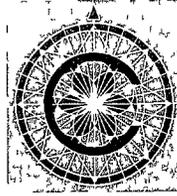


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CHEMONICS INTERNATIONAL INC

美国国际化学有限公司

**India Agriculture Commercialization
and Enterprise Project (ACE)
End-of-Contract Report**

Contract No. 386-0521-C-00-2166-00

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**Submitted to:
USAID/India**

**Submitted by:
Chemonics International, Inc.
and its associates**

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ACRONYMS

ACE	Agriculture Commercialization and Enterprise Project, India
AIC	Agriculture Information Center
BOO	Build-Operate-Own
BOT	Build-Operate-Transfer
FICCI	Federation of India Chamber of Commerce and Industry
FTE	Full Time Equivalent
GOI	Government of India
ICICI	Industrial Credit and Investment Corporation of India
MCCI	Mahratta Chamber of Commerce and Industry
RFS	Request for Service
TOR	Terms of Reference
USAID	U S Agency for International Development

SECTION I PROJECT DESCRIPTION

A. Background

The India Agriculture Commercialization and Enterprise Project (ACE) was a five-year, cost-plus fixed-fee contract with USAID/India's Environment, Energy and Enterprise Office Chemonics was awarded the prime contract and was assisted by Fintrac and GIC as its international subcontractors, and Mitcon and Tedmag as its local subcontractors Initially the project focus was in Maharashtra State and focused on the expansion of the formal banking sector into agribusiness lending Our Indian counterpart was the Industrial Credit and Investment Corporation of India (ICICI), a government-owned financial institution headquartered in Mumbai The ACE project Technical Coordinator, Harley Martin, spent a portion of his time in India, but was classified as a short-term personnel on the contract Throughout the 5 25-year period the project worked very successfully with ICICI to understand lending to the agribusiness subsector and with local enterprises to qualify for formal lending

At the recommendation of an expansion study team, the project was expanded nationwide at the end of project year three and a long-term Technical Coordinator was placed in New Delhi During this period an Agribusiness Information Center (AIC) was established at the Federation of India Chamber of Commerce and Industry (FICCI) in New Delhi Early in the final year the project was extended by three months, and the focus was changed to privatizing agriculture infrastructure and working with agribusiness associations on policy issues There has also been an emphasis on working to develop technical linkages between Indian and American agriculture universities These three technical areas were the focus of a follow-on task order awarded to Chemonics in late September 1997

B. Project Goal and Purpose

The goal of the ACE project was to develop a dynamic private agribusiness sector in India The purpose of the project was to improve the investment environment for private agribusiness in horticulture To achieve this project purpose, Chemonics and its subcontractors were contracted to develop private sector-led investments, integrated business services, and market structures for post-farm products in India's high-value horticultural sector In addition, we were hired to strengthen two key agribusiness support institutions serving that sector, the Mumbai-based Industrial Credit and Investment Corporation of India (ICICI) and the Mahratta Chamber of Commerce and Industry (MCCI) The integrated business approach called for in this implementation was intended to strengthen the linkages and commercial relationships among agribusiness service providers and horticultural product producers, handlers, processors, and marketing agents These improved linkages promote the vertical integration of individual commodity markets and increased production and marketing efficiencies throughout the subsector

C. Project Description

The implementation of ACE can be broken down into three distinct phases of activity the initial phase, the expansion phase, and the associations and marketing infrastructure-strengthening phase

C1. Initial Phase

The ACE contract was awarded to Chemonics on June 9, 1992 for a period of five years. The initial contract amount was for \$5,746,503. The purpose of the ACE contract was to develop private sector-led investments, integrated business services, and market structures for post-farm products in India's high-value horticulture sector, and to strengthen two key agribusiness support institutions serving that sector, ICICI and MCCI. The approach to implementation emphasized the strengthening of linkages and commercial relationships among agribusiness service providers and horticultural product producers, handlers, processors, and marketing agents. This promoted the vertical integration of individual commodity markets and increased efficiencies throughout the subsector.

Key services targeted for strengthening included postharvest handling, grading and sorting, packaging, processing and storage, marketing, transporting, technology development, and market information. Support for on-farm activities under the contract were also considered where the investment was directly related and indispensable to the overall business plan. The contract also developed increased capacity within ICICI and MCCI for the delivery of agribusiness financing, policy analysis, and dialog and the promotion of horticulture sector investments in Maharashtra State.

C2. Expansion Phase

During project year two, an ACE expansion study was carried out. The purpose of the study was to conduct a feasibility analysis of options for the geographic expansion of the project. The final report analyzed the U.S. comparative advantage in technology and equipment, reviewed demand for ACE services, reviewed baseline data on other geographical areas, analyzed economic and social constraints and opportunities for agribusiness development in selected areas, and reported on interviews with entrepreneurs, business associations, and relevant government departments and agencies. As a result of this study, the ACE project was formally expanded beyond the State of Maharashtra and a long-term field-based expatriate advisor was approved to manage activities from a new project office established in New Delhi.

C3. Association and State Innovation Phase

A third phase can be identified because activities designed and undertaken during this period led to the design and award of a follow-on task order contract under the SEGIR IQC. The bulk of the activities undertaken during these last months of the ACE project were fairly distinct from those undertaken previously and represented a refocusing of the project away from support for individual postharvest agribusiness endeavors to activities that support privatization of services. The activities highlighted for the final nine months of the project, which included a three-and-one-half-month extension, included state innovations, which included developing privatization models for funding and managing agriculture infrastructure, support to agribusiness associations to promote policy change, and university linkages between U.S. and Indian agriculture universities for the transfer of technology and technical course work.

SECTION II PROJECT INPUTS

– The approach initially conceived for ACE implementation was to provide technical assistance to respond to a variety of agribusiness development support activities. The implementing agency and direct counterpart for the ACE project was ICICI, a developmental finance institution based in Mumbai. The organizational unit within ICICI, the ACE Group located within their Technology Development Division, was delegated to coordinate all activities under the project.

ICICI's ACE Group constituted a key element of the ACE Advisory Council, which provided guidance and advice related to project activities. This Council was composed of the ACE Group Manager of ICICI, the USAID COTR, a representative from the Government of India's (GOI's) Ministry of Agriculture, a representative of the Maharashtra State government, members of the banking sector and a management institute, a horticulture specialist from a university or research institute, and members of the private sector. The purpose of the Council was to monitor the progress of ACE activities, to help ensure adherence to project objectives, and to serve as a forum for project dialogue.

The technical assistance was to be provided to

- Provide loans to private agribusinesses (an ICICI function),
- Support ICICI agribusiness lending,
- Provide individual agribusinesses with technical and business management support, including the assessment of international markets and technology sources and assistance with trade and investment tours, and
- Provide support to MCCI to strengthen its capacity to promote agribusiness activities, to represent its members on policy issues to the GOI, and to promote other key support services to its members.

This project technical assistance was provided "on demand," that is, private firms and other recipient organizations had to submit formal requests for these services. The requests were evaluated for their conformity to the project purpose and their feasibility for success. Priority was given to firms and organizations that sought assistance with one or more of the following subsectors:

- Essential post-farm services and facilities,
- Strong market mechanisms, including deregulation and competition,
- Infrastructure, and
- Technical innovation.

