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Postharvest Institute for Perishables

Thailand: Assessment of Agro-Industry
Investment Opportunities

Report to Bureau of Private Enterprise
Agency for International Development

Prepared by
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Agri-Food Systems International, Inc.

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THAILAND: ASSESSMENT OF AGRO-INDUSTRY
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BUREAU OF PRIVATE ENTERPRISE, AID
BY
POSTHARVEST INSTITUTE FOR PERISHABLES

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A. EXECUTIVE SUMMARY

The terms of reference of the work were the review and analysis of a number of previously identified agro-industry investment opportunities for American companies, the selection of a limited number of the most promising and the drafting of Investment Opportunity Proposals for those selected. The work was to be coordinated with that of another consultant with the same mission. A total of 10 working days in Thailand was available for performance of the work.

Contrary to expectations, it was found that no specific, analyzed investment opportunities had been previously identified. Some areas of agro-industry activity appearing to offer potential opportunities had been, in some cases, with supporting data. As a consequence most of the time and effort of the writer had to be spent locating specific opportunities and analyzing their attractiveness for American investors rather than in making a comparative analysis of specific projects identified prior to arrival.

The overall impression of the writer is that the climate for U.S. agro-industry investment and business in Thailand is good, better than in most developing countries with which he is familiar. There is a capable and active private sector, government intervention is relatively limited, and farmers are competent producers. There is a significant potential for more agricultural development in Thailand and it is particularly well-situated for supplying the Mideastern and Asian markets. American companies are welcome and substantial investment incentives are available for approved agro-industries.

Principally, opportunities exist for agro-industry companies which can provide technology, continuing technical assistance and marketing help. Thai companies recognize their need for these. However, contrary to the situation in most developing countries, neither enterprise management in general or funding for viable projects of the size and type considered here do not appear to be problems. These general impressions, if accurate, tend to indicate that the AID private investment promotion program for Thailand should emphasize technology and marketing "investment" or other arrangements and not be limited to investment in the traditional sense of providing capital investment and financing. The foregoing comments also may provide clues as to why specific, fully defined and analyzed investment opportunities had not been previously identified and few were located while in Thailand. It appears that if a project has reached that stage, the Thai businessman has mobilized what he needs and has done, or is doing, it already.

In addition to the opportunities to be reported on by the cooperating consultant, two specific, investment opportunities which appear to be attractive for American investors were identified. Both are in their formative stages and have not been fully defined or analyzed; full technical and economic feasibility studies are needed. Draft Investment Opportunity Proposals for the two are incorporated as Annexes to this report.

I. VEGETABLE SEED PRODUCTION AND PROCESSING

The opportunity is a joint venture or other arrangements with Adams International Ltd. This company is a joint venture between an American company and Thai interests which produces oriental tobacco in Northeast Thailand and markets worldwide. It has effectively mobilized a large number of small producers. The company is seeking to diversify into other crops, is currently producing some hybrid tomato seed and is considering a broader vegetable seed program.

Currently practically all vegetable seeds are imported in bulk and repackaged for distribution to Thai farmers. Estimated vegetable seed demand in the country exceeds 147,000,000 farm-sized seed packets annually. There may also be a substantial regional export demand for Thai-produced seeds. Vegetable seed production development is a priority in the national development program. An ongoing AID-supported field crop seed program has recently been expanded to cover vegetable seed production, processing and marketing.

II. FRUIT/VEGETABLE PROCESSING

The opportunity is a joint venture or other arrangement with Thai Fruit Canning Corp., Ltd., a pineapple canning company seeking to diversify into the canning, freezing, dehydration or processing of other crops. Crops to be processed, and form of processing, have not been definitively established as yet. A market survey to determine the regional and U.S. market potential for processed fruits and vegetables is currently being initiated by AID. Effective establishment of a reliable supply of raw material for processing will be an important factor.

Numerous other agro-industry activities were considered during the course of the work. Potentially attractive investment opportunities could be developed in a number of those areas. They are export of fresh fruits and vegetables, cold storage of vegetables, dehydration, spices and essential oils, cut flowers

for export, pork and duck meat, and stevia (a natural substitute for saccharine production and processing). In addition to the potential opportunities, Section F of this report summarizes what data and analysis is required to confirm and develop the opportunities.

Other agro-industry activities were initially considered but not pursued during the course of the work. Due to the short time available, the number of activities which could be investigated was limited. Included were: agricultural chemicals, agricultural machinery, equipment and implements, field crops, dairy operations, beef/buffalo, broilers and animal and poultry feed. Fish and seafood products were considered by the cooperating consultant. Comments on these activities will be found in Section G of this report.

B. TERMS OF REFERENCE

The Bureau of Private Enterprise (PRE) of AID entered into an agreement with the Postharvest Institute for Perishables to provide the services of Donald S. Leeper of Agri-Food Systems International Inc. for short term technical assistance (14 days, inclusive of travel time) to analyze and assess agro-industry investment opportunities for U.S. companies in Thailand.

The terms of reference for the assignment were:

(1) To analyze agro-industry investment opportunities requiring less than \$5,000,000 in funding which had been previously identified by the Private Sector Investment Reconnaissance Team to Thailand early in 1982, previous consultants, the Board of Investment in Thailand, the AID Mission and others;

(2) To pursue such investigations in Thailand as time permitted to verify the existence, feasibility and attractiveness of the identified opportunities, or others that might surface during performance of the assignment;

(3) To make a comparative assessment of such opportunities, identify up to a maximum of five of the most promising, and draft specific Investment Opportunity Proposals, in accordance with a format suggested by PRE insofar as it was appropriate, for the selected opportunities.

