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**Midterm Evaluation  
of the Agricultural  
Commercialization  
and Enterprise  
Project**

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**Regional Agribusiness Project  
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# **Midterm Evaluation of the Agricultural Commercialization and Enterprise Project**

by

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**ACRONYMS**

ACE	Agricultural Commercialization & Enterprise Project
AFC	Agricultural Finance Corporation Ltd
APEDA	Agricultural and Processed Food Products Export Development Authority
CIFTI	Confederation of Indian Food Trade and Industry
FICCI	Federation of Indian Chambers of Commerce and Industry
GCF	Gross Capital Formation
HCC	Host Country Contribution
ICICI	The Industrial Credit & Investment Corporation of India Ltd
MITCON	Maharashtra Industrial and Technical Consultancy Organization Limited
MCCI	Mahratta Chamber of Commerce and Industry
MIS	Marketing Information System
NABARD	National Bank for Agriculture and Rural Development
PMA	Produce Marketing Association
RFS	Request for Services
SBI	State Bank of India
SOW	Statement of Work
TA	Technical Assistance
TDICI	Technology Development Investment Corporation of India
USAID	U S Agency for International Development

## EXECUTIVE SUMMARY

This report is a midterm evaluation of USAID's bilateral Agricultural Commercialization and Enterprise (ACE) Project. The evaluation, undertaken under at the request of USAID/India, took place from October 29 to November 18. The three-member evaluation team conducted interviews with USAID/India and with representatives of all members of the consortium implementing the project, including the Industrial Credit and Investment Corporation of India Ltd (ICICI), Chemonics, the Maharashtra Chamber of Commerce and Industry (MCCI), and Maharashtra Industrial and Technical Consultancy Organization Limited (MITCON). The team also interviewed a representative sample of ACE loan recipients in the state of Maharashtra.

### PROJECT PURPOSE

The overall goal of the ACE project is to develop a dynamic private agribusiness sector in India. The project purpose is to promote agribusiness investment in Indian horticulture. The project fits within the mission's broad based economic growth strategy, which focuses on increasing competition and innovation in selected sectors. The project also marks an effort to improve marketing and technology linkages between Indian and U S firms — linkages that have been lacking.

The constraints faced in the horticulture subsector at the outset were lack of sector development, caused by an absence of private capital, weak postharvest infrastructure, which led to very large losses from perishability, weak export market linkages, particularly to the United States, preventing the flow of market signals necessary to improve raw material quality, and insufficient policy dialogue among agribusiness associations, resulting in little effective lobbying for needed policy and regulatory improvements.

### FINDINGS AND CONCLUSIONS

#### Project Relevance

When the ACE project was designed, capital from private lending institutions was not readily available to the horticulture sector. Although capital is more available now, because of economic liberalization, the project remains relevant as a development mechanism for the horticulture sector because a critical need continues for capital combined with technical assistance, technology improvements, and domestic and export market linkages. Technical assistance by itself does not provide the same impact.

The recent focus of the project on Indo-U S commercial alliances increases the relevance of ACE's efforts to form technology and market linkages to the United States. Thus, the very success of ACE in expanding agribusiness investment now requires the added emphasis on technical assistance plus loans to leverage investments to other geographic regions of India with ties to the United States, to allow U S and Indian firms, rather than third-country firms, to reap the benefits.

## Design

Although changes in project responsibilities, administration, and implementation have been or are being made to improve project performance, the original project was not well designed. ICICI is a critical partner in USAID's India program — as evidenced by its role in the strategic alliance that comprises several other USAID projects. Nonetheless, ACE was burdened from the outset with ICICI as the implementing agency for the entire project. 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. What ICICI was asked to accomplish exceeded reasonable expectations. At the same time, stationing the Technical Coordinator in the United States instead of in India compounded the problem, continuous interaction by the Technical Coordinator with ICICI and ACE clients, which was needed to promote the uses and benefits of technical assistance, was not possible.

## Effectiveness and Results

The ACE loan program has succeeded in substantially increasing agribusiness lending in the horticulture sector. ACE was instrumental in creating the capability within ICICI to appraise horticulture loan proposals and to select projects that offer a good chance for success. ICICI's agribusiness portfolio was zero before ACE, its current portfolio for ACE and other lending is \$52 million. ICICI has assumed a low-risk profile by carefully selecting projects backed by promoters with substantial resources, low-risk marketing arrangements, and good technology.

ACE horticulture loans have exerted considerable leverage in capital formation in the sector. Considering ICICI projects financed outside of ACE and the equity and other commercial bank debt in ACE projects, the ratio of ACE capital to total capital is 1.87. In addition, ACE's path-breaking program has encouraged India's national Bank for Agriculture and Rural Development to expand into a \$153 million high-tech horticulture portfolio, and many other public and private sector financial institutions have also increased lending to the subsector because of the work of ICICI. Besides sanctioning \$10 million, compared with USAID obligations of only \$6.16 million, ICICI will soon start lending from the Title III (ACEP) pool of about \$24 million.

The demand for technical assistance is strong and is apt to remain strong during the remainder of the project. However, the technical assistance portion has not worked well, in part because of inadequate ground work to assess technology and market needs. Flaws in design, administration, and implementation have reduced the level of assistance the project originally projected — assistance that would have reached 100 firms. The shortfall in technical assistance has not hampered the loan program, but has led to delays in loan implementation in some cases. The projects funded have been, for the most part, well researched and structured by the promoters. ICICI, in most cases, concluded that the technical assistance and subsector studies were unnecessary, claiming there was no demand for them. In fact, the lack of technical assistance promotion and awareness failed to provide a mechanism for discovering latent demand. The subsector studies that were done as designed by ICICI were not very useful.

Only three of the eight planned subsector studies intended to identify investment opportunity areas have been completed. Obviously the absence of the studies did not curtail the loan program, but the studies might have proven valuable in directing ICICI's investments (and technical assistance) into other pioneering areas, leading to even greater capital leveraging and project replication than has been the case.

Support to business associations has failed because no concentrated effort was made by ICICI to use MCCI as proposed. ICICI lacked confidence in MCCI, and therefore little was accomplished.



Trade and investment tours have been beneficial. Both the agricultural lending training for ICICI loan staff and management training for owners of private business have been well received. Tours by Indian business owners to various trade shows in the United States, such as the recent Mega show, illustrate the importance of promoting the Indo-U S commercial alliance to encourage two-way trade in technology, equipment, and horticultural products.

### **Sustainable Project Impact**

The project has institutionalized a strong capability in ICICI to provide loans to the horticulture sector. ICICI is committed to continuing such lending.

ACE has stimulated horticulture investments, particularly in floriculture and fruits. The project has led and will continue to lead to increased horticulture loans by other commercial banks who rely on ICICI for appraisal services.

Although it is impossible to assess the long-term survival prospects of the 19 sanctioned ACE loan recipients, the probabilities are high that most of the projects will succeed.

Sustained employment generation among the 19 projects is estimated at approximately 1,800 at full operations. Female employment should reach 30 to 35 percent of these jobs.

Backward linkages developed by ACE loan recipients for raw materials have demonstrated to area farmers the importance of improving product quality to yield higher returns and reduce postharvest losses. Linkages to other inputs and services will have spillover effects as well.

## **RECOMMENDATIONS**

USAID should obligate the remaining \$3.84 million available under the grant agreement to ICICI to further the ACE loan program. If USAID fails to deliver the full \$10 million for the loan program (with or without continuation of technical assistance), Indo-U S commercial alliances might suffer. Then the success of the project, which has led to an increased demand for imported technology and equipment and increased export markets, would benefit third countries, and U S and Indian firms would lose a golden opportunity.

If ACE is to enhance Indian agribusiness investment and improve ties with U S firms, the technical assistance portion of the project should be continued, at least until the current project assistance completion date. The Technical Coordinator's office should be based, as planned, in Delhi, in the offices of the Federation of Indian Chambers of Commerce and Industry (FICCI). This location would be consistent with the expanded geographic reach of ACE. The technical assistance should actively promote Indo-U S alliances. USAID should encourage promotion to U S trade associations, U S equipment and technology purveyors, and potential buyers of Indian products by allowing increased project billing by U S technical support staff assigned to the project. The proposed visit to India in January 1996 by U S Treasury Secretary Ron Brown offers a great opportunity to increase the visibility of the Indo-U S alliances. Greater visibility also will enhance the roles of the Federation and the Confederation of Indian Food Trade and Industry (CIFTI).

Regarding the three funding choices, the team's recommendations in order of descending priority, are as follows:

- 1 Place the Technical Coordinator in Delhi to promote technical assistance in India
- 2 Obligate the remaining loan fund to ICICI
- 3 Increase promotional efforts in the United States to bolster Indo-U S alliances

Technical assistance needs to be promoted and offered both before and after loans are made. In addition to the activities proposed in Chemonics' 1995-1996 ACE work plan, training programs could be expanded to include not only U S technical experts, but also equipment suppliers, product buyers, and possibly venture capital companies. In addition to training, the events would offer the potential for trading.

The Technical Coordinator must be able to respond quickly to requests from clients that are not tied to ACE loan applications. Although the Technical Coordinator needs to communicate the activities to ICICI, the need for ICICI's concurrence should be eliminated to improve response time and increase the use of technical assistance. Accountability of the Technical Coordinator will be ensured by a two-tiered committee structure. An executive committee of ICICI, USAID and the Technical Coordinator will oversee the Technical Coordinator's activities and ensure accountability. The committee should also be granted limited powers to arbitrate disagreements regarding the use of technical assistance. In addition, a steering committee composed of ICICI, the Technical Coordinator, USAID, the Agricultural and Processed Food Products Export Development Authority (APEDA), FICCI, and CIFTI should be instituted to provide project guidance.

Other recommendations include

- A representative of MITCON should be moved to Delhi, preferably within the office of the Technical Coordinator, to maximize coordination. MITCON can improve contacts with highly qualified Indian consultants to encourage the use of these consultants on ACE projects.
- The remaining unobligated \$0.72 million of the MCCI subgrant should be transferred to FICCI and CIFTI for association strengthening. FICCI and CIFTI should identify any applicable role for MCCI. If a FICCI-MCCI connection succeeds, it can serve as a model for how services can be spread to other regional associations.
- The market information system originally designed for MCCI should be implemented in FICCI and CIFTI and developed in ways that are useful for APEDA and National Horticulture Board members and other organizations that have large constituencies in agriculture.
- Geographic expansion must be scrutinized to prevent the project from dissipating effort through excessive reach. The focus should be on crop and investment opportunities rather than on specific geographic areas. Subsector studies can help determine the horticulture crops with greatest promise, work by the National Horticulture Board along these lines can serve as a starting point.

## METHODOLOGY

The evaluation was carried out in India by a three-person team from October 29 to November 18, 1995. The evaluation team was headed by a U.S. trade and investment consultant. He was supported by a food processing and marketing consultant from the United Kingdom and a development and marketing consultant from India.

Before starting the fieldwork, the team leader conducted interviews with staff of Chemonics International and obtained relevant reports and documentation. The full team conducted interviews of officials at USAID/India on October 30 and scheduled visits to Bombay, Pune, and Nasik. The team visited ICICI offices in Bombay on November 1 and 2 before conducting four project site visits in Pune on November 3 and 4, and three site visits in Nasik on November 6 and 7. One planned site visit in Nasik was canceled because of the absence of the managing director. The team returned to Bombay on November 7. Discussions with ICICI continued on November 8 and 9, along with interviews of executives of three ACE-funded projects. Of the 17 ACE-funded projects that had been sanctioned and were under way at the time of the initial meetings with ICICI, the team covered 10 — 7 by site visits and 3 by personal interviews with general managers or other executives. Additional visits could not be accomplished given the compressed schedule and the distant location of the remaining projects in Tamil Nadu and Goa.

In addition to conducting project site visits and personal interviews with project management for the 10 projects covered, the team reviewed all 17 loan appraisal reports prepared by ICICI and, for all projects for which they were available, the latest quarterly reports. Given the early stage of implementation for most of the projects, an analysis of financial performance was not conducted.

Other agencies and people interviewed included the Agricultural Finance Corporation Ltd. (AFC), the National Bank for Agriculture and Rural Development (NABARD), the National Horticulture Board, APEDA, CIFTI, the Horticulture Commissioner, and the Secretary of Agriculture.

The team prepared its draft report in New Delhi and presented an oral briefing on November 16.

A list of key personnel contacted and interviewed during the course of this evaluation is included in Annex A. A list of documents and references reviewed is found in Annex B. A copy of the scope of work for the evaluation is shown in Annex C. Profiles of the 10 projects that were examined are shown in Annex D.

## PURPOSE

### **Improving the Investment Environment**

The ACE project was launched in August 1991 following the announcement of India's 7th five-year plan, when new state policy and program initiatives were in the planning stage. The Indian economy, particularly the agricultural sector, was suffering a severe resource crunch triggered by a foreign exchange reserve crisis and poor domestic fund management. The rate of economic growth was just 1.1 percent, and inflation was at 13.7 percent. The economy was experiencing major structural changes. Gross capital formation in the economy was shifting toward bolder private enterprise.

As shown in Table 1, although the overall gross capital formation increased from Rs 30,000 crores to 53,000 crores between 1980 and 1991, the share of agriculture in total capital formation declined from 15 percent to 8 percent<sup>1</sup>. But, during the same interval, private enterprise's share of GCF rose from 61 percent to 74 percent in the decade. The fall in public investment in agriculture was quite sharp — from 39 percent to 26 percent by 1991. Thus the economy appeared to be gearing up for a bigger role for private enterprise. But overall fund availability to the agriculture sector was poor. In 1990-1991 this \$35 billion sector received only \$3 billion in gross credit support from the entire financial sector.