All requests for assistance were passed through the ACE Group at ICICI for screening and evaluation, and in turn given to the ACE Group for implementation. Chemomics established an

independent ACE project office, managed by a local agribusiness expert who was employed by a local consulting firm. This office, which was to be self-sustaining, was given day-to-day responsibility for providing technical assistance, training, and trade and investment tour activities supported by Chemonics SR Salunke, who worked for the firm Mitcon located in Pune, was chosen for this task. This strategy was intended to establish a strong, lasting, indigenous institutional consultancy that was to extend beyond the life of the ACE project and create a model for others to follow.

Projected expatriate and local level of effort to support the ACE project totaled 520 person-months, with 311 person-months intended for technical assistance. The project budget estimate for this five-year activity totaled \$5,746,503. The level of effort and contract budget details are included in Annex A of this report.

**SECTION III
PROJECT OUTPUTS**

Project outputs were significant given the initial protest, the substantive technical changes during implementation, and the reduction in overall budget for the contract. This section of the report presents the changes to the basic contract through contract amendment, summarizes the final budget expenditure and level of effort, and, finally, summarizes the diverse set of project activities that were implemented, including a brief discussion of the impact of these activities.

A. Substantive Amendments to Contract

The initial contract was negotiated and signed on June 9, 1992. Almost immediately upon award a protest was filed by one of the unsuccessful bidders, GIC. Although no stop-work order was issued and the project team continued with mobilization and the development of the first annual work plan. As a settlement to the protest, a subcontract was signed with GIC in March 1993 and GIC withdrew its protest. Subcontracts were also signed with another international consulting firm based in Washington, Fintrac, and the India-based companies Mitcon and Tedmag in March 1993. Neither GIC nor Mitcon were included in Chemonics' proposal configuration. GIC was added to resolve its award protest, and Mitcon was added at the request of the ACE Project Coordinator at ICICI.

A total of seven contract amendments were signed during the implementation phase. Below is a summary of these amendments.

Table 1. ACE Amendments

Amendment	Purpose
1	No-cost budget revision to add Mitcon and GIC to project budget (6/93)
2	Incorporate revised NICRA rates and revise project budget (9/93)
3	Incorporate second annual work plan and revise budget (3/94)
4	Add \$200,000 in incremental funding (4/95)
5	Add \$960,000 in incremental funding and revise budget (6/95)
6	Reduce total estimated contract cost to \$3,835,000 Add \$1,000,000 in incremental funding and revise budget Incorporate 1996-1997 work plan and new NICRA Revise funding summary and key personnel Reduce overall level of effort to 208.5 person-months (8/96)
7	Revise contract budget, add supplementary scope of work, and extend estimated completion date from 6/7/97 to 9/30/97 (4/97)

B. Budget and Level of Effort

Total budget expenditure for the project totaled \$3,810,907. There are still minor indirect rate adjustments that must be taken and approximately \$700 for the RBI audit that will result in the full expenditure of the project. The technical level of effort is 205 person-months. Budget summaries and a detailed breakdown of level of effort can be found in Annex A.

C. Project Activities

This section summarizes the outputs as set forth in the contract and discusses the activities and accomplishments of technical assistance provided by the Chemonics team over the life of the project. If changes were made in anticipated outputs, this has been noted under the appropriate subsection.

At project implementation Chemonics was informed that ICICI had complete and total authority over the programming of technical assistance and use of other project resources. Chemonics was instructed by USAID and ICICI not to initiate any TORs for ACE activities, including short-term technical assistance, business association activities, sector studies, training, and trade and investment tours. This change in operational procedure early in ACE implementation had significant impact on the volume of work that was initiated under the contract, and ultimately resulted in an underutilization of the overall level of effort.

C1. Loans to Private Agribusinesses

The objective of this activity was to provide capital to at least 25 agribusiness entrepreneurs for investment projects in post-farm agribusinesses to help them compete more effectively in domestic and/or international markets. The contract specifies the following anticipated outputs for this activity:

- A set of criteria established by the ACE Group for ACE loan appraisal and approval,
- An agribusiness loan portfolio within the ICICI in an amount of \$10 million lent to approximately 25 agribusiness clients,
- Increased sales and exports of horticultural products from Maharashtra State,
- Increased sales of agribusiness equipment and supplies,
- Decreased cost of production and processing for assisted firms, and
- Growth of private agribusiness firms measured in terms of total assets.

Several specific activities were accomplished during the life of project that contributed to the success in this activity area. In general terms the ACE project has brought ICICI to agribusiness, and ICICI has in turn galvanized commercial banks, other financial institutions, and, to some extent, the policy-formulation agencies of the state and central government in a synergistic fashion. ACE loans offered by ICICI were approximately 5 percent below commercial rates to entice participation, which compared favorably to loans charged to small

borrowers through government programs ICICI lending philosophy was to work with entrepreneurs with appropriate management skills and sufficient financial backing so that they could survive any initial downturn This policy, which enabled ICICI to chose the best loan applicants, is also credited with establishing the horticulture business in new sectors that commercial banks previously would not lend to

The loan program began very slowly, mainly because of the gearing up of staff, establishment of appraisal and monitoring procedures, and delays from the protest The first loan was approved in January 1993 and by the close of the project 30 loans had been made by ICICI through the ACE program totaling \$14.4 million, with investor financing nearly \$20 million in additional funds in these projects (see Annex C) Eight of these loans were to purchase U.S. - made equipment, and three loans were to finance a portion of a joint venture with U.S. firms ICICI also financed other horticulture ventures outside of the ACE project, 25 ventures totaling \$250 million as of the end of 1996, leveraging capital in ICICI's horticulture portfolio by a ratio of 1:17.4 Because its loan appraisal and approval processes are so highly regarded by other commercial banks, ICICI has been able to leverage working and fixed capital funds from these banks for their projects

As a result of this lending, ICICI has estimated that more than 2,500 jobs have been created and are an indirect benefit to 9,500 agricultural families who benefit from improved marketing infrastructure In addition, more than 9,500 tons of cold storage infrastructure were created, precooling and packing facilities that handle more than 40,000 tons per annum of fruits and vegetables were established, and 20 hectares of greenhouses built Although specific business data is not available, we are told by ICICI that almost all businesses assisted by the ICICI loan program are still viable and growing

C2. Technical Assistance and Trade and Investment Tours for Private Firms

The objective of this activity was to assist more than 100 private firms in designing and/or implementing innovative projects related to post-farm horticulture investment The contract specifies the following anticipated outputs for this activity:

- Assistance provided to approximately 100 Indian horticultural firms for technological and business management areas;
- Increased use of new, more-efficient agribusiness technologies;
- Fifteen trade and investment tours organized and conducted; and
- Increased U.S. investment in the Indian horticulture sector.

The technical services provided by Chemonics, Fintrac, GIC, Mitcon, and Tedmag under the ACE project included

- Preparing ACE project proposals and loan applications;
- Obtaining and assessing market and technology information and assessments,
- Developing horticulture products and processes;
- Improving existing plants and businesses and their management; and
- Planning investments.

The intent of this technical assistance was that it be demand driven. That is to say, any individual or company interested in investing to develop or expand an agribusiness entity in the ACE targeted areas was to receive project assistance. This was not how the project worked in its initial three years. There were several reasons for this. The first had to do with cost sharing. ICICI stipulated that for companies to receive assistance, they had to pay 50 percent of the fully burdened cost of the technical assistance, despite the project design calling for the beneficiary to pay 25 percent. Because the rates charged by expatriate consultants were much higher than typically experienced in India, this tempered demand for assistance. This charge was later amended to 50 percent of the unburdened rate.