Mr. Leeper
Mr. Don Taylor had the same assignment to be completed prior to arrival of the writer in Thailand. It was contemplated that the results of his work would be available prior to commencement of this assignment. Completion of an agro-industry survey by a Thai-based consulting company prior to the arrival of the writer was also anticipated.

C. CONDUCT OF THE WORK

The assignment was performed during the period from April 9 through the 27th, 11 working days in Thailand, 1 travel day (4/23), and 2 days at home base preparing this final report. April 13th, the Buddhist New Year, was a national holiday in Thailand.

Mr. Taylor had arrived in Bangkok one week before the writer's arrival so the conclusions and results of this work had not been formulated. Mr. Taylor's final report is not available at the time of this report is being prepared. Since Mr. Taylor and the writer had the same assignment, independent of each other, consideration of the same identified opportunities and, in initial phases at least, the same people and organizations in Thailand was involved. A working relationship during the week the assignments overlapped in Bangkok was established to prevent duplication. Mr. Taylor was most helpful in providing background from his prior week's activities, identifying people and organizations he had interviewed and leads to others who might be useful, and providing copies of written materials he had collected. In some cases joint interviews were conducted. An agreement was reached on which agro-industry areas and opportunities his report would deal with. These are identified subsequently in this report.

The agro-industry survey mentioned previously had just been initiated. The work which had been done was reviewed and, where relevant, is incorporated in this report.

It had been understood that a number of specific agro-industry investment opportunities with particular companies had been identified previously. Such was not the case; none were brought to the attention of the writer. What had been done was the identification, and analysis to some degree, of areas of agro-industrial activity which appear to offer a potential for development of investment opportunities. See subsequent sections of this report for some of the possible reasons why more specific projects had not been identified.

The foregoing situation had some significant implications for the conduct of the work on this assignment. Rather than analyzing a number of previously identified opportunities, selecting the most promising and drafting Investment Opportunity Proposals, it was first necessary to search out specific projects and then analyze, insofar as it was possible, the feasibility and attractiveness of those which were located. Most of the time necessarily had to be spent in developing specific opportunities through review of reports and analyses of areas of agro-industry activity potentially presenting investment opportunities, interviews of informed

individuals and organizations with respect to those or other areas of investment opportunities in Thailand and leads as to specific opportunities, and interviews of organizations identified as having an interest in developing projects. Only people and organizations in Bangkok were interviewed. Time did not permit visits to other areas, nor did it allow investigation of plants, facilities or agricultural production areas.

Upon completion of the investigation in Thailand conclusions were summarized and reviewed with the Mission. This final report was prepared upon return to the U.S.

D. THE CLIMATE FOR U.S. AGRO-INDUSTRY INVESTMENT
AND BUSINESS IN THAILAND

This assignment only allowed for 10 working days in Thailand. In-depth investigation of the investment and business climate for U.S. companies and assessment of political risks which may exist was neither possible nor within the terms of reference. However, certain impressions arose from the publications reviewed, interviews conducted with people who are familiar with the climate in Thailand and the writer's past experience which are important to mention.

The potential for agricultural and related agro-industry development in Thailand is substantial. Agronomic conditions are suitable for a broad range of crops and Thailand is well-located for serving the regional market. Farmers are generally described as "good workers, reliable and trainable". The Thai food system appears to be relatively efficient in comparison with other developing countries with which the writer is familiar.

Reliable supply of raw materials for agro-industry processing or marketing is a problem. This has been a critical factor in the success or failure of agro-industry ventures in Thailand. While the transportation is reportedly quite good, other elements of the system such as storage and handling may be deficient. A systems approach covering supply through marketing is essential when agro-industry ventures in Thailand are being considered.

The entrepreneurial spirit is alive, well and very active in Thailand. Management of Thai agro-industries appears, in general, to be quite capable both in the conduct of domestic and export-oriented industries. Examples of the latter would include the integrated broiler, pineapple and seafood canning, tapioca for animal feed and Thai silk industries. Funding for viable projects of the size and type considered in this assignment does not appear to present significant problems for Thai businessmen. No Thai organization mentioned lack of funding as a constraint. The need for technology and marketing is recognized and U.S. companies are regarded as good, likely sources.

Contrary to the situation in most developing countries, few "off-the-shelf", fully developed and analyzed, agro-industry projects exist. If they have reached that stage they have probably already been done or are being initiated; funding has been available and arrangements to secure necessary technology and marketing assistance have been made by the Thai businessman. This is perhaps the principal reason why few specific investment opportunities have been identified previously.

The foregoing comments should not be taken as meaning that there are not significant opportunities for U.S. companies. The writer believes there are a number of promising ones either currently in the initial stages of consideration by Thai companies or which might be developed. Capital and loan funding for projects is not the major need of Thai companies so most of the opportunities probably lie in capitalizing the technical assistance and marketing capabilities of the U.S. company, with or without an equity participation. Most Thai companies would welcome, and perhaps even require, such participation to ensure continuing interest of the American company. Because of this, the writer suggests that the AID private enterprise program in Thailand should principally be targeted at the opportunities for U.S. companies to provide technology and marketing, and not be limited to investment in terms of funding.

It was the writer's feeling that public sector intervention in the domestic or export food system is limited in comparison with other developing countries. Agro-industry development is currently being promoted and substantial incentives are provided for new ventures.

