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LIFE

THE FOOD INDUSTRY IN ASIA

ITS POTENTIAL

FOR PROVIDING LOW COST NUTRITIOUS FOODS

SUMMARY REPORT

SINGAPORE WORKSHOP

November 1-5, 1971

THE FOOD INDUSTRY IN ASIA  
ITS POTENTIAL  
FOR PROVIDING LOW COST NUTRITIOUS FOODS

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SUMMARY REPORT OF A WORKSHOP

CONVENED BY

THE LEAGUE FOR INTERNATIONAL FOOD EDUCATION

for

THE OFFICE OF NUTRITION

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT

## SUMMARY REPORT

The Singapore Workshop was convened to provide a forum where Asian private food industry businessmen could discuss the potential of the food industry for providing low cost nutritious foods. Twenty-seven food or food allied organizations were represented. Participants came from eight Asian countries: India, Hong Kong, Korea, Malaysia, Philippines, Singapore, Thailand, and Vietnam.

This report summarizes the discussions of these businessmen during the week-long meeting. Special emphasis has been given to the constraints which these businessmen identified as being the ones which hinder the progress of low cost nutritious foods. Equivalent emphasis has also been given to the recommendations for action which these businessmen feel could help to overcome these constraints.

### I. DOES THE POTENTIAL EXIST?

Regardless of the varying levels of development within the industry in individual countries, the participants concluded that the private food industry of South East Asia currently has the capability to produce low cost nutritious foods (LCNF). The necessary capital, talent, and resources can be marshalled provided that

--the way is cleared for such enterprises to become profitable; and  
--a favorable business climate exists or can be created.

Meeting these two criteria, however, will often require special measures.

In a low income country the pressure to produce low cost nutritious foods results from a need to satisfy a critical nutritional need. In a relatively more affluent country, there is also a place for such foods because they permit the consumer to stretch his food dollar and to have a greater variety of foods to choose from. Thus the potential market is a large one.

### II. WHAT CONSTRAINTS MUST BE OVERCOME?

The Workshop concluded that elementary nutrition understanding and motivation is essential but often does not exist. It is believed that use of mass media could help to provide this motivation. This, however, was regarded primarily as a task for government.

A second constraint is the lack of suitable food crops and the lack of knowledge of the nutrient composition of existing crops. This applies both within a country and to neighboring countries. That is, with such knowledge it should become possible to make regional arrangements to sell or barter surplus crops to mutual advantage. It was urged that if already available the essential data be collected and if not that surveys to obtain it be made as soon as possible.

A third constraint is the unavailability of capital at a reasonable interest rate. The time required to bring a low cost nutritious food to a profitable marketing state is often several years. During this long period, capital funds are indispensable.

A fourth constraint is the need for low cost packaging materials. Such materials are either unavailable or else too expensive. It was suggested that

--regional centers could be set up to economically mass produce food packages; and

--single package items, e.g., glass bottles, could be made in each country in accordance with its resources of raw materials and technology.

In both instances, economies for all should result provided unreasonable import taxes are not levied against the packages.

A fifth constraint is the lack of coordination among governments, research institutions, and the food industry. To achieve this coordination, organizations must be established that provide a common platform for discussion and expression of views. It was recommended that such organizations be established in each country as soon as possible.

Strong emphasis was placed on the role that the government could and should play. This could take the form of

--reduced taxes;

--help with promotion costs; and

--distribution of the foods to government supported institutions.

By the same token, it was agreed that the food industry must realize its social obligations, especially with respect to providing good food for the people.

These constraints do not apply with equal force to all developing countries. Often other constraints, unique to a given country, will arise because of

--taboos and customs;

--geographic considerations;

--burdensome government procedures;

--specific agricultural product shortages;

--widely varying per capita income;

--excessive inflation;

--destructive weather conditions;

--substantial differences in technical development;

--abnormal conditions, e.g., a state of war.

Thus to succeed in marketing low cost nutritious foods it is necessary to thoroughly inventory the applicable constraints and marshal appropriate resources to overcome them.