A second reason was that ICICI viewed the technical assistance aspect of ACE as being only available for loans being sought through that financial institution. Many of the prospective beneficiaries to ACE services were not seeking loans through ICICI and therefore their requests were turned down by the ICICI General Manager. This restriction was relaxed in the final two years of the project by a new General Manager.

A third reason for suppressed demand for ACE services was a very complex request for service (RFS) process established in the beginning of the project. This RFS process required USAID, ICICI, and Chemonics to go through a 12-step process required for USAID to approve the provision of technical assistance. Typical time between initiation of a request and an approval to proceed was more than six months. The overall result was a reduced amount of technical assistance provided overall through the project, which is reflected in the amendment that reduced the total level of effort and budget.

Despite these hurdles the project made significant contributions to the horticulture agribusiness subsector. After a very slow start, significant assistance was given directly to Indian agribusiness concerns through the RFS modality. In total, 25 formal consultancies were conducted to a variety of firms (see Annex B). Over the life of the project, almost 400 individual requests for service and information were received and vetted. Frequently only contacts with equipment or technology providers was required; in other instances market information was requested and provided through the AIC. In addition, significant numbers of Indian and U.S. firms benefited from ACE-organized and -sponsored events in the United States and India. This is summarized in the table below. For example, 19 Indian companies, 39 U.S. companies, and more than 560 Indian and U.S. personnel participated in workshops organized and sponsored by ACE. Many of these activities, particularly the workshops and tours, led to contacts and eventual sales of technology from U.S. firms to Indian firms, many financed through the ACE project.

Table 2 ACE-Sponsored Workshops, Tours, and Training Participants

	Companies		Individuals	
	Indian	U.S./Other	Indian	U.S./Other
Workshops	19	39	560	4
Tours			35	2
Training			25	

Studies, which were often the result of direct consultancies with agribusiness clients, also added to the technical and marketing know-how of the Indian agribusiness. In total, 44 Indian firms directly benefited from ACE technical assistance and workshops, whereas more than 600 Indian individuals, many representing firms, directly benefited from ACE-funded studies, workshops, tours, and training events. Countless others were the indirect beneficiaries through observation and duplication of lessons-learned and acquired technology.

C3. Support to ICICI for Agribusiness Lending

The objective of this activity was to create the capacity within ICICI to better understand agribusiness financing needs and requirements, to develop horticultural and subsector expertise in several crops and services and enhance its subsector appraisal abilities, and to build agribusiness lending skills among its loan officers and other state-level financial institutions. The contract specifies the following anticipated outputs for this activity:

- Eight sectoral studies completed,
- Strengthened capacity for loan monitoring and support within the ICICI;
- Increased lending and repayment for agribusiness investments; and
- Five annual training plans developed and implemented (for example, number of ICICI and other financial institution staff trained in agribusiness topics).

Training in Postharvest Technology

In August 1994 a group of 25 Indian bankers, industry specialists, and government personnel participated in a one-month short-course in postharvest technology. The purpose of the course was to demonstrate the use of good postharvest technology, which was nearly completely lacking in India at the time. This included the kinds of technology used in processing horticultural products, the cost and benefits derived from the use of this technology, the principles of marketing food products in a highly competitive world, and tools of financial analysis of the food industry.

Although the mix of the group clearly led to a wide range of specific interests, all participants went away highly satisfied with the knowledge gained. In fact, most of the bankers gained a much greater appreciation of the risks inherent in the food industry, in part because of their interaction with industry participants in the group. So this mix of participants was determined to be very positive.

As reported earlier, clearly this was a major area of impact of the ACE project. Key to its success was having at ICICI's disposition a loan fund that offered rates that were slightly discounted from the existing market rates prevalent in India. However, that incentive was not alone sufficient to account for the success of the loans placed by the ICICI staff. Training, in the form of the University of California/Davis-conducted "Postharvest Biology and Technology of Horticulture Perishables" one-month training for 25 ICICI bankers and industry personnel, provided the technical knowledge that enabled intelligent evaluation, placement, and monitoring of loans to new horticulture technology loans. This type of lending had never been tried commercially in India before, and the expansion of the demand for loans, and the ability of ICICI to meet this demand, plus the high degree of interest by other commercial banks to enter this subsector, speaks volumes for the overall success of the program. In fact, this effort was so successful that the Security Exchange Board of India values ICICI appraisal capacity so highly that it has, in some cases, allowed public issues on horticulture projects only after a positive appraisal by ICICI. Although we did not have another opportunity to conduct a U.S.-based training course of this magnitude during project implementation, we were able to link the University of California/Davis with the Punjab Agriculture University in India. The postharvest course was offered there once at the end of the project with the expectation that through a memorandum of understanding, that University of California/Davis will help to establish a Center of Postharvest Excellence that will continue to offer short-course training in this area on a regular basis.

Progress in the sectoral study area was a disappointment. Major studies were conducted to determine the best export market potentials in horticulture. This included detailed examinations of the market demand, import requirements, and phytosanitary regulations in the United States and the European Community. In addition, studies were conducted for dried vegetables, dried flowers, natural products including colors and dyes, and food processing. Key policy studies focused on seed industry, floriculture industry, and processed foods industry policy constraints. Policy work is continuing under the follow-on contract and will require significant additional effort to reduce these constraints.

C4. Support to the Maharashtra Chamber of Commerce and Industry

The objectives of this activity were to strengthen MCCI's activities in the agribusiness sector, including its ability to conduct policy analysis, provide services to members and promote the ACE project in Maharashtra State, and support policy dialog within the GOI. The contract specifies the following anticipated outputs for this activity:

- Eight policy studies related to agribusiness development in Maharashtra State's horticulture sector;
- Increased capacity within MCCI for providing services (market information, technological information, business management support, investment planning, and so forth) to its membership,
- International market information services established;
- ACE project promotional strategy developed and implemented over the life of project; and

- Increased awareness of and responsiveness to the policy constraints affecting the growth of the agribusiness sector in Maharashtra by the GOI

This activity clearly did not move along well during implementation. Chemonics made two proposals to assist MCCI in accessing technical assistance for its members. The first proposed that the International Programs Director for the U.S Produce Marketing Association work with MCCI in formulating service plans for agribusiness firms. Authority for this technical assistance was declined by the ICICI-ACE Project Manager. The second addressed the establishment of a market information system within MCCI. A consultant was fielded and produced a business plan that detailed the current information capacity of MCCI and provided detailed steps to be taken in the short and medium term to establish this capacity. This included suggested training, hardware, software, and other materials, and a budget.

Work was approved and begun on this installation, but during the process attempts were made to move the facility to ICICI, and subsequent efforts to complete it were shelved. Although this initial attempt to assist a major business organization was frustrating, it perhaps was fortuitous given the expansion of ACE country-wide. As a result, the key industry-government linkage organization became the Federation of India Chamber of Commerce and Industry (FICCI) in New Delhi. The ACE project established a full-time office in FICCI, and part of that office was used for the market information and technology center which was named the Agribusiness Information Center (AIC).

