (i) describe the major socioeconomic characteristics of subborrowers such as their geographical location, age, gender, household size, occupation of members, farm size, asset base, years as BAAC depositor/borrower, and income from agricultural and nonagricultural sources; and (ii) classify them by loan size, loan type (medium- and long-term) and their use of funds. The purposes of monitoring will be to: (i) ensure that loan funds are reaching the types of households and businesses envisaged by the Project; and (ii) identify early the adverse environmental impacts of subprojects and monitor subproject compliance with acceptable environmental standards and performance of mitigation measures.

57. The benefits of BAAC's lending under the Project will be assessed through a study of a sample of selected borrowers to be undertaken by the Monitoring and Evaluation Division of BAAC. A randomly selected sample of 2 percent or about 600 households is estimated to be sufficient. This study and analysis will concentrate on estimating the effects arising from use of loan funds in terms of income generation, value added, and employment creation. It will also include standard measures of economic impact (benefit/cost ratios, net present value, internal rate of return). This impact study will, if possible, compare the expected financial and economic returns with those actually achieved. The sample used for this study will also be stratified by region, loan size, loan type, and major activity undertaken.

#### **4. Reporting, Accounts and Audit**

58. BAAC will provide the Bank with quarterly reports on the implementation of the Project and on its overall operations and management. These reports will include details about the applications received for subloans, the number and value of approvals, the disbursements, and the performance of the subloan portfolio for the period.

59. BAAC will prepare and submit to the Bank within six months after the closing date of the loan a project completion report, in a format acceptable to the Bank, on the utilization and benefits of the loan. The report will indicate, among others, the financial performance of the subprojects funded, their overall social and economic benefits as measured by the benefit monitoring and evaluation, the performance of the overall subloan portfolio, funded by the Project, and BAAC's compliance with covenants under the loan.

60. BAAC will maintain the accounts of its operations and finances in accordance with sound accounting practices. It will maintain records and accounts to identify clearly the progress and utilization of the loan, and the financial progress of each subproject. BAAC will have its accounts and financial statements audited annually by auditors acceptable to the Bank, in accordance with sound auditing standards. It will submit the audit report together with the auditor's opinion to the Bank within nine months from the close of each financial year.

## **F. Executing Agency**

### **1. Brief History and Role**

61. BAAC was established in 1966 as a specialized state-owned bank by an Act of Parliament<sup>1</sup> with the primary objective of providing financial assistance to farmers, farmer's groups, and agricultural cooperatives. It is governed by a Board of Directors appointed by the Council of Ministers. The Board comprises a Chairman, who is the Minister of Finance; a Vice-Chairman; a Secretary, who is the incumbent President of BAAC; and eight other directors. By law, the Office of the Prime Minister, the Ministry of Finance, the Ministry of Agriculture and Cooperatives, the Cooperative Promotion Department, the Agricultural Land Reform Office, the Bank of Thailand, and the agricultural cooperative shareholders are represented on the Board. The directors are appointed by the Council of Ministers for a period of three years and can be reappointed.

62. The Board is responsible for establishing the operating policies of BAAC, which are set out in Board Regulations. Among other matters, the Board Regulations govern all aspects of BAAC's organizational structure, branch structure, management powers, establishment, staff remuneration and benefits, lending and other aspects of asset and liability management. The Board delegates the day-to-day management of the bank to an Executive Committee comprising the President and four Executive Vice Presidents. BAAC's controlling body is the general meeting of shareholders that convenes annually in ordinary general meeting to consider and approve the balance sheet and profit and loss account, the appropriation of annual net profit, the annual report of the bank, and the appointment of auditors. By virtue of its Act, BAAC is supervised by the Ministry of Finance, not by the Bank of Thailand. The Act itself contains the minimum regulatory provisions. The Act requires that BAAC be audited by external auditors once a year and limits BAAC's debts to twenty times the sum of its paid-up capital, reserves, and accumulated profits. The Board and Executive Committee ensure that the bank adopts prudent financial policies and that it eventually meets international standards. The financial policies of BAAC and the changes made to meet international standards are described in Appendix 2.

63. BAAC's initial authorized capital was set at B4 billion and has been progressively increased and totaled B10 billion in FY1994. The paid-up capital totaled B6.205 billion at the end of FY1994, of which about 99.5 percent was held by the Ministry of Finance and the balance was held by agricultural cooperatives and individual farmers. BAAC's debt-equity ratio rose from 11:1 in FY1990 to 13:3 in FY1994, but it remained well below the maximum of 20:1 allowed under the BAAC Act (Section 34). At 12 percent, BAAC's capital adequacy ratio exceeds the Bank of International Settlements recommended standard of 8 percent.

### **2. Functions and Operational Policies**

64. The Act confines BAAC's lending to farmers, farmer's groups, and agricultural cooperatives in support of primary agricultural production. In 1992, the Act was amended

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<sup>1</sup> The Bank for Agriculture and Agricultural Cooperatives Act, BE 2509 (1966) and its subsequent amendments in BE 2519 (1976), BE 2525 (1982), and BE 2535 (1992).



to allow BAAC to lend for agriculture-related purposes following the success of a pilot agroindustries promotion project launched in 1990. Parliament is currently considering a further amendment to the Act to allow BAAC to lend for nonagriculture-related rural activities.

65. BAAC has a variety of retail and wholesale lending products, each governed by a Board Regulation. Retail lending is targeted at farmers and provided at close to market or commercial interest rates. Its wholesale lending activities involve lending to agricultural cooperatives and farmer's groups, at a discount of three percentage points below its lending rate to direct borrowers, for onlending to their members. In common with many other Government-owned development finance institutions, BAAC also undertakes policy lending on concessional terms and conditions, primarily for medium- and long-term investments by farmers who have no real collateral or limited equity, on its own initiative; at the direction of the Government; or on behalf of Government agencies.

66. BAAC has been active in promoting rural savings to fund its operations. Its rates on savings and time deposits are competitive with those of the commercial banks. At the end of FY1994, BAAC's deposit base amounted to B76.3 million or 73.4 percent of total resources, while borrowings accounted for 15.7 percent, and equity, the balance of 11 percent.

67. Since 1989, BAAC has actively promoted and helped establish agricultural marketing cooperatives (AMCs) whose objectives are to undertake bulk purchases of input supplies and to coordinate produce marketing for its farmer members. At the end of FY1993, there were 67 AMCs with a membership of 2.1 million or 74 percent of BAAC's direct clients. BAAC also assisted in the creation of the Thai Agribusiness Company (TABCO) at the national level to give AMCs collective purchasing and marketing power. The AMCs hold 90 percent of the shares of TABCO, while BAAC holds the remaining 10 percent. In FY1993, AMCs purchased over B2.3 billion of inputs and B1.2 billion of crop sales on behalf of their members. The offices of the AMC are generally located on BAAC's premises. BAAC is also giving them substantial free management and operational support over a five year period to assist them to become independent and self-sustaining organizations.

### **3. Organization, Management, and Staffing**

68. BAAC has a well defined organizational structure with clear departmental and divisional responsibilities and reporting relationships (as shown in the organization chart of BAAC is in Appendix 3). It is headed by a President who is assisted by four Executive Vice Presidents, who are normally all career staff members of BAAC. Together they form the Executive Committee that is responsible for the bank's day-to-day management. There are twelve Senior Vice-Presidents who head three offices and nine departments (including four RBADs) reporting to various members of the Executive Committee. Each office and department consists of functional divisions headed by a director. The RBADs, situated in Bangkok, supervise provincial branches, while provincial branch managers supervise district branches. The provincial and district branches in turn supervise the operations of field offices under them.

69. At the end of FY1994, BAAC provided credit and banking services to 4 million farm households or about 80 percent of total farm households nationwide through a network of 80 provincial and 361 district branches and 835 field offices. BAAC's clientele was only 2.8 million at the end of FY1989. As of 1 March 1995, BAAC had 11,186 staff (see Appendix 4 for details). About 87 percent of the staff work in branch or field offices, while about 13 percent work in head office. More than 52 percent of BAAC staff are under 35 years of age and more than 84 percent are less than 45. Most of the executive and senior management staff are over 45 years old. The BAAC staff are also highly educated. More than 63 percent hold a bachelor degree or an advanced degree. An additional 11 percent have diplomas. About 26 percent of BAAC's staff are female.

70. BAAC's senior officers and branch managers are delegated sufficient financial authority necessary to operate effectively and efficiently. Loan approvals are restricted by discretionary authorities of B160,000 for a chief credit officer, B500,000 for a branch manager, and B5 million for the President.

#### **4. Operational Procedures, Financial Control, and Audit**

##### **a. Interest Rates**

71. BAAC charges a range of interest rates based on the purpose of the loan, the borrower, and size of the loan (see Appendix 5). The rates are established by the Board of Directors in consultation with BAAC management and are generally slightly below the rates charged by commercial banks for agricultural loans<sup>1</sup>. In addition, its rates are substantially below market rates on Government-directed policy lending and special projects for which BAAC is paid an administrative fee to defray its cost of operations. Lending to farmer institutions, which is dominated by cooperatives, is in general at rates three percentage points lower than BAAC's retail rates. Institutions onlend at retail rates, and thereby earn 3 percent to cover their intermediation costs.

##### **b. Subloan Evaluation and Supervision**

72. BAAC has satisfactory procedures for screening and evaluating applications for production loans. All potential borrowers register as clients of BAAC as a precondition for loan application. They all need to satisfy its basic client eligibility criteria. Once registered, a client can apply for a short-term seasonal loan, a cash credit line for up to five years, or a medium- or long-term loan. Unless the application is being made under a special project or a policy lending program, BAAC requires security and applies loan limits set out in its regulations for ordinary operations. BAAC's loan systems are well developed and effective in the context of its present operations. However, its credit analysis for medium- and long-term agriculture-related lending needs to be improved.

73. BAAC's credit officers visit borrowers on a regular basis to verify proper use of funds. BAAC has well-established procedures for managing default, and is rigorous in its collection efforts. If a borrower defaults, the assigned credit officer will first investigate

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<sup>1</sup> See Appendix 5, page 2 for an analysis of effective interest rates and a comparison of the lending rates of BAAC and commercial banks.

the reasons and recommend appropriate action. In the case of calamity and nonwilful default, loans may be rescheduled without an interest penalty. In cases of wilful default, loans may be recalled. In cases where the nonwilful inability to repay continues, guarantees will be called or securities possessed. In cases of wilful default, BAAC will attempt to reach a negotiated settlement with the borrower. Failing this, legal action is taken.

74. BAAC's policies and procedures on loan recovery are well suited to seasonal agricultural lending. They are less well suited to lending for agriculture-related activities. Small businesses with continuous turnover need regular scrutiny, and sales and working capital need frequent checking to identify deleterious trends. During the processing of the Project, it was recognized that BAAC should develop adequate supervision procedures for agriculture-related lending that provide for regular follow-up. BAAC should also consider introducing monthly or quarterly repayment schedules that reflect the cashflow capacity of the businesses financed.

### **c. Human Resource Management and Development**

75. With the exception of the President, the remuneration for BAAC staff is based on their grade. There are 14 grades for officers and 3 grades for other staff. Monthly salaries range from B4,880 (\$195) at the grade 1 entry level to B62,080 (\$2,483) at the top of grade 14. The grades are related to seniority in the organization, but there is considerable overlap between grades. The grades and the remuneration of senior staff is currently under review. In addition to basic salary, the staff receive a package of other benefits that are substantial, particularly for the staff at the lower grades. BAAC also has a complex bonus system that is linked to performance and is subject to approval by the Cabinet. The amount is limited to not more than five month's salary. The system is scheduled for review at the end of FY1995.

76. BAAC has a complex and effective performance evaluation system. All the staff are evaluated three times a year by their immediate superior. The results are used in determining promotions and transfers. BAAC also carries out an annual evaluation of the performance of its branches. The branches are ranked in relation to the best performing branch in their region on 16 performance criteria such as: repayment performance, arrears collection, client numbers, average loan size, deposits, and profits. The rankings are used by management at all levels to improve efficiency. The criteria and weightings are reviewed annually by management.

77. The Training Division of the Human Resource Development Department is responsible for training. It is given a high priority and the annual budget is about \$2.0 million. BAAC has a well developed in-house training program. In FY1995, BAAC will conduct 160 courses at an estimated cost of over \$2 million to train nearly 6,000 staff. These include in-house courses, overseas short courses, and postgraduate courses in Thailand and overseas for staff. In addition, about 1,500 participants from agricultural cooperatives and farmer associations will receive management training by BAAC (see Appendix 6 for more details). Despite the extensive training program, at present, BAAC does not have a training program for project staff in environmental economics, in the assessment and mitigation of environmental problems, or in the evaluation and supervision of agriculture-related enterprises. Also, although BAAC has borrowed funds from overseas,

it has not trained its staff in foreign exchange risk management. The priorities for BAAC's training program are to develop and deliver new courses to equip the staff for an increased volume of medium- and long-term lending, particularly in agriculture-related and nonagricultural activities in the future.

#### **d. Management Information System and Audit**

78. BAAC has a Computer Department that maintains and regularly updates the information provided by the operational departments. It generates management reports for use in monitoring the performance of BAAC's operations. The information need for effective management and control has grown with the growth in size and complexity of BAAC's operations.

79. BAAC has an Office of Internal Audit and Inspection responsible for the regular annual financial and management audit of all its head office and branch operations. In addition, BAAC is required by its Act to be audited by external auditors appointed by its Board. The Board routinely appoints the Office of the Auditor General (OAG) to carry out annual external audit of its accounts. Eleven auditors from OAG are stationed in the head office of BAAC to undertake year-round audits of its operations.

### **5. Operational Performance**

80. BAAC's lending and savings performance has improved every year since it started operations in 1966. Lending has grown by an average of 23 percent a year since FY1990 to reach B93.6 billion in FY1994. A more detailed analysis of BAAC past financial and operational performance is in Appendix 7. About 4.31 million families or 80 percent of the farm population have direct access or through agricultural cooperatives to credit from BAAC. The majority of BAAC's clients come from the North and Northeast, the poorest regions of the country, which account for 69 percent of the clients and 57 percent of the disbursement in FY1994. More details are in Appendix 8.

81. Deposits from the general public, funds of commercial banks, and funds raised by bond issues total B96.3 billion or 72.7 percent of BAAC's total resources, while foreign and domestic borrowings accounted for 19.8 percent, and equity for 7.5 percent. The breakdown by source and the average cost of each is shown in Appendix 9. Based on this breakdown, 32 percent of BAAC's resources are medium- to long-term, while more than 70 percent of the funds are invested in medium- and long-term loans, which is a mismatch of funds.

82. Even though BAAC's interest rates are lower than the rates of commercial banks, it has successfully produced a return on equity of more than 10 percent for the last three years and a positive return in the earlier years. It earned a net interest margin of 3.8 percent and a net profit of 0.9 percent on average total assets.

### **6. Projected Operational Performance**

83. Total assets are projected to grow from B132 billion in FY1994 to B236 billion in FY1999 and the loan portfolio from B106 billion to B209 billion, of which loans to farmers are expected to account for 88 percent in FY1999, a marginal decline over the level in

FY1994. The projected performance of BAAC for the next five years, from FY1995 to FY1999 is shown in Appendix 10. The shift in the source of funds is expected to continue with external funding growing at an average of 4 percent a year compared with 16 percent for deposits. Total deposits are expected to reach B143 billion in FY1999, of which savings deposits will account for almost half. Further injections of capital from MOF are projected to increase the share capital from B6.2 billion in FY1994 to B14.8 billion by FY1999. Domestic borrowing is projected to rise significantly, largely from the Government Savings Bank (GSB), to finance the proposed increase in policy lending. Overall, BAAC is expected to continue to perform well in expanding the size of its portfolio and in reducing the cost of its funds. Rates of interest on BAAC's commercial lending are insufficient to prevent the deterioration in profitability caused by policy loans. While this will not be critical over the next five years, there is clearly a case for BAAC reviewing the interest rates on its normal lending activities if it is to continue to act as the intermediary for the Government's rural credit policy directives.

