REPORT OF A PROJECT SUSTAIN RECONNAISSANCE VISIT TO SENEGAL

January 23 - February 3, 1985

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Purpose of Visit

Project SUSTAIN (Sharing United States Technology to Aid in the Improvement of Nutrition) is a joint U.S. Private Food Industry / Agency for International Development program to share U.S. food processing technology and know-how with food companies in the developing countries. A description of Project SUSTAIN is given in **Appendix B.**

The Senegal Reconnaissance Visit helped the Team to gain a better understanding of:

1. The kinds of technical problems faced by the Senegalese food industry
2. The level of sophistication of the food production and food processing industry in Senegal
3. The impact of government policies on private sector companies
4. The types of technical assistance and training U.S. food companies could provide

The visit also provided Senegalese Food Processors, the USAID mission, Senegalese organizations such as the Chamber of Commerce and the Conseil National des Employers du Senegal (C.N.E.S.) with a better understanding of how Project SUSTAIN operates and the kinds of help which can be given.

Meetings and Visits

Visits to agricultural sites and food processing plants, as well as meetings with individuals were arranged through USAID, in particular by Mr. H. Clay Black, Chief of the joint Embassy-USAID Economic and Commercial section.

The Reconnaissance Team visited activities in two major areas, the Senegal River Basin (the Fleuve region) and Dakar and its environs. The Senegal River Basin is semi-arid. Major development goals are to develop an irrigated agriculture and to expand food processing facilities in the region. Dakar, the principal urban area in the country, contains more than 20% of Senegal's 6,000,000 population and a major share of the country's industry. The itinerary for the Reconnaissance Team is given in **Appendix C.**

On its first day in Senegal, the Team met at USAID/Dakar with Lamine Thiam, Khoi Nguyen Le, J.F. Damon, Jean LeBloas, John Balis, Linda Brown and Clay Black, USAID specialists concerned

with the agricultural, economic and commercial development of Senegal. The Team was briefed on the plans for, and the potential of, the Senegal River Basin. The Team then proceeded to St. Louis, the major city in the Fleuve region, about 200 miles north of Dakar. The next two days were spent visiting agricultural projects and plants in the area. Messrs. Black, Damon and Le accompanied the Team. The Team returned on the 25th to receive a further briefing on the agriculture of the country with specific emphasis on the activities in the lower Casamance, an area of greater rainfall in the south of Senegal.

A cocktail party hosted by Mr.& Mrs. Black provided an opportunity for the Team members to meet informally with the U.S. Ambassador,the Mission Director, USAID personnel, Senegalese government officials and leaders of the food processing industry. The invited guests are listed in **Appendix D.**

The remainder of the visit was spent in and around Dakar.

During the Reconnaissance Visit the Team met with the following companies and institutions:

Senegal River Basin
1. SOCAS (Societe des Conserves Alimentaires Senegalese)
2. SAED Rice Mill (Societe for the Management and Exploitation of the Delta)
3. SNTI (Societe Nationale de Tomato Industrielle)
4. CSS (Compaigne Sucriere Senegalaise)
5. SAED regional office

Dakar
6. Chamber of Commerce
7. Agrocap - Filfili
8. Keur Moussa
9. Sodenas (Societe d'Exploitation des Noix d' Anacardier)
10. SEIB (Societe Electrique et Industrielle de Baol)
11. ITA (Institute de Technologie Alimentaire)
12. Les Grandes Moulins de Dakar
13. C.N.E.S. (Conseil National des Employeurs du Senegal)
14. SAAF (Societe Agriculture Africains)
15. Wehbe Freres
16. Senlait
17. Sopesea
18. Senepesca
19. SNCDS
20. Mme. Fadiop Gueye Sall, Representative of the Women's Co-operatives in the Fleuve Region

A description and comments concerning these plant visits are presented in **Appendix A.**

The products produced by the companies visited include (a) grain products - milled wheat, corn and millet and biscuits; (b) refined sugar; (c) tomato paste; (d) meat (pork) products - sausages, hams, processed meats; (e) nut products - cashews, peanut oil, peanut cake; (f) dairy products - condensed and evaporated milk, yogurt; (g) marine products - frozen fish and shrimp (h) cosmetics (i) margarine (j) soft drinks and (k) packaging materials.

There is also a considerable export of fresh vegetables e.g. tomatoes, beans, melons to Europe, in particular France, and to the U.S.A.

The plant visits as well as the visits to large scale market gardens enabled the Team to gain an understanding and appreciation for the constraints - economic, technical, governmental and environmental - that limit productivity and profitability. These visits also enabled the Team to perceive the potential for a viable and profitable agro industry.

The plant owners, managers and technicians that we met were generally cordial, cooperative and competent. They freely discussed their operations, were candid in describing their problems and identified areas that could benefit from Project SUSTAIN assistance.

In addition to factory visits, opportunities were provided at lunch and dinner to meet individuals on a more informal basis.

Possible Areas of Technical Assistance

Companies identified a number of specific problems that could be addressed by Project SUSTAIN. Team members will respond to some of these requests, others will be channeled through Project SUSTAIN to appropriate U.S. companies. In every instance, companies were requested to be as specific as possible in describing the assistance they sought. Companies were also requested to send requests for Project SUSTAIN assistance through Mr. Black/USAID.

Examples of the types of needs identified included the following:

1. Information on production of juices from tomatoes, pineapple and mango
2. Names of U.S. importers of cashew nuts
3. Packaging of cashew nuts for export
4. Processing the cashew fruit to produce juice
5. Equipment for decolorization of peanut oil
6. Deodorization of fish protein concentrate
7. Evaluation of equipment proposals
8. Eliminating equipment malfunctions
9. Packaging (universally identified)
10. Purification and reuse of water

11. Packaging for small consumer sized packets
12. Biscuit formulations
13. Information on dry mixes for use as puddings, sauces, etc.

Observations

The Team visited a number of companies that were large by Senegalese standards. The following comments may therefore be skewed to the extent that our "sample" was not representative.

1. The drought that has persisted for more than a decade has had a profound effect on the availability of raw materials. As a result, plants are under-utilized, quality is sometimes poor and entire plants or some of their operations have been shut down.

2. Government policies and controls have a major impact on profitability, productivity, innovation and product availability within Senegal. (A) In those instances where the government controls the selling price, the profit margin may be so small (or non-existent) that producers and processors cease making the product, (B) Artificial maintenance of raw commodity prices can limit markets. For example, it is the Team's understanding that sugar can only be purchased from a single Senegalese company. The cost is several times higher than the world price. As a result, products using sugar as a major ingredient are costly, limiting both domestic sales and exports.

3. Lack of credit and capital are major problems. Industries that are and can be highly profitable suffer because maintenance and expansion cannot be adequately financed. For example, the Team visited a fish processing plant engaged in export that was operating at about 25% capacity, the company could not gain access to funds that would enable it to adequately maintain or expand its fishing fleet. As a result, lack of raw materials limited plant utilization.

4. There appears to be an inadequate infrastructure. One example, tomato paste is an integral part of Senegalese cuisine. The country would like to be self sufficient in tomato paste. Compounding the problem of short supplies is the lack of an efficient system for collecting tomatoes from a major source of supply, small farms. Tomatoes rot because inadequate collection systems make it difficult for tomatoes to reach the processing plant in timely fashion.

5. The technical capability of plant managers and senior technical people appears to be good. Many have studied and worked in France or in other Western countries and are well qualified technically.