The AIC was established, equipped, and became operational in mid-1996. The Center had the capacity to conduct market information searches; provide information on technology including trade journals, periodicals and CD-ROMs; create and maintain world wide web pages for its clients; and establish and publish a quarterly technical and marketing newsletter called *Agribusiness Report*. The AIC had two full-time employees who were delegated from FICCI and were responsible for providing the services described above

The services were provided to paid members only. By the end of the project AIC had more than 200 subscribers and was generating an average of \$1,000 per month in revenues. The revenues derived from AIC were sufficient to cover the variable costs of rent, electricity, telephone, and salaries. However, all of the fixed costs for AIC were paid for by the project, including the initial purchase of equipment and the annual cost of subscribing to electronic and printed technical materials. Although self-financing is a key objective of AIC, subscriber sales need to at least double to realize this goal. Even though this is possible, considerable effort is needed to market the service to other areas of the country. Satellite offices established in state chambers of commerce or other industry organizations is one way that this could be accomplished

Addressing policy issues was clearly an area that took a great deal of time to initiate. Part of the reason for this was the lack of support for the MCCI program by the ACE ICICI General Manager and the switch from MCCI to FICCI as the hub of project activities. Another reason was the low priority given to addressing policy issues by USAID. Policy analysis and association strengthening were activities included in each of the six work plans during the life of the project. However, when it came time to authorize technical assistance to implement these activities, approvals were generally not granted. This changed during the final year of the project when several policy studies and association assistance activities were

proposed and approved by USAID. The key industry sectors identified for assistance included the seed industry, the spice industry, the floriculture industry, the packaging (food) industry, and the processed food industry. These subsectors were chosen mainly because they all had one or more established industry groups or associations that were private-sector oriented.

Because of the lack of time for this initiative (proposed and approved with nine months remaining in the project), the spice and the packaging industry groups were unable to organize their issues sufficiently to provide them with assistance. Sectoral policy studies were conducted for the seed, floriculture, and the processed food industry groups, however, and these studies including recommendations were presented to fora that included the private sector, regulators, and policy makers. Agendas for next steps were developed and will be pursued under the follow-on activity that is currently under way.

SECTION IV PURPOSE LEVEL IMPACT

As a result of the successful completion of these activities, the investment environment for private agribusinesses in horticulture is improved. Specifically, by the end of the project improvements in the agribusiness sector included

- Increased private investments in the agribusiness sector,
- Improved linkages between horticulture producers, processors, and marketing agents,
- Increased flows of fresh and processed horticultural products to targeted export markets,
- Expanded bank lending to agribusiness industries led by ICICI, and
- Strengthened capability of a major business association to lobby for agribusiness policy and regulatory improvements

In this section of the report we will attempt to quantify, where possible, and otherwise comment on the progress toward meeting these objectives

There is little question that there has been significant increase in private investments in the agribusiness sector. ICICI has reported that in general terms their direct loans to agribusinesses grew from under \$15 million at the beginning of the project to more than \$250 million now. Current loans by ICICI under the ACE program stands at \$14.4 million as of the end of the project. Based upon the successes in exporting there has clearly been an improvement between producers and marketers. This is particularly true for the floriculture, table grape, and mushroom subsectors where ACE has provided the bulk of its technical assistance. In addition, AIC now allows producers, processors, and marketers to obtain "real-time" market and technology information, hence putting them more closely in touch with international brokers. The rapid growth in subscribers attests to the utility, and indirectly to the increased linkages, between these levels of the production-to-market chain. Clearly, we have only begun to scratch the surface here. India has incredible potential for expansion and more targeted efforts need to be undertaken.

At the beginning of the project few floriculture projects were under way and there was little exporting of fresh fruits and vegetables. Thanks to ACE, the estimated export value of the floriculture subsector in 1997 was \$20 million. Residual effects, essentially the multiplier impact of these exports, has not been measured. This was not a stated priority of the project. However, we would encourage the Mission to investigate the effect of the ACE project on these support industries, including job growth.

Perhaps the least impact of the project is on strengthening industry associations representing agribusiness. An exception to this was the establishment of AIC in FICCI and the sensitization of the FICCI Managing Director and staff to agribusiness issues. Several seminars were held in FICCI headquarters during the second half of the project with this organization beginning to be identified as a national-level agribusiness trade organization. In addition, the project began

assisting agribusiness associations such as the seed, food processing, and floriculture associations, and this work continues under the follow-on activity We certainly see this as a priority area and are encouraged that USAID also sees it this way

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SECTION V
GOAL LEVEL IMPACT

The ACE project goal was to develop a dynamic private agribusiness sector in India. Such an agribusiness sector would include private entrepreneurs establishing critical agribusiness services and infrastructure in the horticulture subsector, and the ability of business associations to provide information to agribusinesses and facilitate dialogue on agribusiness between private firms and the government.

Clearly there has been progress toward these two project goals. Specific instances are documented and discussed above. However, given the size of the Indian market and the Indian population, and the importance of agriculture to employment and the overall economy, the ACE project barely scratched the surface of potential for growth and employment of this subsector. The "second green revolution," to coin a phrase that rings true in India today, will require major investment in production-enhancing technology, training in the use of that technology, and appropriate policies in place to create incentives and eliminate bottlenecks that currently constrain improved efficiencies of this subsector.

SECTION VI IMPLEMENTATION ISSUES/LESSONS LEARNED

In this section we discuss implementation issues that affected project progress and the steps taken by the implementation team to resolve these issues. Lessons learned are also highlighted.

A. Procurement Protest

A procurement protest was lodged by GIC shortly after the contract award. After a considerable amount of time, this issue was resolved with Chemonics offering GIC a subcontractor's role in the implementation of the contract. This subcontract had to be negotiated and adequate budgetary and level of effort realigned to this company. These issues were not resolved until the end of December 1992, effectively postponing major contractual actions, such as executing subcontracts, establishing a field office, hiring a local coordinator, and promoting ACE, for the first six months of the project.

B. Roles of ICICI and Chemonics

Shortly after contract award ICICI informed Chemonics that ICICI had complete and total approval authority for technical assistance assignments and the use of project resources. Chemonics was asked not to initiate terms of reference for short-term assignments, business association activities, sector studies, training, nor trade and investment tours on its own. This problem persisted through the first three years of project implementation. The mid-term evaluation pointed out that this was mainly because of a flaw in the initial project design. The evaluators concluded that "ICICI should not have been given full authority to implement the technical assistance component and the component designed to support agribusiness associations. Because ICICI is a lending institution, not an agribusiness development institution, these components called for expertise that ICICI did not have."

In March 1995, in a study to strengthen the agribusiness ties between U.S. and Indian agribusinesses, the authors identified this arrangement as being a key element that resulted in the failure of linkages developing between U.S. and Indian firms. The study cited several examples of Indian firms looking for technology or equipment sources in the United States, but that these opportunities were being lost because of the cumbersome review and approval system established by the ICICI ACE General Manager. It gave the example of a large U.S. strawberry marketing company that was prepared to assist Indian growers with a contract growing scheme. Because the growers were not prepared to obtain financing through the ICICI program, the scheme was delayed and the U.S. company lost interest, derailing an opportunity for technology exchange and investment.

As a result of these problems and recommendations made by the mid-term evaluators and others, the technical assistance review process was streamlined and more independence was given to the Chemonics team to make detailed programming decisions. This contributed to more opportunities for technology flows from the United States, including equipment sales, joint ventures, and trade and market tours.

