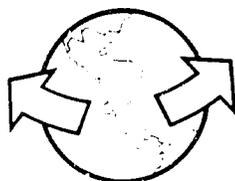


PROEXAG



PROYECTO DE APOYO A LA EXPORTACION DE PRODUCTOS AGRICOLAS NO-TRADICIONALES DE CENTRO AMERICA Y PANAMA

PROEXAG

NON-TRADITIONAL AGRICULTURAL EXPORT SUPPORT PROJECT

REPORT OF ORNAMENTAL HORTICULTURE ASSISTANCE VISIT TO HONDURAS DESIGNED TO ASSIST PRESENT INDUSTRIES AND INFRASTRUCTURE TO PRODUCE FOR THE INTERNATIONAL CUT FLOWER EXPORT MARKET

Assignment Number: ST/86-32

SUBMITTED TO:
Regional Office for Central American and Panama (ROCAP)
U.S. Agency for International Development
Guatemala City, Guatemala

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PREFACE

The following report covers the author's assignment to render technical assistance to Honduran ornamental horticulture export operations during the period 8/21/88 to 9/7/88. It was undertaken at the request of FEPROEXAAH in San Pedro Sula, Honduras, and with the confirmation of Mr. John Lamb, chief of party of AID/ROCAP's PROEXAG project based in Guatemala, and the prime contractors on said project, Chemonics International Consulting Division of Washington, D.C. The assignment was planned as a follow-up to a previous PROEXAG-sponsored trip (July 1987) to the San Pedro Sula area at the request and with the assistance of Ing. Mario Lara and Lic. Carlos Manuel Zeron.

The original program for the assignment called for a series of conferences on specific cultural topics at several geographic locations. The program was subsequently altered, with an orientation towards assisting those persons interested in determining if Honduras' floral operations have the infrastructure required to permit expansion into an export industry, thereby fulfilling the preestablished goal of assisting with the expansion of the Honduran horticulture industry.

The investigative methods included the author's visit to the major cut flower production area and to the operations of producers with the potential for success. The coordinators arranged for a specific visit and assisted in the choice of topics discussed. The visits combined crop and cultural critique, as well as detailed discussions on practices that should be followed for the product to enter the competitive international market. These discussions were usually programmed at one of the established production firms. On August 29, 1988, a seminar was held to review and discuss the findings of the investigative tour.

A list of the particular establishments and persons visited accompanies this report. Also included as an annex is a list of the principal coordinators who organized the trip and seminar.

EXECUTIVE SUMMARY

During the course of the assignment, which took place in two phases, the author visited numerous flower producers throughout Honduras to lend individual assistance and offer tips on how each could improve his/her operation. The focus was on assessing each operation insofar as its export potential is concerned.

A full-day seminar for potential flower producers capped the first phase of the visit. The author delivered a speech that included a thorough assessment of the country's export potential (an annotated outline of the presentation may be found in the annexes of this document).

A brief second phase of the work included more individual assessments of farms not visited earlier and another meeting with several producers.

REPORT OF MY IMPRESSIONS OF THE CURRENT STATUS
OF HONDURAS' CUT FLOWER INDUSTRY

Not one producer visited has the required training or infrastructure to export at this time. Specifically:

- o There are no protective growing structures (with the exception of Santa Cruz, Mr. Suazo).
- o The size of the production facility is too small.
- o The quality of the product is inferior to that required to compete.
- o There is no consistent supply of insecticides, plastic, etc., that are required to produce export-quality flowers.
- o Most installations are in the tropical region rather than in the temperate zone, which would be more appropriate to these cultivars.
- o There is a lack of required knowledge to compete in international markets.
- o There is little technically-qualified assistance available other than that offered by AID and some specific areas of FEPROEXAAH and FHIA. This type of assistance is in a nascent state and will require some effort on the part of these organizations to overcome the perceived lack of interest of the industry in the past. This attitude developed in part due to the failure of the producers to organize and present their individual assistance needs as an industry need. I detected evidence of some awareness of this need, as noted elsewhere in the report.