## **7. Corporate Plan**

84. The corporate plan for BAAC for the period from FY1995 to FY1999 was approved by the Board of Directors in April 1995. It spells out BAAC's operational strategy and its organizational, financial, and operational policies and focuses on: the need for BAAC as a Government-owned institution to maintain a viable balance between its commercial and development activities; the need to promote the development of farmer organizations by increasing their self-sufficiency and reducing their dependence on BAAC; and the need to emphasize long-term loans, and management and operational improvements that are necessary to maintain long-term viability.

85. Specific key areas in which change is planned during the course of the new plan include: (i) a review and improvements in personnel management to ensure better links between merit and promotion and to increase the devolution of management authority; (ii) the introduction of new bases for performance measurement, with less emphasis on the achievement of physical targets and greater emphasis on the quality of work and the portfolio; (iii) the development of a new chart of accounts which will facilitate the identification of all costs related to developmental policy lending activities; (iv) the adoption of prudent financial policies in line with international standards; (v) the development of strategies for the screening and management of policy lending, full cost recovery, and removal of the credit risk from BAAC; and (vi) the substantial upgrading of computer hardware and software platforms throughout BAAC to improve the timeliness and quality of accounting and management information.

## **G. Environmental and Social Measures**

### **1. Environment**

86. The Project through its support for farm-related income-generating activities will lessen the pressure to expand areas under traditional crops, will reduce the pressure for inappropriate increases in intensity of production through the excessive use of fertilizers and other agrochemicals, and will reduce waste by increasing the processing of by-products. Given the nature of the Project, which supports small-scale enterprises in line with the resource endowment of rural areas, the impact on the physical environment is

expected to be small. Instead, the Project has the potential to bring about improvements in the environment where the individual subprojects are located.

87. The Project has been classified as a Category B project and required an initial environment examination (IEE) report. Accordingly, IEEs were carried out on a sample of twelve agriculture-related activities financed by BAAC in 1994. In compliance with Bank's requirements, BAAC submitted to the Fact-Finding mission an IEE report on these subprojects (see Appendix 11). Based on this report, the adverse impacts were limited concerning unacceptable resource losses, excessive use of resources for short-term gain, hazards to endangered species or excessive use of energy.

88. To ensure that subprojects are environmentally sound, BAAC will require that all the subborrowers for subprojects to be financed by funds from the loan comply with the environmental laws and regulations in force in Thailand. The BAAC will ensure that the environmental protection of natural resources and the choice of environmentally-friendly technologies are included in the designs of subproject and that such plans are effectively utilized. Furthermore, BAAC will ensure that the subborrowers obtain the requisite permits from agencies responsible for environmental and national resource management wherever applicable. During implementation and operation of the subprojects, BAAC will make monitoring of enforcement of mitigation measures and environmental standards an integral part of its loan supervision process, and will endeavor to ensure that subprojects introduce the necessary environmental protection and health and safety measures and maintain them throughout the life of the subloan.

89. BAAC will establish an in-house capability (within the RBADs) with the responsibility for increasing environmental awareness among BAAC staff and borrowers, and for developing a capability within BAAC that will allow it to undertake summary initial environmental examinations for subloans wherever applicable as part of its subloan application procedure. Such initial environmental examinations will be available to the Bank for review and comment.

## **2. Social Analysis**

90. The target group of the Project is small-scale farmers. Over one-third of current borrowers or beneficiaries of subloans<sup>1</sup> are women. Current borrowers are all members of AMCs. The average household assets of a small farmer varies in different regions of the country. In the Northeast, the average asset value is about \$10,000, while in Central Thailand, it is about \$120,000. In the North, and in the South, the typical asset values are about \$20,000. These borrowers would generally have adequate assets to pledge as collateral for subloans. Based on a survey and interviews, it was established that there is a substantial pent-up demand for financing for small agriculture-related enterprises, but small business management and marketing skills are generally lacking. BAAC will provide, under Bank-financed TA, training to subborrowers in small business management and marketing. It will also support them in marketing through its management contribution to AMCs as well as through its links with the technical ministries.

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<sup>1</sup> In some cases, husbands borrow for activities carried out by their wives, and vice versa. Therefore, the gender of the borrower is not necessarily a true indicator of gender participation.

employment opportunities, subprojects need to operate at optimum capacity, use competitive technology, and be assured of markets. A review of a number of existing subprojects has shown that subborrowers generally have adequate management skills, operate profitable businesses, and have clearly defined markets. BAAC's collateral and security requirements are adequate and equity contributions from subborrowers will reduce BAAC's risk. BAAC has a well-established system for subproject appraisal and supervision, that will be strengthened under the proposed training arrangements, and will help to ensure that viable investments are financed.

102. Although BAAC has been able to make a profit for the last five years, the long-term viability of BAAC will still be an issue if it does not clearly identify the subsidy elements in its lending programs and establish clear policies on cost recovery of the subsidies. In recognition of this need, BAAC has recently recruited the services of an international accounting firm to review and design a new chart of accounts that will provide the basis for an improved cost accounting and management information system, and to redesign its business processes and financial management information system.

## **VI. ASSURANCES**

### **A. Specific Assurances**

103. BAAC has given the following assurances, in addition to the standard assurances, which will be incorporated in the legal documents:

- (i) BAAC will use the proceeds of the loan exclusively to finance subprojects to be carried out by small farmers in rural areas, excluding Bangkok and the five surrounding provinces;
- (ii) BAAC will lend up to 35 percent of the funds required to carry out the subproject;
- (iii) The rate of interest on subloans will not be less than BAAC's cost of funds, intermediation costs, foreign exchange and interest variation risks, and operating costs;
- (iv) The maximum subloan will not exceed B5.0 million and not more than 10 percent of the loan proceeds will be used to finance subloans larger than B2.0 million;
- (v) BAAC will require all subborrowers to ensure that the subprojects comply with applicable environmental laws and regulations and use environmentally friendly technologies;
- (vi) BAAC will ensure that subprojects are soundly evaluated based on existing procedures of BAAC and supplemented with additional analyses wherever necessary; and
- (vii) BAAC will prepare and submit to the Bank for approval within one month after the loan becomes effective: a list of training institutes to be

used in the training financed under the TA; the criteria for selecting participants for the training courses; and a list of the participants selected for training.

## **VII. RECOMMENDATION**

104. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Bank and recommend that the Board approve the loan of \$50 million to the Bank for Agriculture and Agricultural Cooperatives for the Small Farmer Credit Project from the Bank's ordinary capital resources, with interest to be determined in accordance with the Bank's pool-based variable lending rate system for US dollar loans and with an amortization period of 15 years, including a grace period of 4 years and such other terms and conditions as are substantially in accordance with those set forth in the draft Loan and Guarantee Agreements presented to the Board.

**MITSUO SATO**  
President

23 November 1995



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**APPENDIXES**


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## ECONOMIC AND AGRICULTURAL SECTOR INDICATORS

**Table 1: GNP 1988 to 1993  
(Constant 1988 Prices)**

GNP	1988	1989	1990	1991	1992	1993
National (B Billion)	1,809.2	1,971.5	2,417.2	2,624.1	2,822.7	3,088.3
Per Capita (B)	33,300	35,709	43,104	46,116	48,871	52,792

Source: ADB, Economic Update, Thailand, July 1994

**Table 2: Key Economic Growth Rates 1989 to 1994  
(percent)**

Growth rates	1991	1992	1993	1994
Per Capita GDP	6.5	6.0	6.6	6.8
Agriculture Sector	5.0	4.0	2.4	3.0
Industry Sector	11.9	9.3	10.7	11.1
Service Sector	5.9	7.2	7.1	7.1
Consumer Price Index	4.1	3.3	4.0	5.4 <sup>a</sup>

Source: ADB, Economic Update, Thailand, July 1994

<sup>a</sup> June 1995

**Table 3: Key Social Indicators**

Indicator	Comparator Years			Early	Mid	Latest
Population Growth Rate (percent)	1980	1985	1993	2.5	2.0	1.6
Gini Coefficient of Income Distribution	1981	1985	1988	0.45	0.47	0.48
Daily Calorie Supply (as Percent of Requirement)	1980	-	1988	95.0	-	100.0
Adult Literacy Rate (Percent)	1970	1985	1992	79	91	94
Female Literacy Rate (Percent)	1970	1985	1992	72	87	92

Source: ADB, Economic Update, Thailand, July 1994

**Table 4: Agriculture in the Economy 1988 to 1993  
(Constant 1993 B Billion)**

Item	1988	1989	1990	1991	1992	1993
Agricultural GDP	297.4	301.0	312.0	337.1	340.7	339.5
As Percent of GDP	16.2	15.1	12.7	12.6	11.9	10.8

Source: ADB, Economic Update, Thailand, July 1994

**Table 5: Agricultural Exports 1988 to 1992**  
(B million)

Item	1988	1989	1990	1991	1992
Total Exports	194,198	230,536	224,167	256,035	284,980
White Rice	27,574	38,544	22,061	23,635	28,257
Glutinous Rice	2,916	2,154	1,698	3,066	1,931
Food Crops	6,658	6,607	7,150	7,117	3,486
Cassava Products	21,845	23,974	23,136	23,175	27,592
Fruits	8,092	8,507	11,198	14,836	16,058
Rubber	31,823	31,952	30,155	32,156	38,137

Source: Agricultural Statistics of Thailand, Crop Year 1992/1993

**Table 6: Farms and Farm Size 1987 to 1991**

Item	1987	1988	1989	1990	1991
Number of Farms ('000s)	4,989	5,040	5,056	5,073	5,130
Total Area Cultivated (Rai '000)	131,202	131,722	131,831	132,124	133,076
Average Farm Size (Rai)	26.29	26.14	26.06	26.04	25.93

Source: Agricultural Statistics of Thailand, Crop Year 1992/1993

**Table 7: Agricultural Production**  
('000 t)

Crop	1989	1991	1993
Paddy	21,858	19,809	19,440
Sugar cane	33,560	47,430	38,500
Cassava	20,700	20,356	19,487
Maize	4,100	3,800	3,300
Rubber	1,180	1,340	1,580
Jute and Kenaf	165	139	144
Mung Bean	356	304	258
Cotton	86	129	94
Coconut	1,150	1,103	1,170
Groundnut	161	157	153
Soyabean	610	430	500
Production Index (1988=100)	106.5	108.4	113.5

Source: ADB, Economic Review and Bank Operations, Thailand, October 1994

## **FINANCIAL POLICIES AND PROCEDURES**

### **A. Consistency with International Accounting Standards**

1. BAAC accounting policies are largely in accord with the generally accepted international accounting principles as defined by the International Accounting Standards Committee. The key areas where BAAC policies differ are:

#### **1. Income Recognition**

2. So far, BAAC has applied a rather liberal interest accrual policy for all loans outstanding that are less than four years in arrears and those subjected to litigation. In order to be in line with commercial banks' accrual policies, BAAC has stopped (since FY1994) accruing interest on loans that have been in arrears for more than one year. This represents a significant step towards adopting recognised international standards of interest accrual that generally require that interest is not accrued after a loan has been in arrears for between 90 and 360 days.

#### **2. Loan Loss Provisions**

3. The BAAC's policy on provisions for losses on doubtful loans is based on borrower type and ageing of arrears. This system is currently under review by the Fiscal Policy Office of the Ministry of Finance [MOF] and the new proposals are expected to be implemented in FY1996. The present system includes a provision of 10 percent per year for 10 years for direct clients. Under the new system it is proposed to provide 20 percent per year for 5 years.

4. The provision for interest arrears has been at the rate of 10 percent per year up to a maximum of four years (40 percent). In FY1994, following the introduction of the new interest accrual system, this provision is no longer made because interest will not accrue for loans in arrears more than one year.

5. The loss provisions for cooperatives depend upon a ranking system, and for farmer associations upon whether they remain in operation. The cooperatives are divided into three categories based on their recovery performance, by a committee comprising BAAC, Ministry of Agriculture and Cooperatives [MOAC] and the Cooperative Promotion and Audit Departments of the Government. Provisions are made for outstanding principal and interest at the rate of 2 percent, 3 percent and 6 percent for Rank 1, 2 and 3 cooperatives respectively. The ranking is reviewed regularly and any cooperative that consistently performs badly may be disqualified from further borrowing. Farmer associations are divided into two categories: operating and nonoperating. The provisions are based on outstanding principal and interest at the rate of 10 percent for operating and 100 percent for nonoperating. No change is proposed in these provisions for loans to farmer cooperatives and associations.

### **3. Write-Off Policy**

6. All loans which are the subject of litigation are provided for at the rate of 100 percent of the outstanding balance, including principal, accrued interest, and penalties. Special provisions are provided from time to time for loans that are the subject of natural calamities. Such provisions are subject to resolutions by the BAAC Board of Directors and are in the range of 20 to 90 percent of the balance outstanding on loans to borrowers affected by such calamities.

7. BAAC has demonstrated a good record of loan collection and high provisions for arrears, which would justify a lower level of provision than the international standard. As of March 1995, BAAC had a reserve for loan loss of B5,150 million or 37.5 percent out of B13,727 million in arrears. The loan loss provision constituted 4.6 percent of the total loans outstanding.

### **4. Depreciation and Revaluation**

8. Depreciation of fixed assets is charged on a straight-line basis at the following annual rates: buildings: 5 percent, vehicles and equipment: 15 - 27 percent, leasehold: as per lease terms. BAAC has no policy for the revaluation of fixed assets or its equity investments in other companies. No material changes have occurred in BAAC accounting policies recently.