6. There appears to be a lack of trained middle level technicians. In part, this can be traced to the absence of food science programs in Senegalese schools and universities. Individuals are "trained on the job". This may be adequate for routine operations but can be extremely expensive and hazardous when unforeseen conditions arise.

7. In general, (except for one fish processing operation), plants visited were relatively well run. With proper maintenance and reasonably good quality assurance and safety standards, these plants can produce quality products at reasonable costs-depending on raw material availability.

8. Packaging is a major problem area. All glass containers are imported. The nearest glass factory is in the Canary Islands. Metal and plastic containers even when fabricated in Senegal are dependent on imports of tin plate and raw plastic. In many instances, particularly for small quantities of product, the packaging is more expensive than the product.

9. There are indications that research facilities in food processing are under-utilized. For example, ITA (Institute de Technologie Alimentaires) has produced a number of products that have not been commercially exploited. A stronger link between food industry needs and ITA's research facilities and capabilities should be developed.

OPERATIONAL PROCEDURES - Project SUSTAIN

1. Companies that wish to receive assistance will submit requests to:

   Mr. H. Clay Black, Chef, Section Economique et Commerciale, Ambassade des Etats-Unis/USAID,Immeuble BIAO - 3 etage, B.P. 49 Dakar, Senegal (Tel: 22-62-49/22-61-19).

   Mr. Black will screen these requests and submit them to Project SUSTAIN, 915 15th Street, N.W., Suite 915, Washington D.C. 20005, for action.

2. **Requests should include the following information:**

   (a) The rationale and need for assistance

   (b) A clearly defined work scope

   (c) A description of the type of consultant needed; any special requirements

   (d) The length of time required for the consultancy; if the services are required by a certain date, this should be stated.

(e) Requests should be reasonably concise. If multiple requests are submitted by one company, they should be given in order of priority.

3. Project SUSTAIN staff may seek a clearer definition of the problem. The sharper the work scope, the easier it will be to identify a company/individual with the required expertise. Once the work scope is agreed upon, Project SUSTAIN will:

(a) Identify an appropriate consultant

(b) Brief him on the assignment and arrange for his travel

4. Project SUSTAIN staff, in concurrence with the Steering Group, can decide that a request is beyond the project scope. Should this occur, an explanation for the decision will be made and if possible, SUSTAIN will indicate how the required expertise can be obtained.

5. Correspondence between Project SUSTAIN and the requesting company will be direct. USAID will receive copies of all relevant correspondence.

6. When a consultant arrives in Dakar, he becomes the responsibility of the requesting company. If the plant is outside of Dakar, the company should ensure that the consultant is met at the airport, arrange for his first night's lodging in Dakar and than arrange for travel to the plant site.

7. The consultant will work with the company on a normal client/consultant basis.

8. In general, funding for specific projects will be shared:

(a) The U.S. company will pay the salaries of technical experts.

(b) The requesting company will bear all in-country costs such as per diem, in-country travel, secretarial assistance, etc.

(c) Project SUSTAIN will provide international travel and any related foreign exchange costs.

9. On completion of the assignment, the consultant will submit a report to the requesting company with copies to his own company, USAID/Dakar and Project SUSTAIN.

Comments

* There was agreement among officers of The Chamber of Commerce, C.N.E.S. and the food processors visited that a seminar on packaging would be extremely useful. One suggestion was that the seminar be held in conjunction with an Industrial Exposition to be held in Dakar in September. Simultaneous translation would be available. If a packaging seminar should be held, inputs from the Senegalese food industry regarding specific subjects to be addressed will be solicited.

* Arrangements for the Reconnaissance Team visit were excellent. Visits to plants, institutions and farms gave the Team an appreciation for the immediate problems and the potential rewards that face the food processing industry.

* The Team wishes to express its collective thanks to USAID and to all groups that made this visit interesting, informative and useful. Above all, we express our gratitude to Mr. Clay Black/USAID who served as mentor, translator and indefatigable task master. He accompanied us on all our visits and was responsible for any successes.

* Both The Chamber of Commerce and the C.N.E.S. have agreed to publish information regarding Project SUSTAIN in their official publications.

* Specific Comments concerning plant visits are presented in Appendix D.

APPENDIX A - PLANT VISITS

The Senegal River Basin Visit - January 23-25, 1985

Background

In a normal year, agriculture in Senegal produces only 45% of the domestic food requirements. In the past, exports of peanut and cotton paid for the food import bill. This is changing. Increasing food demand (current population growth rate is 3%/yr. requires 36,000 tons of additional food/yr.), increased food prices, decreased cash crop production and greater competition for the crops Senegal exports emphasizes the importance of bringing new land into production.

The Senegal River Basin (the Fleuve Region) is short on rainfall. Its climate is typical of the Sahel. The basin has good soils and plentiful river water, the Government of Senegal is interested in exploiting this resource by developing an irrigated agriculture. Since Senegal is a flat country, salt water intrusion, during the driest part of the year, may reach 250 km upstream. The resulting salinity makes the water unfit for irrigation during this period. To overcome this problem, a dam 4 meters high and 250 meters wide is scheduled for completion in 1986. This dam will stop salt water incursion, provide a useful storage capacity of 250 million cubic meters and provide year round irrigation water.

The supply will be enough to irrigate 120,000 hectares (double cropping) in the delta region. This is in contrast to the limited number of hectares currently being farmed. Under consideration is a larger dam upstream that will impound enough water to irrigate an additional 225,000 hectares. These projects are also important to Mauritania and Mali, neighboring countries that border the Senegal River. Bilateral aid from a number of donors will finance the project.

The team visited several existing plants in the region and gained some insights (a) regarding plant capacities and capabilities, (b) existing agricultural production problems and (c) the potential value to the region of an irrigated agriculture.

Of particular interest are two tomato processing plants established to produce tomato paste. Tomato paste is an integral part of the Senegalese diet. However, the country depends on imports to meet its needs. In an effort to attain self-sufficiency with respect to this commodity, the Government is encouraging these plants to produce tomato paste from locally available tomatoes. Since availability of local tomatoes does not satisfy the companies raw material requirements, the Government, as an interim measure permits these companies to import a triple concentrate tomato paste that can be diluted at the factory to the required viscosity

and sold through normal retail channels under their respective labels. A description of these two plant visits follows.

Plant Visited
SOCAS
(Societe des Conserves
Alimentaires Senegalese)

Met with:
Mr. Filinois
Plant Manager

Mr. Baron

Location: Savoigne

The existing plant was built in 1972. The plant produces double concentrated tomato paste from fresh tomatoes and imported triple concentrated paste. The company has been in existence since 1962. SOCAS owns 300 hectares of irrigated land. In 1984, about 185 hectares were in production and yielded about 4,500 tons of tomatoes, about 25 tons/hectare. Purchases from local farmers in theory could provide the rest of the tomatoes needed for running the plant efficiently. This has not happened. Farmers can often sell their tomatoes on the open market for a higher price than the factory pays - 25 CFA/kg. (at this writing 485 CFA = $1.00 U.S.). The result has been that only 4000 - 5000 tons were purchased in 1984. SNTI, the other tomato processing plant purchases tomatoes in the same region. This has caused SOCAS to buy and transport most of their fresh tomatoes from farms in Podor, 200 kilometers away. The collection and transportation system is inefficient resulting in high transportation costs and some spoilage of tomatoes.

