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Asia Regional Agribusiness Project:

Quarterly Report for April 1994 to June 1994

Regional Agribusiness Project
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EXECUTIVE SUMMARY

Principal accomplishments for the period April - June 1994 include the following:

- The most significant accomplishment of this quarter was the establishment of direct contact and assignments with Missions and projects. This was a direct result of extensive RAP consultant field visits. RAP is now working on specific assignments with and for Missions and projects in the Philippines, Indonesia, India, and Nepal. Specific areas of assistance have been planned or discussed with Missions and projects in Bangladesh and Sri Lanka. As a result, whereas RAP staff continue to support Asia Bureau needs, the project is now field oriented.

- Volume 1, Issue 2 of *Market Asia* was published in June 1994.

- RAP's first Asia market data diskette was completed for the Japan, Hong Kong, and Singapore markets. The diskette was distributed to all Asia agribusiness projects and purchased by three private companies. It provides 1993 monthly volume and value by supplier country in both tabular and graphic form for a variety of fresh produce products.

- Trial dissemination of RAP market and technical information was initiated with the Export Hotline, a free national service that disseminates information on foreign markets to U.S. businesses through a fax-back system.

- Fieldwork was initiated on analyzing the feasibility of a regional price information service. Contacts were made with Asian regional organizations and the International Trade Centre regarding possible collaboration in producing an Asian price report for fresh produce.

- Regional priorities for the environmental component work were defined as Hazard Analysis and Critical Control Point measures for seafood, good manufacturing practices and sanitation for food processing, and phytosanitary systems. Immediate project technical assistance will be provided in the Philippines (integrated pest management), Indonesia (low-pesticide cocoa production), Nepal (dairy processing, carpet manufacturing), and Sri Lanka (environmental impact assessment).

- Contacts were established in India, Nepal, and the Philippines resulting in requests for assistance in developing export trade and collaborative ventures in fresh fruits, agricultural information, plant tissue culture, fruit juice concentrates, processed vegetables, commercial forestry, dried flowers, and oilseed processing.

- Analyses were initiated (under the Philippines Agribusiness Systems Assistance Program) to determine the impact of GATT implementation on Asia, and the comparative positions of RAP countries in terms of their export competitiveness.

- An extensive field visit was completed in Pakistan to determine lessons learned in the design and implementation of recent agribusiness projects.

- Field observations indicate the following planned activities need to be reconsidered: the provision of a food safety standards database, the analysis of export promotion activities, and an assessment of incentives and barriers to U.S. collaborative ventures.

SECTION ONE

ACTIVITIES OF THE TECHNICAL ASSISTANCE TEAM

RAP WORK PLAN

The U.S. Agency for International Development (USAID) and the Regional Agribusiness Project (RAP) staff at Development Alternatives, Inc. (DAI) developed a work plan that established key activities for RAP to initiate in 1994. A summary of these activities is included in Annex A.

MARKET INFORMATION

Newsletter

- Printed 2,500 copies of Volume 1, Issue 2 of *Market Asia*. The issue focused on Hong Kong. Annex B includes a copy of the issue; Annex C contains a summary of newsletter distribution.

- Identified a consultant to develop analyses and recommendations for moving production, distribution, and advertising sales functions to a commercial publisher in line with RAP's goal of making *Market Asia* a sustainable publication.

Data Collection and Analysis

- Completed first data series diskette. Coverage includes 1993 seasonal import statistics for fresh horticultural products entering Japan, Hong Kong, and Singapore. A copy of the diskette is included inside the back cover of this report. It has also been distributed to Asian Mission projects and sold to three private companies through an advertisement in *Market Asia*. A second diskette was initiated to cover Taiwan and Korea imports. The diskettes provide monthly import volume and value by supplier country for fresh fruit and vegetables entering these markets. Data are presented in both tabular and graphical forms, and are accessed through macro buttons in a Lotus spreadsheet directory.

- Initiated data collection for an analysis of the Thai horticultural export industry focused on fresh and processed tropical fruits and off-season vegetables. The output will be a diskette presenting a comprehensive profile of Thailand's highly successful development of horticultural exports.

- Participated in the Global Bureau's Agribusiness Working Group discussion of market information systems. RAP consultants Thomas Klotzbach and Merle Menegay were resource persons.

- Did not complete "PROFIT" data sheet format as scheduled. There is some question as to the need for this tool, and this issue will be resolved in conjunction with the Environmental Consultant.

RAP Clearinghouse

- Continued to provide customized research for projects and Missions. A summary of requests during the period is included in Annex D.

- Initiated trial of Export Hotline for electronic dissemination of RAP Clearinghouse technical information. Volume 1, Issue 2 of *Market Asia* was placed on the system. Export Hotline is a free national service that disseminates information on foreign markets to U.S. businesses. Additional materials will be entered into the system as they are developed.

- Began provision of production, postharvest, and market information on selected crops to the Indonesia Agribusiness Development Project (ADP) for use in its extension bulletin. A sample information sheet is included in Annex E.

Regional Horticultural Price Reporting Service

- Initiated fieldwork for the feasibility analysis of a regional price information service. Included visits to Korea, Taiwan, Hong Kong, Malaysia, Singapore, Indonesia, and the Philippines to interview prospective information providers and users. The feasibility analysis was not completed as scheduled for this quarter because of greater than expected information needs requiring a second field visit, and unexpected administrative work in conjunction with field visits and contracting of in-country analytical support.

- Continued discussions with U.S. Department of Agriculture/Agricultural Marketing Service/Market News Service in Washington and U.N. Conference on Trade and Development/GATT/International Trade Centre/Market News Service of Geneva regarding possible collaboration in development and implementation of a price information system for horticultural products in major Asian markets. Secured International Trade Centre (ITC) decision to invite USAID and USDA to become initial partners in ITC's planned service, slated to begin this fall.

- Initiated discussions with Asian regional organizations regarding their interest in collaborating with RAP in implementing a regional price information service. This is seen as a fallback position if collaboration with ITC proves unworkable. Organizations contacted include the ASEAN Food Handling Bureau, Food & Fertilizer Technology Center, and the Asian Vegetable Research & Development Center.

- Completed analytical framework and initiated development of background materials for a wholesale marketplace study. Identified in-country field analysts for Taiwan, Hong Kong, and Singapore.

ENVIRONMENTAL ANALYSIS AND INTEGRATION

- Completed field trip to obtain information for analysis of food safety and quality and phytosanitary reasons for failure of food exports from RAP countries to selected Asian markets. Team members were John Bowman, RAP Environmental Consultant; H. Michael Wehr of Technical Assessment Systems, Inc., consultant; and Steve Hawkins, RAP's

Coordinator with USDA and the Foreign Agricultural Service. Countries visited by one or more members of the team include Philippines, Indonesia, Sri Lanka, Nepal, Japan, Korea, Hong Kong, and Singapore.

- Identified the following as priority areas for RAP assistance through training, information services, and technical assistance:

  — Hazard Analysis and Critical Control Point (HACCP) measures for seafood;

  — Good manufacturing practices and sanitation for food processing plants;

  — Phytosanitary systems;

  — Impact of RAP country food standards on trade;

  — Residue analysis in RAP country marketplaces; and

  — Private-sector-linked integrated pest management (IPM).

- Also identified or confirmed areas of collaboration with Mission and projects in the Philippines (IPM support to the Agribusiness Systems Assistance Program [ASAP]), Indonesia (IPM cocoa collaboration with U.S. and Indonesian industry associations), Sri Lanka (environmental impact assessment of agribusiness projects), and Nepal (technical assistance to dairy processing and carpet manufacturing projects).

- Concluded from field observations by the environmental component team that the entire database concept needs to be reconsidered. Demand for such a database appears to be very sporadic and diverse. Requests will probably be handled more efficiently on an ad hoc basis. Establishing a system and implementing fixed user fees probably will not work. The team also determined interest is insufficient at this time to proceed with a regional analysis of USAID project environmental impact.

- Completed a draft of the report "A Review of the National Pesticide Policies of Asian Countries" that is now being finalized.

- Started developing a proposal to analyze the feasibility of alternative U.S. technologies to solve waste water treatment problems in Sri Lanka's poultry industry.

- Established contacts with U.S. food processors and resource centers through participation in U.S. National Integrated Pest Management Symposium and personal visits to the Pesticide Action Network Bio-Integral Resource Center.

- Hosted high-level plant quarantine officials from Vietnam. Explained RAP, toured USDA facilities, and provided technical information on rice pesticide management in the United States.

- Assisted USAID-funded Morocco Agribusiness Promotion Project through presentation on HACCP and an informal evaluation of local food processing and laboratory testing facilities. The presentation and the evaluation were conducted by a principal RAP subcontractor in food safety, following an introduction provided by RAP.

TRADE AND COOPERATIVE VENTURES

- Secured Indonesia ADP commitment to pursue linkage of U.S. Chocolate Manufacturers Association with Indonesian cacao bean sector to develop program to ensure high-quality cacao bean supplies through pest management protocols, training, and testing.

- Established contacts for RAP's trade and collaborative venture component. Following a two-week agribusiness project assessment visit to Pakistan, Joseph Pietrus visited the India and Philippines Missions and projects. His visits generated requests for trade development assistance in fresh fruits, dried flowers, agricultural information, and fruit juice concentrate and collaborative ventures in processed vegetables, commercial forestry, dried flowers, and oilseed processing. Through John Bowman's Nepal visit, requests for assistance in exporting plant tissue culture products were received, along with requests for technical assistance in processed dairy products. (See Annex F.)

- Received request from a company in India for Red Flame grape seedling suppliers in the United States.

- Determined that undertaking RAP analyses on export promotion center programs and incentives and barriers to U.S. cooperative ventures in Asia is inadvisable at this time. For the foreseeable future, RAP needs to concentrate on identifying and promoting potential trade and collaborative venture opportunities and on providing available information on export promotion programs and incentives and barriers as appropriate.

- Decided to put formation of an advisory board on hold pending discussions with existing projects that have advisory boards. This action was taken after we received reports that some boards have not been particularly helpful. RAP needs to draw on the experience of others to form an effective advisory board.

REGIONAL ANALYSIS

Lessons Learned —Pakistan Agribusiness Projects

- Completed a two-week field visit to Pakistan to assess its experience in its recent agribusiness projects. RAP consultants Kenneth Swanberg and Joseph Pietrus are preparing a report on the findings of their visit.

Comparative Export Position Analysis

- Identified in-country field analysts for Bangladesh, India, Sri Lanka, and the Philippines. Several Missions have expressed support for a regional conference at which Mission country nationals could review and discuss the implications of the analysts' findings. Such a conference is seen by the Missions as a way to raise awareness of (1) the need for policy and regulatory reform to make the countries' exporting positions more competitive and of (2) the true cost of export market development programs.

Analysis of Effects of GATT

- Established a cooperative effort with USAID/Philippines and ASAP for RAP assistance in analyzing the implications of GATT for the Philippines. This analysis is part of ASAP's efforts to promote Philippine acceptance of the GATT agreement. RAP will coordinate the analysis of world and regional overviews to be completed by an ASAP short-term technical assistance team. This undertaking will give RAP staff an understanding of and information related to GATT's impact in Asia.

Regional Monitoring and Evaluation

- The Asia Bureau distributed to all Asian Missions the report on a regional monitoring and evaluation system completed in March, with a request for comments. Two Missions have responded. The recommended system is seen as tying into development and measurement of a USAID Asian agribusiness strategy. Development of a strategy is on hold pending RAP's relocation to the Global Bureau.

Other

- Completed two-week field trip to Bangladesh, India, Sri Lanka, and the Philippines. On his trip, Kenneth Swanberg secured support for an analysis of the comparative positions of RAP countries in terms of export competitiveness, and identified interests in other potential RAP services. There is especially keen interest in development of sustainable funding mechanisms for agribusiness initiatives, and follow-up meetings were held with Global's PRE Office regarding these mechanisms.

- Completed scopes of work for future analyses of the potential for wholesale chains in selected Asian markets, private label sourcing, prospects for developing a coordinated marketing strategy, and the impact of genetic plant material import constraints. However, the collaborative effort with ASAP on the analysis of GATT's impact on Asia prevented initiation of work on any of these analyses.

- Continued development of paper describing the current status of agribusiness in Asia.

- Kenneth Swanberg presented a summary of the Ecuador case study done for the Center for Development Information and Evaluation to the Agribusiness Working Group.

ADMINISTRATION

Team Organization

- Did not progress as expected in development of bulletin board and other opportunity dissemination systems, and have been slow to respond to requests for assistance from Mission clients. Our progress was slowed by continued heavy administrative demands on the Trade and Cooperative Investment Consultant (who also serves as the Project Director), combined with the Research Assistant's work on development of marketing information services —

data diskettes — useful to Missions but not envisioned in RAP's scope of work. To overcome this problem, we have arranged with Fintrac for short-term technical assistance in market information services, which will enable the RAP Research Assistant to devote more time to trade and collaborative venture activities.

