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AGRICULTURAL COMMERCIALIZATION AND ENTERPRISE PROJECT STUDY

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AGRICULTURAL COMMERCIALIZATION
AND ENTERPRISE PROJECT

Table of Contents

Acknowledgements..	1
Abbreviations	..11
Executive Summary	1V
I Introduction	1
A Background	1
B Scope of Work	2
C Plan of Work	2
II The Study	2
A Project Rationale	2
B Constraints to Agribusiness	6
C Programs of GOI and Donors	14
D Institutional Context of ACE	19
III Proposed ACE Project	30
A Goals	30
B Purpose	30
C Major Outputs	30
D Major Components	36
E Implementation Mechanism	37
1 Institutional framework	37
2 How to implement	43
3 Where located	44
4 Time frame	45
5 Cost	45
6 Beneficiaries	45
7 Logframe..	45
F Commodity Focus	48
G Opportunities for USAID Intervention	53
H U S /USAID Comparative Advantages	57
IV Recommendations for Further Studies	58
Tables	60
Annexes ..	67
Persons Interviewed	87
Bibliography	98

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Most of the persons we met are listed in the section of this report entitled "List of Persons Interviewed". The list is not all inclusive as some people, whose names were not provided, also attended and contributed to meetings. We thank them too.

Abbreviations

ACE	Agricultural Commercialization and Enterprise Proj
ADB	Asian Development Bank
AFC	Agricultural Finance Consultants Ltd
AIFPA	All India Food Preservers Assn
APEDA	Agriculture and Processed Food Products Export Development Authority
ASSOCHAM	Associated Chambers of Commerce and Industry of India
AUSTRADE	Australian Trade Commission
CCIE	Chief Controller of Imports and Exports
CIDA	Canadian International Development Agency
CIFT&I	Confederation of Indian Food Trade and Industry
CMA	Center for Management of Agriculture(at IIM)
CMIE	Center for Monitoring Indian Economy
CTD	Center for Technology Development
EIC	Export Inspection Council
FAO	Food and Agriculture Organization of U N
FCI	Food Corporation of India
FICCI	Federation of Indian Chambers of Commerce and Industry
FPO	Food Processing Order
GAIC	Gujarat Agro Industries Corporation
GOA	Government of Australia
GOI	Government of India
HAS	Hectares
HOPCOMS	Horticulture Producers Coop and Mktg Society
HYV	High Yielding Varieties
IBRD	International Bank for Reconstruction and Development
ICICI	Industrial Credit and Investment Corp of India
IDA	International Development Association
IDBI	Industrial Development Bank of India
IDCI	Industrial and Finance Corporation of India
IFC	Industrial Finance Corporation
IIM	Indian Institute of Management
IFPRI	International Food Policy Research Institute
IIP	Indian Institute of Packaging
IQF	Individual Quick Frozen
IRMA	Institute of Rural Management Administration
IRR	Internal Rate of Return
MOA	Ministry of Agriculture
MOF	Ministry of Finance
MFPI	Ministry of Food Processing Industries
MOI	Ministry of Industry
MOP	Ministry of Planning
MOU	Memorandum of Understanding
NABARD	National Bank for Agriculture and Rural Development
NAFED	National Agricultural Coop Mktg Federation
NCDC	National Cooperative Development Corporation
NCUI	National Cooperative Union of India
NDDB	National Dairy Development Board
PACER	Program for Acceleration of Commercial Energy Research
PACT	Program for the Advancement of Commercial Technology
PID	Project Identification Document

PID	Project Identification Document
R & D	Research and Development
RRB	Regional Rural Bank
SICOM	State Industrial and Investment Corp of Maharashtra
SIDC	State Industrial Development Corporation
SFC	State Finance Corporation
SSI	Small Scale Industries
TAI	Tamil Nadu Agro Industries Ltd
UNDP	United Nations Development Program
USAID	U S Agency for International Development
USDA	U S Department of Agriculture
WB	World Bank

Executive Summary

1 USAID desires to assist the private agribusiness sector in India to improve its operations to enable the sector to overcome some of the serious constraints that have been identified in previous studies and in pronouncements from the Government of India. A team has been contracted to provide the framework for a Project Identification Document (PID) and to develop guidelines for further project development.

2 India is an agricultural country with over 70% of its people living in rural areas. Over half of the some 329 million hectares are cultivated, mainly with basic food crops. Most of the government's investment in agriculture has been devoted to assuring an adequate supply of these crops which form the major component of the Indian diet. The program has been an outstanding success and India has reached a level of self-sufficiency in food grains.

3 Despite impressive gains, India still lags behind other countries in the region in yield per hectare of most of the crops grown. This has placed India at a disadvantage in providing its people with the lowest cost foods and in competing in the export market. Except for the traditional export crops, such as jute, tea and spices, exports have been only a very small part of domestic production.

4 The government has provided little assistance to agribusiness activities involving other crops. This has had a detrimental effect on the development of the agribusiness sector. Processed foods have in the past been considered luxury items and have been discouraged through high taxes, restrictions on imports of materials, and lack of government support.

5 In recent years, there has been an increasing recognition of the part that food processors can play in reducing the very high losses of farm products that now occur, especially fruits and vegetables, and the potential for foreign exchange earnings. Also, there is a growing demand by the large middle class consumers for more and better processed foods.

6 A recent study commissioned by USAID identified a number of constraints holding back agribusiness development in India, especially in the area of food processing. The ACE team has identified additional constraints which need to be addressed. Major constraints are:

- Unavailability, unsuitability or uncertainty in the supply of raw materials
- Inadequate or ineffective Research and Development
- Land tenure restrictions
- Deficiencies in postharvest handling
- Lack of management capabilities
- Inefficient processing procedures, equipment and plant design

- Weak linkages between farm and market
- High cost of packaging
- Deficiencies in transport and marketing
- Inadequate market information and intelligence
- Restrictive government policies and regulatory environment
- Parastatal monopolies
- Lack of suitable financing

7 The GOI is aware of these problems and has addressed a number of them in a new industrial policy introduced in Parliament in May, 1990. However, little action has been taken thus far and, with a change in government in November, some of the provisions in the new industrial policy may not be approved.

8 The agro-processing sector has failed to make significant advances in addressing local or export market potentials. The sector has capacity to process only about 15% of the fruits and vegetables produced annually and has actually processed less than 1%. This is in contrast to Brazil where over half of the fruits are processed.

9 Losses of fruits and vegetables are said to run as high as 30%, due partly to the inability of the processing sector to handle the large quantities available at peak harvest periods. Part of the problem lies in the low processing yields of some of the fruits and vegetables being produced.

10 There is obviously much room for improving the agro-industrial sector and a number of the states in India have projects underway or are developing agribusiness projects, mainly involving fruits and vegetables. The National Dairy Development Board (NDDB), which has developed a successful program for milk, is testing the same approach for fruits and vegetables. It is likely to expand into processing at a later date. Some of these projects are financed by international donors such as the World Bank. The interest shown by these donors may offer USAID considerable scope for collaboration.

11. The team studied a wide range of financial institutions, state development corporations, trade associations, consulting firms and educational institutions in searching for an appropriate mechanism for managing a private sector agribusiness project. The team considers that the Industrial Credit and Investment Corporation of India (ICICI) and the Industrial Development Bank of India (IDBI) are prime candidates to be the nodal agency with which USAID could work in developing and implementing a private sector oriented agribusiness project.

12 The team also studied state industrial and agro-industrial development corporations, consulting firms and institutions as possible implementing agencies for the project.

13 three options are proposed for USAID's consideration 1) The implementing unit would be located within the nodal agency as a separate unit to carry out the project 2) The implementation unit would be located outside the nodal agency, but would be directly linked to it, operationally 3) The nodal agency/implementation unit would be located in one of the state-level development/financial corporations

14 An Advisory Council, consisting of representatives of the private sector, trade associations, state corporations, universities, cooperatives and perhaps U S businessmen, would provide guidance at the nodal agency level

15 The team recommends that USAID consider project activities in three of the seven states that were selected as meeting specific criteria

16 A list of commodities for possible project focus was analyzed Given the potential for improvement and the prospects for domestic and export expansion of processed foods and agricultural products, the team recommends that the project focus on fruits and vegetables

17 The activities of the project should be demand-led in that assistance given by the project will be in response to valid requests from private sector agribusinessmen Focusing on fruits and vegetables will enable USAID to provide support in an area where AID and the U S agribusiness sector have strong comparative advantages

18 The team recognizes the need for a more detailed study of some of the areas where recommendations have been made These studies should be initiated early in the process of preparing the Project Paper and should include the following

a A detailed study to select the three states where the project will have the greatest impact

b A more detailed study of potential nodal/implementing agencies, including a determination of the degree of interest by those agencies and a commitment as to the resources that will be provided

c A study of the agribusiness activities in the states selected, especially the assistance required by the private sector in making necessary changes for improvement A determination of the actual financial needs of the agribusinesses will be an essential part of this study

AGRICULTURAL COMMERCIALIZATION AND ENTERPRISE PROJECT

I Introduction

A Background

USAID has had a long association with India, especially in assisting the agricultural sector. Most of the assistance has been related to agricultural research on crops, water management, and institution building. Little attention has been given to the agribusiness subsector and related post harvest activities. Current USAID strategy calls for providing assistance to the private sector in agribusiness related activities.

As a first step in identifying the areas in which it might make the most significant contribution, USAID commissioned a study of the constraints to agribusinesses that are keeping this important subsector from developing to its potential. The constraints identified in this study, by other reports, and by the team's observations are shown in Chapter II, Section B.

This study by the Agricultural Commercialization and Enterprise Project (ACE) team has as its purpose the identifying of possible mechanisms USAID might use in developing a project aimed at improving private agribusiness activities in order to achieve higher goals in the economy.

B Scope of Work

The scope of work required that the team develop a rationale for the project, look at constraints to agribusiness development, review programs of the GOI and international donors, and to analyze the institutional context in which agribusinesses operate.

Once the above were undertaken, the team was to provide the framework for USAID to develop a Project Identification Document (PID) that is expected to lead to a Project Paper and ultimately to a project.

This framework included the following

- Goals
- Purpose
- Major outputs
- Major inputs
- Implementation mechanism
- Commodity focus
- Opportunities for USAID intervention
- U S./USAID comparative advantages
- Recommended studies or further analysis required

C Plan of Work

The team reviewed all pertinent documents, interviewed USAID personnel who have had a close association with the development of the project, interviewed private sector businessmen, federal and state government officials involved in the agricultural sector, visited managers of trade and industry associations, cooperatives and producer associations, international donor agencies, and others knowledgeable of agribusiness in the Indian context. Visits were made to five of the states. The publications reviewed and persons met are included at the end of this report.

II. The Study

A. Project Rationale

1 The Place of Agriculture in the Indian Economy

India is a country of 329 million hectares, almost half of which is cultivated. It has a population in excess of 800 million which was growing at an annual rate of 2.25% in 1981 and the growth rate is probably close to that today. In 1971, approximately 80% of the population resided in rural areas. By 1981, the percentage had declined to about 73%, not a large decline when judged by other areas of the developing world where large migrations to urban areas have taken place which have drastically changed the rural/urban ratios. This development has also resulted in significant changes in the marketing of agricultural products and in the form in which these products are marketed.

India's economy has traditionally been based on agriculture where the majority of the people earn their livelihood. In 1950, agriculture's share of the GDP was 60% and agriculture had 70% of the total work force of the country¹. By 1980, agriculture's share

¹World Bank

of the GDP had fallen to 38% and in 1989 it was approximately 33%. However, its share of the work force remained at around 70%. This is somewhat of an anomaly since one would have expected a decline in the rural labor force in response to the increasing job opportunities in the non-rural sectors.

The major portion of India's farm lands are devoted to food grain production (Table 1). The area of these crops increased slightly between 1970/71 and 1985/86. India's agricultural sector grew at an annual rate of 2.8% between 1965 and 1980, due mainly to the "Green Revolution" that took place during this period. As the Green Revolution slowed, the average growth rate declined to 1.9% between 1980 and 1986. Even with these growth rates, India ranks below other countries in the region (Table 2).

India's agricultural growth rate has been relatively low, the adoption of High Yielding Varieties (HYVs), along with the increase in area planted and increased irrigation, has enabled India to become self-sufficient in food grains during recent years. The total area in these crops under HYVs is shown in Table 3.

Part of the low rate of growth in agricultural output is due to low yields of its major crops in comparison with other countries of the world (Table 4). The low yields existing for most crops gives an indication of the difficulty India faces in exporting in face of competition from more efficient producers in other parts of the world.

India exports significant quantities of agricultural products, but growth has been variable, with rice, coffee, tea, sugar and tobacco showing declines since 1980/81 and oil cake, fish, fresh fruits and vegetables, and miscellaneous processed foods showing sizeable increases in volume of exports (Table 5). However, India's trade in most agricultural commodities is small in relationship to the total world trade (Table 6). Only in tea and spices does India have a significant share of the world market. Data in the table also show that India's share of international trade in agricultural products has generally declined since 1980. Some of this decline is due to the growing domestic market for agricultural products, but is also due to competition from other countries that have increased production and exports. This is especially true of tea and spices. And while the exports of fruits and vegetables have increased, India's share of the growing world market for these crops has declined. Trade in cereal crops has declined worldwide as countries have become more self-sufficient in wheat and rice production.

India's agricultural products are marketed worldwide, but about one third go to the nearby Gulf States (Tables 7 and 8). Most of India's exports are fresh fruits, mangoes, fresh vegetables and tubers, mainly onions and potatoes. Russia has been a major market for canned fruit juices but this market has been highly erratic and

has caused major problems for processors who have attempted to service it

2 Place of Agribusiness in the Indian Economy

Agribusiness can be defined in a number of ways but essentially it involves the system that includes all entrepreneurial and facilitating activities involved from pre-production, production, post-harvest handling, processing, marketing and the infrastructures involved in these processes. In other words, agribusiness is involved in the planning of production through to the point where the product is consumed. It is also a part of the processes of producing and supplying of inputs and providing the coordinating mechanism that supports the system.

This broad definition is necessary since what is produced on the farm and how it is harvested and handled before leaving the farm gate, is of vital importance to the overall success of an agro-industrial enterprise.

An attempt was made to obtain a list of agro-industries in India but no systematic compilation was available. Fairly good data was available for some of the major agro-industries such as sugar and jute. Limited data was available regarding agribusinesses engaged in processing other crops.

In general, it can be said that some agro-industries are very large, e.g., sugar factories and jute mills. Others are very small, e.g., one-person rice millers. In a limited way, one can get an idea of the size of the agribusiness subsector engaged in exporting agricultural products from figures shown in Table 9 which gives a breakdown by size and category of Scheduled Firms registered with APEDA in 1984 (the latest data from APEDA). These are firms that obtain licenses to export. Those processing only for the domestic market are not included.

These data show that private firms dominate in the processing and marketing of agricultural products for export and that the majority of the firms are small scale. Fewer than 300 firms had a capacity of over 250 mt. per year.

A breakdown of 520 single product merchants or manufacturers registered with APEDA in 1990 showed that almost two-thirds were merchants and only one-third were manufacturers (Table 10). Of those in manufacturing, about one-fourth were processing fruits and vegetables, and one-fourth were processing guar gum.

Another indication of the types of agricultural products being exported (other than the major parastatal-controlled products, such as sugar, coffee, tea, jute), can also be seen in the table which shows that fruits and vegetables merchants head the list of those

engaged in exporting and those manufacturing agricultural products for export

The value of Scheduled Product exports from 1980/81 to 1988/89 can be seen in Table 11 which shows that exports in 1988/89 have more than doubled since 1980/81. However, these figures have not been adjusted for the effect of inflation during this period and the real increase at 1980/81 prices was only 23%

The installed capacity, production and capacity utilization of Food Processing Order(FPO) licensees in the fruit and vegetable sub-sector are shown in Table 12. Between 1981 and 1985, the installed capacity increased from 275,000 mt to 379,000 mt. Production increased from 90,000 mt to 155,000 mt, an increase of a little more than 70%. However, capacity utilization was less than 40% during the period. This is indicative of one of the major problems facing agribusinesses that process agricultural products. There are a number of reasons for this low utilization of capacity and these will be dealt with in the section on constraints.

However, some elements in the food processing industry operate at much better rates as can be seen in figures published in the Business Standard in "India 89". It should be noted that most of these processed products would have a large consumer potential, e.g., biscuits, bread, weaning foods. Breakfast foods (cereals, etc), on the other hand, have a very low utilization. Foods of this type normally have a low raw material cost component and a very high packaging cost relative to the total value.

Products Mfd	Installed Capacity (in metric tonnes)	Capacity Use(%)
Biscuits	138,000	102
Confectionery	35,900	78
Bread	165,500	75
Breakfast foods	9,340	18
High protein foods	13,610	60
Weaning food	10,300	102
Chocolate	8,497	97
Soft drinks(mil bottles)	2,964	66

Given the size of the Indian market and relatively small role being played by agribusinesses, especially in the processing of food products, one has to ask why the agro-industrial subsector is not larger. Some of the major constraints are given in the following section.

B Constraints to Agribusiness

1 Introduction

The foregoing section made it clear that agribusinesses in India have not developed or performed to the degree that one would expect in an economy as large and diverse as that of India. The non-agricultural industrial sector is producing a wide variety of consumer and industrial goods, many at very sophisticated levels. And while the agro-industrial sector has grown, it has failed to exploit the vast resources that are available in the country. Those that have been exploited, tea, coffee, fresh mangoes, etc., are not keeping up with competition from other countries. The volume of production and exports has increased, due to overall domestic and export demand, but India's market share of practically all agricultural products has declined.

The constraints facing agro-industries have been highlighted in a number of studies, including one commissioned by USAID (Chemonics, 1990). Most of the studies come up with the same conclusions. In the team's travels around India and in discussions with private sector agro-industry officials, government agencies (both central government and state), financial and development institutions, and cooperatives and through personal observations, the team has crystallized the constraints into a number of broad categories. These are discussed below.

B Major Constraints to Agribusiness Development

a Lack of Availability of Agricultural Products

All of the reports studied and many of the people interviewed stated that the non-availability, unsuitability or uncertainty of raw material supply, whether for processing or for domestic or export markets, is a serious constraint to agribusiness development. This may seem strange in a country that can produce a wide variety of agricultural products throughout the year and where losses of food products may run as high as 35% for fruits and vegetables. The problem is not production or productive potential per se but the ability to produce the kinds of products required by agribusinesses, at the time and place where the products are needed. We heard reports that much of the losses incurred by fruits and vegetables were due to a lack of processing facilities or the inability of processing plants to utilize economically the kinds or varieties being grown. India is a large producer of mangos but many of the varieties cannot be processed and exported economically.