The Government sets the price farmers receive for tomatoes and controls the price at which the tomato paste is sold. The manufacturers must make application for price increases. A 825 gram can of tomato paste sells for 650 CFA at retail. The government sets the wholesale price at 621 CFA and that includes transportation charges.

The SOCAS plant has a plant capacity of 25,000 tons and a weekly capacity of 1,700 tons. The plant is well managed and has a very efficient hot-break system in which tomatoes are crushed in a bath of circulated hot juice; this instantaneous heating to a temperature just below boiling point maximizes viscosity retention in the paste. The plant has an old double-effect evaporator (scheduled for replacement next year) which concentrates juice to 12% solids; the product than goes to three "finishers" in series which finish the concentration process to the desired endpoint of 28% solids.

SNTI
(Societe Nationale des
Tomatoes Industrielle)

Met with:
Mr. Alassane Diop
PDG

The tomato paste plant is well designed considering the tomat supply problems in the region. The plant has eight vacuum pan in a modular lay-out. The plant can operate with only one o up to eight of these pans. This is a very flexible arrangement. Th number of units depends on the availability of tomatoes. It' a standard tomato paste operation - receive raw fruit, inspect/ sort, crush, heat, remove seeds/skins, concentrate to 28% solids

fill into cans, seam, hold, cool, pack into cases. The plan has 37 permanent employees and a total of 387 employees in season.

Daily capacity is 300-350 tons of fruit. Nominal plant capacity (basis: 100 day season) is 35,000 tons. Maximum annual productior to date has been 5,200 tons. The minimum profitable level is estimated at 12,000 tons of fresh tomatoes. The big problem has been lack of adequate return to growers. Price set by the government gives the grower 21 CFA at the farm or 25 CFA delivered. Growers reportedly can make twice as much profit per hectare by growing onions instead of tomatoes. One grower cooperative went from 50 hectares of onions last year to 350 hectares this year. Onions do not require as much land preparation (e.g.- mounding) and of course, are much less perishable than tomatoes.

Grower holdings are small (0.5 - 0.75 hectares on the average). This poses a logistics problem to get raw fruit from field to cannery. Collection stations in strategic locations are being considered.

SNTI has 500 hectares available for tomato culture but has developed only 100, which yielded 2,600 tons. SNTI's objective is to have an assured supply of 8,000 tons from their own holdings. In 1984, SNTI, for the first time, began to provide technical services to the growers.

Historically, SAED (described next), has been providing inputs to the growers (water, land preparation, seeds, pesticide, fertilizers). Payment by the farmer is made at harvest time. The rates for the water and pesticides and other inputs are subsidized. SAED has stated that it will no longer subsidize farmers after January 1, 1988. The growers and SNTI appear to lack the finanacial resources to expand tomato production at even a modest increment.

SNTI is 30% owned by grower co-operatives and 70% by private investors. It appears that major changes in resource availability, pricing practices and grower-processor relations must take place before SNTI can expect to break even.

Looking at both tomato processing plants, one cannot help but question the justification for two plants. The combined production of both plants is barely adequate to justify one profitable operation. Of the two, SNTI has better equipment and is located closer to the source of supply. SOCAS appears to have better

local management. Given the difficulty of growing tomatoes in the Fleuve region, the relatively greater profitability of alternate crops and the overall lack of resources for expansion, only one plant can probably survive economically. In the opinion of the SUSTAIN Team, unless major changes occur, the future will see, at best, only a modest expansion of tomato production in the Fleuve.

Organization
SAED (Societe for the Management and Exploitation of the Delta)

Met with:
Mr. Dia
Mr. Popea

Location: St. Louis

SAED is the Senegalese Government's rural development agency for the region. Until recently, SAED provided all the inputs for the farmers in the delta. These farms are small about a hectare in size. SAED cultivated their land, provided the seeds, fertilizers, water and pesticides, advised on agricultural practices, etc. The farmer paid SAED for these services at a heavily subsidized rate. For example, tomato growers were charged 35,000 CFA/hectare for SAED's inputs which also included boxes for transporting tomatoes to the tomato processing plant and the actual transportation of tomatoes to the factory. The extent of the subsidy can best be appreciated by noting that the water cost alone to SAED was between 60-80,000 CFA/hectare.

The cost to the government has been high and will become prohibitive as more irrigated land becomes available. As a result, SAED's activities are changing. Until three years ago, farmers were supposed to sell all their production to SAED who in turn, marketed their produce. SAED is now becoming more of an extension service taking care of the production end only. Today, farmers make contracts directly with factories, sell freely on the open market, plant crops as they wish, etc. These changes have created dislocations that have affected the two tomato processors, SOCAS and SNTI. These factories must now share responsibility with SAED for obtaining fresh tomatoes. Contract farming with individuals and cooperatives are being established and the two companies are growing more of their own tomatoes. The ultimate impact of these changes will fall on the consumer who will pay higher prices for fresh vegetables and for processed products.

SAED RICE MILL

Met with:
Mr. M. Picard of SAED
Mr. M. Sylla, Plant Director

Location: Richard Toll

This plant has a capacity of 6 tons/hr. and is reported to process 18,000 ton/year. The plant has five silos, totalling 600 tons

capacity. Operation is essentially year round with the peak season in the January - April period. The plant was not operating during the SUSTAIN Team's visit. It's a modern plant consisting of German built milling equipment.

The rice farmer receives 66 CFA/kilo from the cooperative which is responsible for delivering the rice to the mill. At the infeed dump, samples of raw rice are taken for evaluation of extraneous material. Losses due to cleaning may amount to ten percent of the incoming weight. The farmer is penalized if losses are above a nominal amount. The rice after cleaning goes through a standard rice milling process consisiting of destoning, husk removal, separations, polishing and further separations to produce the final product, broken rice. This may affect the price paid to the cooperative. By-products are: (a) rice straw which sells for 35 CFA/kg., (b) rice bran, for which there is also a strong local market and (c) rice husks, which have no present value, but could have potential for burning as a fuel to provide electricity.

Although it is difficult to make a good evaluation of a non-operating plant, the plant appeared to be kept in a clean condition and our host seemed very knowledgeable.

CSS
(Compaigne Sucriere Senegalaise)

Met with:
Mr. M. Christian Francois
Director of Production

Location: Richard Toll

The host for the SUSTAIN Team's visit, Mr. M. Christian Francois, is a knowledgeable, dynamic, articulate "sugar man" with several years experience in the U.S.. He made the following points:

* Yield of cane is 111 tons/hectare; this is up from 65 tons per hectare six years ago and is four times the yield of cane from some other parts of Senegal.

* CSS has 7,000 hectares under cultivation in the Fleuve region. They have an additional 1,000 hectares which can be brought into production.

* They provide jobs for 8,000 people which translates into direct support of 45,000 people and indirect support of 110,000 people.

* Their yield of sugar from cane has been rising steadily for the past few years and is now 10.2%.

* The key to a successful sugar operation is producing molasses with a minimum sugar content

* Countercurrent extraction procedures ensure removing the last bits of sugar from the cane.

* Total fuel equipment of the plant is satisfied by burning bagasse (spent cane).

* Training of operating personnel is essential to a successful operation.

* Extensive on-line quality/yield data generation and rapid communication to operators is essential for consistent quality and yields.