The overall impression of the writer is that the climate for U.S. company investment or other activities in, or with Thailand, is good, probably better than in most other developing countries. However, recognition of what Thai companies need, and are looking for, will be important if U.S. companies are to capitalize on the opportunities.

E. SPECIFIC AGRO-INDUSTRY INVESTMENT OPPORTUNITIES

As mentioned above, Mr. Taylor had made a number of contacts the week prior to arrival of the writer. It was agreed that he would focus on opportunities in the fish and sea food industry and would report on the following opportunities: cotton gin and a sea food processing expansion projects of the Private Investment Company for ASIA (PICA) S.A.; a cashew nut canning project with Pan Asia Food Industry Co., Ltd.; and a ground nut project with Adams International.

Two projects with Thai companies appearing to offer promising investment opportunities for American companies were identified. Both are in their formative stages. Technical assistance and export marketing are the primary needs; funding for the projects does not appear to be a significant problem. Despite the limited success, it is believed that other opportunities could be identified given sufficient time on the part of experienced people.

Investment Opportunity Proposal drafts for the two projects are attached as annexes:

I. VEGETABLE SEED PRODUCTION AND PROCESSING

II. FRUIT/VEGETABLE PROCESSING

They contain all the information and analysis available at this time. Additional work, e.g. the need for market surveys required to confirm the feasibility and attractiveness of the opportunities is noted.

With respect to the seed production opportunity, the assessment and conclusions not only incorporate information developed in Thailand, but also prior experience of the writer and opinion of a U.S. commercial seed producer who exports vegetable seed to Asia and who lived for six years in Thailand. Furthermore, it is the type of private sector activity which is sought to be encouraged by the Seeds II program of AID in Thailand. While interviews with other Thai companies engaged in the seed business--reportedly operating primarily on an import and repackaging basis--would have been desirable, time was not available to do so on this assignment.

The fruit/vegetable processing opportunity identified involves a pineapple canning company seeking to diversify into other crops. With the current, and prospective, pineapple export market situation it is probable that other Thai pineapple processing companies are also considering similar efforts. Further comments on potential opportunities in the fresh and processed fruit and vegetable industry will be found in the next section of this report.

F. AREAS OF POTENTIAL AGRO-INDUSTRY
INVESTMENT OPPORTUNITIES

During the search for specific, existing investment opportunities, a number of agro-industry areas of activity where viable investment or business opportunities for U.S. companies may exist were identified. Reasons why such opportunities cannot be categorized as current opportunities are varied: no specific Thai organization interested in the project was located; the scope, nature or timing of the opportunity could not be adequately defined; or there was insufficient data on which to base an assessment.

From prior experience, the following are indicative of a potential new venture of investment opportunity and its attractiveness:

- an existing or prospective unsatisfied domestic and export demand for the resulting product;
- who supplies demand for the product, currently or potentially;
- the prices that the product commands in the marketplace and available margins;
- lack of current recognition of the existence or attractiveness of the opportunity on the part of others;
- particular relative advantages for a Thai-based venture not available elsewhere--e.g. wild silk is only produced in Thailand, so that once it is established continuing profitability does not just depend on price.

Using the foregoing broad indices, the following agro-industry activities appear to offer opportunities for U.S. companies which should be explored and developed.

Fresh Fruits and Vegetables. Some tropical fruits are currently exported; significant volumes of longans and durians are shipped to Hong Kong, Singapore, Malaysia and Europe. Shallots, onions, garlic and chillis are also exported.

It is suspected that there are substantial undeveloped opportunities for U.S. businesses in the export of other selected tropical or temperate zone fruits and vegetables, particularly to regional markets. Some 50 different fruits and vegetables are grown in Thailand. The opportunities may be in the form of providing technical assistance in production or handling, input supply, facilities for maintenance of quality (for example, cold storage or packaging) or in marketing. An example will illustrate.

Reported, excellent quality strawberries are grown in the Chiang Mai area. This is a high value, highly perishable crop in high demand. Chiang Mai has an international airport--an advantage not generally available in most other areas in the region where strawberries grow well--so quality can be maintained during export to Asian and Middle Eastern markets.

In order to identify and develop the scope, nature and feasibility of the opportunities the following need to be done:

- (a) A survey of seasonal regional market demand, market requirements and prices for fresh fruits and vegetables grown in Thailand and selection of the most promising;
- (b) Analysis of what is required for, and how to accomplish, establishment of a reliable supply of crops selected, including availability of seed and other production inputs;
- (c) A systems analysis of the transportation, grading, packaging, handling and other systems and facilities needed to efficiently move the crops from the farm to the consumer, maintaining quality during the journey, and satisfy market requirements.

There also appears that there may be an opportunity with respect to certain fresh fruits and vegetables destined for the domestic as well as export markets. Certain crops--for example, onions and garlic--are storeable for long periods, up to 8 months in some cases, with proper handling and environmental conditions. Few, if any, are stored in Thailand. Reportedly, there are substantial seasonal fluctuations in the prices for onions and garlic (and probably other storeable crops)--low at harvest-time and higher during other part of the year. Seasonal price differentials may be adequate to make storage facilities and operations feasible and attractive for investors.

Steps to determine whether, in fact, differentials are sufficient and storage is feasible are:

- (a) Identification of which crops grown are storeable, varietal considerations--e.g. only some varieties of onions are storeable for long periods, and environmental conditions for long-term storage;
- (b) The export market survey with respect to fresh produce mentioned previously should include the storeable, as well as the non-storeable, crops; a market survey covering seasonal demand, market requirements and prices of storeable crops in Thailand also will be necessary;

- (c) Assurance of an adequate and reliable supply of the crops during the harvest period to justify the storage activity;
- (d) Determination of handling, packing and facility requirements for storage and availability. With most crops, cool or cold storage will be needed.