TABLE 1  
GROSS CAPITAL FORMULATION AT CONSTANT PRICES, 1980-1991  
(RS CRORE)

Year	Overall Economy	Agriculture			
		Total	Public	Private	%
1980-1981	30 880	4 636	1 796	2 840 (61.3)	15.0
1981-1982	32,385	4 499	1 779	2 720 (60.4)	13.9
1982-1983	30 583	4 575	1 725	2 850 (62.3)	15.0
1983-1984	31,074	4,097	1 707	2 390 (58.3)	13.2
1984-1985*	30 964	4 551	1 673	2 878 (63.2)	14.7
1985-1986	35360	4,322	1 516	2 806 (64.9)	12.2
1986-1987	35,260	4,014	1 428	2 586 (64.4)	11.4
1987-1988	41 818	4 418	1 461	2 957 (66.9)	10.6
1988-1989	49,892	4,346	1 364	2 982 (68.6)	8.7
1989-1990	54,207	4 349	1 157	3 192 (73.4)	8.0
1990-1991	58 190	4,642	1,221	3 421 (73.7)	8.0
1991-1992	53,054	4,580	NA	NA (NA)	NA

Note: Figures in parentheses indicate the percentage of private capital formation in agriculture to total capital formation in agriculture.

\*Data are adjusted for errors and omissions.

Source: Centre for Monitoring Indian Economy Pvt. Ltd., *Basic Statistics Relating to the Indian Economy*, 1993.

<sup>1</sup> One crores equals 10 million rupees. Noted elsewhere, one lakh equals 10,000 rupees.

For ACE the timing was propitious. ACE offered to innovative ventures in the private sector relevant technology and financing when the process of liberalization was launched. It facilitated greater participation of private enterprise in horticulture.

Agribusiness investment has shown definite signs of improvement during the last four years. With the liberalization of the banking sector, the following advances — measured by comparing 1991-1992 data with 1992-1993 data — were recorded. Agricultural credit from banks and cooperatives increased to 15,100 crores by 1992-1993, a growth rate of 16 percent. Gross capital formation in agriculture, which had declined by 15.8 percent in 1991-1992, increased by 16.7 percent. Private investment, which had fallen by 18.4 percent in 1991-1992, recorded a steep rise of 15 percent. The growth rate of the agriculture sector was around 2.5 percent, but agroexports increased rapidly — to Rs 10,000 crores from 6,040 crores. Also, the government allocated Rs 1,000 crores to the sector in the current five-year plan compared with Rs 24 crores in the previous plan.

Through agencies such as APEDA, the National Horticulture Board, and the Ministry of Food Processing, soft loans and various assistance schemes are provided to private entrepreneurs to develop the agribusiness sector. These agencies rely heavily on ACE project approvals although granting funds under various government schemes to entrepreneurs. Thus, interaction of ACE project participants in various state and national programs has been encouraged.

ICICI has now committed \$10 million of ACE funds to the 19 projects funded to date although achieving a Gross capital formation of nearly \$27 million through these projects. Besides ICICI has contributed to additional gross capital formation of about \$42 million by sponsoring similar projects through its normal funding channels. NABARD's 1993-1994 Annual Report shows that it had refinanced agricultural projects totaling about \$60 million by March 1994, resulting in gross capital formation of over \$130 million. However, the credit support received by the agribusiness sector is quite low. In 1993-1994, the \$6.5 billion horticulture industry received \$100 million from banks and financial institutions, representing only 1.6 percent of the industry's total capital requirement. Only through sustained success and replication can this sector attract more funding support in the long run.

The relevance of the ACE project is that it has brought ICICI to agribusiness, and ICICI has galvanized commercial banks, financial institutions, and the policy-formulating agencies of the state and central government in a synergistic fashion. The project plans to strengthen business associations and entrepreneurial forums to act as positive forces in the creation of a favorable state policy framework. Project participants reported that much needs to be done in this area. The private sector in India often suffers from excessive business secrecy and is often labeled as a sector that loses privately, compared with the public sector, which loses publicly. Therefore existing organizations suffer from a lack of committed action. National policy formulation cannot rely on the advice of business associations because no effective agribusiness organization exists to pursue policy change.

### **Indo-U S Commercial Alliances**

Another area of relevance not part of the original project design is the promotion of Indo-U S agribusiness technology and market linkages, resulting from Commerce Secretary Brown's visit in 1994. ACE project participants offer a platform for building Indo-U S trade or commercial alliances. These alliances assume much greater importance for the ACE project given the project's success in increasing agribusiness investment in India. Now that Indian demand for high-technology inputs is increasing, in conjunction with the output of high-value horticultural products, it is important to tie this trade to U S firms so that the benefits of the project do not accrue only to India's traditional trading partners at the

expense of U S firms These efforts will leverage the work being done by FICCI and CIFTI in this area The linkage is relevant for the following reasons

- ACE projects represent innovative technologies for India Many are using U S equipment either directly or indirectly and can provide a demonstration effect for other Indian firms seeking new technologies
- Many of the projects have received some technical assistance or participated in a trade and investment tour, so the first linkage has been established Further promotion could lead to joint ventures or other business arrangements between ACE participants and U S firms
- Many of the projects offer products suitable for sale in the U S market and have negotiated third-country market arrangements The use of U S technology allows these ventures to market successfully in third-country markets that do not represent conflicts with the Bumpers amendment
- Most of the ACE projects need training and skill improvement that can be provided readily by U S firms

The proposed placement of the ACE Technical Coordinator with FICCI/ CIFTI in New Delhi will significantly help identify opportunities and commercial linkages

## DESIGN

Although this report is not intended to evaluate the ACE project strictly against the original project design, it is relevant in the context of our recommendations and in lessons learned from the project to comment on flaws in the design of the project that have significantly affected its performance

Clearly, allowing ICICI full authority as the implementing agency hampered the performance of the project ICICI is a leading financial institution with strong lending skills The expectation that it had or could readily develop the skills necessary to implement all elements of the project including technical assistance and policy-related activities to achieve all programmed impacts was not well founded What ICICI was asked to accomplish exceeded reasonable expectations ICICI lacked expertise in the use of technical assistance, particularly for uses not attached to ACE loans, and in providing services to agribusiness associations — member services and policy studies Vesting control in ICICI for implementing these activities was inappropriate

The absence of a full-time Technical Coordinator based in India was also ill advised Although the Technical Coordinator did spend more time in India than was initially proposed in an attempt to move the technical assistance forward, a base in India should have been included in the original design Even if ICICI had proven adept at seeking opportune uses of technical assistance, the absence of the Technical Coordinator precluded the continual face-to-face interaction with clients required to assess needs and determine appropriate uses of assistance

The choice of ICICI as the implementing agency also required that all relevant communication flows be routed through ICICI Thus, communication between MITCON and MCCI, and between MITCON and ICICI, was not encouraged and even discouraged Although this may not have had a major impact, it did little to improve the perception that ICICI obstructed progress

In addition, there was no steering or executive committee to provide project guidance. An Advisory Council was proposed, but it lacked a role in decision making. An executive committee composed of members from ICICI, USAID, and the Technical Coordinator with limited but clearly delineating decision making, such as an arbiter of disagreements, might have avoided many of the protracted problems.

The importance of preharvest product quality in establishing export markets was not emphasized in the context of providing loan and technical assistance at the preharvest level. The project now recognizes that improvements in preharvest product quality are as important as improvements in postharvest processes. Activities related to improving preharvest quality are now eligible for ACE support.

## **RESULTS AND EFFECTIVENESS**

### **Loan Program**

The project started slowly. During the first year and a half, no loans were made. The gearing-up of ICICI ACE group staff understandably took time, appraisal and monitoring procedures had to be developed along with other start-up tasks, and previously documented problems including the protest of the contract delayed the project. During this period essentially no organized promotion of the project occurred.

The first loan approval was made in January 1993, by the end of the year, four projects had been sanctioned. Eight loans were made in 1994 and another seven by mid-November 1995. The project design called for no subsidization of the interest rate, but, early in the project, ICICI found it had to lower the interest rate to entice participation because borrowers were gaining access to other funding in the improving capital market. Currently the ACE project offers a rate of about 12.5 percent, compared with commercial rates (including risk premiums) of about 17-18 percent. The ACE rate compares well with the average rate of interest paid by small borrowers, who are able to borrow part of their requirements at 4 percent from the National Horticulture Board.

The management philosophy of ACE underscores the need to work with entrepreneurs who have both the appropriate managerial skills and sufficient financial backing to survive any initial setbacks that would destroy a small company. Although this policy might be criticized for not favoring the smaller business owner, it has helped establish horticultural businesses in new sectors in which commercial banks were previously unwilling to lend. This policy enabled ICICI to select the best possible loan applicants and helped ACE achieve its objectives.

The flexibility provided to ICICI as the implementing agency was beneficial in allowing the bank to pursue opportunities quickly and aggressively, unburdened by lengthy bureaucratic requirements that would have been necessary if the implementation process had been administered by USAID. However, this flexibility also has led to less than optimal contact between ICICI and USAID, causing some disagreement regarding the approval of loans based on geographic or product duplication.

The 19 ACE projects approved by ICICI by mid-November 1995 will use all the \$10 million in the USAID grant agreement for the ACE project and lead to the use of the Title III funds (\$24 million in Rs.) as well as the reflows of loans being repaid from successful projects. Use of the Title III funds by ICICI is still awaiting procedural and contractual agreement between ICICI and the Government of India, but is expected to be completed in a matter of weeks.

Matching the ACE loans of \$10 million, host country contributions total \$17.6 million and have clearly achieved all expectations for adequacy and reliability. The sources of these funds are shown in Table 2.

TABLE 2  
TOTAL PROJECT CAPITALIZATION  
(\$ million)

Source of Project Capital	Amount
Host country	17.61
Equity	
Promoters	11.00
TDICI	0.91
Other	2.20
Loans	
ICICI	1.60
SBI	0.30
Other	1.60
ACE	10.00
Total	27.61

ACE has taken a low-risk profile. Not only are most of the 19 projects backed by entrepreneurs with considerable financial resources, but also ACE's capital position is low. Averaged over the 17 projects for which current data were available, ACE funding accounts for only 32 percent of total project capitalization.

In terms of leveraging capital, the \$10 million of ACE funds have leveraged the total capital obtained by a ratio of 1.27. Also ICICI has financed and assisted other horticulture ventures (outside the ACE project), granting direct financial assistance of \$42 million for 25 ventures that have required total capital formation of about \$60 million. Thus, it can be argued that the ACE project has leveraged capital in ICICI's horticulture portfolio by a ratio of 1.87 (\$10 million of ACE funds leading to total capital formation of \$87.61 million).

In discussions with other public and private sector financial institutions regarding the ACE project, the team found that ACE's method of appraisal and approval is highly regarded. It has led to the provision of matching funds for the project's fixed-capital requirements from these institutional banks, as well as for the working capital loans from commercial banks, which may not have the expertise to assess these projects but are willing to lend on the basis of an ACE appraisal. ACE funding is limited to \$1 million per project, whereas project sizes range from \$2 to \$5 million. This shortfall requires financial contribution from commercial banks, equity raised through share market operations and the floating of debentures, and other private and public sources.



The capital markets attach great importance to appraisals by ICICI. The Security Exchange Board of India, which controls the issuance of shares, has on many occasions given approval for a public issue only after an ICICI appraisal. This reliance has given underwriters and stock brokers a favorable attitude toward the ACE project.

Although the loan program has been successful, a problem looms ahead. When the project began to gain momentum, ICICI faced a constraint by USAID on the pace of grant obligations. Of the total grant of \$10 million, USAID had increased the obligation from 3.6 million as of March 1992, to only \$6.16 million by March 1995. Considering that ICICI's current project portfolio has committed slightly more than \$10 million, USAID's slow disbursement of funds will force ICICI to use non-ACE funds, but will reflect poorly on the USAID project in general. This problem assumes greater importance given that the project has considerable remaining effort targeted at non-loan components, including the Indo-U.S. linkages program. The linkages program is particularly vulnerable to perceptions of a lagging USAID loan commitment.

### **Promotions**

Following the sanction of the first loan, several promotions were carried out in early 1993. Two were conducted by MCCI, which was supposed to be heavily involved in the promotional effort. However, ICICI was not pleased with MCCI's performance and took over the promotional role entirely. Since then, ACE has held a series of promotional workshops in Shimla, Madras, and Madhurai, addressing a total of 665 people. Another six seminars and workshops, in conjunction with APEDA, CIFTI, and other organizations, have also taken place, in Madras, Mysore, and New Delhi. Cooperation with the Horticultural Board and APEDA led to joint planning for the International Horticultural Conference sponsored by ACE.

Another ICICI effort involved a mailing of between 1,500 and 2,000 promotional letters to business people in APEDA's directory to promote the project. The response rate was about 1 percent.

### **Procedures and Administration**

ICICI's procedures for ACE loan appraisal follow more rigorous norms than its non-ACE loans. The 12-step loan eligibility criteria include innovation, new products and technologies using equipment available indigenously or imported from the United States, environmental safety, improvement of linkages among horticultural producers, processors, and traders, development of integrated agribusiness, creation of additional infrastructure such as collection and grading centers, and precooling and refrigeration facilities, seasonal flexibility, permitting the processing of various fruits and vegetables at different times of year, use of by-products and concern for elimination of chemical residues, increase in exports, increase in employment in rural areas, profit and self-sustainability for the entrepreneur, and improvement of skills in the workforce. Additional financial indicators that weigh into loan appraisal are shown in Table 3.