The plant operates on a 15 day cycle, then shuts down for clean-up. The 15 day cycle is governed by the buildup of film on the inner surfaces of the calandria (vertical heating tube bundles) in the vacuum pans, thereby decreasing efficiencies. The plant could probably run longer but in Mr. Francois's judgement, 15 days is about right because he wants to avoid the buildup of any fermentation organisms in his crushing equipment. (Note: avoidance of fermentation is not only a good sanitary practice, but also good production yield management, since fermentation consumes sugar.)

Unfortunately, the plant was not operating during the SUSTAIN Team's visit (it was cleanup day), but it was clear from the tour that this is indeed an efficiently run operation with hands-on involvement of the Production Director. A few opportunities for improvement (a musty aroma signifying fermentation at the final cane crusher, unclean toilets, lack of guard rails at certain points of catwalks representing worker hazards) were observed by the SUSTAIN team.

CSS has a monopoly on sugar processing in Senegal. It is 100% privately owned. It is the largest single agro industry complex in the country. It contributes significantly to the infrastructure in this part of the Fleuve region (dams, roads, hospital services) and seem very adept at governmental and community relations. The GOS has set the price of sugar at 5-6 times world sugar prices and will not allow any brown sugar to be sold in Senegal. All brown sugar entering the country must be sent to the CSS plant for refining. This practice is obviously not appreciated by industrial users of sugar who could use brown sugar in some of their applications.

The Fish Processing Industry

The Team visited three fish processing plants. Like other industries in Senegal, the fish processing industry is under capitalized. The industry seems to be operating on a marginal profit but

appears to have a bright future provided sufficient financing is made available to modernize the facilities. Of the three companies visited, SENEPESCA S.A., is managed most efficiently and could serve as a role model for others. Detailed comments on each company are as follows:

SOPESEA

Location: Dakar

Met with:
Mr. Alassane Diallo
General Manager

Mr. Alassane Diallo, General Manager, SOPESEA, came across as a well informed businessman. The company is well diversified and is involved in three distinct activities: the oldest, export of exotic birds, the second, fish operations and the third, fruits and vegetables.
The fishing operation that seems to be the backbone of the company is in trouble. The other two are probably profitable. SOPESEA has only 5 boats - 2 for fresh fish and 3 for shrimp and frozen fish. The plant is currently operating at 25% capacity. The middle management seems to be nonexistent. The total catch per year includes: 200 tons shrimp, 500 tons fresh fish and 5,000 tons frozen fish. About 70-80% of shrimp and fish are shipped to France and the remainder to the U.S. The sanitary conditions in the plant appeared to be poor and quality control minimal. The company not only needs adequate financing but a better understanding and appreciation of acceptable sanitation practices and quality control procedures.

SENEPESCA, S.A.

Location: Dakar

Met with:
Mr. Amadou B. Sow
Administrateur Directeur General

SENEPESCA is one of the best managed companies that the Team saw in Senegal. The company ownership is 60% Senegalese and 40% Japanese. The company owns 8 boats - 2 equipped with freezers. The other 6 boats use ice to prevent spoilage of the catch. The two large boats equipped with freezers not only catch fish but carry out the entire processing operation including packaging on the boat. These boats go on 25-30 day trips and employ a crew of 8 Japanese and 34 Senegalese. The other 6 boats that use ice for fish preservation have crews of 3 Japanese and 18 Senegalese each.

Mr. Amadou B. Sow, Administrateur Directeur General, is Senegalese. He has succeeded in incorporating the Japanese work ethics throughout the operation. We also noticed Japanese workers in key middle management positions. The company is looking for joint ventures with U.S. fishing companies, not only to acquire additional financing but to get technical assistance. The language

barrier that often becomes a major handicap, in Mr. Sow's opinion, is not a problem here. He is proud of the fact that his boat crew consisting of Japanese and Senegalese is able to communicate well in both languages. He is quite confident that they can learn English as well.

SNCDS

Location: Dakar

Met with:
Mr. Matar Ndiaye
President Directeur General

Mr. Matar Ndiaye, President Directeur General, SNCDS, is President of the Senegalese Fish Processors Association as well. He is deeply concerned about the lack of standards in his industry. He is interested in establishing an industry wide certification program based on U.S. FDA standards used for imported fish products. He correctly intends to focus on quality criteria for fish exported to U.S. and Europe that surpass the minimum acceptable standards in order to establish a quality image for the Senegalese fish industry. SUSTAIN will assist Mr. Ndiaye in developing these standards. It was pointed out to Mr. Ndiaye that training of employees to understand and appreciate the sanitation practices and quality standards must be the cornerstone of his efforts to realize the quality image of Senegalese fish products.

SNCDS is a one product company. It processes 25,000 tons of tuna per year. The company owns only one boat and as such, is forced to buy more than half of the tons processed from other fishing companies. Almost all of the tuna processed by SNCDS is exported. The company is currently negotiating a loan from France to buy 20 boats. The company is well organized and efficiently managed.

The Peanut & Cashew Processing Industry

The SUSTAIN Team visited two peanut processors - SEIB and SONACOS and one cashew processing plant (SODENAS) under construction.

Historically, the peanut crop has been the main cash and export crop of Senegal. SONACOS and SEIB dominate the peanut processing industry. Even though Senegalese soil is well suited for peanut production, lack of rainfall coupled with poor seed stock have resulted in poor peanut harvests in recent years. Government policies on peanut production and processing need reappraisal. Currently, the government fixed price for peanuts and peanut oil are 60 CFA/kg. and 450 CFA/kg. respectively. Peanuts contain over 50% oil. As such, it is easy to visualize why the farmers would have a tendency to express the oil in the villages and sell the oil and the cake separately at the market price rather

than sell whole peanuts to the processor. Also, considering the cost of seed, labor and fertilizer, 60 CFA/kg. is a very low price especially in relation to other crops.

SEIB
(Societe Electrique et Industrielle de Baol)

Met with:
Mr. Gruson
Plant Manager

Location: Diourbel

It is primarily a peanut processing plant but it also manufactures in limited quantities a variety of other products ranging from vinegar to cosmetics. The company is 71% public, 17% private Senegalese and 12% private foreign owned. Products other than peanut oil and peanut cake include "Tres Pres" margarine and "signal" tooth paste, vinegar, bleach, perfume and alcoholic beverages. SEIB represents Unilever for several products in Senegal.

The Senegal Team visited SEIB's Diourbel factory. It has a stated capacity of 200,000 tons/year. However, in 1984, it processed only 52,000 tons or 26% of capacity. The prospects for 1985 do not appear any better.

The company has a competent upper management but seems to be overstaffed at the lower level. It may be because of government policy that prohibit employers to "lay off" people when production is down. The SEIB management considers itself to be innovative and the industry leader. SEIB has recently developed a proprietary process for aflatoxin removal from the peanut cake. The process was developed in cooperation with Texas A & M University.

Since Senegal imports most of the grains and has a shortage of protein, SEIB could modify peanut processing to extract peanut protein for human consumption. SEIB, however, pointed out that because of the aflatoxin problem, they are not very keen about extracting peanut protein from the cake. It should also be noted that in order to recover protein from the cake, they would have to switch to an all solvent extraction process from the present combined expeller/solvent extraction process. Since the factory is operating on only 26% capacity, there may be little interest in making a major modification.