With respect to the latter, the utilization of the currently unused Isenberg cold storage facility near Chiang Mai as well as other existing cold storage facilities in Thailand should be investigated, if it is appropriately located. There may be some question as to the current condition of the facility. If the facility were found to be adequate, it is probable that the bank which currently owns it would be most receptive to almost any kind of proposition, thus presenting an opportunity to minimize the capital investment required.

Export of Processed Fruits and Vegetables. In addition to the specific investment opportunity discussed previously, it is probable that other opportunities exist in this agro-industry subsector for companies that can provide needed technology and marketing. Establishment of a reliable supply of crops for processing will be an important consideration.

There is a substantial Thai canning industry, a pineapple canning industry. Canning of other fruits, vegetables or juices is minimal. There is little, if any, freezing and no dehydration.

A market survey of the regional, European and U.S. market for Thai-processed fruits and vegetables to determine what the export potential is, which ones are most promising, market requirements and consumer preferences as to the form of processing used is needed. The subsector study presently being initiated by the Mission is such a survey. Combining this study with the fresh produce export survey suggested above would develop a complete picture of the potential for fruits and vegetables.

Several specialized areas of activity should be investigated during the course of the study. One can be described as "jellies, jams, pickles and sauces". While these do not represent a high volume, relative to processed fruits and vegetables generally, they are usually high value and profitable and hence good candidates for investment.

The market for, and feasibility of, producing dehydrated onions, garlic and other crops should also be explored. Onions and garlic are already produced in significant quantities so assurance of a reliable supply may not be a major problem as it will be with most other crops. The existing Isenberg dehydration plant and cold storage facility might be utilized in such a venture.

Spices and Essential Oils. These can be high value, excellent crops for small farmers. There are a number of different crops included in this category. Basil, dill and mint are currently grown in Thailand and some mint oil is produced. From a general acquaintance with crops of this category, it is probable that a number of others would also grow well in Thailand. A survey of the market potential and production considerations by experts is necessary to confirm whether opportunities, in fact, do exist and how attractive they may be.

Cut Flower Export. Cut flowers of various kinds are in great demand throughout the region. While there is an established orchid export industry (primarily to Europe) it does not appear that there is any significant regional trade in cut flowers. A LAAD-supported, Colombian company has built up a substantial business in producing and exporting cut flowers to the U.S. and there may be a comparable opportunity in Thailand.

A wide range of flowers can be successfully grown in the Chiang Mai-Lompong area, the University reporting success with over 30 varieties. Flowers are extremely perishable and Chiang Mai has an international airport.

This potential opportunity had not been recognized or considered by those interviewed in Thailand. The market potential, production and transport considerations, and feasibility need to be investigated. Seeds will be an important, necessary input and reliable supply of quality seed will have to be established.

Pork and Duck Meat Export. Until recently private companies could not operate swine slaughterhouses and processing facilities. Now they can, subject to the requirement that 50% of production be exported, and it is a promoted industry. There is no organized duck meat export industry. While time was not available to explore the scope, nature and attractiveness, there may be investment opportunities in these industries.

It is probable that any opportunity will involve an integrated operation--feed, production, processing and marketing. The Charden Pokphand group of companies (CP), a well-established, successful, integrated Thai broiler producer, and dominant factor in the industry, is reportedly establishing pig and duck production and intends to develop processing facilities. Arbor Acres, an American Company, is associated with CP in breeding phases of the broiler operation. It is unlikely that CP needs, or wants, a foreign partner although possibly there might be some opportunities for American companies in the supply of technology for processing.

There may be an opportunity with Wung Nam Fon Co., Ltd. The Managing Director of the company is a former President of Arbor Acres, and still a Director, who has recently initiated

an integrated pork and duck project, starting with development of an assured feed grain supply. Pig and duck production is being organized. Establishment of processing is scheduled within three or four years. At least some aspects of the development program are backed by the Bangkok Bank, a major commercial bank. The Managing Director would welcome U.S. company involvement in the project. The project is only getting started, the development program is not completely defined, and adequate market information on which to make an assessment was lacking so it was not possible to determine whether there is an investment opportunity. However, it could well be that initiation of an association now by an interested U.S. company might lead to a profitable association down the road.

Stevia. This is a plant discovered a few years ago in Paraguay with which the writer is casually familiar. It has unique characteristics. A natural sweetener, 150-300 times sweeter than sugar, can be extracted from its leaves which can be a substitute for saccharin; it does not have the carcinogenic tendencies of saccharin. It is just now being commercialized.

Commercial plantings have been successfully established in Chiangrai, Northern Thailand, with 600 rai of production in 1980. It grows well in the area and is a profitable small farmer crop. A Thai company, established with BOI promotion, is currently drying and baling the leaves and shipping them to a Japanese company for extraction of the sweetener. Demand of the Japanese company substantially exceeds Thai production.

The potential market demand for the sweetener as a substitute for saccharin could be large. Investment in increased production and an extraction plant might present a good opportunity for a U.S. company interested in developing a new crop and product. A complete feasibility study of the market potential and production, processing, and marketing considerations will be required to confirm the scope of the opportunity.