### III. OVERCOMING CONSTRAINTS: THE ROLE OF THE KEY SECTORS.

Government, private industry, and external agencies will need to combine their capabilities to speed the marketing of low cost nutritious foods.

Listed below are some specific suggestions for actions by the various key sectors.

A. Private Sector.

- Demonstrate to providers of capital that low cost nutritious foods can be profitable and that they are of paramount social importance.
- Produce effective brochures and use advertising media to describe individual low cost nutritious foods.
- Prevail upon the government to use low cost nutritious foods within its institutions.
- Constantly improve the quality in relation to the cost and help to establish the effectiveness of such foods.
- Prevail upon the government to lower import duties on key food ingredients in short supply.
- Promote a regional common market for the barter of needed commodities.
- Establish private industry organizations to guarantee realistic demand and prices for required crops.
- Persuade the government to take measures fostering the production of the needed crops.
- Establish centralized warehousing and drying facilities so that the supply of food ingredients can be stabilized and dependable prices established.

B. In-Country Government.

- Establish a high level coordination and advisory board whose initial function would be to define and set standards for low cost nutritious foods (LCNF).
- Establish the LCN food industry as an essential industry.
- Grant maximum tax incentives (as a minimum a five-year exemption from all taxes for establishment of a new company).
- Establish price controls for the supply of essential raw materials for the production of LCN foods.
- Encourage farmers to grow the needed crops to insure a continued and reliable ingredient supply.
- Encourage the production of LCN foods by buying these products for use in institutional feeding programs, e.g., hospitals, prisons, welfare institutions, armed forces, etc.
- Develop a program to publicise LCN products on a non-brand conceptual basis.
- Provide services (on a fee basis) within its capability, e.g., perform studies, provide data, do research and development.
- Develop its own R&D program for new products, providing resultant information to industry on a low royalty basis.
- Set low duties on imports of key ingredients and processing equipment.
- Keep red tape and regulations to an absolute minimum.
- Encourage outside capital investment for the production of LCN foods.
- Recognize the need for education in the fields of LCN foods by educating and convincing itself first.

- Encourage people to go into the private food industry and assist them by providing educational assistance.
- Provide training courses in management and food technology.
- Agree not to compete with private enterprise in the manufacture of LCN foods.

### C. External Agencies.

Three types of external agencies are recognized:

- voluntary agencies, such as CARE, L.I.F.E., etc.;
- individual government agencies, such as the U.S. Agency for International Development; and
- multilateral agencies, such as the organs of the United Nations (FAO, UNIDO, WHO, etc.)

These agencies are important contributors because they make possible the channeling of technology, capital, raw materials, and special ingredients from developed to developing countries. Such agencies have conscientiously worked with various in-country organizations on the problems of providing low cost nutritious foods. The outside agencies can play an indispensable role in helping local science and technology institutions to better attune their efforts to the practical needs of the food industry. At the same time they can continue their basic research on new concepts that may eventually result in fruitful practical results.

The importance of long term capital funds being made available at reasonable interest rates was strongly emphasized. The point was made that sometimes seven or eight years is required before low cost nutritious foods become profitable. During this time a company's more profitable food items may have to carry an unreasonable burden unless suitable means to alleviate the financial drain are found.

In recognition of the above, the Workshop developed and subsequently unanimously approved a proposal that the World Bank provide long term financing at reasonable interest for suitable low cost foods. (This proposal may be found in the appendix of this report.)

There was repeated emphasis on the importance of determining consumer acceptance before making a serious marketing effort with such foods. However, it was also made clear that such surveys (which involve pilot plant production and consumer testing) are usually quite costly. Thus there is a tendency to either keep desirable products sitting on the shelf or go ahead and produce them without a consumer acceptance test.

In order to help overcome this constraint, the U.S. Agency for International Development proposed to offer monetary grants which would permit pilot plant production and consumer acceptance tests to be carried out for promising food products. This proposal was favorably viewed by the Workshop. (The details for these grants are given in the appendix.)