MEMORANDUM

Date: 9/22/88

To: CHEMONICS

From: Paul Daum

Please note that this trip to Honduras had been superficially discussed since July 1987, when I participated in a conference on flower exports organized by FEPROEXAAH, and directed by Ing. Mario Lara. During that reunion, I was presented with the following information: (1) the size of the market; (2) the operational methods of the market; (3) the products with the highest potential; and (4) some of the infrastructure required to achieve that potential.

Also during the earlier trip, I visited the regional terrain and facilities of the FIHA as well as Sr. Suazo's chrysanthemum planting and Mr. Tag's heliconias planting, (the latter is an american commencing a flower export operation).

I was informed of FEPROEXAAH's most recent request for a follow-up visit via a fax sent to the FUSADES office 8/17/88, and a fax from Chemonics to the same address 8/16/88. I changed my travel plans and purchased a SAHSA airlines ticket to San Pedro Sula in El Salvador (ticket # 2744400583-284-6, copy enclosed).

Upon arrival in San Pedro Sula, I was met by Sr. John Gaffney who informed me that he was new to FEPROEXAAH and that none of the previous staff would be present or available to assist me. He also informed me that I should be aware of the organizations's new direction and urgency, and that they now found themselves obligated to proceed with the original program commenced in 1987. He also informed me that neither he nor any of the staff could accompany me on any field trips since they had just been informed of other urgent obligations having a specific deadline with AID. He arranged for Sr. & Sra. Donald Suazo to accompany me and provide transportation for the assignment, the report for which I provide herewith.

TRIP REPORT

A. Introduction

Given the nature of this assignment, in which the author visited numerous cut flower producers and advised them on a one-on-one basis, it was felt that the best format to report the work would be a day-by-day trip report. The observations are synthesized in both the "Conclusions and Recommendations" (section C of this text) and in the outline of the author's speech before flower producers at a FEPROEXAAH seminar (annex A).

B. Daily Field Observations

Sunday, August 21 - San Pedro Sula

I flew to San Pedro Sula on a SAHSA flight from San Salvador, arriving at 9:30 a.m. John Gaffney of FEPROEXAAH was at the airport to accompany me to the federation's headquarters for a 10:30 a.m. meeting regarding the work schedule for the ensuing week. Persons in attendance included Lic. Richard Pell, Lic. Rolando Pretto, and Mr. Gaffney, all representing FEPROEXAAH; and Mr. and Mrs. Donald Suazo of Finca Flores in Santa Rosa. It must be noted that Mr. Suazo is also a leader in the Floriculture Organization of Honduras. In general terms, we defined the objectives of my trip and confirmed the itinerary of meetings for the week. Specific topics addressed ranged from defining the export possibilities of Honduras' cut flower industry to identifying crops with export potential. The meeting terminated at approximately 1:15 p.m.

During the afternoon I visited the original site of the private tropical heliconia plantings made by Mr. David Tag and Mr. B. Plowden. The area is being vacated at present because it is subject to flooding. However, the visit allowed me the opportunity to assess the potential of these plants, some of which have been imported because they are considered to have export potential.

Monday, August 22 - San Pedro Sula

The day was dedicated to chrysanthemums and their potential as an export crop. A meeting was held at the chrysanthemum installations of Mr. and Mrs. Donald Suazo, allowing for a field visit and on-site classes. Among those present were our hosts, Donald and Dora Suazo; John Gaffney of FEPROEXAAH; Mr. Fabio Salgado, a producer from the Tegucigalpa area; Ing. Carlos Lurzano, agronomist; Ing. Jose Angel Alfonso, agronomist with FHIA; Ing. Victor Pleytez of the Suazos' farm; and two of the senior workers on the farm. The meeting commenced at 9:20 a.m. and terminated at 6:30 p.m. An attempt was made to cover as many

topics as possible and utilize the plant material of the Suazo farm for demonstration purposes.