G. OTHER AGRO-INDUSTRY AREAS CONSIDERED

Some current and potential investment opportunities have been identified and discussed in previous sections. During the course of the investigation a number of other possibilities surfaced, were considered and not pursued for a variety of reasons. In view of the limited time available for the assignment this was a necessary approach. In-depth consideration might lead to the conclusion that some of these possibilities do, in fact, offer potential investment opportunities.

For the foregoing reason, a listing of the principal possibilities considered, along with the principal reasons why further investigation was deemed to be unwarranted, are presented below.

Agricultural Chemicals: Chemical fertilizers will normally require investments substantially greater than \$5,000,000. Production of basic raw materials for insecticides, herbicides, fungicides and the like require not only significant plant investment but also continuing research and development. The demand in Thailand alone would not economically support such an investment.

Local formulation of finished products from imported raw materials is the normal method of supplying the Thai demand. Major international agricultural chemical companies, as well as local Thai companies, perform this function. It is unlikely that any significant opportunities for investment in an agricultural chemicals formulation business exist.

Agricultural Machinery, Equipment and Implements: Numerous sizes and types of machinery, equipment and implements are included in this category, with differing investment requirements, Thai and regional export demand. There well may be investment opportunities for particular items. Determination of whether such opportunities do exist, and where they lie, was felt to be beyond the scope of work of the assignment, but the following comments may be of value.

A substantial investment, and adequate demand to pay off that investment, is required for the production of large tractors or sophisticated agricultural machinery. All such machinery is now imported and, no doubt, will continue to be in the future.

Smaller tractors and tillers are currently imported as well as being produced by a number of small manufacturers in Thailand. Small diesel engines are currently manufactured in the country.

Prices of imports are substantially higher than for locally-made machines but imports are better designed. Local production of a well-designed product, superior to those currently produced in Thailand, which could be sold at a price approaching that of machines currently manufactured in the country might present an investment opportunity.

A number of pumps are imported which might be taken as an indication of a potential investment opportunity. But there are so many different sizes and types of pumps used for so many purposes, number of pumps imported indicates very little. To determine whether there is a potential for production in Thailand, a detailed study of the types of pumps imported would be required.

No assessment can be made of the investment and market potential of other specialized or general types of agricultural equipment or implements such as hand or back sprayers, hoes and the like, without specific data with regard to the type of equipment or implement involved. Availability and cost of imported and locally-produced products from established or potential Asian manufacturers, or China, would be a major consideration in determining the feasibility of production of these relatively simple products in Thailand.

Field Crops: It was felt that consideration of the production and processing of field crops--vegetable oil crops, sugar, corn, rice, tapioca, coffee, tea, etc.--was beyond the terms of reference. Such crops have had a great deal of attention, time for an adequate assessment was not available, the size of investment required would, in many cases, be relatively large and the lengthy time frame usually involved would limit the number of U.S. investors who might be interested.

Dairy Operations: Such operations are invariably local in their orientation; they offer no export potential, other than cheese. Thailand is already served by a least one American multinational, Foremost, and it is unlikely that there is any investment potential for other American investors.

Beef/Buffalo: This is an area of activity with which the writer is familiar, having established and managed an integrated beef production-processing-marketing enterprise in Australia. It is likely that a production operation would involve an investment beyond the parameters of this mission as well as a time frame longer than most investors would be interested. But, even if that is not so, operations of slaughtering and meat processing facilities are the sole province of the government and, reportedly, are very poorly run. Thus there appears to be little, or no, investment potential for the processing and export of beef/buffalo meat products from Thailand.

Byproducts, such as bones, glands for pharmaceutical purposes, fat, offals, hoofs and horns, hides, etc. are generated in a processing facility. With the relatively limited size of the industry in Thailand, it is unlikely that investment in enterprises for further processing of these byproducts would be of interest to foreign investors.

A tannery to produce leather for the Thai leather products industry has been suggested. The feasibility of this is doubtful. The quality of the leather used is critical to the quality of the finished product and that, in turn, is dependent on the quality of the hide which is tanned. It is likely that hides from the local slaughterhouses are inferior.

Broilers: There is a well-established, integrated broiler industry in Thailand dominated by the Charden Pokphand group of companies (CP). CP is also a major factor in the industry in a number of other Asian countries. Currently there is a state of over-production in the industry. Investment potential appears to be nil.

Feed - Poultry and Animal: CP appears to dominate this industry as well. Investment opportunities appear to be limited.

ANNEX I

INVESTMENT OPPORTUNITY
PROPOSAL: VEGETABLE SEEDS

A. THAI COMPANY

The names of the company and principal contacts are:

Mr. Mark Van Koevering
Mr. Peter A. LaRamee
Adams International, Ltd.
Saladaeng Road, Silom
G.P.O. Box 844
Bangkok, Thailand
Tel: 234-1577

The company is a joint venture between Adams Tobacco Company, an American company, and Thai interests. It grows and processes oriental tobacco in Northeast Thailand and markets the tobacco in world markets either directly or through Adams Tobacco.

Reportedly, it is well-managed, enjoys a good reputation and is successful. It has effectively organized tobacco production by a large number of small producers.

B. DESCRIPTION OF THE OPPORTUNITY

Practically all vegetable seed in Thailand is imported in bulk--principally from Taiwan, Australia, the U.S. and the Netherlands--and repackaged by Thai companies for distribution to farmers. Varieties are not necessarily those best adapted to Thailand, germination and yields are often poor. Thai-produced seeds are, in general, of inferior quality. Cost of imported seeds is high.