TABLE 3  
INDICATORS FOR LOAN APPRAISAL

Indicator	Requirement
Promoter's contribution and debt-equity norms	At least 25%
Debt service ratio	Greater than 1.5
Internal rate of return	2% over weighted cost of funds
Return on capital employed in a normal year	3-4% above internal rate of return
Current ratio	Greater than 1
Fixed assets	Value at least 1.35 times loans

ICICI appraisal procedures have been designed to provide loan appraisal in a month and loan approval in 45-50 days, compared with the 9-12 month approval process which is typical among Indian commercial lenders

The ACE team has a full-time staff of a manager and three investment officers supported by a full-time and a part-time secretary, all under the direction of ICICI's Deputy General Manager. ICICI's appraisals of projects were studied and found to be very professionally prepared, particularly from a banking perspective. Because this was a new field of investment, officers conducting appraisals had to gain familiarity quickly with agrotechnology to assess the risks and likelihood of variation from predicted results. Although the ACE team appears to have a good understanding of horticulture investment risks, we believe that these appraisals should again be reviewed by the new Technical Coordinator.

### Technical Assistance

ACE technical assistance services, supplied by Chemonics and MITCON, include the following <sup>2</sup>

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

Assistance is to be demand driven, and is to be made available whether or not the company receives an ACE loan. **On these criteria ACE technical assistance simply has not worked because it has not been used as planned.** Although both Chemonics and ICICI have their own technical assistance tracking systems that do not match, the evaluation team discovered only five instances of technical

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<sup>2</sup> Forty-two person-months of technical assistance are to be provided during Years 2-6, a total of 210 person-months over the life of the project

assistance (excluding trade and investment tours and subsector studies) handled through the Request for Services (RFS) system<sup>3</sup> In addition to the RFS system there were 51 requests for information according to Chemonics' records, in some cases involving multiple requests for market surveys, data, technology information and availability, and technology tie-ups Only two of the 51 requests were cancelled, the vast majority having been completed or are currently in progress Requests for information can, of course, eventually result in a more formal RFS

Part of the reason for the shortfall in the use of technical assistance is a lack of awareness of its availability Discussions with many of the ACE loan recipients made it clear that ICICI did not make them aware of the extent of the technical assistance they could access Obviously, greater promotion is needed

Other evidence indicates that ICICI has viewed technical assistance as unnecessary in most cases ICICI is a professional and successful lending institution, not a consulting organization It is, as a result, less appreciative of the many ways in which new ventures can be either helped to succeed or to avoid disaster by the use of experience, data, and other information that others have gained in facing the same or similar problems elsewhere

ICICI and Chemonics have disagreed on the amount of technical assistance to be provided by subcontractors, Chemonics requesting more comprehensive work, ICICI more often requesting smaller "bits" of information and data The personal disagreements that took place between the Technical Coordinator and the ICICI Managing Director were unfortunate and hindered rather than helped in providing access The rates charged by Chemonics for technical assistance also had a discouraging effect on clients ICICI, passing through these rates, asked clients to pay 50 percent of fully burdened charges, rather than 25 percent, which was stipulated in the project design This charge was later amended to 50 percent of labor rates exclusive of overhead and fees

After the departure in August 1994 of Harley Martin, Chemonics' first Technical Coordinator, Chemonics was initially without a contractual mechanism of carrying out work for which they could be paid Chemonics lacked formal billing authority until February 1995 for staff people assigned to the project to respond to ICICI's requests Chemonics eventually received approval to bill blocks of time, but, according to Chemonics, the arrangement did not allow for sufficient use of staff to respond to requests from ICICI ICICI in turn grew frustrated with Chemonics' apparent lack of responsiveness During this period, ICICI's General Manager was slow in reviewing resumes of replacement candidates for the post of Technical Coordinator To add to the problems, a 12-step RFS process that USAID had instituted slowed down the processes of applying for and implementing technical assistance USAID's slow response to requests sent through the RFS system for authority to proceed with technical assistance has also been at fault All these factors have seriously affected the expansion of this component of the ACE project

Slow and inefficient use of technical assistance does not appear to have materially affected the process of assessing and sanctioning loans However, failure to use subsector studies (such as the requested cold chain study rejected by ICICI) to focus activities raises a question about whether better targets could have been found The evaluation team noted that out of the eight planned subsector studies, only three have been completed The team believes that the ACE project would be improved by further studies highlighting technologies that offer the possibility of commercial success in India and market opportunities Technical assistance could also be used to identify problems with market infrastructure that state and national governments can solve through efficient public investments

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<sup>3</sup> It is important to recognize that ICICI has responsibility for tracking system monitoring It has not apprised Chemonics often enough regarding the status of the projects being tracked

Perhaps the real loss, besides the lack of subsector studies and what they might have shown, has been the absence of technology workshops. The importance of ensuring that new technologies are well understood by all managers and by staff who have to use them should not be underestimated. More elaborate technologies and processes can cause more problems when not properly applied and controlled.

The appointment of a full-time Technical Coordinator based in Delhi should be of great help to ACE. The Technical Coordinator's activities will be maximized if he has the assistance of a knowledgeable local person, such as a MITCON representative. Basing the Technical Coordinator in the offices of FICCI, with its widespread contacts throughout India, should help promote the ACE project outside of Maharashtra and allow the Technical Coordinator to work with U.S. business people visiting India.

Until now, most ACE promoters have done their homework well, largely without the help of ACE technical assistance. As the ACE project is widened to other states, it may be that smaller, less-well-prepared business people will approach ICICI for assistance as well as loans. The Technical Coordinator should be available to disseminate information and assist entrepreneurs and the ICICI team.

### **Trade and Industry Tours**

Trade tours have included two Produce Marketing Association shows: one in Washington in October 1993, with 15 attendees, and one in San Diego in 1995, with 6 attendees. At the time of the team's evaluation, the MEGA show in Chicago was being attended by 10 people sponsored by ACE. These visits were praised by those the evaluation team interviewed, many of whom referred to the benefit of subsequent plant visits. Such factory and farm visits are usually beyond the scope of individuals travelling to the United States on their own.

One of the most successful tours was the special seminar arranged at the University of California at Davis in August 1994. Without exception, participants interviewed by the evaluation team praised the content of the course, which was focused on matters of interest to the Indian business people. A course for lenders was also valuable to the bankers who attended, including members of ICICI staff, improving their skills in assessing the viability of agroindustry loans. Related site visits were also said to be well chosen.

Sixty-five people have taken part in six similar trade and investment activities.

### **Support to Agribusiness Associations**

To assist MCCI in accessing technical assistance for its members, Chemonics made two proposals under RFS 4 and 5. RFS 5 proposed that the International Programs Director of the Produce Marketing Association visit India to work with MCCI in formulating a plan, based on Indian produce availability and using U.S. technology, for transport and exports of perishable produce. Authority to proceed was refused by the General Manager of ICICI.

RFS 4 concerned the establishment of a market information system at MCCI, and a scope of work was approved for a U.S. consultant to assess the feasibility of establishing the system. The consultant, working with a MITCON representative, prepared a report setting out the current information capabilities of the MCCI system and specifying steps that needed to be taken in the short and medium term to establish an information service. The consultant drew up a 12-step work plan to establish the information center with a suggested budget for software, hardware, and materials.

As part of the assignment, ACE funds were used to install on MCCI computers a MicroDIS database, with more than 1,700 citations of materials on horticulture, and the Chemonics Commodity Price Database. Recommendations for upgrading the telecommunications infrastructure of MCCI and ICICI were also made. During the work, the ICICI General Manager attempted to shift a significant portion of the resources of the information center to ICICI. In March, 1994 he requested that all work on the second phase of MIS effort be postponed until the 1994-1995 work plan for MCCI was reviewed and a budget approved.

Efforts to create an information center have stalled, resulting in an incomplete MIS and virtually no activity in support of agricultural business associations. ICICI's rationale that the system be demand driven is inconsistent with the need for a new system to be in place and well publicized before people use it. The system has languished almost completely unused, and the new managers at MCCI are unaware of the MIS. MCCI does have a small library of directories and books, in English, purchased with ACE funds.

ICICI has asked MCCI to be inventive in terms of its role in ACE. MCCI's interpretation of ICICI's directive, as reported to the evaluation team, is to conduct seminars on topics such as food technology. Such activities fall in the domain of Chemonics' technical assistance. This potential overlap of responsibilities highlights the danger of ICICI's role as lead agency for the implementation of all aspects of the project.

The role of policy studies appears to have been abandoned. MCCI sees no role for the studies, and Chemonics' 1995-1996 work plan, which targets support to strengthening associations, excludes policy studies.

## **MAJOR PROJECT IMPACTS**

The major impacts of the ACE project can be measured against the impact indicators from the revised project logframe which were established to measure the progress of the project.

### **Sector Goal**

Against the goal of developing a dynamic private agribusiness sector, impact indicators and the team's evaluation of impact are as follows:

- **Larger share of agro-industry in industrial value added** Gross value added as a percentage of gross domestic product (GDP) increased from 25.2 percent in 1990-1991 to 26.2 percent in 1992-1993.
- **Higher quality of processed agricultural goods** The backward linkages into raw material supply, particularly for exported products, have resulted in improved quality among the ventures funded by ACE. This improvement is clearly demonstrated by the ACE floriculture, grape, and mushroom projects. The spread effect of these backward linkages to non-ACE horticulture projects or to other horticulture producers were not substantiated by this evaluation.
- **Larger share of agricultural goods in exports** Growth in the agriculture sector from 1991-1992 to 1993-1994 was 2.5 percent. Agricultural exports, however, increased by

67 percent, to \$30 billion by 1993-1994. APEDA reports that 1992 horticulture exports were \$241 million.

- **Increased employment in agriculture** In addition to the estimated direct employment generation among the existing ACE projects of about 1,800 workers (30-35 percent female), unquantified indirect employment benefits can be attributed to the project through firms supplying increased inputs and services to the projects.

## Project Purpose

Against the purpose of improving the investment environment for private agribusiness in horticulture, the impact indicators and the team's evaluation of impact are as follows:

- **Growth of agribusiness firms supported by ACE** The measurable impact is the 19 ventures that have been funded by ACE. To date, the technical assistance component has been insufficient to provide measurable impact.
- **Project replication (product, region, process/technology) in priority subsectors** The ACE project led to the first floriculture venture in India. Since then, 115 floriculture projects have been established. Similarly, ACE funded the country's first private sector pre-cooling facility for grape exports and has funded strawberry, mushroom, dried flower, cashew, and cold store projects. Undocumented replication has resulted, according to many of those interviewed for this evaluation.
- **Increased lending by DFI's to the horticulture sector** Investments in horticulture financed by ICICI and NABARD outside the ACE project total \$195 million.

## Project Outputs

Against the project outputs — increased investment in agribusiness by private firms, improved agribusiness management, strengthened support for agribusiness by financial institutions, strengthened business associations, and policy dialogue — the impact indicators and the team's evaluation of impact are as follows:

- **25 loans received by agribusiness entrepreneurs** ACE has funded 19 projects but has committed the entire \$10 million grant amount. The higher loan ceiling of \$1 million per project compared to \$750,000 initially has resulted in fewer than 25 projects.
- **100 private firms assisted with technical assistance** According to ICICI's monitoring system, only five instances of specific project technical assistance have been provided. Still, trade and investment tours to the United States for private firms have included about 65 people.
- **Increased sales of agricultural products and agribusiness equipment and supplies, decreased costs of production and processing in assisted firms** ACE projects report increased product sales, particularly in export channels. Sales of supplies other than raw materials have increased, but notable deficiencies exist in the floriculture sector, where an absence of high-grade domestic polyethylene necessitates imports, and in fruit and

vegetables, where the low strength of domestic cardboard boxes forces packers to import. Project impact on production and processing costs was not specifically analyzed, but anecdotal evidence from interviews indicated that improved technology has reduced postharvest losses and improved the quality of raw materials, thereby cutting costs appreciably.

- **Improved project identification and appraisal capabilities, strengthened monitoring and support, increased lending, increased repayments** ICICI has an excellent loan staff. Their capabilities to appraise and select appropriate candidates for horticulture loans have improved significantly as a result of ACE. The training in agricultural loans offered by the University of California at Davis was particularly beneficial. As a result, the Security Exchange Board of India so values the appraisal capability of ICICI that in several cases it allowed a public issue on a horticulture project only following a favorable ICICI appraisal. ICICI's procedures for appraisal, monitoring, and support appear sound and complete. ICICI regularly monitors ACE loans through quarterly reports, site visits, and telephone contact. The organization reports that repayment schedules are being met by all ACE loan recipients.
- **Increased services to association members** There has been no impact because there has been virtually no activity in this area.
- **Workshops, policy studies, and dialogue** MCCI conducted several seminars to promote ACE, but no workshops have taken place, and no organized policy dialogue has occurred. No policy studies have been completed. The International Horticulture Conference held in India was attended by about 100 people. Sharing of Experience seminars promoting ACE were held in three cities and attracted about 400 people.

## Sustainability

The following represent impacts that are likely to be sustained after the project ends:

- The project has institutionalized a strong capability in ICICI to provide loans to the horticulture sector. ICICI is committed to continuing its lending to the sector, as shown by its large portfolio of non-ACE horticulture loans.
- ACE has and will continue to generate increased horticulture lending by other commercial banks. These banks have used the appraisal services of ICICI prior to improving their own appraisal capabilities, and ICICI has referred clients that failed to meet certain ACE loan requirements to other banks. The result has been substantial replicability of horticulture projects particularly in the floriculture and fruit subsectors.
- ACE has initiated cooperation between agencies that had previously operated with little meaningful interaction. These agencies include the National Horticulture Board, APEDA, the Risk Capital and Technology Development Cooperation, the Venture Capital Institution, and the Security Exchange Board of India. Continued improvement in the investment environment will result, as will continued refinancing of horticulture projects through NABARD.