Tuesday, August 23 - San Pedro Sula

The day was devoted to reviewing the technical information I had compiled and classifying it for photocopying. The materials will later be used to establish a technical library for the joint use of FEPROEXAAH and FHIA. I also met with officials of both organizations to plan next week's seminar; specifically, we outlined the agenda and I elaborated on the topics in which I had a particular expertise. This would allow me to draw more effective conclusions during the ensuing week of field visits, gearing my observations to the seminar.

I finished the day by discussing specifics on insect control to combat fertilization disease for chrysanthemums with Mrs. Suazo. Because the land site on which her chrysanthemums are planted is not truly optimal for that variety's production, I took the opportunity to suggest other crops that may be grown for export in this climate, citing recently-provided meteorological information on the country.

Wednesday, August 24 - Siquatepeque

The day was devoted to visiting the rose plantings of Mr. Carlos Lorenzana. The major portion of the day was spent reviewing rose culture. I assessed the manner in which the rose producers could improve their cultural methods as well as the procedure required to enter the competitive export market. The present rose production techniques and installations are considered by today's producers to be inadequate to compete against the quality of Guatemalan roses being imported into Honduras (and those are the Guatemalan roses deemed "unacceptable" for export to the U.S.!).

Because of the poor base of technical information available at present, considerable time was spent on basic cultural concepts in response to their requests. The feedback was very positive since most of these concepts could be applied to the production of local rose crops. Specific topics discussed included: growing structure construction; fertilizer requirements; detection and control of diseases common to roses; and general cultural practices.

Thursday, August 25 - Tegucigalpa Region

The day began with a short visit to Mr. Suazo's chrysanthemum installation to diagnose a suspicious plant growth phenomena and to demonstrate by examples how growing structures must be modified to overcome the present deficiencies.

Later, I travelled to Tegucigalpa to visit the farm of Mr. Fernando Villar, one of Honduras' largest flower producers. A self-taught horticulturist, Mr. Villar, produces gladiolus, bird of paradise, roses, and statice the year around. As a consequence of not taking protective measures, the quality of his flowers fluctuates with climatic and seasonal changes so that they do not qualify for export. However, Villar has sufficient land of acceptable inclination enabling him to expand into the export sector, with bird of paradise offering the greatest potential. In general terms, the farm has potential due to location and elevation. While Mr. Villar is interested in exporting his crop, he is 83 years old and his family is not as keen on the idea as he is.

In addition to the above crops, Mr. Villar cultivated anthuriums and heliconias (these two being among the original plantings in Honduras). Both were satisfactory in terms of health and vigor, yet could not qualify for export due to amount available, color percentage assortment, and lack of uniformity. The anthurium plantings were being expanded at the time of my visit. The heliconias would be of interest to persons involved in present-day culture study because of their age and the techniques that have been developed to insure their continuous flowering.

The remainder of the day was spent visiting Mrs. Bemilda Vasquez's chrysanthemum plantings in the vicinity of Mr. Villar's farm. Mrs. Vasquez's winter crops are minimal in terms of protection and infrastructure in place, thus not qualifying for export. Furthermore, the original site was not selected with an eye towards expansion. It should be noted that both Vasquez and Villar have their own flower shops, thus being able to market all of their crops, regardless of quality. This is one reason why my discussions regarding improvement of quality for export did not "register" with them.

I had a late dinner with Mr. Carlos Lorenzana and his family. Our conversation centered on the observations of Lorenzana's son, Allen, at last Tuesday's discussions in Siguatepeque regarding roses. The elder Lorenzana was interested in renewing his production plants and building protective structures to insure a consistency in quality, but only to the extent permitting him to compete against Guatemalan importers. This was an often-repeated theme during my visit; many Honduran flower producers wish to organize and seek government assistance to combat what they believe to be unfair competition from Guatemalan flower producers. This is a complex issue, since the Guatemalan product is superior; in fact, many Honduran producers with retail shops are importers of these flowers. However, there is no reason why Honduras cannot produce flowers of the same quality.