#### IV. COORDINATING THE EFFORT OF KEY SECTORS.

The Workshop proposed the establishment of a two-tier organization to coordinate the efforts of the key sectors involved. The upper tier would be a statutory policy-making body recognized by the government and containing representatives from government, private food industry, and food science. The lower tier would essentially be a food industry association, implementational in nature.

The Workshop also proposed the establishment of National Food Science Coordination Committees. Appointed by the upper tier organization, they would maintain continuous liaison among research institutions, universities, and food industry associations. Liaison officers would be appointed to keep information flowing between these sectors.

Other recommendations were that

- industry sponsor research at research institutes and universities.
- university students receive a period of practical training in the food industry of their country before qualifying for a degree in food science.
- outside development agencies help in setting up pilot plants in research and university institutions and in procuring equipment from food machinery companies.
- outside agencies arrange exchange visits of personnel from research institutions and food firms between developed and developing countries.
- an organization, e.g., L.I.F.E., collect and circulate food science and applied nutrition research abstracts to the food industry associations in developing countries.
- international agencies sponsor fellowships for developing country private industry food scientists to study applied food science in developed countries.

#### V. PRESENT STATUS OF LOW COST NUTRITIOUS FOODS.

In reviewing the present status of LCN foods, it was found that some food products which provide improved nutrition and are sold at relatively low cost are being successfully marketed; some products have failed; and some are struggling for survival. A sizable number are at laboratory or pilot plant level awaiting commercialization.

The following observations were made:

- Products must be based on vegetable (rather than animal) food sources.
- The available knowledge of nutrition and technology usually permits formulating LCN foods.
- Adequate sources of vegetable proteins, e.g., oilseeds, legumes, are available or can be made available.
- There is a critical need for consumer marketing research to make sure that newly formulated products will be acceptable.

Where a LCNF has been successful, it is clear that it was because the consumer need for a properly packaged, wholesome food with satisfactory keep-

ing quality and sold at a low price was met. The organoleptic properties (color, viscosity, and flavor) were exactly what the consumer wanted. The process and product were continually improved and kept before the target consumer area.

The foods which have been notably successful and are still growing in volume are

- protein beverages and
- pasta products, especially noodles. (These can be fortified with either vegetable protein or lysine.)

Products believed to have a promising future are

- relatively low cost weaning foods;
- textured vegetable protein foods;
- vegetable protein spreads, e.g., soy;
- reconstituted toned milk products;
- high protein snack foods;
- baked goods made from fortified flours using lysine or oilseed protein products.

Two additional observations were made:

- Disasters which uproot and change the lives of people often present an opportunity to introduce needed foods.
- Even though protein may be the most needed ingredient, it is often easier to reach the consumer by advertising better known ingredients, such as vitamins.

## VI. SOME GENERAL OBSERVATIONS.

In country after country commercial low-cost weaning foods are needed but mothers must be taught and motivated to use them. There is often a precipitate drop in the well-being of babies at weaning time because the infants are then given the same foods eaten by adults. Often too bulky for a baby's system, these foods are frequently deficient in calories, protein, and other essential nutrients.

In all the countries rural people continue to migrate to the urban areas. This creates great pressure on the supply of shelter and food. However it produces a larger, more concentrated consumer market which can be more readily reached and motivated through mass media to purchase low cost nutritious foods.

In all the countries represented, the growth rate of the private food industry lags considerably behind those of other industries, e.g., chemicals, textiles, quarrying, etc. Equity capital has been moving more readily into industries other than those concerned with food. Various government actions might help to redress this imbalance. Once it becomes understood that an adequate supply of good food at viable prices means good health and improved human productivity, governments should give the food industry a high priority among national goals.

An encouraging development was seen in the proliferation of institutions offering courses in food science and food technology. For example, Korea has 34 such institutions. When coordinated with practical food industry needs, such training should help to improve the status of the food industry and make possible the faster advent of low cost nutritious foods.