- Although it is impossible to assess the long-term survival prospects of the 19 sanctioned ACE loan recipients, most of the projects are apt to succeed, thus providing increased horticulture production, export sales, and employment for the sector
- Sustained employment generation among the 19 projects is estimated at approximately 1,800 at full operations. Female employment should reach 30 to 35 percent of the total. In addition, some of the projects have contributed to improved quality of life by requiring improved personal hygiene, offering family planning advice, intervening in employees' domestic disputes, and providing canteen services and sleeping quarters for employees during the harvest season. Indirect employment benefits result from the increase in the supply of other inputs and services to ACE-supported projects
- The backward linkages required to ensure an adequate supply of raw materials for every ACE loan recipient — whether captive, through contract, or in the open market — have taught area farmers that improving product quality helps increase prices and reduce postharvest losses. Other improved product and service linkages that ACE projects have developed will spread to other firms. The products and services include packaging, transport, cold storage, and retailing, in addition to local vendor development
- The ACE project has increased interactions and exchanges among project participants, Indian support agencies, domestic and international technology and equipment suppliers, and marketers. With continued effort to expand Indo-U.S. commercial alliances, the project can increase the innovative uses of U.S. technology and equipment and use market feedback from U.S. importers to improve product quality
- Increased farmer incomes will continue as a result of the switch from low-value grain crops to high-value horticulture crops that supply ACE projects. Not only will incomes increase, but production risks experienced by farmers also will be reduced by the use of high technology inputs and systems

## **RECOMMENDATIONS**

ACE has successfully increased agribusiness investment in India and has created increased demand for high technology inputs by increasing the production of high-value horticulture products. The team believes that only by continuing the project can the benefits of trade in technology and products be captured by both U.S. and Indian firms, rather than by India's traditional trading partners.

### **Project Funding through Project Assistance Completion Date**

USAID should obligate the remaining \$3.84 million available under the grant agreement to ICICI to continue the ACE loan program. Although ICICI can soon use approximately \$24 million available under the Title III program to meet its current ACE loan obligations (which now exceed \$10 million) if USAID fails to deliver the full \$10 million for the loan program (with or without continuation of technical assistance), the credibility and potential of promoting Indo-U.S. commercial alliances will likely be compromised.



The technical assistance portion of the project should be continued at least until September 30, 1998. Because Chemonics' contract ends in September 1997, the need for a no-cost extension of technical assistance past this date is recommended. The Technical Coordinator should be based as planned, in FICCI offices in Delhi, a location consistent with the expanded geographic reach of ACE. Continuation of technical assistance is essential both in combination with ACE loans under Title III, for promoting Indo-U S trade and technology commercial alliances, and for assisting agribusiness associations in becoming effective lobbying groups.

A critical need exists to promote the project to U S trade associations, U S equipment and technology purveyors, and potential buyers of Indian products in the United States. Thus visits by Indian business people to trade fairs and other events will attract U S companies to investigate business opportunities. USAID should encourage these visits by allowing increased project billing by Chemonics technical support staff within an agreed budget. Chemonics' role should not be limited to reacting to inquiries from India.

ACE should capitalize on the proposed visit to India in January 1996 by Commerce Secretary Ron Brown, to increase the visibility of the project both in the United States and in India. The roles of FICCI and CIFTI will be enhanced through this greater visibility.

Regarding the three funding choices, the team recommends the following priorities:

- 1 Place the Technical Coordinator in Delhi to promote technical assistance. This has been the critical shortfall to date.
- 2 Obligate the remaining loan fund to ICICI. Besides damaging project credibility, failure to obligate this funding will lead to complete reliance on Title III funds for loans, eliminating the foreign exchange component necessary to purchase United States inputs.
- 3 Increase promotional efforts in the United States to bolster Indo-U S commercial alliances.

### **Technical Coordinator Responsibilities**

Although the RFS process is working more smoothly than in the past, and the differences of opinion between ICICI and Chemonics regarding the use of technical assistance appear to be over, the Technical Coordinator needs to be able to respond quickly to opportunities. The team recommends that the Technical Coordinator be given the flexibility to identify and implement appropriate technical assistance that is not part of an ACE loan at the time it is proposed, without requiring the concurrence of ICICI. Accountability can be ensured by establishing an Executive Committee composed of ICICI, USAID, and the Technical Coordinator. For level of effort under a prescribed amount, the Technical Coordinator should have the ability to proceed without prior input from the committee, which could review activities later. For larger projects, the Technical Coordinator should obtain prior approval from the Executive Committee. In response to requests by existing or new ACE loan recipients, technical assistance should be mutually determined by the Technical Coordinator and ICICI with input from the Executive Committee as necessary.

## **Project Oversight**

The Executive Committee will offer a forum for discussing project activities. The committee should also be granted limited decision-making power to arbitrate disagreements between ICICI and the Technical Coordinator over technical assistance, trade and investment tours, and subsector studies. Decision-making authority would not cover the loan program. The committee should meet once every four to six weeks.

A steering committee should be instituted to include ICICI, the Technical Coordinator, USAID, CIFTI and FICCI, APEDA, and the National Horticulture Board. The committee could meet once per quarter to provide relevant input relating to the direction of the project to achieve maximum impact.

## **Indo-U S Technology and Equipment Requirement**

The Indo-U S focus may be compromised by the requirement that ACE loans (non -Title III funds) be restricted to Indian or U S equipment purchases. ICICI has had to reject numerous loan applications simply on this basis, although the proposed venture offered the potential to establish Indo-U S technology and market linkages. Although USAID has permitted ICICI, on a case-by-case basis, to sanction loans involving third-country equipment, ACE loans should permit third-country equipment purchases on condition that the expenditure does not exceed the amount of equity and non-ACE debt or expenditure on U S or Indian equipment.

## **Technical Assistance**

Discussions with ACE loan recipients and replies to questionnaires following the International Horticulture Conference show a substantial need for further technical assistance and a lac of awareness that the ACE project can provide it. The availability of assistance needs to be promoted before and after loans are made, clients diversifying after the start of a project or widening their markets would welcome assistance in the form of data and technology.

An evaluation of the conference noted the need for help with business linkages, more information on prices, grades and standards, and world suppliers, and technical workshops focused on marketing, postharvest handling, processing technologies, packaging, transport, and labelling.

In response to these and other expressed needs, Chemonics has outlined a technical assistance activities in its 1995-1996 work plan including private sector product trials, quality programs for grapes and mangoes, training seminars in postharvest handling, commodity development planning, quality control, cold storage, agribusiness finance, and assistance in development of association market information services. In addition to implementing these activities, the Technical Coordinator should confer with the promoters of the 19 ACE-funded projects. All 10 ACE project managers interviewed for this evaluation requested a number of forms of assistance, both specific to projects and general to the horticulture sector.

The team offers the following recommendations for technical assistance not addressed specifically in the Chemonics work plan.

### Other Seminar Topics

- **Lichee handling, processing, packing, and transport** Lichee, a high-value crop, suffers from postharvest losses of 40 percent, the highest in Indian horticulture, and has a very short shelf life. The potential for sun drying the fruit could be examined as well. The seminar could encourage interest in a venture supported by an ACE loan.
- **Horticulture engineering** Workers trained in equipment maintenance and repair are in short supply. As newer technologies become increasingly common, this need will assume greater importance.
- **Optimum response agronomics** A common response by Indian producers to training in the use of agricultural inputs is to incorporate inputs only at the minimum tolerance levels to lower input costs. The result is sub-optimum output volume and the risk of impaired quality. Agronomic training should emphasize optimum response to inputs or at least avoidance of use at minimum tolerance.
- **Raisin production and storage**

### Technology Bazaar

Although a technology bazaar is similar to the proposed training seminars, its scope can be expanded to include not only U S technical experts, but also U S equipment suppliers, U S product buyers, and U S venture capital companies. Instead of focusing exclusively on training, the bazaar would offer the potential for trading in products and technologies. Training coverage could be expanded from the Chemonics list to include Modified Air Packaging and consumer packing. The team suggests seven such events — in Nasik, Pune, Ammenabad, New Delhi, Madras, Madurai, and Bangalore.

### Quality Circle Concept

The Technical Coordinator, aided by FICCI and CIFTI, can promote, through the proposed workshops or bazaar, the tangible concept of improved quality. The activity could target exporters who have gained market access to some Western markets but are unable to penetrate other markets, particularly the United States. The project would monitor the exporter's performance in say, the United Kingdom, where traditional market linkages have been developed. If the performance indicated that the firm could generally satisfy the expectations of U S importers, the firm would be given a Quality Circle or other emblem to display on its product. ACE could then promote the logo in conjunction with APEDA in the United States through trade publications. Promotion of the emblem could encourage Indo-U S linkages. The effort should reduce uncertainty about product quality among some U S buyers that lack experience with Indian produce.

### Wholesale Market Demonstrations

The potential of domestic market sales, particularly of high-value products, is often overlooked in horticulture projects. Although small relative to India's population, the size of middle- and high-income groups is increasing dramatically. To capitalize, ACE can conduct small demonstrations of wholesale market operations to illustrate the requirements for producers and marketers interested in selling in

domestic markets Two demonstrations would suffice one on floriculture, in Pune, and one on fruits and vegetables, in Nasik

### **Infrastructure Projects**

Although ACE loans are limited to private sector projects, ACE can have a substantial impact in improving postharvest infrastructure by working with organizations such as APEDA, the National Horticulture Board, FICCI, and CIFTI to examine the problems and to propose solutions As one example, these organizations are now planning to establish state-of-the-art cold chain and export packaging facilities at airports in Pune, Bangalore, and Bombay If ACE becomes involved in these studies at their inception, ACE can better position U S suppliers of the planned technology and equipment during implementation

### **Loan Program**

The success of the loan program obviates the need for substantive change However, the team does suggest that ICICI emphasize multiproduct ventures to avoid exposure to single-crop seasonal variations, exposure that is evident among some of its 19 projects

In addition the team recommends that ICICI explore three specific investment areas

- **Tomato products processing** Approximately 400,000 tons of tomatoes are processed each year in India for tomato seed in Andhra-Karnataka <sup>4</sup> The waste yield is 99 percent, because only the seeds are used The potential for low-cost production of tomato catsup, puree, and paste is very high, based on the low cost of raw material, which is simply dumped on the surrounding environment
- **Paprika processing** Approximately 50,000 tons of paprika waste that could be processed into paprika paste for industrial food processing is similarly dumped as waste from the paprika seed industry in Sikkim-Bhutan
- **Wildflower harvesting** A 100-kilometer square area in the northwest region of Uttar Pradesh in the Himalayan foothills is renowned for its very dense production of wildflowers No commercial harvesting operations have capitalized yet on this potential for dried flowers

### **Market Information System**

A market information system such as that originally designed for use by MCCI members should be implemented in FICCI and CIFTI The system should be made available to APEDA and the National Horticulture Board, which have large constituencies in agriculture However, access to the system should not be limited to these organizations the system should be available to other agricultural organizations that can extend the reach of market and other relevant information

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<sup>4</sup> All tonnage references reflect metric tons

### **Role of MITCON**

A MITCON representative should be moved to Delhi, preferably within the office of the Technical Coordinator. This will permit effective coordination of the technical assistance and support for private agribusiness association components. The MITCON representative should seek highly qualified Indian consultants to supplement consulting teams for technical assistance work in India. Teams of U.S. consultants usually lack Indian expertise and perspective.

### **Role of MCCI**

The remaining unobligated \$0.72 million of the MCCI subgrant should be transferred to FICCI and CIFTI for strengthening their lobbying capacity. FICCI and CIFTI can identify an applicable role for MCCI, if any, or other regional associations as the demand warrants. These funds can supplement Chemonics' effort in supporting these two associations, as outlined in Chemonics' 1995-1996 annual work plan.

### **Promotions**

A low-cost promotional effort would involve the use of videos from the U.S. Department of Agriculture on topics such as high-technology agronomic practices, postharvest handling, processing, and transport. With the aid of FICCI and CIFTI, the Technical Coordinator could create a video lead-in describing ACE for use on Indian television at no cost for air time. The video trailer could request that questions be mailed to the ACE office. Periodically, perhaps once a month, the Technical Coordinator could respond to selected questions on television, again at no cost for air time. Properly handled, the promotion would increase public awareness of the project.

### **Cost Sharing**

USAID should consider reducing the cost share for technical assistance from 50 percent to 25 percent of unburdened labor rates to encourage greater use. The opportunity to capitalize the cost-share portion of the technical assistance in the ACE loan has not been an effective incentive, and promoters that lack large financial resources — a description that fits several of the early loan recipients — are reluctant to request it. Clearly some promising investments will be lost as a result.

### **Information Exchanges**

The Technical Coordinator should encourage interaction among current and prospective ACE loan recipients to foster informal information exchange — something that is notably lacking in the sector. Holding an ACE Club meeting several times a year, at which members are encouraged to speak about their problems and successes, should lead to useful interchanges between members and identify areas of need for technical assistance, as well as new ACE investment opportunities.

### **Subsector Studies and Geographic Expansion**

Although the utility of subsector studies at this stage of the project is diminished, the team suggests that the expanded geographic reach of the project should remain targeted on opportunity areas for increased horticulture development, rather than on geographic lines. The relatively small funding available for loans and technical assistance could be rapidly dissipated if the efforts are not focused. Consequently, studies of crops or regions identified in the National Horticulture Plan can be used to locate opportunities for ACE investments. The National Horticulture Plan has identified, within a multitude of agroclimatic zones, the optimum locations for horticulture crop cultivation. Additional analysis could be used to define further high-opportunity areas.

