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**THAI RFM MEAT PROCESSING PROJECT**

**IFI LOAN CASE STUDY**

**PRE PROJECT NUMBER 940-0002.24**

**Prepared for:**

**Office of Development Planning  
Bureau for Private Enterprise  
Agency for International Development  
Washington, D.C. 20523**

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## THAI-RFM MEAT PROCESSING PROJECT EXECUTIVE SUMMARY

The Thai RFM Meat Processing Project carried out by the Bureau for Private Enterprise helped to establish Mah BoonKrong-RFM, the first privately-owned, modern slaughterhouse and meat processing company in Thailand. The original loan agreement between the Mah Boonkrong-RFM Co., Ltd. and A.I.D. was signed September 5, 1984. After major Thai shareholders encountered difficulties in paying up their capital pledges, new Thai investors replaced the old ones, and the company's name was changed to the Thai-RFM Company, Ltd. The new company was 51% Thai and 49% foreign owned.

The project involved constructing a plant complex consisting of an abattoir, processing, canning and cold storage facilities. The plant would produce top grade sausage for the local market, and canned and fresh meat products for export, all under license to use the Swift & Co. brand name.

PRE had six principal objectives for this project:

1. Privatize the slaughter and meat processing industry;
2. Provide market outlets for small livestock farmers;
3. Increase the volume and quality of processed meat products in Thailand;
4. Transfer agribusiness technology from the U.S. to Thailand;
5. Establish a fresh meat export industry;
6. Continue policy dialogue with the government on deregulation of private investment.

### Problems During Implementation

After the first loan agreement was signed, the project encountered numerous problems that prevented disbursement of the PRE loan for over three and a half years, until May 1988. For over one year the company waited for changes in local laws affecting the slaughter industry, for Board of Investment approval, and approval to begin construction. Other delays encountered during start up included difficulties in clearing imported equipment through local customs, and slow approval of the company's commercial licence because the company's sophisticated wastewater treatment facility needed to be reviewed by the government before the license could be granted.

Slow implementation caused the RFM Corporation, the newly established Mah Boonkrong-RFM Company and PRE to incur significant costs, particularly in staff time, to keep the project alive. These costs were considered acceptable because of the project's important role in meeting PRE's objectives for privatization and livestock industry development.

### The Current Project Loan Agreement

The July 2, 1987 Amended Loan Agreement between Thai-RFM Co., Ltd. and A.I.D. provides Thai-RFM Co. with a \$2.5 million dollar, ten year loan to establish a slaughterhouse, meat processing and cold storage facility. The total cost of the project is estimated at \$21.5 million. The Agreement also provides a grant of \$70,000 for Thai-RFM to finance assistance in designing and implementing a technical assistance program for small and medium-sized

livestock producers. Under the agreement Thai-RFM must "exercise its best efforts to procure at least 50 percent of its livestock from small- and medium-sized Thai producers."

The PRE loan's interest rate is 10.25 percent. Loan principal is to be repaid in 15 equal semi-annual installments, beginning after a three year grace period.

#### Current Status Of The Company

The plant complex is located in Pathum Thani Province, about 30 kilometers from central Bangkok. It presently employs 131 people, many of them workers who were laid off when the government closed one of its slaughterhouses.

The plant complex contains administrative offices, a slaughterhouse, processing and cold storage facilities. The plant has the capacity to slaughter 700 head of hogs and 200 head of cattle per day, to process 20 metric tons of meat products per day, and to have in cold storage 1,800 metric tons of meat products at any given time.

Construction of the plant was completed in April of 1988. The plant machinery and equipment were installed in the summer of 1988, and test runs of the equipment continued until the Fall. The plant was designed to conform to USDA and EEC meat processing standards, and includes facilities for Halal slaughter for meat intended for Islamic markets. Thai-RFM has imported \$747,653 worth of capital equipment from the United States.

Thai-RFM has a 10 year technical assistance agreement with RFM-Philippines and a licensing agreement with Swift Company, covering only the use of Swift's brand name. The Board of Investment has given the project investment promotion privileges, including relief from all corporate income tax obligations for seven years.

#### The company has begun commercial operations

The company received its commercial operations license in November 1988, and began producing commercially at the end of that month. Test marketing has been completed, and extensive marketing arrangements have been established in Bangkok-area grocery stores and supermarkets.

Thai-RFM will produce several brands of processed meats, with Swift as its top brand. The Swift line, marketed under license with the Swift Company, includes frankfurters, Chinese style sausages, deli meats, meat balls and fresh meat.

#### Thai-RFM is a pathbreaking privatization project

The Thai-RFM Company is the first modern, non-governmental slaughterhouse in Thailand. The Thai-RFM project is a successful privatization effort undertaken by PRE, and is an excellent example of technical cooperation between U.S. and ASEAN businesses. Since the project began, the government has closed the Preserved Foods Organization slaughterhouse, an organization that had a monopoly on "modern" slaughter operations. In addition, since Thai-RFM started there have been 6 other private slaughterhouses approved by the Board of Investment, and several projects have been started.

After the Royal Thai Government decided to consider privatizing the slaughter industry in 1983, Thai-RFM became a test case in helping the government to formulate effective policies for privatization of the meat processing industry. These policies would, by 1988, include (i) closing government-owned slaughterhouses; (ii) passing laws allowing the establishment and operation of privately-owned slaughterhouses; and (iii) provision of Board of Investment promotion privileges to the abattoir industry.

This project is a clear example of how a development agency can induce a private company with substantial managerial and technical resources to collaborate in pursuing development goals.

#### The project has had high visibility in Thailand

This has been a very high visibility project in Thailand, and has stimulated widespread interest in privatization in the country.

#### Major project impacts

The Thai-RFM Company began operations during November of 1988. Because the company is still basically a new start, it is difficult to evaluate the full impact that this ten year PRE project will have once the company begins full commercial operation. Nevertheless, the project already has had major impacts on the livestock industry and the government's policies toward the meat industry. Major impacts include:

- \* Introduction of higher technical standards into slaughter and processing industries;
- \* Introduction of improvements in cattle farming, and cattle and hog marketing;
- \* Increasing the availability of high quality, hygienic fresh beef and pork in Thailand. Control of the product from the hoof to the market gives consumers higher quality products. Thai-RFM is the first meat processing plant in Thailand to follow this practice.
- \* Production of meats of high enough quality to enable Thailand to meet fresh meat import standards in foreign markets.
- \* Introduction of direct competition with government-owned slaughterhouses, pressuring them to improve quality and efficiency.
- \* Improving standards for livestock industry waste treatment.
- \* Development of better technical assistance programs for livestock production and feedlot businesses.
- \* Increasing demand for high quality livestock. Since the project was begun, the IFCT has received several proposals to fund feedlot companies. Thai-RFM's demand for finished steers has created a market for better cattle and a new industry: small farmer feedlots. Inquiries are presently being made by Zuellig to import American Brahma

breeding stock to upgrade the breedstock in local herds.

Privatization can be slow and costly, underscoring the importance of having strong private sector partners

The Thai-RFM Company is well managed, with sound business plans, and good financial records. The project illustrates the critical importance of involving strong backing in direct loan projects, and also shows how costly and slow privatization efforts can be. A.I.D. and the RFM Company have invested large amounts of staff time and other resources to keep the project alive during periods when the government was considering the privatization issue.

A strong private sector partner is critical to project success

RFM's 10 year technical assistance agreement with RFM-Philippines is critical to the project's profitability. This arrangement made it possible for the project to minimize costs that are associated with high technology start up projects in developing countries, and also made it possible to maintain investor confidence during a long and difficult start up period. This highlights the importance of having strong partners for direct loan projects.

The project is accomplishing its goals for assisting small farmers

According to the terms of the loan agreement, Thai-RFM is required to try to buy 50 percent of its livestock requirements from small farms. Because "small and medium-scale farm" is not defined in the loan agreement, it is difficult to determine whether Thai-RFM is complying with the requirement that 50 percent of livestock supplies come from small producers.

Nevertheless, by November 30, 1988, Thai-RFM had ten cattle feedlots producing 85 head or less per month under purchase contracts, with these farmers currently supplying about 40 percent of the company's cattle requirements. In addition, Thai-RFM has identified approximately 100 farmers feeding less than 20 head of steers that are being considered for accreditation.

# THAI-RFM MEAT PROCESSING PROJECT

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## I. MEAT AND AGRIBUSINESS INDUSTRIES IN THAILAND

### Private Sector Industry Constraints

The livestock slaughtering and processing industry in Thailand is dominated by state owned facilities. The single most important government impediment to increased livestock and meat production is the Animal Slaughtering and Meat Sale Control Act of 1959. Under this law, the abattoir industry for swine and beef is a municipal monopoly. Only recently have exceptions been allowed under the condition that a portion of total meat output is exported. The 1959 law has acted as a disincentive for new slaughter facilities, and has inhibited feedmills and livestock raisers from investing in modern swine and beef operations. It has also slowed attempts to solve the endemic disease problems among swine and cattle in Thailand.

There are some 100 municipal abattoirs in the country, as well as some 700 simple slaughterhouses operated through the Ministry of Interior. These are generally old facilities often with no more than a slaughter floor, roof and water facilities. They have low hygienic standards, rely on antiquated techniques, and lack adequate meat inspection. The average capacity of these slaughterhouses is around 25 head of livestock per day, but most of them operate only at about 50 percent of their actual capacity. In addition, all provinces have numerous unregistered slaughter facilities involving all types of livestock. These backyard operations, because they are illegal, have no inspection of facilities or carcasses, and practice notoriously poor hygiene. It is estimated that at least 50 percent, and perhaps as much as 70 percent, of all slaughtering is done illegally!