Many participants in the Workshop emphasized the merit of fortification of accepted foods. They felt that this would not require extensive nutrition education and food habit changes. They also felt, however, that fortification should not be coupled with an increased food price but that the food industry, with or without government subsidy, should absorb the additional cost.



APPENDIX

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AID Incentive Grant	A-9
World Bank Proposal	A-13

SINGAPORE WORKSHOP PROGRAM

Monday, November 1, 1971 -- Friday, November 5, 1971

INTRODUCTION: Brief statements by Amara Bhumiratana, Workshop Chairman, Martin J. Forman, and Samuel M. Weisberg.

WORKSHOP I: Current position of food industry.

A. What are its dimensions?

Chairman: Loo  
Panelists: K Lo, Pablo, Ruppert  
Rapporteurs: Engel, Kwon

B. Present status of low cost nutritious foods:

Some specific case histories.  
--Successes and reasons why.  
--Failures and reasons why.  
--Candidate foods "in limbo" and statement as to what is needed to move them to the consumer.

Chairman: Bhumiratana  
Presenters: Cheung, John, K Lo, Loo, Pantell  
Rapporteur: Bandle

WORKSHOP II: What retards faster advent of low cost nutritious foods.

A. Inventory of recognized constraints.

Chairman: Achaya  
Panelists: Evaristo, Vidhayasirinun  
Rapporteurs: Callaghan, Ruppert, Wong

B. How can these constraints be overcome?

1. What can private industry do about it?

Leader: Hsu  
Secretary: Zialcita  
Panelists: Callaghan, Cheung, Chuon, Hui, E Lo, Shin, Siew

2. What can in-country agencies do?

Leader: Ping  
Secretary: Wong  
Panelists: Achaya, Bhumiratana, Kwon, Leon, Ling, Pantell,  
Wen, Yun

3. What can out-of-country agencies do?

Leader: Ruppert  
Secretary: Van Hoeven  
Panelists: Boon, Chaudhuri, Engel, Evaristo, John, Mok

4. How can private industry, local institutions, government,  
and out-of-country agencies work effectively together?

Leader: Kapur  
Secretary: Tan  
Panelists: Chung, Florentin, K Lo, Loo, Mody, Pablo,  
Vidhayasirinun

WORKSHOP III: Analysis of problems specific to each country with proposed  
remedies.

Individual country delegations met and discussed questions; chairman  
of delegation presented report of country to the whole group.