Another study that has merit is the analysis of losses in the postharvest chain. Although aggregate losses are understood, further analysis is needed to identify where and why losses are occurring. Technical assistance and investments can then be targeted.

### **Donor Coordination**

An element absent from the requirements of this evaluation was an examination of the role of other donors in the expansion of the horticulture sector, and the potential for coordination of activities among donors. The Technical Coordinator should determine how the ACE project can capitalize on the efforts of other donors and also discover where ACE and other projects may overlap to avoid unnecessary duplication.

## **LESSONS LEARNED**

Following are lessons the team considers most important at the project's midpoint.

### **Design**

- Project design should take into account the roles that various actors in the consortium can realistically be expected to play, particularly when placing authority for project implementation with a local contractor. ICICI, a leading financial institution with strong lending skills, did not have and should not have been expected to develop overnight the skills necessary to implement all elements of the project, including technical assistance and policy-related activities, to achieve all programmed impacts. What ICICI was asked to accomplish exceeded reasonable expectations. Less important, but still detrimental to project performance, was the design choice to base the Technical Coordinator in Washington rather than in India. The subsequent design changes made in annual work plans rather than in the original contract attempted to shift some responsibilities and accountability, but the desired effect was slow for a number of reasons discussed elsewhere in this report.

- The absence of a steering committee composed of ICICI, Chemonics, and USAID representatives vested with limited decision-making authority — the authority to arbitrate disagreements relating to technical assistance and trade and investment tours — permitted no intervention in areas under ICICI authority. The formation of such a committee would have been advisable at the outset.

### **Implementation**

- USAID could be more responsive to the needs of its contractors regarding the transfer of level of effort to other staff members on contracts when a personnel change is made. USAID chose to replace Chemonics' Technical Coordinator in the summer of 1994, yet Chemonics was not permitted to transfer added billing authorization to either the technical or the administrative backstops until early 1995. The time lag caused a deterioration in the relationship between Chemonics and ICICI, and significantly reduced progress. Although USAID was not responsible for ICICI's lengthy delay in reviewing replacement candidates, USAID could have allowed for greater interim billing until the replacement was in the field.
- USAID should streamline the process of application for technical assistance — in this case, the RFS system, where the private sector is the ultimate service user. Private sector promoters require quicker service to make timely decisions. The 12-step RFS system instituted by USAID contributed to substantial delays in applications for technical assistance and trade and investment tours.

### **Client Awareness**

- The lack of awareness by several of the participants in the ACE loan program of the goals relating to backward linkages and raw material quality improvement, and to the broader social goals such as employment generation, illustrate the need to maintain awareness of the overall goals of the project in addition to venture specific investments. The combination of social goals and business goals should appeal to a larger group and thus help in promoting the project.

### **Monitoring and Evaluation**

- During the course of changes in project design, administration, and implementation that were reflected in annual plans, the verifiable indicators were only modestly revised from the original logframe. Verifiable indicators should be modified, particularly when substantial changes in implementation occur.

**ANNEX A**  
**PROJECT IDENTIFICATION DATA**



Country	India
Project Title	Agricultural Commercialization and Enterprise Project
Project Number	386-0521
Project Dates	
First Project Agreement	August 27, 1991
Final Obligation Date	mid-1997
PACD	September 30, 1998
Project Funding	
USAID Funding	\$20.36 million
Host Country Contribution	\$37.97 million
Project Equity	\$14.11 million
ICICI	
(non-ACE Loans)	\$1.6 million
Other Loans	\$1.9 million
Mode of Implementation	
Implementing Agency	Industrial Credit & Investment Corporation of India (ICICI)
Project Designers	Chemonics
Responsible Mission Officials	
Mission Director	Linda Morse
Project Officer	Prerna Tandon
Previous Evaluations	None

**ANNEX B**  
**LIST OF CONTACTS**

USAID/Delhi  
B-28, Institutional Area  
Qutab Hotel Road  
New Delhi-110016  
Tel 686-5301  
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Dick Goldman, Director Office of Energy, Environment & Enterprise

Felipe P Mateiga, Office of Energy, Environment & Enterprise

Prerna Tandon, Agribusiness Program Chief, Office of Energy, Environment & Enterprise

Leonard Kata, Regional Contracting Officer

N Ramesh, Project Development Specialist

Sunil Nanda, Chief Project & Implementation Division

Maharashtra Industrial and Technical Consultancy Organization Limited  
PB No 923, Kubera Chambers, Shivajinagar, Pune 411005  
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Fax (0212)-323-206

S R Salunke, Local Coordinator, ACE Project

Dr Pradeep Bavadekar, Managing Director

The Industrial Credit & Investment Corporation of India, Ltd  
Scandia House, NM Marg, Ballard Estate,  
Bombay - 400001  
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Fax 262-5444

A J Advani, General Manager

A T Kusre, Deputy General Manager

Dileep N Londhe, Vice President

Jaisingh D Dhumal, Loan Officer

Brahmanand Hegde, Deputy Manager

Chemonics  
2000 M St NW  
Washington DC 20036  
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Fax 202-331-8202

Allen Eisendrath, Vice President, Asia & Global

Pamela Diehl Michel, Transportation Marketing Specialist

Anjana Pandey, Project Administrator

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Shanti Path  
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Tilak Road  
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Neela Khandge  
Secretary General

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Chhatrapati Shivaji Maharaj Marg  
Bombay 400001  
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Gokul Patnaik, Chairman

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Horticulture Commissioner  
Ministry of Agriculture  
Krishi Bhavan  
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Fax 384-978  
Dr G L Kaul, Horticulture Commissioner

National Horticulture Board  
Ministry of Agriculture  
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Dr D K Uppal, Executive Director

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Dr Anand G Naik Kurade, President

Rekha Sinha, Secretary

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K V Ravindra Roa, Farm Manager

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Bombay, 400089  
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Suresh O Agrawal, Director

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Bombay 400072  
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Fax 022-578-6362  
A V Gaikwad, General Manager

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Ahmedabad 380009  
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Fax 079-656-9234  
Ashok Motiani, Director

Deccan Florabase  
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Fax 022-285-0138  
Bimal Shroff, Vice Chairman & Managing Director

Trans Agrotech Ltd  
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West Bombay, 53  
Tel 626-9292, 632-5528, 632-5529  
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Ravindra Dasa, Director

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Fax 0212-477-833  
Pradeep H Chordia, Director

**ANNEX C**  
**PARTIAL LIST OF REFERENCES**



Agricultural Commercialization and Enterprise Project Paper, August 27, 1991

Agricultural Commercialization and Enterprise Projects Plans and Reports

Chemonics Annual Work Plan 1992-1993, September 18, 1992

Chemonics Semi-Annual Work plan Review, January 6, 1993

Chemonics Annual Work plan 1993-1994, June 21, 1993

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Report of Technical Assistance Assignment Results, April, 1994

Chemonics Annual Work plan, 1995-1996, May 3, 1995

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Extending Shelf Life of Fruits and Vegetables, May, 1994

Global Market Information for Tropical Fruit Juice Concentrates, Pulp and Purees, Undated

Study of the Chilean Horticulture Export Program, October, 1993

Food and Dairy Expo, Food Megatrends 1993, PMA Convention, and Trade & Investment Tour Trip Report, November, 1993

Postharvest Biology and Technology of Horticulture Perishables, Report on UC Davis Training August 21-September 17, 1994

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Sixth Report, CIFTI, April 1993- March 1995

NABARD Annual Report, 1993-1994

Center for Monitoring the Indian Economy

Basic Statistics on the Indian Economy, August, 1994

India's Agricultural Sector Statistics, September, 1995

Government of India Economic Survey, 1993, Ministry of Finance

USAID/India, Program Summary, June, 1995

USAID/India, Program Performance Monitoring Plan, October, 1995

Development of Project Impact Framework for ACE, Information on Various Crops, TATA Consulting Services, New Delhi, November, 1995

List of RFS's including all trade missions and T/I tours

Recipient Agency Agreement for Utilization of PL 480 Title III Fund for Agricultural Commercialization and Enterprise Program in India

Fourth Amendatory Agreement to the Project Grant Agreement Between the President of India and the US for ACE, March 20, 1995

**ANNEX D**  
**SCOPE OF WORK**  
**AND**  
**LOG FRAME**

## DELIVERY ORDER STATEMENT OF WORK

### BACKGROUND

USAID/India wishes to evaluate its bilateral Agricultural Commercialization and Enterprise (ACE) Project authorized on August 27, 1991. The project assistance completion date (PACD) is 9/30/98.

The goal of the ACE project is to develop a dynamic private agribusiness sector in India. The purpose of ACE is to improve the investment environment for promoting agribusiness in horticulture. Specific improvements are expected to include: increased private investment in the agribusiness sector; improved linkages between horticultural producers, processors, and marketers; increased flows of fresh and processed horticultural products to targeted export markets; expanded bank lending to agribusiness industries; and strengthened capability of a major business association to provide agribusiness-related services to its members and to lobby for policy and regulatory improvements. The Logical Framework Matrix for the project is provided in Annex A.

The primary ACE Project clients are the private firms providing goods or services to the agro-industrial sector. The initial concentration of ACE's activities was in the state of Maharashtra. In 1994 the USAID Mission and ICICI jointly agreed on a geographic expansion of the project to cover any qualifying agribusiness project in the rest of India.

#### ACE resources finance

- o ICICI loans for agribusiness entrepreneurs. The Loan assistance are matched with the equivalent in Rupees from the agribusiness firms and for other financial institutions. The purpose of this assistance is to provide capital to agribusiness entrepreneurs for investment projects in post-farm agribusiness to help them compete more effectively in domestic or international markets;
- o Technical Assistance (TA) and Trade and Investment (T&I) tours to private firms. Agribusiness firms may apply to ICICI for TA and T&I tours independent of, or in conjunction with, a loan proposal. The TA and T&I is supplied through a U S institutional contractor namely Chemonics International, drawing on the expertise of Indian consultancy firms. The demand-led assistance is for

designing and/or implementing innovative projects related to post-farm horticultural development

- o Support for agribusiness lending to enable ICICI with assistance from Chemonics International to commission sectoral prefeasibility studies to help it identify the best subsectors and types of investment activities to promote
- o Support for the Mahratta Chamber of Commerce and Industry (MCCI) and others through financial assistance from ICICI and technical assistance from Chemonics International. The assistance to MCCI is to strengthen its activities in the agribusiness sector. The grant provides operational support to MCCI for providing services to members and working with ICICI to promote ACE. With the geographic expansion of the project it is envisaged that the same kind of support will be provided to other chambers of commerce in the additional states

The Implementation Arrangement for the project is that a key ACE Group which is established in ICICI will coordinate all activities under the ACE Project except final approval of loans ( a Standing Committee of Directors will approve loans, per ICICI's standard operating procedures) Technical assistance will be provided by the U S. firm namely Chemonics International contracted directly by USAID. Further an Advisory Council will advise ICICI to provide guidance.

To further promote the objectives of the project it has been agreed between Government of India and USAID/India that the P L.480 Title III funds will be provided to ICICI from the monetized sale of commodities. The P L 480 Title III agreement was signed between GOI and USAID in 1992.

The Life of project of ACE is seven years. The total project cost is \$ 30.9 million. There will be two funding sources 1) a USAID grant of \$ 20 million consisting of Foreign exchange and Local Currency costs to the GOI (administered by ICICI); and 2) the rupee equivalent of \$ 10.9 million contributed by the private sector. As of June 30, 1995 the obligations under the project is \$9.7 million and cumulative expenditure is \$6.4 million.

#### ARTICLE I - TITLE

Project: Agricultural Commercialization and Enterprise, 386-0521.

#### ARTICLE II - OBJECTIVE

To provide a team consisting of two U S. and one Indian consultant which shall evaluate the above project and make recommendations to USAID/India regarding the relevance,

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effectiveness, efficiency, impact and sustainability of the project activities.

**ARTICLE III - STATEMENT OF WORK**

The Contractor shall conduct an evaluation and submit a report which provides empirical findings to the concerns listed below, conclusions (interpretations and judgments) that are based on the findings, and recommendations based on an assessment of the results of the evaluation exercise. Also the evaluation report should provide lessons learned that may emerge from the analysis

The key concerns to be addressed by the evaluation team are listed below.

1. RELEVANCE In view of the changing Indian economic scenario and the establishment of a new USAID/India program strategy, are the development constraints the project was initially designed to address major problems that are germane to the current development strategies supported by USAID?
2. EFFECTIVENESS Is the project achieving satisfactory progress towards its stated objectives and how should the project maximize its achievements during the remaining implementation period? USAID requests the evaluation team to specifically examine the performance of activities under the various project elements such as loans to private agribusinesses, technical assistance, trade and investment tours for private firms, support to ICICI for agribusiness lending, support to business associations such as MCCI for agribusiness, and also examine the implementation procedures, promotion activities, geographic expansion, financing, role of counterpart and contractor etc. The evaluators are also requested to examine the appropriateness of extending the project with suggested time-frame, activities and funding
3. EFFICIENCY: Are the effects of the project being produced at an acceptable cost compared with alternative approaches to accomplishing the same objectives?
4. IMPACT What has been the impact of the project based on the purpose level indicators specified in the Logical Framework matrix and specifically on women?
5. SUSTAINABILITY: Are the effects of the project likely to become sustainable development impacts -- that is, will they continue beyond the project assistance completion date? Evaluators are also requested to examine the role of Title III currency generations which are to be applied for agribusiness activities
6. HOST COUNTRY CONTRIBUTION (HCC): Evaluators are requested to report on the adequacy and reliability of the HCC.