Furthermore, it must be noted that Honduran producers find it necessary to journey to Guatemala to purchase essential chemicals required for insect and disease control, claiming that the Government of Honduras complicates import procedures to the point that it is easier to proceed as noted. I have on more than one occasion heard this complaint from foliage plant exporters.

Friday, August 28 - Comayagua

Today's first visit was to the anthurium and ginger planting of Mr. Jorge Agurcia in the Comayagua Valley. The anthuriums were in excellent health but there were not enough of them for export. In addition, the color percentage mix would not command an acceptable market position. Most of these were of the more vigorous and disease resistant pink color, probably of the Marian Seefurth or Abe Pink varieties. This is an advantage when selling to local markets but not so in the US, where the market demands 80% to be of the color red. This means that anybody desiring to reorient his plantings will have to incur the cost of purchasing the desired color percentage stock and the time (15 to 20 months) required to cultivate the new plants to market quality. Mr. Agurcia expressed interest in entering the commercial export field and has planned to take appropriate courses in the field of business administration in the US, in conjunction with his attendance of the September 1988 U.S. Dept. of Commerce and Chamber of Commerce meeting on "Exporting to the U.S.A." in Miami. I have tentatively promised to assist him with a visit to Miami's Import and Distribution Market at the time.

The day's second visit was to the Honduran Office of Meteorology. This trip came about at my suggestion, seeing that this would be a good opportunity to orient potential exporters in how to choose an acceptable site in which to locate a flower export operation. During this visit, the meteorological data resources available to the government were ascertained. We found the records to be very complete and the man in charge--Mr. Edgardo Zuniga Andrade--to be a walking library of climatological information and a keeper of detailed records. Anyone interested in searching for a desirable land site would find a visit to this governmental organization essential.

During the afternoon, I visited the installations of Ing. Fabio Salgado, who is growing chrysanthemums, roses, and carnations for the local market. I found the plant growth to be suffering from a disease common to plants exposed to tropical rains when no root protection is available. The climate in this region is not good for most varieties of carnation and I question if export quality could be attained even if the known higher temperature-resistant varieties were used. Perhaps the use of a spray on miniature carnations would offer a more satisfactory opportunity for export.

The present poor state of plant health is the result of the national plastic used for root protection, which has a known lifespan of five months. This is in contrast to the material commonly sold in Guatemala, Costa Rica, Colombia, etc., where the flower producers have organized, insisting that the plastic meet known ultraviolet resistance standards, i.e., lasting up to 16 months on average. Considering that this complaint is a frequent one, the growers must enlist the assistance of a governmental organization to rectify this problem. Mr. Salgado has, on previous occasions, made contact with Americans who were interested in joint ventures involving his infrastructure and that of Ing. Javier Williams in Siguatepeque. While discussions are still being held, nothing concrete is being planned at present since neither one of the operations has the infrastructure required to commence export operations.

Much of the time in this spot was spent reviewing cultural problems found in the crop in assisting in programming the work needed to put the farm in proper condition so that it may maintain its competitive position in the national market.

We had programmed a visit to the Fundacion San Jose del Marisol close to the farm of Ing. Fabio Salgado, but a miscommunication occurred and we arrived too late to visit the installations. This was unfortunate, as the farm is among the largest and best organized in terms of infrastructure, although it does not export at present. Neither do they have plans to export flowers, according to Mr. Jose Corrales, the facility's administrator/accountant. I know from a previous visit to the region that scarcity of water during the dry season is a special problem here.