India has 15 climatic zones which permit it to produce a wide variety of agricultural crops throughout the year. However, seasonal factors limit agribusiness activities since facilities

(processing plants, storage warehouses, etc) are site specific and economics do not permit the movement of raw products over long distances for processing or preparation for fresh markets This is especially true in India where the infrastructure (roads, railroads, storage facilities, refrigeration) are often inadequate Many agricultural crops, such as fruits and vegetables, have short harvest periods, sometimes as short as 2 to 3 months, and even less for the highest quality products This creates many problems in attempting to mobilize fresh or processed products for domestic or export markets

b Ineffective or Inadequate Research and Development(R&D) Activities

The R&D to address the lack of raw material and other constraints is often ineffective because of weak linkages between the government institutions and universities undertaking R&D and the agencies that deal with farmers, both government extension agents and agents of private firms As a consequence, crop yields in India are often much less than those of other countries and affects India's ability to compete in world markets Varietal research often does not address the problems faced by agro-industries in that varieties released to farmers may not meet processing or quality and product standards demanded by export markets

c Land Tenure Restrictions

Land tenure laws restrict the size of holdings, making it difficult to combine farm areas for the optimum economic production required to support agro-processing and other agribusiness activities In some cases, cooperatives have been successful in carrying out the function of product mobilization, but this has been limited to certain agricultural products such as the NDDB's milk program NDDB is experimenting with the approach it successfully used for milk for the collection, handling and marketing of fresh fruits and vegetables (and some frozen peas) for the domestic market This is a pilot project that has large implications for fruits and vegetables since a processing component is a likely follow-on

d Deficiencies in Post Harvest Handling

The lack and knowledge and skills in the post-harvest handling of agricultural commodities results in the delivery of poor quality products either to the fresh market or to plants for processing This appears to be a pervasive problem in India Most agribusinesses that deal with farmers have had to undertake special training programs for field personnel to overcome this problem

e Lack of Management Capabilities

Major management constraints were identified by the team during its interviews These included lack of financial management in rural-

based industries, cooperatives and small-scale industries, and deficiencies at the supervisory level in the management of technological packages and in the inability to focus on the system as a whole

f Inefficient Processing Procedures, Equipment and Plant Design

Most of the reports and many persons interviewed by the team cited the lack of knowledge of up to date processing procedures and practices as a major constraint to the growth and development of agribusinesses engaged in processing. Deficiencies in the type, quality and utilization of equipment as well as poor hygienic and sanitation standards limit processors' ability to produce quality products meeting international standards. These deficiencies may be due to lack of awareness that better equipment exists or they may be due to restrictions on the importation of capital equipment or high excise taxes on such imported items.

The lack of freezing facilities and adequate warehouses are problems faced by most agribusinesses engaged in exporting perishable products.

g Lack of Linkages between Production and Consumption

The processing function is often viewed as a matter of building a factory and equipping it with suitable machinery to process the products moving through it. This concept has resulted in a great many agribusiness failures since the linkages between production and marketing are often neglected. It is common to get a plant built without establishing the basis for its operation- the raw material sources and markets for the finished products. The importance of the processing function acting as a bridge between production and marketing cannot be overstated. It works in most integrated industries such as sugar, coffee, tea, milk and jute. The problems currently encountered by some of the industries mentioned is not one of concept but of management. (See e above). The GOI and the state governments are now taking cognizance of the importance of these backward and forward linkages in agriculture and are promoting the process.

h High Cost of Packaging

Packaging is a special problem since it is essential for all processed products and to some extent fresh products. Current custom regulations and excise rates make packaging very expensive and reduce the processing industry's ability to sell its products, either domestically or abroad. The GOI has made some changes in the taxing structure and procedures, but packaging remains a high percentage of the cost of the final product.

1 Deficiencies in Transport and Marketing

The scarcity and cost of refrigerated transport has practically prohibited the transport of perishable products over long distances. Consequently, such products must depend upon local markets during flush production periods. This results in low prices and a high percentage of losses from unsold products.

As mentioned earlier, the transport infrastructure is weak. This limits the export of fresh perishable products to areas nearest the ports of exit. Most of these ports do not have special facilities for handling perishable products such as those that require facilities for products that must be refrigerated or frozen. Some ports have electrical hookups for refrigerated containers, but these are limited.

Air transport presents a special case in that most international flights are from New Delhi and Bombay. The cargo handling areas at these airports are congested and cargo space is generally limited to that available on passenger aircraft. Also, the lack of cold storage facilities limits air exports to the less perishable products. Given the choice of handling perishable agricultural products or non-perishable industrial goods, the airlines generally opt for the latter. The above factors affect exporters' abilities in developing export markets since they cannot assure buyers that they will be reliable suppliers. No importer will continue to deal with an unreliable supplier, or if he does, it will be on a very low-price basis.

2 Inadequate Market Information and Intelligence

This constraint was mentioned in all the reports studied and by those interviewed by the team. Some information is available to agribusinesses through APEDA and some of the trade associations which have access to sources such as the International Trade Center in Geneva. However, it is the lack of timely information that can be used on a day to day basis for making quick decisions that is missing. This type of information is especially lacking on foreign market conditions and prices. In the case of spices, there seem to be adequate market information and intelligence system. But, then, Indian spices are an important commodity on the world market and the industry has built up an information system over the years.

Although there are several export promotion agencies in India, there does not appear to be a functional research and development program in place to assist, either those selling in the domestic market or for export. Little seems to be known about the domestic market, especially about the demand structure of the relatively large number of middle income consumers, said to exceed 100 million. This group is the main target for products from agro-industries producing consumer goods for the domestic market.

Apparently, the most effective market research in foreign markets comes from non-resident Indians living and working in other countries who see opportunities and transmit this information to contacts in India. This network could probably be strengthened with government assistance.

k Government Policies and Regulatory Environment

India's major thrust in the agricultural sector has been in promoting the production of basic food crops--grains, pulses and oilseeds. Processed foods have been considered luxury items for the well-to-do. Consequently, only limited assistance has been given to agro-industries involved in food processing and related activities. Also, the government's policy has focused on import substitution and most food items and products that compete with local production have been prohibited from entering the country. Only recently have there been discussions toward substantially modifying policies to encourage agribusinesses, especially those that export processed agricultural products. More details of the government's new policy initiatives (not approved at the time this report was prepared) will be given later.

The regulatory environment--licensing, documentation, drawbacks, and procedures have been the topic of many trade association discussions. Licensing is especially crucial since a business cannot begin operating without one. A survey of exporters by Desai and others in 1989 showed that most of the exporters' complaints were about customs and the Chief Controller of Imports and Exports (CCI&E). The red tape involved in transactions was described as excessive. Others have been less generous in their descriptions of government procedures.

In some areas of agribusiness, the inability to obtain clear-cut intellectual rights has been a constraint to improving the agricultural system. This has been true in the development of improved seed and cultivars which could greatly increase yields and quality. It also explains the reluctance of private agribusiness firms to engage in R&D in a broad spectrum of activities. The New Policy on Seed Development, promulgated in September, 1988, is designed to make it easier to have collaborative agreements with foreign firms.

Many trade associations have direct ties either to the central or to state governments, often receiving the major portion of their funding from these sources. Consequently, policy dialogue to remedy industry problems is often less rigorous than might be expected from associations that do not have such ties. Industry trade associations appear to be more effective at the state level in obtaining policy changes.

1 Parastatal Monopolies

Some agro-industries, such as sugar, have a large number of state corporations. These corporations receive state funding for starting up and large infusions of funds when it is necessary to keep them afloat. Some of these state-owned operations are effective monopolies since the private sector is often reluctant to enter into competition with them, and in some cases, are prohibited from doing so, either outright or by the difficulty of obtaining licenses. Although the jute industry is private sector on paper, government rules regarding wages, flexibility in hiring and firing, and other activities, make the jute industry essentially a government controlled operation. In none of the team's discussions with state and central government officials did the problem of parastatals in the agribusiness sector arise. This may be understandable since most of them experience large losses and are a drain on the government's treasury. To the extent that the state governments own or control agribusiness enterprises, it will be difficult for the private sector to operate.

m Lack of Suitable Financing

The ACE team has received conflicting opinions regarding the suitability of agribusiness financing available in India. Financing is available but may not always be appropriate for the project in question. Local financial institutions are more interested in projects which yield higher returns than is typical of agribusinesses, and limited funds tend to be directed towards the more profitable ventures. Since financing is crucial to the successful development of agribusiness projects, we strongly suggest that further analysis on this subject be undertaken. Given our impression that additional financial means to support agribusinesses are necessary, we have included a Financial component in the ACE project.

3 Summary Statement

There is a significant potential for improving rural incomes and employment, reducing food losses, increasing food supplies and generating additional foreign exchange earnings through the promotion of agribusiness in India. This potential depends upon improvements in the agribusiness system, from the post farm gate to the consumer.

The foregoing review of the place of agriculture in the national economy, the trends within the sector, agro-industry's place and role, the competitive forces at work, and the constraints to agribusiness, can be summarized as follows:

-Agriculture employs approximately 70% of the Indian work-force. However, agriculture accounts for only about

one-third of the GDP and the percentage share is declining

-The growth rate of agriculture is slowing down, in part as available land and resources devoted to the "Green Revolution" crops are utilized. Growth in the foodgrain subsector may be more difficult in the future.

-Even with the increased crops yields in India, they are below those of other countries in the region. This makes it difficult for India to compete in world markets.

-The agro-industrial sector accounts for approximately 50% of the total industrial output and earns about one-third of the country's foreign exchange. Most of these earnings are from major crops such as coffee, tea, sugar, jute and cotton. These crops are mainly controlled one way or another by state governments.

-The food processing subsector is very small in relation to potential markets, both domestic and export. For example, there is a processing capacity for only about 15% of the 65 million tons of fruit and vegetables currently produced. Even so, only about 30% to 40% of the capacity is utilized.

-Except for the large parastatal corporations that control the processing and marketing of such major crops as sugar, jute, and cotton, agribusinesses in India tend to be small operations, handling less than 250 mt. of product plant per year.

-Plants and equipment used by food processors are generally considered to be obsolescent and inefficient by modern standards. Part of this is due to restrictions on the import of equipment. Other reasons may include inability to obtain financing, the lack of knowledge of more efficient equipment, the cost of modernization and the reluctance to invest in high risk ventures.

-A number of other constraints have been identified which are keeping agribusinesses from developing. These can be summarized briefly below. They are placed more or less in priority order but it must be emphasized that this is only a subjective appraisal by the team. Others would probably rank them differently.

Little governmental assistance or encouragement has been given to the development of private agribusinesses.

Linkage gap between producers and consumers
Lack of adequate raw materials
Deficiencies in post harvest handling
Inadequate research and development
High packaging costs due to tax structure
Deficiencies in transport and marketing
Inadequate market information and intelligence
Apparent lack of financial resources
Land tenure restrictions
Parastatal activities

- The government is now recognizing the role agribusinesses can play in the economy, especially in generating foreign exchange earnings. (See Section IIC on GOI initiatives) As a consequence, some taxes have been restructured to lower taxes on items used by agribusinesses. Procedures are being modified to reduce the time for approvals of projects and activities. Rules on foreign investment and technology imports are being liberalized.

- A number of states have initiated studies to look for agribusiness opportunities (See Section IIC). Most of these studies are focusing on fruits and vegetables as the area that offers the most opportunity for improving employment and incomes. Donors, most prominently the World Bank, are giving assistance to agribusinesses engaged in processing and marketing fruits and vegetables.

- Given USAID's desire to assist Indian agriculture through development of private sector agribusinesses, and the large number of constraints that need to be addressed, the team feels a project that would provide a linkage between the farmer and the consumer would enable USAID to make the largest impact with the resources it has available for this initiative. Given the interest of other donors in agribusiness development, there appears to be considerable scope for collaboration between USAID and these donors.

C Programs and Plans of the Government of India and Donors

1 Government of India

A new industrial policy was introduced in Parliament in May, 1990. The government made known its intention to reduce procedural delays and debts which are endemic to the Indian economy. The proposed policy changes are designed to encourage entrepreneurs to speed up investments. One of the features of the proposed new policy liberalizes foreign investments and the importation of technology. However, India had a change of government in November, 1990 and the new government has made known its intentions to reverse some of the policy considerations contained in the May policy statement, especially in the matter of foreign investments.

Some highlights of the May, 1990 policy statement are given below as a way of showing some of the constraints businesses operate under.

- Foreign investors will be allowed up to 40% equity in a company on an automatic basis, subject to satisfaction of certain requirements. This measure fell short of the 51% equity position desired by foreign investors.

- Acquisition of foreign technology will be made easier. Entrepreneurs will be allowed to conclude collaborations without referring to the government, providing some conditions regarding royalty payments and exports are met.

- The much expected changes in the Monopolies and Restrictive Trade Practices Commission (MRTP)/Foreign Exchange Regulation Act (FERA) were not made.

- New incentives will be offered to foreign investors such as reduced corporate tax rates, increased repatriation rates of capital investment and income earned from these.

The new agricultural policy calls for a business-oriented approach to agribusiness, continuance of the present scheme of subsidized inputs and incentive pricing, and a revamping of agricultural institutions.

The Ministry of Food Processing Industries (MFPI) was created to fulfill the need for a catalyst to develop an agro-based pattern of rural industrialization to transfer technology, increase incomes and create major avenues for increased rural employment for women.

While the scope of the Ministry's responsibilities is quite broad, it currently has very little staff to cope with these responsibilities and is not yet performing as intended.

One of the salient points of the Eighth Plan (still to be approved) is that food processing industries have been identified as one of the 14 major thrust areas for promotion of exports. The Cabinet Committee has approved a number of policies to promote food processing industries, including

- Placing food processing industries, including packaging and preservation, in GOI Appendix I (which gives priority to the items in Appendix I)
- Treating food processing industries as a high priority sector for the purpose of bank finance
- Encouraging the formation of cooperatives in rural areas for the collection of raw materials
- Permitting food processing industries to acquire land for demonstration purposes, subject to land ceiling laws
- Encouraging investment in cold storage facilities. Restructuring duties and other levies which currently discourage investment in such facilities
- Constituting a National Fisheries Development Board
- Permitting state-of-the-art technology for both capital equipment and processing technology
- Providing incentives to Indian industries to form joint ventures abroad
- Upgrading quality control laboratories

The policies above focused attention on the need for allowing large companies to participate in production, strengthening of the transport network, improving raw material availability, providing fiscal incentives, and forming joint ventures.

As mentioned above, the future of these policies is in doubt since some of them are definitely opposed by the new government. Even so, some donor agencies are pushing for policy changes along the May, 1990 lines. The Asian Development Bank (ADB) is suggesting that the government phase out the MRTP requirement. The ADB is also suggesting that the government eliminate the reservation system for small scale industry to allow competition by larger firms at more efficient scales of production and reform the incentive system so that small firms are not discouraged from expanding the scale of their operations. Since the new government gives top priority to small scale operations, it may be difficult to obtain these changes.

2 State Government Initiatives

A number of states are actively promoting agribusinesses or are exploring opportunities for improving or expanding agribusiness operations. Information is not available on the activities of all the states, but the information provided below can give the scope and thrust of these activities.

-During 1988/89, a report was completed on processing of fruits and vegetables in Jammu and Kashmir.

-A preliminary report on the prospects of setting of fruit and vegetable processing units in Andaman and Nicobar Islands has been prepared.

-Madhya Pradesh has carried out a survey of the potential for a fruit and vegetable processing industry.

-A study of fruit and vegetable processing potential in Andhra Pradesh has been conducted by Agricultural Finance Consultants Ltd in January, 1990.

-The Government of Maharashtra has planned a number of activities including promotion of agricultural processing industries and creation of infrastructural facilities such as transportation, storage, and marketing. A very large fruit production project is already underway in the state which will require a number of agribusiness components within 3 to 4 years.

-Haryana's plans for exporting food grains, and fruits and vegetables, will require the establishment of a number of new agribusinesses.

-The Agricultural Industrial Development Corporation in Gujarat presented the team with a very ambitious program to develop agro-industries for a number of commodities. A policy paper has been prepared on the promotion of agribusinesses in the state.

-The National Dairy Development Board (NDDB) has made a comprehensive study of the fruit and vegetable production, marketing and consumption system in New Delhi and its area of influence. This survey has served as the basis for a major pilot project involving fruits and vegetables.

-A pineapple processing plant has been established in Tripura.

3 Donors

A number of donors are providing India with assistance in the form of loans and grants. In 1989/89, commitments amounted to \$5.4 billion. An exact figure is not available but it is estimated that approximately \$200 million of these commitments are directly or indirectly related to agribusiness. A summary of identified activities is shown in Table 13. Details of these projects are given in Annex 1.

a The World Bank

The World Bank and its affiliate the International Development Association (IDA) are the major donors, followed by the Asian Development Bank. These agencies account for more than three fourths of loan and grant commitments to India. However, a number of other donors, including the U.S., provide funds or commodities to support various sectors in the economy.

Agribusiness Project

The World Bank is considering a project in agribusiness and has contracted with the Federation of Indian Chambers of Commerce and Industry (FICCI) to conduct a study in the areas of taxation and policy reforms. This report is due the end of December, 1990.

Fruit and Vegetable Project in Bangalore

The Bank is supporting a project being implemented by the Horticulture Producers Cooperative Marketing Society (HOPCOMS) in Bangalore. This project involves fruit drink production and the marketing of fruits and vegetables.

Tropical Horticulture Project

A tropical horticultural project involving the production, processing and marketing of fresh fruits and vegetables in Andhra Pradesh, Karnataka, Tamil Nadu, Kerala, and Maharashtra has been proposed but has not been accepted by the states involved.

Nerkhed Food Processing Project

This project in Maharashtra state involves the production, processing and marketing of processed fruits and vegetables (mango, oranges, lemons, guava, and tomatoes). The project has yet to be approved by the Bank.

NDDB Fruit and Vegetable Project

This project which has been alluded to earlier is designed to test whether the model used by NDDB for milk production, processing and marketing can be successfully applied to fruits and vegetables. The pilot program is underway in New Delhi and if successful, will be expanded to other major cities in the country.

b United Nations Development Program(UNDP)

The UNDP has proposed four projects and the GOI has accepted two. One project involves meat and poultry, the other is a fruit and vegetable processing project in Jammu and Kashmir. The latter will be initiated when conditions permit.

c The Food and Agriculture Organization

A project is underway in Cochin, Bombay and Calcutta to strengthen the export inspection agencies in those ports. FAO is providing technical consultancy in food quality control.

d The Canadian High Commission(CHC)

The CHC is sponsoring a large agricultural extension project which, among other things, trains farmers and project staff in post harvest technology, storage of grains and fruits and vegetables. The project covers over a thousand villages in Uttar Pradesh.

A project covering eight states involves the production, processing and marketing of edible oils. It is supported by the sales of donated edible oils from Canada and the U S.

e The Australian High Commission(AHC)

A proposal has been made by the AHC to introduce appropriate Australian technology for post harvest handling and distribution of fresh and processed fruits and vegetables in Bangalore.

f The British High Commission(BHC)

No specific project in agribusiness.

g The German Embassy

No specific projects in agribusiness.

h The Japanese Embassy

No specific projects in agribusiness.

1 Bulgarian Embassy

A fruit and vegetable project in Jammu and Kashmir is underway but has been affected by unsettled conditions in the region

2 The Dutch Embassy

A seed project involving NDDB is underway.

4 Key Lessons from Donors

The team has discussed with donors the various projects they have supported and asked about lessons learned during the preparation and conduct of the projects. All projects have had certain problems involving governmental procedures in starting up. Some of the more specific comments are given below

-States are often too optimistic as to their ability to provide counterpart funding. Consequently, they are unable to meet their commitments and this results in projects failing to meet targets

-Multi-state projects, especially those covering four or more states, are difficult to monitor

5 Opportunities for Coordination

The recent strong interest by the GOI and the states in the agribusiness subsector has resulted in donors receiving a large number of project proposals and in supporting several agribusiness projects. The strongest interest has been with fruit and vegetable production, processing and marketing

Several of the donor agencies felt that there is ample scope for coordination and co-financing of projects. If the ACE project is approved, such coordination should be fully explored

D INSTITUTIONAL CONTEXT OF ACE

1 Range and Role of Institutions Concerned with Agribusiness

This section reviews some of the key institutions concerned with agribusiness development in India, particularly the agro-industry sector (A more detailed discussion is found in Annex 3)

There is no central government agency that plans, coordinates and monitors all the activities that encompass agribusiness in India. In reality, it would be an almost impossible task. For food processing activities, there is the Ministry of Food Processing Industries, but it has few responsibilities except promotional activities and licensing of industries for quality control. The Ministry of Commerce covers non-food agribusiness activities. Horticulture falls under the Ministry of Agriculture and which collects market information and promotes the industry. Packaging issues are addressed by the Ministry of Industries. Levies and taxes remain the responsibility of the Ministry of Finance and state governments. Finally, research and development fall under the Ministry of Science and Technology. There is also a new Department of Small-Scale and Rural Industries within the Ministry of Industries that covers some agribusiness areas.