Collaboration with Other USAID Projects

- Held meetings with representatives of the Collaborative Agribusiness Support Program (CASP) and the Agribusiness and Marketing Improvement Strategies Project to explore areas of mutual interest, support, and collaboration. In a meeting between CASP Project Director Sherman F. Paisley and RAP staff, action areas were defined and agreed on pending decisions to be made in July about CASP activities.

- In response to a request from USAID/India Private Sector Officer Felipe Mantiega, volunteered to organize an India private sector projects coordinating group including project directors and support staff for the Agricultural Commercialization and Enterprise Project, the Trade in Environmental Services and Technologies Program, the Program for the Advancement of Commercial Technology, and RAP. An initial meeting was scheduled for mid-July.

Subcontracts

- Finalized subcontracts for review and signature by each subcontractor.

PROBLEMS REQUIRING RESOLUTION

Actions Taken on Previously Cited Problems

- Refocused RAP activities from Asia Bureau requests and internal issues to Mission needs Project priorities after completion of start-up activities and initial field visits.

- Planned actions to remedy RAP's relatively low profile in USAID/Washington and among Mission planning staff. Will develop an Asian agribusiness strategy white paper for the head of the Global Office of Agriculture and Food Security, develop a regular publication for USAID/Washington and field staff on Missions' agribusiness activities and lessons learned, and arrange occasional communications with Missions on RAP staff's country-specific observations and activity plans.

- Took the initiative in suggesting to Missions appropriate activities for the Oregon Export Service Center, DPRA Incorporated, and the U.S. Environmental Protection Agency in the RAP environmental compon . Suggested activities will be in conjunction with fulfillment of field requests.

- Addressed the food safety and phytosanitary database issue under environmental component activities.

- Developed contacts to secure information on Latin America Bureau success stories in nontraditional agricultural export production, IPM, and pesticide training programs. Development of material for dissemination has been put on hold because several success stories featuring U.S. food companies have been identified and will be promoted first.

- Addressed constraints to implementation trade and cooperative venture activities through the reorganization discussed under the above section on administration. Still, administrative demands will probably continue to create difficulties. The inability to develop regional analysis component activities was eliminated with the hiring of the Agribusiness Specialist.

Problems Encountered This Quarter

- Received more specific information requests from the Missions and projects.

- Experienced procedural problems in developing and securing approval for short-term technical assistance assignments. Identified these problems and found ways to speed the process. We need to work with the USAID Project Officer to establish a procedure that does not require the RAP Project Administrator to hand carry short-term technical assistance papers to USAID offices.

- Encountered problems related to the lack of subcontractor administrative support in the project budget. Marketing Consultant Merle Menegay is burdened with administrative tasks at Abt Associates Inc. (related to RAP) that prevent efficient use of his time. Other subcontractors have complained that the budget allows no time for their participation in planning and administrative tasks. In the coming quarter, we will submit a proposal to USAID to resolve this problem.

SECTION TWO

PLANS FOR ACTIVITIES FROM JULY TO SEPTEMBER 1994

MARKET INFORMATION

- Publish Volume 1, Issue 3 of *Market Asia* in August.
- Complete fieldwork for the regional price reporting feasibility analysis; prepare draft report. Discussions will continue with USDA and ITC.
- Complete data series diskettes on the Korea and Taiwan import markets and the Thai export industry.
- Complete case studies on the development and role of modern urban wholesale markets in Taiwan, Hong Kong, and Singapore.
- Give presentation at the ASEAN Food Conference on the role of urban wholesale markets in fresh produce marketing.

ENVIRONMENT

- Complete regional study on food safety and phytosanitary barriers to trade in Asia.
- Complete technical report on national pesticide policies in selected Asian countries.
- Give presentation at the ASEAN Food Conference on private-sector-led IPM. Distribute to the Missions a broadcast piece on this subject.
- Continue planning for workshops on HACCP measures for seafood, phytosanitary systems, and good manufacturing practices and sanitation for food processing.
- Carry out an environmental impact assessment of Sri Lanka's agribusiness portfolio.
- Provide technical assistance to ASAP in IPM for a tomato and potato production and processing project in Bukidnon Province, Philippines.

TRADE AND INVESTMENT

- Coordinate and participate in meeting between U.S. and Indonesian cocoa industry associations in Jakarta.
- Continue work on requests from India, Nepal, and the Philippines. Establish and develop contacts in other RAP countries that will generate additional requests.

- Initiate linkages with U.S. industry associations to generate leads for U.S. agribusiness development interests in Asia.

- Determine experience of other projects with advisory boards and initiate action to establish a RAP Advisory Board.

REGIONAL ANALYSIS

- Complete Pakistan Agribusiness Project lessons learned report.

- Complete analysis of world and regional effects of implementing Uruguay Round provisions of GATT for ASAP.

- Initiate fieldwork for competitive export position analysis, and follow up with field visit with in-country field consultants in September or October.

- Complete Agribusiness in Asia paper.

ANNEX A

LIST OF RAP ACTIVITIES AND PROJECT WORK PLAN

STRATEGIC ANALYSES

The purpose of the Asia Regional Agribusiness Project (RAP) is to increase the effectiveness of Bureau agribusiness projects and programs in promoting market efficiencies and increased trade and investment in an environmentally sustainable manner. RAP has four components:

- Market information;
- Environmental support;
- Trade and investment facilitation; and
- Regional analysis.

RAP will provide technical support and strategic analyses that will strengthen mission programs and monitor impact on economic growth. Strategic activities include:

- Analytical studies of issues, common to several countries, on regional agribusiness trade and investment;
- Evaluation of the impact of USAID's agribusiness activities in Asia; and
- Assessment of trends of regional significance for the Asia and Near East Bureau.

In Asian countries, value-added agriculture is a major contributor to economic growth. The agribusiness projects offer opportunities for promoting USAID's primary strategic objectives — sustainable economic growth, strengthening of democratic institutions, the environment, and health and population planning. RAP will develop standard criteria for a monitoring and evaluation system to measure and compare the sustainable development impact of the USAID Asian agribusiness efforts as a whole, by individual project and for cross-cutting themes (for example, gender integration and participation). The system will allow USAID project, Mission, and Bureau managers to assess and plan activities consistent with project, country, regional, and global strategies.

Market Information

Future Market Prospects: Opportunities in Developing Technologies and Products

This analytical study will profile lessons learned in selected product development (such as kiwifruit, carambola, ugli fruit, chilled sliced fruit, nontraditional dried fruits, and pre-cut vegetables) and will provide information on expected market opportunities in the next five years. Informal surveys of distributors in the major world markets will be augmented by statistical projections on expected consumption patterns. New and emerging technologies will also be identified (for example, all-natural fruit coatings, new research in alternative postharvest treatment for pests, and new processing technologies) that increase the profitability, marketability, and reputation of Asian products.

Assessment of Options for the Collection and Dissemination of Price Information to Agribusinesses in Asia

USAID agribusiness projects and agribusinesses in Asia often lack the timely, routine price information from key demand centers in Asia necessary for analysis of the merits and sustainability of exporting particular local commodities. Should there be access to alternative market outlets or establishment of several trading channels to one importing country or to more than one country with adjustments on a month-to-month basis? Routine, reliable price and market condition information is needed from a sustainable, credible, and well-grounded information system. This analytical study will assess needs, different mechanisms for, and costs associated with the establishment of market information systems, including collaborative efforts with regional information systems (such as Food and Fertilizer Technology Center in Taipei, the ASEAN Food Handling Bureau in Kuala Lumpur, and the Association of Food Marketing Agencies in Bangkok) and nonregional price reporting services that have expressed an interest in expanding services to the Asia region (such as USDA's Market News Service and the UNCTAD/GATT International Trade Centre Market News Service). Issues of product and market coverage will be addressed, as well as collection, processing, and distribution mechanisms.

Environmental Analysis and Integration

Comparative Assessment of the Environmental Sustainability of USAID Agribusiness Projects in Asia

USAID agribusiness projects need to take a leadership role in promoting environmental sustainability. This study will inventory the impact of Asia agribusiness projects, policies, and systems on environmental sustainability. Focus areas will be natural resource degradation, agrochemical usage, integrated pest management, food safety, and waste stream management by agro-industries. Recommendations will be made to mitigate environmental problems where appropriate. Lessons learned from USAID agribusiness initiatives (for example, PROEXAG) in other regions will be incorporated into the analysis.

Analysis of Food Safety and Phytosanitary Issues Affecting Asian Agribusiness Trade

Agricultural products from Asian countries can be held up or rejected at foreign ports of entry because of food safety (chemical or microbial contamination) or phytosanitary (presence of live pests or pathogens) considerations. The amount and kinds of product rejected by the importers will be examined historically: Which products have been rejected the most, and why? Are certain exporting countries treated preferentially in the import process, and, if so, why? Which food safety and phytosanitary restrictions are in place simply as trade barriers, with little or no scientific basis for merit? To what extent do problems arise from lack of good manufacturing practices? Is laboratory testing capacity in the exporter countries of sufficient accuracy and precision to adequately prevent import failures? Contacts will be developed with nongovernmental organizations and community organizations to gather information on the local pest management practices that lead to export failure. The results of this analysis will indicate the directions that improving food safety must take in agribusiness project countries and will assist in establishing a Food Standard Data Base and Interpretive Service.

Implications of Food Safety Trends for Pesticide Use in Producing Countries

Using information gained in the analysis of food safety and phytosanitary issues affecting agribusiness trade in Asia, the study will inventory and review official producing-country government policies and practices on pesticide import, local manufacture, usage, worker safety, disposal, and the like. The effects of these policies and practices on constraints to export promotion, environmental sustainability, and the role of integrated pest management and environmentally friendly technologies in mitigating the effects of inadequate policy will be analyzed, comparing Asian countries. The focus will be on policies that are most likely to result in constraints to successful export promotion of commodities targeted by the Mission projects.

Trade and Investment Facilitation

Comparative Analysis of Export Promotion Service Centers

Several Asia agribusiness projects have established a proactive effort to increase local agribusiness exports — for example, the Agricultural Enterprise Center in Nepal, the Information Service under the Agro-Enterprise Development Project in Sri Lanka, and FRLD in the Philippines. In addition, the Mahaweli Agriculture and Rural Development Project in Sri Lanka and the Agribusiness Development Project in Indonesia have aggressive export product development and promotion components. This analysis will catalogue these activities, their results, and lessons learned, particularly as they relate to export service promotion service centers, and will develop recommendations for improved services and sustainability. Two or more similar efforts — public or private sector — outside Asia will be reviewed. Implications of the Bumpers and Lautenberg amendments will be considered to ensure that activities are in compliance. The analysis will assess the usefulness of information exchange between projects and may organize a regional workshop to foster networking supportive of sustainability.

Incentives and Disincentives to International Investment and Trade in Asia

Agribusiness projects involving joint ventures with U.S. agribusiness companies have been seen as vehicles to raise small farmer income. Such joint ventures include export marketing agreements, technology transfer, small farmer contract production, equity investment, and other forms of cooperation. The degree to which such activities can begin and be sustained depends in large part on an enabling climate — allowing the private sector to operate. Through contacts with U.S. agribusinesses that have considered or are involved in agribusiness ventures in Asia and with the Asia agribusiness projects, this analysis will identify policy, regulatory, economic, cultural, and other factors that encourage and discourage joint venture development and success in project countries. The study will also assess the effectiveness of joint ventures in raising small farmer income. The results can be used by USAID in policy and program design and by agribusiness projects and RAP to better inform potential U.S. joint venture partners.

Regional Market Analyses

Analysis of Genetic Import Restrictions on Economic Growth

RAP will prepare economic analyses of export opportunities lost because of overly restrictive genetic import policies, including country-by-country status reports. The export markets serviced by Mission agribusinesses have grown increasingly sophisticated. Discriminating buyers in foreign markets

now demand state-of-the-art, high-value agricultural products with specific requirements in shape, size, color, composition, and taste. Many of the Asian Missions have agribusiness clients that complain about the lack of easy access to the high-quality foreign germ plasm necessary to meet the quality demands of foreign markets. In some situations, certain germ plasm is not allowed into some countries. In other situations, unreasonable phytosanitary requirements and quarantine periods hamper the start-up of local seed supply. Also, liberal government policy on intellectual property rights often discourages foreign seed establishments from providing their most promising genetic materials.

One or more regional workshops may be held to discuss the effect of genetic import restrictions on marketing and export trade and to compare the severity of the constraints among countries. Key participants would include private sector establishments and associations that require easier access to seed, and public sector officials responsible for seed import policy, inspections, intellectual property rights legislation, and the like. The private and public sector participants in the workshop would develop a standard set of genetic import guidelines for Asia.