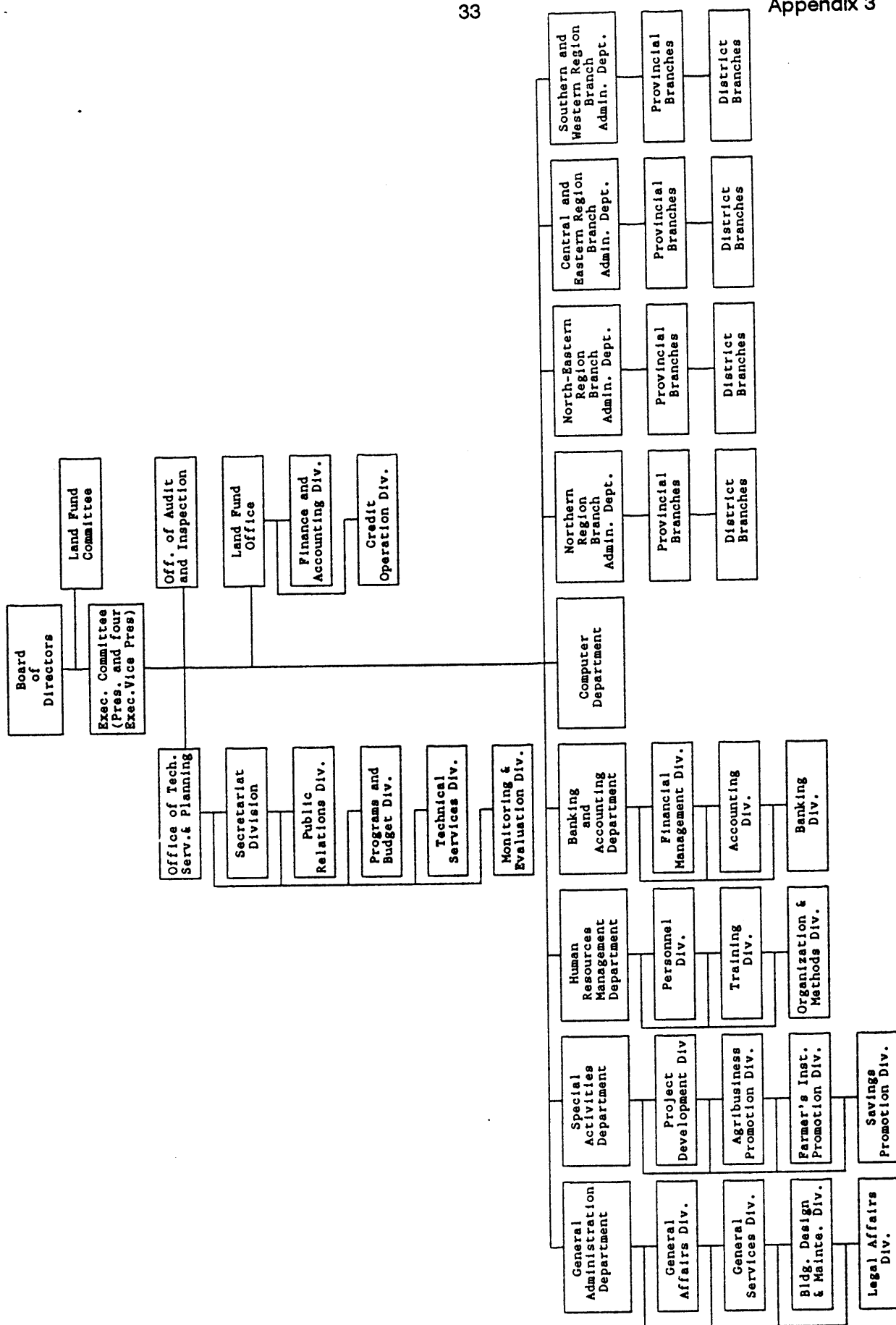
### **5. Capital Adequacy and Liquidity**

9. BAAC is subject to the supervision of the Ministry of Finance (MOF) rather than the Bank of Thailand ([BOT], the central bank). It is not bound to adopt prudential regulations established by the BOT. It however maintains liquidity at similar levels to those established by BOT regulations for commercial banks, currently 7 percent of total deposits. It also routinely analyzes capital adequacy in accordance with the generally accepted principles employed by the Basel Committee on Banking Supervision and although it has not follow the same basis it has a capital adequacy requirement (CAR) of 12.7 percent in FY1994, which is more than the 8 percent requirement of the Bank of International Settlements (BIS). BAAC's debt-equity ratio rose from 11:1 to 13:3 over the period from FY1990 to FY1994, but remained well below the maximum of 20:1 allowed under the BAAC Act (Section 34). Its long-term debt to equity ratio has improved from 3 in FY1990 to 1.8 in FY1994, well below the BIS prescribed ratio of 3 to 10.

### **6. Tax Status**

10. BAAC is exempt from taxes under the Revenue Code. At present, the prevailing taxes on interest income and profit are 3 percent and 30 percent respectively for commercial banks. BAAC does not provide any nonbanking services that would be subject to a value-added tax.

Figure 1: ORGANIZATION CHART OF BAAC  
(31 March 1995)



Note: The Land Fund Committee supervises only the performance of the Land Fund Office.

The responsibilities of each of the Executive Vice Presidents are grouped together as follows:

EVPI: Land Fund Office, Banking and Accounting, North-Eastern Region; EVP2: Computer, Special Activities, Southern and Western Region; EVB4: Technical Services and Planning, General Administration, Central and Eastern Region

Table 1: BAAC Staffing Profile

Division	S1	S2	S3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total	Per cent
Executive Management	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4	.53
National Rural Credit Committee Office	-	-	-	-	-	3	3	3	3	6	-	5	1	-	-	-	-	24	.21
Land Fund	-	2	2	-	1	4	-	-	3	10	1	7	3	2	1	1	-	37	.33
Audit and Inspection	-	-	-	-	-	-	8	1	9	16	50	6	44	38	66	1	-	239	2.13
Technical Services	-	-	-	2	4	19	6	10	12	45	4	33	1	7	7	1	-	151	1.34
General Administration	7	21	80	3	13	73	7	4	27	43	9	23	7	6	6	1	-	330	2.95
Special Activities	-	-	-	1	2	15	1	2	12	40	4	35	7	7	5	1	-	132	1.18
Human Resources	-	-	-	-	7	14	16	11	11	62	7	42	7	5	5	1	-	188	1.68
Banking and Accounting	-	-	-	-	5	11	6	7	7	43	2	17	6	3	4	1	-	112	1.00
Computer	-	-	-	1	1	5	19	21	19	43	7	21	4	-	4	1	-	148	1.30
Northern Region	-	-	-	-	2	3	-	3	2	10	-	8	3	2	4	1	-	38	.33
North-Eastern Region	-	-	-	-	4	-	-	1	1	12	-	10	2	2	4	1	-	37	.33
Central and Eastern Region	1	1	-	1	2	1	1	-	2	9	-	9	3	3	4	1	-	38	.33
Southern and Western Region	-	-	-	-	1	2	2	1	4	5	2	8	2	3	4	1	-	35	.31
Branches	159	194	513	53	110	305	2,962	670	933	2,937	65	512	245	3	68	-	-	9,729	86.97
Total	167	218	595	61	152	463	3,024	742	1,052	3,315	107	775	328	49	122	12	4	11,186	100.00

Source: BAAC, March 1995

Table 2: BAAC Staff Average Ages

Age Group	S1	S2	S3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total	Per cent
20-24	10	59	24	15	24	72	151	-	-	-	-	-	-	-	-	-	-	355	3.17
25-29	93	117	96	10	32	87	1754	195	94	10	-	-	-	-	-	-	-	2,488	22.24
30-34	64	42	150	12	76	111	1,000	489	527	499	18	34	1	-	-	-	-	3,023	27.02
35-39	-	-	98	23	17	130	82	54	189	1,262	49	297	24	1	2	-	-	2,228	19.92
40-44	-	-	103	1	1	20	20	3	103	758	26	236	102	9	13	-	-	1,395	12.47
45-49	-	-	84	-	-	5	13	1	106	613	12	145	89	14	36	2	1	1,121	10.02
50-54	-	-	22	-	2	20	3	-	28	138	2	50	72	15	50	7	2	411	3.67
55-59	-	-	16	-	-	12	1	-	5	66	-	13	40	9	21	3	1	154	1.38
60 and over	-	-	2	-	-	6	-	-	-	2	-	-	-	1	-	-	-	11	0.10
<b>Total</b>	<b>167</b>	<b>218</b>	<b>595</b>	<b>61</b>	<b>152</b>	<b>463</b>	<b>3,024</b>	<b>742</b>	<b>1,052</b>	<b>3,315</b>	<b>107</b>	<b>775</b>	<b>328</b>	<b>49</b>	<b>122</b>	<b>12</b>	<b>4</b>	<b>11,186</b>	<b>100.00</b>

Source: BAAC, March 1995

Table 3: BAAC Staff Education Levels

Educational Level	S1	S2	S3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total	Per cent
Primary School	13	33	191	-	-	-	-	-	-	-	-	-	-	-	-	-	-	237	2.12
Secondary School	139	146	333	14	15	24	39	1	57	50	1	-	-	-	-	-	-	819	7.32
Certificate 1	8	27	24	20	101	130	91	14	193	1,046	12	71	23	-	2	-	-	1,762	15.75
Certificate 2	2	2	14	3	5	42	35	16	15	66	2	3	-	-	-	-	-	205	1.83
Diploma	4	8	25	19	20	217	113	22	124	668	10	32	9	1	1	-	-	1,273	11.38
First Degree	1	2	8	5	11	50	2,746	689	663	1,462	72	631	282	38	99	5	1	6,765	60.48
Higher Degree	-	-	-	-	-	-	-	-	-	2	-	4	4	-	1	-	-	11	0.10
Master's Degree	-	-	-	-	-	-	-	-	-	21	10	33	10	9	19	7	3	112	1.00
Doctorate	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	2	0.02
<b>Total</b>	<b>167</b>	<b>218</b>	<b>595</b>	<b>61</b>	<b>152</b>	<b>463</b>	<b>3,024</b>	<b>742</b>	<b>1,052</b>	<b>3,315</b>	<b>107</b>	<b>775</b>	<b>328</b>	<b>49</b>	<b>122</b>	<b>12</b>	<b>4</b>	<b>11,186</b>	<b>100.00</b>

Source: BAAC, March 1995



**Table 1: Interest Rate Structure for Loans to Client Farmers<sup>a</sup>**

Type of Loan	1 April 1994 to 31 March 1995	Maximum Loanable Amount
Short- and medium-term loans	<ol style="list-style-type: none"> <li>1. 9 percent simple interest for loan not exceeding B30,000<sup>b</sup></li> <li>2. 11 percent simple interest for loan not exceeding B60,000</li> <li>3. 12.25 percent simple interest for loan over B60,000 but not exceeding B1,000,000</li> <li>4. 14.5 percent simple interest for loan over B1,000,000</li> </ol>	B5,000,000 for short- and long-term loans
Short-term loan for postponement of sale <sup>c</sup>	Simple interest rate equal to those on short and medium term loans	B250,000
Long-term loan for refinancing old debts	Simple interest rate equal to those on short and medium term loan	B300,000
Long-term loan for investment in agriculture <sup>d</sup>	<ol style="list-style-type: none"> <li>1. 9 percent simple interest for loan not exceeding B30,000<sup>b</sup></li> <li>2. 10 percent simple interest for loan not exceeding B60,000</li> <li>3. 11.25 percent simple interest for loan over B60,000 but not exceeding B1,000,000</li> <li>4. 13.5 percent simple interest for loan over B1,000,000</li> </ol>	B5,000,000
Loans for other activities related to agriculture	<ol style="list-style-type: none"> <li>1. 9 percent simple interest for loan not exceeding B30,000<sup>b</sup></li> <li>2. 10.5 percent simple interest for loan not exceeding B60,000</li> <li>3. 11.5 percent simple interest for loan over B60,000 but not exceeding B1,000,000</li> <li>4. 12.5 percent simple interest for loan over B1,000,000</li> </ol>	B5,000,000

<sup>a</sup> A penalty of 3 percent per annum is added to the normal rate on all types of loans in the event that the loan falls past due for reasons other than force majeure.

<sup>b</sup> Starting 1 October 1995.

<sup>c</sup> Loans extended under the Government's Paddy Pledging Scheme, for a repayment period of 6 months (implemented during 1 November 1994 to 31 May 1995), were an exception, with the special interest rate of 3 percent per annum charged to participating farmers.

<sup>d</sup> Long-term loans for investment in agriculture borrowed from the Overseas Economic Cooperation Fund [OECF] with interest rate of 8 percent per annum under the first loan agreement, 12 percent per annum under loan agreements for the second to the fifth loans, 9.8 percent per annum under loan agreements for the sixth and seventh loans, and 9 percent per annum under loan agreement for the eighth through the thirteenth loans.

Table 2: Interest Rate Structure for Loans to Farmer Institutions<sup>a</sup>

Agricultural Cooperatives and Farmer Associations/ Type of Loan	1 April 1994 to 31 March 1995	Maximum Loanable Amount
For onlending to members	1. 6 percent compound interest on loan not exceeding B30,000 per member <sup>b</sup> 2. 8 percent compound interest on loan not exceeding B60,000 per member 3. 9.25 percent compound interest on loan over B60,000 but not exceeding B1,000,000 per member 4. 11.5 percent compound interest on loan over B1,000,000 per member	B10,000,000 per agricultural cooperatives <sup>c</sup> . B1,000,000 per farmer association <sup>d</sup> .
For purchasing agricultural inputs	9 percent compound interest	Six times amount of own funds for agricultural cooperative. Four times amount of own funds for farmer association.
For marketing agricultural products	9 percent compound interest <sup>e</sup>	B10,000,000 per agricultural cooperatives <sup>f</sup> . B5,000,000 per farmer association.
For term loan for investment in agriculture (and agricultural related activities)	7 percent simple interest	B5,000,000 <sup>g</sup>

<sup>a</sup> A penalty rate of interest of 3 percent per annum is added to the normal rate on all types of loans borrowed by farmer institutions in the even that the loan falls past due for reasons other than force majeure, but not exceeding the ceiling rate specified by law.

<sup>b</sup> Starting 1 October 1995.

<sup>c</sup> Agricultural cooperatives having operations experience of at least three years, or cooperative registering after amalgamation, or cooperative federations, may borrow an amount not exceeding 12 times the cooperative's own funds.

<sup>d</sup> In case of farmer associations having a membership of over 150, the maximum loanable amount increases to B2 million, farmer associations having operations experience of at least three years may borrow an amount of not exceeding 10 times the association's own fund.

<sup>e</sup> Loan extended under the Paddy Pledging Scheme were an exception with the special interest rate of 3 percent per annum charged to participating institution (implementing during 1 November 1994 to 31 May 1995).

<sup>f</sup> In case of agricultural cooperative borrowing under a project or scheme approved by BAAC's Board of Directors, the President may fix a loanable fund in an amount over B10 million but not exceeding B15 million.

<sup>g</sup> In case of cooperative federations the maximum loanable amount increases to B10 million.

**Table 3: Effective Interest Rates  
(percent)**

	<b>Commercial Banks (1993)<sup>a</sup></b>	<b>BAAC (1994)<sup>b</sup></b>
Deposit Rate	7.7	5.5 <sup>c</sup>
Administrative Cost	2.2	2.9 <sup>c</sup>
<b>Total Cost</b>	<b>9.9</b>	<b>8.4<sup>c</sup></b>
Lending Rate	12.2	9.3 <sup>c</sup>
<b>Profit Margin</b>	<b>2.3</b>	<b>0.9<sup>c</sup></b>

<sup>a</sup> Source: Bank of Thailand

<sup>b</sup> BAAC's FY1994 Financial Statement

<sup>c</sup> See Appendix 7, Table 6

**Table 4: Comparison of Interest Rates of BAAC,  
Commercial Bank and Bank of Thailand**

	<b>1995 (percent)</b>
Inflation Rate (% Chg. in Consumer Price Index) <sup>a</sup>	5.8
Bank of Thailand Discount Rate <sup>a</sup>	10.5
Commercial Banks Lending Rate <sup>a</sup>	14.5
BAAC's Lending Rate for Agriculture-Related Loans <sup>b</sup>	11.5 - 12.5
<b>Real Discount Rate</b>	<b>5.0 - 6.0</b>
<b>Real Commercial Bank Lending Rate</b>	<b>9.0</b>
<b>Real BAAC Lending Rate</b>	<b>6.0 - 7.0</b>
SCB Minimum Savings Rate <sup>a</sup>	5.0
SCB Minimum Lending Rate <sup>a</sup>	13.5
SCB Minimum Fixed Deposit Rate <sup>a</sup>	10.25

<sup>a</sup> (SCB = Siam Commercial Bank) The Nation, August 2, 1995

<sup>b</sup> See Table 1 of Appendix 5

**BAAC TRAINING PROGRAM FOR 1995**

<b>Course Title</b>	<b>Total Participants</b>	<b>Total Cost (US\$)</b>
<b>A. Induction and Promotion Training</b>		
1. New Recruit Orientation Courses	1,600	330,828
2. Staff Promotion Preparation Courses	900	186,092
<b>B. Development and Implementation of Bank Operational Policies</b>		
Bank Policy Development Seminars	1,100	175,200
<b>C. Operations and Methods Development</b>		
1. Work Efficiency Improvement Courses	910	215,664
2. Work Efficiency Improvement Seminars	560	132,716
<b>D. Management Training</b>		
Modern Management Concepts Workshop	750	457,200
<b>E. Language Training</b>		
English Language Revision and Improvement Courses	80	16,800
<b>F. Overseas Training</b>		
1. Overseas Study and Short Courses	80	322,800
2. Postgraduate Study	10	196,000
<b>G. Cooperative and Farmer Institution Training</b>		
1. Cooperative Staff Development	1,480	263,240
2. Cooperative Business Development		
3. Planning Seminars		
Total		2,229,540

Source: BAAC, March 1995

## **PAST FINANCIAL AND OPERATIONAL PERFORMANCE OF BAAC**

### **1. Lending Performance**

1. Between FY1990 and FY1994, BAAC's total lending grew from B40 billion to over B93.6 billion, an annual increase of 23 percent. The number of outstanding loans in FY1994 was 4.31 million with an average loan size outstanding of approximately B21,700 and a coverage of 80 percent of farm households in the country. About 85.8 percent of total lending was to direct clients, 13.8 percent to agricultural cooperatives, and 0.4 percent to farmers associations. Of the credit to cooperatives, 95 percent is onlent to farmer members.