At the state-level, there are Agro-Industry Development Corporations, Industrial Development Corporations, and Industrial Investment or Financial Corporations, which promote and provide services to the agro-industry sector. However, this is a recent directive and the intensity of effort varies greatly from state to state. Most agribusiness project activities are add-ons rather than specific targets. State governments play the largest role in providing the infrastructure and raw materials necessary for the food processing industries. These corporations function as extended arms of the national-level industrial development and financial institutions such as the Industrial Development Bank of India, Industrial Credit and Investment Corporation of India, and others to coordinate and integrate industrial development activities at the state-level. Generally, corporations promote industrial units through three different sectors: subsidiaries, joint ventures, and assisted ventures.

There is no single trade association that is the recognized body for taking up matters connected with agro-processing. However, many business associations do take up some policy dialogue issues which are targeted to their own constituents. Some of the more active associations, such as Assocham and FICCI, co-sponsor workshops and studies which are related to agro-processing issues such as export potential for fruits and vegetables. The Confederation of Indian Food Trade and Industry (CIFTI) caters specifically to the needs of food industry and trade. The informal information exchange between its members regarding investment options, market information contacts and promoting common policy issues, appears to be most substantive benefit for members.

Cooperatives societies vary substantially from state to state and from one institution to another. They have generally had mixed results. Past experience in various states, including Maharashtra, Gujarat, Tamil Nadu, Karnataka and Andhra Pradesh indicate that when it comes to voluntary withdrawal of state power and control,

cooperatives can be relatively successful. The GOI maintains a strong commitment to the continued development and improvement of the cooperative structure, particularly in the agriculture and agro-industrial sectors. The cooperative system functions as a multi-tiered system operating at village, district, and state levels.

In recent years, cooperative societies have become active in processing a number of agricultural commodities such as sugar, tea, edible oils, cotton, dairy, etc. Indian cooperative dairy activities are recognized all over the world as an example of successful cooperative organization. Many cooperatives do not truly function as cooperatives and have a tendency to follow government policies, following the "stick and carrot" method. Each state has different by-laws that govern cooperatives. In all of India, cooperative members provide only 5% of the working capital and the rest is provided by state governments. Cooperatives in the agro-processing area have not performed well. Nevertheless, cooperatives provide one of the most important conduits to provide technical assistance, administer training programs, organize farmers and act as a base for raw material procurement. Cooperatives will participate on a project by project basis, following a project selection guide developed by the Project. Within the last few years, cooperatives have begun establishing fruit and vegetable processing units in several states, e.g., the NDDB complex at Mongolpuri, New Delhi and its affiliated procurement centers receives, sorts, grades and despatches to retail outlets over 30 items a day from numerous production areas obtained from 9 states.

The banking and financial institutions which support the agro-industrial sector are many but few appear to have targeted this sector as a priority. The agribusiness sector and agro-industry in particular is seen basically as less profitable in comparison to the non-agricultural investment opportunities in terms of return on investment and lower risk. Nevertheless, IDBI, ICICI, IFCI, NABARD all have the mandate to support the rural sector, including small-scale and medium size industries. For example, IDBI's agriculture-related industries accounted for about 17% of sanctions under Direct Finance Schemes in 1989-90. At the state-level, industrial investment corporations have financial assistance schemes, venture finance, seed capital assistance schemes and others to support the agro-industrial sector. However, the agro-industrial portfolio of investment projects is relatively small. The State corporations that promote agro-industries do not have the investment capital but those that do have capital appear to take more passive position.

There are numerous training and research institutions that have technical capabilities and which can impact on the agro-industrial sector. The Indian Institute of Management/Center for Management in Agriculture, and the Institute for Rural Management are two which

have a good reputation built on over 27 and 11 years of experience, respectively. Such institutions provided senior level management training and prepare professionals for middle management rural enterprise projects. Agricultural universities and consultant groups can provide important inputs related to training and research. These institutions have received support from international agencies. IIM has conducted research on the agro-industrial sector. NDDB has carried out a study on the fruits and vegetable production-distribution and marketing system serving Delhi, and several state agro-industrial corporations have conducted studies of the agro-processing at the state level, including those in Gujarat and Tamil Nadu. Haryana is currently carrying out a comprehensive study on agro-processing and marketing.

The private sector has been involved in agribusiness for many years. However, the emergence of an organized agribusiness food processing industry in an organized manner is of fairly recent origin. Industries like dairy, sugar, vegetable oils or carbonated beverages, have been in existence for a long time.

The agribusiness food processing industry has basically three types of units in operation²

- Primary processing units
- Cottage and household units in the unorganized sector
- Organized manufacturing units

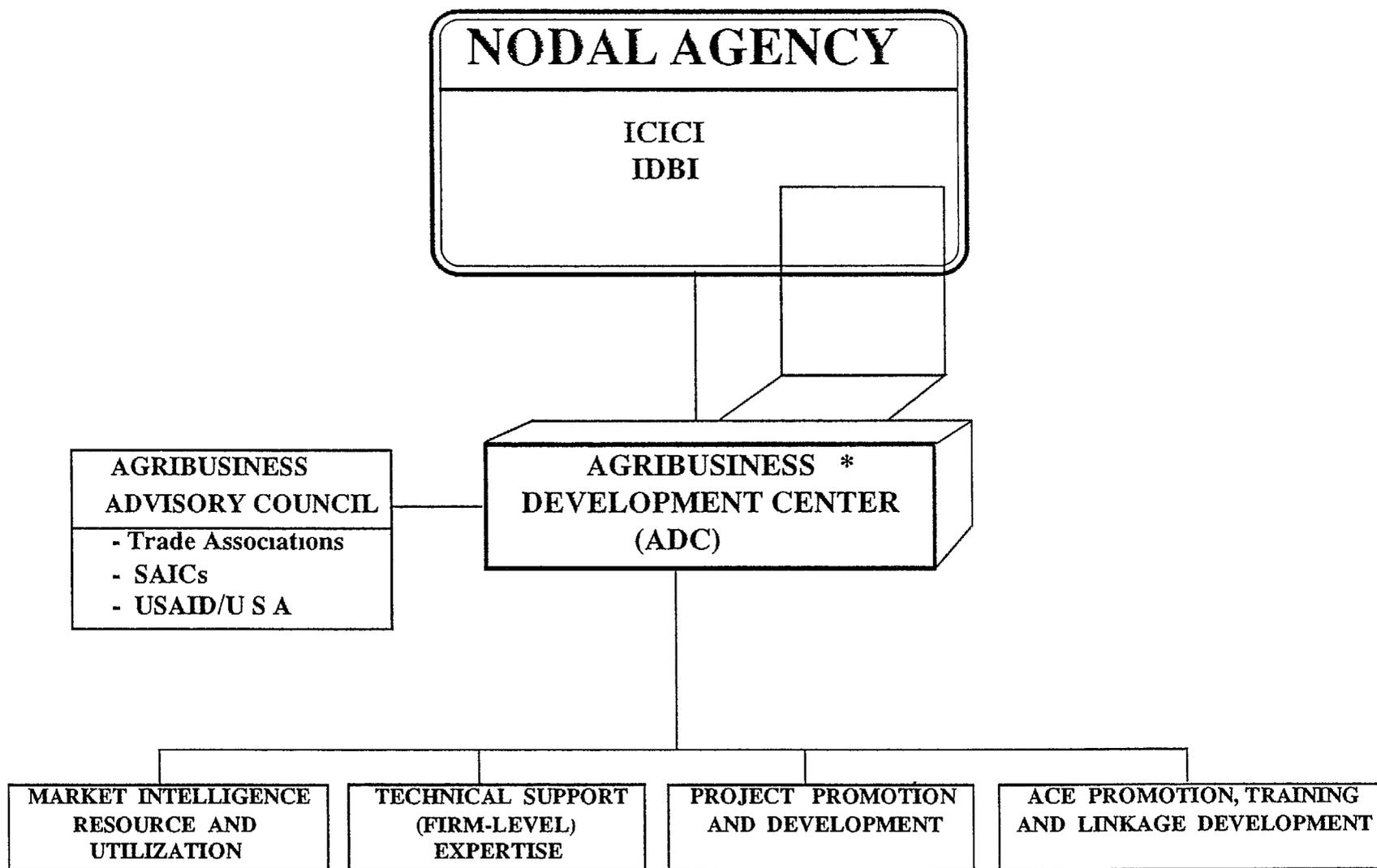
Around 60% of the units operating in the industry are reportedly in the first two categories. Since the processing activity is largely concentrated in the unorganized sector of the economy there is no sound data base on this industry. One rough estimate is 575,000 for the primary processing sector (rice hullers, flour, dal and oil mills), 77,000 in the unorganized sector (bakeries, paste goods, traditional food, poha and processing fruits, vegetables and spices). The organized manufacturing sector reportedly comprises of 18,000 food processing units. The share of small scale sector in fruits and vegetable processing is estimated around 65% to 70%³. Some of the other companies which share the other 30% are All Seasons Foods, Kissan Products, Dippy Ltd, Hindustan Lever, Food Specialties etc, are large and popular units selling a variety of products with their own brand names in the market.

² Tamil Nadu Agroindustrial Industries Corporation Ltd food Processing Sector in Tamil Nadu. TAI as a Nodal Agency Madras, May 1990

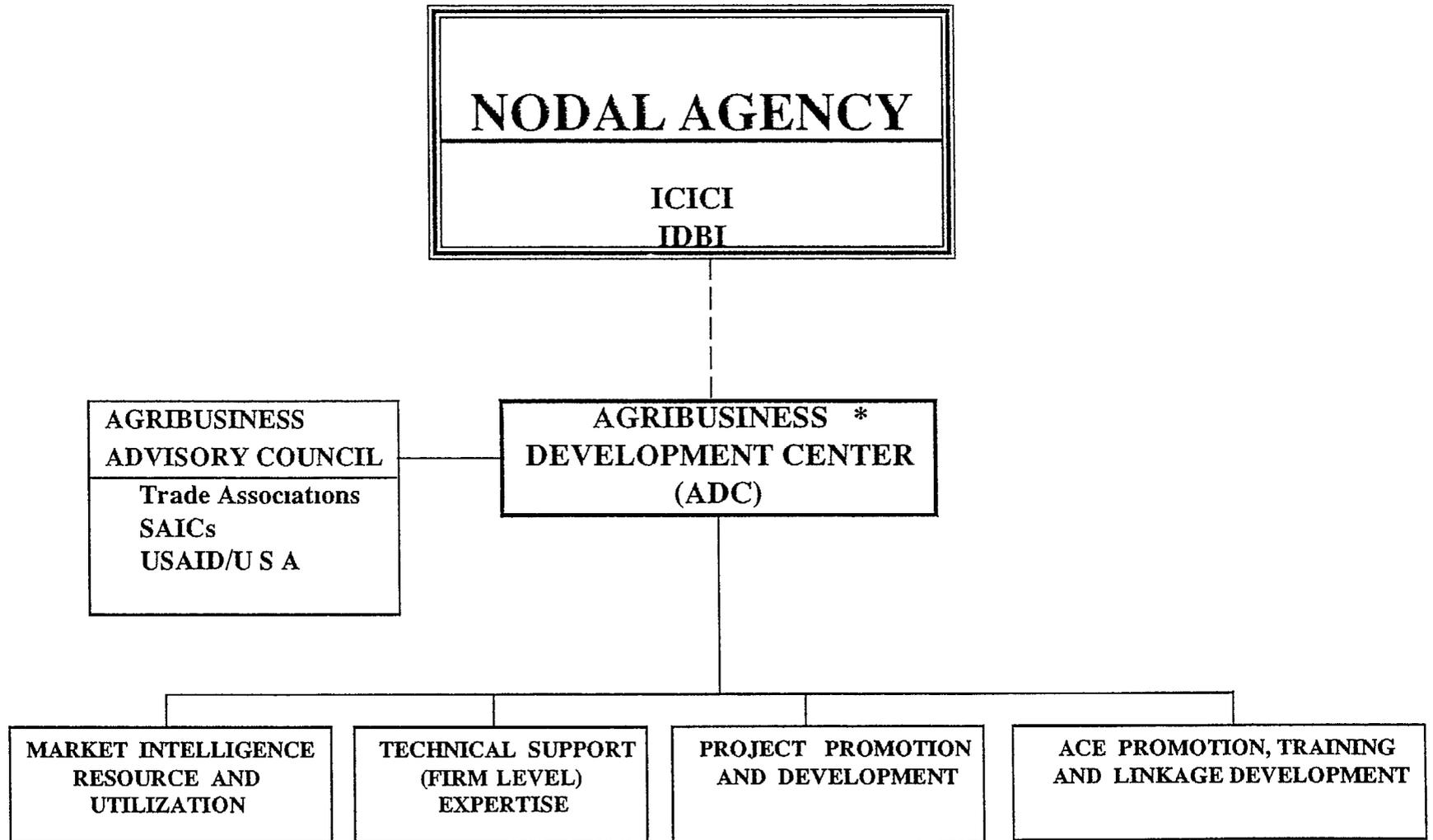
³ Agro-industrial Researcher. Fruit and Vegetable Processing Industry in India. Vol VI, No C, October, 1989

Since there is limited information on this sector, it is very difficult to determine its performance, and who does what. There are several integrated initiatives such as WIMCO, NDDDB (fruits and vegetables project), Pepsi, Food Private Ltd., Kissan Products of Bangalore, and other private sector initiatives related to mango exports which are providing important "lessons learned" to the agro-industrial entrepreneurs presently involved in the sector or contemplating such investments.

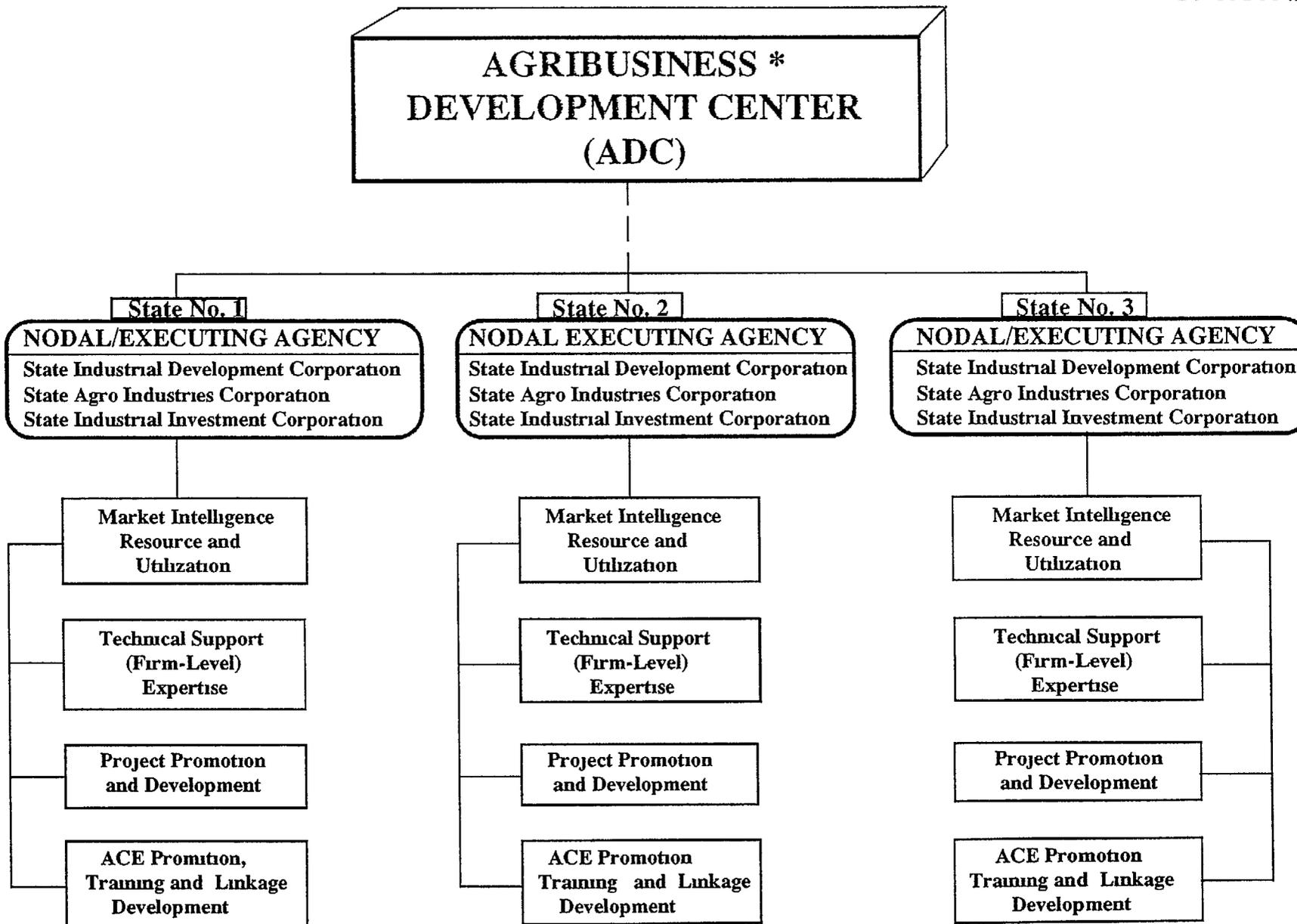
The chart on the next page provides an over-view of some key institutions involved in agribusiness/agro-industry activities, their main areas of focus, and means and mechanisms of implementation.



** Arrangements with outside people would be maximized through contracts and some minimal retainers*



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CENTRAL LEVEL	ROLE	MEANS	MECHANISM
Ministry of Food Processing Industries	-Developmental -Technical and Advisory -Regulatory	-Seminars -Contacts -Development Councils -Fairs -Modern Food	Indirect Through promotion, lobbying for policy change Direct. Regulatory
APEDA	-Export promotion -Export Regist -Market infor -Services	-3 regional offices -State corps -AFC	Direct Export licensing Indirect Market info
SIDO/SS-RI	-Promotion -Tech Asst -Subsidies equipment -Prod quality support	-130 units at state level -Testing Ctrs -Product dev centers -Tech.staff	Indirect Promotional, policy dialogue
Ministry of Agriculture, Horticulture Bd	-Input supply, data -Market info	-Extension services	Policy
Trade Associations FICCI, CIFTI	-Information -Promotion of agribusiness, -Services	-Chambers of Commerce and Ind ,etc	Channeling studies, workshops Policy dialogue
State-level Industrial, Financial or Agro-industrial Corporations	-Provide loans -Invest equity -Promotion -Development -Escort serv -Feasibility studies,etc	-Promotion -Coordination -Consultancy -Tech.trans -Dir. invest -Joint vent with private sector	Direct involve ment in ACE or on Advisory Council Possible Imple- mentation Agy
IIM/IRMA	-Research, studies, training	-Training centers courses, etc	ACE/sub-proj contract as needed, pri- marily for coop and mid- level mktg managers

CENTRAL LEVEL	ROLE	MEANS	MECHANISM
Cooperatives State-level/area specific/targeted cooperatives	-Training -Promotion -Org of Pro- ducers -Political leverage -Linkage to farmers	-Cooperatives -Conduit to provide assist or adminin training programs -Procure- ment of raw mater- ials -Agro-proc	Part on a project by project specific station and coop basis, not open participation
IIP	-Training -prod design -Advisory -Testing serv	-3 regional institutes	Contract when needed
AFC	-Proj ident -Consulting -Leveraging research -Monitoring/ evaluation -Studies	-Consulting services to banks, Int Orgs and private sector	Contract as needed Participation on Advisory Council
NDDB	-Project Dev -Pilot Projs -Studies -Tech experts	-Training -Coops	Contract Joint Collab
IDBI/ICICI/IFCI	-Promotion, financing and deve- lopment	-Regional, state and representative entities	Possible nodal agency
Private Consultant Firms	-Specialized services	-Contracts and own staff	Contracts
NGOs	-Community based ser- ices and innovative project exper- ience	-Own staff -Contract -Joint part- ners	Contracts Retainer

CENTRAL LEVEL	ROLE	MEANS	MECHANISM
Agricultural Universities	-Research -Training -Tech Asst	-Own facilities -Demonstration field trials	Utilize skills to develop client relationship with agribusinesses selected by ACE Participate in Adv Coun

2 Selected Institutions to Consider in ACE Project

There are a number of organizations and institutions that can make positive contributions to India's private sector agribusiness development (See Annex 3) The institutions that might be involved in the ACE project, and the specific means and mechanisms for involving them, will ultimately depend upon the final design of the project Nevertheless, there are several key entities that might be directly involved in one of the following organizational components

- a Nodal Agency
- b Executing Agency
- c Other supporting institutions/organizations

The team used the following criteria for the selection of nodal/executing agencies.