Comparison of Market Access and Market Behavior for Selected Asian Countries

The promotion of exports by agribusiness projects in Asia to other Asian countries is constrained by government import regulations and implementation procedures (including implicit policy agendas) and by the trading customs and practices. Without clearly understanding both aspects, agribusiness exporters will spend large sums on market analysis, trial shipments, and improved technologies, only to find that a government's implicit agenda may be to restrict imports from a particular country or that local importers view exports from a particular country as inferior, thus not warranting serious consideration in the long run. This study will document the official and unofficial aspects of market entry and will assess key trading customs and practices within the local business culture.

Assessment of a Coordinated Marketing Strategy

Individual agribusiness projects in Asia may be limited in their product marketing efforts by relatively short time periods over which they can deliver an individual product, by limited production quantities, by market desire for variety (such as cut flowers), or by other factors. The agricultural diversity potential of the various projects, when considered together, may provide an opportunity to overcome these difficulties by sourcing the product from two or more project countries. The following table provides some examples:

Product	Potential Problems That Coordinated Marketing May Alleviate
Baby corn	Volumes and growing season
Cut flowers	Varieties and growing season
Spices and essential oils	Volumes

The analysis will identify potential products that can be sourced on a multicountry basis and will analyze the potential for such sourcing, including issues related to seasonality, variety, quality, importing country standards, and competitors. A follow-up study will locate interested brokers for products identified.

Comparative Analyses of Export Competitive Positions

Most agribusiness projects in Asia include a major effort to increase exports of high-value horticultural products. Different projects are targeting the same product/market niches (similar to the "green bean syndrome" experienced in Africa). At the same time, Asia Missions have expressed concern that some governments are creating nonsustainable export positions through the use of subsidies (for example, for transportation, credit, inputs, or prices). This analysis will determine the impact of existing subsidies on delivered-to-market costs. The results can be used by projects to establish their product/market focus and by Missions to encourage policy reform. The initial study will focus on the transportation aspect of the comparative analyses.

Assessment of Regional Private Label Sourcing

The Independent Grocers Alliance (IGA) in the United States has assisted the development of IGA-type voluntary wholesale-retail food distribution chains in Australia, Korea, Japan, and New Zealand. In establishing these chains, IGA found that food processor preparation of private-label packaged goods for such chains is not as well established as in the United States. This analysis will test the feasibility of producing processed foods through private-label contracts in Asia project countries for distribution through voluntary chains in the aforementioned — and other — export markets. The same analysis can be used to explore the feasibility of private-label production for established chains in these and other markets as well. IGA has indicated its interest in participating in the analysis and implementation of this concept.

Feasibility of Forming Voluntary Wholesale-Retail Food Store Chains

Unlike many other countries in which USAID operates, many Asian countries have huge urban centers that demand large volumes of fresh and processed foods daily. Experience in Latin America under similar circumstances led to the formation of voluntary wholesale-retail chains, creating a more efficient distribution system than that existing with assembly and terminal markets. This analysis will determine the feasibility of forming independent retail operators into voluntary wholesale-retail chains in selected Asian cities. The analysis will compare the benefits that could be obtained through the voluntary structure with the existing wholesale-retail structure or other existing chain store structure. IGA has indicated its interest in participating in the analysis and implementation of this concept.

Comparison of Major Wholesale Market Facilities, Especially Exports, in Asia on Vegetable and Fruit Trade

In several Asian countries (for example, Indonesia, the Philippines, and Sri Lanka), location and deteriorating conditions of major wholesale market facilities for fresh vegetables and fruits have increased marketing costs, inhibited competition, and sometimes diverted exportable commodities that were promoted by agribusiness projects. This analytical study will compare functioning wholesale facilities in Taiwan and Korea with the problematic facilities in various USAID-supported countries. The study will assess policies needed to define institutional jurisdiction over market organization and marketplace operations; what national and city policies will induce both private and public sector participation in important decisions on improvements to market facilities; how to rectify urban problems of traffic congestion and garbage disposal as generated by wholesale facilities; how to manage wastes by converting them into salable products through new small-scale enterprises; and how to manage a range of associated

concerns, such as rationalization of market fees, monitoring of daily prices and volume throughput, and assessing domestic demand for export-quality commodities.

SERVICE ACTIVITIES

Service activities are continuing in nature, providing support in specific areas through regularly scheduled or on-request services. They are designed to help Missions, projects, and clients solve specific information and implementation needs. The market information documents will be advertised through RAP publication lists on the bulletin board and fax-on-demand services, as well as through *Market Asia*.[1]

Clearinghouse Services

Quick Response Service

Started in November 1993, this service provides customized reference services to project clients, who require specialized information, on a timely basis, in marketing, environment, and trade and investment (for example, sources of equipment for a specific processing operation, trade trends for a specific product and market, literature searches on postharvest handling methods for a specific product, duties and tariffs for a specific set of products or countries, phytosanitary regulations for a particular set of products, integrated pest management guidelines for a specialty crop, information on trade shows and Missions, and assistance to companies with specific trade and investment questions). Information requests must be specific. Information requests which require substantial RAP staff time are charged to those requesting the information, using agreed-upon fees.

Information on production techniques, processing technologies, commodity crops, and aquaculture will not be provided.

Training Catalog

RAP will provide a catalog of training programs at universities and other institutions in the United States and overseas.

Short-Term Technical Assistance and Training

RAP staff members will be available to Missions and their agribusiness projects for short-term consultancies and to conduct training, depending on scheduling and availability of funds. Following is a list of the skill areas:

- Training in rapid marketing-appraisal techniques;
- Development of agricultural marketing information systems;

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[1] *Asian Agribusiness News* was the name used for the newsletter in the RAP proposal. The newsletter's name became *Market Asia* before publication.

- Applied research on agricultural marketing systems;
- Monitoring and evaluation of marketing projects;
- Development of marketing research methodologies;
- Crop protection;
- Integrated pest management;
- Seed quality;
- Agribusiness privatization;
- Agribusiness marketing and strategic planning;
- Investment and Trade Mission organization and support;
- New venture feasibility analyses;
- Industry association needs assessments;
- Industry association design and training of service products; and
- Training in market analysis.

Missions can also buy in to RAP for services and expertise not funded under the core contract.

Market Information

Newsletter

Market Asia is published every two months, starting in February 1994. Regular features will include market and product profiles, market news in brief, trade show and event calendar, trade and investment opportunities, list of current *Market Asia* relevant publications, and environmental issues. Summary statistics will include import and export, production, price levels, and transportation costs.

Access to and Interpretation of Food Standard Database

Various databases provide information on food product standards of major export markets (United States, Codex, Japan, European Community, Taiwan, and South Korea) with possible expansion to Australia, People's Republic of China, Singapore, Canada, and Mexico. This information includes:

- Basic food law requirements;
- Summary of import procedures;
- Mandatory certifications and documentation (for example, phytosanitary);

- Listings of responsible agencies and contact officials, by commodity;
- Food additive requirements and tolerances;
- Maximum allowable residue levels for pesticides;
- Microbiological standards;
- Labeling requirements of products with specific standards of identity; and
- Tariffs.

RAP has established links with organizations that can access these databases and answer questions related to these issues on a fee-for-service basis. RAP will serve as a central access point for providing information and interpretation for Asia Missions, agribusiness projects, and agribusinesses.

Asian Price Information Service (including Market Conditions)

Depending on identification of clients, commodities, markets, and potential to pay, an Asian price information service could be established. The service may distribute wholesale prices on selected fresh and processed agricultural products in key regional markets, such as Japan, Hong Kong, Singapore, Korea, and Taiwan. A feasibility analysis (see the Strategic Analysis No. 2, "Assessment of Options for the Collection and Dissemination of Price Information to Asian Agribusinesses") will determine field requirements for supporting a sustainable regional service, including an evaluation of possible collaboration with other institutions (such as ITC, USDA, and the Food and Fertilizer Technology Center, or FFTC).

Market Information Bulletins

Brief profiles on key Asian agribusiness products will be disseminated regularly through RAP's electronic information system. Product profiles will include both high-volume and niche-market products. Market focus will concentrate on Asia (Japan, Korea, Taiwan, Hong Kong, and Singapore), the Middle East, Europe, and the United States. Bulletins will include import procedures (for example, a description of the regulatory agencies involved in the import process, phytosanitary regulations, pesticide residue tolerances, and quotas) within major markets and brief market profiles for specific products (such as pineapple, papaya, durian, mango, asparagus, baby corn, melons, and orchids and other cut flowers). Mission requests will be given priority attention.

Market Analyses and Reference Materials

The Market Analyses will provide comprehensive market and product coverage and information that differ from the brief profiles available in the Market Information Bulletins. Publications will include complete market analyses of a specific market for a range of products (for example, the Japanese market for tropical fruits and vegetables), broad-based surveys of a particular product (such as the world market for passion fruit juice concentrate), and directories (such as fresh fruit and vegetable importers in key Asian and Middle Eastern markets, and sources of new and used food-processing equipment in the United States). Most publications will be in hard copy (except for statistical data, which will be available on

diskette), and a modest fee will be charged to recoup printing costs. This service will begin by the middle of 1994.

Market Alert Service

Ad hoc alert for emergency situations, such as overexpansion of production (for example, vanilla or shrimp) or market regulatory actions (such as immediate changes in quota or phytosanitary regulations). The service will be distributed via various forms of electronic media to projects, missions and broader clientele. Details and updates to be printed in *Market Asia.*

Sharing Field Experiences

A quarterly bulletin — an information-sharing service for mission projects and clients — on lessons learned and a listing of project activities and publications. Information on market surveys, production and market trials, trade show attendance, training courses, and so forth. This publication will be made available to projects and missions through electronic mail, and summaries will be published in *Market Asia.*

Environmental Analysis and Integration

Export Quality Control Technical Assistance

On request, RAP will help missions and projects develop scopes of work and identify available consultants for the following technical services that are in increasing demand by Asia agribusinesses:

- Assessment of food processing establishments (plant sanitation, waste stream management, and so forth);
- Assessment of food testing labs to evaluate capability in residue analysis, microbiology, and so forth;
- Incorporation of International Standards Office requirements (ISO 9000), good manufacturing practices, and Hazard Analysis and Critical Control Point (HACCP) concepts into food processing operations; and
- Development of integrated pest management practices for high-value export crops. RAP has a special interest in assisting medium-scale and large commercial and contract growers who are unfamiliar with or skeptical of integrated pest management.

RAP will also assist Missions, projects, and their clients in identifying resource persons for technical assistance, speaking and workshop engagements, and so forth in food safety, food technology, integrated pest management, agro-industrial pollution control, and the like. RAP staff services will be provided at no cost; however, user Missions, agribusiness projects, associations, and agribusinesses are expected to cover other costs.

U.S. Joint Venture Opportunities

Develop linkages between U.S. environmental equipment and technology suppliers and opportunities in RAP country markets. Focus will be on agro-industrial pollution control technologies and environmentally friendly agrochemicals and biocontrol products.

Trade and Investment Facilitation

Investment and Trade Opportunity Referral Service

On request from missions and projects, RAP will screen, profile, and disseminate information about trade and investment opportunities related to USAID's agribusiness projects in Asia. Leads will be provided by Mission and project staff. RAP staff will prepare profiles based on information provided or, for more complex opportunities, developed by RAP staff. Dissemination will be through RAP's printed, electronic, and personal communication links to the private sector.

Transaction Support

RAP will provide information and services to support the completion of investment and trade transactions. Investor and supplier profiles will be prepared to allow early identification of sound potential business partners for specific opportunities. A database of financial, accounting, legal, business, and other consultants will be maintained for referrals.