While no definitive study of the domestic market potential for vegetable seeds has been made, the Department of Agricultural Extension estimates the demand to be in the neighborhood of 147,000,000 farmer-sized packets a year. If it were to be assumed that these are 1 oz. packets, the total demand exceeds 9 million pounds. In addition, there may be a significant export market potential in other Southeast Asian countries. Reportedly, there is no other significant vegetable seed production in the area except in Taiwan and Australia. Furthermore, flower seed production might present a future expansion possibility.

In the opinion of seed experts familiar with Thailand, Northern and certain parts of Northeastern Thailand are potentially excellent vegetable seed-production areas. They are disease-free and agronomic conditions are appropriate. An AID-sponsored program for improved seed production for field crops--corn, sorghum, mung-bean, soybean, peanut, was started five years ago and it has proved

to be successful. Varieties well-adapted to Thailand were developed and major companies--Cargill International, Pacific Seeds (Continental), and Bangkok Seeds--are now producing and marketing the improved seeds, principally corn. A second phase, involving vegetable as well as field crop seed production, has recently been initiated. Varietal trials and breeding stock development are currently underway. As with the field crop seed program, establishment and support of private seed multiplication and marketing enterprise development is an integral part of the vegetable seed program. Adams International is considering diversification into crops other than tobacco, capitalizing on their demonstrated capabilities in mobilizing small producers, management and marketing. Vegetable seed production is an area of particular interest and, as a first step, they are producing hybrid tomato seed and exporting it to a major California seed company. Management recognizes the need for seed production and processing technology and market development assistance. A joint venture arrangement with an appropriate American company to satisfy those needs would be considered, and probably preferred.

C. CURRENT STATUS AND DEVELOPMENT OF OPPORTUNITY.

While Adams has pursued some investigative work on vegetable seed production, and initiated tomato seed production on a small scale, management feels that it is not familiar enough with the industry to fully analyze the feasibility of the project. Consequently the scope of the opportunity for an American company has not been defined.

To develop the opportunity, a definitive technical and economic feasibility study is required. Among the important subjects to be addressed are:

- Relevant interests, capabilities and facilities of Adams in, and outside of, Thailand;
- Thai, regional and U.S. market potential for Thai-produced vegetable seeds;
- The current or prospective role of the Thai government in vegetable seed production and distribution;
- Work one, in progress or planned, by the Thai government on variety testing and foundation stock development;
- Identification of potential production areas and agronomic conditions;
- Selection of crops and determination of the periods for development of production;
- Production and processing technology and continuing technical assistance requirements;
- Facility requirements;

- Production management and quality control;
- Market development;
- Appropriate investment and other arrangements between the parties.

In view of its support of the ongoing seed production program in Thailand, AID has a strong interest in development of a private sector vegetable seed industry in Thailand. It can provide assistance to an interested American company in defraying the cost of reconnaissance visits and the required feasibility study.

D. LEGAL REQUIREMENTS AND INVESTMENT INCENTIVES

There is no legal requirement with respect to Thai ownership, either a majority or any particular percentage. However, most investors find that significant Thai participation is desirable. In the case of a seed production enterprise, effective organization of small producers will be a critical factor. Adams has proved its capabilities in this difficult operational area and this should be an important consideration. A limited company organized in Thailand is the usual form of organization utilized for activities in Thailand.

Substantial incentives are available for investors in promoted activities in the country. And there are additional incentives for enterprises which establish such activities in designated Promotion Investment Zones and/or export. Application for designation of a particular activity, along with supporting data and analysis, as a promoted project under the Investment Promotion Law is submitted to the Office of the Board of Investment. Upon approval, with or without conditions, the project is entitled to the incentives outlined below.

Vegetable seed production and expansion is one of the activities eligible for designation as a promoted activity on the following conditions: (From Investment Promotion Act BE 2520 (1977); Welcome to Thailand, BOI (1981))

A. Conditions:

1. Observe laws concerning seed
2. Capital investment of not less than 5 million Baht, excluding cost of land and working capital.
3. Processing equipment as approved by the Board.
4. Planning and research program for production of varieties and hybrids as approved by the Board.

B. Promotional Privileges:

1. Guarantees:

- a. Against nationalization (Section 43).
- b. Against competition by new state enterprises (Section 44).
- c. Against state monopolization of sale of products similar to those produced by promoted project (Section 45).
- d. Against price controls (Section 46).
- e. Permission to export (Section 47).
- f. Against imports by government agencies or state enterprises with taxes exempted (Section 48).

2. Protection measures (Subject to justification and needs):

- a. Imposition of surcharge on foreign products at a rate not exceeding 50% of the CIF value for a period not more than 1 year at a time (Section 49).
- b. Import ban on competitive products (Section 50).
- c. Authority by the Chairman to order any assisting actions or tax relief measures for the benefit of promoted projects (Sections 51 and 52).

3. Permissions:

- a. To bring in foreign nationals to undertake investment feasibility studies (Section 24).
- b. To bring in foreign technicians and experts to work under promoted projects (Sections 25 and 25).
- c. To own land for carrying out promoted activities (Section 27).
- d. To take or remit abroad foreign currency (Section 37).

4. Tax Incentives:

- a. Exemption or 50% reduction of import duties and business taxes on imported machinery (Sections 28 and 29).
- b. Reduction of import duties and business taxes of up to 90% on imported raw materials and components (Section 30).
- c. Exemption of corporate income taxes from 3 to 8 years with permission to carry forward losses and deduct them as expenses for up to 5 years (Sections 31 and 32).

- d. Exemption of up to 5 years on withholding tax on goodwill, royalties or fees remitted abroad (Section 33).
- e. Exclusion from taxable income of dividends derived from promoted enterprises during the income tax holiday (Section 34).