C. Full-time, In-country Technical Representative

The original project design called for the ACE project's principal expatriate technician, the Technical Coordinator, to be stationed in the United States and to conduct extensive trips to India to consult with clients there and to direct the main local subcontractor, Mitcon. As pointed out by the mid-term evaluators, this arrangement resulted in "a compounding of the coordination problem with USAID-ICICI-Chemonics Team. Continuous interaction by the Technical Coordinator with ICICI and ACE clients was not possible." This issue was resolved during the final 21 months of the project with the hiring of an expatriate Technical Coordinator who was stationed full-time in New Delhi.

D. Starting Small and Expanding

In a country the size of India a project that focuses its resources on a specific issue is typically not enough. The design of ACE also focused on one state of India, Maharashtra, which facilitated identifying and addressing the constraints to agribusiness growth. Maharashtra was a good choice because its policies had undergone the greatest liberalization at the time. In addition, it is really the financial center of the country, as represented by Mumbai, and finance was a key objective of the project. It also had a good climate for growing high value crops and an accessible port for reaching world markets. As soon as the project was established and many of the "rules of the road" in India were learned, the expansion to a more nationwide program made sense.

Nevertheless, India is a very large country and it has been difficult to meet the needs of the subsector as a whole nationwide. It is still practical to focus on states that have the most progressive policies, that support the expansion of higher technology horticulture, that have good or plans for good infrastructure, and whose climate supports the production of horticultural products that are in demand in the region and internationally.

SECTION VII RECOMMENDED NEXT STEPS

--The ACE project made significant progress in meeting the initial project objectives. This is significant when the limited budget, level of effort, and full-time staff dedicated to the project is taken into consideration. Continued assistance by USAID and other donors is strongly recommended, given the scope and potential of growth in the agribusiness subsector, particularly as it relates to providing postharvest handling, processing, marketing services, and equipment, as well as replacing the state in supplying necessary inputs such as seed, fertilizer, pesticides, and equipment. This assistance, when properly targeted and delivered, can be leveraged by private and GOI resources and will result in the expansion of private sector-led growth of the agriculture support system, with the accompanying growth of business and employment in the sector.

Future project support should continue in the following areas:

- Market development, including services that provide market information and assistance in linking producers and marketers with market outlets in India, the region, and elsewhere,
- Technology exchange that includes processing equipment, cold chain, and inputs (especially seeds),
- Packaging, as well as measures to introduce quality control such as HACCP, and
- Policy reform, especially as it relates to private sector input in identification of policy constraints, and the strengthening or formation of private associations that can identify constraints, propose improved policies, and lobby national and state governments for reform, and
- Privatization of traditionally publicly provided agriculture support services, both input and postharvest.

The model of intervention should continue to focus on success stories with initiatives and support focusing on growth areas that have the greatest comparative advantage in Indian states that demonstrate the greatest commitment to economic reform. This would include the states of Maharashtra, Punjab, Tamil Nadu, Karnataka, Gujarat, and Haryana.

A. Market Development

Because of the many years of state involvement in the marketing function, there still exists a poor understanding by Indian enterprises in the agriculture sector of the marketing mix. This marketing mix includes the products demanded, quality requirements of the product (including phytosanitary requirements of the importing country), location and seasonality of demand, and quantities required. The ACE project established a state-of-the-art facility, the AIC, within FICCI that is able to provide market information on high value agricultural products for key regional and international cities. The information database is available on a real-time basis and technicians on

the staff can identify and refine the data to meet the needs of the requestor. This information is provided on a fee-for-service basis.

This database needs to be expanded to include this type of information for domestic markets. The AIC model can and should be expanded into other key production areas of India. This can be done in several ways, including the establishment of satellite offices of the FICCI AIC, or the establishment of independent facilities in local chamber of commerce, universities, or other agriculture/business support organizations.

India will need to become much more aggressive in expanding its market share by focusing more on brokering product and developing and marketing a "brand identification" that it can market to the outside world. For instance, the table grape growers in Maharashtra have made significant inroads in Middle East and U.K. markets and can expand their market share by hiring or placing brokers in these markets. This would be facilitated by consolidating and grading their product to market under a single brand name, Maha grape, for instance. This would also enable them to institute stricter quality control requirements on growers and consolidators, which will enhance the reputation and marketability of the product. The same could be said for the flower industry in Karnataka as well as the temperate and tropical fruit industries. All these industries produce for export. The challenge now is to bring them up to "world class" standards to increase their market share and return on investment.

B. Technology Exchange

Experience with the ACE project has demonstrated that India is far behind in the use of modern food production, transport, and processing technologies. Food processing, including production, harvesting, food preparation, refrigeration, and packaging, is basically several decades behind what is considered world class. However, interest in and demand for improved technology that includes goods and services is significant and fast-growing, as is demonstrated by the growth in agribusiness loans by ICICI, for instance. Studies support projections of exponential growth in the next 10 years. Although U.S. equipment and service companies are interested in the Indian market, they are poorly positioned to take advantage of this opportunity in comparison to European and Asian firms. An activity such as ACE can contribute significantly to the introduction of U.S. technology through the use of American technicians and businessmen who provide technical assistance and advice to Indian clients and thus have the opportunity to learn about the market requirements and practices that are necessary for successfully providing goods and services.

This approach, of involving practitioners from U.S. businesses as technology consultants, has been effectively and successfully used by Chemonics for ACE implementation and should be continued. U.S. technology is among the best in the world, and promoting it to meet development objectives in India not only helps Indian businesses meet their objectives, it also wins new proponents for USAID programs in the United States.

Providing short-course training, either in India or in the United States, is another strategy to accomplish technology transfer. In-country training for private businessmen, particularly in agriculture, is not common. As a result, it is fairly difficult and expensive for businesses to learn about and adopt modern, more-efficient technologies. ACE had conducted many seminars and training sessions targeting specific industries, such as biotechnology, grape growing, flower

production, and natural products, that reached hundreds of beneficiaries who paid their own way to participate. Training in the United States is far more expensive and should be used only when conditions warrant, but it has also proven to be very effective. An example of this was the very successful bankers training held at University of California/Davis for ICICI loan officers.

Agriculture universities in India have not adapted to meet the technical training requirements that are of priority to the agribusiness subsector. Although universities still offer degrees in traditional food grain production issues, they do not provide expertise in modern fresh fruit and vegetable marketing and handling. Course work in management of the agribusiness is also lacking. Additionally, universities are still focused on providing four-year degree programs and not intensive short courses that would be more relevant to businesspeople. In an effort to fill this need, the ACE project has begun to link Indian universities with U.S. universities so that a technical exchange can be established and better, more relevant services can be provided to Indian agribusinesses in the future. These links should be continued and enhanced under future USAID activity.

Marketing and trade missions to regional markets and to the United States have also proven to be an effective way to link Indian businesses with modern technologies. Several trade missions to U.S.-based trade shows, particularly the Produce Marketing Association's and the Food Processing Machinery and Supply Association's annual trade shows, provided opportunities for Indian businesspersons to see and discuss more modern technologies and postharvest handling and marketing techniques, and also to network with practitioners around the world who share the same interests and concerns. There are several instances where contacts made at these events resulted in sales of equipment, exchange of ideas, and introduction of new technologies. Well-targeted events, and the requirement that participants share costs to ensure a high degree of motivation, can be very effective in contributing to project objectives.