WORK PLAN

Project Activities	Coordinator	1993			1994											
			Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
STRATEGIC ANALYSES																
MARKET INFORMATION																
Critical Assessment of Price Information System	MM/TK					X	X	X	X	X						
Wholesale Market Place Study	MM							X	X	X	X					
Market Access/Behavior Study	MM													X	X	X
Future Market Prospects Study	TK													X	X	X
ENVIRONMENTAL ANALYSES & INTEGRATION																
HACCP/ISO 9000 Review Paper	JB						X									
Pesticide Policies Review Paper	JB							X	X							
Food Safety/Phytosanitary Trade Impact	JB					X	X	X	X	X						
Food Safety Implications for Pesticide Policy	JB										X	X	X	X		
Environmental Sustainability Assessment	JB										X	X	X	X		
AGRIBUSINESS																
Monitoring and Evaluation System, Phase I	JP					X	X									
Monitoring and Evaluation System, Phase II	JP				To Be Determined by AID											
Monitoring and Evaluation System, Phase III	JP				To Be Determined by AID											
Coordinated Marketing Strategies/Analysis	KS							X	X	X	X					
Comparative Analysis of Export Competitive Position	KS						X	X	X	X	X					
Regional Private Label Sourcing for Voluntary Chains	KS						X	X	X	X	X	X	X	X	X	X
Genetic Restrictions Impact	KS								X	X	X	X				
Voluntary Wholesale Retail Chain Feasibility	KS												X	X	X	X
TRADE AND INVESTMENT														X	X	X
Export and Investment Promotion Center, Analysis	JP								X	X	X	X	X	X		
Export and Investment Promotion Center, Workshop	JP														X	
Incentive/Disincentives to Venture Development	JP								X	X	X	X	X	X		

Key: JB-JBowman, JD-JDonovan, JG-JGraef, JP-Pietrus, KS-KSwanberg, MM-MMenegay, RG-RGross, TK-TKlotzbach

WORK PLAN

Project Activities	Coordinator	1993			1994											
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SERVICE ACTIVITIES																
CLEARINGHOUSE SERVICES																
Define Scope and Content of System	TK/MM/JP	X	X				X	X	X							
Install Fax-on-Demand and Bulletin Board Systems	TK/JG								X	X						
Provide Quick Response Information Services	TK/MM/JG			X	X	X	X	X	X	X	X	X	X	X	X	X
MARKET INFORMATION SERVICES																
Publications Dates for Market Asia	TK/JG/MM					X		X		X		X		X		X
Price Reports																
Determine Collaboration with ITC, USDA, and FFTC	MM/TK				X	X	X	X	X							
Conduct Feasibility Analysis and System Development	MM/TK						X	X	X	X						
Recruit and Train Market Reporters	MM/TK										X	X				
Publication Dates													X X	X X	X X	X X
Issue Data Service Diskettes																
Japan, Hong Kong, and Singapore	TK/JG								X							
Taiwan and Korea	TK/JG										X					
Middle East	TK/JG													X		
Market Information Bulletins: Japan	TK/JG					X	X	X	X							
Market Information Bulletins: Hong Kong	TK/JG										X	X				
Market Information Bulletins: Singapore	TK/JG														X	X
Produce Horticultural Market Profiles: Taiwan	TK/MM/JG								X	X						
Produce Horticultural Market Profiles: Korea	TK/MM/JG													X	X	
Assemble Information and Distribute Notes from the Field	JG										X	X	X	X	X	X
Assemble Information and Distribute Market Alerts	JG/TK/MM										X	X	X	X	X	X
Publish Training Catalog	JG						X							X		
Publish Food Show Catalog	JG												X			

Key: JB-JBowman, JD-JDonovan, JG-JGraef, JP-Pietrus, KS-KSwanberg, MM-MMenegay, RG-RGross, TK-TKlotzbach

WORK PLAN

Project Activities	Coordinator	1993			1994											
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ENVIRONMENTAL ANALYSIS AND INTEGRATION																
Food Standard Database Access	JB															
Define Capabilities of Subcontractors	JB						X	X								
Define Response Mechanism	JB							X	X	X						
Determine Fee Structuring	JB									X						
Implement Database	JB										X	X	X	X	X	X
Quality Control Technical Assistance/IPM technical assistance	JB				X	X	X	X	X	X	X	X	X	X	X	X
U.S. Cooperative Ventures Opportunities	JB				X	X	X	X	X	X	X	X	X	X	X	X
TRADE AND INVESTMENT FACILITATION																
EstablishTrade and Investment Referral Service																
Determine Dissemination System	JP/TK/JG								X	X						
Establish Lc ' Development Referral and Publicity Program	JP								X	X						
Implement System	JP									X	X	X	X	X	X	X
Establish Transaction Support Service	JP								X	X	X	X	X	X	X	X
Senior Advisory Group Meetings	JP												X			
Identify Training in Market Information Service Trainers	MM/TK									X	X	X	X			
TRAVEL SCHEDULE - CORE STAFF																
J. Bowman									X		X					
T. Klotzbach							X									
M. Menegay								X			X			X		
J. Pietrus									X			X		X		
K. Swanberg									X		X			X		
ADMINISTRATIVE COMPONENT																
Technical Reports	JP		X	X				X			X			X		
Financial Reports	RG/JD				X	X	X	X	X	X	X	X	X	X	X	X
Semi-Annual Review	JD							X						X		
Fis... ear 1995 Work Plan	JP												X			

Key: JB-JBowman, JD-JDonovan, JG-JGraef, JP-Pietrus, KS-KSwanberg,MM-MMenegay, RG-RGross, TK-TKlotzbach

ANNEX B

MARKET ASIA

Market Asia

Food and Horticultural Industries

Volume 1 • Issue 2 May/June 1994

Hong Kong Market for Fresh Fruits and Vegetables

Although Hong Kong is relatively small, with only 6 million residents and an area of just 1,076 square kilometers, the value of its imports of fresh fruits and vegetables—which in this article are understood to include dried products such as figs, dates, and coconuts—has increased by 47.8 percent since 1988. Imports increased from 3.8 billion Hong Kong dollars (HK$) or 481.5 million U.S. dollars (US$) in 1988 to HK$5.6 billion (US$718.3 million) for the first 11 months of 1993. (Five-year exchange rates for the Hong Kong dollar appear on page 7.) In volume, imports have increased a less impressive 12.4 percent over the same period, from 791,000 metric tons (MTs) to 890,000 MTs. Import consumption is actually lower than total import figures reveal; Hong Kong re-exports 10-14 percent of fresh fruit and vegetable import tonnage (Figures 1 and 2, page 4).

Because Hong Kong is a duty-free port, no import tariffs are charged on fresh fruits or vegetables. Phytosanitary restrictions are not strict, although some wonder whether China will impose its much stricter phytosanitary regulations—primarily targeted at the Mediterranean fruit fly (Medfly)—when Hong Kong returns to Chinese control in 1997.

Domestic Production

Although only a small percentage of Hong Kong's total land area is farmed, 26 percent of fresh vegetable demand is met by local

(please turn to p. 4)

INSIDE

Gateway to Southern China: Hong Kong

Guangdong Province, in Southern China adjacent to Hong Kong, has experienced an average economic growth rate in the midteens since 1985. The province, with less than 2 percent of China's population, accounts for 5 percent of the country's industrial output and more than 10 percent of its exports. Guangdong's per capita annual income, the highest in China, is estimated at $1,000 and projected to rise to $2,800 by the year 2005. This rapid economic growth, and the population migration to fill the many new jobs growth has created, have been fueled by foreign investment following the granting of special economic privileges in 1979 and accelerated in the mid-1980s.

Hong Kong's re-exports of fresh produce to China, primarily consumed in Guangdong, have increased along with steadily rising incomes in Guangdong. Reported re-exports have increased 387 percent in volume and 653 percent in value from 1988 to 1993 (1993 data include re-ex-

(please turn to p. 10)

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Market Asia welcomes comments, suggestions, and contributions. For more information on RAP, or to be included on our mailing list, please write to the editor:

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At Issue: Development and High-Value Crops

Agribusinesses do more than transform agricultural production. They provide growers and producers a link with the larger economy. Development strategies based on agriculture must, therefore, give adequate attention to the role of agribusinesses.

Agricultural Evolution

The countries covered by RAP have been leaders in the Green Revolution. They have reached food self-sufficiency by increasing their production of staple crops through expanding irrigation systems and adopting high-yielding varieties (HYVs) of rice and wheat. However, the spread of the new varieties—which derive their advantage from their responsiveness to intensive applications of fertilizer—did not occur until fertilizers were made available at reasonable costs throughout the countryside and lands were irrigated. In Bangladesh, the adoption of HYVs was delayed until fertilizers were distributed widely and cheaply, and until policies regarding the import and sale of irrigation pumps were liberalized.

These events were made possible by the development of private fertilizer and input supply agribusinesses, with the support and encouragement of the donor community. Similarly, the excess production achieved through the use of HYVs could not be distributed without an efficient network of transporters and marketers within each country to move the surplus from the fields to far-flung urban communities. Agribusinesses played a critical role in the Green Revolution.

Green Revolution II

The 1990s have ushered in a sequel to the Green Revolution in many Asian countries. With the assistance of new high-yielding technologies, the production of traditional staple crops such as rice and wheat has generally satisfied the internal demand for these food products and has actually led to exports in some instances. But partly as a result of this increase in production, returns to rice and wheat farmers have ceased to increase, and the potential for continued growth has stagnated.

Because these countries have increasing populations and work forces whose demand for new jobs continues to skyrocket, a new type of agriculture is required to absorb this labor increase with adequately remunerative jobs. The solution is to introduce crops or production systems that produce significantly higher values of output per unit of input than traditional crops, that employ more labor than rice and wheat, and that provide increasing incomes to workers.

Many argue that pursuing a strategy of agricultural development led by high-value crops is unwise because high-value crops, though lucrative, are risky. Pro-

(please turn to p. 11)

Hong Kong Phytosanitary Requirements

Countries exporting agricultural produce to Hong Kong are expected to grow, harvest, and process food according to the Code of Hygienic Practice recommended by the Codex Alimentarius Commission of the Food and Agriculture Organization of the United Nations, the code of the World Health Organization, or other recognized good manufacturing or agricultural practices. Hong Kong's Department of Agriculture and Fisheries is responsible for enforcing phytosanitary regulations.

To ensure the quality and wholesomeness of food exports before they leave their countries of origin, authorities in these countries are requested to issue phytosanitary certificates for products destined for Hong Kong. A list of certification authorities can be obtained by writing to the Senior Superintendent of Foods, Hygiene Division, Department of Health, U.C. Fa Yuen Street Complex, 123A Fa Yuen Street, 8th Floor, Kowloon, Hong Kong (Tel.: 852-3920396). Phytosanitary certificates should follow the format and contain the information solicited below:

(1) The fruits/vegetables are of _____ (name of the country/place of production) origin.

(2) The fruits/vegetables are free from insect infestation.

(3) The fruits/vegetables do not contain any substance or substances including pesticides, trace metals, etc. in amounts considered poisonous, harmful, or injurious to health.

(4) The fruits/vegetables are fit for human consumption and are permitted to be sold as food for human consumption in _____ (name of country of origin).

Prohibited Products

The following products are not allowed into Hong Kong:

- Plants of all species of Arachis (groundnut, peanut) except from China;
- All plant pests from all countries unless accompanied by a written authorization from the Director of Agriculture and Fisheries; and
- Soil and plants with soil attached from all countries unless accompanied by written authorization from the Director of Agriculture and Fisheries.

Restricted Products

The following products are allowed entry but are subject to import inspection; each shipment must be accompanied by a phytosanitary certificate and import permit.

- Plants—bulbs, corms, cuttings, flowers, fruits, layers, leaves, roots, shrubs, slips, stocks, suckers, trees, and vegetables.

Authorities will not issue phytosanitary certificates without an import permit for each of the restricted products. To request import permits, contact the Director of Agriculture and Fisheries, Canton Road Government Offices, 393 Canton Road, Kowloon, Hong Kong.

Unrestricted Products

Unrestricted products, shown below, need not be accompanied by phytosanitary certificates but may face delays at customs for entry into Hong Kong:

- Cut flowers;
- Fruit for consumption;
- Plants and plant products from China;

(please turn to p. 10)

Anup Engquist, the author of this article, was a speaker at the "Agricultural Product Quality Workshop" held May 10-13, 1993, in Manila, Philippines, and sponsored by RAP, the U.S. Department of Agriculture, and the Philippine Department of Agriculture. The workshop, RAP's first undertaking, helped establish priorities for project activities. Proceedings of the workshop—including a summary of presentations featured in the proceedings—were compiled and produced by Development Alternatives, Inc., the project's contractor. For further information on the workshop, or to receive a copy of the eight-page presentation summary containing contact information, please contact RAP.

Hong Kong Market

(continued from p. 8)

their fresh produce from traditional fresh food markets. Although Hong Kong supermarkets currently hold only a 10 percent share of these markets, this share is expected to expand to 20 percent or more. The two largest supermarket chains in Hong Kong are Park 'n' Shop and Wellcome. Newer supermarkets controlled by Japanese interests are targeting middle- to upper-income consumers.

Domestic producers market their produce through marketing organizations (see box), directly to fresh food markets and supermarkets, or—more traditionally—through wholesalers serving the two. Foreign suppliers typically sell either through importers and wholesalers or directly to supermarkets. Hong Kong's fresh produce wholesale markets are being expanded and modernized (see box).

Exports, Re-Exports, and Apparent Consumption

Hong Kong, which cannot even meet its own consumption needs with local fruit and vegetable production, does not export large quantities of locally produced fresh fruits and vegetables. Total exports of locally produced fresh fruit and vegetables stood at only HK$484,000 in 1988, with partial 1993 figures revealing a continued downward trend.