Saturday, August 27 - La Braca

The day was devoted to visiting the farm of Mr. Orlando Henriquez in the small town of La Braca, approximately 56 kms. from the capital. This provided me the opportunity to view land sites at the proper altitude for a potential horticultural export business. A deficiency in electrical energy appears to be the only problem; however, we were informed that the network was being extended and would soon be available on his farm. The soil is unsatisfactory in many areas but, as explained to the visiting group, this presents a small additional cost since the amount of soil needed can be transported to the planting site. The zone's strong winds could present some construction problems. The effective solution to this problem is common knowledge in Costa Rica and should present no real obstacle.

Mr. Henriquez's farm has roses and bird of paradise in production as well as fruit crops. All production is organized for national sale, so the quality is inferior to that required for export. Mr. Henriquez has indicated an interest in studying

horticulture, since it is not his profession. Rainy weather did not permit a prolonged visit to the field plantings.

The general meeting in Henriquez's house lasted from 10 a.m. to 3:30 p.m. Topics of conversation included general flower culture and problems encountered by Hondurans attempting to enter the U.S. export market. The author expressed the position that even the present flower growers should organize and include the existing Exporting Foliage Company in an ornamental industry program. Only with one voice and set of statistics could they begin to solve some of their problems.

The list of attendees today was the largest of any farm meeting during my trip. They included: Mr. Orlando Henriquez; Mr. Jorge Agurcia; Ing. Victor Manuel Pleytez; Bemilda Vasquez; Mr. Jose Edgardo Sarto; Mr. Fernando Villar; Mr. and Mrs. Donald Suazo; and Mr. Jorge Errazuriz. The meeting terminated at approximately 2:30 p.m. We returned to San Pedro Sula via automobile, arriving at 8 p.m.

Sunday, August 28 - San Pedro Sula

The day was spent writing the assignment report and organizing the information to be used in Monday's (tomorrow's) conference.

I also made contact with Dr. Panfilo Tabora to discuss the proposed theme of work for the September 25, 1988, meeting. We discussed the condition of the recent heliconia rhizomes. He seemed satisfied that they would survive and even noted new shoots arising from some of the material. Incidentally, I had the opportunity to visit Ernesto Alvarez in El Salvador. His rhizomes appear to be in excellent condition and were also showing new growth. The supplier appears to have sent very vigorous, exceptionally large rhizomes.

Monday, August 29 - San Pedro Sula

A photocopy of the main points discussed during today's meeting is attached to this report. The meeting ended at 5:30 p.m. taking into account a lengthy question-and-answer session following the formal agenda. I have obligated myself to send a considerable number of technical bulletins on different subjects to various persons.

Prior to my departure from San Pedro Sula to Costa Rica on private and previously committed appointments, I was contacted by Mr. Julio Castillo of Azucarera Cantarranas, who expressed a serious interest in conversing with me in more detail. He proposed a date that coincided with my return to the U.S. through Honduras. I accepted his offer as it would cost me only the hotel and airport tax. Furthermore, I thought it would be good

public relations to use this opportunity to visit the farm of Mr. Corrales, whose site I was unable to see in August due to tight scheduling and a miscommunication. At that time, Mr. Corrales was a bit irritated, expressing so in a private telephone conversation prior to my August departure.

Tuesday, September 6 - Tegucigalpa Area

The second phase of this assignment took place September 6 and 7. On September 6, I was met at the airport by Mrs. Lucila Ynestroza, a long-time force in Honduras' ornamentals industry as a result of many years operating Sol Verde, her flower shop in Tegucigalpa. She is a person with many commercial contacts and is an active promoter of the country's ornamental export industry.

The meeting was held in the assembly hall of one of the sugar coops, approximately 1-1/2 hours from Tegucigalpa, with Mr. Castillo and others assisting. I estimate that about seven persons were in attendance, most of whom represented various levels of responsibility in both the cultural and management aspects of the ornamentals industry. They have established a small ornamental cloth house from a collection of mostly unused material of the locality. The management direction appeared to be in the hands of agronomist Joaquin Rolando Zauala, who had some training at The Panamerican Agricultural School in Zamorano and once worked for the American Export Foliage Company in San Pedro Sula. Their efforts are admirable, given the little encouragement or direction they have received. The plants produced are targetted to local sales.