SONACOS
(Societe Nationale de Commercialisation de Oleagineaux du Senegal)

Met with:
Mr. Jean Marque
Dir. General Adjoint

Location: Dakar

SONACOS is a conglomerate of three peanut oil crushing mills. Ninety two percent of the company shares are currently owned by the government. By 1989, it will be a entirely state-owned operation.

The three oil crushing factories are scattered throughout the country. One is located outside of Kaolack, the second in Ziguinchor and the third in Dakar. Total capacity approaches 700,000 tons/yr. of peanuts with a 320,000 ton capacity in Dakar, 280,000 tons/yr. in the Kaolack plant and 100,000 tons/yr. in Ziguinchor. Capacity utilization has been low during 1984 - only 200,000 tons peanuts (less than 23% of capacity) were processed. The management estimates that in 1985, the factory will be operating only for 1 1/2 months. The oil consumption in Senegal is about 65,000 ton/yr. Most of it is currently being imported in the form of soybean and rapeseed oil. SONACOS plant in Dakar is being used to pack imported oil. Since the difference in price of crude vs. refined oil is small, SONACOS imports only refined oil. It was also pointed out to us that the plant is not equipped to de-color the peanut oil, therefore peanut oil produced in this plant is exported for further refining abroad.

The plant has an ammonia-based detoxification process for the destruction of aflatoxin in the peanut cake. This permits the reduction of aflatoxin from 2500 ppb to less than 30 ppb. The detoxified peanut cake is currently sold in Europe. Untreated cake is being marketed in Africa. Since it is unlikely that peanut crop will increase substantially in the coming year, it may be more profitable for the government to close one of the two peanut processing companies and use the other for backup.

SODENAS
(Societe de' Decorticage des Noix d'Anacarde)

Met with:
Mr. Amadou Diao Ndiaye
Directeur General

Location: Kaolack

According to Mr. Amadou Diao Ndiaye, Directeur General, SODENAS when fully operational, will process 1500 tons of unshelled cashew nuts/yr. The target date for start-up of the plant has been delayed several times. The management may be optimistic in expecting a Fall 85 start-up, since the building is still incomplete. It should also be noted that the processing machinery arrived from U.K. almost two years ago and may require re-conditioning.

SODENAS is 92% privately owned, with an 8% share held by SONEPI, a government sponsored industrial promotion agency. The project is financed from a variety of sources, the Federal Republic of Germany is sponsoring the reforestation project which plants the cashew trees; the United Kingdom provided 120 million CFA in the form of machinery; SOFISEDIT, Senegal's industrial development

bank, provided a long term (10 years) loan of CFA 75 million and the BNDS (Banque Nationale de Developement du Senegal) provided a short-to-medium term loan of CFA 60 million.

Under the reforestation project, 3000 hectares have been successfully planted. Unfortunately, these trees were planted too close to each other, resulting in a poor cashew crop per tree. Some of the trees are being cut to provide appropriate spacing between the trees. The ultimate goal is to reforest 8000 hectares throughout Senegal. Cashew nut yields in Senegal are conservatively estimated at 1 ton of unshelled nuts/hectare.

The cashew fruit contains 90% fruit and 10% raw nut. Of the 10% raw nut, 75% consists of hard shell (the shell contains about 7-12% of valuable oil) and 25% edible cashew nut. Because some of the nuts break during processing, the net yield is expected to be about 20% of edible shelled nut. Based on this, when fully operational, the plant will produce 300 tons shelled nuts and 100 tons shell oil. Mr. Ndiaye projects that the cashews will command a price of $7.00/kg. This may be too optimistic because the price of shelled Brazilian cashews imported into the U.S. last year was under $5.00/kg.

In the opinion of the SUSTAIN Team, the processing operation is well thought out and adequately researched. However, SODENAS must overcome the logistical problems of collecting and transporting the cashews, finding a reliable buyer abroad and assuring timely production and delivery of its products.

Mr. Ndiaye requested and SUSTAIN agreed to assist SODENAS by:

-- setting up contacts with major cashew importers in the U.S.

-- providing current wholesale price of cashews in the U.S.

-- providing information on current practices for packaging cashews imported into the U.S.

ETs. Salim Wehbe' Freres

Location: Dakar
Km. 11 Route de Rufisque

Met with:
Mr. Antoine Wehbe,
Production Director
Mr. Jean B. Wehbe,
Marketing Director
Mr. Melhem S. Wehbe,
Director

In 1936, the Wehbe family came to Senegal from Lebanon. By 1950, they had opened a bakery and chocolate candy factory. In 1956,

a biscuit factory was added and in 1962 the company obtained the 7-up soft drink franchise. A plastic packaging unit was added in 1962 and a CO2 unit for carbonating 7-up was built in 1970. The company, also bottles Mission Canada Dry and Gini-Crush in addition to distributing Proctor and Gamble products in Senegal.

All of the extracts used in making the soft drinks are imported as are all of the glass bottles. The polyethylene for the manufacture of packaging materials is also imported.

The company is run by Antoine and Jean B. Wehbe. These two young men, the grandsons of the founder, are aggressively expanding the company's products and markets.

The biscuit part of the company produces "sea biscuits". These are made of wheat and sugar and a small amount of leavening. No fat is added. Sales seem to follow a seasonal pattern. The production for the next 5 months will be at the rate of 20 tons/day. Production then drops to 200 tons/month. The baking ovens are fueled by diesel oil. Two lines were in operation on the day of the Team's visit. The transport time through the ovens was only 6 minutes. The oven air temperature was maintained at 600 degree C. The temperature at the surface level of the biscuits was 375 degree C. The biscuits are sold in 20 kg. packages containing 80 two hundred and fifty gram units packed in plastic bags. The 20 kg. packages are sold for 7250 CFA to wholesalers who distribute the sea biscuits to stores. The selling price to the consumer is about 100 CFA/250 gram bag (about 25 U.S. cents for a 1/2 pound).

The soft drink part of the business sells about 1.75 million cases/yr., each case contains 24 bottles. The price of soft drinks is high and sales are slowly dropping. Not only are the glass bottles imported but a 30% deposit is charged per bottle. Sugar is the major input purchased locally. Sugar must be purchased from CSS, the only sugar refiner in the country. The cost is considerably higher than the price of sugar internationally. The sugar is not up to 7-up standards and the company has been forced to purchase equipment for $175,000 to re-refine the sugar. This refining step adds about 10% to the cost of sugar. The company asked the government if they could buy a cheaper brown sugar either from CSS or from abroad and refine that. However, the government has not approved the request.

The company generates its own CO2, the process involves the pyrolysis of monoethanolamine to yield CO2 and ammonia. The ammonia serves as the refrigerant for the plant and the CO2 is used to carbonate the beverages. A new bottling line has been purchased and will be installed this year.

The plastic "plant" originally purchased to supply packaging materials for the biscuit operation has been expanded. The new equipment produces about 100 kg./hr., the old about 30 kg./hr.

Forty percent of the production is used in-house; the remainder is sold.

Project SUSTAIN was requested to supply assistance in reclaiming their used water. The company pays the government 350 CFA for a cubic meter of water. During processing, the water becomes polluted and cannot be recycled. Antoine was asked to clearly define the problem, i.e. describe the process, the quantities to be purified, etc. He will request SUSTAIN's assistance through Clay Black/USAID.