Hong Kong does, however, re-export significant quantities of fresh vegetables, especially fruits. Therefore, deducting the value of these re-exports from total imports gives a truer picture of im-

Hong Kong Vegetable Marketing Organization

The Vegetable Marketing Organization operates under the Department of Agriculture and Fisheries. The Vegetable Marketing Organization seeks to maximize returns to farmers by minimizing marketing costs. The organization is responsible for transporting locally produced vegetables from the New Territories to the wholesale market in Kowloon, providing marketing facilities, and supervising sales and financial transactions in the market. A 10 percent commission on sales generates revenue for the organization, which channels surpluses into the development of marketing services and farming industries. The organization provides ancillary services such as the acquisition and sale of agricultural supplies to farmers and the awarding of secondary and tertiary education scholarships to farmers' children. The Vegetable Marketing Association also monitors and checks pesticide residue levels in the imported and locally produced vegetables handled by the organization, to safeguard public health. During 1992, 44,400 MTs of local vegetables valued at HK$122 million were sold through the organization.

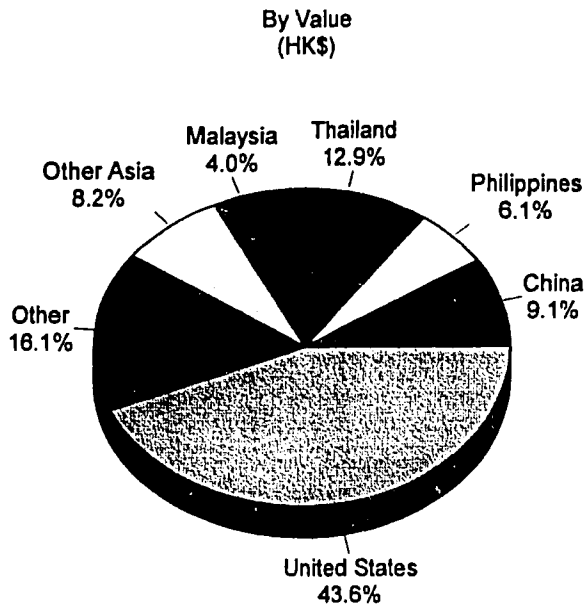
Source: *Hong Kong 1993*, Hong Kong Government Informational Services

Hong Kong Wholesale Markets Expanding

Facilities in temporary wholesale food markets in Hong Kong are becoming inadequate for handling the ever-increasing quantities of local and imported produce. In response, the Department of Agriculture and Fisheries has formulated a plan to renovate these markets. Phase I of a project to renovate the Hong Kong Wholesale Food Market, completed in 1991, provides improved facilities for the wholesaling of fruit, freshwater fish, and eggs. Phase II of that project is under way and will provide facilities for the wholesaling of imported vegetables and poultry. Similar facilities, on a much bigger scale, are planned for Kowloon and the North District Permanent Wholesale Market for Agricultural Products. The expansion of the Cheung Sha Wan Wholesale Food Market was scheduled for completion at the end of 1993. That market will replace the many temporary markets for imported vegetables and freshwater fish at Cheung Sha Wan. Planning for renovation of the Yau Ma Tei Fruit Market is continuing. Efforts are also being made to complete the Permanent North District Market before the end of this decade.

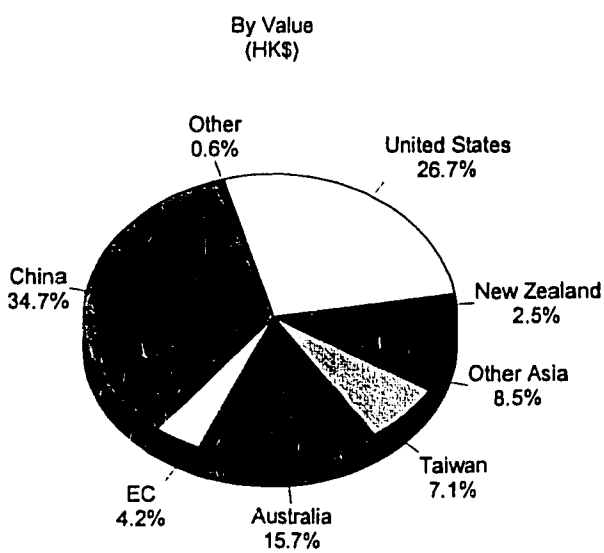
Source: Agriculture and Fisheries Department

MAJOR SUPPLIERS OF HONG KONG FRESH FRUIT IMPORTS
(JANUARY-NOVEMBER 1993)



Source: Government of Hong Kong

MAJOR SUPPLIERS OF HONG KONG FRESH VEGETABLE IMPORTS
(JANUARY-NOVEMBER 1993)



Source: Government of Hong Kong

ports for consumption. For the last six years, Hong Kong re-exported 10 to 20 percent of its fresh produce import tonnage.

Re-exports of fresh fruits, which totaled 88,782 MTs for the first 11 months of 1993, have grown in absolute tonnage and as a percentage of total fresh fruit imports, going from 8.9 percent of fresh fruit imports in 1988 to 13.5 percent in 1993. Conversely, re-exports of fresh vegetables have declined in tonnage and as a percentage of total fresh vegetable imports, from 18.9 percent in 1988 to 12.35 percent in 1993.

The major markets for fresh fruit re-exports are China (26.2 percent of total fresh fruit re-exports), Singapore (25.9 percent), the Philippines (15.5 percent), and Malaysia (12.5 percent). Smaller quantities are re-exported to Canada, Indonesia, Macau, and Taiwan. The products re-exported in greatest quantities are mandarins, pears, apples, oranges, avocados, mangoes, guavas, mangosteens, and grapes. Singapore, the Philippines, and Malaysia import most of the temperate fruits, whereas most of the tropicals are shipped to China.

Singapore (with 56.6 percent of vegetable re-exports) and Japan (17.9 percent) are the largest markets for fresh vegetable re-exports. Other markets are China, the United States, Malaysia, Taiwan, and Canada. Major product categories are other fresh vegetables, garlic/leeks, leguminous vegetables, cabbages/brassicas, and onions/shallots.

Thomas W. Klotzbach, RAP MA

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A PROFILE OF THE ASEAN FOOD HANDLING BUREAU

The ASEAN Food Handling Bureau is a regional institution based in Kuala Lumpur, Malaysia, responsible for the overall management and coordination of food postharvest handling research and development projects comprising grains, horticultural produce, meat and livestock, and fish in the six ASEAN countries—Malaysia, the Philippines, Thailand, Singapore, Indonesia, and Brunei.

The bureau's primary function is to improve existing food handling and distribution systems by solving problems related to food handling with technical assistance, developing conceptual designs for food distribution and handling systems, establishing a pool of information on appropriate postharvest systems, and providing practical on the job training to ASEAN counterpart institutions in the implementation of projects. Organizationally, the bureau has created four working groups—fish, grain, horticulture, and livestock—to implement sector-specific projects and provide specialized technical assistance. For example, the following projects have been implemented by the horticultural working group:

- Establishment and operation of the ASEAN Postharvest Horticulture Training/Research Center;
- Provision of an experimental packing house, where trainees and researchers can test postharvest treatment techniques;
- Studies into the postharvest physiology, pathology, biochemistry, technology, and economics of packaging and transport of rambutans and mangoes; and
- Development of appropriate techniques and equipment for handling, transportation, and distribution of fresh fruits and vegetables.

For further information on technical assistance and training programs, contact the ASEAN Food Handling Bureau, Level 3, Block G14 & G15, Damansara Town Center, 50490 Kuala Lumpur, Malaysia (Tel.: 2551088, 2544199; Fax: 25552787).

At Issue

(continued from p. 2)

ducing high-value crops involves high start-up costs: purchasing special seed, fertilizer, and implements; building cold storage facilities; and training workers. The market for exotic/prepared foods is a niche market, one bound to be dominated by a few, well-placed suppliers who achieve production first; farmers switching to high-value crops need to know who their competitors are in advance of investing in start-up operations, but rarely are able to obtain such information. In addition, exotic foods are highly income elastic; only relatively wealthy consumers buy them and, even then, only in good economic times.

Proponents of development through high-value crops respond that start-up costs for production of HYVs were overcome with the help of the donor community, that agribusinesses can play a valuable role by providing market information to growers, and that global increases in income have expanded their market.

However the debate is resolved, the search for solutions must continue if the goals of development—including economic growth and environmental protection—are to be achieved. If economic stagnation in rural areas occurs, widespread poverty and unrest will result.

The next issue of Market Asia *will present another perspective on the role of agribusiness in development.* MA

News in Brief

Israel's produce marketing company, Agrexco, has been marketing 1,500 MTs of Indian Thompson seedless grapes in the United Kingdom, Germany, Belgium, and Holland this spring under the Coral brand name owned by IndoFresh Company. According to the $4 million agreement it reached with IndoFresh, Agrexco has provided packaging technology and technical assistance in preharvest and postharvest handling techniques. Other Indian companies participated in the marketing effort. (*Fresh Produce Journal*, February 11, 1994)

* * * * *

Pepsico Inc. of the United States recently received permission from the Government of India to operate a $95 million holding company in India. Through the holding company, Pepsico plans to launch beverage and food processing plants, joint ventures, and export operations. The Indian government gave permission to another private company, Venture Twenty First Foods Pvt. Ltd., to build a fruit and vegetable freezing operation with a capacity of 44,000 MTs per year in Haryana, Uttar Pradesh. (*FoodNews*, March 11, 1994)

* * * * *

In Israel, Moshe Goren of the Department of Fruit Trees at the Volcani Center's Institute for Horticulture has been developing a Guava plant that will bear fruit with a longer shelf-life and no odor. The new variety is said to have a pink inside and a yellowish outside. This new guava, which is very high in vitamin C, will likely have very good export potential. (*Fresh Produce Journal*, April 8, 1994)

* * * * *

Atalanta Corporation, a U.S. importer of food products, was forced to recall 101,000 cartons of 24/11-ounce cans of Chinese fancy whole mandarin segments because the cans were detinning. (*FoodNews*, March 11, 1994)

* * * * *

Low prices for canned pineapple, reported in the last issue of *Market Asia*, are no longer a problem, according to a recent article. *FoodNews* (March 4, 1994) reports that lower supplies and increased raw material costs have increased prices for Thai product. If the current shortage of Thai product continues, prices will remain high for the remainder of the year.

* * * * *

Garlic processing companies in Spain are trying to limit garlic imports from China to 15,000-20,000 MTs per year. The companies are also trying to restrict imports to the period January through May, the off-season for European production. (*Fresh Produce Journal*, March 25, 1994)

* * * * *

According to India's Minister of Commerce, Pranab Mukherjee, India plans to increase seafood exports by 1997 from the current $511 million per year to $1.18 billion—nearly double. Mr. Mukherjee also said that India seafood exports could expand to as much as $1.5 billion per year by 2000. (*FoodNews*, February 25, 1994)

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President Clinton lifted the 19-year-old U.S. trade embargo against Vietnam. Although diplomatic relations will not be established immediately, the United States will open a liaison office in Saigon, and the Vietnamese will open a liaison office in Washington, D.C. Hours after the announcement, several U.S. firms including United Airlines and Pepsi Cola indicated they would immediately begin doing business there. (*Agricultural Trade Highlights*, February 1994)

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Korea has eliminated a phytosanitary barrier on imports of shelled walnuts from the United States. Korea's National Plant Quarantine Service announced on January 14 that it would allow, effective immediately, the

importation of U.S. shelled walnuts that have been fumigated with methyl bromide and vacuum packed. Although it liberalized its market for walnuts in 1991, Korea has maintained a ban on walnut imports because of concerns about the presence of the codling moth pest. U.S. industry sources estimate that, with the opening of the market, first year exports of shelled walnuts to Korea could approach $2 million. (*Agricultural Trade Highlights*, February 1994)

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The Japanese government began selling California rice to domestic wholesalers on February 8, at a price 16 percent below that of domestically produced government-held rice. However, U.S. rice, which has been given the highest quality rating of all imported rice, is being sold to wholesalers at a price higher than that of any other imported rice. The first sales of California rice to Japan were at $450 per MT, FOB. The Government of Japan is reselling the rice to wholesalers at $2,560 per MT, and the expected retail price of the rice is estimated to be $3,700 per MT. (*Agricultural Trade Highlights*, February 1994)

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According to International Trade Commission sources, the U.S. garlic industry filed an anti-dumping petition against imports of Chinese garlic. Imports of fresh and chilled garlic from China during the first 11 months of 1993 totaled 21,087 MTs ($10.2 million), up from just 3,273 MTs ($2.1 million) in the comparable period of the preceding year. Based on January-November 1993 data, the quantity imported from China is more than twice the amount imported from Mexico, traditionally the number one foreign supplier of fresh and chilled garlic to the United States. (*Agricultural Trade Highlights*, February 1994)