7 EXPANDED FOCUS OF THE PROJECT. Following the visit of Secretary Ron Brown in 1994, it was decided to focus the project towards enhancing Indo-U.S. Agribusiness Linkages. In context of their findings, the evaluators are requested to examine the relevance of the expanded focus of the project and provide recommendations on the same.

#### ARTICLE IV - REPORTS

1 The contractor must submit a final evaluation report and complete the abstract and narrative sections of the AID Evaluation Summary (AES) form in accordance with the requirement specified below upon completion of the assignment. Three days prior to departure from New Delhi the consultants must submit a draft report to USAID/India and also arrange to debrief the USAID staff and ICICI. The team leader must ensure that all comments on the draft report are incorporated and the final report submitted at the earliest after the completion of the assignment along with the AES;

2. USAID's required format for evaluation report is as follows

- Executive Summary
- Project Identification Data Sheet (see Annex B)
- Table of Contents
- Body of the Report
- Appendixes

The executive summary should state the development objectives of the ACE, purpose of the evaluation; study method, findings, conclusions, and recommendations, and lessons learned about the design and implementation of ACE project (See Annex C for more detailed instructions )

The body of the report should include discussions of (1) the purpose and study questions of the evaluation; (2) the economic, political, and social context of the project, (3) team composition and study methods (one page minimum), (4) evidence/findings of the study concerning the evaluation questions, (5) conclusions drawn from the finding, stated in succinct language; and (6) recommendations based on the study finds and conclusions, stated as actions to be taken to improve project performance. The text should not exceed 30 to 40 pages with more detailed discussions of methodological or technical issues placed in appendixes.

Appendixes should include a copy of the evaluation scope of work, the most current Logical Framework as pertinent, a list of documents consulted, and individuals and agencies contacted. Additional appendixes may include a brief discussion of study

methodology and technical topics if necessary.

3. A sample copy of the AES is provided in Annex D

**ARTICLE V - RELATIONSHIPS AND RESPONSIBILITIES**

The team will work under the technical directions of Mr Felipe Manteiga, Deputy Office Director and Ms. Prerna Tandon, ACE Project Officer in the Energy, Environment and Enterprise (E3) office. The team may also draw support from the Office of Project Design, Implementation and Training (PDIT) which coordinates all USAID evaluations. All coordination with the Government of India, ICICI and other institutions will be coordinated through the E3 office

**ARTICLE VI - PERFORMANCE PERIOD**

The expected period of performance will be from October 10 onwards.

**ARTICLE VII - WORK DAYS ORDERED**

<u>Position</u>	<u>Work Days</u>
1. Trade and Investment Specialist/Team Leader (U.S.)	24
2. Trade and Investment Specialist (U.S.)	24
3 Market Specialist (Indian)	18

Work days include interviews with Chemonics International, USAID/W etc in the United States by the U.S members, travel from United States to New Delhi by two U.S. experts, travel to New Delhi by Indian expert, stay and work in New Delhi of all team members, travel within India by all team members for interviews with ACE participating agencies, travel to United States by two U.S. experts and travel to place of work by Indian expert. Work in United States by U.S members for finalizing report

**ARTICLE VIII - SPECIAL PROVISIONS**

**A. DUTY POST**

New Delhi

**B. LANGUAGE REQUIREMENTS AND OTHER REQUIRED QUALIFICATIONS**

English

**C ACCESS TO CLASSIFIED INFORMATION**

The Contractor shall not have access to any Government



classified material

D LOGISTIC SUPPORT

USAID/India will provide background material to the team  
USAID will also provide the office space required for the team.  
All other logistics and secretarial support must be arranged by  
the contractor

BEST AVAILABLE COPY

AGRICULTURAL COMMERCIALIZATION & ENTERPRISE  
REVISED LOGICAL FRAMEWORK

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS																					
<p><b>SECTOR GOAL</b></p> <p>To develop a dynamic private agribusiness sector in India</p>	<p>Larger share of agro-industry in industrial value added Higher quality of processed agricultural goods - Larger share of agricultural goods in exports Increased employment in agribusiness</p>	<p>- National agricultural statistics - Export documentation - Employment statistics</p>	<p>Political and economic stability Continuation of policy liberalization</p>																					
<p><b>PROJECT PURPOSE</b></p> <p>To improve the investment environment for private agribusiness in horticulture</p>	<p>Growth of agribusiness firms supported by ACE Project replication (product, region process/technology) in priority subsectors Increased lending by DFIs to horticultural subsector</p>	<p>State and national agricultural and industrial statistics - Annual performance reports from firms ICICI and DFIs - ACE monitoring reports - Evaluation Reports/Annual Reviews</p>	<p>- Implementing agency strength continues - Continuing improvement of GOI policies on agribusiness Private sector willing to take advantage of opportunities in agribusiness</p>																					
<p><b>PROJECT OUTPUTS</b></p> <p>- Increased investment in agribusiness by private firms</p> <p>Improved management in agribusiness</p> <p>- Strengthened financial institution support for agribusiness</p> <p>- Strengthened business association</p> <p>- Policy dialogue</p>	<p>25 loans received by agribusiness entrepreneurs</p> <p>100 private firms assisted with TA</p> <p>increased sales of agricultural products and agribusiness equipment/supplies decreased costs of production/processing in assisted firms</p> <p>- Improved project identification and appraisal capabilities strengthened monitoring and support increased lending increased repayments</p> <p>- Increased services to members</p> <p>Workshops policy studies and dialogue</p> <p>- 8 policy studies workshops</p>	<p>ACE monitoring reports</p> <p>- Annual sample surveys</p> <p>- ACE monitoring reports</p> <p>- Business performance data</p> <p>Implementing agency records</p> <p>- Business performance data</p> <p>Annual performance reports</p> <p>ACE records</p>	<p>Private sector willing to submit proposals, take risks</p> <p>- Infrastructure improvements continue</p> <p>- Financial institution will be ready to improve procedures if necessary</p> <p>Business association wants to improve its programs willing to share costs</p> <p>Climate conducive for policy dialogue</p>																					
<p><b>PROJECT INPUTS (\$ millions)</b></p> <table border="1"> <thead> <tr> <th></th> <th>USAID</th> <th>GOI</th> </tr> </thead> <tbody> <tr> <td>- Loans</td> <td>10.00</td> <td>10.00</td> </tr> <tr> <td>- TA</td> <td>5.95</td> <td>0.00</td> </tr> <tr> <td>- Grant to MCCI</td> <td>0.92</td> <td>0.00</td> </tr> <tr> <td>- Support to ICICI</td> <td>0.92</td> <td>0.00</td> </tr> <tr> <td>- Contingency</td> <td>1.53</td> <td>0.90</td> </tr> <tr> <td>- Initiation</td> <td>1.04</td> <td>0.00</td> </tr> </tbody> </table>		USAID	GOI	- Loans	10.00	10.00	- TA	5.95	0.00	- Grant to MCCI	0.92	0.00	- Support to ICICI	0.92	0.00	- Contingency	1.53	0.90	- Initiation	1.04	0.00		<p>Financial monitoring reports</p> <p>- Output monitoring records</p>	<p>Timely funding staffing procurement by USAID and ICICI</p>
	USAID	GOI																						
- Loans	10.00	10.00																						
- TA	5.95	0.00																						
- Grant to MCCI	0.92	0.00																						
- Support to ICICI	0.92	0.00																						
- Contingency	1.53	0.90																						
- Initiation	1.04	0.00																						

**ANNEX E**  
**ACE PROJECT PROFILES**

## FRESHTROP FRUITS PRIVATE LIMITED

Date of site visit	November 6, 1995	
Project Location	Village Jaulke, Nasik, Maharashtra	
Product	Precooled fresh fruits	
Installed capacity	2400 tonnes per year	
Increased Jan '95 to	6600 " " "	
Cost of project	Capital cost	127 lakhs
	Margin money	23 "
		-----
	Total	150 "
		=====
Phase II Jan '95	Additional Equity	310 lakhs
	ACE loan	100 "
	other	<u>161 "</u>
	Total	571 "
Commercial production	15th February, 1993	

## Project brief

The promoter, trained as an aeronautical engineer and already having a successful business in corrugated box manufacturing, worked with Mahgrape Federation in exports of grapes to Dubai. The market for grape exports had become possible following their export on consignment in 1990. In 1993 the Chilean crop failed and trial shipments to UK were successful. Freshtrop approached ICICI and applied in August, 1991 for ACE funding. The project was sanctioned on 11.01.93. The company undertook site development works and went into commercial production by February-March 1993. Freshtrop earned a profit in the first year. The promoter attended the PMA convention in October 1993.

In a second stage, equity was increased from 5 Million to 45 million Rs with additional funding from ACE in January, 1995.

## Project justification

- The project was the first venture in precooling fruits and vegetables in Nasik region in private sector, compared to existing cooperative ventures
- Backward and forward linkages were established with market oriented approach since the promoter was already established in international markets
- The project offered dual benefits- earning foreign exchange while reducing wastage of products by better handling and storage facilities
- The project introduced high quality harvesting and post harvest technology in the most productive area of the State through introduction of innovative extension and handling facilities

### Project Highlights

- Started with grapes but diversified into pomegranates, mangoes, apples and is experimenting with babycorn, asparagus and aubergines for retail outlets in UK-European markets
- Has established excellent backward linkages with growers and is keen to introduce new vegetables to growers
- Is setting up a 100 Ha demonstration farm for captive supply and wants to develop it as a center of excellence
- Has achieved targeted production and exports
- Has imported the first mobile precooling facility and built up adequate capacity to achieve sustainability and growth
- Has added a washing, drying and waxing line to handle mangoes, pomegranates and apples
- Has successfully exported 10 containers of pomegranates to UK, European and Pacific markets
- Currently handling apples from Kinnor for export to Sri Lanka and sale in local markets
- The promoter understands the need to diversify the raw materials and use equipment throughout the year

### Impact

- Has provided direct employment to 200 workers (40% female) on seasonal basis and to 30 persons on year round basis Significant contribution to improving worker's skills, improved hygiene and living standards due to increased earnings
- Backward linkage with the growers and forward linkages to international retail markets have been established
- Close linkage with the Mahgrape units is leading to improved utilization of their existing infrastructure
- Center of Excellence through demonstration of quality production attempted by the project will have long-term impact on the farming community

The team noted the work done by ICICI and the promoter on developing the project as a highly successful venture deserving the highest rank of the ACE projects evaluated. He is keen to use TA to undertake market studies of international markets. The promoter stressed the need for local laboratories to be established to undertake testing for chemical residues and able to provide results quickly, before goods are exported. The testing should be to internationally recognized standards with indisputable integrity. The promoter, a carton manufacturer, stressed that Indian cardboard was not strong enough when used in the humid atmosphere necessary in fruit storage and transport, and that it was necessary to use imported board or cartons.

## DECCAN FLORABASE LIMITED

Date of site visit	November 3, 1995	
Project Location	Village Jambul, Pune, Maharashtra	
Product	100% Export Oriented Unit for cultivation of roses	
Initial coverage	4.5 hectares under greenhouse	
Actual coverage	6.3 hectares under the green house	
Targeted output	9.6 million cut flowers	
Current achievement	60% in 94-95 may achieve 75% in current year	
Cost of the Project	Capital cost	Rs 570 lakhs
	Margin money	Rs 130 lakhs
	Total	Rs 700 lakhs
Commercial production	1st November, 1994	

## Project brief

The promoter was attracted to ACE /ICICI as he did not get good response from commercial banks which showed complete lack of knowledge of floriculture. His introduction to ACE was through Mr Advani and received positive tips from the Technical Coordinator. He approached ACE only after thorough market study since he viewed his financial input as more critical. He set up the project at a very competitive cost through use of local supplies and equipment. He developed the equipment he needed for grading, trimming and bunching flowers and for movement and storage with the help of local tradesmen. These tradesmen have become suppliers to others in the floriculture industry. The promoter has keen knowledge of the international floriculture scene and has shown rare market penetration capability coupled with technology adaptation.

## Project justification

- This is one of the pioneering ventures in commercialization of high-tech floriculture through a medium scale entrepreneurs
- The project provides direct employment to the section of the rural community with the greatest level of unemployment and an opportunity to improve skills
- It provides an opportunity to penetrate new markets

### Project Highlights

- Has linked up with prime genetic material supplier from Europe and, after starting with Zimbabwean stock, has established captive planting material capability in a short time, thus reducing the cost of replanting and of expansion
- The development of local equipment suppliers has reduced costs and helped promote local industry, e g trollies developed in Pune are supplied all over the country, a trend setter for the nascent floral industry
- He is providing planting material and technology to other floriculture projects thereby reducing their costs and gestation period leading to higher success rate
- Despite keen international competition and stiff market resistance the project entered the Dutch flower auctions in 94 and has repeated the performance this year at higher revenue earnings  
Was the first Indian venture to break into the difficult Japanese flower market
- The project aims at 100% scaling up of the projected capacities in the next two years

### Impact

- Has provided direct employment to about 170 workers (40% women) year round Has also recruited 12 agronomists as trainees and offers skill development opportunities to all
- The early success of the project has led to establishment of a large number of units in the region
- The entry in Japanese market has given a new dimension to the floriculture marketing sector allowing closer Indo-Japanese trade links
- The project has developed local production capability in products like trollies, guillotine and shopfloor furniture thereby providing the manufacturers an all India market

The team was satisfied with the progress of the project and the in-depth subject knowledge displayed by the entrepreneur He is keen to develop a market based partnership with US entrepreneurs and wants TA regarding the South American floriculture industry The project is moving in the right direction and his successful implementation of first phase of expansion ensures sustainability with profit

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## EURO FRUITS PRIVATE LIMITED

Date of meeting	Nasik site visited on November 6, 1995 Meeting with promoter at ICICI office on November 8, 1995	
Project Location	Village Vander, Nasik, Maharashtra	
Product	Precooled fresh fruits	
Installed capacity	Precooling of 24 tonnes of fruits/day Storage of 120 tonnes	
Cost of project	Capital cost	Rs 275 lakhs
	Margin money	Rs 75 lakhs
	Total	Rs 350 lakhs
Commercial production	April 1, 1994	

## Project brief

The promoter is a second generation entrepreneur who has diversified his main line of transport into fresh fruit processing. He and his family members have successfully implemented this project by their physical presence on the shopfloor and at the port during the season. He approached ICICI while exploring the possibility of wine production and export but then was attracted to grape processing through the success of Freshrop Fruits Private Limited. The project was sanctioned in August 1993 and went into commercial production in April 1994. The promoter has a keen sense of the market and appears to be using his transport industry know-how for broadening his business base. The promoter participated in PMA 93 and also went to UC Davis course in 94 and benefited substantially by the exposure.