Chairman: Pantell

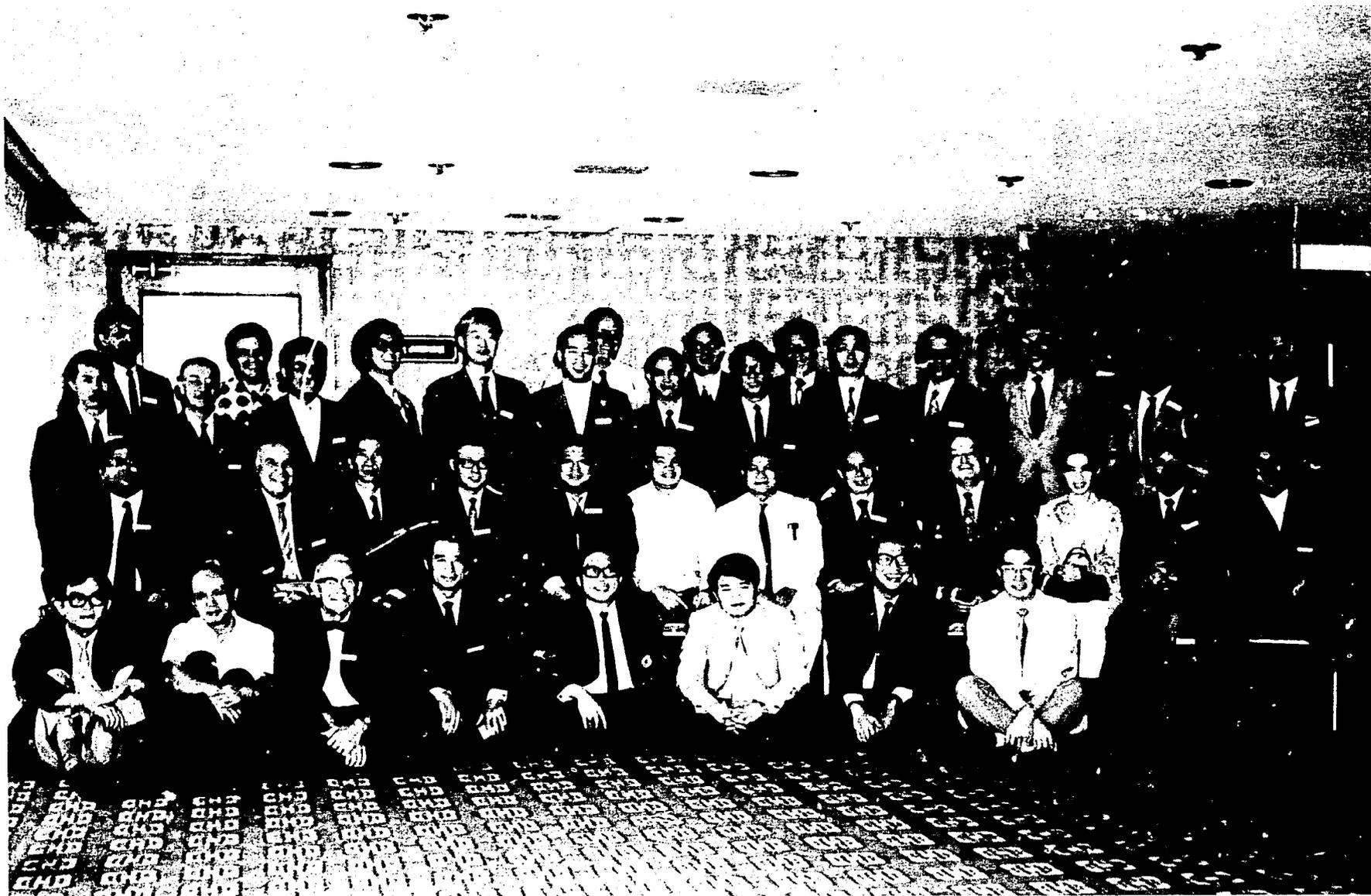
REVIEW OF RESULTS FROM THE THREE WORKSHOPS AND CONSOLIDATION OF CONCLUSIONS.

- A. Presentation of USAID incentive grant plan (Bandle).
- B. World Bank Proposal
- C. Summary reports of Workshops I, II, and III

Chairman: Bhumiratana  
Leaders: Achaya, Florentin, Loo, Pantell  
Rapporteurs: deLeon, Tan

CONSULTATION

Individual appointments for in-country businessmen (by country) for  
consultation on special projects with appropriate persons.



Front (l to r): Yun, Pablo, Engel, Hsu, Wong, Boon, Mu, Loo, Achaya  
 Middle: Chaudhuri, Ruppert, Ping, Mok, Ling, Evaristo, Bhumiratana, K Lo, Weisberg, deLeon, Chung, E Lo  
 Back: Vidhayasirinun, Kapur, Zialcita, Pantell, Florentin, Hui, Shin, Kwon, Van Hoeven, Cheung, Bandle,  
 Chew, Siew, John, Tan, Forman, Mody, Callaghan