2. Short-term and medium-term loans to direct clients represent the most important lending activities and account for about 44 percent of the annual total lending during the last four years, while long-term investment credit remained at about 11 percent of total lending. Short- and medium-term crop production loans, traditionally the major focus of BAAC lending accounted for 57 percent of total direct lending. Next in importance was medium-term loans for buildings and equipment (8.9 percent of total direct lending), followed by medium-term loans for land improvement and purchase (6.5 percent), short-term loans for inventory credit (5.5 percent), and long-term loans for land improvement and irrigation (4.9 percent).

3. Within its normal lending operations, BAAC undertakes lending in response to policy directives from the Government and a variety of special credit projects (see Appendix 8 for details). At the end of FY1994, there were 27 concessional loan schemes (policy lending) and 235 special projects reaching a total of 2.36 million farmer beneficiaries with whom about B15.8 billion is outstanding. Concessional loan schemes provide low interest loans to disadvantaged farmers who are identified on the basis of clear guidelines set by the Government to receive assistance. Special projects are aimed at poor farmers who lack the necessary conditions to borrow, but who would be viable if technical and marketing support were provided. These projects are undertaken with the direct collaboration of Government technical and marketing agencies. The collection performance of the special lending has been impressive, with collection of policy loan schemes (which constitute more than 80 percent by loan amount of special projects) achieving 92 percent in FY1993.

4. In addition to its normal lending operations, BAAC provides credit services on behalf of Government agencies for which it receives budgetary allocations consisting of credit funds and contributions towards the cost of operating such schemes. There have been a number of projects implemented under this system in recent years, but they are not regarded by BAAC as part of its normal lending operations. The major programs during FY1994 were the land reform efficiency improvement plan under the Land Fund, agricultural rehabilitation under the Ministry of Agriculture and Cooperatives [MOAC] and the revolving fund for refinancing old debts of poor farmers under the Office of the Permanent Secretary to the Prime Minister. Disbursements under these programs on a regional basis in FY1994 are summarized in Appendix 8.

## 2. Geographical Distribution

5. The regional distribution of BAAC's clients indicates a significant concentration in the poorest regions of the country (North and Northeastern), which account for 27 percent and 42 percent respectively of all BAAC clients. The relative shares of each region have remained virtually unchanged over the period, with only a marginal shift in share from the Central region to South region. The regional distribution of BAAC disbursements and annual growth rates between FY1990 and FY1994 are summarized in Appendix 8, table 2.

## 3. Savings and Funds Mobilization

6. Over the 1990 to 1994 period, there was a major shift in the composition of BAAC sources of operating funds. The contribution of funds by commercial banks to BAAC fell from 25.6 percent of total sources in FY1990 to only 5.7 percent in FY1994 representing a decline of commercial bank contribution by 50 percent to B7.5 billion<sup>1</sup>. The share of equity, general borrowing, and borrowing from Bank of Thailand [BOT] in total funds also fell over the period, although at a much lower rate. However, deposits from the general public tripled over this period, their share increasing from 37 percent to 52 percent of total funds. In FY1991, BAAC introduced a new instrument, the BAAC bonds, to raise wholesale funds. So far, bond issues have been very successful, rising from B3 billion in FY1991 to B20 billion in FY1994, and accounted for 15 percent of the total sources of funds. BAAC equity increased from B5 billion in FY1990 to an estimated B9.96 billion at the end of FY1994, as a result of the increase in the share capital contribution by the Government (B1 billion in FY1994) and increases in retained earnings. The growth of BAAC's equity has, however, been constrained by the increase in the provisions for deferred foreign exchange losses on foreign borrowing which amounted to B1.67 billion at the end of FY1994. BAAC's foreign borrowings consist mainly of loans from the World Bank [IBRD] and the Overseas Economic Cooperation Fund [OECF] and accounted for 15 percent and 57 percent respectively of total outstanding borrowing in FY1994. The foreign borrowing is subject to foreign exchange fluctuations for which BAAC makes an annual provision in the range of 1 to 1.5 percent of total borrowing over this period. The provision for foreign exchange losses amounted to B136 million or 1 percent of outstanding foreign borrowings at the end of FY1994.

7. About 32 percent of BAAC's sources of funds are medium- to long-term, compared to more than 74 percent invested in medium- and long-term loans (see Appendix 9 for details). There is a significant mismatch in BAAC's funds and lending that should be balanced by more medium- and long-term sources.

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<sup>1</sup> In order to expand the provision of credit in rural areas, the BOT had been operating a credit quota system which required commercial banks to make loans to the rural sector equivalent to 20 per cent of deposits outstanding at the end of the previous year, of which 14 per cent was for farmers and small industries in rural areas and 6 per cent for agribusiness. Any bank unable to meet this quota was required to deposit the shortfall with BAAC for on-lending to farmers. Although this policy still exists, in FY1991 the BOT redefined the eligible list of rural lending making it easier for commercial banks to meet this quota themselves resulting in a drastic reduction of deposits with BAAC.

**Table 1: Balance Sheet**  
(B million)

	1990	1991	1992	1993	1994	Note
<b>ASSETS</b>						
Cash	16	32	83	165	0	
Deposits with Commercial Banks	9,518	10,877	3,869	7,419	4,930	
Other Deposits, Payments in Transit	36	239	218	80	0	
Total Cash and Bank Deposits	9,570	11,148	4,170	7,664	4,930	
Net Accrued Interest Receivable	2,023	2,620	3,073	3,775	4,093	(i)
Securities:						(ii)
Government Bonds	85	0	5	840	1,036	
Promissory Notes	3,720	5,310	3,130	7,190	11,400	
<b>Total Investments &amp; Receivables</b>	15,398	19,078	10,378	19,469	21,459	
Loans Outstanding:						
Farmer Clients	36,850	47,766	66,137	75,608	97,680	
Agricultural Cooperatives	4,870	5,995	6,892	7,493	8,305	
Farmers Associations	203	198	193	191	169	
Total Loans Outstanding	41,923	53,959	73,222	83,292	106,154	
Less: Loan Loss Provision	2,802	2,958	3,296	3,679	3,754	
Net Loans Outstanding	39,121	51,001	69,926	79,613	102,400	
Equity Investments	6	6	16	25	25	(iii)
Less: Provision for Possible Losses	0	0	0	0	0	
Net Equity Investments	6	6	16	25	25	
Fixed Assets (Net)	1,788	2,250	2,656	3,002	3,319	(iv)
Other Assets	415	525	1,988	7,219	5,301	(v)
<b>TOTAL ASSETS</b>	56,728	72,860	84,964	109,328	132,504	
<b>LIABILITIES</b>						
Deposits:						(vi)
Savings	9,400	15,416	18,962	27,777	38,593	
Time	11,424	15,534	18,307	24,422	30,177	
Demand & Other Deposits	147	554	74	19	0	
Interbank Accounts	14,514	14,092	11,713	7,556	7,570	(vii)
<b>Total deposits</b>	35,485	45,596	49,056	59,774	76,340	
Accrued Interest Payable		734	758	885	1,053	
BAAC Bonds	0	3,000	6,000	17,000	20,000	(viii)
Borrowing:						(viii)
Domestic	1,229	1,222	4,367	1,156	2,648	
External	8,756	9,057	9,437	9,950	10,577	
Due to Bank of Thailand	4,896	6,586	6,461	6,536	4,650	(viii)
Other Liabilities	592	820	2,302	5,453	8,332	(ix)
<b>Total Liabilities</b>	51,692	67,039	78,508	100,922	122,547	
Shareholders' Equity						
Share Capital	3,305	3,655	3,745	4,958	6,205	(x)
Supplementary Capital from Government	434	634	834	1,034	1,034	
Reserves	57	57	102	186	310	
Retained Earnings	2,051	2,250	2,526	2,797	3,090	(xi)
Deferred Foreign Exchange Gain/(Loss)	(1,778)	(1,745)	(1,728)	(1,551)	(1,670)	(xii)
Surpluses on Grants Received	967	970	977	982	988	(xiii)
<b>Total Shareholders' Equity</b>	5,036	5,821	6,456	8,406	9,957	
<b>TOTAL LIABILITIES &amp; EQUITY</b>	56,728	72,860	84,964	109,328	132,504	
Contingent Liabilities						

**Table 2: Income Statement**  
(B million)

	1990	1991	1992	1993	1994	Note
<b>INCOME</b>						
<b>Interest Income</b>						
Loans:						
Client Farmers	4,456	5,648	6,673	8,608	8,970	
Farmer Institutions	422	591	663	673	698	(xiv)
Total Loan Interest	4,878	6,239	7,336	9,281	9,668	
Bank Deposits	471	774	188	152	189	
Government Securities & Notes	762	167	156	244	668	
Total Interest Income	6,111	7,180	7,680	9,677	10,525	
Less:						
Interest Expenses On						
General Deposits	1,773	2,465	2,377	2,754	3,753	
Commercial Bank Deposits	1,410	1,593	981	830	548	
Borrowing	663	676	1,068	1,877	2,110	
Bonds, Notes, etc.	0	0	0	0	0	
Total Interest Expense	3,846	4,734	4,426	5,461	6,411	
Loan Expenses	0	26	23	76	50	(xv)
Losses from Exchange Rate Fluctuations	180	153	169	321	136	(xii)
Total Cost of Funds	4,026	4,913	4,618	5,858	6,597	
<b>Net Interest Income</b>	<b>2,085</b>	<b>2,267</b>	<b>3,062</b>	<b>3,819</b>	<b>3,928</b>	
Other Income	74	69	267	602	706	(xvi)
<b>Total Income</b>	<b>2,159</b>	<b>2,336</b>	<b>3,329</b>	<b>4,421</b>	<b>4,634</b>	
<b>OPERATING EXPENSES</b>						
Personnel Expenses	1,105	1,215	1,618	1,812	2,163	
Provision for Loan Losses	330	202	414	441	29	
Depreciation	160	213	280	327	380	
Other Expenses	255	315	352	907	938	(xvii)
<b>Total Operating Expenses</b>	<b>1,850</b>	<b>1,945</b>	<b>2,664</b>	<b>3,487</b>	<b>3,510</b>	
<b>NET PROFIT</b>	<b>309</b>	<b>391</b>	<b>665</b>	<b>934</b>	<b>1,124</b>	
<b>Implication of Taxable Status:</b>						
Tax on Interest Income 3%	183	215	230	290	316	
Tax on Profit 30%	93	117	200	280	337	
Total Tax Payable	276	333	430	571	653	
Net Profit after Tax	33	58	235	363	471	
% of Average Total Assets	0.06	0.09	0.30	0.37	0.39	



## Notes to Financial Statements

The following notes relate to data for FY1994<sup>1</sup>.

- (i) Net accrued interest receivable includes interest accrued on loans outstanding to farmers, agricultural cooperatives and farmer associations less a provision for possible losses on doubtful accounts. In FY1994, total accrued interest stood at B4,093 million.
- (ii) Securities include the outstanding balances on Government bonds and commercial banks' promissory notes purchased by BAAC and sold on maturity.
- (iii) Equity investments include shares held by BAAC in five agricultural or agribusiness companies, notably the Thai Agribusiness Co. (B10 million) and the Thai-Denmark Dairy Co. (B10 million). These investments are valued at the par value of shares and no allowance is made for changes in value.
- (iv) Fixed assets include land, buildings, leasehold, supplies, vehicles with a total book value at March 31, 1995 of B5,151 million. Cumulative depreciation amounted to B1,836 million.
- (v) Other assets include loans disbursed on behalf of Government agencies for which BAAC receives both funds and operating expenses. They are not considered part of the bank's normal portfolio. This accounts for the significant increase in other assets in FY1993 and FY1994 when lending for such agencies amounted to B2.6 billion and an estimated B8.8 billion respectively.
- (vi) Deposits include those made by the general public and the Ministry of Agriculture and Cooperatives [MOAC]. In FY1994, these amounted to B67.5 billion (98 percent) and B1.3 billion (2 percent) respectively. The MOAC deposits were the balance remaining from BAAC's credit operations under the Agricultural Rehabilitation Project and in relation to the Land Fund.
- (vii) Interbank deposits relate to the mandatory deposits made by commercial banks in BAAC under the Government's rural credit quota system which is discussed in the main text of this report.
- (viii) Refer to the main report for a discussion of BAAC's financial instruments and borrowing.
- (ix) Other liabilities include liabilities to the MOAC under the Agricultural Rehabilitation Project and other creditors.

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<sup>1</sup> A discussion of BAAC's key accounting policies appears in Appendix 2 of this report.

- (x) BAAC authorized share capital was increased by B6 billion to 10 million in 1993. Issued and paid-up shares (almost B6.2 billion at the end of FY1994) are held principally by the Ministry of Finance which accounts for 99.7 percent. The balance is held by cooperatives and private investors.
- (xi) Retained earnings at 31 March 1994 were as follows (B million):
- |  |            |              |
|--|------------|--------------|
| Retained earnings brought forward            |            | 2,797        |
| Less: Appropriation of net profit of FY1992: |            |              |
| Bonus for directors and staff                | 463        |              |
| Dividends to MOF                             | 248        |              |
| Reserves                                     | <u>124</u> | <u>835</u>   |
|  |            | 1,962        |
| Plus: Bonus unpaid                           |            | 3            |
| Net profit                                   |            | <u>1,125</u> |
| Retained earnings unappropriated             |            | 3,090        |
- (xii) Foreign exchange losses relate to losses resulting from fluctuations in exchange rates applied to external borrowing which are generally amortized over the remaining loan repayment period. In the balance sheet, cumulative deferred losses are subtracted from shareholders' equity.
- (xiii) Surpluses on grants received related to gains on grants received from external donors, principally from sales of EEC donations in kind of fertilizer in FY1988.
- (xiv) Farmers institutions include agricultural cooperatives and farmers associations.
- (xv) Loan expenses relate mainly to fees incurred in financial market dealings in bonds and promissory notes.
- (xvi) Other income includes fees, proceeds from the supply of farm inputs, assets sales, etc.
- (xvii) Other expenses include costs of offices, transportation, professional fees, etc. Donations and contributions to the Government accounted for 35 percent of such expenses in FY1994.