## Project Justification

- The promoter is keen on market innovation by tackling high risk high value export of fruits and vegetables
- The region produces large quantities of fruits and vegetables and the project fulfills local need for critical storage and handling of perishables
- The project is a backward integration of his existing transport business and thus provides easy access to the perishables grown locally
- Located in a remote area, the project offers work opportunities to tribal people and other parts of the rural community and provides improved skills and direct improvement in the quality of life through increased earnings

## Project Highlights

- He is processing or experimenting with a wide range of products - grapes, pomegranates, vegetables, tomato, okra, varieties of melons, as well as papaya
- He has used APEDA's help in export missions, thereby broadening his market base
- He has direct contact with wholesale and retail outlets in the UK and Europe facilitating higher returns from valuable market feedback



- He has set up a captive farm of 275 acres, with 100 acres of grapes, 150 kms from the site for producing the entire range of products This will ensure quality supply to his unit and facilitate introduction of new vegetables and fruits
- He has achieved the targeted production and exports and has received satisfactory return In 1995 he exported 52 containers of grapes, and 8 of pomegranates to UK, Belgium, Germany, Hong Kong and Malaysia
- He has organized grower's seminars during production season 1994-95 thereby developing a net work of 400 farmers in the Nasik area and 500 farmers in the Sangli area

#### Impact

- Supported by foreign buyers his introduction of vegetables, destined for the English market, on his farms and with out-growers which could provide vast export opportunities
- Information exchange with farmers through annual seminars and direct harvesting of their produce, will substantially benefit the rural farming community both by broadening their knowledge base and improving work practices
- On the job training and strict adherence to hygiene standards will improve the quality of life and provide increased earnings
- He employs 200 persons in the season (40% female), and provides in-house training in production, hygiene and sanitation 20 supervisory staff are permanent

The promoter appears to have achieved success in quality production and exports His presence on the shopfloor along with his wife during production season ensures high quality production besides higher morale of the work team His links with importers and his strength in domestic transportation give him an edge for deeper market penetration and product innovation With the development of captive farm and diversification of procurement and processing the project is on the way to achieving sustainable profits

The promoter stressed the need for more information on competitor centers such as Chile, South Africa and Australia with possibly reciprocal visiting He plans to focus attention on Pacific-rim markets, Korea, Hong Kong, Indonesia, Malaysia and Singapore and to visit them with an APEDA group in December '95 He also plans to aseptically pack tomatoes and onions

## TRANS AGROTECH LIMITED

Date of meeting	Meeting with promoter in ICICI office on November 8, 1995	
Project Location	Dindori, Nasik, Maharashtra	
Product	Precooled fresh fruits and vegetables	
Installed capacity	7200 tonnes/year	
Cost of project	Capital cost	Rs 385 lakhs
	Margin money	<u>Rs 135 "</u>
	Total	Rs 520 "
Commercial production	July 1, 1995	

## Project brief

The promoters are well established in the transport industry and decided to invest in agribusiness. The goal is to achieve backward integration by value addition and installation of a cold chain for effective movement and sale of perishables. The promoter has been encouraged by the early success of ACE project, which he heard about from his refrigeration customers, and exposure to various program activities. The project was approved in October 1994 and went into commercial production this year, hence the promoter has still to prove his success in the field.

## Project Justification

- The project, a logical extension of the promoter's existing transport business, makes it possible to transport perishable horticultural crops throughout India.
- The Nasik region produces large quantities of fruits and vegetables, hence the project is vital for reduction of losses in product handling and storage as well as increasing the revenue of the farming community.
- The wide variety of fruits and vegetables proposed will provide full utilization of the equipment and staff, besides helping diversification by growers into new varieties.
- The promoter plans to use his cold chain and chill stores at retail sites to sell better quality fruits and vegetables at an acceptable price and to reduce waste.

## Project Highlights

- The promoter had participated in the UC Davis program under ACE as well as the Bombay seminar on sharing of experiences.
- He is satisfied with technical assistance received under ACE including access to important technical literature and market information. He needs frequent international interaction under ACE umbrella.

- The promoter has already concluded marketing tie-ups in the UK, Dubai, Hong Kong, etc. He plans to extend marketing to Malaysia, Indonesia and Singapore with the help of ACE TA. Besides exports, he is interested in developing the ethnic market in India by installing cool chambers at specific locations to sell 30% of output in the domestic market.
- He has direct access to over 2000 refrigerated retail outlets in Bombay which he services as a distributor of Walls Ice Cream, giving him an entry opportunity to the high value domestic market segment.
- He has a captive farm of 200 acres and aims at achieving 60% of raw material captive production of fruits and vegetables and is seeking preharvest technology from ACE.
- He is looking at achieving multi-product mix by diversifying into production of pulp/puree.
- He plans to start sending chilled strawberries to England in December 1995, with a goal of 150 tonnes in the first season. Grapes will follow in February-March 1996, then mangoes to Asia.
- The promoter is negotiating to arrange customs clearance of grapes in the factory, before shipment to the port to avoid disruption that can be caused in customs searches.

#### Impact

- He provides direct employment to about 200 workers (40% female) and provides on the job training including video cassettes display to the personnel. This will have significant impact in improving local skills and work capability.
- His aim is to install additional cool storage at selected locations in the domestic market in addition to using the existing cold chain units to develop a niche market of consumers willing to pay higher prices for better quality fresh fruit and vegetables with improved shelf-life.

Since the project has only recently started, it is too early to judge its future success. However, the team feels that if the promoter takes proper steps to establish strong backward linkages, ensuring proper utilization of the plant capacity for at least 250 days of the year the chances of success are good. However, the project needs proper TA particularly in the pre-harvest area to achieve the desired goal.

## CHORDIA FOOD PRODUCTS LIMITED

Date of site visit November 4, 1995

Project Location Shirwal, District Satara, Maharashtra

Products and Capacity	Curry paste/sauces	1000 tonnes/year
	Mango chutney	480 "
	Tomato ketchup	1080 "
	Canned fruit&veg products	<u>500</u> "
	Total	3060 "

Cost of project	Capital cost	Rs 623 lakhs
	Margin money	Rs 122 "
	Total	Rs 745 "

Commercial production ACE project unit will start in late '95 and attain full production in 1997-98  
(This unit is an addition to an existing company)

## Project Brief

The project is an extension of the activities of the existing company, Chordia Food Products Limited, established in 1982 and marketing a wide range of spices and processed foods under the brand name, "Pravin". The brand name is well established in both domestic and international markets. The promoter came in contact with ACE through MCCI and decided to establish a product line with a premium brand adhering to high international standards. This is basically a high volume industry with an above average failure rate but the company has shown remarkable strength through two decades of operation. The company is already profitable and through ACE should achieve market diversification.

## Project Justification

- This is an existing unit aimed at backward integration, quality improvement and upscale market penetration for higher economic returns
- The project aims to deliver consistent high quality product and improve export earnings by application of high technology, both in selection of plant machinery and product processing through use of appropriate food technology
- The project attempts to provide alternative employment and upgrading of skills for farm laborers

## Project Highlights

- The promoter is a food technologist and has been exposed to international market for some time. He has participated in the PMA in October 1993 and has received subsequent TA to upgrade his process
- He has established backward linkages with fruits and vegetable growers to supply a wide range of inputs. Tomatoes are grown to specifications under production contracts
- He has received assistance from the IESC program which was useful in packaging his products for the US and other international markets, a case for horizontal linkages between other parallel technology assistance schemes

- The promoter has adapted indigenous plant machinery to suit shopfloor conditions and even redesigned the fixtures
- The promoter attended the October 91993 PMA show and received ACE TA to set up a new food laboratory
- The promoter has undertaken local development, both in raw material supply and shopfloor needs
- The project emphasizes quality of inputs and scientific supervision which helped establish "Pravin" as premier domestic and export brand

### Impact

- The project has provided direct employment to 80 workers (40% female) at the Satara plant while the company provides direct employment to 500 workers (50% female) at its other facilities situated around Pune. The impact in terms of total employment generation is significant since primary raw material handling and sorting is locally done providing further employment opportunities
- The promoter has persuaded the local SNTD institute to launch a special course in food technology thereby catering to the needs of other food processing projects in the country. The unit employs five such personnel as part of their training. The industry absorbed all students who completed the SNTD course last year
- The promoter has developed a quality data base and information system on competitive products offered in domestic and export markets and has shown willingness to share the information with the industry, particularly with other ACE project holders. This will have a positive impact on other ACE projects besides benefiting the local spices and processed food industry
- The project has promoted growers in the vicinity to produce fruits and vegetables required by the unit. He has also offered help in upgrading raw material handling practices of the growers which will benefit the primary fruit growers in the long run
- By processing fruits like green mangoes, the project not only helps to increase farmer's incomes and spread out the harvest period, but has also reduced the losses otherwise occurring by rain or wind damage. The greater demand for green mangoes for processing has led to raw material shortages and price increases for the grower

The promoter group has attained a dominant position in the spices and processed foods sector and the team believes that it is well on its way to attaining full capacity and should achieve if not surpass projections. The promoter suggested that the ACE unit is seen as a model for similar units in the State. The promoter has also offered to set up a sophisticated information center for the benefit of local entrepreneurs

The promoter pointed out that India has the benefit of the cheapest land and labor costs in the world, but that its finished products are often expensive. He suggested that ACE should study the causes of higher costs and the actions by industry and government that are needed to rectify the situation. The promoter also said that there was a need for food research work guided by industry needs, as opposed to the present CSIR program which is basic research and too general

**RADHAKRISHNA CARRIERS PRIVATE LIMITED**

Date of meeting	November 8, 1995	
Project Location	M I D C Satara, Maharashtra	
Project Activity	Cold Storage for fruit/vegetable preservation Capacity 4000 tonnes	
Cost of the Project	Capital cost	Rs 128 lakhs
	Margin money	Rs 2 "
	Total	Rs 130 "
Commercial Production	April 1, 1995	

**Project brief**

RCPL is engaged in the transport business. The promoter has 15 years of experience in this field and learned about ACE through MCCI. After conducting a survey of Satara/Tasgaon area which produces over 30,000 tonnes of grapes, RCPL determined that cold storage was the basic need of the area as there was no such existing facility. The cold storage is occupied between February to October/November by raisins, January to June by potato seed brought from North India, October to February by storage of vegetables (GHEVDA), and green tamarind stored between May and November. Contacts with the growers and the traders also give a competitive advantage.

**Project Justification**

- This 4000 tonne cold storage is the only one functioning in the district, catering to a large production center of grapes and raisins thereby reducing waste and growers losses besides increasing export capabilities.
- By providing storage facilities in the raisin/vegetable growing area, there is significant improvement in the product quality resulting in higher revenues for growers.
- The promoters have achieved backward integration through linkage of their cold chain with the cold storage at Satara.

**Project Highlights**

- The first phase of the project has been completed with the commissioning of 2000 tonnes capacity, an additional 2000 tonnes storage is under construction. The company is also planning another, 1000 tonne storage at a site 120 kms away to ensure proper cold chain linkages.
- There is high demand for cold storage facilities, the project operates at 10% above its rated capacity in order to meet heavy demand.
- Due to multi-chambered storage facility, 20 x 100 tonnes, the project has capacity to handle different types of fruits and vegetables.

**Impact**

Although the project has only recently been commissioned, due to the existing transportation linkage of the promoter, the cold storage is fully utilized. Innovative storage of raisins and green tamarind is

expected to lead to a better delivery package both to domestic and international markets. This will have a long term impact in both production and market segments.

The promoter pointed out that only about 20% of the grape crop is suitable for export, with 40% moving into the local fresh market. The remaining 40% are dried to be sold as raisins. The quality of the present production of raisins needs to be improved and the raisins need to be cold-stored to maintain the quality. As the volume of grapes being grown for export increases, the volume of grapes being dried is also likely to increase. Raisin production increased from 12,000 mt in 1992 to 22,000 mt in 1994. India has in the past been an importer of raisins from China and Afghanistan, but increased local production could replace imports and possibly lead to a net exporter position for India. Improved technology of production and storage needs to be studied, possibly with the expertise of the Californian raisin industry.

The promoter pointed out that there is a great demand for deep-freeze storage for dairy products, milk, butter and ice cream. Privatization of the dairy industry will increase the demand for cold storage and refrigerated transport.

The team is confident that if TA is provided in areas like raisin production technology, use of solar energy in cold storage and energy conservation, the project will improve its performance and provide better facilities at reduced costs to growers.