5. Additional Incentives for Export Enterprises:

- a. Exemption of import duties and business taxes on imported raw materials and components (Section 36(1)).
- b. Exemption of import duties and business taxes on re-export items (Section 36(2)).
- c. Exemption of export duties and business taxes (Section 36(3)).
- d. Allowance to deduct from taxable corporate income the amount equivalent to 5% of an increase in income derived from export over the previous years, excluding costs of insurance and transportation (Section 36(4)).

6. Additional Incentives for Enterprises in Investment Promotion Zones:

- a. Maximum reduction of 90% of business tax on sales of products for a period up to 5 years (Section 35(1)).
- b. Reduction of 50% of corporate income tax for 5 years after the termination of normal income tax holiday or from the date of income earning (Section 35(2)).
- c. Allowance to double the cost of transportation, electricity and water supply for deduction from taxable corporate income (Section 35(3)).
- d. Allowance to deduct from taxable corporate income up to 25% of the investment in costs of installing infra-structural facilities for 10 years from the date of income earning (Section 35(4)).

7. Repatriation of Earnings:

- a. "A promoted firm is guaranteed that it can obtain foreign currency for remittance from Thailand in order to recover equity investments, to repay foreign loans, to remit profit and interest, and to discharge obligations contracted for the use of rights and services relating to its promoted activity."
- b. The Bank of Thailand "each year must allow at least 20% of foreign capital to be repatriated (once at least 2 years have elapsed since its introduction), and at least 15% of the foreign capital to be remitted as profit."

ANNEX II

INVESTMENT OPPORTUNITY PROPOSAL.
FRUIT/VEGETABLE PROCESSING

A. THAI COMPANY

The name of the company and principal contact are:

Mr. Chatchai Boonyarat, President
The Thai Fruit Canning Corp., Ltd.
114 Soi Lang Suan
Off Ploenchit Road
Bangkok, Thailand

Tel: 2522438

Reportedly the company is well-managed and enjoys a good reputation. Mr. Boonyarat is President of the Thai Food Processors Association. The principal activity of the company is pineapple canning for export to the U.S. and elsewhere. It does not serve the domestic Thai market. Processing facilities are located West of Bangkok, in Central Thailand, with freezing and juicing capabilities as well as canning.

B. DESCRIPTION OF THE OPPORTUNITY

There is a well-established pineapple canning industry in Thailand, serving the export market almost exclusively. Processing of other fruits and vegetables for either the domestic market or the export trade is limited. Competition in the pineapple export market from other supplying countries is strong, reflecting on long-term prospects for the industry in Thailand.

The company is seeking to diversify into the processing of other fruits and vegetables for export markets and has initiated preliminary work. Freezing or canning of tomatoes, beans, baby corn, lonyan, and rambutan are being considered as well as the production of baby food. According to Mr. Boonyarat, they have experienced quality problems in their initial freezing efforts. Which crops should be processed, and the form of processing to be employed for each have not been definitively established. The company recognizes a need for processing technology and market development assistance, and would consider a joint venture or other arrangement with an appropriate American company. An adequate, reliable supply of fruits and vegetables for processing does not currently exist in Thailand and the company estimates that it will take up to five years to establish it.

C. CURRENT STATUS AND DEVELOPMENT OF THE OPPORTUNITY

The project is only in its formative stages. The scope of the opportunity for an American company has not been defined; technology, funding and other requirements have not been analyzed. It does not appear that there is a significant requirement for either significant capital investment or management in Thailand with Thai Fruit Canning.

To define and develop the opportunity, a definitive technical and economic feasibility study is required. Among the important subjects to be addressed will be:

- Review of the interests, facilities and capabilities of Thai Fruit Canning;
- A survey of the regional and U.S. market potential and requirements for processed fruits and vegetables;
- Establishment of an adequate, reliable supply of raw materials for processing;
- Facility requirements;
- Processing technology and continuing technical assistance requirements;
- Market development;
- Appropriate investment and other arrangements between the parties.

AID is currently initiating a survey of the regional and U.S. market potential for Thai-processed fruits and vegetables which will provide a foundation for the study. In addition it can provide assistance to an interested American investor in defraying the cost of reconnaissance visits and the required feasibility study.

D. LEGAL REQUIREMENTS AND INVESTMENT INCENTIVES

There is no legal requirement with respect to Thai ownership, either a majority or any particular percentage. However, most investors find that significant Thai participation is desirable. A limited company organized in Thailand is the usual legal form of organization utilized for activities in Thailand.

Substantial incentives are available for investors in promoted activities in the country. And there are additional incentives for enterprises which establish such activities in designated Investment Promotion Zones and/or which export application for designation of a particular activity, along with

supporting data and analysis, as a promoted project under the Investment Promotion Law is submitted to the Office of the Board of Investment. Upon approval, with or without conditions, the project is entitled to the incentives outlined below.

The processing or preservation of food is one of the activities eligible for designation as a promoted activity, on the following conditions: (From "List of Activities Eligible for Promotion (compiled as of June 15, 1981), "Procedures for the implementation of promoted projects, Board of Investment (1981))).

- A capital investment of not less than 5 million Baht (approximately US \$217,000) excluding cost of land and working capital;
- Not less than 50% of total sales must be exported.

The incentives available for promoted activities are summarized as follows: (From Investment Promotion Act BE 2520 (1977); Welcome to Thailand, BOI (1981))).