- Reputation for performance
- Management and staffing experience, composition of Board of Directors, organization
- Ownership and resources
- Relative freedom from government direction/influence
- Strong private sector focus and outreach

NODAL AGENCY

The institutions studied as possible nodal and/or executing agencies are shown in the table that follows It should be noted, that while the list contains the primary candidates, it is by no means definitive

Possible Nodal and/or Executing Institutions

INSTITUTIONS	MAIN ADVANTAGES	MAIN DISADVANTAGES
ICICI	<ul style="list-style-type: none"> -Industrial development and financing -Good management -Capacity to manage projects -Knows USAID's external requirements -Proven success PACT/PACER -Financial stability -Innovative, e g TDICI -Broad private sector contacts -Private sector focus board members and shareholders 20% ownership -Multi-state coverage 	<ul style="list-style-type: none"> -USAID concentration in one NODAL agency -Possible urban/large project bias -Need to build agribusiness expertise -ACE project may be too small to have spin-off effect within ICICI for sustainability
IDBI	<ul style="list-style-type: none"> -Promotion of industrial growth -Financial stability -Broad outreach 5 regional and 21 branch offices -USAID could develop an agro-industry capacity within IDBI for future requirements -Marketing and investment research -SIDBI for small industry development 	<ul style="list-style-type: none"> -New to USAID -Management more conditioned by public sector demands -Little experience with agribusiness -start up time/cost
IFCI	<ul style="list-style-type: none"> -Strong private sector linkages(70% sanctions to corporate sector) -Encourage small and medium size enterprise development through promotional activities -Multi-state representation -Medium and long term credit 	<ul style="list-style-type: none"> -Medium and long term credit to large industrial concerns -Little agribusiness focus except in traditional industries-jute, sugar, etc

CENTRAL LEVEL	ROLE	MEANS	MECHANISM
NABARD- RRB	<ul style="list-style-type: none"> -Supervised credit and development banking -Direct linkage with agricultural sector -Broad ties to rural institutions, e g cooperatives -Experience with World Bank, ADB, IADS, and other donors -Multi-state representation 	<ul style="list-style-type: none"> -Primarily a "bail-out" function for coops, RRBs etc -Limited private sector management focus -Clients who are conditioned to no-risk capital -Major recovery problem 	
SIDCs	<ul style="list-style-type: none"> -Access to IDBI refinancing(SIDC,SFC) -Major object is promotion of industries at state level project identification -Investment catalyst -Entrepreneurial services -Industrial escort services -Promotion of agribusinesses (SICOM,GAIC) -Package scheme of incentives -Good outreach at state level -Know main agribusiness constraints at state level -Small/medium industries important target 	<ul style="list-style-type: none"> -Public sector influence could affect management dynamics -Little agribusiness experience' 	
Government Cells	<ul style="list-style-type: none"> -Policy support from GOI -Ministry of Industry is forward looking 	<ul style="list-style-type: none"> -Public sector management and resource allocation -Focus stability 	
Ministry of Food Proc- essing Indu- stries	<ul style="list-style-type: none"> -APEDA Export marketing support -Can play an important role in policy dialogue 	<ul style="list-style-type: none"> -Relatively new-trying to establish identity -Little impact with state agro-industry institutions 	
APEDA		<ul style="list-style-type: none"> -Little authority 	

POTENTIAL SUPPORTING INSTITUTIONS

INSTITUTION	AREAS OF EXPERTISE	ACE LINKAGE ALTERNATIVES
AFC	-Consultancy services -Project identification -Technical & financial feasibility studies -Project preparation, appraisal, M & E -Training	-Contract -Retainer -Member of Advisory Council
IIM/IRMA	-Research -Training -Information data base -Technical assistance	-Contract -Retainer -Member of Advisory Council
Agribusiness Consultants-Firms/individuals (USA/India)	-Specialized consultancy	-Contracts
State-Level Industrial Corporations (e g ,SICOM, GAIC)	-Policy dialogue -Coordination -Proj identification and feasibility studies -Escort services -Project counseling -Contacts with agribusinesses -Financing leverage	-Contract -Retainer -MOU with ACE -Advisory Committee member
NDDB	-Integrated production, processing, marketing model -Fruit and vegetable pilot project experience -Linkage/identification of cooperatives' constraints to agribusiness -Individual expertise	-Contract -ACE Advisory Board
Trade Associations	-Private sector business contacts -Policy dialogue between public and private sector	-Joint studies -ACE Advisory Board -Joint workshops

INSTITUTIONS	AREAS OF EXPERTISE	ACE LINKAGE ALTERNATIVES
Cooperatives	<ul style="list-style-type: none"> -Direct linkage with producers -Organization of producers -Linkage between farmers and processors -Raw material supplies 	<ul style="list-style-type: none"> -Subprojects -Target coops as clients based selection criteria -Ad hoc advisory capacity

III Proposed ACE Project

A. Goals

- 1 To increase rural employment and incomes
- 2 To generate foreign exchange earnings

B Purpose

Strengthen the private sector agribusiness system for domestic and export agricultural products

C Major Outputs

The ACE team determined by a process of elimination that fruits and vegetables (F&V) should be the target commodity group (see section F) We then determined that significant gaps existed in the post-farm gate area (e g , agro-processing in India creates only 12% value added as compared to 64% in the U S ⁴) Working backwards, we determined what project outputs could assist in filling these gaps

The purpose of our assignment is to assist the USAID/New Delhi Mission in their preparation of a Project Identification Document(PID) for the ACE Project Even at the PID stage, a description of project outputs is normally in very general terms These are later fully developed at the Project Paper (PP) stage Since we are the pre-PID stage, we will strive to indicate in general terms what the project will produce

Improved Application and Management of Post Harvest Technological Packages (e g , to reduce post-harvest losses)

⁴Seminar on Industry, ASSOCHAM, November 1, 1990

One of the most overwhelming statistic pertaining specifically to fruits and vegetables, and not as noticeable in other agricultural groups, is the excessive loss of raw material from the time it leaves the farm until the time it arrives at its destination. The team noted that the literature was fairly consistent even in expressing the magnitude of the losses. The State of Gujarat, in one of their publications, mentions that, "The irony of the situation is that unemployment is rampant here and more than 40% of the population lives below the poverty line. On the one hand our food losses are as high as 15 to 35% and on the other hand, we face a serious challenges of feeding our population"⁵ Individual interviewees, both in the public and private sectors, put these losses at the upper end of the range.

The ACE project should seek ways to reduce these losses in an economic way. The project will first set up a system for recording a baseline in each of the target states. It will then put a monitoring system in place so that progress can be noted. It will be critical to note the value of the saved raw material as compared to the cost of saving it.

The project will assist in the establishment of facilities and support services necessary to implement post-harvest technologies. These interventions will not only address losses in raw material but also the quality and form in which the raw material is received at the factory.

Processing done at Satellite Stations is one possible intervention and is discussed in Section G. The target group should be small and medium size private sector entities.

Agribusiness Management Improvement

This is a broad subject since it covers such a large spectrum of activities. However, it is one of the major constraints and must be addressed by the ACE Project if the Project is to be successful. It will be addressed through specially designed training programs, including hands-on experience in other plant operations.

⁵Policy Paper on Horticulture and Agro-based Industries in Gujarat GAIC Ahmedabad

Improved Market-Led Processing Technology

The technology in India is predominately towards canning. Present technology needs for the fruit and vegetable industry are generally identified as follows ⁶

- Dehydrated products
- Marmalades
- Fruit drink powders
- Tomato products
- New processing lines

Based upon interviews with various participants in the industry and visits to retail sales points, we feel the last item is most critical.

The ACE Project should stimulate the development of new agro-processing lines using the most modern technology available. Special emphasis should be paid to quality control and packaging. Both seem to be below international standards with the exception of the newly-introduced tetra packs. These lines could be part of existing businesses or new businesses. The target for new processing lines (other than the relatively small Satellite Stations) would most probably be medium to large size facilities. Criteria should be set up by the Project under which it would entertain requests for financing of new lines with heavy emphasis on improved technology. The use of Pilot Plants, mentioned later as a possible intervention, would provide assistance to entrepreneurs in developing their projects so that they would be suitable for ACE project financing and assistance.

Packaging and processing techniques could include dehydrating, aseptic packaging, extruding, concentrating, canning and individual quick frozen (IQF).

Financing

The ACE Project could provide direct loans or could operate through a loan guarantee program. The latter is probably a more efficient vehicle which we understand is already being successfully utilized by USAID/New Delhi in other areas. Loans and/or loan guarantees could be used for new processing lines, including satellite stations, cold storage facilities, transportation depots, pilot plants, etc.

⁶Ibid

Another means of financing would be through a mechanism of refundable grants for the preparation of feasibility studies. The request would be approved based upon the presentation of a satisfactory pre-feasibility study. If it met certain pre-set criteria, and if the promoter had a record of integrity, then the final feasibility could be funded by means of a refundable grant. If the project is not implemented, then the grant would be forgiven. If the project is implemented, then the grant would be capitalized as pre-operating expenses and repaid *pari passu* from equity and other borrowed funds. In either case, the promoter should be required to pay for a portion of the study expenses up front, including pilot plant runs if appropriate.

The ACE Project can also utilize the mechanism of subordinated debt. Subordinated debt, which most bankers would classify as quasi-equity, increases the leverage of the investor's cash equity. This may be the means of making certain that desirable projects are attractive enough financially to bring in the private sector. A debt/equity ratio of, say 80/20, may increase the internal rate of return (IRR) sufficiently to bring in investors, whereas 70/30 may not.

Subordinated debt would be repaid after all senior debt has been repaid to the banks. If the senior debt cannot be repaid, and the project fails, then the subordinated debt is paid out of the sale of assets on the same basis as other shareholders.

Another form of financing that could be provided by the ACE Project is outright grants. These would probably be used to finance training programs and technical assistance.

Mechanisms to Even the Flow of Raw Material Delivery to the Factory

In conversations with factory managers, we were frequently told that their facilities were often idle. This is a problem which could, to some degree, be solved by increasing multi-crop growing within the vicinity of the factory. This, however, goes beyond the scope of the ACE Project which does not deal with on-farm agricultural matters.

Although India has a varied agro-climate suitable for many different fruits and vegetables, on a year around basis, the processing industry is based primarily on mango, guava, apples, pineapple, citrus fruits and tomatoes. Approximately 40% of the area devoted to fruit is for growing mangoes.⁷ In conversations with three different mango processors (Kissan, Suncrush and Sakthi Beverages), we believe that the annual mango crop can be processed

⁷ Asopa and Kalro

in 3 to 4 months. Again, failing a multi-crop processing situation, this would tend to cause a two or three factory shift operation during parts of the year and a complete down time during the rest of the year.

One of the outputs of the ACE Project would be to create infrastructure and/or programs which would strive to keep processing capacities evenly occupied throughout the year. This could involve satellite stations and storage facilities. Both are discussed in the "possible interventions" section.

Increased Processing Yields Due to Intrinsic Qualities of the Raw Material Entering the factory

This is the only area which we feel that the ACE Project should be concerned with pre-farm gate activities. Our reasoning is as follows: If a farm is operating with insufficient capital equipment or a lack of inputs, this will show up directly in the profitability of that particular farm unit as compared to other units. If, however, the farm is creating a product which is inferior by normal standards, and if this is the case for all the farms in the area producing that particular product, then this will directly affect the profitability of the factory which processes that product. We are making the assumption that the factory wishes to compete in the international market place, either directly or indirectly. The example given to us repeatedly is that of Indian tomatoes which have a low percentage of solids (brix) and therefore give a poor yield when used for producing pastes.

The ACE Project should study various fruit and vegetables, especially those which are exportable, in terms of their position vis-a-vis the genetic yield technology available in the world today. A determination should then be made regarding what items can be improved, the means of doing so, and the means of disseminating this information. The ultimate object, of course, is to get high yielding variety planting materials into the hands of farmers.

Better Commercial and Information Linkages to Markets

This is a very broad subject which almost by definition must be apart of the ACE Project due to the nature of the Project.

We feel that the ACE contribution here would be mainly with international markets and not the domestic which could be better handled by local Indian entities. Linkage would be with the larger non-multinational firms such as Kissan, Modern Food Industries and Kekiwal Enterprises. Non-processing firms such as trading companies, transporters and brokers would also utilize this linkage.

The ACE Project should determine, in consultation with specific companies, what kind of linkages are needed and with which markets. The Project would provide this kind of assistance at concessionary fee. Training of mid-level managers, especially in packaging, quality control and marketing techniques, would be an excellent way of creating linkages with markets.

A Contribution Toward Policy Dialogue

An essential component for any agribusiness project is to modify adverse policy. USAID cannot realistically provide the level of funds necessary to bring structural adjustments in the agribusiness sector. However, co-financing and cooperation with other donors, such as the World Bank, could be a way to encourage policy reform (See needed reforms in C 1). Additionally, technical assistance, studies and workshops could assist trade associations, cooperatives, and state agro-industry corporations in articulating major policy constraints and alternative reforms. This could provide productive input to policy dialogue which may lead to positive reforms for the sector.

We were told by food processors and exporters that government policies regarding taxes were debilitating to the fruit and vegetable industry. The real problems seem to be with packaging materials and to some extent with import duties on machinery and equipment. In the case of containers and packaging materials, the following conditions exist⁸

In the past decade

- Import duty on tin plate has increased by 357%
- Excise duty on glass bottles has increased by 118%
- Excise duty on cans has increased by 174%

Regarding exported products, we were told that obtaining duty drawback (a return of duty paid on certain exports) is oftentimes such a lengthy procedure that it can actually take years to complete processing the papers required.

The logical progression of an argument for reduced taxes on packaging could be as follows

- Fruits and vegetables require packaging for marketing purposes and for preservation

⁸All India Food Preservers' Assn

-A reduced cost of packaging would reduce the cost of the finished product and increase consumption

The market for processed products is generally elastic and price has an important impact on sales. A recent study⁹ showed that processed fruit juices had a price elasticity of -2.24 and an income elasticity of +2.09, both significant at the 95% level. The author stated that "Higher elasticities result from an increase in demand associated with a decline in price, either when trade is liberalized in developing countries or when cost-reducing technological progress is made in developing countries." There are two opportunities for improving the cost structure of packaging materials: reducing duties on products used by the processors, and encouraging tin plate manufacture in India. The two go hand in hand.

-Increased consumption of processed food products will generate sales taxes for the government. Ultimately, the revenue earned by the government through an increased volume of sales may more than offset the revenue lost from the present excessive levies which are having such a negative effect on the processing industry.

We were told by various trade associations that the government is somewhat short-sighted. The government is more interested in high revenue today than the prospect of even greater total revenues tomorrow. Effective policy dialogue could alter this attitude.

We understand that the Ministry of Food Processing Industries is sympathetic towards this packaging problem. However, policy dialogue probably needs to be directed towards the Ministry of Finance.

D Major Project Inputs

The previous section described the Outputs of the ACE Project. This section will describe the Inputs which will enable the Outputs to be achieved.

The Inputs of the ACE Project are

- Refundable grants (e.g. for feasibility studies)
- Loan guarantees (e.g. for processing lines, etc)
- Subordinated debt (e.g. " " ")
- Direct loans (e.g. " " ")
- Grants (e.g. training)

⁹Islam, Nurul Horticultural Exports of Developing Countries

Technical Assistance(TA)

To be provided for practically all the ACE Project sub-projects requiring special assistance Examples from the Output section are

- Contacts with engineering companies and suppliers of machinery for setting up Satellite Stations and other processing lines Assistance in preparing business plans and financial forecasts

- Contacts with experts in cold storage and refrigerated transportation to set up facilities Consultants for site selection

- Consultants to survey the genetic resources of existing germ plasm and other planting material, both in India and elsewhere, to determine where improvements can be made

- Food processing experts to assist in the development of new or improved products and packaging All aspects of project development from contacts with suppliers of machinery to marketing and financial analysis

Training

As required, on an ad hoc basis, in all ACE Project sub-projects Formal training will also be provided to mid-level processing, packaging and cold store managers This training could take place in India, the U S or elsewhere

Information Gathering and Dissemination

This refers to obtaining and evaluating market data to assist both existing and new businesses being developed

Policy Dialogue

This refers to policy dialogue with the GOI to assist them in understanding and hopefully consider taxation systems that have worked in other countries without placing undue stress on any particular segment of the economy

Implementation Mechanism

1 Institutional Framework

The entities that could be directly involved in the ACE Project are

- Nodal Agency
- Implementation Entity
- Agribusiness Advisory Council

a Nodal Agency

The principal functions to be carried out by the nodal agency could be the following

- Promotion of the ACE Project at the macro level
- Serve as USAID's first point of contact on policy matters with other institutions
- Management of financing for sub-project support
- Focal point for Advisory Council meetings
- Provide oversight to the implementation unit
- Provide back-up expertise to the implementation agency as needed
- Provide for ACE Project evaluation with outside participation

b Implementation Agency

The implementation agency's primary function would be to manage the day to day operations of the ACE Project. The specific functions could be the following

- Receive requests for financial and other assistance from private sector entrepreneurs, agribusiness firms and cooperatives on a project by project basis
- Review the feasibility of the proposals--market analyses, economic and financial analysis, technical feasibility and level of entrepreneurial capacity
- Provide financing and firm-level technical support and training, including assistance in accessing resources to incentives provided through governmental programs
- Conduct economic and market surveys of opportunities for agribusiness firms
- Work with governmental agencies or institutions that are promoting agribusiness development
- Promote the development of market intelligence to agribusiness firms
- Promote the ACE Project concept and benefits, conditions, etc.

The implementation agency could be called the Agribusiness Development Center(ADC) It should have a senior level professional private sector manager with a team of four senior technical staff The ADC would have four main units or divisions, each having the technical staff as leader The technical units and examples of their services are as follows

1 Support Unit

- Entrepreneurial advice
- Technical advice-postharvest handling, processing, etc
- Marketing advice
- Advice on availability and location of technology

2 Project Promotion and Development Unit

- Project planning, implementation, evaluation, troubleshooting, business plans, etc
- Develop guidelines for project selection for possible financing under the ACE Project
- Act as a channel for providing project selection for funding consideration

3 Market Intelligence Unit

- Utilize existing marketing information sources
- Provide selected market information intelligence for selected projects to be considered by ACE

4. Training and Outreach Unit

- Conduct training programs
- Promotion of ACE Project
- Identification and selection of consulting firms and other resource agencies with professional personnel which ACE could contract and possibly support and/or cooperate(AFC, IIM, IIP, research entities, firm-level expertise, e g , packing house management/operations)

c Advisory Council

In order that the ACE Project may benefit from private sector development corporations' and development institutions' experiences and to increase the visibility and extend the outreach of the

project, an advisory council should be established. Consideration should be given for the involvement of representatives from trade associations, development corporations at the state level, agribusinesses and possibly U S participation.