C. Policy Reform

Although working on policy issues was a priority component of ACE, because of project management decisions made by ICICI essentially eliminating any assistance to MCCI, association strengthening and policy issues were not a priority until the final year of the project. Although one year was clearly not long enough to address the serious structural and policy problems facing Indian agriculture, it did provide us with an opportunity to begin to work with several priority subsectors. These subsectors, seed, food processing, floriculture, packaging, and spices, have all established associations that are made up primarily of private sector members, and all face significant constraints resulting from poorly devised national policies. It is our belief that policy constraints we have begun to address represent the "tip of the iceberg" in this sector and that substantial work remains to be undertaken here.

Related to this priority is assistance needed to help form new and strengthen existing privately formed and managed industry associations. Industry members are perhaps the best informed and knowledgeable regarding policy requirements of any given agriculture subsector. They are also typically very busy building and running their businesses and therefore have little time to devote to building a representational organization or association that can best represent it to policy makers. Strategies to strengthen these organized groups, including help with management structures, fundraising, and staffing, are all necessities to developing an effective

industry association, and this assistance has been provided in other countries through USAID projects

In addition to policies we have addressed and continue to address under the follow-on project, there are fundamental barriers and subsidies that the government has put in place to protect the domestic agriculture sector. This includes high tariffs on certain agriculture inputs, genetic material, and equipment, as well as very high subsidies for domestically produced inputs and electricity and water used at the farm level. As a signatory to the GATT Uruguay Round Agreement that comprises the "rules of the road" for future participation in the global trading community, India has committed to eliminating all protective tariffs and subsidies offered to agriculture production. This is to be phased in over a 10-year period.

Conditions mandated by the World Trade Organization present a pivotal challenge to India regarding the changes and investment that need to be made in the sector over the coming decade. India will need to reorient its spending on agriculture away from subsidies that have kept food production and innovation low and into basic infrastructure investment. This investment must include modernizing the agriculture education system, and geometric improvements in the country's infrastructure, mainly roads, but also rail, ports, and airports. Given the efficiencies of government spending in India, assistance should be focused on improvements in delivery of basic infrastructure services, more competitive provision of traditionally government-provided services (such as marketing, storage, education, research), including contracting for these services, and more creative participation of the private sector in financing for needed investment in this sector, such as through build-operate-own (BOO) and build-operate-transfer (BOT) schemes.

D. Privatization

A final area of possible assistance that shows a great deal of promise is increasing private sector participation and/or provision of traditional government services to the sector. Under this project, and under the ACE task order that follows, there has been significant interest and progress on the part of certain state governments and private investors in funding, constructing, and operating agriculture infrastructure facilities. These facilities include cold storage packing housing and consolidation centers, terminal wholesale markets, and airport and seaport cold store facilities.

Work in this area is continuing under a task order contract and it is expected that up to five public-private partnership transactions will be negotiated and implemented over the next two years. Again, this is a fraction of the potential projects that could be undertaken, but an important fraction. Important because these are demonstration projects undertaken in states that are economically progressive and willing to experiment with new approaches to financing, building, and managing the essential infrastructure for a modern food production and delivery system. Success will breed success here, when other state government and private sector players realize that this works, and it works for the benefit of all. This is an exciting prospect for India, which will have to invest \$60 billion over the next decade in agribusiness infrastructure alone. Although this \$35 billion sector receives only \$3 billion in gross credit support from the entire financial

sector,¹ public sector spending is declining Private capital markets will be a key source of financing for this expansion in the years to come

In conclusion, USAID should continue to invest in the agribusiness subsector in order to facilitate the transfer of technology and ensure a foothold for U S businesses in this expanding market This is consistent with the parameters articulated by the Brown Initiative If USAID continues its support to the agribusiness subsector, it is recommended that resources be focused under one activity There are several reasons for recommending this, including

- Better coordination and implementation of technical activities using one management entity to plan and implement activities,
- With less resources available within the Mission to plan and implement activities, one as opposed to several distinct activities will lessen the requirement to hire full-time equivalents (FTEs), and
- It will be easier for partners and beneficiaries, whether from the GOI or the Indian private sector, to access technical services, training, or other assistance from the project because there will be in essence a "one stop shop" for these through one contractor

In summary, experience has taught us that it is clearly beneficial to consolidate policy projects with production/marketing or technology development efforts On the one hand, although general policy issues are known and frequently targets of reform movements, they have as many proponents as opponents and therefore take a major effort to reform On the other hand, a myriad of smaller issues become apparent as transactions occur, and are much more reasonable to address in the short period of the project cycle A handful of successes on specific policies usually have a greater impact on the success of the effort than one major policy reform issue

¹1993 data supplied by the Centre for Monitoring Indian Economy Pvt Ltd

ANNEX A
BUDGET SUMMARY AND LEVEL OF EFFORT TABLE

INDIA ACE Budget Status Report			
<i>As of Invoice ACE 67, September 1997</i>			
Categories	Approved Budget	Invoiced to Date	Remaining Amount
I Salaries	647,266 00	644 142 00	3 124 00
II Fringe	161,579 00	149,181 00	12,398 00
III Overhead	617 983 00	568 173 00	49 810 00
IV Travel/Trans	164,731 00	215 440 00	(50,709 00)
V Allowances	293,240 00	301,134 00	(7 894 00)
VI ODCs	240,808 00	328 824 00	(88 016 00)
VII EV&F "	23,409 00	76,732 00	(53 323 00)
VIII ICICI Promo	420,138 00	195,149 00	224,989 00
IX Subcontracts	918,418 00	969,038 00	(50 620 00)
SUBTOTAL I-IX	3,487,572.00	3,447,813.00	39,759.00
G & A	97,786 00	113 450 00	(15,664 00)
Fixed Fee	249,642 00	249,642 00	0 00
GRAND TOTAL	3,835,000 00	3,810,905.00	24,095.00

INDIA ACE PROJECT		Total	Total	Total	Total	Total	Total	Total
LOE Tracker (through 12/96)		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Project
PERSONNEL	PERSONNEL PROVIDED	(June 92-May 93)	(June 93-May 94)	(June 94-May 95)	(June 95-May 96)	(June 96-May 97)	(June -Sept 97)	1992-1997
I EXPATRIATE LOE								
A LT Technical Coordinator								
	Bill Scott	00	00	00	07	00	00	07
	Ed Remauer	00	00	00	40	120	40	200
SUBTOTAL, EXPAT, LT		00	00	00	47	120	40	207
B Expatriate ST								
CHEMONICS								
	Harley Martin	11	00	00	00	00	00	11
	Bruce Shulte	00	20	00	00	00	00	20
	Mackenzie	00	04	00	00	00	00	04
	Tom Easterling	00	23	00	00	00	00	23
	Walker	00	05	00	00	00	00	05
	Crandall	00	07	01	00	00	00	08
	Casper	00	00	04	00	00	00	04
	Bill Scott	00	00	17	05	00	00	22
	Brunson	00	00	00	09	00	00	09
	Wes Kline	00	00	00	07	00	00	07
	Ed Remauer	00	00	00	13	00	00	13
	Michael Reed	00	00	00	02	00	05	07
	Scheupline				00	07	11	18
	Kithnoja				00	00	12	12
	Gorny				00	00	09	09
	Gisslequist				00	00	12	12
	Laws				00	10	00	10
	Neubert				00	19	00	19
	Picha				00	00	09	09
	Styer				00	06	06	13
	Hyder	00	00	00	00	00	03	03
Subtotal Chemonics		11	58	22	36	43	68	239
FINTRAC								
	RC	17	01	00	00	00	00	18
	Claire Starkey	01	00	25	01	25	00	51
	BG	00	00	03	10	13	00	26
	JG	00	00	18	01	00	00	19
	Tom Klotz	00	00	04	01	15	00	20
	KM	00	00	11	00	21	00	32
	Intl hort conf speakers	00	00	19	00	00	00	19
	Nancy Laws	00	00	00	02	00	00	02
Subtotal, Fintrac		17	01	79	16	74	00	188
GIC								
	Rick Gilmore	00	17	07	16	00	00	41
	Keith Sunderlal	01	43	28	19	23	00	113
	DC	00	16	00	01	00	00	18