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On February 9, 1994, the French government bowed to protesting fishermen and imposed a ban on seafood imports from countries not on the approved list of HACCP-certified exporting countries as required by European Union Directive 493 (Health Conditions for Marketing Fishery Products). Although the government lifted the ban on February 15 after strong protests by exporters, fresh seafood imports are now stringently sampled on arrival, delaying the entry of fresh product into the market and resulting in spoilage. The United States has demanded compensation for spoiled product entering from the United States. (*Agricultural Trade Highlights*, February 1994)

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The Food Handling Bureau of the Association of South East Asian Nations (ASEAN) and the International Food Information Service (IFIS) signed a cooperative agreement late last year to strengthen information services to the food industry in Asia. As part of the agreement, IFIS has appointed a Southeast Asian representative, Koh Siew Kooi, to begin work at the Food Handling Bureau's headquarters. (*foodinfo*, December 1993)

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Daniel Kritchman, Chairman of Israel's Citrus Marketing Board, estimates that the Israeli citrus industry has lost "tens of millions of dollars" because of labor shortages. The closure of the Occupied Territories, most notably the Gaza Strip, has prevented skilled pickers from getting to the citrus plantations. Of the 6,000 workers needed to pick, only 1,000 are available. Much of the 40,000 MTs of citrus ready for picking could become unexportable. (*Fresh Produce Journal*, March 25, 1994)

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Sri Lankan producers of exotic vegetables have been gaining a growing share of the British market at the expense of Thai producers. The gain in market share has been attributed to a marked improvement in quality and consistency of produce, coupled with lower labor costs in Sri Lanka. (*Fresh Produce Journal*, February 25, 1994)

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India and Israel have agreed to cooperate in agricultural research. Israel will provide technical assistance in horticultural production and infrastructure improvements. (*EuroFruit*, March 1994) MA

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Training Programs

Technology for Transportation and Marketing of Agriculture Produce in Tropical Areas, Pan Pacific Hotel, Kuala Lumpur, Malaysia (May 26, 1994; cost RM2,500 per person, payable by bank transfer, draft, or check to the ASEAN Food Handling Bureau). Cosponsors: ASEAN Food Handling Bureau and NTH-SINTEF Engineering of the Norwegian Institute of Technology. Seminar presentations cover agricultural produce and market development in ASEAN countries; food and energy; refrigeration and quality of food; integrated fish processing systems; the importance of logistics and recycling; cost-effective ice production and handling; modern cold stores; chilled display cabinets; what can be done about the CFC challenge in the cold chain; and a new technology in food dehydration theory (equipment and new possibilities for products). For additional information, contact Ms. Koh Siew Hua or Mr. Khamis Salleh, ASEAN Food Handling Bureau, Level 3, G14 and G15 (North), Damansara Town Center, 50490 Kuala Lumpur, Malaysia (Tel.: 03-255-1088 or 03-254-4199, Fax: 03-255-2787).

Conservation and Equitable Growth: The Challenge for Farming Systems, Manila Pavilion Hotel, Manila, Philippines (November 7-10, 1994). Third International Symposium of the Asian Farming Systems Association, in collaboration with the Philippines Ministry of Agriculture. Themes for paper presentations are farming systems research/extension, sustainability, conservation, and the environment; institutional evaluation—farming systems, commodity research, and policy initiatives; and equity and gender concerns and poverty alleviation. The purposes of the seminar are to provide a forum for discussion by farming system practitioners of sustainability and the environment, with special reference to Asian agriculture; to examine critical long-term issues in rainfed upland agriculture; and to strengthen linkages among farming system practitioners throughout Asia. For further information, contact the Symposium Coordinator, Asian Farming Systems Symposium Secretariat, P.O. Box 70, Peradeniya, Sri Lanka (Tel.: 94-8-88081 or 94-8-88206; Fax: 94-8-32817, 94-8-88206, or 94-8-32517).

Logistics Management, Minneapolis, Minnesota (July 25-August 12, 1994; overseas classes may be arranged). The development of sophisticated distribution and logistics networks will be the focus of this three-week training course. Supply chain and materials management, inventories, transportation, warehousing, customer service, and strategic business planning will be covered. Mid-level employees responsible for operation, management, marketing, and logistics will gain the most from this course; however, Land O' Lakes will customize this course for requesting groups. For further information, contact Land O' Lakes, Inc., International Development, P.O. Box 116, Minneapolis, MN 55440-0116 USA (Tel.: 612-481-2534, Fax: 612-481-2556). MA

CALENDAR *(continued)*

National Frozen Food Convention: Walt Disney World Dolphin Hotel, Orlando, Florida, October 9-12. National Frozen Food Association, 4755 Linglestown Rd., Ste. 300, Harrisburg, PA 17112 USA (Tel.: 717-657-8601, Fax: 717-657-9862).

Produce Marketing Association Convention and Expo: San Antonio, Texas, October 22-25, 1994. Connie Akin, Produce Marketing Association, 1500 Casho Mill Rd., Newark, DE 19714 USA (Tel.: 302-738-7100, Fax: 302-731-2409).

SIAL: Paris du Nord Exhibition Center, Paris, France, October 23-27. International Trade Exhibitions in France, 2300 Clarendon Blvd., Arlington, VA 22201 USA (Tel.: 703-522-5000, Fax: 703-522-5005) or 39 Rue de la Bienfaisance, 75008 Paris, France (Tel.: 33-1-42-89-46-87).

Aalsmeer Professional Flower Exhibition: Aalsmeer, Holland, November. Buro Ad Maarse, P.O. Box 275, 1430 AG, Aalsmeer, Holland (Tel.: 31-2977-440-33, Fax: 31-2977-268-50).

International Exposition for Food Processors: Los Angeles Convention Center, California, November 3-6. Cheryl Clark, Food Processors Machinery Association, 200 Dangerfield Rd., Alexandria, VA 22314 USA (Tel.: 703-684-1080, Fax: 703-548-6563).

MEFEX: Bahrain, January 1995. Kurt Seifarth, FAS/Trade Show Office (Tel.: 202-720-7417, Fax: 202-690-4374). MA

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Publications of Interest

Food Science and Technology Abstracts (FSTA). With more than 415,000 abstracts, this series covers basic sciences relevant to food (biochemistry, microbiology, biotechnology, toxicology, and the like), as well as food processing, food products, economics, and legislation. FSTA is available in print; on line; and on magnetic tape, diskette, and CD-ROM. CD-ROM prices for 1994 are $5,800 for new subscriptions and $1,950 for annual renewals. For further information, contact the International Food Information Service in either the United Kingdom (Lane End House, Shinfield, Reading RG2 9BB, UK, Tel.: 44-734-883895, Fax: 44-734-885065) or Malaysia (c/o ASEAN Food Handling Bureau, Level 3, Block G14 and 15 [North], Damansara Town Centre, 50490 Kuala Lumpur, Malaysia, Tel.: 03-255-1088, Fax: 03-255-2787).

Singapore Trade Connection CD-ROM. Information includes external trade statistics for the years 1988 to 1993; a Singapore exporters directory; a Singapore electronics trade directory; a directory of major supporting industries in Singapore; a directory of industrial machinery in Singapore; a monthly digest of statistics on tourism, manufacturing, and air and sea cargo; a quarterly economic survey of Singapore, covering statistics of industrial production, retail sales, gross domestsic product, business expectations, and forecasts; and country profiles and other databases. An annual subscription (12 issues) costs $300; a single copy costs $35. For additional information, contact the Trade Information Service, Singapore Trade Development Board, World Trade Centre, #03-01 (Lobby C), Singapore 0409; Republic of Singapore (Tel.: 279-0431, 279-0429, or 279-0426; Fax: 278-7073).

U.S.-ASEAN Council Publications on Food Processing and Packaging. ASEAN Market Report Series "Food Processing and Packaging" (March 1992, 16 pages, $15.00); "ASEAN Food Processing and Packaging: Opportunities for U.S. Equipment and Technology" (1992, 30 pages, $50); ASEAN Food Processing and Packaging Country Reports (1992, $25 each; countries include Brunei, Indonesia, Malaysia, Philippines, Singapore, and Thailand). Add 4 percent for shipping and handling. Make all checks payable to U.S.-ASEAN Council, 1400 L Street, N.W., Suite 375, Washington, DC 20005 (Tel.: 202-289-1911, Fax:202-289-0519). MA

RAP MEETS WITH INTEGRATED PEST MANAGEMENT EXPERTS

RAP Environmental Specialist John E. Bowman recently attended the **Second National Integrated Pest Management (IPM) Workshop** in Las Vegas, Nevada, April 19-22. The theme of the workshop was "IPM Programs for the 21st Century: Food Safety and Environmental Stewardship." Five hundred IPM experts from academia, government, industry, nongovernmental organizations, and private voluntary organizations attended. Technical sessions addressed state-of-the-art IPM efforts for vegetables, potatoes, fruit, nuts, corn, soybeans, small grains, cotton, peanuts, tobacco, livestock, and forage. Other sessions focused on more cross-cutting themes, such as the environmental, sociological, and economic impacts of IPM. RAP established contact with representatives from Campbell's Soup Co., Del Monte, and Gerber Products, three forward-looking companies that have invested in IPM training programs for their fruit and vegetable growers, both in the United States and abroad. These companies' success stories in private sector-sponsored IPM for high-value horticultural products will be featured in a future issue of *Market Asia*.

ANNEX C

NEWSLETTER DISTRIBUTION SUMMARY

Distribution By Country					
	Individuals		AID Missions and Proje		Total
Bangladesh	20		40		60
Hong Kong	25				25
India	38		150		188
Indonesia	24		150		174
Japan	47				47
Korea	20				20
Malaysia	55				55
Nepal	10		125		135
Pakistan	24				24
Philippines	353		175		528
Singapore	34				34
Sri Lanka	22		200		222
Taiwan	75				75
Thailand	10				10
USA	175		20		195
Vietnam	2				2
Other Countries	31		15		46
Total Distributio	934		860		1794

ANNEX D

LOG OF INFORMATION REQUESTS

RAP Information Request Activity Log

Date In	Request Description	Contact Information	Response	Date Out
6/20	Historical and current import volumes and values of grapes imported into Japan.	Major K.C. Bodiwala Indo-French India	Collected and organized historical data. Forwarded charts depicting market seasonally and market share. Forwarded most current available data.	7/17
6/20	Find participants for posthavest technology course to reduce cost for all participants	Shyami de Silva ACE India	Informed all RAP serviced projects of the opportunity.	6/20
6/1	Percentage of seed planted in the US that is government certified.	Gary Alex USA	Talked to Bud Paisley at University of Mississippi. Forwarded information	6/1
5/31	Technology used in corn syrup manufacturing	Helen Gunther Office of Food and Agriculture US Embassy Bangladesh	Researched NAL holdings, forwarded relevant manuscripts	6/4
5/31	Marketing Information about corn syrup manufacturin	Helen Gunther Office of Food and Agriculture US Embassy Bangladesh	Researched NAL holdings. Conducted primary research. Synthesized results and forwarded.	6/4
5/27	US import regulations needed for Tompson Grapes Class 1 from India.	Nitin Agrawal Euro Fruits Pvt. Ltd India	Talked to APHIS bureaucrats and scientists. Received the regulations and the outlook for pending Indian products.	7/18
5/27	US import regulations needed for fresh fruits	Anard Kate MAFCO Ltd. India	Collected, synthesized, and relayed relevant information.	7/18
5/16	Phytosantary restrictions on imports in Korea	Pam Michael ASAP Philippines	Talked to contact in Korea, had info. faxed to RAP. Faxed to Requester.	5/23
5/9	Information about laboratory certification	Bmaheshwari@usaid.gov India	Talked to USDA, FDA and independent laboratory Associations	5/10
5/9	Pesticide and fungicide limits in the US	Rashmi Sehgal India	Researched APHIS regulations and the Federal Register. Forwarded relevant information.	5/13
4/22	Production and Marketing information on Guavas, an Guava Juice.	Pam Michael ASAP	Collected and synthesized relevant information. Forwarded to requester.	4/26
4/11	Trade statistics and marketing information on Cashews. Cashew Apples, and Cashew Juice.	Pam Michael ASAP Philippines	Complied US, EU, and Asian trade statistics. Forwarded relevant manuscripts	4/12
4/11	Production information on Cashews.	Pam Michael ASAP Philippines	Researched and collected materials forwarded information	4/12
4/1	Costs of Corn and Rice inputs in four Asian countries	ASAP	Forwarded relevant information from NAL. Researched and synthesized information collected in interviewed. Talked to government agencies and international associations and research groups.	4/8

ANNEX E

SAMPLE INFORMATION SHEET FOR ADP EXTENSION BULLETIN

GINGER

(Zingeriber officinale Rosc.)