**HI-REL AGRITECH PRIVATE LIMITED**

Date of site visit	November 3, 1995	
Project Location	Sangamwadi, Pune, Maharashtra	
Product	Dried /preserved flowers, foliage and plant parts	
Installed capacity	10,000 roses/day 1000 kg of statice flower/day 1000 kg of other flowers/day	
Cost of project	Capital cost	Rs 79 lakhs
	Margin money	Rs 6 lakhs
	Total	Rs 85 lakhs
Commercial production	April 9, 1991	

**Project brief**

The promoters are engaged in manufacture printed circuit boards with assistance from ICICI. They traveled to Israel on a study tour and met the ICICI delegation. They approached ACE to diversify their business. After a brief study of the \$13 billion US dried flower market, they applied for an ACE loan and the project was approved within a month of submission. The project involves drying /preservation of flowers for use as decorations largely for export. Three processes are mainly used (i) air drying (ii) drying in desiccant and (iii) drying in solution. They obtained the technology from G&S Sales Inc, US and have received assistance from the USAID RAP project.

**Project Justification**

- This is a unique project for Western India set up with US technology. Given the fact that vast quantities of local flowers/decorative plants are wasted, this is a unique application of earning foreign exchange through waste reduction.
- Through development of a marketing tie-up, the project has achieved rare market penetration in the international flower trade.
- With the increase in development of the floriculture subsector, large quantities of superior quality flowers, slightly below the fresh flower export norms, is available in the Pune region.

**Project Highlights**

- The promoter has received active support from ACE through TA and T/I. The RAP project has also provided valuable guidance and expertise when ACE was unable to provide timely TA.
- The project has exported six containers between January-May 95, while one 20 foot container has already been exported in the current year.
- Hi-Rel has a three year export commitment with a New Jersey broker and is exporting 21 types of flowers and plants, many for the first time from India.
- The US collaborator provides technical know-how, personnel training and critical market feedback.



- The project has promoted flower production of select varieties within 20 kms areas of Pune reducing the production risk and developing local vendors

#### Impact

- The project provides direct employment to 36 workers of which 33 are women, none previously employed. It also provides skill upgrading and informal counseling to the women workers including family planning advice. Hi-Rel plans to have canteen facilities next year. The close link with the village enables the flower operations to run late at night when harvest time dictates the need.
- The project has established formidable forward linkage through market penetration and developed contract farming practices in flower production, a unique effort in this industry. This will also promote identification of new varieties of flowers and plants that can be dried and marketed, thereby broadening the scope of dried flower exports.
- 35 to 40 farmers, who had previously only grown onions and potatoes with little or no profit are now Hi-Rel producers. Hi-Rel gave them 21 varieties of flower seeds and agreed to buy their crop. 100 acres were sown, each acre requires 200 days work per year, with pay of 40Rs/day for men and 20 Rs for women.
- Encouraged by the producer/grower relationship, the project is proposing to diversify into other areas like gherkins in brine, thereby building on the linkages already established.

The project is meeting financial projections despite lower prices due to poor quality. TA is required to help identify replacements for chemicals that are now being used.

Since the unit has just gone into production, early success may be difficult to repeat. But considering the vast scope of the international market, sizeable availability of raw material and the promoter-technology linkage, the project's outlook appears positive. The project is in need of continued TA and T/I assistance by way of exposure to the US industry and would need these inputs for the next two or three years.

## WEIKFIELD AGRO PRODUCTS LIMITED

Date of site visit	November 4, 1995	
Project Location	Bakori, Pune, Maharashtra	
Product & Capacity	Processed Mushrooms	800 tonnes/year
	Processed Vegetables and Fruits	2000 "
Cost of project	Capital cost	Rs 1657 lakhs
	Margin money	Rs 93 lakhs
	Total	Rs 1750 lakhs
Commercial production	April 1, 1996 (proposed)	
Pilot Project Commissioned	September 1995	

## Project brief

The project has been promoted through formation of a new company called WAPL by the Weikfield Group in March 1995. The Weikfield Group had a 1994 turnover of Rs 1692 lakhs with an operating profit of 8.5%. The group has strong marketing strength, both domestic and export, and are engaged in the production of custard and starch products, tea, and pickles.

Initially the promoters wanted to launch a floriculture venture but decided upon mushrooms. The project proposes to balance the product mix by producing button mushrooms, oyster mushrooms as well as processed fruits and vegetables. Under collaboration with Franklin Farms Inc. US, the project team has successfully developed production capability within the budgeted time and cost estimates.

## Project Justification

- This is the first high-tech mushroom project using controlled conditions in Maharashtra/Gujarat area
- The project provides backward integration to the promoter group to utilize its marketing strength
- The project will provide direct employment to 450 persons and indirect occupation to 300 families in the underdeveloped region
- The project proposes to use paddy straw and press mud from sugar cane processing and spent lime waste with high BOD count, otherwise a polluting by-product. This project is attempting to earn foreign exchange through waste utilization.

## Project Highlights

- The pilot project launched by the promoter in September 1995 has successfully completed mushroom production trials and achieved budgeted production and prices. Pilot scale production was targeted at 4.3 lbs/sq ft, but 6 lbs has been achieved.
- The remaining project construction and erection work is on schedule and should meet the targeted date of production in April 1996.
- The project has involved local women's organization and employed them both in production and service facilities (local women provide canteen facilities for the present workforce).

- The trial product has been favorably received in the domestic market

#### Impact

Since the unit is still under construction, it is not possible to measure its impact on the local environment. However, with the strength of the promoter group the production quality and market penetration projections may be achieved.

The group has strong fundamentals and hopes to provide employment to over 400 women in the project. The new company is working with the Association for Women Entrepreneurs (assisting women in the local village to make and market their handicrafts) and the Maharashtra Housing Board. The company has taken a pioneering position in trying to assist tribal workers employed on building construction. They are being offered permanent sites, land and assistance with housing as well as planting material for new their land, a worthwhile program of helping to settle these landless people. These factors seem to have weighed heavily in providing ACE funding to this project.

## AGRI EXPO BIOTECH(INDIA) PRIVATE LTD

Date of site visit	November 6, 1995	
Project Location	Village Khedale, Nasik, Maharashtra	
Product	260 tonnes/year of strawberries covering 20 acres of land	
Cost of project	Capital cost	Rs 236 lakhs
	Margin money	Rs 14 "
	Total	Rs 250 "
Commercial production start	April 1996	

## Project brief

The promoters are a mixed group of young technocrats and farmers. They approached ICICI to set up of strawberry-cum-floriculture venture. They have set up a one hectare plot of roses in greenhouses with assistance from non-ACE ICICI bank lending. The strawberry project has been funded by ACE and proposes to utilize the precooling and storage facilities developed by the floriculture project. Promoters have no knowledge of strawberry production and are relying on technology offered by an Israeli associate. This has resulted in some design flaws e.g. they propose to plant strawberries in February 1996 with commercial production in April 1996. Since the temperature increase beyond 35 degree C in March/April, production will cease by April/May. However, they may gain experience during the current production season and makes changes to avoid future mistakes.

## Project Justification

- The project is expected to provide employment to 60-65 persons out of season and a further 100 in season (95% women). This should benefit the tribals and other segments of the nearby community.
- The project should provide better use of the precooling facility developed for the roses project.
- The project should act as a demonstration for the local farming community, both in growing and processing of strawberries.

## Project Highlights

- The promoters had completed planting and installation of irrigation system on 17 acres. They are expecting to harvest strawberries by January 1996. The requisite irrigation infrastructure facilities seems to be adequately developed.
- The construction of precooling and cold storage facilities is in progress and needs to be completed by January/February 1996. This is essential to meet the European export season, and therefore needs close monitoring.
- The project employs 60 women workers at present and the number will increase during the fruit picking season. Three male agronomists have also been employed from the region.
- The project has made arrangements for export to Europe through AGREXCO, an Israeli company. A tie up in the South-East Asian market is also being developed. The promoters have developed their own carton for exporting their strawberries to the European markets and expect to be the first to use UPC bar-codes on their packaging.

- One of the promoters is always stationed at the site for close monitoring of the project

#### Impact

Since the project is yet to achieve commercial production, it is too early to judge its impact on the region. The cost of the infrastructure for this strawberry production is very high and may discourage the local farming community from emulating the project. However, demonstration of model farming/irrigation practices should help the farming community in their normal operations. Local farm labor employment and skill level will be enhanced by the project.

Because strawberries are a risky crop both in terms of yield and price fluctuations the profitability and economic viability of the venture has to be monitored. For example, between November 1994 and April 1995, the strawberry price fluctuated between Rs 35 and Rs 150 per kg. The export price also fluctuated between \$4 to \$7 per kg in the international market. In order to minimize risk, it would have been ideal to set up a pilot project in the current year from which to expand. Alternatively, the promoter's contribution could have been increased to offset the risk.

The project is in need of sustained agronomical inputs besides effective domestic marketing support since 40% of the strawberry production will have to be rapidly disposed of in the domestic market. The promoters need to develop this aspect of the project. If adequate attention is not paid to this area then the viability of the entire project may be adversely affected.

The promoters need to find additional products to fully use their considerable investment in chilling and chill storage in the many months of the year when strawberries are out of season. Diversification from their one-product project would make them less vulnerable to vagaries of crop yield and market prices. A range of other fruit and vegetables such as snap-peas, french beans or fruits that can be exported to European and Far-Eastern markets should be considered.

## PHIL CORPORATION LIMITED (PLC)

Date of meeting	November 8, 1995	
Project Location	Valpoi, District Sattari, Goa	
Project and Capacity	Cashew kernels	3000 tonnes per year
	Cashewnut Shell Oil	490 tonnes per year
Cost of the Project	Capital cost	Rs 195 lakhs
	Margin money	Rs 120 lakhs
	Total	Rs 315 lakhs
Commercial Production	January, 1996	

## Project brief

This is a new venture being established by the existing company with annual turnover of Rs 132 crores and current profits at about 7.5% of annual turnover. The promoters have an all India marketing network for marketing cameras in addition to export tie-ups being arranged by an off-shore consultant. The promoters approached ACE through interaction with MITCON and ICICI. The project is ideally located with a large supply of raw cashews using indigenous technology. The working capital requirement is high in this industry and the promoter will have a competitive edge over local buyers due to its financial strength.

## Project Justification

- This is one of the first commercial ventures established in the region for processing raw cashews through appropriate technology and processing with high recovery of cashewnut oil and innovative nitrogen gas flush packaging.
- The marketing strength of the promoter will earn foreign exchange in addition to supplying quality product to the local market.
- The project will promote local industry and significantly reduce the movement of raw cashew outside the state and will provide higher incomes to area growers.

## Project Highlights

The project is expected to be on stream in April 1996. Construction activities are in progress as targeted. The project will include captive production facilities in 50 acres near the processing facility in addition to long-term supply contracts with area growers and spot market purchases. Eventually the project proposes to extract cashewnut oil, a high value ingredient to the paint industry, and for the first time in the Indian cashew industry, vitamin C extraction from the cashew apple is planned. A related new private venture, Planter's Choice, has been established by the promoters as a nursery and demonstration garden for cashews and orchids. Land has been purchased but operations are not expected for 4 years. High yield cashew varieties are planned - 2000 kg per hectare vrs 500-600 kg at present.

### Impact

Because the project has not become operational, it is not possible to judge its impact. However, the team believes that through employment of over 300 laborers (about 75% women) and processing of 11,500 tonnes of raw cashew per year, the facility will have significant positive impact in the underdeveloped Valpoi area. The backward integration proposed by captive and contract production will also benefit local producers. The promoters are interested in potential technical assistance from ACE to explore extraction of cashewnut oil and vitamin C. Thus close support and monitoring by the Technical Coordinator is recommended to ensure that extension linkages are satisfactorily established.

**ZUARI FOODS AND FARMS PRIVATE LIMITED**

Date of meeting	November 10, 1995	
Project Location	Village Melauli, Sattari, Goa	
Product	Integrated facility for production and dehydration of oyster mushrooms	
Cost of Project	Capital cost	Rs 248 lakhs
	Margin money	Rs 12 "
	Total	Rs 260 "
Commercial Production	May 1995	

**Project brief**

The project is being promoted jointly by a group of technocrats and the Economic Development Corporation (EDC) of Goa for production of mushroom in controlled conditions. The promoter group has been involved in agribusiness/food technology consultancy for the past four decades, while EDC is a State Agency for industrial promotion in Goa. The technology is being provided by Suman Food Consultants (SFC) who are also the co-promoters of the project. The unit has started its production of oyster mushrooms and is also considering production of button mushrooms to meet local demand. The rising domestic tourist trade and increased foreign tourist inflow offers an excellent market for mushroom production.

**Project Justification**

- This is the first unit for production of mushrooms in controlled environment with mushroom processing facilities
- The project will use locally available raw materials like paddy straw, chicken manure and rice bran which are presently waste products
- The unit will provide knowhow to the local farmers and encourage contract growing thereby providing gainful employment to local farmers

**Project Highlights**

Mushroom production has started and all the produce seems to have been absorbed in the local market. The promoters are also expanding to button mushrooms, with an eye on export markets. They have provided employment to about 60 laborers, 70% women. However their production would stabilize by 1997-98 and the viability of the project can be assessed only at that stage.

**Impact**

Through employment of women and supply of mushrooms in the local market, the project may have generated some impact in the region. However, only when the unit is fully commissioned will it be possible to gauge the impact. The team could not visit the site but after a meeting with the Chairman of SFC, the team believes that ACE TA could help source mushroom spawn material and develop international markets.