1. Guarantees:

- a. Against nationalization (Section 43).
- b. Against competition by new state enterprises (Section 44).
- c. Against state monopolization of sale of products similar to those produced by promoted project (Section 45).
- d. Against price controls (Section 46).
- e. Permission to export (Section 47).
- f. Against imports by government agencies or state enterprises with taxes exempted (Section 48).

2. Protection measures (Subject to justification and needs):

- a. Imposition of surcharge on foreign products at a rate not exceeding 50% of the CIF value for a period not more than 1 year at a time (Section 49).
- b. Import ban on competitive products (Section 50).
- c. Authority by the Chairman to order any assisting actions or tax relief measures for the benefit of promoted projects (Sections 51 and 52).

3. Permissions:

- a. To bring in foreign nationals to undertake investment feasibility studies (Section 24).
- b. To bring in foreign technicians and experts to work under promoted projects (Sections 25 through 26).

- c. To own land for carrying out promoted activities (Section 27).
- d. To take or remit abroad foreign currency (Section 37).

4. Tax Incentives:

- a. Exemption or 50% reduction if import duties and business taxes on imported machinery (Sections 28 and 29).
- b. Reduction of import duties and business taxes of up to 90% on imported raw materials and components (Section 30).
- c. Exemption of corporate income taxes from 3 to 8 years with permission to carry forward losses and deduct them as expenses for up to 5 years (Sections 31 and 32).
- d. Exemption of up to 5 years on withholding tax on goodwill, royalties or fees remitted abroad (Section 33).
- e. Exclusion from taxable income of dividends derived from promoted enterprises during the income tax holiday (Section 34).

5. Additional Incentives for Export Enterprises:

- a. Exemption of import duties and business taxes on imported raw materials and components (Section 36(1)).
- b. Exemption of import duties and business taxes on re-export items (Section 36 (2)).
- c. Exemption of export duties and business taxes (Section 36 (3)).
- d. Allowance to deduct from taxable corporate income the amount equivalent to 5% of an increase in income derived from export over the previous years, excluding costs of insurance and transportation (Section 36 (4)).

6. Additional Incentives for Enterprises in Investment Promotion Zones:

- a. Maximum reduction of 90% of business tax on sales of products for a period up to 5 years (Section 35(1)).
- b. Reduction of 50% of corporate income tax for 5 years after the termination of normal income tax holiday or from the date of income earning (Section 35(2)).
- c. Allowance to double the cost of transportation, electricity and water supply for deduction from taxable corporate income (Section 35(3)).

- d. Allowance to deduct from taxable corporate income up to 25% of the investment in costs of installing infrastructural facilities for 10 years from the date of income earning (Section 35(4)).

7. Repatriation of Earnings:

- a. "A promoted firm is guaranteed that it can obtain foreign currency for remittance from Thailand in order to recover equity investments, to repay foreign loans, to remit profit and interest, and to discharge obligations contracted for the use of rights and services relating to its promoted activity."
- b. The Bank of Thailand "each year must allow at least 20% of foreign capital to be repatriated (once at least 2 years have elapsed since its introduction), and at least 15% of the foreign capital to be remitted as profit".

APPENDIX (i)

PRINCIPAL PUBLICATIONS CONSULTED

- (1) Pre-Feasibility Studies, Board of Investment, Royal Thai Government (BOI).
 - Tangerine Juice Production (1978)
 - Mint Oil & Menthol (?)
 - Gelatin Made From Bone (1977)
 - Mushroom Industry (1977)
 - Boneless Fish Meat (1977)
 - Pork Products (1977)
 - Rabbit Production (1977)
 - Soy Bean Products (1978)
 - Sisal Buff (1978)
- (2) Report to Mrs. Elise Dupont, Assistant Administrator, Bureau for Private Enterprise; Lowell Hoskins, Arbor Acre Farms, member of the Private Sector Investment Reconnaissance Team to Thailand (February 20, 1982).
- (3) Agribusiness Section, The Thai Economy and Profiles of Selected Industries, National Economic and Social Development Board (1981?)
- (4) Seed Hybrid - Multiplication Industry, Investment Opportunity Survey, Board of Investment, Royal Thai Government (1979?)
- (5) Thailand's Seed Industry Development in Perspective, Bill Gregg and Petcharatt Wannapee (Miss. St. University Seed Specialist and Director, Doae Seed Division (1981)
- (6) Supply Survey for Fresh and Processed Fruits, Vol. II Chiantra Purnariksha, Tassnee Suthapakt, Report of Technical Working Group under the Asean Co-operative Export Promotion Project (ACEPP)
- (7) Thailand - Seeds II, Project Paper, USAID/Thailand (July, 1981)
- (8) Thailand: New Investment Horizons, BOI
- (9) Identification of Investment Opportunities, BOI (1981)

- (10) Procedures for Implementation of Promoted Projects,
BOI (1981)
- (11) Collection of Laws Pertaining to Investment Promo-
tion, BOI (1981)
- (12) Thailand Business Legal Handbook, International
Legal Counsellors Thailand Ltd. (1980)
- (13) "Investment Promotion Act", Vol. 94, Government
Gazette, Part 38, dated May 4, B.E. 2520 (AD 1977)
- (14) Study of Economic and Industrial Potential in
Northern Thailand, Chulalongkoon University Social
Research Institute and The Cathay Trust Company
for BOI (draft, March, 1982)
- (15) Study of Economic and Industrial Potential in North
East Thailand, *ibid* (draft, March, 1982)
- (16) Study of Economic and Industrial Potential in
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APPENDIX (ii)

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