**Table 3: Financial Highlights**  
(B million)

	1990	1991	1992	1993	1994	Annual Growth %
Total Assets	56,728	72,860	84,964	109,328	132,504	23.6
Total Loans Outstanding	41,923	53,959	73,222	83,292	106,154	26.1
Of Which, Farmer Clients	36,850	47,766	66,137	75,608	97,680	27.6
Provisions for Loan Losses	2,802	2,958	3,296	3,679	3,754	7.6
Provisions/Total Loans Outstanding (%)	6.7	5.5	4.5	4.4	3.5	
Net Loans Outstanding	39,121	51,001	69,926	79,613	102,400	27.2
Arrears (Farmer Clients Only)	4,277	4,397	4,988	6,974	7,875	16.5
Arrears/Farmer Loans Outstanding (%)	11.6	9.2	7.5	9.2	8.1	
Provisions/Arrears (%)	65.5	67.3	66.1	52.8	47.7	
Deposits:						
Savings	9,400	15,416	18,962	27,777	38,593	42.3
Other	11,571	16,088	18,381	24,441	30,177	27.1
Interbank Accounts	14,514	14,092	11,713	7,556	7,570	(15.0)
Total	35,485	45,596	49,056	59,774	76,340	21.1
Balance on Outstanding Borrowing:						
Domestic	1,229	1,222	4,367	1,156	2,648	21.2
External	8,756	9,057	9,437	9,950	10,577	4.8
Bank of Thailand	4,896	6,586	6,461	6,536	4,650	(1.3)
Share Capital	3,305	3,655	3,745	4,958	6,205	17.1
Government Capital Contributions	434	634	834	1,034	1,034	24.2
Total Equity	5,036	5,821	6,456	8,406	9,957	18.6
Deferred Foreign Exchange Losses as % of Equity (before Exchange Losses)	26	23	21	16	14	(13.9)
Interest Income:						
Loans	4,878	6,239	7,336	9,281	9,668	18.7
Total	6,111	7,180	7,680	9,677	10,525	14.6
Interest Expense	3,846	4,734	4,426	5,461	6,411	13.6
Net Interest Income	2,085	2,267	3,062	3,819	3,928	17.2
Total Income	2,159	2,336	3,329	4,421	4,634	21.0
Cost of Funds	4,026	4,913	4,618	5,858	6,597	13.1
Personnel Costs	1,105	1,215	1,618	1,812	2,163	18.3
Total Noninterest Operating Costs	1,850	1,945	2,664	3,487	3,510	17.4
Net Profit	309	391	665	934	1,124	38.1
Total Debt: Equity Ratio	11.3:1	12.5:1	13.2:1	13.0:1	13.3:1	
Long-Term Debt: Equity Ratio	3.0:1	2.9:1	3.1:1	2.1:1	1.8:1	

**Table 4: Capital Adequacy Analysis**  
(B million)

	<b>Risk Weight</b>	<b>1990</b>	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>
<b>A. CAPITAL REQUIREMENTS</b>						
Cash	0%	0	0	0	0	0
Deposits with Commercial Banks	20%	1,904	2,175	774	1,484	986
Other Deposits, Payments in Transit, etc.	20%	7	48	44	16	0
Securities:						
Government Bonds	20%	17	0	1	168	207
Promissory Notes	20%	744	1,062	626	1,438	2,280
Loans Secured by Property	50%	0	0	0	0	0
Equity Investments	100%	6	6	16	25	25
Fixed Assets (Net)	100%	1,788	2,250	2,656	3,002	3,319
Other Assets <sup>a</sup>	100%	41,559	54,146	74,987	90,607	111,794
Total Risk-Weighted Assets		46,025	59,687	79,103	96,740	118,611
i. Core Capital (4% of Total)	4%	1,841	2,387	3,164	3,870	4,744
ii. Total Capital (8% of Total)	8%	3,682	4,775	6,328	7,739	9,489
<b>B. AVAILABLE CAPITAL</b>						
Core Capital <sup>b</sup>		5,036	5,821	6,456	8,406	9,957
Supplementary Capital <sup>c</sup>		2,802	2,958	3,296	3,679	3,754
Net Available Capital		7,838	8,779	9,752	12,085	13,711
<b>C. CAPITAL ADEQUACY</b>						
Capital Surplus/(Shortfall) in B Million						
i. Core Capital		3,195	3,434	3,292	4,536	5,213
ii. Total Capital		4,156	4,004	3,424	4,346	4,222
Surplus as % of Available Capital						
i. Core Capital		174	144	104	117	110
ii. Total Capital		113	84	54	56	44
Capital Adequacy Ratio (CAR) %		17	15	12	12	12

<sup>a</sup> Includes loans secured by property.

<sup>b</sup> Shareholders equity less goodwill and reinvestment in other financial institutions.

<sup>c</sup> Undisclosed reserves plus asset revaluation reserves, subordinated term debts, general provisions and loan loss.

Table 5: Analysis of Portfolio  
(B million)

	Financial Year 1993			Financial Year 1994 (to 28 February 1995)		
	No. of Loans	%	Amount	No. of Loans	%	Amount
Performing Normally	2,424,093	83.5	68,442	2,783,150	88.2	87,733
Overdue Loans:						
Awaiting Credit Decision	313,849	10.8	4,227	202,154	6.4	3,140
Rescheduled Once	69,622	2.4	1,278	79,212	2.5	1,503
Rescheduled Twice	30,720	1.1	583	31,612	1.0	654
Rescheduled Thrice	22,981	0.8	427	22,010	0.7	428
Foreclosure on Guarantee	24,602	0.8	302	20,509	0.7	260
Recalled	4,858	0.2	113	4,623	0.1	153
Novations (Arrears)	4,114	0.1	40	3,621	0.1	37
Subtotal	470,746	16.2	6,971	363,741	11.5	6,174
Novations (Not Due)	400	0.0	7	401	0.0	7
Under Litigation	6,685	0.2	183	6,533	0.2	188
Total	2,901,924	100.0	75,603	3,153,825	100.0	94,102

**Table 6: Ratio Analysis**  
(B million)

	1990	1991	1992	1993	1994
Average Total Assets	52,410	64,794	78,912	97,146	120,916
Average Total Liabilities	52,410	64,794	78,912	97,146	120,916
Average Loans Outstanding	40,640	47,941	63,591	78,257	94,723
Average Shareholders' Equity	4,541	5,429	6,139	7,431	9,182
<b>DEBT-SERVICE COVERAGE CALCULATION</b>					
<b>A. Cash Flow Available for Debt-Service</b>					
Net Profit	309	391	665	934	1,124
Add Back:					
a. Noncash Expenses (Depreciation, etc)	670	568	863	1,089	545
b. Accrued Interest Income at Start	1,496	2,023	2,620	3,073	3,775
c. Subtotal	2,166	2,591	3,483	4,162	4,320
Less:					
d. Accrued Interest Income at End	2,023	2,620	3,073	3,775	4,093
e. Subtotal	143	(29)	410	387	227
Loan Principal Collection (Cash)	31,720	38,950	48,819	65,189	72,868
Interest Expense	4,026	4,913	4,618	5,858	6,597
Total Cash Flow	36,198	44,225	54,512	72,368	80,816
<b>B. Debt Service</b>					
Interest Expense	4,026	4,913	4,618	5,858	6,597
Repayment of Loans/Borrowing					
a. Actual	286	296	1,245	11,920	621
b. Repayments Rescheduled During Year					
c. Subtotal	286	296	1,245	11,920	621
Total Debt Service	4,312	5,209	5,863	17,778	7,218
Ratio	8.39	8.49	9.30	4.07	11.20
<b>INTEREST RATE SENSITIVITY</b>					
Excluding Securities:					
Interest Sensitive Assets	51,477	65,075	77,309	90,791	111,084
Interest Sensitive Liabilities	50,366	62,461	69,321	77,416	94,215
	102.2	104.2	111.5	117.3	117.9
Including Securities:					
Interest Sensitive Assets	55,282	70,385	80,444	98,821	123,520
Interest Sensitive Liabilities	50,366	65,461	75,321	94,416	114,215
	109.8	107.5	106.8	104.7	108.1
<b>LOAN-TO-DEPOSIT</b>					
Total Outstanding Loans	41,923	53,959	73,222	83,292	106,154
Total Deposits	35,485	45,596	49,056	59,774	76,340
	118.1	118.3	149.3	139.3	139.1

	1990	1991	1992	1993	1994
<hr/>					
As % of Average Total Loans Outstanding					
Loan Interest	12.0	13.0	11.5	11.9	10.2
Interest from Deposits	1.2	1.6	0.3	0.2	0.2
Other Interest Income	1.9	0.3	0.2	0.3	0.7
Total Interest Income	15.0	15.0	12.1	12.4	11.1
Cost of Funds	9.9	10.2	7.3	7.5	7.0
Net Interest Income	5.1	4.7	4.8	4.9	4.1
Other Income	0.2	0.1	0.4	0.8	0.7
Total Income	5.3	4.9	5.2	5.6	4.9
Personnel Expenses	2.7	2.5	2.5	2.3	2.3
Total Operating Expenses	4.6	4.1	4.2	4.5	3.7
Net Profit	0.8	0.8	1.0	1.2	1.2
As % of Average Total Assets					
Total Interest Income	11.7	11.1	9.7	10.0	8.7
Cost of Funds	7.7	7.6	5.9	6.0	5.5
Net Interest Income	4.0	3.5	3.9	3.9	3.2
Total Income	4.1	3.6	4.2	4.6	3.8
Personnel Expenses	2.1	1.9	2.1	1.9	1.8
Total Operating Expenses	3.5	3.0	3.4	3.6	2.9
Net Profit	0.6	0.6	0.8	1.0	0.9
Cost of Funds as % of Average Total Liabilities and Equity	7.7	7.6	5.9	6.0	5.5
Interest Income from Loans as % of Average Total Loans Outstanding	12.0	13.0	11.5	11.9	10.2
Net Intermediation Margin %	4.3	5.4	5.7	5.8	4.8
Net Profit as % of Average Shareholders' Equity	6.8	7.2	10.8	12.6	12.2
Debt-Service Coverage	8.4	8.5	9.3	4.1	11.2
Interest-Rate Sensitivity	109.8	107.5	106.8	104.7	108.1
Loan-to-Deposit Ratio	118.1	118.3	149.3	139.3	139.1
<hr/>					

**OPERATIONAL PERFORMANCE**  
**Table 7: BAAC Disbursements by Loan and Borrower Categories**  
**FY1990-1994**  
**(B million)**

<b>Loan Category</b>	<b>1990</b>	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>
<b>Client Farmers:</b>					
Short-Term	14,465	18,886	28,705	27,537	31,433
Medium-Term	5,965	8,473	11,254	14,307	16,359
Cash Credit Lines	8,185	10,714	12,285	14,861	16,981
Long-Term Refinancing	0.24	0.38	0.94	13	788
Long-Term Investment	4,393	4,631	5,822	7,092	13,332
Agri-Related				1,595	1,703
Subtotal	33,009	42,705	58,067	65,405	80,596
(Percent of Total)	82.4	83.6	85.3	84.8	86.08
<b>Agriculture Cooperatives:</b>					
Onlent	6,767	7,858	9,555	11,024	12,478
Inputs	83	73	46	63	134
Marketing	152	312	381	317	307
Long-Term Investment	1	6	7	13	58
Subtotal	7,003	8,249	9,989	11,417	12,977
(Percent of Total)	17.5	16.2	14.7	15.2	13.88
<b>Farmer Groups:</b>					
Onlent	21	20	22	19	27
Inputs	1	2	0	0	2
Marketing	5	10	4	13	11
Long-Term Investment	1	0	0	0	0
Subtotal	28	32	26	32	40
(Percent of Total)	0.1	0.1	0.0	0.0	0.04
<b>Total</b>	<b>40,040</b>	<b>50,986</b>	<b>68,082</b>	<b>76,854</b>	<b>93,613</b>

Source: BAAC Annual Reports, 1990-1994

Note: BAAC also issues novations (loans to dependents of deceased BAAC borrowers to cover inherited debts) which are not classified according to purpose. In FY1993, novations amounted to B12 million, half of which went to refinance short-term loans.



**Table 8: BAAC Disbursements to Client Farms by Purpose, FY1990-1994**  
(B million)

Category	1990	1991	1992	1993	1994
<b>Short-Term:</b>					
Crop	11,667	14,948	16,974	21,801	24,552
Livestock	503	952	1,297	1,797	2,327
Fisheries	208	222	252	284	375
Other	41	78	103	147	191
Sale Postponement	2,046	2,686	10,079	3,508	3,988
Subtotal	14,465	18,886	28,705	27,537	31,433
<b>Medium-Term:</b>					
Buildings and Equipment	2,187	3,089	4,409	5,715	6,952
Land	1,607	2,428	3,361	4,124	4,377
Livestock	1,686	2,353	2,745	3,404	3,608
Other	449	577	712	1,043	1,399
Refinancing	36	26	27	21	23
Subtotal	5,965	8,473	11,254	14,307	16,359
<b>Cash Credit Lines:</b>					
Production	8,096	10,563	12,142	14,674	16,760
Buildings and Equipment	12	11	10	10	14
Land	18	19	14	19	20
Livestock	41	54	69	63	86
Other	18	67	50	95	101
Subtotal	8,185	10,714	12,285	14,861	16,981
<b>Long-Term:</b>					
Buildings and Equipment	1,302	1,162	1,524	1,976	2,534
Land and Irrigation	1,602	1,597	2,252	3,138	5,290
Livestock	1,118	1,449	1,629	1,408	3,067
Other	371	423	417	570	2,441
Refinancing	0.24	0.38	0.94	13	788
Subtotal	4,393	4,631	5,822	7,105	14,120
<b>Agriculture-Related Lending:</b>	-	-	-	1,595	1,703
<b>Total</b>	<b>33,009</b>	<b>42,704</b>	<b>58,066</b>	<b>65,405</b>	<b>80,596</b>

Source: BAAC Annual Reports, 1990-1993

**Table 9: Age Analysis of Total Arrears FY1993**  
(B million)

	Total Portfolio		Principal Arrears		Interest Arrears		Total Arrears	
	No of Loans	Amount	Per-Cent	Amount	Per-Cent	Amount	Per-Cent	Amount
Loans Overdue by:								
Less than 1 Year	272,892		n/a	4,090	59	517	35	4,607
1 - 2 Years	68,596		n/a	1,189	17	388	26	1,577
2 - 3 Years	36,474		n/a	588	8	221	15	809
3 - 4 Years	22,412		n/a	329	5	115	8	444
4 - 5 Years	12,371		n/a	165	2	70	5	235
5 - 6 Years	9,602		n/a	113	2	52	3	164
6 - 7 Years	9,625		n/a	109	2	133	9	242
7 - 8 Years	7,724		n/a	94	1		0	94
8 - 9 Years	7,654		n/a	87	1		0	87
9 - 10 Years	7,107		n/a	73	1		0	73
Over 10 Years	16,289		n/a	132	2		0	132
Total	470,746	6,991	9.2	6,971		1,494	100	8,464
Loans without Overdues	2,424,093	68,442	90.5					
Other Loans	7,085	190	0.2					
Total Loans	2,901,924	75,603	100.0	6,971	9.2	1,494	2.0	8,464
Percent of Total Amount in Portfolio								

Source: Analysis of BAAC Computer Department data.

**Table 10: Collection Rates for Major Segments of BAAC Portfolio, FY1990-1994 (percent)**

Loan Category	1990	1991	1992	1993	1994
Short-Term	86.0	89.6	91.1	91.0	90.0
Medium-Term	85.2	87.2	87.4	86.1	86.4
Long-Term (Refinancing)	65.9	58.0	80.4	86.0	69.0
Long-Term (Investment)	83.2	81.4	81.5	80.5	81.2
Cooperative Members	66.6	68.4	68.8	68.1	68.4
Farmer Association Members	63.1	71.5	71.3	64.3	59.3
Agri-Related Lending (Regulation 42)	-	-	-	-	77.4
Policy Lending	97.0	89.8	89.4	91.9	83.1
Special Projects	58.9	64.2	60.5	56.0	71.5

Source: BAAC Annual Reports, 1990-1994

Note: Rates for policy lending and individual special project are subsidized and differ from each other. Rates may be found in Annual Reports.

**Table 1: Policy Lending, Special and Integrated Projects (FY1990-1994)**  
(B million)

	1990	1991	1992	1993	1994
<b>Policy Lending</b>					
Number of Projects	17	15	22	27	27
Number of Beneficiaries	885,025	411,628	1,147,578	1,284,427	2,255,122
Amount Outstanding	13,373	9,219	23,709	28,882	13,945
<b>Special Projects</b>					
Number of Projects	168	198	214	232	235
Number of Beneficiaries	62,238	168,482	68,902	91,219	101,978
Amount Outstanding	2,495	3,183	3,700	4,360	1,892
<b>Integrated Projects</b>					
Number of Projects	65	136	396	na	na
Number of Beneficiaries	191,692	156,169	89,451	na	na
Amount Outstanding	1,604	1,848	2,626	na	na
<b>Total</b>					
Number of Projects	250	349	632	259	262
Number of Beneficiaries	1,138,955	736,279	1,305,931	1,375,646	2,357,100
Amount Outstanding	17,472	14,250	30,035	33,242	15,851

Note: Integrated projects are those undertaken in collaboration with RTG agencies and private sector companies.