Ginger in both the fresh and preserved forms is in large demand throughout the world today. It is a widely used spice in cooking, and is also used in the production of ginger beer, ginger ale and ginger wine. Ginger is used in medicine as a carminative and aromatic stimulant to the gastro-intestinal tract and externally as a rubefacient and counter-irritant.

1. Botany

Ginger is a slender perennial herb, usually grown as an annual, 30-100 cm tall, with a robust branched rhizome borne horizontally near the surface of the soil, bearing leafy shoots close together.

The fleshy rhizome is hard and thick, somewhat laterally compressed and palmately branched, about 1.5-2.5 cm in diameter, compressed, and usually pale yellow within. The rhizome is covered with small scales with an encircling insertion, and with the fine fibrous roots in the top layers of the soil.

The leafy shoots are annual, erect, about 50 cm (30-100 cm) tall and 5 mm in diameter. They are formed of long leaf sheaths and are glabrous except for short hairs near the base of each leaf blade.

The aerial pseudostems usually bear 8 to 12 leaves. The lamina leaf is thin, subsessile, and a darkish-green color above and somewhat paler beneath. The leaves are usually 5-25 cm long and 1-3 cm wide and narrow evenly to a slender tip. The base of the leaves are rounded. Flowers are very rarely seen.

2. Climatic and Growing Requirements

Ginger is mainly cultivated in the tropics from sea-level to 1,500 meters, but it can be grown over more diverse conditions than most other spices.

In Indonesia the spice is grown purely as a rain-fed crop, in areas from sea-level to 800 m or more. The day temperatures range from 28 to 35°C. Temperatures in excess of 35°C are commonly experienced for a few days each year and can cause sunburn. The rainfall requirements are fairly high, about 3,000 mm per annum on average, distributed over 8 to 10 months during the ginger-growing season. High relative humidities (80%) are general throughout the year.

Ginger thrives best on medium loams with a good supply of humus. It is very sensitive to waterlogging.

Ginger is an exhaustive crop and, unless manures are readily available, the soil in which it is grown must be rich in plant food. If grown on slopes, it is very subject to erosion unless adequate soil-conservation measures have been adopted.

3. Propagation and Cultivation Practices

Propagation. Ginger is always propagated by portions of the rhizome known as seed pieces or setts. Carefully preserved seed rhizomes are cut into small pieces, 2.5-5 cm long and weighing 28-56 g, each having at least one good bud or growing point. To plant one hectare, 1,200 to 1,400 kilograms of seed rhizomes are used.

Storing seed rhizomes under anaerobic conditions, as opposed to storing in pits under aerobic conditions, results in better development of sprouts.

Planting. The land should be thoroughly cultivated and a fine tilth is required to produce good-shaped rhizomes. The crop may be grown in pure stand. Ginger requires a well-drained soil as waterlogging retards the growth.

Generally close spacing in ginger gives the highest yields. Typical spacings of 15 cm x 15 cm or 15 cm x 25 cm are used. The setts are planted about 5-6 cm deep.

Usually the beds are 1 m wide, 15 cm high and of convenient length varying from 3 to 6 m. The width of the channels between the beds is about 30 cm to provide access and drainage during the wet season. On hilly slopes, the beds are made on the contour to reduce erosion.

The first shoots appear above ground ten to fifteen days after planting and continue for a period of about four weeks.

Weed Control. The crop is very conducive to weed growth except when mulched, and adequate weed control is essential during the early stages. Two to three weedings are generally given to the crop, the first being done just before the second mulching and repeated at monthly intervals depending on the intensity of weed growth. Weeds can be controlled chemically or mechanically.

Manual weeding consists of either pulling the weeds, chipping with a hoe or cutting the roots with a knife. The last method is usually preferred as, provided the weeds are not too large, cutting causes the least disturbance to the soil and reduces the possibility of regrowth.

Fertilizer Application. Ginger is an exhausting crop and requires heavy manuring and mulching to obtain high yields. At the time of planting, 25 to 30 tones per hectare of well-decomposed cattle manure or compost should be applied.

After planting, a mulch of green leaves at the rate of 10,000-12,000 kg per hectare should be applied. The mulch helps to prevent drying of the soil and weed growth. It also breaks the force of heavy rains and provides organic matter.

A common practice is to apply N.P.K fertilizer at a rate of 600-1,000 kg per hectare of a 8:8:16 mixture. This application is popularly known as "ginger mixture" and is given in split doses, the first as basal dressing at the time of preparing the land and the second two to three months after planting.

Yields. Yields vary greatly. The average yields are 9 to 11 tons per hectare of green ginger, although yields up to a maximum if 40 tons per hectare have been reported from individual plots.

Diseases. Soft rot is the most serious disease of ginger, and is characterized by the bases of the aerial shoots becoming soft, watery and rotting. Rhizome Rot (*Fusarium oxysporum Schlecht. f.zingiberi*) often occurs in field during wet weather. It can be controlled by dipping the seed rhizomes in ethoxyethyl mercury chloride before planting. Bacteria Wilt (*Pseudomonas solanacearum)* of ginger also causes

large economic losses. Leaf Spot (*Phyllosticta zingiberi)* may cause extensive discoloration and desiccation. A leaf spot caused by *Colletotrichum zingiberis* may cause considerable economic loss.

Pests. A stem and shoot-borer, *Dichocrocis punctiferalis*, attacks the crop by the larvae boring into the shoots causing them to wilt and die.

A mealy-bug of the genus *Pseudococcus* and the scale insect have been found on rhizomes and, although they cause little damage, may spoil the appearance of the sample. They may be killed by fumigating the rhizomes with carbon bisulphide, after which they can be removed in the process of cleaning.

A minute translucent mite of the genus *Rizoglyphus* sometimes develops in large numbers in stored ginger and, while doing little damage, may spoil the appearance of the product. A light dusting with flowers of sulphur will kill the mites and prevent re-infestation.

Stored ginger is attacked by the common stored-products pests: common drug store beetle (*Sitodrepa panicea* L.) and the tobacco borer beetle (*Lasioderma serricorne* F.). Fumigation of the storehouses should be carried out regularly to control these pests.

4. Harvesting, Postharvest Handling and Transportation

Harvesting. The optimum time for harvesting ginger is 245-260 days after planting, and six to seven days before shipment. The correct time to harvest is normally indicated when the foliage dies off naturally in the field. Harvesting of mature ginger is done by hand using a spade, hoe, or digging fork. Care should be taken so as to not damage the roots. For some fresh market and for the manufacture of preserved ginger the rhizomes are harvested before they are fully mature about 7 months after planting. After this they become more fibrous and more pungent and are better suited to longer-term storage for the wholesale fresh market, or for drying or processing.

Cleaning. Immediately after harvesting the fresh rhizomes should be washed in water as soil is more difficult to remove when dry. A high pressure hose, coconut fibre or a soft brush and copious water can be used to give a fresh appearance. Care is required during this operation to prevent breakage.

After washing, a 10 second dip treatment in 100 pm sodium hypochlorite is preferred if permitted by the final market. This will assist in minimizing microbial damage and may improve presentation.

After washing and dipping, rapid drying is required, preferably in field crates in a well ventilated area. The ginger can also be dried in mesh trays (typically 6x4x1 feet, that can be stacked with ventilated material) in the shade. Prolonged periods of drying in sunlight is to be avoided as water loss and shrivelling will occur.

Packing. Ginger is loose packed in layers. Size grading is not usually carried out within cartons, assuming that all rhizomes meet the required size specifications of the market.

In some cases, size grading is carried out where different grades of ginger are being exported. For sea-shipment an additional 5 percent weight is required to account for weight loss during transport. Net weight requirements vary from 12 to 13.6 kg (27 to 30 lbs) depending on the market and importer requirements. Cartons must not be overfilled during packing.

Two-piece full telescopic fiberboard cartons ("banana" type dimensions 20 x 51 x 34 cm); with a bursting strength of 275 lb/in^2 is recommended for transportation of ginger to the fresh market. Where staples are used for carton construction, care should be taken to ensure full staple closure to avoid

rhizome damage.

Storage and Transportation. Storage of ginger may be carried out at 12°C, 65 to 75% relative humidity, with the rhizome remaining in a marketable condition for two to three months depending on the initial quality. Prolonged storage under ambient conditions (25° to 30°C) will result in higher moisture loss, surface shrivelling, discoloration and sprouting, and higher humidity levels will cause fungal development. For high value export markets, the use of reefer containers should be considered.

However, as shipments from Indonesia are generally made in containers without refrigeration (dry and ventilated), exports should optimally be made within seven days of harvesting and washing. For consignment condensation, moisture should be allowed to evaporate after removal from the storage room prior to packing.

5. Export Market Characteristics

Export markets require large, thick rhizomes with limited branching, white, glossy and clean. There is a minimum size requirement of 250 grams, and the main stem should not be less than 3 cm thick and 12 cm long.

Europe. Combined ginger imports for the European Community in 1992 were up almost 7.0 percent from previous year levels, from 12,001 to 12,834 metric tons (MTs). The United Kingdom accounts for 54.4 percent of all imports, followed by the Netherlands (21.5%), Germany (11.5%) and France (9.8%).

Brazil is the top exporter to Europe, although its market share fell from 20.0 percent in 1991 to 18.8 percent in 1992. Thailand showed the largest increase in market share for this time period, growing from 5.0 to 18.3 percent. Nigeria share also grew (from 11.3 to 17.2 percent), while Indonesia and Costa Rica declined (10.6 to 3.2 percent and 12.2 to 6.4 percent, respectively). China supplied almost 9.2 percent of European imports in 1992, while Holland (re-exports) and the India both hovered around 6.0 percent.

The 1992 European import season for ginger peaked during the period February-April, with 39 percent of the total for the year being supplied in these three months. Supply was lowest in January and during the period May-July. The majority of Thai ginger entered during the period February-May, while Brazilian production was available primarily during the period August-December. China, Nigeria and India supplied virtually year-round.

U.K. (Covent Garden) wholesale prices for Costa Rican and Brazilian ginger averaged around £7.0-£7.5 per 5 kg carton. Indonesian ginger received in July obtained £30 for a 30 lb carton.

United States. U.S. imports of fresh ginger have grown by over 61.0 percent in the last five years, from 4,955 MTs in 1989 to 8,101 MTs in 1993. The major changes in the import market during this time has been the replacement of Fiji and China as the major suppliers of ginger. Fiji's market share was 30.0 percent in 1989, but was only 9.0 percent in 1993. Similarly, China's market share over this five-year period has fallen from 22.1 percent to 5.5 percent. The nations rushing to fill this gap have been