Historically, the major constraints to improved livestock slaughter and processing are structural, with the greatest difficulty lying in (i) the Thai government's unwillingness to promote private slaughterhouses, and (ii) control of slaughterhouses by the Ministry of Interior rather than the Department of Livestock Development (DOLD). A 1982 World Bank study concluded that public sector abattoir butchering and hygienic standards are very low, with little difference between public and illegal operations. This situation prevents improved slaughterhouse development.

Thailand has experienced difficulties with two of its largest modern government slaughterhouses, one belonging to the Bangkok Municipal Authority and the other to the Ministry of Defense. The Defense Ministry's facility is called the Preserved Foods Organization (PFO) slaughterhouse. This plant was generally unsanitary and inefficient, had problems in organizing raw material supplies, and consequently operated at a fraction of capacity. The Municipal Authority plant never operated because of "supply problems" and it was estimated that the PFO facility operated at only 10 percent of capacity.

The PFO facility was created to supply the military with fresh meat rations. The plant recently was closed as part of the Thai government's state enterprise privatization policy. It is anticipated that during the current Sixth National Plan (FY 1986-1991) period, most, if not all, Ministry of Defense manufacturing enterprises will be closed or sold to the private sector.

#### The Livestock Industry Market Demand

Livestock products in Thailand have a high income elasticity of demand, meaning that relatively small increases in income result in

relatively large increases in consumption. The demand for meat products has been growing at about 6 percent annually. With rising incomes accompanying economic growth, consumption patterns of meat and meat products are changing, and the use of processed and canned meat products is becoming more popular. More affluent urbanites are expected to demand higher quality chilled and frozen prime meat cuts as well as more canned meat in modern supermarkets.

The livestock industry consists of cattle, water buffalo, and swine. While cattle and water buffalo are raised along traditional lines, the swine sector is rapidly becoming modern and sophisticated. Livestock production is particularly important to the rural economy where cattle and water buffalo are raised mainly for draft power. In fact, buffalo and cattle production has not been regarded as a distinct enterprise, but rather as an integral part of the crop production cycle. When an animal becomes too old to work, it is sold for meat, bone and leather. Swine, on the other hand, are used for food or sold for cash at village markets.

Northeast Thailand has the largest number of livestock in the country, especially cattle (over 40 percent of the country's cattle) and water buffalo (almost 65 percent). The largest number of swine are found in the central plains because of the region's proximity to Bangkok, Thailand's largest pork market. Livestock is least important in the South where plantation crops dominate. The South, however, is the only area classified as relatively free of both rinderpest and foot and mouth disease and, thus, is able to export live animals.

## The Swine Industry

The swine sector has the most promising growth potential of all animal husbandry sectors in Thailand. Estimates of current swine population vary widely from 5 to 8 million head. Hog farming has traditionally been a small farmer activity. It is estimated that there are about 1.3 million pig farms of which only 2,400 farms have more than 100 head. Furthermore, only some 170 farms have over 500 head. Approximately 60 percent of total annual pork production comes from small farm producers, even though their numbers have been declining. The trend is toward large modern integrated commercial hog production and processing operations led by agribusiness conglomerates such as Charoen Pokapan, Mah Boonkrong, and similar groups.

Many medium to large-scale commercial pig farms have developed near Bangkok, especially in the Nakhon Phathom area. These farms, dominated by a few vertically integrated feedmill companies that have moved into slaughterhouses and meat processing as well, have cross-bred improved foreign breeds with local pig breeds. The feedmill companies produce feedgrain for their own swine herds and also sell it either in the open market or to contract hog producers. Some small farm producers also aspire to enter commercial production and have begun to use commercial feed as a supplement to farm feed.

Contract and large scale commercial producers have adopted modern herd management technologies including well-designed, adequately ventilated concrete animal houses, with good water and drainage facilities and an efficient arrangement of pens. Credit for purchase of these facilities and initial animal stock is typically made available by commercial banks when co-signed by the feedmillers. The millers also

provide valuable animal extension and veterinary services and sometimes guarantee a minimum incomes to their hog producers. Veterinary services are especially valuable given traditional farmer disdain for vaccinating against such common infectious diseases as foot and mouth disease and hog cholera, and the lack of treatment given for parasitic diseases.

Small and medium size hog farms have sharply expanded in the 1980s, especially in 1983 when the price of live pigs went up to 27 baht/kg due to insufficient supply. From mid-1984 through 1985 there was an oversupply of hogs in the market. The price of live pigs dropped by half to 13-14 baht/kg in 1985, a situation exacerbated by commercial banks' restriction of new credit which forced farmers to sell their pigs in order to repay their loans. The price of live pigs since then has risen, surpassing 24 baht/kg by year-end 1987. That same year the domestic wholesale price of pork carcasses rose by 17 percent to 27.75 baht/kg. Producer profit margins became healthy once again.

Thailand's swine herd grew only modestly in 1987 as good early year profits were checked by rising feed costs. Memories of the large oversupply of pigs and serious earnings losses incurred in 1984-85 also limited expansion. Pig raisers concentrated on improving breeding performance and carcass traits through the increased importation of genetically superior animals (2,000 head compared with 550 in 1986).

#### Swine Exports

Live swine and pig produce exports are erratic and trendless. Live pig exports, never before greater than 12,000 head in a year, reached a record 60,000 head in 1985. However, exports declined to 48,000 head in 1986 and then dropped to less than 15,000 head in 1987 as domestic prices were more attractive than the overseas (largely Hong Kong) market. The

short-lived spurt in exports in 1985 was due to Hong Kong shifting its traditional pig imports away from China to Thailand owing to the price competitiveness of Thai pigs, their acceptable quality, and the relative attractiveness of export prices given depressed Thai domestic prices during 1985-1986. On a more hopeful note, 1987 saw a sharp rise in fresh pork exports to over 20 tons from only one ton in 1986. This volume, however, is considerably lower than the 1985 record of more than 50 tons exported.

Historically, a major constraint to greater export volumes has been periodic outbreaks of foot and mouth disease which have led importing countries to temporarily ban Thai pork imports. Further inhibiting pork exports currently are slaughter facility bottlenecks. Singapore, Hong Kong, and Vietnam have been the major pork product importers, with Singapore having the greatest future potential as an export market since it phased out domestic swine production in the mid-1980s.

### The Beef Industry

Thailand's cattle and water buffalo population consists of about 11 million head (6.3 million head of water buffalo and 4.8 million head of cattle). Cattle, for the most part, are kept for their draft power. They have a low calving rate as poor nutrition, disease and poor breeding practices inhibit improvement. Traditional husbandry practices characterize most herds, with commercial farms the exception. Indigenous cattle tend to be small (around 350 kg at maturity), are characterized by slow growth rates (taking up to five years to reach full size) and have annual weaning rates of about 45 percent. Attempts to improve performance have mainly consisted of cross breeding with American Brahman bulls, and more recently, use of artificial insemination services offered by the

DOLD. Private sector interest in raising cattle for commercial purposes is increasing as demonstrated in 1987 by imports of 1,200 head of breeding stock, including 700 head of U.S. Indu-Brazil for use in crosses.

Health care provided to buffalo and cattle is minimal. Farmers traditionally have shown little interest in bovine vaccination, except following outbreaks of disease. The most pervasive infectious disease is foot and mouth disease, while anthrax is also common, as are a variety of internal parasites. In general, farmers prefer traditional cures for sick animals rather than purchasing more expensive medicines.

The commercial beef industry is characterized by a growing but small market demand for beef products. Thai eating habits favor rice and fish, with poultry and pork the preferred meats. Nevertheless, shortage of local cattle for slaughter has resulted in relatively high beef product prices over the past several years.

Small farmers control the bulk of supply of beef cattle. Large cattle ranches are very rare in part because there is little land available for ranching development. Where ranches exist, they are used primarily for raising breeding cattle and only supply a small portion of Thailand's slaughter animals. The growing dairy cattle industry is now beginning to serve as an additional supply source.

Beef production has not been able to meet growth in demand for quality beef products. There is a relatively small but growing demand for high quality beef from deluxe hotels, supermarkets, and first class restaurants; most of this beef is imported from Australia and the U.S. Beef imports have risen from 80 tons in 1981 and 1982 to 140 tons in 1985 and an estimated 180 tons in 1987. Much of the domestic demand for lower quality beef products is met by cattle smuggled into Thailand from Burma,

estimates of which range anywhere from 7,000 to 100,000 head per year. The current shortage of cattle for slaughter has led to beef retailing in Bangkok at a price 50 percent higher than that of pork, and double the price of chicken.

The Thai Government predicts that growth in demand for beef will lead to sustained high prices and, therefore, small farms will expand their herd sizes. The Thai Government's livestock development policy is aimed at expansion and improvement of livestock production on small holdings. The primary constraints to cattle production growth, according to a 1982 World Bank study, are inadequate quality feed - the largest expense for any commercial livestock raiser - and the long-term task of improving breeding practices. Accompanying smallholder growth will be greater efforts to deliver quality products through technical assistance outreach programs. Outreach includes loaning of breeding stock, artificial insemination, veterinary services, extension support to improve feed forage availability, marketing assistance and credit.