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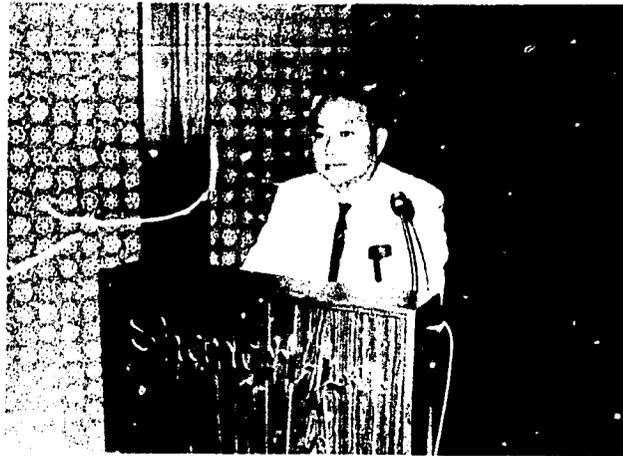
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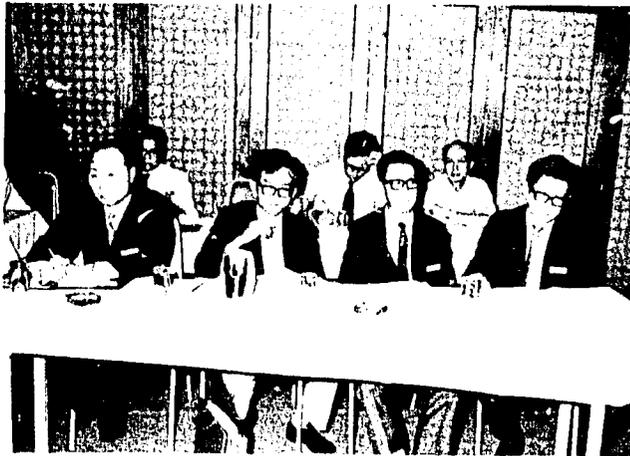
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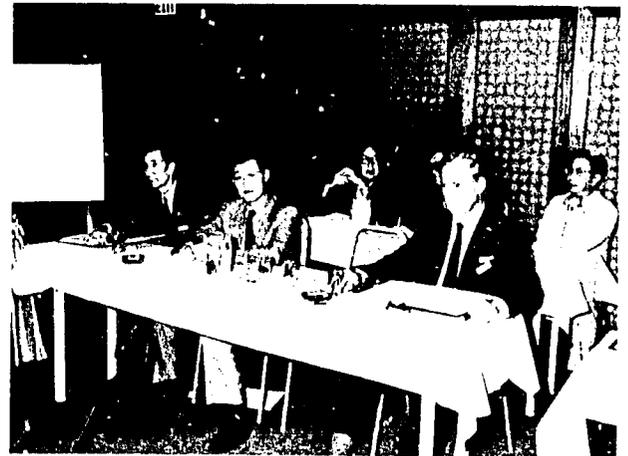
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Bhumiratana



Front: John, Yun, Chew, Siew  
Back: Bhumiratana, Van Hoveen, Pablo



Front: Ping, Shin, Callaghan  
Back: Ruppert, Tan, Loo



Front: K Lo, Chung, Ling  
Back: Zialcita, Florentin, Mok,  
Forman, Bhumiratana

## INCENTIVE GRANT PROPOSAL

### U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT

The potential for Asian food processing and marketing firms to expand their production lines to include nutritious low cost foods for retail and institutional distribution to low income rural/urban markets is considered to be a promising approach to relieving the protein/calorie deficiency prevalent in many parts of Asia.

Recognizing the wariness with which private food firms view the above average risk of profitably marketing a speciality product to these market segments, the AID Office of Nutrition has under active consideration a program where AID would share with interested and capable Asian food firms the financial risk involved in preinvestment market analysis.

The potential of these markets should be reasonably determined as good before any funds are expended for plant equipment, raw material, personnel, and the many expenses connected with a new product.

In order that the proposed AID program can be examined in greater detail, sections A and B are provided below. Three major points not covered in these sections are:

- (1) The maximum amount of AID participation in each market analysis would be US \$30,000.
- (2) Local AID offices would be coordinators for proposal initiation and subsequent implementation.
- (3) The program would not be intended to provide assistance to fully government owned firms.

#### Section A: Terms of reference for low cost nutritious food development grants program for local food processing and marketing organizations.