The Wehbe family is interested in expanding into new product lines that will utilize their plastic bag packaging capability. Possible new product opportunities, subject to determination of consumer wants/needs are:

* biscuit line extensions, i.e. new biscuit products
* flavored, colored, seasoning mixes that could extend or "stretch" in-home use of tomato paste
* dry soup mixes
* dry dessert mixes

Agrocap - Filfili

Location: Sebikhotane

Met with:
Mr. Mounir Filfili, General Manager, Production

Agrocap has been in existence for about 30 years. It is a family owned operation. The owners are Lebanese. Expansion has been rapid in recent years and the company is now doing about $5-6,000,000 U.S. business a year. Four brothers supervise and manage the company's major operations. Two are responsible for the 2 supermarkets the company operates in Dakar. A third is in charge of the wholesale business and the fourth is responsible for agricultural production. The major areas of interest are production of meat and meat products, fruits and vegetables and candy manufacturing. The Team viewed the meat and the vegetable operations but did not see the candy factory.

Meat production and processing are the largest operations. Hogs are now the only animals slaughtered and processed. At one time, cattle were fattened, slaughtered and processed on the premises but this has been discontinued. The government has established fixed prices for the sale of beef products. Agrocap was producing a quality product but could not obtain a premium price for its products. As a result, they closed their beef operations. The company still sells quality beef in their supermarkets. This beef is purchased at a higher price from the government abattoir.

Filfili raises its own hogs. They slaughter and process 200 hogs/week. They raise 8000 hogs on the farm. The slaughterhouse and meat processing and storage facilities are modern. Although the Team did not see the plant in actual operation, it gave the appearance of being a very well run operation. The unit operated on one shift, one hour per shift was assigned to clean up operations. In addition to selling fresh pork, they prepare hams from their own hogs; they also import and process 30 tons of unprocessed ham from Europe/yr. Production is 10 tons/month. Agrocap can make 1 1/2 tons of sausage/hr. The customers for its ham, sausages, bacon, pate's and pork are the non-muslim population that resides or visits Senegal.

The second major activity and one that is actively expanding is large scale market gardening. About 35% of the production is exported. Agrocap owns 800 hectares but they are only allowed to use enough water to irrigate 300 hectares. The government controls, meters and charges for the amount of water used. About 1100 tons of green beans, tomatoes, melons, etc. are exported. Exports are primarily to France. Although crops can be grown year round, production is geared to supply vegetables to Europe during the Winter season. An example of how profitable these operations can be is illustrated by the export of cherry tomatoes. These sell for $3/kg. in France and yield a substantial profit. Currently the yield of cherry tomatoes is about 25 tons/hectare and 22 hectares are under cultivation. One problem concerns melon production. Soil salinity apparently inhibits the growth of melons. The initial production is good but with time, the leaves shrivel and no new fruits are produced. Agrocaps seeds are purchased from Peto Seed (a California supplier) and that company is sending one of its agronomists to study the problem.

The company has an IBM 34 computer and is using it to follow and/or control domestic sales, exports, costs, profit margins, etc. They also follow and control their 8000 hogs through a computer program, but not on their own computer. They send information on the operations to a computer service firm in Belgium which has the appropriate softwear and sends the processed data back to Filfili. They do not have their own software. Information inputs are sent to Belgium and the processed data sent back.

No assistance was requested from Project SUSTAIN.

GMD (Grand Moulins de Dakar)

Location: Dakar

Met with:
Mr. Jean Bernard Cabot
Director

The mill was started in 1955 and re-equipped in 1974. The equipment is relatively modern and the mills the Team saw in operation were well run. The factory consists of a complex of 4 mills. Two

mills process wheat, one processes corn, and the fourth is used for millet.

Wheat capacity is 500-600 tons/24 hr. day; corn capacity is 120 tons/day; and millet capacity 40 tons/day. The wheat mills operate at about 60% capacity. Corn meal is prepared intermittently. Corn meal is not a major Senegalese food staple and most of the corn meal is exported to Mali where it is used in making a kind of cous-cous. Millet has not been milled for several years. According to Mr. Cabot, a mixture of millet and wheat flour is not a highly acceptable product if the millet content is above 8%.

GMD imports some wheat from France and uses bilateral aid wheat supplied by Canada and Spain. This food aid represents 30-35% of their supply, the rest is imported. GMD mills 7/8 of the wheat flour produced in Senegal. They make about 75% extracted wheat. The "bran" is used for animal feed. Interestingly, their profit is based on the percent of wheat extracted. Government standards call for 70% wheat extraction however, if they produce a satisfactory product e.g. at 75% wheat extraction, the difference represents their profit.

When asked if the flour was enriched by restoring the vitamins and minerals removed by milling, the answer was no. In France and in Senegal, millers are not permitted to add any minerals or vitamins. In France vitamin C and gluten are the only additives permitted in white flour. No reason was given for not enriching flour.

The plant has 220 permanent employees and 50-60 temporary employees.

At the time of the Team visit, wheat flour was selling at less than the production cost. The government has fixed the sales price at 150,000 CFA/ton. This price was set in 1982. Even though costs have changed and the value of the U.S. dollar has drastically increased since 1982, this price has remained fixed. Originally GMD returned excess profits to the government at the rate of 10,000 CFA/ton. Now the government pays GMD about 10-25,000 CFA/ton to compensate them for losses. Obviously this is not a stable situation and some modifications in price structure seem eminent.

No requests for technical assistance were received.

SIPL
(Societe Industrielle des Produits Laitiers)

Met with:
Mr. A. Moctar Sow, President
Staff members

Location: Dakar

SENLAIT produces dairy products. Major starting materials are nonfat dry milk, dry whole milk and butter oil. Finished products are: evaporated milk and sweetened condensed milk in 410 gram cans and a line of refrigerated items in single serve thermoformed plastic containers under the Yoplait label. The latter consists of puddings (2 items), fruit flavored yogurts (4 items) and yogurt with fruit (4 items). Eighty-ninety percent of the plants 100 ton output per day is evaporated and sweetened condensed milk products. Both are sold in the 410 gram can size. Although the two canned milk products have comparable net weights, the sweetened condensed milk product is in a shorter can because of the high density of the product. The fastest growing segment of the company appears to be the Yoplait line.

The plant is well laid out, equipment seems to be kept in good running order, staff appears well trained.

After the plant tour, the SUSTAIN Team had a very productive meeting with Mr. Amadou Moctar Sow, SENLAIT's President and his managerial and technical staffs. They are very expansion minded and are looking for product/package/process opportunities on several fronts. Specific subjects discussed were:

* Line extensions for Yoplait products, i.e. additional flavors of existing puddings and yogurt products. This is an area where they will receive adequate help from International Flavors and Fragrances; IFF is the world's largest flavor house and has supplied the formulas for SENLAIT's existing products.

* Flavored milks could be a promising product line. The optimum unit size for flavored milk would be about double that for the existing Yoplait products, but could probably be achieved with change parts for the thermoforming equipment at a reasonable cost.

* Possible cost savings may be achieved by beading or ribbing the can bodies of one product line. SENLAIT makes its own cans for evaporated and sweetened condensed milks using imported tinplate from France, Germany and when the price is right, Japan. Its cans are straight walled. Beading will increase compression strength of the cans and should permit conversion to lower plate weight with no decrease in functionality. SENLAIT will provide SUSTAIN with its current can specifications and SUSTAIN will recommend reduced can weights (with ribbing) which should be tested. Ribbing will require the purchase of a machine but potential cost savings should generate a rapid return on the investment.