#### Beef Exports

Current export levels of both live cattle and buffalo and red meat products are extremely low. Thailand's largest exports were achieved in the 1970s and peaked in 1978 with exports of 50,000 live animals. After this, exports began to decline and did so dramatically from 1981 following the outbreak of foot and mouth disease which prompted countries to heavily restrict Thai livestock imports. Latest available figures reveal Thailand exported less than 4,000 head in 1984 and under 3,000 head in 1985, with most exports to Malaysia - with whom there also exists a small (about 1,500 head per year) smuggling trade - and the remainder to Hong Kong.

Exports of red meat are negligible, totalling less than nine tons in 1984 and under six tons in 1985, almost all of it going to Vietnam, with a tiny portion to Malaysia. Export volumes remain small owing to the ongoing presence of foot and mouth and other diseases. Further, the unsanitary conditions in most Thai slaughterhouses prevent Thai beef from passing foreign inspection and health standards. It appears likely that red meat exports will only be possible if undertaken by private sector companies that can meet the required sanitary and health standards.

The future for beef exports, even assuming Thailand were able to produce a quality cattle product and construct modern sanitary abattoirs, is far from rosy. Thai export potential may be limited due to strong competition from the United States, Australia, New Zealand, Argentina, and Uruguay. There are export opportunities with Hong Kong, Malaysia, Singapore and the Middle East. The competition, however, is much more efficient in producing beef than Thailand, and is likely to have lower marketing costs because their products have already gained a reputation for quality.

#### Poultry Exports

In contrast to the uphill struggle Thailand faces in promoting both pork and beef products for export, it has successfully developed and expanded its poultry export industry over the past decade. The domestic availability of feedgrains and other feed materials together with improved production techniques are the main reasons for poultry sector growth. Broiler production is fully commercialized with large integrated holding companies undertaking a wide range of activities, including the production of breeding stock, feed compounding, slaughter operations, merchandising and exports.

The poultry sector achieved record returns during much of 1986 and 1987 due to strong export demand and low feed prices. In 1986, frozen chicken exports rose a dramatic 77 percent to 76,000 tons, and again in 1987 exports grew an impressive 26 percent to 96,000 tons. At \$1,900 per ton, Thailand earned \$182 million in hard currency in 1987. Export sales for 1988 are projected at 100,000 tons. Japan dominates trade, absorbing 90 percent of total exports, mainly deboned chicken in various cuts. Hong Kong also imports Thai chicken. Thailand's advantage over other chicken suppliers is in deboned products which constitute 85 percent of total sales. Low labor costs will continue to give Thailand a strong marketing advantage in the future.

#### Board of Investment's Agribusiness Promotional Activities

Thailand's investment policies are administered and promoted by the Board of Investment (BOI) within the Office of the Prime Minister and governed by the Investment Promotion Act of 1977. Within the range of economic sector priorities established for granting BOI promotional privileges to new companies, agro-industrial projects have been particularly favored and remain a top priority.

The BOI has been the main force within the Thai Government pushing for the private sector's right to be allowed to enter the livestock slaughtering and meat processing industry. Municipal slaughterhouses, historically, have served as an important source of revenue for local government administrations which aggressively seek to maintain their control over the local meat industry. BOI executives frankly admit that it is due to political pressures that the BOI requires private slaughterhouses to export a large proportion of their fresh meat output in exchange for receiving permission to operate.

Specifically, from the fourth year of operation, BOI regulations require that the annual local sales of cut pig meat by a private slaughterhouse must not exceed 70 percent of total meat cut (i.e., private companies must export 30 percent of all meat produced). Export requirements are even stiffer for slaughtered cattle, as from the fourth year of operations the BOI requires that exports must account for 50 percent of total cut meat. However, there is a way out for private companies if they can not achieve those export levels: export provisions can be relaxed each year by the BOI if the investor is unable to develop an overseas market for his product.

Two private slaughterhouses approved for BOI promotion in 1983 and 1984 respectively never got off the ground and recently had their certificates of promotion withdrawn by the BOI. However, on March 15, 1988 the BOI approved applications for three new private sector slaughterhouses, including Freshmeat Processing, Laemthong Meat Packers Company, and Khunthorn Agro-Industry. A fourth competitor, Northeast Korat Farm Co., Ltd., was promoted earlier in July 1986. Given the few private sector parties which have shown interest in entering the livestock slaughtering industry over the last five years, and the even fewer still surviving, at least on paper, since the BOI began promoting this industry, it seems clear that to be successful a private sector firm will have to combine considerable industry experience with technical expertise and political acumen.

## II. PROJECT BACKGROUND AND THE LOAN AGREEMENT BETWEEN THAI-RFM AND A.I.D.

### Project Background

A.I.D. has a long history in promoting Thailand's meat industry. In a continuing effort to help Thailand establish a modern livestock industry, the U.S. government funded a livestock trading support project beginning in the mid-1950s and ending in 1961. USAID/Thailand then funded the Livestock Development Project from 1974 to 1979. This project supported the establishment of private livestock slaughterhouses, but efforts to establish a private industry were not successful. In the early 1980s, PRE, under the Thai Danu Bank Project, provided an indirect loan to the first modern, private pork processing and packing company in Thailand. This company has been successful. The Thai RFM Meat Processing Project is, thus, a continuation of A.I.D. support for Thailand's efforts to establish a viable meat industry.

Because the Thai RFM Meat Processing Project has required many years to implement, we begin with a brief description of the project's history. A summary chronology of the project is presented in Appendix 2.

### Origin of the Project

The idea of establishing a modern, integrated meat processing plant in Thailand started in the mid-1970s within the ASEAN Chamber of Commerce and Industry. At that time, Jose Concepcion, Jr., President of the RFM Corporation, was actively involved in the Chamber. The RFM Corporation is a major Philippine food processing and agribusiness conglomerate. Along with his colleagues from other countries, Mr. Concepcion proposed a project to establish the first ASEAN joint venture in the food industry.

At that time the livestock industry in the Philippines had severe structural problems, particularly lack of good livestock supply and feed.

RFM Corporation was actively searching for another country for livestock operations. RFM selected Thailand as the site for a possible project because of its rich agricultural resources, low labor costs, sound economic policies, and political stability. In 1982, the RFM Company began negotiating with the Thai Government to set up a slaughterhouse and meat processing company.

Also in 1982 PRE was informed that the Thai Government was considering privatizing the slaughterhouse industry, both to shed its often corrupt and unprofitable government-owned slaughterhouses, and to develop a fresh meat export industry. As mentioned in Section I, at that time the government held a monopoly on slaughter operations.

During the early 1980s PRE was implementing the Siam Commercial Bank loan guarantee project. Siam Commercial Bank staff, knowing of the proposed livestock slaughterhouse, put PRE in touch with RFM representatives in Thailand. This contact resulted in negotiations between RFM and PRE on a possible joint venture, and involvement of PRE in lobbying for revision of legislation governing the livestock industry. During that same period, discussions within the government on deregulation of the livestock industry continued. Then, in the Fall of 1983, Thailand's Council of Economic Ministers drafted liberalized abattoir regulations. Mah BoonKrong-RFM, the original company established under the Thai RFM Meat Processing Project, was a test case in the Thai Government's privatization effort.<sup>1</sup>

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<sup>1</sup> In the remainder of this report the project will be referred to as either "Thai RFM Meat Processing Project," or "Thai RFM Project".

## Project Objectives

PRE had six principal objectives for this project:

1. Privatize the slaughter and meat processing industry;
2. Provide market outlets for small livestock farmers;
3. Increase the volume and quality of processed meat products in Thailand;
4. Transfer agribusiness technology from the U.S. to Thailand;
5. Establish a fresh meat export industry;
6. Continue policy dialogue with the government on deregulation of private investment.

Discussions between RFM Corporation and PRE resulted in a proposal for a joint venture involving RFM, Thai and foreign investors, with loan financing from PRE's Revolving Fund.

The Investment Proposal approved in 1984 stated that total capitalization of the project would be \$17,500,000. Ownership of the company would be 51 percent Thai, 40 percent Filipino, and 9 percent other, mainly institutional investors. The major Thai shareholder was the Mah Boonkrong Group, which would own 37 percent of shares. Mah Boonkrong is a major Thai agribusiness company, with operations in commodities processing, storage and trading, construction and livestock ranching. At that time Mah Boonkrong Group was financially healthy.

The proposed project involved constructing a plant complex consisting of an abattoir, processing, canning and cold storage facilities. The plant would produce top grade sausage for the local market, and canned and fresh meat products for export, all under the Swift & Co. brand name. (A license agreement would be arranged with Swift to use the company's name.)

A company was formed by the shareholders, and the loan agreement between the Mah Boonkrong-RFM Co., Ltd. and A.I.D. was signed September 5, 1984.

#### Problems During Implementation

After the loan agreement was signed, the Thai RFM Project encountered numerous problems that prevented disbursement of the PRE loan for over three and a half years, until May 1988. For over one year MBK-RFM waited for changes in local laws affecting the slaughter industry, for Board of Investment approval, and approval to begin construction. In 1985, A.I.D. was informed that, as a foreign government, it could not directly hold security for its loan. The project was held up for several months while A.I.D. reorganized its security interests.

In 1986, Mah Boonkrong Group was unable to pay its equity commitment because of financial difficulties. Mah Boonkrong's equity was then purchased by a group of Thai investors led by the Laem Thong Bank. The Industrial Finance Corporation of Thailand (IFCT) also bought Mah Boonkrong shares equivalent to 10 percent of the Mah Boonkrong-RFM Company. Later, in 1988, because of a change of management within the Laem Thong Bank, the bank decided not to remain in the project, and the Thai investors represented by Laem Thong Bank were replaced by investors led by the Wonwong Group. The Laem Thong Bank, however, continues to represent A.I.D.'s security interests in Thai-RFM.