The Advisory Council could review the progress of the ACE Project, appraise its activities and address, among other things, the sub-project selection criteria, form of cooperation with other institutions, technical evaluation processes, and terms and conditions for sub-project technical cooperation and financing.

There are several options for implementing the ACE Project. They are shown below. (Note: The team recommends that the Project operate in three states. See 3 for the criteria used to pick a group of states from which the three states could be selected. The team feels that USAID cannot effectively support projects in more than three states given its limited financial and personnel resources).

OPTION 1 ACE Implementation unit is located within the Nodal Agency, e.g. an ICICI or IDBI type, which acts as the umbrella organization.

Advantages of ICICI

- ICICI¹⁰ has demonstrated a consistent willingness to break new ground, e.g., PACT, PACER
- Operational autonomy
- Close contact with the business community in India and U S
- A+ financial rating
- Good management
- Familiar with USAID's internal requirements
- ACE start-up time and cost could be reduced

Disadvantages of ICICI

- USAID may not want to put too many projects with one institution

¹⁰ IDBI has many of the same characteristics as ICICI, but is less flexible in its management, has limited knowledge of USAID requirements, and little or no agribusiness expertise. It does, however, have a broader institutional outreach through its offices and branches. Details of each institution are found in Annex 3.

- Limited agribusiness focus at present
- May have large project/urban bias
- USAID may want to build agribusiness capacity in various institutions, e g , state corporations

OPTION 2 ACE implementation unit is located outside the Nodal Agency, but has direct linkages to it

Advantages

- Greater flexibility in management
- Freedom to select staff
- No institutional baggage or reputation to overcome

Disadvantages

- Conflict of interest with state corporations and others May feel their functions are being duplicated
- Limited institutional backup
- Longer start-up and cost
- Possibly institution-building

OPTION 3 ACE implementation unit is located within a state-level corporation, e g., SICOM or GIAC

Advantages

- Institution knows the problems
- May have backup expertise
- Can access/leverage financial resources
- Direct linkage to state and central government and policy-makers
- Broad base of contacts

Disadvantages

-Public sector influence This could be a plus if state policy is pro-agribusiness/private sector

-Selection of staff could be an issue Might want to select own staff or be bound by civil service rules to maintain existing staff

-Might require considerable staff training

OPTION 4 Create a new independent ACE implementing unit which is monitored by USAID

Option 4 is deemed non-viable by the team It would require considerable start-up time, be divorced from some important institutional support and have a lower impact quotient with important agro-industrial and development corporations/agencies Furthermore, it would require considerable institution-building activities.

OPTION 5 ACE nodal agency and implementation agency would be located within or directly linked to commercial/private banks

Option 5 is also considered non-viable even though commercial and private banks can contribute to socio-economic growth Commercial banks (CBs) traditionally finance inventories in urban trade and industry Many CBs select lead banks to provide refinancing to selected client groups Frequently these banks are Regional Rural Banks (RRBs) which in turn provide financial assistance to such groups as cooperatives In 1987, out of 196 RRBs operating in India, only 45 earned profits An analysis revealed that during 1987, the RRBs had a gross margin of only 3.8%, and after meeting establishment costs, they had a negative margin of 0.86% The performance of CBs has been stagnant with about 52% of the accounts overdue ¹¹

With regards to private banks, there are approximately 100 in India, of which about 24 are large enough to be considered significant players in the Indian banking industry ¹² Most of these banks are headquartered in the South 6 are in Kerala and 6 in Tamil Nadu, 5 are in Maharashtra and the rest scattered Many of these banks are traditionally Christian-dominated and finance

¹¹NABARD Annual Report, 1988-89

¹² Business India, November 11, 1990

mainly small businessmen, traders and farmers They tend to cater to the banking needs of one particular community In sharp contrast are those in the North which here founded by royal families ¹³

With reference to India's commercial banks, a recent World Bank report indicated that these banks are uncompetitive, overstretched, over staffed and often provide poor service, and are considered among the least efficient in Asia

The team recommends that Options 1, 2 and 3 be considered viable options and that further institutional and organizational analysis be undertaken to define, within these options, the most appropriate institutional mechanism for the ACE Project once its financial design, focus and objectives have been decided

A graphic presentation of the Options 1, 2 and 3 follow

b How to Implement

Option 1

The project would be implemented under the overall direction of the Nodal Agency (ICICI or IDBI) A project management group (PMU) or Agribusiness Development Center(ADC) would be established for this purpose. The PMU/ADC would have a number of functions which were presented previously

The Nodal Agency would supervise the implementation of ACE projects in three states There would be a PMU/ADC located in the Nodal Agency facility in each state or in a designated location related to the Nodal Agency's activities The PMU/ADC would be responsible for ACE's operations in the state

Option 2

The project would be supervised by the Nodal Agency but the PMU/ADC would be located outside the Nodal Agency's facilities and act relatively independently For example, the PMU/ADC could operate within the Agricultural Finance Consultants Ltd (AFC) organization, with a trade association, state corporation or with an agency affiliated with the Nodal Agency

Option 3

The Nodal Agency and PMU/ADC would be a state-level corporation The selection of the corporation would have to be carefully analyzed, taking into consideration such criteria as progressiveness, private sector focus, good management, financial

¹³ Ibid

viability, etc Depending upon the state selected, one of the following institutions could be the Nodal/Implementing agency

State Agro-Industrial Corporation

State Industrial Development Corporation

State Financial Corporation

State Industrial Development Corporation

There would be an Advisory Council for all three options, chaired by a senior person and made up of representatives from the private sector, trade associations, selected state corporations, universities, U S businessmen, and possibly cooperatives

3 Where Located

To identify possible states for the location of the project implementation units, the following criteria were used

Progressiveness of state government

Agricultural growth rate

Attitude toward farming/agriculture

Adequate infrastructure electricity, communications, roads, etc

Quality of the banking system

Level of cooperative/farmer organizational development

Experience in mechanization

Political stability

Based upon the above criteria, the following states are suggested for USAID's consideration

Maharashtra

Karnataka

Tamil Nadu

Gujarat

Andhra Pradesh

Haryana

Madhya Pradesh

4 Time Frame

LOP 5 years

5 Cost of Project

USAID Grant funded \$ _____

GOI Matching funds \$ _____

\$ _____ for establishment and operation

\$ _____ for financial assistance to private
sector agribusinesses

6 Beneficiaries

a Owners, mid-level managers and employees of
agribusiness firms

b Farmers producing raw materials used by agribusiness
firms

c Supporting elements in the agribusiness chain
harvesters, truckers, merchants, etc

d The Indian economy through a reduction in loss of
products and an increased supplies for domestic and
export markets

e Consumers through potentially lower priced products
and better quality selection

f The GOI through increased tax revenues and foreign
exchange earnings

g Public sector policy-makers through improved flow of
information for decision-making

7 Log Frame

(Note VI= Verifiable Indicator)

PROJECT GOALS

1 Increase rural employment and incomes

(VI Rural employment and incomes will increase Means
of verification baseline studies and GOI statistics)

2 Generate foreign exchange earnings

(VI Foreign exchange earnings increase Means of verification increased exports from agribusinesses, GOI export statistics and data on foreign exchange)

PROJECT PURPOSE

To strengthen private sector agribusiness thereby improving the postharvest handling, processing and marketing of agricultural products for domestic consumption and export

(VI Increased marketable fresh and processed food based upon a "constant" on-farm production of raw material Means of verification GOI statistics, sub-project monitoring and evaluation, annual reports issued by private agribusiness beneficiaries)

PROJECT OUTPUTS

1 Improved application and management of postharvest technological packages

(VI Reduced postharvest losses Means of verification surveys of receivers of farm-produced raw material, annual reports by postharvest facilities, on-farm surveys, monitoring and evaluation)

2 Improved market-led technology

(VI The implementation of new processing and marketing facilities with ACE Project participation Means of verification ACE Project records, monitoring and evaluation by technical experts)

3 Financing

(VI Disbursements of loan guarantees, loans and grants Means of verification Financial statements of agribusinesses and records of ACE projects)

4 Mechanisms to Even the Flow of Raw Materials to the Factory

(VI Implementation of sub-project facilities Increase in total factory capacity utilization, with a reduction in production/processing peaks and valleys Means of verification Factory production records)

5 Increased Processing Yields

(VI Introduction of new varieties of planting material into the area of project influence Means of verification Factory records which show improved yields obtained by factories in converting raw material to processed products)

6 Better Commercial and Information Linkages

(VI ACE Project reports Means of verification surveys of information recipients)

7 Contribution Toward Policy Dialogue

(VI ACE Project reports Means of verification Degree of linkage and participation with agencies promoting policy dialogue)

PROJECT INPUTS (COMPONENTS)

1 Funds

(VI The ACE Project is capitalized)

2 Technical Assistance

(VI ACE Project records of number of long and short term professionals utilized)

3 Training

(VI Long and short term training undertaken by ACE Project, number of workshops and in-service training activities)

4 Information Gathering and Dissemination

(VI. Linkages established with agencies involved in information gathering and dissemination Number of direct contacts for information needed by ACE clients)

5 Policy Dialogue

(VI Collaboration with other donors and trade associations in striving for a rational policy for agribusiness activities)

CRITICAL ASSUMPTIONS

- 1 The political climate will permit the ACE Project to be undertaken in the selected states
- 2 Satisfactory nodal and implementing agencies will be identified and will work with the Project
- 3 The GOI will continue its stated policy of encouraging agribusinesses, especially in the processing of fruits and vegetables for domestic consumption and export
- 4 Funds will be available for improvement and expansion of agribusinesses

F Commodity Focus

The team was asked to determine what commodity/ies should be the focus of the ACE Project. We were given various guidelines by USAID to assist us in making this selection. For example, USAID did not wish for the Project to involve grains, poultry, dairy products, cotton, soybeans, tea or coffee. Large agro-industries, such as jute and sugar, were also excluded from our considerations. Fruits and vegetables were mentioned as a possible focus and have subsequently been considered in detail. All of the products discussed below have growth potential¹⁴. Our findings were as follows:

Leather

Leather is already a successful export item which has been promoted by the GOI since the early 1970s. Export performance during the past Five Year Plans, especially during the Seventh Plan, has generally exceeded targets. "The value of output has grown from a base level of Rs 1670 crores in 1984-85 to at least Rs 4000 crores in 1989-90. The annual growth rate of value of export has been at an average of 42% at current prices. It has been estimated that, during the 8th Plan period, the value of output would grow to Rs 7838 crores by 1994-95, which would mean an annual rate of growth of 19% at current growth."¹⁵

¹⁴World Bank and IIM, as per Chang, Oct 25, 1990

¹⁵ Address given by R K Shrivastava, President of the Indian Leather Products Assn (ILPA) at its 3rd Annual General Meeting, New Delhi 1990

The trend is for exports of finished goods such as shoes and garments. Seventy two percent of exports to date for 1990 were in those categories. The export situation has already been studied by the World Bank which feels that the most dramatic next stage would be for India to move from exporting for foreign manufacture to producing name brands locally.¹⁶ To attain this goal there will have to be considerable adjustments in policy, especially as they pertain to duties on imported components. This is a constraint well within the control of Indian authorities and perhaps automatically removes leather as a high priority for the ACE Project.

There are certainly other constraints to growth such as availability of hides, lack of trained manpower, and outmoded leather machinery. However, considering the success of the industry, relative to other agro-industrial sectors, we do not believe a focus on leather would be appropriate for the ACE Project.

Spices

India is reputed to be the world's largest producer of spices with an impressive variety grown all over the country. The largest single category is black pepper which accounts for about 67% in value of India's spice exports and 30% of world trade. Other major types are cardamom, chillies, ginger, tumeric, curry powder, seed spices and spice oils, and oleoresins.¹⁷ Black pepper production in 1990-91 is expected to be even greater than the record 80,000 mt produced the previous year.¹⁸

Major problems facing the pepper industry are fairly standard to many agro-industries in the developing world. These include low productivity, high production costs and a lack of proper marketing facilities. According to the USDA Agricultural Situation and Outlook Report of July, 1990, these are being addressed by various Indian agencies, including the Kerala state government.

Cardamom production is expected to increase 10% in 1990 to 4,200 mt. This is a decline from previous increases. Poor yields and uncertain supplies have resulted in major markets such as Saudi

¹⁶ Andrew Singer, March 23, 1990

¹⁷ The Economic Times, June 14, 1990

¹⁸ The Times of India, September 29, 1990

Arabia preferring the lower priced Guatemalan variety ¹⁹Indian ginger, already 35% of world production, continues to show increased exports ²⁰

According to Chang, the only serious constraint in the spice industry is marketing in a consumer pack²¹ India has traditionally marketed spices in bulk. This means they are losing the value added by retail packaging which is done in importing countries. This point was emphasized at a recent spice convention held in Bangalore. Tata Tea is setting up a pepper processing plant in Cochin which will include retail packaging. The team believes that the spice industry in India is more equipped than others to address its own unique problems and therefore ACE Project interventions are not appropriate.

Fisheries

Fisheries, which provide employment for about 7 million people in India, are second only to agriculture in providing employment. Foreign exchange earnings from export of processed fish products have grown steadily reaching an all time high of Rs 598 crores in 1988/89. It is presently the fifth or sixth highest foreign exchange earner in the country ²². Block frozen prawns are the single most important item even though growth is presently stagnating. Several programs are underway to promote other exportable items such as cuttlefish.

Notwithstanding its relative success, the fisheries industry has areas which need improvement. Domestic marketing has been neglected in the effort to promote exports, canning lines are often below international standards, not enough deep sea trawlers are in operation, and tuna products need to be further exploited. Of key importance to export markets is the present insufficient capacity of Individual Quick Frozen (IQF) facilities ²³. This is an area which could be addressed by the ACE Project as a secondary priority and will be addressed later in the section on Opportunities for Intervention.

¹⁹The Economic Times, Nov 7, 1990

²⁰The Times of India, Sept 29, 1990

²¹ Chang, op cit

²² M R Nair, Director, Central Institute of Fisheries Technology " Marine Fisheries A Perspective in Retrospect" No date

²³Singer, op cit

Fruits and Vegetables

It may be useful to start this section with some general statistics relative to fruits and vegetables in India ²⁴

Production of fruits and vegetables	66 million mt/yr
Production of fruit	second only to Brazil
Production of vegetables	second only to China
Production of potatoes	4th largest in world
Installed food processing capacity	about 1.5% of prod of fruits and vegetables
Fruits and vegetables processed	less than 1% of prod (various estimates at 0.5% to 0.8%)
India produces	7.6% of world's fruit and 10% of world's vegetables) ²⁵

The above statistics are purposely presented in a manner to underscore the tremendous opportunity in terms of processed food, especially fruits and vegetables. The data from the U S Consulate in Bombay emphasized the lost potential- an estimated 35% of losses of fruits, vegetables and tubers annually (an estimated US\$2 billion). These losses are due to poor storage facilities, lack of post harvest technology, weak infrastructure and an inadequate food processing industry.

There are a number of reports that the available food processing capacity (small as it is) is under-utilized. These reports indicate an under-utilization of 40-70% of existing capacity. Dr V N Asopa, of the Indian Institute of Management, feels this is due to the low demand for Indian products. Other authorities feel that the demand is increasing, especially from the emerging middle class which is variously estimated to be between 100 and 150 million. Regardless, it is critical that a detailed look be undertaken as to exactly why existing capacity is under-utilized and what immediate corrective measures are necessary and possible. This could be one of the functions of the ACE Project or through a separate study. There is no question that the domestic market is potentially huge and largely untapped.

²⁴U S Consulate, Bombay Oct 1989

²⁵Singer, op cit

Less than 10% of the processing is done by large scale industries. Most is done by small, privately-owned operations. Products presently being processed are

- Jams and jellies
- Juices, crushes, concentrates, nectars and syrups
- Candied fruits
- Chutneys and sauces
- Canned and bottled fruits and vegetables
- Frozen fruits and vegetables
- Dehydrated fruits and vegetables
- Instant food mixes
- Preserves and soups

Mangoes account for 60% of the fruit processed in India, with fruits in general accounting for 75-80% of the total fruits and vegetables processed. Mangoes seem to be the only area which has fulfilled its export potential.

There is a huge demand for fresh fruits and vegetables consumed locally. This would tend to keep raw material away from processing units. Other problems faced by food processors are created by wildly fluctuating prices and uneven delivery due primarily to market arrivals. Farmers and intermediaries are unable to hold excess production due to insufficient storage facilities. This naturally creates an unstable market place.

Marketing is further complicated by the low quality and high cost of packaging materials. This excessive cost is due to a variety of fiscal reasons most of which have to do with import duties, excise taxes, and delays in obtaining drawbacks. These factors have been discussed elsewhere in the report.

Generally yields on the farm are low. Potatoes yield only 13 tons per hectare as compared to 16 tons worldwide. In some countries, yields are as high as 70 tons per hectare. Other comparative yields are onions 10 tons vs 30 tons, tomatoes 15 tons vs 60 tons, pineapple 10 tons vs 80 tons.²⁶ Not only are yields from the field low, but yields obtained from conversion of raw material to finished product are also low. A specific example given to us is tomato which in India has an unusually low percentage of solids (brix) in its natural state. These low yields translate into high prices. Certainly, improvement of yields, which directly affects prices and therefore the agro-processing industry, could be looked at by the ACE Project.

²⁶Chang

It would not be fair to leave this subject without mentioning that some yields are excellent. Grape yields are reputed to be among the highest in the world.

The government is aware of the need and is receptive to strategies for an improved food processing environment.

(See IIC) The secretary of the Ministry of Food Processing Industries has called upon the industry to develop linkages with farming community so that processed food output can be increased. He states, " the aim should be to help farmers increase the yield, improve quality of produce, minimize agro-production losses, and to provide an assured market for the products" ²⁷

Exploitation of the export potential has been minimal to date. Most processed foods do not meet international standards in quality or appearance. A solution to this would be to concentrate on and expand India's exports of bulk fruit and vegetable products. Attractive export opportunities will probably be with those items not generally consumed locally.

Some items which offer opportunities for processing are fruit concentrates and juices, canned and frozen vegetables, potato chips and flakes, tomato powder, puree and paste.

We certainly agree with Chang's statement that " With India's success in achieving self-sufficiency in foodgrain production, the next logical step is to boost the food processing industry" ²⁸

G Opportunities for Intervention

During our initial meetings, USAID was very candid in that they felt there was a need for intervention in the agribusiness sector but they were not sure what form it should take. They felt that the interventions should take place outside the farm gate. That is to say, they should fall within the agro-industrial domain of agribusiness and not within the agriculture domain.

USAID asked the team, if during our travels, interviews and reading, to see if we could identify specific interventions. This is an interesting approach as in the process of identifying specific interventions, a general project concept emerged. The ACE Project, its inputs and outputs have already been described. Below are some interventions which could be performed by the ACE Project as it has been defined by us.

²⁷Financial Express, Nov 3, 1990

²⁸Chang, op cit

Satellite Stations

Some level of processing could take place at satellite stations after the farm gate but before arriving at the factory

These satellite stations would be close to the sources of raw material production and would involve the initial stages of processing. An example would be the Northeastern regional Agricultural Marketing Corporation (NERAMAC) plant at Tripura. The plant was founded in 1982 to process pineapples into concentrate. Until that time, the closest major consumer region was Calcutta and large amounts of fresh fruit were lost enroute. NERAMAC is reputed to have solved for the growers in the Tripura area.²⁹

We are not classifying this pineapple project as a Satellite Station since it is a fully integrated operation by itself with the capability to export a finished product. It does, however, serve as an example of the creation of an intermediary, close to raw material sources, which cuts down losses. Theoretically, a fruit juice blender in another region of India could purchase pineapple concentrate from NERAMAC for further processing into a mixed juice retail tetrapack.