India ACE End of Contract Report

Chemonics International, Inc

INDIA ACE PROJECT LOE Tracker (through 12/96) PERSONNEL		Total Year 1 (June 92-May 93)	Total Year 2 (June 93-May 94)	Total Year 3 (June 94-May 95)	Total Year 4 (June 95-May 96)	Total Year 5 (June 96-May 97)	Total Year 6 (June -Sept 97)	Total Project 1992-1997
PERSONNEL PROVIDED								
	DJ	00	10	00	00	00	00	10
	MMarks	00	00	00	11	00	00	11
	Rob Floyd	00	00	00	08	22	00	31
	AK	00	00	00	00	22	04	26
	AR	00	00	00	00	25	03	28
	KH	00	00	00	00	03	00	03
	<i>Subtotal GIC</i>	<i>01</i>	<i>86</i>	<i>34</i>	<i>55</i>	<i>95</i>	<i>07</i>	<i>280</i>
	SUBTOTAL EXPAT ST	30	146	136	108	212	75	706
							00	00
	C Home Office ST						00	00
	PS Supervisory Eisendratl/Rabatsky	07	02	03	08	27	27	74
	Technical Coordinator/PS Harley Martin	105	78	05	00	00	00	187
	PA Supervisory SDS/DW/VYG/AP//LS	10	19	23	10	05	00	67
	T&I Specialist Pam Michel	04	00	24	34	06	00	68
	Field Actng TDY McCord/N'Day	00	00	00	00	00	00	00
	HO Training Staff	00	01	01	00	01	00	03
	HO Procurement Staff	02	02	00	03	02	00	10
	HO Publications Staff	00	05	00	00	00	00	05
	TD	00	02	00	00	00	00	02
	JRB	00	02	00	00	00	00	02
	LR	00	00	00	00	00	00	00
	Mcolegrove	00	08	00	00	00	00	08
	Larry Morgan	00	08	00	00	00	00	08
	Gordon Bremmer	00	00	12	00	00	00	12
	SUBTOTAL HO ST	127	126	67	55	42	28	445
	I TOTAL EXPAT LOE	157	272	203	210	374	143	1358
	II LOCAL LOE						00	00
	A Local ST Professional						00	00
	CHEMONICS Keith Sunderlal	00	00	00	00	31	45	76
		00	00	00	00	00	00	00
		00	00	00	00	00	00	00
	TEDMAG SKB	14	15	00	00	13	08	50
	SUBTOTAL LOCAL ST	14	15	00	00	44	54	127
	B Local LT Professional					00	00	00
	MITCON					00	00	00
	Local Technical Coordinator SRS	15	109	120	100	120	40	503
	APK	09	13	00	00	00	00	22
	RS	00	10	00	00	17	00	27
	RDM	00	00	00	00	05	00	05
	MSJ	00	00	00	00	04	00	04

INDIA ACE PROJECT LOE Tracker (through 12/96) PERSONNEL	PERSONNEL PROVIDED	Total Year 1 (June 92-May 93)	Total Year 2 (June 93-May 94)	Total Year 3 (June 94-May 95)	Total Year 4 (June 95-May 96)	Total Year 5 (June 96-May 97)	Total Year 6 (June -Sept 97)	Total Project 1992-1997
	VVB	0 0	0 0	0 0	0 0	0 3	0 0	0 3
	<i>SUBTOTAL LOCAL LT</i>	<i>2 3</i>	<i>13 2</i>	<i>12 0</i>	<i>10 0</i>	<i>14 8</i>	<i>4 0</i>	<i>56 3</i>
	II TOTAL LOCAL LOE	3 7	14 7	12 0	10 0	19 2	9 4	69 0
	GRAND TOTAL	19 4	41 9	32 3	31 0	56 6	23 7	204 8

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ANNEX B
REQUESTS FOR SERVICES, WORKSHOPS AND TOURS, AND REPORTS

Requests for Services

- 1 ACE Expansion Study-Sectoral Study
- 2 ICICI Market Potential for Dehydrated Vegetables-Sectoral Study
- 3 Study of Chilean Horticulture Export Program
- 4 ACE Technical Assistance to MCCI and ICICI for Establishment of Market Information System
- 5 Technical Assistance to MCCI for Implementation of Horticulture Sector Service Plan
- 6 Identification Joint Venture Partner for Warana
- 7 Postharvest Refrigeration Technology Transfer to Kirloskar Pneumatics, Ltd
- 8 Identification of U S Firm for Technology Transfer to Manak Citrus
- 9 Trade and Investment Tour (GIC)
- 10 Feasibility of Refrigeration Technologies for Increasing Supply Perishable Commodities Maharashtra
- 11 Chordia Food Products
- 12 Postharvest Technology Short Course
- 13 International Horticultural Conference
- 14 Harrisons Malyalam — Button Mushrooms
- 15 Sajeev Plantations — Papam
- 16 Reitzel India — Gherkins
- 17 True Foods and Bakery — Juices
- 18 Gemini Agritech — Dried Flowers
- 19 Flex Foods — Exotic Vegetables
- 20 Valentine Agro Limited-Regulatory Requirements for Natural Food Colorants

- 21 BMS Agro Limited-Market Requirements for Papaya Puree
- 22 SS Aquacult Limited — Feasibility of a Natural Dye Manufacturing Facility
- 23 Naik Agro Forestry — Feasibility of a Fruit Processing Unit
- 24 Chengalva Engineers Private Limited-Feasibility for a Citrus Processing Line
- 25 Kumat Industries-Peanut Defatting Technologies

ACE Workshops and Tours

- 1 U S Study Tour for Local ACE Coordinator, 1 Indian participant
- 2 APEDA International Horticulture Workshop, 20 Indian participants
- 3 Study Tour to Produce Marketing Association Convention and California Production and Marketing Areas, 5 Indian participants
- 4 Study Tour to ANUGA/Germany and the National Frozen Food Convention/United States, 2 Indian participants
- 5 Trade and Investment Tour to FPM&SA Megashow/United States, 8 Indian participants
- 6 U S Trade and Investment Tour to AHARA/India, 2 U S companies
- 7 U S Biotechnology Workshop in Bangalore, India, 8 U S companies, 6 Indian companies, 3 Nepali companies, 50 Indian participants
- 8 International Exposition of Food Processors Convention, India Day Promotion, and Agroprocessing Tour/United States, 80 Indians and 20 U S firms for India Day, 13 Indian businesses and 2 ICICI bankers on tour
- 9 Produce Marketing Association Convention/United States, 2 Indian firms, 2 bankers from ICICI
- 10 Citrus Investment Tour/United States, 2 bankers from ICICI
- 11 Natural Products Conference/India, 8 U S /international company representatives, 120 Indian participants
- 12 Postharvest Handling of Horticulture Crops Workshop/India, 4 U S consultants from University of California/Davis, 25 Indian participants
- 13 Floriculture Policy Workshop/India, 1 U S consultant, 45 Indian floriculture industry and government participants