**Table 2: Lending on Behalf of Government Agencies (FY1994)**  
(B million)

Region	Restructuring	Land Fund Rehabilitation	Refinancing	Others	Total
Northern	707.7	18.2	376.8	122.5	1,226.4
Northeastern	1,145.9	323.1	789.2	126.2	2,396.5
Central and Eastern	650.9	6.7	0	75.7	734.0
Southern and Western	524.4	3.1	86.1	44.4	660.3
<b>Total</b>	<b>3,028.9</b>	<b>351.1</b>	<b>1,252.1</b>	<b>368.8</b>	<b>5,017.2</b>

**Table 3: BAAC Client Families and Disbursement by Region, FY1990-1993  
(B million)**

Region/Borrower Type	1990		1991		1992		1993		1994	
	Families	Amount	Families	Amount	Families	Amount	Families	Amount	Families	Amount
<b>Northern</b>										
Client Farmers	577,558	7,430	637,751	10,162	705,180	14,633	775,459	14,672	835,988	20,004
Cooperatives	225,925	1,895	251,536	2,136	264,723	2,626	287,434	2,958	305,137	3,231
Farmer Associations	25,912	11	23,255	6	21,231	12	17,426	5	14,931	8
<b>Total</b>	<b>829,395</b>	<b>9,336</b>	<b>912,542</b>	<b>12,304</b>	<b>991,134</b>	<b>17,271</b>	<b>1,080,319</b>	<b>17,635</b>	<b>1,156,056</b>	<b>23,244</b>
<b>Northeastern</b>										
Client Farmers	859,332	10,016	975,013	12,541	1,097,051	17,894	1,229,325	19,588	1,324,228	25,905
Cooperatives	322,116	2,185	354,291	2,574	397,244	3,205	449,683	3,701	482,069	4,427
Farmer Associations	26,265	1	23,454	2	22,842	1	10,243	11	17,086	5
<b>Total</b>	<b>1,207,713</b>	<b>12,202</b>	<b>1,352,758</b>	<b>15,116</b>	<b>1,517,137</b>	<b>21,099</b>	<b>1,689,251</b>	<b>23,300</b>	<b>1,823,386</b>	<b>30,337</b>
<b>Central</b>										
Client Farmers	161,463	3,768	167,041	4,371	172,755	5,829	179,501	6,111	184,990	6,874
Cooperatives	95,628	668	95,550	904	101,759	1,030	104,046	1,116	10,527	1,245
Farmer Associations	4,563	5	4,285	10	4,015	1	4,260	0	3,533	0
<b>Total</b>	<b>261,654</b>	<b>4,442</b>	<b>266,876</b>	<b>5,285</b>	<b>278,529</b>	<b>6,859</b>	<b>287,807</b>	<b>7,227</b>	<b>297,050</b>	<b>8,119</b>
<b>Eastern</b>										
Client Farmers	113,662	3,510	118,503	4,438	126,306	5,954	136,489	6,381	145,633	7,661
Cooperatives	59,380	909	61,250	1,083	66,415	1,414	72,499	1,661	76,046	1,760
Farmer Associations	7,612	6	6,858	5	7,696	5	7,703	7	6,902	11
<b>Total</b>	<b>180,654</b>	<b>4,424</b>	<b>186,611</b>	<b>5,526</b>	<b>200,417</b>	<b>7,374</b>	<b>216,691</b>	<b>8,049</b>	<b>228,581</b>	<b>9,433</b>
<b>Western</b>										
Client Farmers	150,554	3,710	158,545	5,089	166,982	6,059	175,445	7,234	185,159	8,620
Cooperatives	78,883	657	84,560	869	82,949	877	87,294	962	88,639	1,067
Farmer Associations	11,702	0	12,558	0	10,460	0	10,373	0	10,362	4
<b>Total</b>	<b>241,139</b>	<b>4,367</b>	<b>255,663</b>	<b>5,957</b>	<b>260,391</b>	<b>6,936</b>	<b>273,112</b>	<b>8,196</b>	<b>284,160</b>	<b>9,691</b>
<b>Southern</b>										
Client Farmers	273,406	4,573	299,732	6,105	331,411	7,698	364,672	9,824	395,547	11,424
Cooperatives	98,476	689	105,162	684	107,845	838	106,701	1,020	119,937	1,247
Farmer Associations	7,249	5	7,010	9	6,213	7	5,851	8	5,540	12
<b>Total</b>	<b>379,131</b>	<b>5,267</b>	<b>411,904</b>	<b>6,798</b>	<b>445,469</b>	<b>8,543</b>	<b>477,224</b>	<b>10,852</b>	<b>521,024</b>	<b>12,683</b>
<b>Total</b>	<b>2,135,975</b>	<b>33,009</b>	<b>2,356,585</b>	<b>42,705</b>	<b>2,599,685</b>	<b>58,067</b>	<b>2,860,891</b>	<b>63,810</b>	<b>3,071,545</b>	<b>80,489</b>
Client Farmers	880,408	7,003	952,349	8,249	1,020,935	9,989	1,107,657	11,417	1,180,355	12,977
Cooperatives	83,303	28	77,420	33	72,457	26	55,856	32	58,357	40
Farmer Associations										
<b>Total</b>	<b>3,099,686</b>	<b>40,039</b>	<b>3,386,354</b>	<b>50,987</b>	<b>3,693,077</b>	<b>68,082</b>	<b>4,024,404</b>	<b>75,259</b>	<b>4,310,257</b>	<b>93,506</b>

**Table 1: BAAC Source of Funds**  
(B million)

	1990		1991		1992		1993		1994	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
Equity	5,036	8.9	5,821	8.0	6,455	7.6	8,406	7.7	9,959	7.5
Deposits:										
General Public	20,971	37.0	31,504	43.2	37,344	44.0	52,218	47.8	68,769	51.9
Commercial Banks	14,514	25.6	14,092	19.3	11,713	13.8	7,556	6.9	7,571	5.7
Borrowing:										
Domestic	1,229	2.2	1,222	1.7	4,367	5.1	1,156	1.1	13,224	10.0
Foreign	8,756	15.4	9,057	12.4	9,437	11.1	9,950	9.1		
Bank of Thailand	4,896	8.6	6,586	9.0	6,461	7.6	6,536	6.0	4,650	3.5
BAAC Bonds	0	0.0	3,000	4.1	6,000	7.1	17,000	15.5	20,000	15.1
Other	1,326	2.3	1,578	2.2	3,187	3.8	6,506	6.0	8,332	6.3
Total	56,728	100.0	72,860	100.0	84,964	100.0	109,328	100.0	132,505	100

Source: BAAC Annual Reports, 1990-1993 and BAAC estimates for 1994.

Note: 1994 estimates assume the level of commercial bank deposits to remain at the 1993 level.

**Table 2: BAAC Borrowing**  
(B million)

Source	1990		1991		1992		1993		1994	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
Domestic:										
MOF	157.1	1.6	153.0	1.5	99.0	0.7	91.9	0.8	83.1	0.6
MOAC	54.0	0.5	54.0	0.5	54.0	0.4	54	0.5	54	0.4
GSB	1,000.0	10.0	1,000.0	9.7	4,200.0	30.4	1,000	9.0	2,500	18.9
Other	17.9	0.2	15.3	0.1	14.0	0.1	10.4	0.1	10.2	0.1
Subtotal	1,229.0	12.3	1,222.3	11.9	4,367.0	31.6	1,156.3	10.4	2,647.3	20.0
Foreign:										
USAID	184.1	1.8	176.2	1.7	167.7	1.2	159.7	1.4	150.4	1.1
IBRD	2,753.5	27.6	2,560.0	24.9	2,392.8	17.3	2,155.4	19.4	2,000.4	15.1
IFAD	364.3	3.6	319.5	3.1	271.9	2.0	226.6	2.0	176.7	1.3
ADB	48.0	0.5	46.4	0.5	47.0	3.4	44.8	0.4	48.1	0.4
OECE	5,093.8	51.0	5,621.0	54.7	6,123	44.4	6897.4	62.1	7,561.6	57.2
KfW	152.2	1.5	156.1	1.5	235.9	1.7	246.9	2.2	441.2	3.3
FMO	0.0	0.0	31.1	0.3	66.4	0.5	99.6	0.9	92.5	0.7
Subtotal	8,595.9	86.1	8,910.3	86.7	9,304.7	67.4	9,830.4	88.5	13,118.1	99.2
Exchange Provision	160.3	1.6	146.2	1.4	132.6	1.0	119.2	1.1	106.2	0.8
Total	9,985.2	100.0	10,278.8	100.0	13,804.3	100.0	11,105.9	100.0	13,224.2	100.0

Source: BAAC Annual Reports, 1990-93

**Table 3: BAAC Cost of Funds by Source  
(percent)**

	1990	1991	1992	1993	1994
Source:					
Equity					
Deposits:					
General Public	8.5	9.4	6.9	6.1	6.4
Commercial Banks	9.7	11.1	7.6	8.6	7.2
Borrowing:					
Domestic					
MOF	2.5	2.6	3.2	4.2	2.0
GSB	5.8	9.0	3.5	4.2	9.7
Average Domestic	5.0	7.7	3.4	4.1	5.8
Foreign					
USAID	1.6	1.7	1.7	1.8	3.0
IBRD	8.4	7.6	7.8	7.4	7.4
IFAD	6.3	6.1	6.4	6.8	7.6
ADB	6.3	6.4	6.4	6.5	7.6
OECS	3.2	3.4	3.6	3.9	3.8
KfW	2.0	1.9	1.5	1.2	1.7
FMO	n/a	6.4	4.1	4.8	4.0
Average Foreign	4.9	4.7	4.7	4.7	5.7
Bank of Thailand	3.5	2.8	3.8	2.4	3.8
Total	6.8	7.3	5.5	5.2	5.5

Source: Derived from data provided by BAAC Funds Administration Section.

Note: Interest rates are calculated by dividing the actual interest paid by the average year-end balance outstanding on each loan.

The foreign exchange provision has not been estimated separately for individual foreign loans.

## PROJECTED PERFORMANCE OF BAAC

### Assumptions Underlying Financial Projections

- (i) Disbursements are assumed to grow at varying rates for normal lending to client farmers and cooperatives in FY1995 and FY1996. Thereafter, they are projected to grow at 16 percent and 14 percent per year, respectively. No increase in lending to farmer associations is projected. With respect to policy lending, paddy pledging disbursements are assumed to remain at present levels. All other forms of policy lending are projected to increase significantly in FY1995 in line with BAAC's interpretation of the Ministry of Finance [MOF] guidelines.
- (ii) Repayment rates are assumed at FY1990-1993 levels; farmer clients 85 percent, cooperatives 65 percent and farmer associations 25 percent. Rates for policy lending are assumed at 70 percent.
- (iii) Ageing of arrears has been assumed at FY1993 levels. Provisions are calculated at prevailing rates not according to the proposed system.
- (iv) Interest is calculated at prevailing rates for existing loan categories defined according to interest charged. Interest has been accrued only on arrears of less than one year at normal rates plus the 3 percent penalty charged upon loans in arrears. BAAC projections do not yet incorporate the new interest accrual policy. In each case interest is calculated on average annual balances of loans performing normally and arrears. For the purposes of calculating interest, these balances are allocated to individual loan categories according to proportions estimated during FY1990-1993.
- (v) Changes in general deposits are assumed to change in accordance with BAAC's own projections. No movement is assumed in bank deposits in BAAC. This reflects BAAC's expectation that as existing commercial banks continue to reduce their deposit levels as they increase rural lending, new, largely foreign, banks entering the financial sector will be subject to the same rural credit quota. Without a rural network, such banks are expected to deposit funds with BAAC to meet their quota.
- (vi) BAAC will continue to issue bonds, increasing the amount issued to a maximum of B28 billion in FY1997.
- (vii) BAAC will continue to receive funds from the Ministry of Agriculture and Cooperatives [MOAC] and an annual loan of B3 billion from the Bank of Thailand [BOT]. In order to fund the increase in policy lending, BAAC will receive a substantial increase in funds from the Government Savings Bank [GSB]. Share capital will continue to rise (to almost B15 billion by FY1999) as MOF makes regular contributions.
- (viii) New foreign borrowing is assumed to derive only from OECF and ADB.

**Table 1: Projected Balance Sheet**  
(B million)

	1995	1996	1997	1998	1999
<b>ASSETS</b>					
Cash and Other Deposits	141	141	155	174	171
Deposits with Commercial Banks	4,553	4,561	5,020	5,634	5,516
Total Cash and Bank Deposits	4,694	4,702	5,175	5,808	5,687
Net Accrued Interest Receivable	2,430	3,348	4,142	4,733	5,214
Securities:					
Government Bonds	0	0	0	0	0
Promissory Notes	2,900	2,000	2,500	1,500	1,000
<b>Total Investments &amp; Receivables</b>	<b>10,024</b>	<b>10,050</b>	<b>11,817</b>	<b>12,041</b>	<b>11,901</b>
Loans Outstanding:					
Farmer Clients	115,560	129,760	148,460	168,160	188,760
Agricultural Cooperatives	10,244	14,539	16,034	17,829	19,824
Farmers Associations	219	224	229	234	239
<b>Total Loans Outstanding</b>	<b>126,023</b>	<b>144,523</b>	<b>164,723</b>	<b>186,223</b>	<b>208,823</b>
Less:					
Loan Loss Provision	6,452	8,920	11,509	13,536	14,558
<b>Net Loans Outstanding</b>	<b>119,571</b>	<b>135,603</b>	<b>153,214</b>	<b>172,686</b>	<b>194,265</b>
Loans on Behalf of Government Agencies	21,400	30,700	29,100	27,100	24,800
Equity Investments	26	26	26	26	26
Less: Provision for Possible Losses	0	0	0	0	0
<b>Net Equity Investments</b>	<b>26</b>	<b>26</b>	<b>26</b>	<b>26</b>	<b>26</b>
<b>Fixed Assets (Net)</b>	<b>3,295</b>	<b>3,650</b>	<b>4,161</b>	<b>4,726</b>	<b>5,126</b>
<b>Other Assets</b>	<b>51</b>	<b>55</b>	<b>61</b>	<b>84</b>	<b>96</b>
<b>TOTAL ASSETS</b>	<b>154,367</b>	<b>180,084</b>	<b>198,379</b>	<b>216,663</b>	<b>236,214</b>
<b>LIABILITIES</b>					
Deposits:					
Savings	35,404	44,410	51,810	60,760	71,459
Time	34,916	38,726	45,917	54,377	64,388
Demand & Other Deposits	143	79	79	79	79
Interbank Accounts	7,556	7,556	7,556	7,556	7,556
<b>Total deposits</b>	<b>78,018</b>	<b>90,771</b>	<b>105,362</b>	<b>122,772</b>	<b>143,482</b>
BAAC Bonds	23,000	28,000	27,500	25,500	23,000
Borrowing:					
Domestic	17,750	23,350	24,650	25,950	25,250
External	11,717	14,975	15,124	15,043	14,678
Due to Bank of Thailand	4,125	3,000	3,000	3,000	3,000
Other Liabilities	8,398	7,761	8,559	8,289	8,611
<b>Total Liabilities</b>	<b>143,008</b>	<b>167,857</b>	<b>184,195</b>	<b>200,554</b>	<b>218,021</b>
<b>Shareholders' Equity</b>					
Share Capital	17,505	8,805	10,805	12,805	14,805
Supplementary Capital from Government	1,034	1,034	1,034	1,034	1,034
Reserves	345	381	402	428	453
Retained Earnings	3,249	2,978	3,106	3,149	3,292
Deferred Foreign Exchange Gain/(Loss)	(1,741)	(1,938)	(2,131)	(2,275)	(2,360)
Surpluses on Grants Received	967	967	968	969	969
<b>Total Shareholders' Equity</b>	<b>11,358</b>	<b>12,227</b>	<b>14,185</b>	<b>16,110</b>	<b>18,193</b>
<b>TOTAL LIABILITIES &amp; EQUITY</b>	<b>154,367</b>	<b>180,084</b>	<b>198,379</b>	<b>216,663</b>	<b>236,214</b>