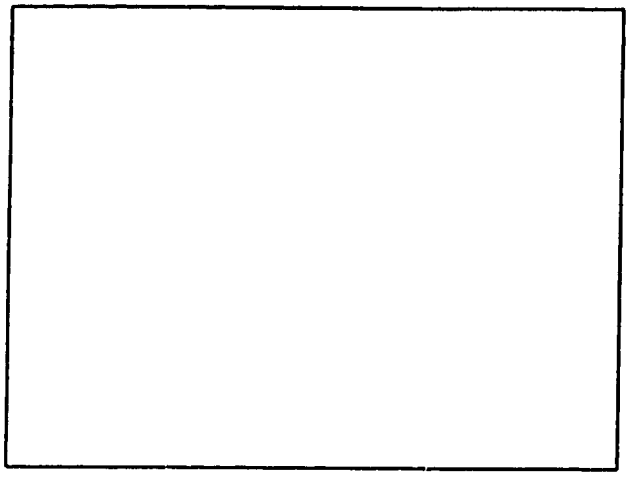

Fig 1: Harvesting Ginger

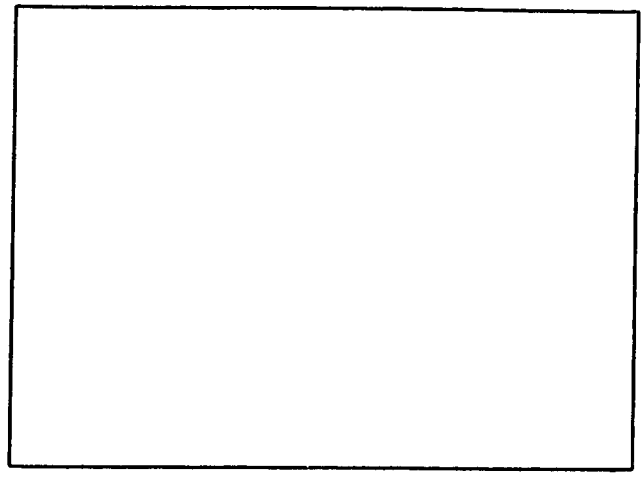

Fig. 2: Washing Ginger

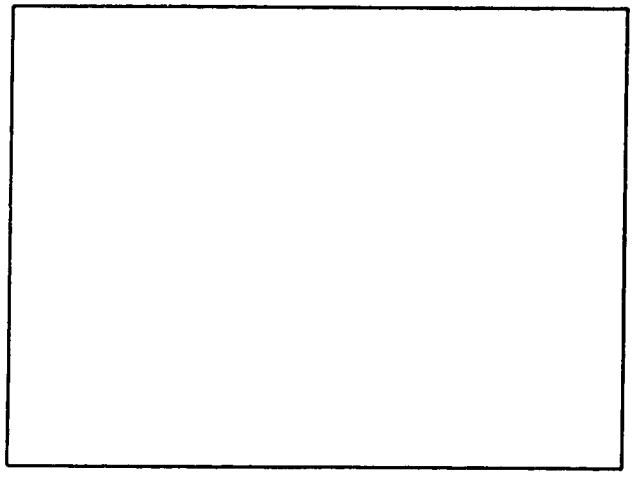

Fig 3: Proper and Improper Packing

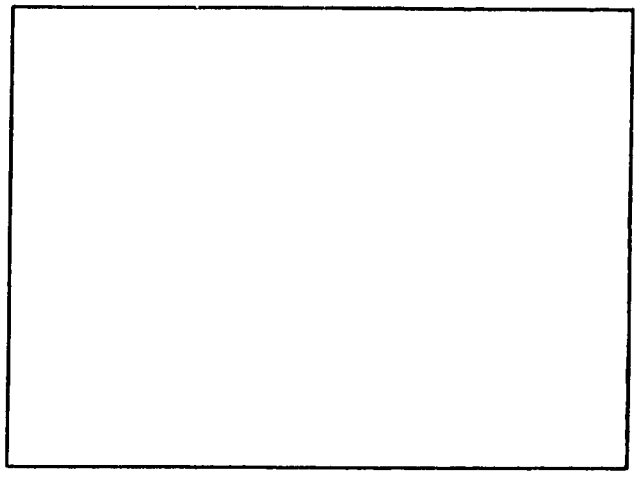

Fig 4: Export Quality Grade Ginger Meeting Size and Branching Specifications

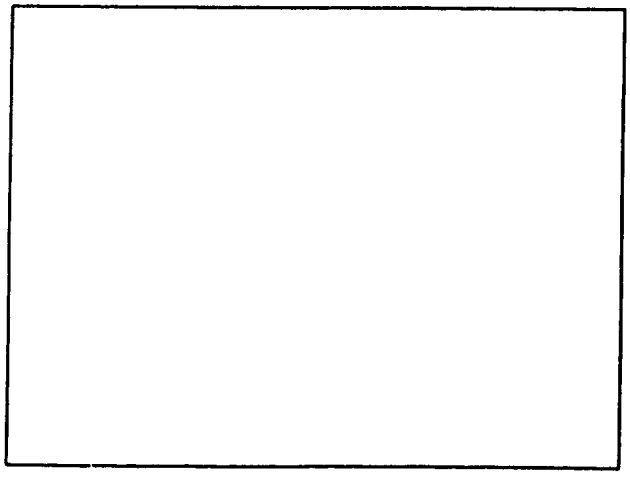

Fig 5: Ginger with Pest/Disease Damage

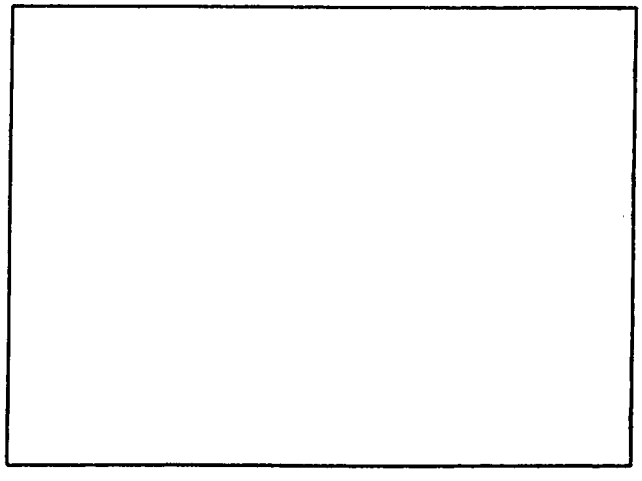

Fig 6: Ginger Curing Before Storage/Export

Indonesia, India, and Costa Rica. Indonesia has catapulted from less than 1.0 percent of U.S. market share in 1989 to 22.2 percent in 1993. India and Costa Rica's increases in market share have been less dramatic but are nevertheless substantial (from 9.7 percent to 14.1 percent and 4.7 to 13.1 percent, respectively), especially considering the increased volume of imports during this time period.

Los Angeles wholesale prices of Indonesian ginger averaged $23.16 per 30 lb carton in 1992. Weekly prices ranged between $15 and $30 per carton, with higher prices recorded during the periods January-February and mid June-October. Indonesia ginger was sold at $1 to $6 less per carton than Hawaiian ginger. New York wholesale ginger prices were significantly higher than those in Los Angeles, with unweighted average prices of $25.09 and $32.32 per carton for Indonesian and Hawaiian ginger, respectively.

Japan. According to official Japanese trade statistics, fresh ginger imports totaled 26,636 MTs in 1993, with a CIF value of ¥3.929 billion. China supplied 53.6 percent of the total, followed by Indonesia (25.1%), Taiwan (12.8%), Thailand (6.7%), Australia (1.2%), and India (0.5%). Insignificant quantities also entered from Malaysia and the United States. The average import unit value for 1993 was ¥147.52/kg, with Indonesia lowest at ¥109.25/kg followed by China at ¥132.77/kg.

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in association with the USAID-funded Asian Regional Agribusiness Project (RAP)

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Fax: (62) (21) 798-4971

ANNEX F

RAP TRADE AND COOPERATIVE VENTURE REQUEST ACTIVITY LOG

RAP Trade and Cooperative Venture Request Activity Log

In	Request Description	Response	Status
JUNE 94	Indian company D is looking for a company interested in equity participation and technical ties. Company D is planning an integrated edible oil project.	Requested relevant financial information from Company D. Identifying and researching potential partners.	Ongoing
MAY 94	Indian company A is looking for a U.S. Partner for a cooperative venture to produce and export dried flowers.	Requested relevant financial information from Company A. Researching potential US Partners. Made linkages with Trade Association	Ongoing
MAY 94	Indian company B is looking for a U.S. source of Californian Grape Cuttings. Initial volume desired is Low, however future demand will be high.	Research US producers. Relayed information to Company B.	Completed
MAY 94	Indian company B is looking for partners to participate in a teakwood venture.	Requested relevant financial information from Company B. Researching Potential Partners	Ongoing
MAY 94	Nepalese company C is looking for tissue culture clients worldwide.	Requested relevant financial information from Company C. Researching Potential Partners	Ongoing
MAY 94	Filipino company E is interested in finding buyers of juice concentrate that will be produced at an new plant which is coming on-line in 1995.	Identified and researched buyers. Buyer found.	Ongoing

ANNEX G

SHORT-TERM TECHNICAL ASSISTANCE

Short Term Technical Assistance

No.	STTA	Status	Date
A	Analysis of Project Parameters, Agricultural Commercialization and Enterprise Project - India	Report completed	December 1-17, 1993
B	RAP Seminar (Dec. 22-23, 1993)	Completed	December 20-24, 1993
C	Development of Monitoring and Evaluation Methodology for Asian Agribusiness Projects	Phase I Report completed	February 21-April 4, 1994
D	Inquiry into the Information needs for a Price Information System in Sri Lanka	Cancelled	
E Abt A	Background Information Assembly and Analysis for the Comparison of Major Wholesale Market Facilities in Asia as Impacting on Vegetable and Fruit Trade, Especially Exports	In progress	Started March 1994
TAS A	Ensuring Food Safety and Quality: A Review of HACCP and ISO 9000 Systems	Report completed	Completed March 1994
TAS B	An Overview of National Pesticide Regulatory Policies of Select Asian Countries	In progress	Started March 1994
TAS C	RAP Collaborators Meetings	In progress	Started January 1994
TAS D	Food Safety and Phytosanitary Issues Impacting Asian Agribusiness Trade	In progress	Started May 1994
Fintrac A	Research Support to RAP Market Information System Component	In progress	Started May 1994
F	Comparative Analysis of Export Competitive Positions - Sri Lanka Case Study	Pending contracting salary approval	

G	Comparative Analysis of Export Competitive Positions - Bangladesh Case Study	Pending contracting salary approval	
H	Comparative Analysis of Export Competitive Positions - India Case Study	Pending contracting salary approval	
I	Preparatory Work for Market Information Study in Japan	Completed	June 20-30, 1994
J Abt B	Chronicle Writer for Analysis for the "Comparison of Major Wholesale Market Facilities in Asia as Impacting on Vegetable and Fruit Trade, Especially Exports- Singapore and Hong Kong Case Studies	Pending contracting salary approval	

ANNEX H

BUDGET UPDATE

NAME OF CONTRACTOR: DEVELOPMENT ALTERNATIVES, INC. H-3 #3200

PROJ. # : 499-0009
PIO / T: (1) 499-0009-3-3672517/01/02 $532,395
(2) 499-0009-3-3672533 $174,298
(3) 499-0009-3-3672547 $13,807
APPROPRIATION (1) 72-1131021
(2) 72-1131021
(3) 72-1131021
BPC: (1) HDVA-93-37499-KG12
(2) HDVA-93-37499-EG12
(3) HDVA-93-37499-KG12

ASIA REGIONAL AGBUS. PROJECT

CONTRACT NO.: AEP-0009-C-00-3057
REPORTING PERIOD: JUNE 1-30, 1994
SUBMISSION NO: 9
SUBMISSION DATE: JULY 15, 1994

CATEGORY	BUDGET AMOUNT	INCEPTION TO LAST REPORTED PERIOD	THIS PERIOD	CUMULATIVE AMOUNT	REMAINING AMOUNT	PERCENT OF BUDGET EXPENDED
SALARIES AND WAGES	$1,224,513.00	$146,056.24	$24,135.23	$170,191.47	$1,054,321.53	13.90%
FRINGE BENEFITS	146,446.00	21,462.33	3,695.99	25,158.32	121,287.68	17.18%
OVERHEAD	1,069,348.00	130,664.49	21,708.35	152,372.34	916,975.16	14.25%
TRAVEL, TRANS. & PERDIEM	534,010.00	21,662.16	18,595.38	40,257.54	493,752.46	6.89%
OTHER DIRECT COSTS	320,509.00	50,993.47	9,090.37	60,083.84	260,425.16	18.75%
SUBCONTRACTORS	1,532,404.00	132,368.73	7,746.56	140,135.29	1,382,268.71	9.20%
SUBTOTAL	$4,367,230.00	$503,227.42	$84,971.88	$588,199.30	$4,279,030.70	12.08%
FEE AT 4.71%	229,415.00	23,702.03	4,002.18	27,704.21	201,710.79	
TOTAL EST BUDGET	$5,096,645.00	$526,929.45	$88,974.06	$615,903.51	$4,480,741.49	12.08%

The undersigned herby certifies: (i) the fiscal report and any attachments have been prepared from the books and records of the Contractor in accordance with the terms of this Contract, and to the best of my knowledge and belief, that they are correct, that the sum claimed under this contract is proper and due, that all the costs of contract performance (except as herewith reported in writing) have been accrued or paid or will be paid currently by the Contractor when due in the ordinary course of business, that the work reflected by the costs above has been performed, that the quantities and amounts involved are consistent with the requirements of this Contract., that all required Contracting Officer approvals have been obtained, and (ii) appropriate refund to AID will be made promptly upon request in the event of disallowance of costs not reimbursable under the terms of this Contract.

for By_____
M. ALIECE BALDWIN
TITLE: PROJECT ACCOUNTANT
DATE: JULY 15, 1994

ANNEX I

PUBLICATIONS

May 1994 - *Market Asia* Volume 1: Issue 2.

March 1994 - *Regional Impact Indicators for Agribusiness Projects in Asia*, by Susan Exo.

March 1994 - *Analysis of Project Parameters of the Agricultural Commercialization and Enterprise Project - India*, by William Scott.

March 1994 - *Ensuring Food Safety and Quality: A Review of HACCP and ISO 9000 Systems*, by H. Michael Wehr.

March 1994 - *Market Asia* Volume 1: Issue 1.

December 1993 - *Proceedings of the Agricultural Product Quality Workshop.*