We spoke with a number of senior executives who confirmed that such operations would be valuable to the industry. One in particular, K K John, Vice President for Marketing and Sales of Kissan Products Ltd, has already discussed this matter in public forums. Semi-processing (labor intensive) activities could take place in rural areas with the semi-processed product delivered to centralized factories for final processing and marketing. This way, the factories could focus more on sophisticated processing and marketing, including packaging and proper storage. A useful by-product of the system, from the point of view of the farmer, is that there would be considerably less spoilage and he could end up selling a larger proportion of his field production.

Advantages to the factory which utilizes a satellite station are

- The factory would be considerably cleaner as the raw material will have already gone through the initial stages of processing prior to being received. Also, if the factory is located in an urban area, the problem of waste disposal would be greatly reduced.

- The factory may be able to get product all year round. Many products, especially fruit concentrates, can be bulk stored in long shelf life containers such as aseptic packs. This storage could take place at the satellite station. These bulk packs

²⁹Food Focus, No 1, 1989 Alfa Laval

could then be delivered to the factory, as required, for further packing into shorter shelf life retail packs

-The factory can concentrate on the down stream processing chain which is oftentimes similar for many different varieties of raw material. For example, an IQF factory which is processing pineapple chunks, sweet corn and string beans would be able to utilize the same equipment for all three products. The up stream equipment, which is different for the different products, could be located at different satellite stations

This type of specialization increases the efficiency of all the participants to the processing chain. The ACE Project could be instrumental in promoting satellite stations for the benefit of a region or state. The ACE Project could provide financing and services, as previously described, to facilitate the implementation of such satellite stations

Cold Storage and transport Facilities

We have already mentioned losses which occur subsequent to the farm gate. SICOM specifically relates 20 to 40% of these losses to be caused by inadequate storage and transport facilities.³⁰ SICOM feels that the state of Maharashtra has insufficient cold storage space especially for fruits and vegetables which must compete with higher value items such as fish and meat. We have heard from various private sector participants that the situation in Maharashtra is not unusual for the rest of India

This is another possible intervention for the ACE Project. The Project could be instrumental in setting up time-sharing facilities, perhaps on a subordinated debt joint venture basis with private sector entrepreneurs

The availability of cooling and freezing facilities would serve the dual purpose of reducing post harvest losses and also create a more favorable environment for new investment in processing equipment

Pilot Plants

Because of the relatively large number of small operating units, most fruits and vegetables are being processed using conventional canning technology which is often outdated. Small factories are unable to keep up with technological advances due to the capital intensive nature of such advances

³⁰Discussion paper on Role of SICOM, Nov 9, 1990

Initially, advances in technology utilization will come from medium to large scale operations. In the last 2 to 3 years, large scale units have been modernizing by setting up concentration and aseptic plants. Aseptic filling in India is a recent development with 4 aseptic bulk packaging and about 8 tetrapack lines now in operation.³¹ The largest aseptic plant is SunCrush located in Bangalore. We had a lengthy meeting with the managing partner who spoke very optimistically of the potential for bulk, aseptic packing.

There are many technologies, both in processing and packaging, which are probably not available to the small and medium-sized producer due to the initial capital outlay. The availability of a pilot plant facility would enable such entrepreneurs to test the market, its infrastructure and perhaps their own interest, prior to becoming deeply involved in any particular new process or development.

We envision an intervention by the ACE Project whereby strategically located pilot plants could be made available on a time share basis. These plants would initially be operated by the project but could later be sold or leased to the private sector to continue operating for commercial production to make real tests of the market, both for domestic and export. Actual operating results would be an invaluable source of data for the preparation of financially viable feasibility studies. They could also serve as training centers for industry personnel.

It should be noted that the pilot plants which have IQF equipment should try to stimulate interest from the prawn freezing sector.

Pilot plants would probably need considerable financial concessions provided by the GOI to make them attractive to investors. The ACE Project could assist by providing subordinated debt.

Yields and Planting Materials

This refers to on-farm yields in terms of the individual fruits and vegetables. We are not referring to yield of produce per hectare. We are referring, for example, to the solids content (brix) of an Indian tomato as compared to an Italian or Israeli tomato. It is clear that the lower the solids, the more tomatoes will be needed to reach the international standard of 28 degrees brix for paste and the more expensive this paste will be. Other examples are

High sucrose in potatoes which causes a poor color in chips
High water content in onions which reduces yield when dehydrating.

³¹Asopa and Kalro, op cit

Non-uniform pineapples This causes loss of high value products such as whole slices

SICOM's Eighth Plan emphasizes " planting material is the single most important input in the pre-harvesting area "³² The Plan states that conventional methods of plant propagation are predominant and should be superseded by tissue culture techniques

If other governmental programs do not address this question, the ACE Project could designate monies to be used in the tissue culture and hybrid propagation of high yielding varieties for direct commercial application

We feel that this pre-farm gate intervention must be looked at due to its direct impact on the price of the finished product produced by the processing facility

Training

Training of mid-level processing and other agribusiness managers would be a means of accomplishing a number of the Outputs of the ACE Project Managers would be trained in all aspects of agribusiness, including post harvest handling, processing and marketing The emphasis would be on what is required by export markets with the view that this would also improve the domestic market Special courses could be devoted to techniques of displaying at domestic and international trade fairs

H U S /USAID Comparative Advantages

The U S is a world leader in efficient food production processing and marketing systems The size and breadth of U S agribusiness activities, and the availability of highly trained people, will enable USAID to access a wide variety of assistance from these sources

USAID has internal capabilities (e g , the Bureau of Science and Technology) and has developed strong linkages with U S institutions (e g , the Post Harvest Institute, IFPRI) that can directly support the ACE Project

³²Discussion paper on the Role of SICOM, Nov 9, 1990

Consequently, the combination of U S agribusinesses and AID inputs can enable USAID to provide the resources to accomplish the following outputs

- Improved postharvest technology
- Introduction of market-led processing technology
- Improved managerial capacity
- A leveling of raw material flow
- Improved processing yields
- Appropriate financing mechanisms for agribusinesses
- Information linkages
- Effective policy dialogue

IV Recommendations for Further Studies and Analysis

The team has identified three areas that will require further study and analysis before a definitive project can be established. The three areas are

1 Selection of the states in which the ACE Project will be located. This is essential before the other two areas can be addressed. The report provided eight key variables for selection of the states. It also recommended that only three states be chosen out of the seven listed as meeting the criteria used. Six of these could be listed as priority states and are shown below, more or less in priority order

Maharashtra
Karnataka
Tamil Nadu
Gujarat
Andhra Pradesh
Haryana

2 Analysis of the Nodal and Implementing Agencies

The proposed nodal agencies need to be approached as to their interest in participating in the Project and the conditions under which they would participate. The question of the mechanism for handling the implementing agencies is critical since it may involve the nodal agency working with a state agency with which it has no direct linkage. USAID has had experience in working with ICICI as a nodal agency and the

procedures established with that agency will be helpful in setting up the nodal agency for the ACE Project. It is possible that USAID may not need outside assistance in making this determination but, given the time required, USAID should consider bringing in a consultant for a three week period to undertake this work.

Selection of the implementing agency will be the key to a successful project in the state in which the implementing agency is located. It is likely that the implementing agency will involve different institutions in different states. The selection of these implementing agencies should be done with care and will require a special study. A two person team, working closely with USAID, should be able to determine the capabilities and interest of prospective implementing agencies in each state within a 30 day period. A general modus operandi should be developed once the agencies are identified.

3 USAID must determine the extent of agribusiness activity and financial needs in the states selected for the Project. This is an essential activity in developing the proper Project focus in the states in which ACE will operate. This information was available only on a limited basis for the team during the course of this study. However, it is strongly recommended that a study of agribusiness activity in each state be undertaken during the early stage of the development of the Project Paper. A two person team, spending 7 to 10 days in each state should be able to define the parameters of agribusiness activities. This will enable USAID to work directly with the selected implementing agency in the state (or to help USAID in determining the proper agency) in developing the appropriate thrust of the project.

It is essential that each team address the question of financial needs of agribusinesses in the states selected. This should be done by the team studying the nodal/implementation agencies as well as by the team studying agribusinesses. The level of USAID funding will depend largely upon the findings of these teams.

ATTACHMENT - TABLES

Table 1 India Area Under Major Corps

Crop	1970/71	1975/76	1980/81	1985/86	1988/89*
Million hectares					
Paddy	37 6	39 5	40 2	41 1	41 9
Wheat	18 2	20 4	22 3	23 0	24 1
Sorghum	17 4	16 1	15 8	16 1	14 8
Oilseeds	16 6	16 9	17 6	19 0	21 6
Sugarcane	2 6	2 8	2 7	2 8	3 4
Cotton	7 6	7 4	7 8	7 5	7 3
Maize	5 9	6 0	6 0	5 8	6 0
Jute	0 8	0 6	0 9	1 2	0 7
Potato	0 5	0 6	0 7	0 8	0 9

Source GOI Economic Survey, 1989/90

* Provisional

Table 2 India Comparison of Agricultural Growth Rate With Other Countries in the Region

Country	Agricultural Growth rate (%)	
	1965-80	1980-86
Thailand	4 9	2 9
Malaysia	4 7	3 0
Philippines	4 6	2 0
Burma	3 7	4 7
China	3 0	7 9
India	2 8	1 9
Sri Lanka	2 7	3 0
Bangladesh	1 5	2 7
Nepal	1 1	4 8

Source from Chang

Table 3 India Area of Selected Crops Under High-Yielding Varieties

Crop	Area Under High Yielding Crops				
	1970/71	1975/76	1980/81	1985/86	1988/89
Million hectares					
Paddy	5.6 (15)	12.4 (31)	18.2 (45)	23.5 (57)	27.2 (65)
Wheat	6.5 (36)	13.5 (66)	16.1 (72)	19.1 (83)	20.7 (86)
Sorghum	0.8 (5)	2.0 (12)	3.5 (22)	6.1 (38)	6.7 (45)
Maize	0.5 (8)	1.1 (18)	1.6 (27)	1.8 (31)	2.2 (37)

Source GOI Economic Survey, 1989/90
() % of total crop area under HYVs

Table 4 India Yields of Selected Crops as Compared With the World Average

Commodity	India's Yield	World Average Yield*
Metric Tons/has		
Rice	1.8	3.2
Wheat	2.1	2.3
Sorghum	0.6	1.4
Maize	1.4	3.6
Groundnuts	0.7	1.1
Tea	0.8	1.6
Soybeans	0.8	1.9
Potato	13.0	16.0
Sugarcane	60.0	60.0

Source Yang, October 1990

* Selected countries

Table 5 India Exports of Selected Agricultural Commodities,
1980/81 & 1988/89

Commodity	Exports 000 mt *	
	1980/81	1988/89
Coffee	87	83
Tea and Mate	229	193
Oil Cakes	886	1243
Tobacco	91	56
Cashew Kernels	32	38
Spices	84	94
Sugar and Molasses	97	94
Raw Cotton	132	14
Rice	727	158

	Crores	
Fruits and Vegetables	56	94
Processed Fruit Juices	80	64
Misc Processed Foods	36	121

Source GOI Economic Survey, 1989/90

* Rounded

Table 6 India Share of World Exports of Selected Commodities,
1980 & 1987

Commodity/ Commodity Group	World	India	% India	World	India	% India
	Mil	\$U S	of total	Mil	\$U S	of total
Meat/Meat Prep	17832	67	0 4	22845	40	0 2
Marine Prod	12258	242	2 0	23573	516	2 2
Cereals, Ex Rice	41989	201	0 5	28709	60	0 2
Rice	4355	160	3 7	2106	43	2 0
Fruit & Veg	24018	259	1 1	20773	92	0 4
Sugar	16183	46	0 3	11225	14	0 1
Coffee	12979	271	2 1	11838	146	1 2
Tea and Mate	1631	452	27 7	1534	221	14 4
Spices	1072	156	14 5	1504	151	10 0

Source GOI Economic Survey, 1989/90

Table 7 India Major Export Markets for Agricultural Products

Area/Country	1979/80	1983/84	1987/88
	Percentage of Exports		
Gulf States	34 3	49 1	32 2
Western Europe	22 4	12 8	17 6
North America	15 4	5 6	16 6
ESCAP Countries	12 2	17 1	22 3
USSR	4 0	8 1	2 4
Others	11 6	7 3	8 9
Total	100 0	100 0	100 0

Source APEDA

Table 8 India Major Destination of Agricultural Products, 1988/89

Commodities	Major Destination, by Share (%)
Fresh Mangoes	UAE (58%), Saudi Arabia (17%)
Other Fresh Fruits	UAE (34%), Iraq (31%), Saudi Arabia (15%)
Fresh Vegetables	UAE (29%), S Arabia (24%), Kuwait (17%)
Fresh Onions	Malaysia (27%), Singapore (26%)
Fresh Potatoes	Nepal (69%), Maldives (16%)
Fresh Juices	USSR (88%)
Can & Bot Fruit	S Arabia (18), YAR (13%), UAE (10%)
Canned Vegetables	Ger Fed Rep (19%), Denmark (17%), UK (13%)
Dehy Vegetables	Ger Fed Rep (25%), UK (18%), Czech (17%)
Pickles & Chutney	UK (31%), USA (13%), UAE (12%)

Source APEDA

Table 9 Sector-wise and Categories of Scheduled Products Licensees, 1984

Category of Licensee	Private	Coop	Public	Total
Large Scale-Over 250mt	256	7	20	283
Small Scale (B)-100-250mt	263	10	16	289
Small Scale (A)-50-100mt	186	5	7	198
Cottage Scale-10-50mt	490	13	9	512
Home Scale-Less than 10mt	1254	16	28	1298
Re-labeller*	415	2	9	426
Total	2864	53	89	3006

Source APEDA

Table 10 India Exporters Registered With APEDA, by Category

Products	Merchants Single Product	Manufacturers Single Product	Total
Fruit and Veg	209	47	256
Meat/Meat Products	36	30	66
Poultry/Poultry Prod	-	3	3
Dairy/Dairy Prod	3	2	5
Conf /Bakery	3	1	4
Honey, Jaggery, Sugar	3	11	14
Cocoa/Cocoa Prod	1	1	1
Alcohol/Non-Alcohol	2	8	10
Cereal Products	4	7	11
Walnuts/Peanuts	7	8	15
Pickles/Chutney	28	21	49
Guar Gum	20	47	67
Hort /Floriculture	10	6	16
Herbal/Medicine	2	-	2
Sub-Total	328	192	520
Multi-Products (Merchants)			529
Multi-Products (Manufacturers)			83
Total			1132

Source APEDA

Table 11 India Value of Scheduled Exports

Year	Value of Scheduled Products Exported (000) Lakhs)
1980/81	19175
1981/82	29783
1982/83	27850
1983/84	24230
1984/85	31595
1985/86	27850
1986/87	31257
1987/88	38478
1988/89*	41708

Source APEDA

* Provisional

Table 12 India Installed Processing Capacity and Utilization

Year	Installed Capacity 000 mt	Production	Capacity Utilization %
1981	275	90	33
1982	300	137	46
1983	330	120	36
1984	379	140	37
1985	379	155	41

Source Asopa and Kalro

TABLE 13 - INDIA MAJOR DONOR ACTIVITIES IN AGRIBUSINESS PROJECTS, NOVEMBER, 1990

Donors	Project Title	Objective	Major Components	Location	Date started	Funds US\$
World Bank	1 HOPCOMS Fruit and Vegetable Project	Marketing of fruits and vegetables in Bangalore	Processing Fruit drink, marketing of fruits & vegetables	Bangalore, Karnalaka	1985 1990 Will be extended to 1992	2.2 million
	2 Tropical Horticulture Project	a) To increase the production of fruits and vegetables b) To increase the income of growers	Production, processing and marketing	Andhra Pradesh Karnataka Tamil Nadu Maharashtra Kerala	Could not start It may start in next six months	NA
	3 Nerkhed Food Processing Project	a) To increase the production of fruits and vegetables b) To increase the income of growers	Production, processing and marketing It may also have an export component	Nerkhed, Maharashtra	Waiting to be approved	6 million
	4 Fruits and Vegetable Project	a) To increase the production of fruits and vegetables b) To increase the income of growers	Procurement and marketing Post harvest handling, transportation, cold storages, distribution centers, retail outlets	All Major cities in India Ahmedabad, Bangalore, Madras, Calcutta, Delhi, Bombay	Planned for 1992	NA
United Nations Development Program	Fruit and Vegetable Processing	To increase apple production in Jammu & Kashmir	Pilot facility for apple dehydration, juice concentrate etc, R & D, packaging	Jammu and Kashmir	Could not start due to disturbances in J & K	17 million + 1 million from the BOI

ANNEX -1

THE WORLD BANK

The World Bank plans to have a project in Agribusiness and has contracted FICCI to conduct a study in the areas of taxation and policy reforms. FICCI was to submit a report to the World Bank last year. The report is expected by the end of December, 1990.

The World Bank plans to suggest modification of duty structure affecting the food processing industry. At present, the products in the industry are subject to high excise duties that average from 10 to 15 % ad valorem. Key reforms in the commercial development of cooperatives and cooperative services have also been identified. The World Bank decided to focus on the duty structure after conducting several surveys on the constraints to increasing export growth for specific commodities.

PRESENT PROGRAMS/PROJECTS

1 TITLE HOPCOMS Fruit and Vegetable project

OBJECTIVES Marketing of Fruits and Vegetables in Bangalore

MAJOR COMPONENTS HOPCOMS, Bangalore, is active in 1) manufacturing of fruit drink 2) marketing of fruits and vegetables 3) supplying fertilizers and chemicals 4) and disbursing Government loans. The society is acting as a nodal agency for the project.

LOCATION The project is located in Bangalore and nearby areas.

DATE STARTED AND DURATION 1985-1990. The project will be extended for two more years i.e. up to 1992.

US\$ VALUE The project has a value of \$2.2 million.

2 TITLE NATIONAL SERICULTURE PROJECT

OBJECTIVES To improve the silk industry and increase the income of women.

MAJOR COMPONENTS The project involves cultivation of mulberry trees, reeling and silk processing units.

LOCATION The project covers sixteen pilot states and five major states.

DATE STARTED AND DURATION The project is two years old. It is co-sponsored by the Swiss.

US\$ VALUE The project has a value of \$250 million.