**Table 2: Projected Income Statement  
(B million)**

	1995	1996	1997	1998	1999
<b>INCOME</b>					
<b>Interest Income</b>					
Loan Interest Income	13,394	16,568	18,932	20,855	22,865
Other Interest Income					
Total Interest Income	13,394	16,568	18,932	20,855	22,865
Less:					
Interest Expenses on					
General Deposits	6,412	7,214	8,324	9,641	11,209
Borrowing	1,320	1,961	2,202	2,174	2,083
Total Interest Expense	7,732	9,174	10,526	11,815	13,292
Loan Expenses and Foreign					
Exchange Losses	161	170	184	203	220
Total Cost of Funds	7,893	9,344	10,710	12,018	13,512
<b>Net Interest Income</b>	5,500	7,224	8,222	8,837	9,353
Other Income	811	1,336	1,283	1,276	1,057
<b>Total Income</b>	6,311	8,560	9,505	10,113	10,410
<b>OPERATING EXPENSES</b>					
Personnel Expenses	2,677	3,213	3,855	4,626	5,551
Provision for Loan Losses	1,302	2,469	2,588	2,027	1,021
Depreciation	417	679	754	777	816
Other Expenses	703	844	1,013	1,215	1,458
<b>Total Operating Expenses</b>	5,099	7,204	8,210	8,646	8,847
<b>NET PROFIT</b>	1,212	1,356	1,295	1,467	1,563

**Table 3: Projected Cash Flow**  
(B million)

	1995	1996	1997	1998	1999
<b>Balance Brought Forward</b>	15,409	13,506	18,502	25,389	31,778
<b>INFLOW</b>					
Increase/(Decrease) in Deposits:					
Savings	3,686	9,007	7,400	8,950	10,699
Time	3,425	3,810	7,191	8,460	10,011
Demand	51	(64)	0	0	0
	7,162	12,753	14,591	17,410	20,710
Increase/(Decrease) in Bank Deposit	0	0	0	0	0
Loan Collection	79,443	95,800	111,100	129,300	150,700
Interest Income	10,045	12,426	14,199	15,641	17,149
Other Cash Income	811	1,336	1,283	1,276	1,057
Deposits by MOAC	0	2,800	1,300	1,300	1,300
Loan from Bank of Thailand (BOT)	3,000	3,000	3,000	3,000	3,000
Loan from Government Savings Bank (GSB)	15,000	7,800	5,000	5,000	3,000
Foreign Borrowing	2,850	5,375	1,375	1,250	1,000
Issue of BAAC Bonds and Notes	4,000	6,000	2,500	3,500	2,500
Increase in share and Government Capital	1,300	1,300	2,000	2,000	2,000
Other Inflows	200	0	800	0	400
<b>Total Inflow</b>	123,811	148,590	157,147	179,678	202,816
<b>OUTFLOW</b>					
Disbursement	13,765	123,600	129,700	148,800	171,000
Expenses:					
Interest and Loan Expenses	1,320	1,961	2,202	2,174	2,083
Personnel Expenses	2,677	3,213	3,855	4,626	5,551
Other Operating Expenses	703	844	1,013	1,215	1,458
Purchase of Assets	164	1,034	1,265	1,342	1,216
Repayment of External Borrowing	1,559	2,117	1,226	1,331	1,364
Repayment of BOT Loan	3,525	4,125	3,000	3,000	3,000
Repayment of GSB Loan	1,000	5,000	5,000	5,000	5,000
Redemption of Bonds	1,000	1,000	3,000	5,500	5,000
Other Outflows	0	700	0	300	0
<b>Total Outflow</b>	125,714	143,593	150,261	173,288	195,673
<b>Balance Carried Forward</b>	13,506	18,502	25,389	31,778	38,922

**Table 4: Financial Highlights**  
(B million)

	1995	1996	1997	1998	1999	Annual Growth %
<b>Total Assets</b>	154,367	180,084	198,379	216,663	236,214	11.2
<b>Total Loans Outstanding</b>	126,023	144,523	164,723	186,223	208,823	13.5
<b>Of Which, Farmer Clients</b>	115,560	129,760	148,460	168,160	188,760	13.1
<b>Provisions for Loan Losses</b>	6,452	8,920	11,509	13,536	14,558	22.6
<b>Provisions/Total Loans Outstanding (%)</b>	5.1	6.2	7.0	7.3	7.0	
<b>Net Loans Outstanding</b>	119,571	135,603	153,214	172,686	194,265	12.9
<b>Arrears (Farmer Clients Only)</b>	20,194	23,973	28,718	32,972	37,982	17.1
<b>Arrears/Farmer Loans Outstanding (%)</b>	17.5	18.5	19.3	19.6	20.1	
<b>Provisions/Arrears (%)</b>	31.9	37.2	40.1	41.1	38.3	
<b>Deposits:</b>						
Savings	35,404	44,410	51,810	60,760	71,459	19.2
Other	35,059	38,805	45,996	54,456	64,467	16.4
Interbank Accounts	7,556	7,556	7,556	7,556	7,556	0.0
<b>Total</b>	78,018	90,771	105,362	122,772	143,482	16.5
<b>Balance on Outstanding Borrowing:</b>						
Domestic	17,750	23,350	24,650	25,950	25,250	9.2
External	11,717	14,975	15,124	15,043	14,678	5.8
Bank of Thailand	4,125	3,000	3,000	3,000	3,000	(7.7)
<b>Share capital</b>	7,505	8,805	10,805	12,805	14,805	18.5
<b>Government Capital Contributions</b>	1,034	1,034	1,034	1,034	1,034	0.0
<b>Total Equity</b>	11,358	12,227	14,185	16,110	18,193	12.5
<b>Deferred Foreign Exchange Losses as % of Equity (before Exchange Losses)</b>	13	14	13	12	11	(3.6)
<b>Interest Income:</b>						
Loans	13,394	16,568	18,932	20,855	22,865	14.3
<b>Total</b>	13,394	16,568	18,932	20,855	22,865	14.3
<b>Interest Expense</b>	7,732	9,174	10,526	11,815	13,292	14.5
<b>Net Interest Income</b>	5,500	7,224	8,222	8,837	9,353	14.2
<b>Total Income</b>	6,311	8,560	9,505	10,113	10,410	13.3
<b>Cost of Funds</b>	7,893	9,344	10,710	12,018	13,512	14.4
<b>Personnel Costs</b>	2,677	3,213	3,855	4,626	5,551	20.0
<b>Total Noninterest Operating Costs</b>	5,099	7,204	8,210	8,646	8,847	14.8
<b>Net Profit</b>	1,212	1,356	1,295	1,467	1,563	6.6
<b>Total Debt: Equity Ratio</b>	13.6:1	14.7:1	14.0:1	13.4:1	13.0:1	
<b>Long-Term Debt: Equity Ratio</b>	3.0:1	3.4:1	3.0:1	2.7:1	2.4:1	

## **SUMMARY OF INITIAL ENVIRONMENTAL EXAMINATION**

### **A. Introduction**

1. This report summarizes the results of an initial environmental examination (IEE) conducted as a part of the project preparatory TA for the Small Farmer Credit Project<sup>1</sup>. The fieldwork for the study was carried out from 12 March to 7 April 1995 in Thailand along with other activities of the TA. During the fieldwork, extensive discussions were held with BAAC staff, Government and multilateral agencies representatives. A series of interviews was carried out with a sample of BAAC's existing and potential borrowers engaged in a wide range of agriculture-related activities and information gather on their socioeconomic background.

### **B. The Proposed Project**

2. It is widely recognized in Government and international agencies that there is a need to upgrade Thailand's agricultural technology base, and to encourage a shift towards higher value crop, livestock, and processing enterprises by both commercial producers and smallholder. The Project addresses this need by making credit available through BAAC to farmers to develop agriculture-related activities. The expansion of these activities will assist in diversification and restructuring of the sector and in strengthening linkages between agriculture and industry. It will also widen and upgrade the rural skills base, encourage the participation of more women in value adding at or near home, foster new types of small- and medium-scale enterprises, and produce new types of goods for home consumption and export.

### **C. Project Benefits and Beneficiaries**

3. The main direct benefits of the Project will accrue in the form of increased earnings to about 15,000 small farmers in rural areas from agriculture-related activities. BAAC would be the other major beneficiary of the project. The benefits to BAAC will accrue through staff training to improve its capabilities in medium- and long-term lending, in environmental evaluation, and in financing small- and medium-scale agriculture-related activities.

### **D. Description of the Environment**

4. The Project will be implemented in all regions of the country except Bangkok and its five surrounding provinces. The recipients of loans will be individual farmers. The Project through its support to off-farm income generating activities will lessen pressure to expand areas under traditional crops, will reduce pressure for inappropriate increases in intensity of production through the excessive use of fertilizers and other agrochemicals, and will reduce waste by increasing the processing of by-products.

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<sup>1</sup> TA No. 2306-THA for \$100,000 approved on 6 March 1995.

5. In addition, the Project has the potential to bring about improvements in the environment in which individual subprojects operate. Based on the in-depth IEEs carried out on a sample of twelve existing agriculture-related activities financed by BAAC in 1994, there were no major negative environmental impacts from loss of resources and excessive use of energy. The projects involved loans varying from B30,000 to B5.0 million and covered a wide spectrum of potential subloan purposes. A summary of the findings of IEEs is given in the table on page 4 and major highlights are as follows:

- (i) the negative environmental effects from the location of the subprojects were limited, although in some cases there were small effects from the inadequacy of buffer strips and nuisance to neighbors, and site drainage;
- (ii) the effects from construction included problems in compliance with environmental regulations during construction and dust and fumes;
- (iii) environmental problems from operations were more widespread and include frequent small or moderate effects from liquid and gaseous waste emissions, inadequacy of occupational health and safety programs, widespread inadequacy in quality control and hygiene (particularly in food processing), maintenance and operations monitoring with some sites presenting unacceptable hazards to workers and the environment at large.

#### **E. Screening of Potential Environmental Impacts and Mitigation Measures**

6. To ensure that subprojects are environmentally sound, BAAC will train its credit officers in environmental screening and evaluation under a Bank-financed TA, so that the evaluation of projects by BAAC staff will include environmental aspects. BAAC will also develop a capability to undertake summary initial environmental examinations for all subloans as part of the subloan application procedure and monitor the enforcement of mitigation measures and environmental standards as part of its loan supervision process.

7. In addition, BAAC's clients will receive training in environmental awareness under Bank-financed TA to ensure that subborrowers do not defer implementing environmental protection, health, and safety measures. In the context of raising the general level of environmental awareness, BAAC will establish an Environmental Unit that will be responsible for making proposals to BAAC's management on environmental matters.

#### **F. Institutional Requirement and Environmental Monitoring Program**

8. BAAC will monitor and evaluate implementation and impact of subprojects in accordance with its existing procedures applied for monitoring loans made to agriculture-related enterprises. BAAC will ensure that subborrowers obtain the requisite permits from agencies responsible for environmental and natural resource management wherever applicable. During the implementation and operation of the subprojects, BAAC will make monitoring of environmental standards an integral part of its loan supervision process, and will endeavor to ensure that subprojects introduce necessary environmental protection, and health and safety measures and maintain them throughout the life of the subloan.

**G. Conclusion**

9. BAAC will ensure that subborrowers comply with the environmental requirements, standards and conditions of the Government and the Bank, wherever applicable. The proposed advisory TA will provide training to BAAC officers in complying with loan conditions on environment.

## Summary of Initial Environmental Examination of a Sample of Illustrative Subprojects

Factors Affecting Environmental Resources and Values													A	B	C	D	E	F	G	H	I	J	K	L
Environmental Effects Due to Project Location																								
Proper Site Location													1	1	1	1	1	1	2	1	2	1	1	1
Adequacy of Buffer Strip													1	1	1	1	2	1	1	1	1	1	1	1
Excessive Traffic Hazards on Access Roads													1	1	1	1	1	1	1	1	1	1	1	1
Nuisance/Hazards to Neighbors													1	1	1	1	2	1	1	1	1	1	1	1
Effects on Adjacent Property Values													1	2	1	2	2	1	1	1	1	1	1	1
Plant Drainage Problems													1	1	1	1	2	1	1	1	1	1	1	1
Resettlement Problems													1	1	1	1	1	1	1	1	1	1	1	1
Effects on Precious Ecology													1	1	1	1	1	1	1	1	1	1	1	1
Socioeconomic Impacts													1	1	1	1	1	1	1	1	1	1	1	1
Water Supply Effects on Hydrology													1	1	1	1	1	1	1	1	1	1	1	1
Depreciation of Environmental Aesthetics by Structures													1	1	1	1	1	1	2	1	1	1	1	1
Impairment of Historical/Cultural Monuments by Structures													1	1	1	1	1	1	1	1	1	1	1	1
Environmental Problems Relating to Design																								
Liquid Waste Emissions													1	1	1	1	3	1	1	1	1	1	1	1
Solid Waste Emissions													1	1	1	1	1	1	1	1	1	1	1	1
Gaseous Waste Emissions													1	1	1	1	1	1	2	1	1	1	1	1
Hazardous Materials Handling													1	1	1	1	1	1	1	1	1	1	1	1
Noise and Vibrations													1	2	1	1	1	1	1	1	1	1	1	1
Plant Drainage System Inadequacies													1	1	1	1	3	1	1	1	1	1	1	1
Energy Efficiency of Design													2	2	2	2	2	2	2	1	1	2	1	1
Environmental Standards Effectiveness													2	4	2	2	3	2	2	1	1	2	1	1
Environmental Problems During Construction																								
Problems with Access													1	1	1	1	1	1	1	1	1	1	1	1
Hazards to Workers													1	1	1	1	1	1	1	1	1	1	1	1
Soil Erosion/Silt Run-Off													1	1	1	1	1	1	1	1	1	1	1	1
Dust and Fumes													1	1	1	1	1	1	1	1	1	1	1	1
Quarrying Hazards													1	1	1	1	1	1	1	1	1	1	1	1
Provisions for Monitoring Construction													1	1	1	1	1	1	1	1	1	1	1	1
Environmental Problems During Regular Operations																								
Pollution from Liquid Wastes													1	1	1	1	3	2	1	1	1	2	1	1
Pollution from Solid Wastes													1	1	1	1	1	1	1	1	1	1	1	1
Pollution from Gaseous Wastes													1	1	1	1	1	1	2	1	1	1	1	1
Damage to Monuments/Buildings by Acidic Fumes													1	1	1	1	1	1	1	1	1	1	1	1
Nuisance Hazards to Nearby Residents													1	1	1	1	1	1	2	1	1	1	1	1
Adequacy of Occupational Health and Safety Programs													1	3	1	1	1	1	2	1	1	1	1	1
Adequacy of Quality Control													2	1	1	2	2	2	2	1	1	2	1	1
Adequacy of Plant Hygiene													2	1	2	2	2	2	3	1	1	2	1	1
Adequacy of Maintenance Staff													1	2	1	1	2	1	2	1	1	1	1	1
Adequacy of Operations Monitoring													2	2	2	2	2	2	2	2	2	2	2	2
Critical Overall Environmental Review Criteria																								
Unacceptable Resource Losses													1	1	1	1	1	1	1	1	1	1	1	1
Excessive Use of Resources for Short-Term Gain													1	1	1	1	1	1	1	1	1	1	1	1
Hazards to Endangered Species													1	1	1	1	1	1	1	1	1	1	1	1
Excessive Use of Energy													1	1	1	1	1	1	1	1	1	1	1	1
Unacceptable Levels of Public Apprehension													1	1	1	1	1	1	1	1	1	1	1	1
Environmental Impact Assessment																								
EIA Required													N	N	N	N	N	N	N	N	N	N	N	N
Key to IEE Impact Rankings																								
No Significant Effect												1												
Small Significant Effect												2												
Moderate Significant Effect												3												
Major Significant Effect												4												
Key to Enterprises Evaluated																								
Bamboo Sticky Rice Factory												A												
Pararubber Wood Sawmill												B												
Fish Drying Enterprise												C												
Pineapple Candy Factory												D												
Vermicelli Factory												E												
Chilli Paste Factory												F												
Brick Factory												G												
Hat Making												H												
Umbrella Assembly												I												
Handmade Paper												J												
Garlic Pickling												K												
Rose Growing												L												

## ILLUSTRATIVE SUBPROJECT MODELS

### A. INTRODUCTION

1. The range of agriculture-related activities in Thailand is very great, but the twelve illustrative models included here are indicative of the sorts of enterprises and activities, and scales of operation expected to be covered by loans from BAAC. These models have been prepared to illustrate the scope of possible purposes for which loan funds might be used, and to demonstrate the essential profitability of these activities.