* Composite cans, paper foil containers which are much cheaper than metal but provide adequate protection for dry products, could be a vehicle for marketing of dry milk products directly

to the consumer.

* Aseptic packaging in Brik-type containers (i.e. paper foil cartons) could be a way of introducing fluid milk products in low cost containers to the Senegalese consumer. Turnkey systems are available from Tetra Pak in Sweden and PKL in West Germany. The SENLAIT staff appears to have the basic skills for operating these relatively sophisticated processing systems.

* Retortable pouches for fluid products were mentioned at the meeting but this system which operates at low line speeds and requires specialized sterilizing equipment, may be too expensive.

* Peanut butter is a product of interest for SENLAIT. They have had a consultant from the International Executive Service Corps evaluate the potential for this project with (apparently) favorable results. Glass is a very expensive package for the Senegalese economy and either a composite can or plastic container may be the packaging of choice.

The only specific area where SUSTAIN can help SENLAIT is in providing recommendations for reduced can weights resulting from ribbing.

Market Gardening

Market gardening is an important commercial activity in Senegal. This sector is heavily geared toward the export of fresh fruits and vegetables to Europe, and to a limited extent, to the United States.

Market gardening for export holds significant potential for Senegal because of its off-season production capability. Expensive air transport-over 220 CFA/kg.- to Europe and the U.S. is a limiting factor. Melons, green beans and tomatoes are major items produced. The Team was impressed by the innovative techniques used by companies to provide incentives to farmers and farm labor. These include:

* Minimize the cost and risk to the farmers by providing seeds, fertilizer and water and buying the produce at the prevailing price
* Guaranteed price for the produce. Company agrees to buy the produce at or above the market price.

The industry, however, is faced with several problems including:

1) Inadequate coordination of field to city to overseas market transportation. Sometimes this results in the spoilage of the produce in transit.

2) Lack of information on a timely basis regarding the supply and pricing of fruits and vegetables in Europe and the U.S.

3) Complete reliance on European & American importers evaluation of the market.

In spite of these problems, Senegalese farmers are able to control their production to make market gardening profitable for them.

SAAF described below indicates one approach to providing incentive to farmers.

SAAF
(Ste' Agriculture Africaines Rufisque)

Met with:
Mr. M. Maquatte Gueye
Deputy Director

Location: Rufisque (Dakar)

SAAF was started in 1973 with 220 hectares of farmland near Dakar. They produce melons, their main crop, for export. Tomatoes, cabbage, onions, new potatoes and watermelons are grown for the local market. SAAF also grows long hot green peppers for export.

The land belongs to the company. The company employs 18 people, ten serve to set up the irrigation channels and 8 serve as guards.

The farming per se is done by three groups of farmers. Each group has 20 farmers. Each group elects its own chief who acts as supervisor. SAAF provides all the necessary inputs at no charge. The price for the various crops is set before planting begins. The company then pays the agreed upon price to the farmer and either reaps a profit or absorbs the loss. SAAF deals directly with each chief. Payment is made to the chief who in turn, distributes the funds to the group.

Since some crops may provide a greater return to the group, efforts are made to equalize the crops and varieties grown.

ITA
(Institut de Technologie Alimentaire)

Location: Dakar

Met with:
Mr. Ousmane Kane, Director
Mr. Mokhtar Hamdy, Manager Millet Project
Mr. Siao, Director, Marketing
Mr. Danfakha, Economist

The Institut is part of the Ministry of Science and Technology and has three broad departments: technical, developmental and administrative/financial. Senegal has no food science or food technology university level departments. ITA represents the country's largest concentration of specialists in technologies related to the processing of food products. It has sections devoted to grain products, beef products, dairy products, fish products and beverages. It is also the site of a U.S.A.I.D. sponsored "millet transformation project".

ITA has the potential of becoming a significant factor in the growth of the Senegalese food industry.

Examples of how this potential could be applied are: serving as a certification laboratory for Senegalese shrimp exports, providing seminars on sanitation and various technical subjects of interest to the Senegalese private sector, carrying out contract research for new product and process development and providing trouble shooting services for the private sector.

However, at the present time, the role of ITA seems to be ill-defined and its relationship to the private sector is, at best, tenuous. Specifically:

1. ITA staffers seem to think that, in addition to developing products, they should commercialize the products, either independently or in joint venture with the private sector. This outlook may be based on a perceived need that ITA has to "pay for itself". ITA was founded with FAO funds. After FAO withdrew, responsibility for supporting ITA was assumed by the government of Senegal. This approach of commercializing products may not be in the best interests of the government of Senegal. The tendency of ITA to think of itself as a semi-commerical organization will dilute the development of a true national center of technical excellence which is respected and used by the private sector to increase the wealth of the country.

2. The private sector does not appear to perceive ITA as a resource. They were not mentioned by the private sector during the SUSTAIN Team's visits, except in answer to direct questions. In the few instances where the private sector has dealt with ITA, ITA has been perceived as a somewhat theoretical, slow-to-respond, arm of the government.

3. Generally, what seems to be needed is (1) a clear definition of the purpose and scope of ITA, and (2) a mechanism for establishing priorities for ITA programs. This could perhaps best be met by a Steering Committee or Advisory Board with representatives of ITA, its parent Ministry and the private sector.

An area for strengthening ITA is consumer research. During its visit, the SUSTAIN Team tasted beverages based on corossol, bissap and tamarind. These are products that should be consumer tested to determine consumer acceptance and willingness to purchase. ITA has a very good pilot plant which could produce the required samples for consumer testing. Favorable consumer test results could be used to encourage a private firm to market the products.

Also, during the SUSTAIN Team's visit, ITA technicians, to augment ITA's funds, were producing sausages for sale. This does not seem to be a proper function for a technical institute, although the motivation for the sales is understood.

The U.S. AID-sponsored millet transformation project is designed to develop process and product technology for supplying the people of Senegal with basic low-cost staple grain products. The first level of products would be millet grits, flour and semolina for in-home preparation of native dishes without the labor of husking and crushing the grains. Subsequent generations of products would include millet-based weaning foods, cous-cous, bread, cakes, crepes, etc. etc. It is believed that the need to increase imported rice during recent years (imports have doubled to 400,000 tons in the past 5 years) is driving the price of rice so high that a low-cost alternative to rice will be readily accepted by consumers. This in turn will lead to increased millet production by the farmers whose incomes in recent years have been adversely affected by the soft world market for peanut oil.

The project has been in progress for two years and some product development has taken place. Also, consumer rsearch testing has been completed with millet flour and semolina; detailed results are not yet available. The SUSTAIN Team believes that the project is at a point where a critical in-depth review of the total project would be appropriate. The review would include:

-- Evaluation of technical progress to date and identification of key technical hurdles/constraints

-- Evaluation of the consumer results and identification of additional key consumer information that may be needed, e.g. acceptance of millet vs. rice at several price points. Since fully formulated foods always cost more than basic foods, it is believed that project success will be determined by acceptance of the grits, flour and semolina; therefore, if prioritization of the several phases of the effort becomes necessary, lower priority should be assigned to the more fully formulated items.

-- A first-round estimate of costs of millet to the consumer. If this estimate can not be made from existing data, the missing

cost elements and timetable for establishing them should be determined.

-- A re-evaluation of project objectives and modification of objectives where appropriate.