FUTURE PROGRAMS AND/OR PROJECTS

1 TITLE TROPICAL HORTICULTURE PROJECT

OBJECTIVES The project is designed to increase the production of fruits and vegetables and subsequently increase the income of growers

MAJOR COMPONENTS The project involves production, processing and marketing of the processed fruits and vegetables

LOCATION The states targeted are Andhra Pradesh, Karnataka, Tamil Nadu, Kerala and Maharashtra

DATE STARTED AND DURATION The project could not start as the concerned secretary of the state was more keen on having a project in cut flowers With the change in secretary, the project is expected to start again in next six months

2 TITLE NERKHED FOOD PROCESSING PROJECT

OBJECTIVES The project is designed to increase the production of fruits and vegetables and subsequently increase the income of growers

MAJOR COMPONENTS The project involves production, processing and marketing of the processed fruits and vegetables(mango, oranges, lemon, guava, tomato) It may also have an export component

LOCATION Nerkhed, Nagpur, Maharashtra

DATE STARTED AND DURATION The project is waiting to be approved by the Bank The decision will be taken in December 1990 The project life is approximately ten years

US\$ VALUE \$6 million

3 TITLE FRUITS AND VEGETABLE PROJECT

OBJECTIVES The project is designed to increase the production of fruits and vegetables and subsequently increase the income of growers

MAJOR COMPONENTS The project involves procurement and domestic marketing of fruits and vegetables The major components funded will be post-harvest handling equipment, transportation, cold storages, distribution centers and retail outlets in major cities

LOCATION All major cities in India - Ahmedabad, Bangalore, Madras, Calcutta, Delhi, Bombay, etc

DATE STARTED AND DURATION NDDB the implementing agency for the project is conducting a feasibility study in ten states The study is expected to be completed by early 1991 The project may get approved by 1992 The project life will be approximately five years

US\$ VALUE The World Bank has funded the feasibility study Funds for other activities will be allocated after the project is approved

UNITED NATIONS DEVELOPMENT PROGRAMME

The UNDP has proposed four major projects to the GOI based on

- 1 Fruits and Vegetables
- 2 Processed Food Products, meat and poultry etc
- 3 Fresh Flowers
- 4 Guar

The Government of India accepted two projects

- 1 Meat and Poultry
- 2 Apple processing in Jammu and Kashmir

The meat and poultry project will be worked out with APEDA The project on apple processing could not start due to the political disturbances in Jammu and Kashmir

FUTURE PROGRAMS/PROJECTS

TITLE FRUIT AND VEGETABLE PROCESSING

OBJECTIVES To increase apple production in Jammu and Kashmir

MAJOR COMPONENTS 1 Setting up of a pilot facility for apple dehydration, juice concentrate, by-products utility, etc 2 Research and Development in production and processing technology 3 Consumer packaging

LOCATION Jammu and Kashmir

DATE STARTED AND DURATION The project could not start due to disturbances in Jammu and Kashmir The project will be taken up again, if, GOI asks for it

US\$ VALUE UNDP funds of \$1 17 million with a matching fund of Rs 17 million (approximately \$1 million) from GOI were assigned for the project

THE FOOD AND AGRICULTURE ORGANIZATION

PRESENT PROGRAMS/PROJECTS

1 TITLE FOOD QUALITY CONTROL

OBJECTIVES· To strengthen the potential of the Export Inspection Agencies at Cochin, Bombay and Calcutta in food quality inspection and control

MAJOR COMPONENTS Technical consultancy

LOCATION Cochin, Bombay, and Calcutta

DATE STARTED AND DURATION August 1989 to December 1990

US\$ VALUE \$150 thousand

FUTURE PROGRAMS AND/OR PROJECTS

1 TITLE VILLAGE LEVEL PROCESSING OF POTATO

OBJECTIVES To extend the village level technology in other parts of India

MAJOR COMPONENTS Processing and Dissemination of Technology

LOCATION Bareilly, Uttar Pradesh

DATE STARTED AND DURATION Planned

US\$ VALUE Project under review

THE CANADIAN HIGH COMMISSION

PRESENT PROGRAMS/PROJECTS

The Commission has several projects in agriculture The projects which are more closely related to agribusiness are listed below

1 TITLE INDO-CANADIAN AGRICULTURE EXTENSION PROJECT

OBJECTIVES To increase agricultural productivity in the project areas

MAJOR COMPONENTS The project activities are listed below

- fertilizer demonstrations
- training of farmers and the project staff
- post harvest technology
- seed multiplication
- women training
- farmers investment programs
- health programs
- mother and child care programs
- storage of grains and fruits and vegetables

LOCATION The project covers three districts in Uttar Pradesh-
Meerut, Barabanki, and Sultanpur It involves more than a
thousand villages

DATE STARTED AND DURATION five years

PROJECT VALUE The project value is approximately US\$25
million

2 TITLE OILSEEDS GROWERS COOPERATIVE PROJECT

OBJECTIVES The project aims at stabilizing the edible oil
prices by increasing oilseed production

MAJOR COMPONENTS Three major components
Production of oilseeds
Processing of oilseeds
Marketing of oil

LOCATION The project is located in eight states
Gujarat
Andhra Pradesh
Madhya Pradesh
Rajasthan
Tamil Nadu
Orissa
Maharashtra
Karnataka

DATE STARTED AND DURATION 1979 To 1997 The first phase of
the project was from 1979 to 1989 The second phase is from
1989 to 1997 The project duration is for a period of
seventeen years

PROJECT VALUE The first phase of the project is US \$62.5
million The second phase of the project is US\$ 72 million
The project was funded from 1979-89 by the sale of 160,000 mt
of U S donated soyabean oil CIDA began funding the project in
1981

THE AUSTRALIAN HIGH COMMISSION

PRESENT PROGRAMS/ PROJECTS

1 TITLE FRUIT AND VEGETABLE PROCESSING

OBJECTIVES· To introduce appropriate Australian technology for post harvest handling and distribution of fresh and processed fruits and vegetables in the market

MAJOR COMPONENTS Post harvest handling, processing and domestic marketing

LOCATION Bangalore, Karnataka

PROJECT STARTED AND DURATION 1990-1993 The project could not take off as the AUSTRADE wanted to do it commercially
US\$ VALUE \$2 75 million

2 TITLE FRUIT AND VEGETABLE PROCESSING

OBJECTIVES To introduce appropriate Australian technology for post harvest handling and distribution of products in the market

MAJOR COMPONENTS Post harvest handling, processing and marketing

LOCATION Assam

PROJECT STARTED AND DURATION 1990-1993 The project could not take off as the project site was not approved by AHC NDDDB has to come back to AHC with a new project area proposal
US\$ VALUE \$2 75 million

THE BULGARIAN EMBASSY

PRESENT PROGRAMS/PROJECTS

1 TITLE THE INDO-BULGARIAN FRUIT AND VEGETABLE PROJECT

OBJECTIVES To increase apple production in Jammu and Kashmir

MAJOR COMPONENTS Production Enhancement

LOCATION Jammu and Kashmir

DATE STARTED AND DURATION The project activities ceased due to disturbances in the state

THE DUTCH EMBASSY

PRESENT PROGRAMS/PROJECTS

1 TITLE VEGETABLE SEED MULTIPLICATION PROJECT

OBJECTIVES To increase seed production in Delhi and adjoining areas

MAJOR COMPONENTS Production enhancement

LOCATION Delhi and adjoining areas

DATE STARTED AND DURATION 1989

US \$ VALUE NA

ANNEX 2

RANGE AND ROLE OF INSTITUTIONS¹

The following section provides a brief summary of the range of institutions directly concerned with agribusiness and the role they play in the agro-industrial system

1 Central Government Ministries

Ministry of Industries

The "New Industrial Policy Statement" for 1990 issued by the Industry Minister in Parliament on May 31, 1990 states that the agro-processing industry will be given high priority in credit allocation from financial institutions. The policy further states that agro-processing sectors requiring advanced technology, approvals will be granted within 30 days of presentation to the Department of Industrial Development. The policy statement stresses that for agro-based industries to be successful, close links must be established between the growers and processor units. Therefore, the Industrial Policy is particularly promoting projects formed on the basis of joint ownership.

The New Industrial Policy has not been approved as yet and, with the change in government in November, many of its provisions may be in jeopardy.

The Ministry encourages processing units to be established within the framework of cooperative societies or a similar group action initiatives. It argues that this will also ensure the transmission of better technology transfer for enhanced agricultural production. The Ministry has recently created a new Department of Small-Scale and Rural Industries. The responsibilities of this department are still being defined, but there is already some apparent overlap with the Ministry of Food Processing Industries. The future development of this department could affect the status of Ministry of Food Processing Industries significantly.

¹Section I of this Annex is based in part on Joyce Chang's report "Issues in the Indian Agribusiness Sector and Recommendations" Prepared for USAID/New Delhi October 25, 1990

Ministry of Food Processing Industries

In July 1988, the Central Government created the Ministry of Food Processing Industries to serve as a major catalyst for laying down an agro-based pattern of rural industrialization, which would transfer technology, increase incomes and create major avenues for increased rural employment. The Ministry has established three Development Councils for food processing, fruits and vegetable processing, and fish processing. The Councils are responsible for estimating demand and future production targets, studying infrastructure and packaging requirements, reviewing current technologies, and planning for exports. While the scope of the Ministry's responsibilities is quite broad, it has little authority in implementation. With the initiating of the Ministry of Industries Department of Small Scale and Rural Industries there is possible of overlap with the Ministry of Food Processing Industries. It is conceivable that the Ministry of Food Processing Industries could be merged into the new division of the Ministry of Industries.

The Ministry has little authority at the state level. It was basically set up to promote small scale industrial employment units to help curb urbanization. Its future program focus will be on strengthening of basic information, research projects, and studies in the industrial and horticultural areas. Its priorities are small-scale industry, improved varieties and yields, increased self-life of products and rural marketing. One main constraint identified was the slow technology transfer to small-scale processors.

Agricultural and Processing Food Products Export Development Authority (APEDA)

APEDA was created in 1986 and receives its funding from the Ministry of Commerce. It is responsible for export promotion and development of the following products listed under the APEDA Act: meat and poultry products, confectionery, biscuit and bakery products, honey, sugar, cocoa, chocolates, alcoholic and non-alcoholic beverages, cereal products, groundnuts, floriculture products, papad and chutney, and herbal and medicinal plants. APEDA requires by law that all exporters of the above products register with them before they are allowed to export.

APEDA offers assistance for export-related activities encompassing such areas as quality control, information and advisory services, market intelligence and information, packaging development, research and development, etc.

APEDA is closely affiliated with the Ministry of Food Processing Ministries, and all bilateral activities with APEDA would also be coordinated through the Ministry of Food Processing Ministries. APEDA has had difficulties in implementing its mandate due to

inter-institutional coordination constraints and lack of solid government backing. State level corporations have only used APEDA's services sparingly. Its investment priorities are vegetables, fruits and seeds.

Ministry of Agriculture

The Ministry of Agriculture is primarily focused on the factor market (inputs) of agricultural production, i.e. seeds, fertilizer and pesticides. Most of the MOA input distribution efforts are subsidized. Since the Ministry of Agriculture does not implement any agro-processing activities and agricultural commercialization activities, this would not be a likely agency for the ACE project. However, it can promote targeted inputs and has direct linkages with the National Horticultural Development Board and the National Dairy Development Board.

Ministry of Planning

The Ministry of Planning recently developed a project on Regional Planning which divided the country into 15 agro-climatic zones on the basis of a commonality of agro-climatic factors like soil type, rainfall, temperature, water resources, etc. One of the main objectives of the plan is to attempt a broad demand-supply balance of major commodities at the national level but based on potential and prospects of various zones. The World Bank is also interested in using agro-climate zones and is coordinating the design to be used for their proposed agro-industry project.

Khadi and Village Industries Commission (KVIC)

KVIC's main role is to promote rural industrialization by encouraging self-employment opportunities in the non-farm sector in rural areas, including villages in small-scale industrial activities. It implements its program through 27 statutory state boards and an advisory board and operates through 1148 institutions and 30,000 cooperative societies spread over 150,000 villages in the country. However, the 1988 Comptroller and Auditor General report named KVIC as one of the worst managed public sector organizations in India. The National Front Government has allocated Rs 7000 cores to KVIC as part of a pre-election promise to promote rural industrialization.

Ministry of Food and Civil Supplies

This Ministry makes recommendations to the Ministry of Finance on the amount of surplus agricultural products that should be exported and recommends the level of imports for essential commodity items which India lacks. This Ministry is particularly concerned about raising foreign exchange to meet the demand for importing edible oil.

2 State-level Ministries

Industrial Development Corporations (IDCs) and Agro-Industry Corporations (AIDCs) have been established in most states for planned development of medium-scale industries at the state-level. These corporations function as extended arms of the national-level industrial development and financial institutions such as the Industrial Development Bank of India, Industrial Credit and Investment Corporation of India (ICICI), and others to coordinate and integrate industrial development activities at the state-level. The corporations assist industries in obtaining letters of intent/licenses from the Government of India for selected industries, extend terms loans and seed capital, provide assistance for modernization and rehabilitation of problematic industrial units. Generally, corporations promote industrial units through three different sectors: subsidiaries, joint ventures, and assisted ventures. There are two main types of state-level corporations which are described in the next section.

Agro-Industry Corporations

State-level agro-industry corporations are government agencies, but they often have joint ventures with the private sector. Agro-industry corporations are not part of the state government ministries but function as government-promoted corporations. State agro-industry corporations are responsible for all aspects of agribusiness, and make arrangements for the procurement, grading, packaging, and distribution of agricultural products. Such corporations can finance, promote agro-industries, whether owned or run by government, statutory bodies, company, co-operative societies, firms or individuals and provide such activities and industries with capital credit, means resources and technical assistance. The Gujarat Agro-Industry Corporation even has close ties with private sector export firms in commercially oriented enterprises. The experience of agro-industry corporations in India is mixed.

Industrial Development and Investment Corporations

All states also have industrial development corporations which sometimes implement agro-industry activities. The level of agro-processing activities undertaken by these corporations varies from state to state. For example, in the state of Andhra Pradesh, the range of activities in agro-processing with the industrial development corporation is very extensive, having 65 joint ventures with the private sector on a variety of commodities ranging from oilseeds, to cotton processing to pasta products. The APIDC (State Industrial Corporation of A Pradesh) has promoted high technology projects as an area for further investment, and applied biotechnology to agriculture food processing. SICOM, in Maharashtra, provides expertise in project identification, financing and co-ordination with government at the state and

national levels. IDC's also sponsor training programs on marketing, research, and evaluations. The states with a tradition of independence from the government tend to have industry development corporations with stronger private sector linkages.

Some states have a joint sector policy. The Tamil Nadu Industrial Corporation will invest 26% in a project, the private entrepreneur contributes 25%. Thrust areas in Tamil Nadu include agro-based and biotech industries. The private sector firm technically manages the company while the state government retains chairmanship. This can cause some controversy concerning state government interference in day-to-day management.²

3 Cooperatives

India has one of the largest and most well-developed cooperative structures in the world. Agricultural cooperatives are particularly important institutions in the agro-processing sector because they are the predominant organizations that promote activities with strong backward linkages to small farmers and forward linkages with marketing and export. Cooperatives play a key role in promoting integrated rural development since they are represented in the production, processing and marketing processes. This important role of the cooperatives is key for any successful agribusiness project alternative which seeks to evolve the small farmer and their small unit of output with a larger-scale transportation-distribution marketing system.

India's experience with organizing and managing cooperatives has been mixed, however. The majority of cooperatives do not truly function as cooperatives, and cooperatives have a tendency to support government policies since the policy of the government continues to be one of providing credit to farmers through such institutions as cooperatives. The disbursement of agricultural credit by the government to cooperatives in 1988-89 was Rs 5442 crores.³

Each state has different by-laws that govern cooperatives. Some states, such as Maharashtra, Karnataka, Tamil Nadu, and Gujarat, have traditionally had strong cooperatives that function independently from the government and have been able to protect their autonomy. In all of India, however, cooperatives members provide only 5% of the working capital and the rest is provided by state governments. Cooperatives in the agro-processing area have not performed as well as other cooperatives in marketing, credit, and production areas.

²Business India, October 1990

³ Government of India Economic Survey 1989-90, Ministry of Finance, Economic Division

There are some positive reforms underway to liberalize cooperative by-laws and give states increased autonomy. A model state law will be considered in the near future. It was developed with input from the progressive National Dairy Development Board and Samahkya. These laws would be at the discretion of each state to adopt, but would give the states the authority to disband the current state committee system that governs cooperatives. Additionally, the Ministry of Industry is encouraging agricultural producers to establish processing units within the framework of cooperative societies.

a National Level Organizations

1) National Cooperative Development Corporation (NCDC)

NCDC is a development financing institution and consulting body for the agricultural cooperative sector and is responsible for planning, promoting, and financing cooperatives in production, processing, storage and marketing of agricultural produce, distribution of essential commodities, and distribution of inputs. NCDC also works with the non-farm sector such as the fishing industry to promote income generation activities that benefit the rural poor. NCDC provides 70% of its financing as loans to cooperatives, while the state government contributes 22.5%, with the cooperatives providing the balance. The state government guarantees a 70% repayment to NCDC. NCDC has been particularly active in developing oilseed and sugar cooperatives. NCDC has received donor assistance over the past years, particularly in cotton and oilseeds commodities.

2). National Cooperative Union of India (NCUI)

NCUI is an apex body that coordinates all national, state, and multi-state cooperatives. It has over 150 million members and its activities range from promotion of cooperative ideology and principles to training programs. NCUI also provides consultancy services to its member organization and works to reduce imbalances in cooperative development. It is responsible for overseeing the National Council for Cooperative Training and National Institute of Cooperative Management, which includes 19 cooperative training colleges and 92 junior cooperative training centers.

3) National Agricultural Cooperative Marketing Federation (NAFED)

NAFED is the apex body of marketing cooperatives in India and the central nodal agency for handling GOI price support and market interventions.

NAFED supports countrywide programs for providing marketing support to farmers. There are about 6000 primary marketing societies, 157 district/central societies, and 29 general purpose state

cooperative marketing federations at the state level. Furthermore, there are 16 special commodity marketing federations. During 1988-89, cooperatives marketed produce worth approximately \$3.2 million dollars. Three major commodities which account for more than 75% of total agricultural produce marketed were food grains, sugarcane, and cotton.

NAFED includes a research body, the Associated Agricultural Development Foundation, and is responsible for dissemination of information and price data to its affiliates.

4). Food Corporation of India (FCI)

FCI has confined its operations to only wheat and rice. In most states, cooperatives must sell 50% of their produce to the Food Corporation in order to receive the right to sell the same amount on the open market. Gujarat is one state that does not have to meet this requirement. FCI has subordinate offices in the states and its own godowns and silos for storage. Recently, a committee on agriculture recommended that FCI's activities be greatly reduced.

b State Level Cooperative Institutions

State level cooperatives have been more successful in certain states and selected commodities. In Gujarat, for example, its reputation for having the best cooperative in India is largely due to the impact of the National Dairy Development Board, and a tradition of independence from the central government.

1). National Dairy Development Board (Amul Cooperative (Gujart) (NDDB)

In Gujarat, cooperatives have created one of India's most effective milk procurement, processing/manufacturing and marketing systems. Strong leadership and management, a gradual evolution since 1946, and progressive state/private sector linkages were important factors in achieving success. The AMUL cooperative is based on integrated rural development using farm-industry linkages, and uses agro-processing as an anchor activity to organize other activities. The AMUL project effectively commercializes dairy production and processing, and returns the profits to farmers. The effort of the NDDB is considered in this report because of their success in linking the production-processing-marketing system effectively which involves small farmers. Furthermore, NDDB will be implementing a project in the near future to study the constraints and opportunities for marketing fruits and vegetables to urban areas in India.

2). Samakhya (Andhra Pradesh)

Samakhya was created in 1982 and its goal is to strengthen rural areas. It is not a cooperative but operates similarly to a private voluntary organization on the behalf of cooperative members in Andhra Pradesh. Samakhya provides training consultancy services to cooperatives and charges a service fee. It does not receive any government funding but it does assist cooperatives in applying to receive funding. Samakhya works to influence policies and promote new areas for cooperative reform, and assists rural farmers in becoming members of cooperatives. It is currently at the forefront of framing the new model state by-laws that will be considered by Parliament and has provided training to the managing committee. It has lobbied on the behalf of 29 agricultural cooperatives with 2,000 to 3,000 members. It has also collaborated with the Institute for Rural Management on developing management and financial training courses.