Other delays encountered during start up included difficulties in clearing imported equipment through local customs, and slow approval of the company's commercial licence because the company's sophisticated wastewater treatment facility needed to be reviewed by the government before the licence could be granted.

### Costs to A.I.D. Resulting from Delays

Slow implementation caused the RFM Corporation, the newly established Mah Boonkrong-RFM Company and PRE to incur significant costs, particularly in staff time, to keep the project alive. A review of the project correspondence, Project Implementation Letter, and monthly activities reports files in both the PRE Investment Office and the Thailand Mission indicate that thousands of hours have been spent implementing this project. These costs were considered acceptable because of the project's important role in meeting PRE's objectives for privatization and livestock industry development.

### The Current Project Loan Agreement

The July 2, 1987 Amended Loan Agreement between Thai-RFM Co., Ltd. and A.I.D. provides Thai-RFM Co. with a \$2.5 million dollar, ten year loan to establish a slaughterhouse, meat processing and cold storage facility.<sup>2</sup> The Agreement also provides a grant of \$70,000 for Thai-RFM to finance technical assistance in designing and implementing a technical assistance program for small and medium-sized livestock producers.

On July 2, 1987, the Company also signed long-term loan agreements totaling 349 million baht (\$14 million) with two other lenders, the Industrial Finance Corporation of Thailand (IFCT), and the Netherlands Development Finance Company (FMO).

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<sup>2</sup> Thai-RFM Company replaced the Mah Boonkrong Company in the Thai RFM Meat Processing Project after new Thai investors bought the shares from the Mah Boonkrong Group and the Laem Thong Bank, as described above. RFM Corporation (Philippines) continued in its support of the company throughout these changes.

### Loan Terms

The PRE loan's interest rate is 10.25 percent, payable semi-annually, with a six month grace period on interest payments. Loan principal is to be repaid in 15 equal semi-annual installments, beginning after a three year grace period.

### Important Additional Requirements under the Loan Agreement

The total cost of the project is estimated at \$21.5 million, and the company must obtain at least \$20 million in total capital and loan commitments before the first disbursement of the PRE loan is made. In addition, the company must complete a licensing agreement with Swift & Company (U.S.A.) to allow Thai-RFM to market products under Swift's brand name.

In order to protect PRE's financial interests, there are limitations on the dividends that may be disbursed by the company, and on the maximum allowable debt-equity ratio. The company's total debt-equity ratio has been limited to a maximum of 2.5 to 1, and short-term debt-equity ratio limited to 1 to 1.

The agreement requires that Thai-RFM will comply with the recommendations of the A.I.D.-financed environmental evaluation of the project,<sup>3</sup> and will comply with all relevant Thai environmental standards. Thai-RFM must also "exercise its best efforts to procure at least 50 percent of its livestock from small- and medium-sized Thai producers".

A final condition was that Thai-RFM must receive certification from the Board of Investment granting the company corporate income tax exemption and other BOI promotion privileges. Under the company's

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<sup>3</sup> Up to a total cost to Thai RFM Company of \$200,000 for complying with the report's recommendations.

agreement with the Board of Investment, the company is required to export at least 30 percent of its fresh pork and 50 percent of its fresh beef output by the fifth year of operation.

### III. ORGANIZATION AND OPERATION OF THAI-RFM

Thai-RFM Company, Ltd., is an integrated meat processing plant which represents the first officially recognized private sector project in the food industry between ASEAN countries. It has the following shareholders:

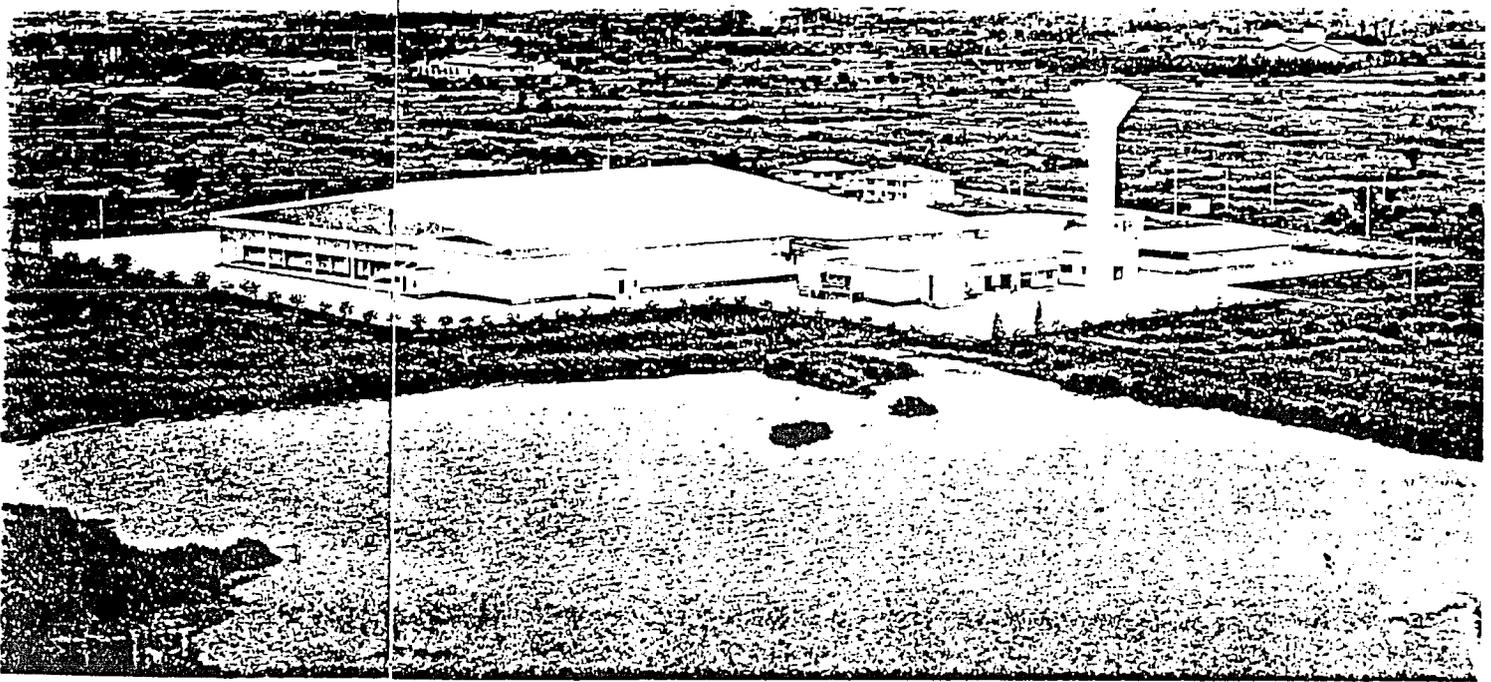
#### Thai-RFM Shareholders

Thai Nationals:	<u>Shares</u>	<u>Percent</u>
Wonwong Group	4,875,000	30.0%
IFCT	1,625,000	10.0%
Nenet Sirisamphan	666,250	4.1%
Others	1,121,250	6.9%
Total	8,287,500	51.0%
Foreign Investors:		
FMO (Netherlands Dev. Finance Co.)	3,477,500	21.4%
Pacific Basin Devel. Corporation <sup>4</sup>	3,250,000	20.0%
John Concepcion, Jr.	812,500	5.0%
<u>RFM Development Co.</u>	<u>422,500</u>	<u>2.6%</u>
Total	7,962,500	49.0%

The company management team consists of three Philippine nationals: G.A. Borromeo, Managing Director; Edwin de Guzman, Vice President, Plant Operations; Rex Agarrado, Vice President, Technical Operations; and four Thai nationals, Ms. Araya Tejanant, Vice President, Marketing; Tawatchai Benghsri, Vice President, Administration; Ms. Anchalee Sitheeamorn, Company Controller; and Pechnui Bumrungcheep, Personnel Manager. Mr. Somboon Nandhabiwat is the chairman of the Board of Directors.

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<sup>4</sup> Pacific Basin Development Corporation is a Canadian venture capital company.



Thai-RFM Meat Processing Plant Complex

### Operations

The plant complex is located on a 48,000 square meter rural plot in Pathum Thani Province, about 30 kilometers from central Bangkok. It presently employs 131 people and is the most modern meat processing plant in the ASEAN region.

The plant complex contains administrative offices, a slaughterhouse, processing and cold storage facilities. The plant has the capacity to slaughter 700 head of hogs and 200 head of cattle per day, to process 20 metric tons of meat products per day, and to have in cold storage 1,800 metric tons of meat products at any given time.

Construction of the plant began in March of 1987 and was completed in April of 1988. The plant machinery and equipment were installed in the summer of 1988, and test runs of the equipment continued until the fall. The plant was designed to conform to USDA and EEC meat processing

standards, and includes facilities for Halal slaughter for meat intended for Islamic markets.

Thai-RFM has imported \$747,653 worth of capital equipment from the United States. A substantial proportion of the meat cutting, sausage making and packaging equipment was purchased from the U.S.