-- A go/no-go decision to proceed with the project

Chamber of Commerce

Met with:
Mr. M. Danfakha
Secretary General

Location: Dakar

The Team had a very informative and useful meeting with Mr. Danfakha. Project SUSTAIN''s purpose and operational procedures were explained in some detail. Mr. Danfakha offered to publicize Project SUSTAIN to the Chamber's membership by publishing the French version of the Project SUSTAIN brochure in whole or in part in the organization's quarterly bulletin.

In discussing activities that could be of interest to the food processing industry, the possibility of presenting a seminar on packaging received high marks. Mr. Danfakha suggested taht such a seminar could be presented in conjunction with a trade Exposition that would be held in Dakar in September. A major advantage of holding a seminar at the Exposition would be the availability of simultaneous translation.

Subsequent to this meeting (January 25th), we asked the people we met at various companies if this type of seminar would be useful. The answer was invariably yes. If a seminar is requested, the agenda will be developed jointly by the "faculty" and Senegalese companies.

CNES
(Conseil National des
Employeurs du Senegal)

Met with:
Mr. Abdourahmane Sow
Permanent Secretary

Location: Dakar

CNES was formed about 1 1/2 years ago. It is assuming a leadership role because of its ready access to the President of the Republic and is increasingly becoming a spokesman for business. The organization is predominantly composed of Senegalese businessmen.

An older organization, UNISYNDI, with similar goals is largely representative of French investments. Senegalese also joined UNISYNDI but were always a minority. There are some indications

that all older organizations will ultimately be under the wing of CNES. Thus, creating a "unified employers Association".

In discussing areas that could profit by Project SUSTAIN assistance, Mr. Sow advised that meeting FDA and European standards for fish exports was a major problem. This too could be a possible seminar topic.

A packaging seminar has been held in the past but the presentations were rather general. The Team will be given the "proceedings" of that seminar. Mr. Sow thought that a more specific seminar on packaging would be useful.

Mr. Sow also remarked that although ITA had been working on food processing technologies, their outputs were not being used. He wondered why.

CNES will also send out information on SUSTAIN through their publications. They have 200 members including about 25 food processors.

APPENDIX B

Project SUSTAIN - Description

1. Private U.S. food companies can help food companies in developing countries by sharing their know-how through:
   a) Technical assistance
   b) Training
   c) Providing information

   Project SUSTAIN represents a mechanism for such company to company or industry to industry assistance.

2. U.S. companies can:

   a) Provide short-term technical assistance that addresses specific problems of a single company in a single country
   b) Train the staff of a single company in a technology that is new to them
   c) Train personnel of a single company at the facilities of U.S. companies
   d) Train people from many companies in one country or from many countries in one region in technologies new to them
   e) Conduct training in the U.S. for groups from developing countries

3. Project SUSTAIN will support efforts to:

   a) Prevent food losses
   b) Ensure food safety
   c) Promote quality control
   d) Improve the nutritional value of food products

4. Help can be provided on diverse problems, such as:

   a) Designing a food processing system
   b) Solving a processing problem
   c) Supervising installation of fortification equipment
   d) Advising on needed plant equipment
   e) Locating new or used equipment
   f) Recommending packaging technology
   g) Instructing industry on processing of a given commodity
   h) Advising on insect and rodent control
   i) Establishing a quality control and product safety program

APPENDIX C

Schedule for SUSTAIN Group in Dakar from January 22 - February 2, 1985

January 23

morning SOCAS in Ross-Bethio
afternoon SAED Rice Mill
(evening guesthouse C.S.S.)

January 24

morning CSS to Podor, Tomato Coop.
lunch in Dagana at SNTI
afternoon visit SNTI

January 25

morning back to Dakar
afternoon 02:30 AID briefing in Cultural Center
04:00 Meeting Chamber of Commerce with M. Mahan, Danfakha, Secretary General
06:30 Cocktail Chez Black

January 26

morning 09:00 Sebikhotane - AGROCAP - FILFILI
lunch at Keur Moussa and visit of the Orchard with Brother Guy Frelot
afternoon, Mbour-Sali

January 27

Mbour-Sali

January 28

morning SODENAS
afternoon 03:30 SEIB in Diourbel
evening - back in Dakar

January 29

morning 09:00 - Dr. Ousmane Kane and Dr. Mike Handy, Institut de Technologie Alimentaire (ITA)
afternoon 03:00 - Les Grands Moulins de Dakar

January 29th Con't

05:30 - Conseil national des Employeurs du Senegal (C.N.E.S.)

January 30

morning 08:30 - M. Maguatte Gueye, Deputy Director of SAAF Ste. Agriculture africaine. That office is located behind BIAC, Rte. de Rufisque in the warehouses of STEIMEX

11:00 - Wehbe Freres

afternoon - 15:30 Senlait

January 31

09:00 - Mme. Fadiop Gueye Sall, Deputy at the National Assembly for Dagana, involved in the women's cooperatives in Fleuve Region, meeting at ECU

10:00 - Bassirou Sow, Directeur General, SENEPESCA

11:30 - Matar Ndiaye, Directeur General, S.N.C.D.S.

15:00 - Mr. Francois Reboussin, SONACOS cooperatives in Fleuve Region, meeting ECU

February 2

10:00 - Debriefing AID Conference Room

APPENDIX D

GUEST LIST

FOR PROJECT SUSTAIN COCKTAIL

January 25 1985 at Black's

Mr. Irwin Hornstein, Executive Director of SUSTAIN

Mr. David Meggison, Vice President for Research and Development,
Del Monte Corp.

Mr. Basant K. Dwivedi, Vice President for Research, Development
and Quality Control, ESTEE Corporation

Mr. Jean-Louis Arbes, Secrétaire Général
Cie. Sucrière Sénégalaise (C.S.S.)
Avenue Felix Eboué
Dakar

Mr. Louis Audibert, Secrétaire Général
S O N E P I
Avenue Bourguiba Prolongée
Derrière la Residence de El-Hadji Seydou Nourou Tall
Dakar

Mr. Sidy Lamine Ba
Directeur de l'Industrie et de l'Artisanat
Ministère du Développement Industriel
Immeuble BRGM
Route de Ouakam
Dakar

Mr. Donald Baron, Directeur Général
S O C A S
50, Avenue du Pdt. Lamine Guéye
Dakar

Mr. Michel Baudère, Secrétaire Général
U N I S Y N D I
12, Avenue Albert Sarraut
Dakar

Mr. Jean-Bernard Cabot, Directeur
Les Grands Moulins de Dakar
Avenue Félix Eboué
Dakar

Mr. Khassimou Dia, Directeur Général
S A E D
St. Louis

Mr. Maguette Diack
Directeur Général
Dakar-Pêche
Blvd. de la Libération

MISSION PERSONNEL GUEST LIST

FOR PROJECT SUSTAIN COCKTAIL

January 25 at the Black's

Ambassador Bray

DCM: N. Murphy

USAID DIR: S.J. Littlefiel
D/DIR: Carole Tyson

ADO: John Balis
Robert MacAlister
John McMahon
J. F. Damon
Khoi Le

RBDO: Hugh Smith
Jean LeBloas

PDO: Joel Schlesinger
Bill Anderson

EXO: Steve Wallace
Pam White

ECU: Linda Brown
Jacqueline Damon
Abe Houdrouge
Ousmane Sane
Madeleine Kane
Priscilla Benoit

Mr. Claude Scheffer, President
Union Intersyndicale d'Entreprises et Industries de l'Ouest Africain (UNISYNDI)
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