1. The United States Government through USAID's will assist those locally owned private food organizations who by established interest, ability, and intent want to reduce nutrient/calorie deficiencies in their country by marketing new or adapted low cost nutritious foods through local retail and institutional channels. The nature of the USAID assistance will be grants to these firms for the purpose of market and product feasibility studies on which to base investment decisions.
2. For the purpose of this program, a nutritious food is defined as containing beneficial amounts of protein, fat, carbohydrate, vitamins, and minerals that would upgrade the nutrient/calorie intake of LDC consumers ingesting the product. As protein is the most important nutrient to be contained in foods developed by this program, the calories provided by biologically available and utilizable protein from each food should be in the range of 8% when the food will constitute a major or

regular part of an individual's daily consumption and in the range of 15% when the food is an irregular or minor part of an individual's daily consumption.

3. Examples of nutritious foods that could be developed by the program are: bakery products, pasta (macaroni) products, dairy products, fortified salt, fortified tea, cereal flours, cassava-based products, potato-based products, snack-type products, beverages, dessert products, and confectionery products. These represent a small portion of the product potentials for development under this program.
4. Low cost nutritious foods developed by this program should be formulated mainly from readily available raw material produced locally. Raw materials now imported but anticipated to be domestically produced within a reasonable time are encouraged. There is an economic need to keep raw material not produced locally to an absolute minimum in contribution to weight and direct cost.
5. The target retail price of the food should be low enough to permit the product to make a significant impact on the nutritional status of the urban and rural population.
6. It is expected the food prototype or concept will be based on the organization's previous commercial experience.
7. The type of assistance provided by the grant may vary. The use of grants has the goal of justifying investment on the part of the local food organization. The grants may provide market feasibility studies, test market implementation studies and consultants for marketing/technological/management problems as examples of the diverse means of removing impediments to investment.
8. The local organizations must be an established concern with experience and recognized capacity to engage in food manufacture, processing, or related food industry activity. There should be a reasonable prospect that the local organization will invest in and undertake commercial activity with the food product or products studied. All activity specified under terms of the grant should be completed within 12 to 18 months.
9. To complement the skills of the local organization in obtaining accurate, timely, and rational market data on which to base a decisive marketing forecast, the local organization should be urged to engage as associates for this project other local organizations whose abilities and interests are allied. Examples of other local organizations would be: development or commercial banks with promotional departments, food associations with promotional programs, other food processing and marketing organizations with market research personnel and public or private food research organizations. The function and degree of participation by associates should be clearly indicated in the proposal for grant.

10. In accordance with good commercial practice, the grant will have as one of its stipulations the following condition:
  - a. In the event there is production and marketing of the low cost nutritious food developed under this program, the local organization and associates will be prepared to reimburse USAID or USAID designated organization a sum equal to one half the grant within 24 months from the date retail and/or institutional distribution of the product commences.
  - b. In the event results of the market study produces a decision on the part of the local organization and associates not to produce and/or market the low cost nutritious food or foods studied now or in the future, there will be no requirement for reimbursement of all or any portion of the grant.
11. Proposals whose sole intent now or in the future is to provide low cost nutritious food to only government and/or institutional purchasers are discouraged. Investment criteria may require these segments be a part of the marketing plan, but it is the primary intent of this program that retail sale shall be the integral phase of development.
12. Proposals, in general, will probably concern one or more of the following pre-investment market development phases:
  - Phase 1: A feasibility study of local food habits, purchasing patterns, nutritional needs, distribution patterns, etc.
  - Phase 2: Product and/or process development.
  - Phase 3: Commercial development such as test markets.
13. Within a short time following USAID receipt of the manual circular outlining this program, a TA/N representative will, upon USAID request, work on-site with mission personnel localizing ways and means this program can hasten investment in the production and marketing of low cost nutritious food by local organizations.
14. Local organizations receiving grants will submit progress reports to USAID at pre-determined intervals and a final report to USAID under terms specified in the grant.