3) Fresh Vegetable Marketing Cooperative (Andhra Pradesh)

The Fresh Vegetable Marketing Cooperative Society was established four years ago and now distributes standardized and branded fresh fruit and vegetables through a retail network of 47 outlets in Hyderabad. This cooperative has marketing, packaging, processing, and transportation facilities. This vertical integrated food marketing system could provide some important lessons to consider when outlining the process for establishing an integrated marketing cooperative. The cooperative has 660 members and is in the process of negotiating a joint venture with the Andhra Pradesh Agro-Industries Corporation and the A Pradesh Industrial Development Corporation.

4 Trade Associations

a Confederation of Indian Food Trade and Industries (CIFTI)

CIFTI is the only association that is officially sanctioned by the Federation of Indian Chambers of Commerce and Industry to promote the development of the food processing industry. CIFTI was founded in 1985 to represent the concerns of food processing industries to the Government. It includes over 70 members from the food trade, hotel industry, and processed food industries manufacturing, manufacturing a wide range of products including, oil, fruits and vegetable products, dairy products, and other supporting industries such as packaging, machinery, and seed development. CIFTI has strong ties to the Ministry of Food Processing Industries (MFPI). Furthermore, CIFTI and MFPI co-sponsor conferences. CIFTI is represented in the following government organizations: Central Committee for Food Standards, Bureau of Indian Standards, and

Development Council for Food Processing Industries. Additionally, it also maintains linkages with international organizations such as WHO, FAO, and US/FDA.

5 Financial Institutions

a) NABARD (National Bank for Agricultural and Rural Development)

NABARD provides refinance facilities to State Co-operative Banks and State Land Development Banks. It has been refashioning its policies for extending refinance support to the banks for various development schemes and projects, including liberalization in terms of loaning for plantation/horticulture, vegetable cultivation.

Limited support is provided for tractors/power tillers by State Agro-Industries Corporations for providing custom services to farmers, particularly small and marginal farmers in areas of low tractor density. NABARD is directly involved in project appraisal functions for those projects that are to be sent to commercial banks for re-financing purposes.

b) ICICI (Industrial Credit and Investment Corporation of India)

ICICI directs its financial resources to support the development priorities of India, primarily in the industrial area, and regional growth and development of backward areas. In 1987-88 it sanctioned Rs 565 crore for projects located in backward districts, forming 49% of the total assistance.

ICICI has demonstrated a consistent willingness to break new ground, such as the PACT and PACER projects and the promotion of a new company called Technology Development and Information Company of India (TDICI).

It is operationally autonomous and has close contact with the business community.

A strong argument can be made for recommending ICICI as the nodal agency for the ACE Project. It moves in the direction that the GOI wants, but with a private sector focus. New portfolios are being added in the agribusiness area. It is looking for more connections with USAID/U.S. private businesses, and can handle additional projects of USAID. ICICI has financial stability, good management and works with small, medium and large units. It has experience and is familiar with USAID's internal requirements, e.g., reporting. The start-up cost would be low and, from a management point of view and project implementation, it would provide for a quick start-up.

The main draw-backs are

- ICICI may have a large project/urban bias which is normal in investment activities since it costs almost as much to develop a small industry as a large one

- USAID might not want to place all of its eggs in one basket Although the ACE Project is not an institution-building project, USAID may want to build agribusiness capacity in agencies such as ICICI

c Industrial Development Bank of India (IDBI)

Agri-related industries accounted for about 17% of sanctions under Direct Finance Schemes during 1988-89 These included, industries like food processing, vanaspati, and edible oils Assistance to the small scale sector accounted for 28% of total sanctions during 1989-90 Assistance to the private sector represented 75% of total sanctions.

IDBI had a few medium-size ventures involving new and untried processes under the Venture Capital Fund Scheme These included a venture for extracting spice oils and oleoresins from ginger, cardamom and tumeric

During 1989-90, IDBI provided refinancing assistance to State Financing Corporations (SFCs), banks and State Industrial Development Corporations (SIDCs) IDBI's Seed Capital Scheme is channeled through SFCs and SIDCs which assess entrepreneurs and projects, disburse assistance, do post-sanction monitoring of projects, recovery of loans, etc

IDBI also provides resource support to other institutions such as the State Small Scale Development Centers for financing their schemes, raw material supply and marketing support As part of project appraisal and input to formulation of policy, IDBI interacts with ASSOCHAM, FICCI and other associations

The Small Industries Development Bank of India (SIDBI) is a wholly-owned subsidiary of IDBI which commenced operation on April 2, 1990 It focuses on coordination of institutional assistance at the apex level It has set up a new scheme to assist women entrepreneurs A refinance scheme for modernization of small and medium industries is also being implemented Special studies have been undertaken concerning food processing units

IDBI's promotional activities focus on provision of consultancy services, entrepreneurship development, economic support of the weaker sectors of society and self-employment The Technical Consultancy Organizations (TCOs) carry out market studies, turnkey projects and identification and training of entrepreneurs from different target groups

IDBI has a line of credit of US\$100 million from ADB for an on-lending to small and medium scale industries through selected SFCs. It also has a line of credit of US\$13.5 million for on-lending to Canara Bank and to the Andhra Pradesh Industrial Development Corporation for ventures involving new processes and technology.

IDBI should be considered as a possible nodal agency. The bank has recently gained some experience working with USAID in the energy area. IDBI has an impressive outreach mechanism and numerous schemes that provide institutional and technical support to small and medium size industries but not much experience with agro-industry from a commercial focus. The specific advantages and disadvantages are summarized in section II D of this report.

d) IFCI (Industrial Finance Corporation of India)

IFCI is the first national level development bank established in India in 1948. Its basic objective is to make medium and long-term credits more readily available to industrial concerns. Presently, 50% of its share capital is held by IDBI. The facilities and services now being provided by IFCI cover principally project financing (80% corporate), financial services, and promotional services such as risk capital, venture capital, and of upgrading managerial skills. These promotional activities are also provided by ICICI and IDBI. This institution works closely with the State-level Industrial Financial Corporations.

6 Training and Research Institutions

The following training institutions are rank ordered according to technical capabilities and impact of their programs on the agro-industry.

a Indian Institute of Management/Center for Management in Agriculture (IIM/CMA)

The Center for Management in Agriculture (CMA) was established by the Indian Institute of Management (IIM)/Ahmedabad in 1963 to expand the use of management science to agriculture. IIM is regarded as one of the top academic institutions in India, and has received support from international agencies, including USAID, the World Bank, FAO, the Ford Foundation and others. IIM is conducting the most extensive technical research on the agro-processing sector. For example, it was commissioned by the Department of Industrial Development, Ministry of Industry to conduct a study "Fruits and Vegetables Processing Industry in India". This study has been completed but not yet formally published. This Ministry and other institutions, including the World Bank and numerous cooperatives, have contracted with IIM to complete technical studies of the sector. IIM also hosted a national workshop in 1988 on "Policy Support for Agro-Processing and Exports".

IIM has conducted extensive training programs for participants from rural cooperatives, marketing federations, rural banks and NCDC. Many consider that IIM/Ahmedabad is the most technically competent and well-respected training institution in the agribusiness field in India.

b Institute for Rural Management (IRMA)

IRMA was established in 1979 with the support of the Government of India, Government of Gujarat State, National Dairy Development Board, and the Indian Dairy Corporation. It was originally established to provide management training and research support to dairy cooperatives being established on the AMUL mode throughout the country in the early 1980's. Since then IRMA activities now include training programs for several non-governmental organizations and government programs. Most of IRMA programs run for two years and include such courses as personnel management, marketing, legal environment, costing and computers. Graduates of the training program are generally placed with agricultural cooperatives or rural development agencies that have been designated as under-managed. Additionally, IRMA has a good reputation at the state level and unlike IIM, is perceived as addressing the interest of smaller farmers.

c. National Council for Cooperative Training (NCCT)

NCCT was established in 1976 to formulate overall policies and plans relating to cooperative training. It has established linkages with the Government of India, state governments, NABARD, and agricultural universities to promote cooperative training. NCCT also promotes education in cooperation in schools and colleges and suggest syllabi and standards of examination for cooperative educational institutions. There are 19 cooperative training colleges, located mainly in the state capitals or principal cities. These training colleges are designed to train middle-level personnel of cooperative institutions, cooperatives, and other related departments and various promotional bodies. Training programs cover such areas as credit and banking, marketing and processing, cooperative law, and training on specific industries and cooperatives. Last year, a total of 9,339 participants received training.

NCCT also provides academic support and guidance to 95 cooperative centers for junior personnel. These cooperative centers are also administered by the state government and cooperative unions.

6. Private Agribusiness and Consulting Firms

a AFC (Agricultural Finance Consultants Ltd)

The Finance Corporation Ltd was originally registered in 1968 as a financing agency, but was later converted to a consulting agency for banks. It's membership consists of 37 commercial banks including the State Bank of India, 16 Nationalized Banks and 7 foreign banks

AFC's activities cover the entire sector of agricultural and rural development, including agro-industries, marketing and storage, and rural/village industries and handicrafts. One of it's fields of specialization is agro-industries, processing & marketing

AFC undertakes project identification activities, studies, project preparation, appraisal, monitoring and evaluation, and training programs for upgrading bank and government personnel. It has been engaged in international consultancy for over 10 years, providing consultancy services in over 55 international assignments

During 1989-90, the Company earned a modest operating profit before provision for income tax. The earnings from the projects assigned by private parties amounted to less than 0.18% while fees earned from the Central and State Governments amounted to over 88% of the total fees earned during the same period

b Other Consultant Agencies/Institutions

There are many agro-consultants throughout India some of which are private firms, research institutions, training and academic institutions and government-related activities such as AFC. For example, several institutions visited cited IIM, CFTRI, IIP, NPC (National Productivity Council), Datal (computerization), agricultural universities, NDDB, and foreign consultants financed by donor agencies, international organizations, and private sector firms as sources of assistance. What is important to recognize, is that these organizations, firms and institutes are conduits or change agents and need to be considered as support entities in the ACE project and/or close associates in promoting the ACE project

LIST OF PEOPLE INTERVIEWED

<u>Name</u>	<u>Position</u>	<u>Company</u>	<u>Location</u>
<u>U.S. GOVERNMENT:</u>			
Blumberg, Andrea	Deputy Director Agricultural Res & Education	USAID	N Delhi
Becker, John A	Office Director Agricultural Res & Education	USAID	N Delhi
Beckman, Robert W	Office Director Tech Dev & Enterprise	USAID	N Delhi
Berry, Ram K	Office of Technology Development & Enterprise	USAID	N Delhi
Balis, S John	Sr Agribusiness Officer	Bureau for ASIA	Washington
Chhabra Rajesh	Chief Financial Analyst, Office of Controller's	USAID	N Delhi
Chojar, K Anil	Agricultural Specialist	American Embassy	N Delhi
Conable, Dan	Agricultural Counselor	American Embassy	N Delhi
Freundlich, Steven	Deputy Office Director, PDPS	USAID	N Delhi
Graham, Wm C	Controller	USAID	N Delhi
Grayzel, John A	Office Director Natural Resource & Management	USAID	N Delhi
Grant, John P	Division Chief, Program Planning & Evaluation Divn	USAID	N Delhi
Gupta, M C	Econ Specialist	USAID	N Delhi

Lutter, Dorothy	Commercial Counsel	American Embassy	Bombay
Mahoney, Timothy M	Office Director PDPS	USAID	N Delhi
Mamnanı, Nina	Trade Specialist	United States & Foreign Comm1 Service	Bombay
Pfeiffer, Dale B	Director (Acting)	USAID	N Delhi
Perlanayagam, J	Proj Dev Spec	USAID	N.Delhi
Puri, A S	Program Asst Tech Dev & Enterprise	USAID	N Delhi
Seshradı, N V	Prog Spec	USAID	N Delhi
Singh, Surjan	Program Specia- list Ag Res & Education	USAID	N Delhi
Sisson, Andrew B	Chief, Projects Division	USAID	N Delhi
Snyder, Michael H	Regional Contracting Officer	USAID	N Delhi
Srivastava, B P	Prog Spec (Agr)	USAID	N Delhi
Turner, Karen D	Regional Legal Advisor	USAID	N Delhi

<u>Name</u>	<u>Position</u>	<u>Company</u>	<u>Location</u>
<u>GOVERNMENT OF INDIA:</u>			
Asopa, N. Vijendra	Professor	Indian Institute of Management	Ahmedabad
Ampilli, M George	Docks Manager	Bombay Port Trust	Bombay
Aneja, R P	Consultant	Institute of Rural Management	Anand
Bhonsle, R.V S R	Docks Manager	Madras Port Trust	Madras
Balraj, A	Chairman	Madras Port Trust & Madras Dock Labour Board	Madras
Bangchee, Aruna	Jt Secry	Dept of Agr	Bombay
Burde, S D	Manager	National Dairy Development Board	Anand
Bandopadhyay, R	Joint Deve- lopment Commi- ssioner(SSI)	Ministry of Industry	N Delhi
Chandrasekhara, M R the	Mysore Technolory	Head of Protein (Rtd) for Central Food Technological Research Inst	
Chawathe, D M	Deputy General Manager	The State Industrial & Investment Corpn of Maharashtra Ltd	Bombay
Chhaya, Jayant	Manager (Operations)	National Dairy Devpt Board	Anand
Desai, J N	Divisional Manager (MI)	Gujrat Agro Industries	Ahmedabad

			Corp'n Ltd	
Dogra, R N	General Manager	Gujarat Agro Industries Corp Ltd	Ahmedabad	
Garate, I A	Dpty Mgr	MDDB	Anand	
Gadkari, V B	General Manager	The State Industrial & Investment Corp'n of Maharashtra Limited	Bombay	
Gupta, B L	Addl General Manager(Projects)	Gujarat Agro Industries Corp'n Ltd	Ahmedabad	
Gupta, Ramesh	Prof of Fin	Indian Inst of Mgt	Ahmedabad	
Gautam, I P	Jt Managing Director	Gujarat Industrial Investment Corp'n Ltd	Ahmedabad	
Ghosh, N Gopi	Manager (Operations Research)	Fruits & Vegetable Project	Delhi	
Jasol, Kr Fateh Singh	Chairman	Agricultural & Processed Food Products Export Devept Authority	N Delhi	
Kalro, Amar H	Prof Prod & Quant Methods	IIM	Ahmedabad	
Krishnaswamy, N	Administrative Officer	Madras Port Trust	Madras	
Karandikar, P D	Joint Managing Director	The State Industrial & Investment Corporation of Maharashtra Limited	Bombay	
Kulkarni, Satish	Scientist	NDRI	Bangalore	
Kumar, Anil	Manager(Systems)	Rajasthan Coop Dairy		

			Federation	
Lakdawala, D T	Hon Director		Centre for Monitoring Indian Economy	Bombay
Modi, C M	I A S		Development Commissioner (SSI) & Addl Secretary, Ministry of Industry	N Delhi
Mehrishi, V M	Add General Manager (MKT)		Gujarat Agro Industries Corpn Ltd	Ahmedabad
Mahajan, A D	Sr Development Officer		The State Industrial & Investment Corpn of Maharashtra Ltd	Bombay
Patel, J N	Divisional Manager (Finance) Agrochemicals Division		Gujarat Agro Industries Corporation Ltd	Ahmedabad
Patel, Dilip	Senior Manager		The State Industrial & Investment Corpn of Maharashtra Ltd	Bombay
Shrivastava, R	Executive (P&PR)		National Dairy Development Board	Anand
Subramanian, M R	Director		Indian Institute of Packaging	Bombay
Sondhi, S P	Director (Food)		Office of the Development Commissioner (SSI)	N Delhi
Salahuddin, Mh	Container Terminal Manager		Madras Port Trust	Madras
Singh, Azad	Manager (Procurement)		Fruit & Vegetable	Delhi

		Project	
Tikku, Deepak	General Manager	Fruits & Vegetable Project	Delhi
Unakar, D J		Centre for Monitoring Indian Economy	Bombay
Varma, K S	Managing Director	Gujarat Agro Industries Corpn Ltd	Ahmedabad

<u>Name</u>	<u>Position</u>	<u>Company</u>	<u>Location</u>
<u>PRIVATE SECTOR</u>			
Awasthi, G D	Secretary	The Associated Chambers of Commerce & Industry of India	N Delhi
Agni, A D	Dy General	Agricultural Finance Consultants Ltd	Bombay
Aranha, S. E	Managing Director	Agricultural Finance Consultants	Bombay
Chang, Joyce	Consultant	Salomon Bros	U S A
Ganapathi, S	Consultant	Ganesh Associates	N Delhi
Gunaji, B P	Secretary General	The Associated Chambers of Commerce & Industry of India	N Delhi
Ganesan, K N	Vice President Services	Gordon Woodroffe Ltd	Madras
Hendricks, Michael	President	M H Assoc	N Delhi
John, K K	Vice President Marketing & Sales	Kissan Products Limited	Bangalore
Keswani, Tekan	Deputy Secretary, Taxation & Company Affairs	The Associated Chambers of Commerce & Industry of India	N Delhi
Kundu, P S	Deputy General Manager	Agricultural Finance Consultants	Bombay
Krishna, Sri M	General Manager	Samarpan Fabricators Ltd	Madras

Kini, M G	Managing Director	Suncrush Fruits P Ltd	Bangalore
Lester, Michael		AUSTECH	N Delhi
Murthy, K. P N	IAS (Retd)		Bangalore
Manohar, K	Factory Manager	Sakthige Beverages Ltd	Madras
Mohan, V K	Asst Executive - Sales	Alfa-Laval (India) Ltd	Madras
Nayak, P C.	Projec Manager	Ctr Tech Development)	Bangalore
Parikh, M S	General Factory Manager	Kissan Products Limited	Bangalore
Prahlad, S N	Head of Food Processing Focus Group	SNP Associates	Bangalore
Raghuramaiah, B	Director	Food Ingredient Specialities Pvt Ltd	Madras
Rajaraman	General Manager	Haner Trading Co	Madras
Ramachandran, V	Asst Executive Spares&Services	Alfa-Laval (India) Ltd	Madras
Rajagopal, D. S	Consultant	Sakthi Beverages Ltd	Madras
Raghunandan, A	Asst General Manager	Agricultural Finance Consultants Ltd	Bombay
Rajasekharan, N	General Manager - Projects	Kissan Products Limited	Bangalore
Ranganath, D R	Manager (Operations & R&D)	Mysore Snack Foods Ltd	Bangalore

Sinha, Rekha	Deputy Secretary	Federation of Indian Chambers of Commerce & Industry	N Delhi
Sondhi, R K		Shapers Corporation	N Delhi
Sane, M H	General Manager - Comml (Foods)	Wimco Ltd	Bombay
Shamsher, Sh Singh	President	Producers Association	Panipat
Suryanarayan	Manager - Research & Development	Biocon India Pvt Ltd	Hebbagodi Bangalore Dist
Taparia, Pramod	Chairman	Winner Teknology Pvt Ltd	Bombay

BANKS & FINANCIAL INSTITUTIONS:

Godbole, Jayant	Deputy General Manager	Industrial Development Bank of India	Bombay
Gautam, I P	Jt Managing Director	Gujarat Industrial Investment Corporation Ltd	Ahmedabad
Gupta, G P	General Manager	Industrial Development Bank of India	N Delhi
Ramrakhiani, P G	Chairman & Managing Director	Gujarat Industrial Investment Corporation Ltd	Ahmedabad
Rao, Rama P V A	General Manager	National Bank for Agricultural & Rural Development	Bombay
Sharma, M R	Dy Gen Manager (Tech)	National Bank for Agricultural	Bombay

			& Rural Development	
Shah, B R	General Manager (Engineering & Monitoring)	Gujarat Industrial Investment Corporation Ltd		Ahmedabad
Vora, P P	Executive Director (Finance)	Gujarat Industrial Investment Corporation Limited		Ahmedabad
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