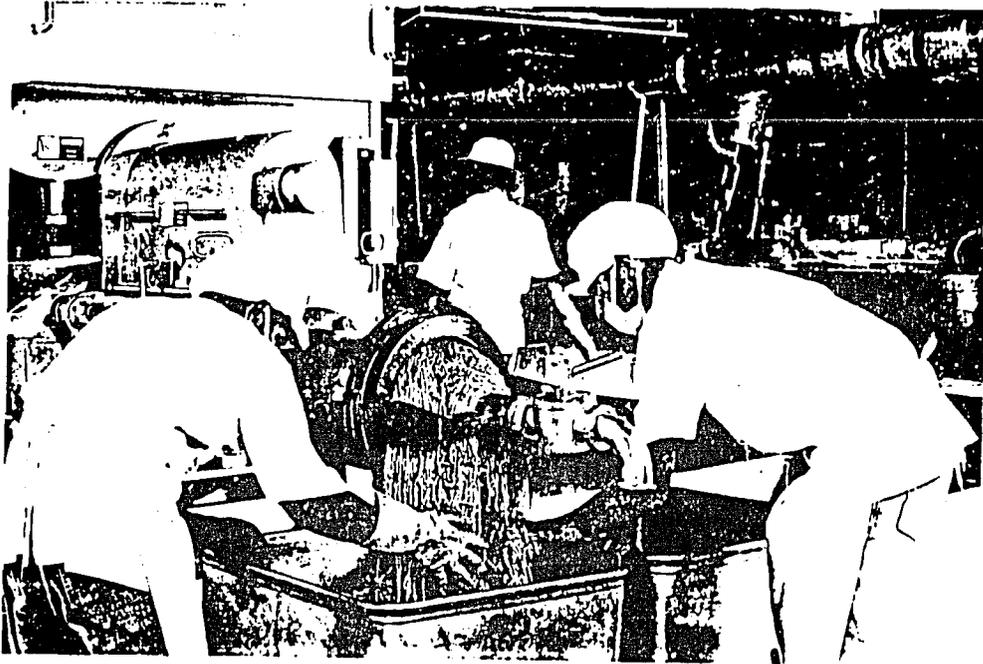
Thai-RFM has a 10 year technical assistance agreement with RFM-Philippines. Under the agreement, Thai-RFM pays a production fee to RFM Company in exchange for technical assistance from RFM. Although Thai-RFM has a licensing agreement with Swift Company, this covers only use of Swift's brand name; Swift provides no technical assistance.

The Board of Investment has given the project relief from: a) payment of duties on machinery imports; b) all corporate income tax obligations for seven years; c) requirements obligating entrants into meat processing to immediately export 50 percent of their output; and d) provisions requiring the transfer of ownership of corporate assets to local government after project completion.

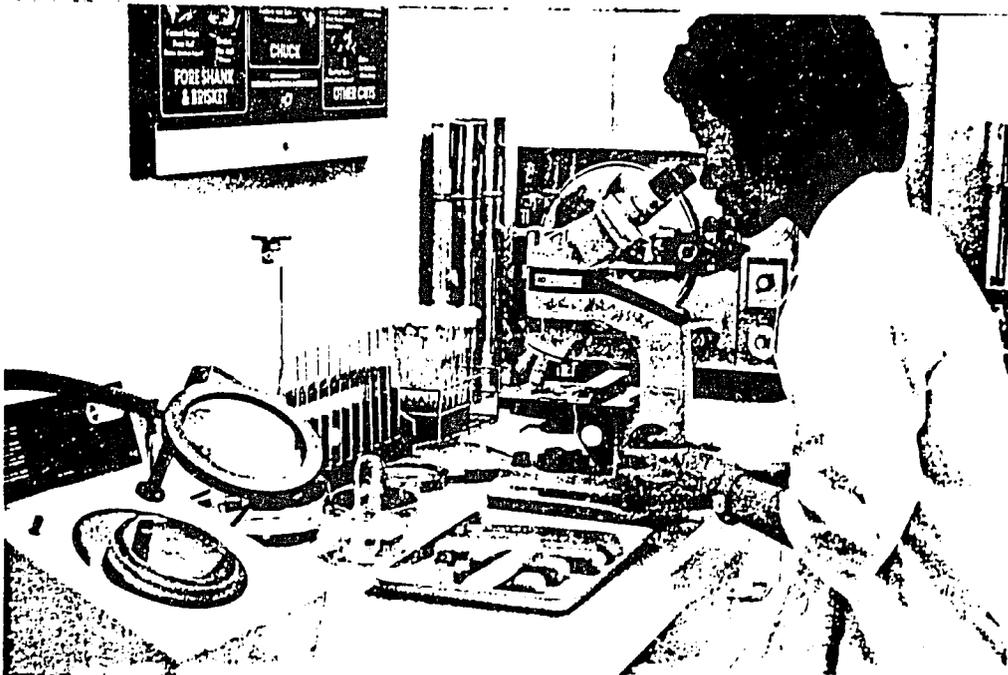
Training of production staff under the technical assistance agreement began in the Spring of 1988, with on-the-job supervision by specialists from RFM in the Philippines. Training continues until the fall of 1988. Several Thai supervisors have also been sent to the Philippines, Netherlands, and Germany for training.

Production test runs began September 17, 1988. As of December 1st, 1988, 200 head of hogs and 20 head of cattle are slaughtered daily. The Thai Ministry of Industry approved the plant's commercial operation license in November 1988 and the grand opening was scheduled for November 23, 1988. At this time four processed foods - frankfurters, bologna, sausage, and ham - will be offered through supermarkets in

Bangkok. Future plans call for expansion into Chiang Mai, Thailand's second largest city.



Thai-RFM Workers Grinding Hamburger Meat



Testing Sausages In The Lab

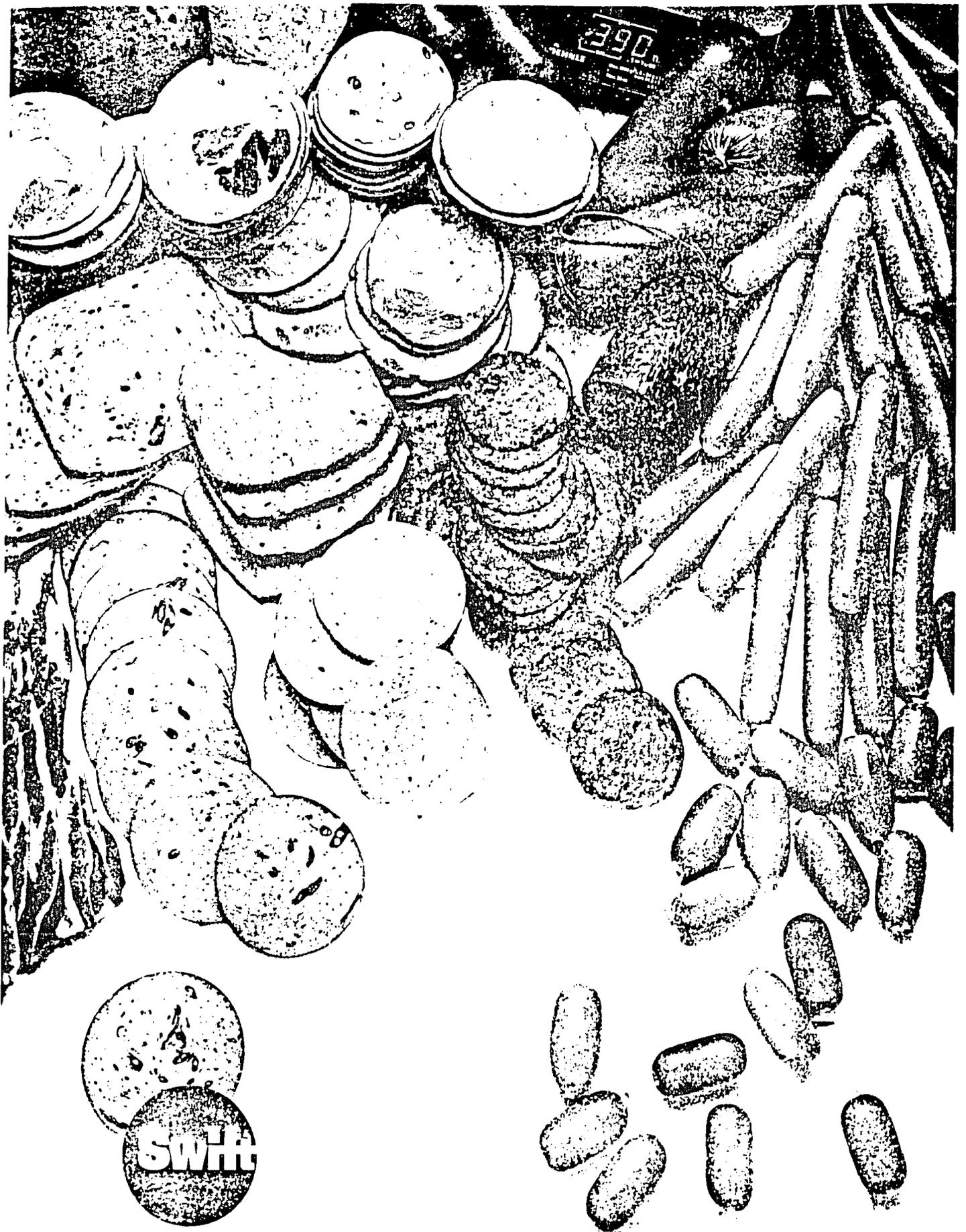
## Marketing

Thailand's growing middle class and shifting tastes toward processed foods has resulted in a 10 percent annual growth in local demand for processed meats during the 1980s. The total value of the Bangkok processed meat market alone is over \$32 million per year. The major processed meats consumed in Thailand are frankfurters, bologna, sausage, and ham. Frankfurters account for 65 percent of the market and sell for about 70 baht (\$2.80) per kilo (2.2 pounds).