#### Section B: Proposal Content

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A proposal by a local food processing and marketing organization for a grant under this program should include:

1. The name and address of the applicant, the type of business engaged in, the ownership structure and pertinent data regarding financial status, personnel, and business history.

2. Identification of the proposed low cost nutritious product, its raw material content, raw material availability in the local market, and the nutritional need the product will serve.
3. A description of the applicant's capabilities to undertake the production and market development required to place the proposed low cost nutritious product into retail institutional distribution.
4. The time and expenditure which the applicant estimates is required to determine the feasibility of introducing the proposed low cost nutritious product into retail institutional distribution.
5. A statement of the applicant's intention of making the investment necessary for production and retail/institutional distribution should the study results be favorable. Applicant should also indicate the source of investment funds presently available for this purpose.
6. A statement of the applicant's intention as to the products per unit retail selling price.
7. A description of the geographic area the applicant proposes to serve in the retail institutional distribution of this product.
8. A description of possible markets other than retail, i.e., school feeding, hospitals, restaurants, etc., that might form additional sales segments.
9. A chronological and detailed description of the market study techniques to be employed together with an explanation as to why these particular techniques were selected.
10. A statement as to the cost and extent of the promotional plan, i.e., newspapers, magazines, TV, radio, brand name, "in-store", etc., the applicant feels will be necessary for introduction of a low cost nutritious food.
11. A statement by the applicant of agreement to the reimbursement policy stated as #10 in Terms of Reference.
12. A definition of the function and degree of participation of named and identified associates in this project.
13. Any other facts the applicant feels relevant. Points contained in the Terms of Reference may be the basis for inclusion in the proposal.

## LOAN PROPOSAL TO WORLD BANK

The businessmen participating expressed concern at the realization that periods as long as eight years may be required to achieve profitability. The participants therefore felt that they should be able to obtain capital for long and short term use on lenient terms considering the urgency to eliminate malnutrition.

Financial institutions of developing nations do not have the resources to sustain the lengthened payout period; the participants therefore felt that the interest expressed in the economic consequences of malnutrition by Mr. Robert McNamara, President of the World Bank, made the Bank a clear prospect for lenient loan terms.

The following recommendations for lenient terms were then outlined for World Bank consideration.

### For Industrial Loans

Term: 10 years      Rate: 5% (maximum)  
Special grace period on repayment of capital: 3 years  
Limitation: 50% of total investment

<u>For loans of</u>	<u>Will be handled through</u>
US \$20,000 - 1,000,000	Development bank
US \$1,000,000	Direct to industry
US over \$1,000,000	Direct to industry

### For Market Analysis Studies

Limitations: US \$50,000 for each study

If study proves to be feasible and business is developed successfully, the grant is to be paid back to the lending institution within 5 years. If a study indicates non-feasibility, the grant would not have to be repaid.

### Definition of Low Cost Nutritious Food

For the purpose of this program, a nutritious food is defined as containing beneficial amounts of protein, fat, carbohydrate, vitamins, and minerals that would upgrade the nutrient/calorie intake of developing nation consumers ingesting the product. As protein is the most important nutrient to be contained in foods developed by this program, the calories provided by biologically available and utilizable protein from each food should be in the range of 8% when the food will constitute a major or regular part of the individual's daily consumption and in the range of 15% when the food is an irregular or minor part of an individual's daily consumption.

Examples of nutritious food products that could be developed by the program are: bakery products, pasta (macaroni) products, dairy products, fortified salt, fortified beverages, cereal flours, cassava-based products. These represent a small portion of the product potentials for development under this program. Low cost nutritious foods developed by this program should be formulated mainly from readily available raw material produced locally. Raw material now imported but anticipated to be domestically produced within a reasonable time are encouraged. There is an economic need to keep raw material not produced locally to an absolute minimum in contribution to weight and direct cost.

The target retail price of the food should be low enough to permit the product to make a significant impact on the nutritional status of the lower income urban and rural populations.