#### 1. The Model

2. The model consists of estimates of capital investment, fixed operating costs, variable operating costs, and operating revenues over an eleven year period, and generates a financial analysis of costs and returns based on particular coefficients for input/output relationships. A loan schedule and cashflow for a notional borrower are produced, and an estimate of financial returns to the enterprise calculated.

3. The data for the models was collected in the course of field trips to Chonburi, Rayong, Chachaengsao, Ayuthaya, and Chiang Mai. The data was collected in the field by interviewing the owner and operators on site with BAAC staff present, and using the client's BAAC registration form and loan application as background material. Therefore, the data is based primarily on the interview with the client rather than formal accounting or production records. The clients who were interviewed usually do not keep detailed accounts of all income and expenses, or a breakdown of costs by type of output, if the enterprises produce a range of products. Furthermore, the prices of many products also vary by season and by grade of product. The output volumes are also subject to some seasonality, which is not fully captured in the model. However, the owner and managers usually know the input/output coefficients of production.

4. Some simplifying assumptions have been made in building the models. Labor is generally employed daily. The rates of pay differ among enterprises in the same geographical location and are often below the normal minimum rates. Sometimes, they also include food and accommodation. The foreign exchange components of individual cost items have been estimated. It is assumed that the production of all outputs is for the domestic market. Typically, the sites of businesses visited included buildings and some facilities for accommodation. The credit needs for working capital vary according to input supply mix and cash or credit terms for disposal, but all the model enterprises would benefit from long-term investments.

#### 2. Selection of Enterprises to Model

5. The actual activities included in lending portfolios of BAAC's branches vary from region to region, depending upon the natural resources and crop mix in particular places. At each of the provincial and district branch visited, the mission and the BAAC staff expected the demand for agriculture-related lending would increase in the future, and have set the FY1995 lending targets higher than previous years. As an example, the breakdown of loan portfolio and the proportion of foreign exchange (FX) financed by the branch, at Chiang Mai were as follows:



Product Processing (e.g. longan, pork, garlic)	30.2 percent	(FX 70 percent)
Handicrafts (e.g. carving, weaving)	24.9 percent	(FX 20 percent)
Agricultural Inputs/Services (e.g. milling, carting)	20.1 percent	(FX 65 percent)
Collecting and Grading Fruits and Vegetables	14.9 percent	(FX 75 percent)
Vehicles for Marketing	10.0 percent	(FX 70 percent)

6. At the branch in Chiang Mai, a total of over B56 million had been disbursed for these purposes to nearly 800 farmers by the end of 1994. An attempt was made to model the different activities in as many locations as possible during fieldwork, with at least one model for each loan category.

## **B. THE MODELS AND THEIR RESULTS**

### **1. Sticky Rice in Bamboo (Khao Lam), Chonburi**

7. The product is glutinous rice and coconut milk with some black beans baked in bamboo pieces, and sold as a sweet. The owner works most of each day with some help from his nephew (before school), selling to local shops and retailers on order (one week's credit is typical). The rice, coconuts, beans, and bamboo are all delivered to site for cash and combined to make the product. A by-product is coconut meat, sold raw. Apart from two gas ovens for baking, the capital equipment is very modest (a saw, shredder, press, bowls etc.). Apart from working capital needs, the owner has used a loan from BAAC for B161,000 to finance the cost of ovens. The relatively modest cost of capital investment items tends to make the enterprise model look highly attractive, and generates a base case financial internal rate of return (FIRR) of over 40 percent and economic internal rate of return (EIRR) of about 47 percent.

### **2. Rubber Wood Processing, Klaeng**

8. The enterprise produces wood for furniture, sawn wood for crate and pallets, other pieces of wood for particle-board manufacture, sawdust, and wooden crates made to order by sawing rubber wood logs delivered to site by contractors. The large site contains buildings, a well provided free by the Government, and equipment such as a weighbridge, forklift and truck as well as band-saws. The enterprise has a full-time foreman as well as staff who are paid daily. The monthly bills for such items as electricity, lubricants, fuel, and maintenance are known by amount, but not by use. The business pays for inputs (mainly wood) by cash on a daily or weekly basis, and allows purchasers up to 30 days credit. The BAAC loan for B230,000 was mainly used for working capital, although some machinery repairs were also made. This particular enterprise has a need to upgrade its machinery and to improve environmental conditions. The estimated FIRR for the enterprise is over 28 percent, although because it is relatively capital-intensive, it is substantially affected by any changes in capital costs. The EIRR is about 45 percent.

### **3. Fish (Pla Katag) Drying, Rayong**

9. This simple activity involves drying and grading fish (pla katag) caught off the Eastern Seaboard during four months of the year. The owner of the business also catches fish from her own boat, but most of the raw material input comes from purchases from other fishermen. All the raw material input in the model was valued at its sales price. The boiling, laying out the fish, and sieving according to grade are all undertaken by casual

labor paid daily. The produce is sold at the enterprise gate, and the price is extremely sensitive to grade. Although very simple in technical terms, the turnover is about B2 million per year. The present BAAC loan for B96,000 has been used for working capital and the construction of drying frames. This enterprise is capital-extensive in nature, and the estimated FIRR of nearly 30 percent and EIRR of 28 percent, though high, is sensitive to changes in variable costs and revenues.

#### **4. Pineapple Candy, Rayong**

10. This enterprise was started, at the initiative of the Community Development Department. The business involves the production of toffee/candy from pineapples rejected by local canneries. It is located at the family residence where the pineapple is boiled with coconut, sugar, salt and concentrated syrup, and then wrapped in plastic for retail sale. The business employs eight persons full time year-round. The raw materials and variable cost inputs (e.g. gas for the boilers) are paid for by cash, and the retailers are allowed 1-4 week credit. A loan application to BAAC for B2 million for a packaging machine is pending. The enterprise is relatively expensive because of the cost of the equipment, but it has a FIRR in excess of 20 percent and EIRR of more than 35 percent. Changes in capital costs have a major impact on the estimates of the IRRs.

#### **5. Vermicelli Manufacture, Chachaengsao**

11. Vermicelli noodles are made by grinding broken rice bought from a local mill into flour, then kneading, extruding, and boiling, before packing them in baskets with banana leaves and plastic wrapping. The business collects rice from the mill in its own pickup truck, but the wood (for a boiler) and other inputs are delivered. The sales are made at the enterprise. The enterprise employs 16 people who are paid daily, of whom 6 are family members, the owner has been a BAAC client for 18 years. The present loan for B230,000 was for working capital and machinery repairs. The income is from sales to local retailers (1 week credit). The business is located at the owner's residence and the conditions are environmentally unsound (with detergents and cleaning materials going into a nearby household pond), and would benefit from considerable reorganization and capital investment. The enterprise has an estimated FIRR of over 30 percent and an estimated EIRR of more than 50 percent.

#### **6. Chillie Paste Manufacture, Chachaengsao**

12. This business combines raw chillies, onions and garlic with tamarind, sugar, oil, sodium benzoate and salt plus essence to make a chillie paste that is sold in bulk (both small and large packages are manufactured) locally and in the region. It employs 11 persons full-time, including the owner's family members. The business site includes a domestic residence, some accommodations for workers, and sheds for equipment, vehicles including one bus and two pickups and storage for roasters, mixers, ovens, and grinders. The raw materials are purchased at the Ringsit wholesale market in Bangkok for cash, and the shopkeepers and traders who purchase the output are typically allowed 1-4 weeks credit. The BAAC loan for B1,400,000 was used in part to finance physical extensions to the premises. The model for the enterprise generates an estimated FIRR and EIRR of over 40 percent.

## **7. Brick Manufacture, Ayuthaya**

13. One of the largest brick makers in the area, this business employs 30 persons on a daily basis as well as one foreman, and produces bricks made from clay purchased from local farmers. The large site includes sheds to cover equipment such as bulldozer, forklift, and brick making machines, as well as residential buildings. Rice husks are bought from mills in Chachaengsao and burned over the bricks. About 3,000 tons of bricks are produced annually for the Bangkok market, and the retail price fluctuates on a seasonal basis. The quality of bricks produced is not high, but it is appropriate for local needs. The present BAAC loan for B1 million has been used to purchase machinery (B15,000), construct sheds (B500,000), and working capital (B350,000). The estimated FIRR of about 10 percent for this model is not as high as the FIRRs from the other enterprises, and are sensitive to both changes in capital and variable costs, which indicates this business is already highly competitive and BAAC has already made a large number of loans for this purpose in the Ayuthaya area.

## **8. Farmers' Hat (Lan Leaf) Making, Ayuthaya**

14. This business is a third-generation cottage industry and involves making hats from lan leaf (a forest tree) for local and domestic use. With virtually no capital equipment, the leaves are stitched on bamboo frames, and painted, and eventually sold in Bangkok and Petchburi. The costs of inputs per piece are known exactly by the owner, and workers are paid on a piece-rate basis (B2 per hat). The number of workers fluctuates daily. The owner is a farmer and BAAC client, who does not have a loan for the hat business at present, but who would like to raise some capital to improve both storage and transportation to market. The modest capital investment requirements make this activity profitable and insensitive to changes in capital and fixed operating costs, but highly sensitive to changes in variable costs and revenues.

## **9. Umbrella Assembly, Chiang Mai**

15. This enterprise assembles umbrellas made of wood, bamboo, and paper for a factory and showroom in Chiang Mai using pieces supplied by the factory itself and bought by the assembly business directly. Under the owner's house, a storage/drying area will be built using the funds from an approved BAAC loan. The drying area will increase production because drying the oil applied to the paper in the sun causes cracking. This simple business has a turnover of about B750,000 per year. Sales are paid for in cash, and inputs (apart from labor) are paid for by a mixture of cash or credit for 7-15 days. Similar to the manufacture of hats, the assembly of umbrellas is not capital-intensive, and estimated financial viability is high, however, it is sensitive to changes in variable costs and revenue.

## **10. Sa Paper Making, Sankaemphang**

16. Traditional paper from the bark of the sa tree has been made by hand since at least the Ayuthaya period. Presently, the raw material comes from a sustainable harvest of bark both from farmer's planted trees, usually by rivers, and forest areas. As well as producing the paper sheets, this business also produces a range of diaries, pocket books, and stationery items in other workshops. The owner has a loan from BAAC for working capital and for the improvement of his premises at another site. The demand for sa paper

is very high in Japan and Europe. The business pays cash for the sa bark, and supplies paper sheets on a weekly basis for cash or on order with one month's credit. Like both the umbrella assembly and the hat manufacture, the enterprise is estimated to be quite profitable with a FIRR and EIRR of about 24 percent, although the returns are affected by changes in the capital costs.

#### 11. Garlic Pickling, Doi Saket

17. This housewives' group of about 150 members was formed with share capital to undertake the purchase and processing of garlic, mangoes, tomatoes, and onions with assistance from the Department of Agricultural Extension (DOAE). Pickling garlic is by far the largest component of the enterprise, which buys produce from its members and other sources on a seasonal basis by using its own pickups to travel to farms and markets. The quality of its products is very high. The funds from the BAAC loan have been used for working capital and equipment. The need for working capital is highly seasonal because the bulk purchases of raw materials must be made for cash in the local markets, or paid for with credit from group members; the buyers are allowed 15 days to pay. The estimated FIRR of this enterprise is just under 12 percent while the estimated EIRR is about 27 percent.

#### 12. Rose Growing, Doi Saket

18. This business produces rose stems, whose price is quality sensitive. The owner is a member of a marketing group that also shares technical information. The business sells to a cold store in Chiang Mai which pays weekly. An application for a loan from BAAC is pending for working capital and for improved chemical sprayers against pests. The enterprise appears to be highly profitable. The estimated FIRR is over 40 percent.

### C. SUMMARY OF IRRs

19. The results of the models for 12 enterprises are summarized in table below.

**Estimated Illustrative Enterprise FIRR and EIRR  
(percent)**

Enterprise	Financial IRR (Base Case)	EIRR
Sticky Rice in Bamboo	41.00	47.2
Rubber Wood Processing	28.40	44.7
Fish Drying	29.54	27.7
Pineapple Candy	20.85	36.2
Vermicelli Manufacture	35.55	> 50
Chillie Paste Making	41.40	> 100
Brick Manufacture	10.23	19.18
Farmers' Hat Making	21.55	-
Umbrella Assembly	41.01	> 50
Sa Paper Making	24.04	22
Garlic Pickling	11.85	27
Rose Growing	42.11	26

**ESTIMATED COST OF THE TECHNICAL ASSISTANCE**  
**(\$'000)**

Item	Foreign Currency	Local Currency	Total
<b>A. To be financed by the Bank</b>			
1. Training in medium- and long-term investment analysis and various aspects of project appraisal, financing and supervision	190	50	240
2. Training in environmental awareness and impact assessment	152	18	170
3. Training in foreign exchange risk management	40	0	40
4. Study tour of off-farm and agricultural related enterprises in neighboring countries	29	0	29
Contingencies	16	5	21
Sub-Total	427	73	500
<b>B. To be financed by BAAC</b>			
1. Accommodation and expenses of trainees	-	105	105
2. Miscellaneous	-	20	20
Sub-Total	-	125	125
Total	427	198	625

**BREAKDOWN COST OF PROPOSED TECHNICAL ASSISTANCE FOR TRAINING**

Course Title	Duration	Per Course			Total		
		Trainers <sup>a</sup>	Participants	Cost <sup>b</sup> (US\$)	Courses	Participants	Cost (US\$)
A.							
1. Medium- and long-term investment analysis	5 days	12	47	11,000	9	400	99,000
2. Small business finance	4 days	6	40	6,000	4	160	24,000
3. Computer analysis of long-term investment	3 days	-	1	80	900	900	72,000
4. Nonfarm small enterprise development	3 days	5	40	4,875	10	400	48,750
5. Communication development	12 days	12	15	60	4	60	6,000
B.							
Environmental awareness and impact assessment	6 days	7	125	13,000	4	500	52,000
	8 days	7	50	6,000	18	900	118,000
C.							
1. Economics of foreign exchange	5 days	1	5	5,000	1	10	5,000
2. Financial instruments for hedging the foreign exchange risk	3 months	5	7	26,600	1	7	26,600
3. Computer analyses of the foreign exchange	4 days	1	5	3,200	2	10	6,400
4. Accounting concept and practice for hedging the foreign exchange risk	4 days	2	6	2,000	1	6	2,000
D.							
Study visit program for off-farm lending/ rural development	7 days (out-city)	-	10	20,000	1	10	20,000
	4 days (in-city)	-	35	4,500	2	70	9,000
Contingency Cost							21,250
TOTAL COST							500,000

<sup>a</sup> Includes resource persons.<sup>b</sup> Includes printed materials.