Thai-RFM's marketing plan calls for an emphasis on quality. Its frankfurters are priced at 75 baht per kilo, and the package has a coupon that can be redeemed for discounts on the purchase of additional products. Presently, eight major corporate brands of processed meat are sold in Thailand. Thai-RFM, however, is the only vendor with production control from the feedlot to the marketplace, and therefore is the only vendor able to assure quality throughout the complete production cycle.

Thai-RFM will produce three brands of processed meats, with Swift as its top brand. The Swift line, marketed under license with the Swift Company, includes frankfurters, Chinese style sausages, deli meats, meat balls and fresh meat. By January 1989, Thai-RFM products will be displayed in Bangkok supermarkets in frozen food cases attractively decorated in Swift's yellow and red colors. Thai-RFM representatives, wearing uniforms with the Swift colors, will stand by the refrigerated cases during the first few weeks to sell the product.

Over the long term, Thai-RFM expects to sell 85 percent of its processed meat in Thailand, and to export 50 percent of its fresh meat output. The company's fresh meat marketing is targeted toward exports to Hong Kong, Singapore, Malaysia and the Philippines. To break into most



Processed Meat Products Produced By Thai-RFM

major ASEAN countries Thai fresh meat exporters must overcome import barriers that were erected because of protectionist trade policies, endemic hoof and mouth disease in Thailand, and Thailand's traditionally poor sanitary standards in slaughterhouses. Thai-RFM's success in the Hong Kong market should help the company move into other ASEAN markets. Thus, through using stringent quality controls and aggressive marketing, Thai-RFM may serve as a model for the Thai meat processing industry.

Thai-RFM currently holds contracts to supply MacDonaldis Company franchises in Bangkok with fresh beef, is completing contract negotiations to become a supplier to Pizza Huts in Bangkok, and has confirmed orders from a Hong Kong buyer for about 50 carcasses of cattle per day.

#### Relations Between Thai-RFM, PRE and USAID/Thailand

According to the RFM Corporation planning officer who has worked on the Thai RFM Project since its beginning in 1982, PRE has been a very effective and efficient partner. She stated: "It was remarkable how flexible A.I.D. was; throughout our work, A.I.D. set reasonable rates and gave quick responses when problems came up." Referring to the problems that came up concerning the security for PRE's loan, the officer said: "PRE set the tone on security sharing and collateral issues for the project." It was clear that PRE had been responsive in dealing with the numerous implementation issues that arose under the project.

It should also be mentioned that the PRE Personal Services Contractor in the Bangkok Mission, as well as the Mission's private sector officers have been actively involved in the implementation of the project. The assistance provided during implementation of this complicated project has contributed significantly to the success of the project.

### Thai-RFM's Small Farmer Outreach Program

Part of the Thai RFM Meat Processing Project's objective was to increase incomes of small farmers by helping them produce higher quality livestock. To accomplish this, Thai-RFM was to "exercise its best efforts to procure at least fifty percent of its livestock from small and medium-sized Thai producers." For this activity the project included a \$70,000 grant to assist the company in the establishment a small farmer outreach program to provide technical services to small and medium-sized livestock producers.

Under this grant, Thai-RFM has contracted with F.E. Zuellig and Kasetsart University Agricultural College to establish a comprehensive small farmer technical assistance and purchasing program. Thai-RFM now can buy enough high-quality pigs from large local farms, but currently does not have a sufficient supply of prime beef cattle. Therefore, the focal point of the outreach program is on small cattle producers. Thai-RFM's contract with Kasetsart covers the period from January 1988 to January 1990, and covers farms within 200 kilometers of Kasetsart University's Kamphaeng Saen Campus.

The program's central activity is an all-day seminar held each month at Kasetsart University sponsored by Thai-RFM, the university, and F.A. Zuellig (Bangkok). The seminar provides farmers with technical information and acquaints them with Thai-RFM's purchase program. In addition to the seminars, Thai-RFM staff also attend regional cattle markets to recruit farmers to raise cattle for the company. Thai-RFM's contract with Kasetsart also involves the production of a beef cattle raising manual, establishment of a demonstration farm, and research and development activities in cattle farming.

Farmers participating in the program can receive loans through the government agricultural bank to construct a feedlot floor and shed, and to purchase livestock and feed. Thai-RFM agrees to purchase the livestock when they are ready for slaughter, at prices based on the quality of the animal. In order to give an incentive for farmers to produce high-quality finished cattle, Thai-RFM offers 9 to 12 percent more than the prevailing market price for plain pasture-grazed cattle.

To assure that the animals receive proper care, Thai-RFM contracts F.A. Zuellig to provide regular veterinary services. Farms are visited twice monthly by a Thai-RFM field agent and an F.E. Zuellig veterinarian. Animals are wormed, given shots, and medications as needed. Records are kept by the veterinarian on the animals' health, and results of each field visit are recorded.

Through these farmer outreach efforts, Thai-RFM has accredited and contracted farms for both pig and cattle purchases. Total current cattle supply under contract is almost 20 head per day from all accredited farms. In the short term, once the plant reaches full capacity, the plant requires 50 head per day. This level of supply is sufficient for the local market, but not for export demand.

According to the terms of the loan agreement, Thai-RFM must try to buy 50 percent of its livestock requirements from small farms. Because "small and medium-scale farm" is not defined in the loan agreement, it is difficult to determine whether Thai-RFM is complying with this requirement.

Nevertheless, by November 30, 1988, Thai-RFM had ten relatively small cattle feedlots under purchase contracts,<sup>5</sup> with these farmers currently supplying about 40 percent of the company's cattle requirements. In addition, Thai-RFM is considering the accreditation of approximately 100 other farmers that feed less than 20 head of steers each.

Because beef demand has turned out to be larger than expected, agreements have also been made with several large cattle feedlots. The largest supplier, Thai-American Products (Dole Thailand) has 3,700 head, and two other large firms feed several hundred head of cattle each. Thai-RFM will replace these large feedlots if it is able to develop enough accredited small farms able to supply prime grade animals.

The swine fattening industry is much more developed than the beef industry. To date, 16 hog farms have been accredited, and these farms produce a total of 230 percent of Thai-RFM's current pig requirements. All the farms that will supply hogs to the company raise 1800 or more fattener hogs per year, and have an average production per farm of about 11,000 hogs per year.

Overall, swine fattening is a large, well-developed industry in Thailand, and the effect of Thai-RFM on the swine industry has been negligible. On the other hand, Thai-RFM is influencing the beef fattening industry, because it requires a higher quality finished steer than is currently produced for the local market. As a major buyer, Thai-RFM is creating a much larger market for high quality, finished cattle.

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<sup>5</sup> None of the ten farms finish more than 85 head of cattle per month.

#### **IV. INSTITUTIONAL IMPACT**

##### **A. Impact on the Thai Government**

After the Royal Thai Government decided to consider privatizing the slaughter industry, Thai-RFM became a test case in the government's effort to formulate effective policies for the meat processing industry. These policies would, by 1988, include (i) closing government-owned slaughterhouses; (ii) passing laws allowing the establishment and operation of privately-owned slaughterhouses; and (iii) provision of Board of Investment promotion privileges to the abattoir industry.

After the Mah Boonkrong Company slaughterhouse proposal was submitted in 1982, the government took almost two years to formulate and announce its new, liberalized policies. During this time, Mah Boonkrong-RFM Company, its shareholders, PRE and USAID/Thailand staff continued to lobby with the government for conditions that would support a viable industry. Even after Thai Board of Investment approval was granted to the project in 1985, Mah Boonkrong-RFM continued to lobby with the government because the incentives were not sufficient to make the project viable. The package of investment incentives and requirements negotiated by MBK-RFM has since become the government's standard policy covering the whole slaughter and meat processing industry.

##### **B. Impact on the Thai Livestock Industry**

The Thai-RFM Company began operations as Thailand's first modern privately owned slaughterhouse and meat processing company during November of 1988. Because the company is still basically a new start, it is difficult to evaluate the full impact that this ten year PRE project will have once the company begins full commercial operation. Nevertheless, the

project already has had major impacts on the livestock industry and the government's policies toward the meat industry. Major impacts include:

- Introduction of higher technical standards into slaughter and processing industries;
- Introduction of improvements in cattle farming, and cattle and hog marketing;
- Increasing the availability of high quality, hygienic fresh beef and pork in Thailand. Control of the product from the hoof to the market gives consumers higher quality products. Thai-RFM is the first meat processing plant in Thailand to follow this practice.
- Production of meats of high enough quality to enable Thailand to meet fresh meat import standards in foreign markets.
- Introduction of direct competition with government-owned slaughterhouses, pressuring them to improve quality and efficiency.
- Improving standards for livestock industry waste treatment.
- Development of better technical assistance programs for livestock production and feedlot businesses.
- Increasing demand for high quality livestock. Since the project was begun, the IFCT has received several proposals to fund feedlot companies. Thai-RFM's demand for finished steers has created a market for better cattle and a new industry: small farmer feedlots. Inquiries are presently being made by Zuellig to import American Brahma breeding stock to upgrade the breedstock in local herds.