- 14 Confederation of Indian Industries' Opportunities in Food Processing Industry-Institute Interface Workshop, 80 Indian agribusiness and university participants
- 15 Indian Seed Industry Opportunities, Obstacles and Remedies Workshop, 40 Indian representatives from three major seed associations
- 16 Financing Options for the Agro-Processing Industry Seminar at the AgroTech 96, 100 plus Indian agribusiness and government participants
- 17 Postharvest Biology and Technology of Horticulture Perishables, 25 Indian financial and industry participants

Other Studies

- 1 Market Potential for Processed Fruits and Vegetables in the United States and Europe-Market Potential Study (1993)
- 2 Market Potential for Processed Fruits and Vegetables in the United States and Europe-Market Potential Study-U S Regulations (1993)
- 3 Market Potential for Processed Fruits and Vegetables in the United States and Europe-Market Potential Study-E U Regulations (1993)
- 4 Market Potential for Processed Fruits and Vegetables in the United States and Europe-Market Potential Study-U S Grades and Standards (1993)
- 5 Market Potential for Processed Fruits and Vegetables in the United States and Europe-Market Potential Study-U S.D.A Commercial Item Descriptions (1993)
- 6 Proposed Design for ACE Center for Agribusiness and Trade Information (1993)
- 7 Postharvest Biology and Technology of Horticulture Perishables (1994)
- 8 Preserving Flowers and Foliage with Glycols and Dyes (1994)
- 9 Feasibility Study for the Geographic Expansion of the ACE Project (1994)
- 10 India-U S Agribusiness Linkages (1995)
- 11 Production Guide for Leek (1995)
- 12 Production Guide for Chives (1995)
- 13 Production Guide for Artichoke (1995)
- 14 Production Guide for Asparagus (1995)

- 15 Production Guide for Broccoli (1995)
- 16 Variety and Pest Information for Strawberry (1995)
- 17 Equipment Needs, Investment/Cost/Revenue Estimates and a Financial Model for the Prefeasibility Analysis of a Fruit Processing Plant in India (1995)
- 18 ACE Industry Information Guide (1995)
- 19 Report of Technical Assistance Assignment Results (1994)
- 20 The Indian Seed Industry Opportunities, Obstacles, and Remedies (1997)
- 21 Agribusiness Finance Guide (1997)
- 22 Analysis of the Indian Food Control System Adequacy of the PFA Act (1997)
- 23 Association and State Innovations Report (1997)

Work Plans, Training Plans, Evaluations, and Reports

- 1 Annual Work Plan 1992-1993 and Semiannual Work Plan Reviews
- 2 Annual Work Plan 1993-1994 and Semiannual Work Plan Reviews
- 3 Annual Work Plan 1994-1995 and Semi annual Work Plan Reviews
- 4 Annual Work Plan 1995-1996 and Semiannual Work Plan Reviews
- 5 Annual Work Plan 1996-1997 and Semi annual Work Plan Reviews
- 6 Extension Period Work Plan and Budget, June-September 1997
- 7 India ACE Training Plan
- 8 U S and Third-Country Short-term Technical Training Courses
- 9 End-of-Tour Report, Harley Martin
- 10 Midterm Evaluation of the Agriculture Commercialization and Enterprise Project

ANNEX C
ICICI LOANS UNDER ACE PROJECT

The Industrial Credit and Investment Corporation of India Limited

AGRICULTURAL COMMERCIALISATION AND ENTERPRISE PROGRAMME

Status as on : August 30, 1997

Sr. No.	Name of the Company	Sanction	Committed	Disbursed	Remarks
1.	Freshtrop Fruits Ltd.	75.00	75.00	75.00	14.74
2.	Essar Agrotech Ltd.	275.00	225.00	225.00	7.97
3.	Deccan Florabase Ltd.	300.00	300.00	298.00	0.00
4.	Eurofruits Pvt. Ltd.	175.00	175.00	139.00	0.00
5.	Zuan Foods & Farms Ltd.	120.00	120.00	100.00	7.99
6.	Triton Agro Foods Pvt. Ltd.	75.00	45.00	45.00	0.00
7.	Chordia Food Prod. Ltd	90.00	90.00	88.00	0.00
8.	Radhakrishnan Camers Pvt. Ltd.	60.00	60.00	59.00	0.00
9.	Freshtrop Fruits Ltd.	100.00	100.00	99.00	6.37
10.	Trans Agrotech Ltd.	120.00	120.00	119.00	0.00
11.	TMT (India) Ltd	300.00	300.00	298.00	80.32
12.	Hirel Agrotech Pvt. Ltd	42.00	42.00	40.00	13.48
13.	Agnexpo Biotech Pvt. Ltd.	125.00	125.00	123.00	4.60
14.	Kothan Biotech Ltd	300.00	300.00	150.00	0.00
	TOTAL	2,157.00	2,077.00	1,858.00	135.47

ACE Title III

Sr. No.	Name of the Company	Sanction	Committed	Disbursed	Remarks
1.	Weikfield Agro Pro. Ltd	300.00	300.00	300.00	0.00
2.	Gemini Agrotech Ltd.	265.00	255.00	180.00	12.57
3.	PHIL Corporation Ltd	150.00	150.00	150.00	0.00
4.	Pappain Products Pvt. Ltd.	125.00	125.00	125.00	0.60
5.	Snow Valley Foods Ltd	300.00	0.00	0.00	0.00
6.	Floori Resort Ltd.	230.00	230.00	90.00	3.04
7.	Valentine Agro Ltd	250.00	250.00	100.00	0.00
8.	Garico Industries Ltd.	300.00	300.00	50.00	0.00
9.	Freshtrop Coconuts Pro. Ltd	80.00	80.00	80.00	5.04
10.	Teenamoothu Foods Ltd	85.00	85.00	50.00	0.00
11.	Kausar India Ltd.	300.00	300.00	65.00	0.00

Sr. No.	Name of the Company	Sanction	Disbursed	Balance	Remarks
12.	Hemat Technologies Ltd.	150.00	0 00	0.00	0 00
13.	Ramhan Orchids Ltd.	100.00	0.00	0:00	0.00
14.	Bauer Foods Ltd.	60 00	0 00	0.00	0.00
15.	Fortuna Vegfru Pvt. LTd.	100.00	0.00	0.00	0 00
16.	Pudamjee Plant Lab Ltd.	225.00	0 00	0.00	0.00
	TOTAL	3,020.00	2,075.00	1,190.00	21.25

Projects in Pipeline

Sr. No.		Cost of Project	Amount of loan applied
1.	Sarpan Foods Limited	850	300
2	Bush Aromatic Products Limited	1,020	300
3	Bharat Agritech Private Limited	340	150