Each of these impacts contributes to fulfilling A.I.D.'s objectives in Thailand. To begin with, as mentioned above, beginning in 1982, A.I.D., the RFM Corporation and the Mah Boonkrong Company have played important roles in helping the government to revise legislation and establish Board of Investment and Ministry of Agriculture regulations concerning the slaughter industry. With this improved regulatory framework established, six more private slaughterhouse and meat processing companies have received Board of Investment approval to establish operations.

The official monopoly on private slaughtering and other controls have obstructed development of this potentially large industry. The success of frozen chicken exports, which are relatively free of restrictions, is an indication of the potential for pork and beef if they were deregulated. Chicken exports grew to an annual value of \$120 million in 10 years. The government monopoly on slaughtering and cumbersome regulations on transport of live and butchered products have prevented Thailand from improving its efficiency relative to other major world exporters.

Since the project started in 1984, the government has closed the principal government slaughterhouse, and it is reported that the government will now sell the facility to the private sector. Thai-RFM made it more politically feasible to close the government's plant because Thai-RFM will make up the production loss of the PFO facility, and Thai-RFM has hired almost 100 employees who were laid off from the government plant.

Another important impact of the project has been stimulation of competition among government and private slaughterhouses. This competition will force older slaughterhouses to reduce corruption and improve quality and efficiency. As mentioned above, if Thai-RFM is successful in reaching the output levels for which its plant was designed, it will be a low cost producer of meat products. This efficient production will encourage other competitors to adopt similar technologies.

Thai-RFM is the only beef and pork processor in the country to control production from livestock rearing to supermarket displays. This hoof to market type of operation promises to encourage its major competitors - Bangkok Ham, Belucky, Charoen Pokapan, Thai Fresh Meat Company and Thai Sausage - to develop integrated operations, and to

provide technical assistance to livestock suppliers. Officials of the Industrial Finance Corporation of Thailand also mentioned that this project has successfully induced a private sector company to carry out and assist government extension efforts, and that other companies are likely to follow this model.

Thai-RFM currently produces fresh meat that is high enough in quality to sell in Hong Kong and Singapore. Its domestic products are also high quality and targeted to the top end of the Thai market. To maintain quality, the company pays farmers more than the standard market rate for high quality livestock. This stimulates the demand among farmers for improved livestock breeding and raising practices. In addition, if Thai-RFM's program to improve the quality of cattle raised by small farmers continues to be successful, the company will be able to supply beef to local markets that are currently supplied by Australia.

One final impact on the livestock industry in Thailand is on slaughterhouse and meat processing waste treatment. Thai-RFM Company constructed a waste treatment plant designed to comply with environmental waste standards governing the livestock processing industry in California. Test operations of the treatment facilities were being conducted during the MSI evaluation team's visit in late November, 1988. Most other slaughterhouses in Thailand do not properly treat wastes. The government has examined the waste treatment facilities constructed by Thai-RFM, and may use these as standards for the requirements for the slaughter industry.

### C. Impact on Small Farmers

As mentioned above, the Thai RFM Project has already had significant impacts on small farmers, and promises to have additional success in the future. There are two primary results. First, Thai-RFM Company has set up a system involving a local agricultural university, a veterinary supply and feed company and local banks. Through this network, pig and cattle farmers are receiving technical assistance in improved livestock rearing practices, modern supplies and credit. This package of assistance, credit and supplies is particularly important for the cattle industry because this sector previously operated almost exclusively with traditional practices.

The second impact is that Thai-RFM provides significant demand for high quality livestock. Although there were outlets for improved pigs, there was practically no market for improved cattle.

## V. SMALL FARMER PROFILES

### THE PIROM FEEDLOT Nakorn Pathom Province Cattle: 50 Brahma steers

The A. Pirom feedlot is typical of the small feedlots established as a result of the Thai-RFM meat processing plant and it also provides a good example of a private enterprise responding to new market opportunities. Thai-RFM's demand for more highly finished cattle than those marketed locally created the need for feedlots and gave the Piroms an opportunity to diversify their farming and increase income from their 12-acre farm.



The Cattle Shed

The feedlot with 50 head of Brahma steers is a new business venture for the Piroms and is intended to supplement the income from their 12-acre vegetable farm. They first learned of Thai-RFM's cattle buying program

from a neighbor who also operates a small feedlot. After making inquiries into the program, they decided that cattle feeding would be profitable. Because of the Thai-RFM market, they were able to obtain a 12.5% term loan from the government agricultural bank to construct a feedlot consisting of a tin-roofed shed with a concrete floor.

A second loan was provided by the bank for purchase of steers and feed. The loan program includes veterinary service provided by R.E. Zuellig, Ltd., (Bangkok) through an arrangement with Thai-RFM. Under this program, a veterinarian visits the farm every two weeks to check on the animals' health and diet and to give the animals shots, worm medication, and other care as needed. An individual record including age, breed, sex, weight, purchase date, and health status of each animal is kept by the veterinarian.

The steers were purchased 10 to 20 head at a time through a livestock auction. The average purchase weight was 200 to 250 kilos, and the average purchase price was 24 baht per kilo (U.S. 43.6 cents per pound). Thai-RFM has an agreement with the Piroms that the company will purchase the steers when they are ready for slaughter. The live weight price will be determined by carcass grade. The average time on feed is 180 days, and the cattle go to Thai-RFM for slaughter weighing between 380 to 420 kilos and sell from 27 to 30 baht per kilo.

The feeding ration consists of pineapple skins purchased from a nearby cannery, rice straw, and a concentrate including salt, cotton seed meal, sulfur, cassava, coconut meat, and urea. No growth hormones are given to the steers. The steers are healthy and gaining weight.

Good management is evidenced by the facility's cleanliness. Although these are the first steers which the Piroms have fed, they are doing a good job and expect to make a profit of 1,500 baht (U.S. \$60) per head. Currently, only two people, Mr. Pirom and his wife, work in the feedlot.

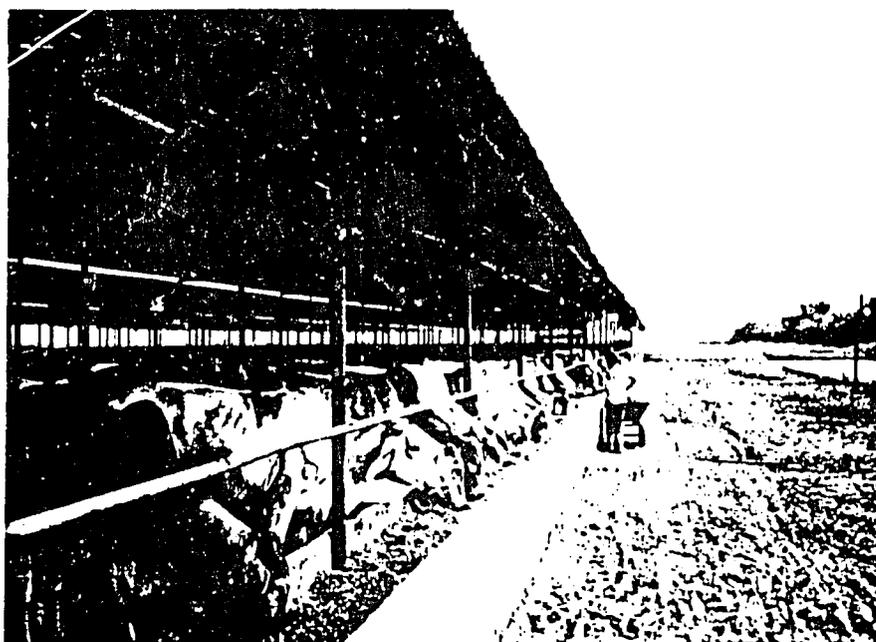
NAKORN PATHOM LIVESTOCK LIMITED  
Nakorn Pathom Province  
Cattle: 500 Brahma, Charolais, and Limousin Steers

Nakorn Pathom Livestock is a cattle feedlot that has significantly increased the number of cattle fed to supply Thai-RFM. The owner, a private businessman, began feeding cattle three years ago because he saw the cattle business as a way to use inexpensive pineapple skins from his small canning plant as cattle feed. Until recently, he fed only 20 to 40 head at a time for sale to local markets through a cattle broker.

He learned of the Thai-RFM cattle purchase program by attending the monthly seminar for farmers at Kasetsart University - a series of seminars offered as a joint effort of Thai-RFM, the university, and veterinary supply company, F.E. Zuellig. Two more of the company's employees have since then also been sent for training in this program. The feedlot currently has approximately eight employees, including three women.

Nakorn Pathom's owner agreed to sell steers to Thai-RFM and obtained a \$2,000 loan from the government agricultural bank to enlarge his feedlot facilities and purchase additional cattle. He liked the idea of producing more slaughter steers and avoiding brokerage expenses by selling directly to a large company. This small loan proved insufficient for the farm's plans, and the owner has subsequently also been given loans from a private commercial bank and a finance company.

He presently has 500 head of steers on feed in a model feedlot. The steers are housed in four open sheds with concrete floors and tin roofs. Another building of similar construction, except for an enclosed office, houses a feed mill and feed storage. Adjacent to the sheds is the lagoon which stores the waste from the regular washings of the concrete floor. The physical facilities are well suited to the environment--a prevailing north breeze cools the sheds, and the lagoon eliminates the odor normally associated with a feedlot.



Nakorn Pathom's Cattle Sheds

Each shed is divided into pens of 12 to 15 head of cattle, with each pen containing cattle of approximately the same weight. As the cattle gain weight, they are moved to the next pen. The fattened steers must weigh at least 380 kilos and are normally fed for 180 days up to a maximum of 240 days. The feed ration consists of pineapple skin silage, cassava, and feed concentrates.

In an effort to select steers which will make the most efficient weight gain, Nakorn Pathom's owner is presently feeding Brahma, Charolais, and Limousin steers. He prefers Brahmas, because the larger-footed Charolais and Limousin have had foot problems caused by the hard concrete floor.

He has solved the problem by putting several inches of sawdust on the floor. The sawdust, however, has created additional work in cleaning the floors that were previously cleaned by spraying with water.

His source of supply for steers is the cattle auction markets in the North and Northeast of Thailand. Because of his and other feeders' preference for American Brahma cattle, F.E. Zuellig is currently making an effort to assist Thai cattle producers to import additional Brahma breeding stock from the U.S.

The recent feedlot expansion carried out by the feedlot's owner was completed in September 1988, and now he plans to expand again in the near future to be able to sell 150 head of finished steers per month. Following that expansion, he would like to increase his sales from 200 to 400 head of fat cattle per month, primarily to Thai-RFM. It is obvious that Nakorn Pathom's owner has the ambition and management skills to be a major supplier of beef to Thai-RFM.

U NGUAN HONG FARM  
Nong oaa Sub-District, Banpong District  
Sows: 1,300  
Fatteners: 8000

The U Nguan Hong Farm is a good example of the farms providing a plentiful supply of excellent quality hogs to Thai-RFM. The farm, located in Ratchaburi Province, has 1,300 head of sows and 8,000 head of pigs on

feed. The facilities are modern, clean, and well managed. The farrowing barn contains several hundred sows with new-born litters averaging eight piglets, on freshly washed concrete floors. A crew of young women administer medication to baby pigs, one by one.

In adjacent barns, thousands of pigs feed at shiny stainless steel feeders which are manufactured on the farm.

The quality of the animals is excellent. The swine are a Large White and Duroc cross; they are tall, lean, and long - or, as a hog producer might say, "modern".

The supply of hogs relative to the requirement of Thai-RFM is more than adequate based on the assumption that the plant would slaughter 102,400 head per year at a daily rate of 400. Since a sow is capable of producing two litters per year at an average of eight pigs per litter, and the average growth period is six months, Thai-RFM's requirement could be produced by 6,400 sows. According to an estimate by Dr. Prakorn of F.E. Zuellig, Ratchaburi Province alone has 42,000 head of sows. Almost all large farms in this area propagate two-way or three-way crossbreeds of Landrace, Large White and Duroc.

U Nguan Hong Farm is one of 16 farms that has been accredited by F.E. Zuellig for Thai-RFM, and these farms together have 14,750 head of sows. Accreditation requires that prearranged cultural and management practices should be followed at all times. Under the accreditation program, the requirement of the plant for the number of slaughter hogs is apportioned to farms based on farm size.

Farm visits are made by a veterinarian from F.E. Zuellig each month, and health records are kept on each pen of pigs. Pigs are tagged for identification, and only tagged pigs are accepted for slaughter. There

are a number of specifications for pigs including: (1) the weight of the animal upon delivery for slaughter should be between 85 to 115 kilograms; (2) the animal should have a minimum dressing percentage of 75 percent; and (3) there are rigid specifications regarding carcass length, backfat thickness, belly thickness, and loin eye size.

**APPENDIX 1. STUDY TEAM MEMBERS**

<b>John Gardner</b>	<b>Banking and Finance Specialist</b>
<b>Robert Gandre</b>	<b>Business Specialist</b>
<b>Dr. Allen Eisendrath</b>	<b>Institutional Analyst</b>

## APPENDIX 2. THAI RFM CHRONOLOGY

1982

Government of Thailand considered allowing private slaughter operations, primarily to promote fresh meat exports and create competition in the slaughterhouse industry. RFM Company was aware of this interest in privatization and applied to Board of Investment (BOI) for approval to undertake a project. At this point, the Ministry of Agriculture and the BOI supported privatization, while the Ministry of the Interior opposed. The Ministry of Interior was responsible for operation of the Preserved Food Organization and numerous municipal slaughterhouses.

May 1982

The U.S. Presidential Agricultural Mission to Thailand is conducted. Recommendations include: (a) the U.S. should support the establishment of an abattoir of USDA standards along with matching food processing techniques and procedures which meet international processed food standards, and (b) the U.S. should offer technical assistance and financial resources for soft financing of a joint Thai-U.S. venture in livestock production, auctioning, slaughter and meat processing.

1983

PRE is introduced to RFM Company by staff at the Siam Commercial Bank.

January 30, 1984

Investment Proposal for Thai RFM Meat Processing Project approved.

April 23, 1984

Thai Livestock Meat Processing Project authorized

September 5, 1984

Loan Agreement between Mah Boonkrong-RFM Co., Ltd. and A.I.D. signed.

September 13, 1984

Newspaper article in The Nation claims that the MBK-RFM venture is expected to be delayed for at least one year. Reasons: (1) RTG has not amended legislation allowing operation of private slaughterhouses; (2) RTG has not amended legislation prohibiting transport of pigs between provinces; (3) Foreign prohibitions against exporting fresh meat to Singapore, the U.S. and the EEC.

September 18, 1985

Mah Boonkrong-RFM Co., Ltd. receives BOI Investment Promotion Certificate providing BOI privileges.

March 1986

PRE determines that under Thai Law, A.I.D. cannot take a mortgage on real property and must revise its security arrangements. Loan commitment fee waived until October 1, 1986 to allow A.I.D. to organize its security interests. Mortgages beneficial to A.I.D. are issued in the name of Laem Thong Bank.

August 1, 1986

Ministry of the Interior grants permission to MBK-RFM Co. to establish a slaughterhouse.

September 4, 1986

Original loan disbursement period ends.

September 1986

Temporary plant built to supply meat for MacDonald's contract completed. Commercial operations to begin in October 1986.

November, 1986

Project suffering delays due to Mah Boonkrong's inability to perform as a major equity partner. MBK claims that it will be able to raise sufficient capital to pay its share.

November 10, 1986

Disbursement period extended to March 31, 1987.

November 13, 1986

MBK continues to experience cash flow problems and has to sell 40 of their 44% equity share. PRE/I is informed that MBK will be withdrawing as equity investor in the project and will allow Laem Thong Bank to organize new equity investors. Resulting shareholder structure is:

RFM Corp.	44%
Mr. Sirisamphan	7%
Mr. Joe Concepcion, Jr.	5%
Mah Boonkrong Co.	4%
Mr. Sirichai Bulakul	18%
Laem Thong Bank	22%

January 1987

Mah Boonkrong Drying & Silo Co informed PRE that they will have to sell their entire equity interest in project. New Thai investors are represented by Mr. Somboon Nandhabiwat, Managing Director of Laem Thong Bank.

March 1987

Construction of plant begins.

March 23, 1987

Mah Boonkrong Drying & Silo Co., Ltd. informed AID that it has sold its 44% interest in the project to a new group of Thai investors headed by Laem Thong Bank (LTB). Laem Thong Bank holds 20 percent of the new company, to be registered as Thai-RFM Co., Ltd. Major changes in the project include reduction of the interest rate from 11% to 10.25%, and scrapping of the canning component of the project.

June 5, 1987

PIL #7 sent to inform Mah Boonkrong RFM Co. that commitment fees are overdue totalling \$12,483 for the periods Sept. 5, 1985 through Mar. 26, 1986, and Oct. 1, 1986 through Mar. 5, 1987. June 30, 1987 deadline is set for payment.

June 19, 1987

Corporate name Mah Boonkrong R.F.M. Co., Ltd. changed to Thai-RFM Co., Ltd.

July 2, 1987

Re-execution of the Amended and Restated Loan Agreement and Amended Grant Agreement with A.I.D. Thai-RFM also signed long-term loan agreements with IFCT and Netherlands Development Finance Company.

New total project estimate: Baht 534.7 million (\$21 million)

Equity B 161 million

IFCT 10%

FMO 21.6%

IFCT loan B 257 million

AID loan B 64 million

FMO loan B 21.4 million

Laem Thong Bank loan B 30 million

Dec. 29, 1987

A.I.D. extends disbursement period to June 30, 1988, and deadline for satisfaction of conditions precedent for initial disbursement to March 31, 1988.

1988

Preserved Foods Organization Slaughterhouse is closed by the Thai Government. Thai-RFM hires many of the laid-off workers.

Jan. 13, 1988

Thai-RFM requests 90 day extension of period for compliance with conditions precedent to initial disbursement. Compliance period to end on Dec. 31, 1987.

March 1988

Thai-RFM satisfies all conditions precedent to disbursement.

April 1988

Construction of the plant completed.

April 8, 1988

Request & Certificate from Thai-RFM for \$2.5 million is issued.

April 29, 1988

A.I.D. extends the terminal date for satisfaction of conditions precedent to disbursement to April 30, 1988, and disbursement period to May 15, 1988.

May 1988

First disbursement of \$2.5 million to Thai-RFM made.

July 27, 1988

Availability period for grant funds extended to March 31, 1989.

Sept. 17, 1988

Thai-RFM starts slaughtering operations on test basis.

September 30, 1988

Disbursements made through September 30, 1988, totalled 319 million baht (U.S. \$12.8 million).

End of November 1988

Thai-RFM receives commercial license and begins commercial operations.