During the short duration of the visit, we discussed some simple technical points and insect disease control symptoms noted during last month's trip. The discussion was of a general nature, since Mr. Castillo's plan was to discuss ornamentals as an alternative to the mono crop now being produced. The urgency to consider ornamentals is apparent when one discovers that the present subsidies being given to the sugar coops are at risk and that the lives of 5,000 people in the valley are now in the hands of a political decision founded on the simple law of economics of the sugar industry in today's world markets. I was told that AID, the IMF, and other similar organizations are studying the situation. The valley has real horticultural potential, judging from the short time I was able to observe the situation. Mr. Castillo promised to send me more details on climate, soil, and water. I have some potential crops in mind but need more details before making recommendations on which trials to undertake.

Most of the discussion was general in nature, strongly emphasizing that they should organize their demands and establish contact with FEPROEXAAH and FHIA as their working partners. Mrs. Ynestroza was very useful in this aspect, outlining what she knew

and felt these two organizations had to offer. The reader should be aware that the flower producers in the valley are unique in that they are very aware of the potentials of diversification so as to save this natural resource. Other points discussed included the size of the export market and some thoughts on which crops may have the best potential. Whenever possible, we attempted to use a specific question as a device to expand the conversation to the aforementioned themes.

The time was too short to request a trip around the valley or to request a verbal inventory of the existing infrastructure. I promised to send the attendees copies of technical information related to the topics covered, including data on the potential export crops for the area.

Wednesday, September 7 - Tegucigalpa Area

During the morning, I visited the rose production greenhouses of Mr. Wadi Farach. Mr. Farach is one of the three rose producers who have some plastic root protection. I found the growth to be satisfactory, although not of export quality. The structures he is using need to be modified to accomplish the climate and disease control desired. Our discussion revolved around this point and covered such topics as best budding method, most desirable rootstock nutrition concepts, and varieties most likely to perform in this climate. He expressed an interest in future exporting, but thought the most pressing need was that the Honduran flower industry organize and present a unified program of its needs to the government. He was very critical of the government's lack of interest as expressed in his difficulties with the importation of plant materials and supplies necessary to produce a quality flower. He was also wary of exporting to the U.S. due to rumors regarding quotas, etc. I discussed the Miami market procedures and the phytosanitary requirements in great detail.

Mr. Fernando Villar, whose farm is within three miles of the Farach operation, accompanied us on this visit. Thus, I took the opportunity to revisit the Villar farm, this time observing the operation in greater detail and with the agronomist present. The visit included a discussion on statica, gladiolus and ornithogalum. Mr. Villar has expressed an interest in exporting, specifically, in inspiring a fifteen-person coop group he leads into growing crops that are seasonal in nature and have lower cost inputs than the traditional varieties requiring environmental protection. We discussed crops of this nature and I promised to send him additional information on specific cultivars.

During the afternoon, I visited the installations of the Fundacion Marisol, of which Mr. Corrales is the person responsible for restructuring the economics. The main cultivars

are carnations which, unfortunately, are in such poor health that I would question even local market acceptance. The plants suffered a series of cultural deficiencies to the point that they were beyond normal recovery practices. I suggested the least costly solution--planting anew. All were in agreement and discussed new varieties that might have potential in the region.

The farm also produces gerbra daisy, which is growing satisfactorily. However, the local market doesn't appreciate the flower and the farm is often compelled to discard or give them away.

Restructuring of the farm will not be an easy task because the original structures were improperly designed. Mr. Corrales is a professional accountant who applies his knowledge to analyzing the Honduran flower market. As a result of this, he expressed plans to improve sales. While interested in export, his critical review forced him to conclude that Honduras is not prepared to enter the export market because it lacks all of the required infrastructure, including an adequate supply of capable agronomists. The farm's location in regard to both climate and proximity to the city was well chosen. However, the water supply is inadequate, something manifested in the plants viewed.

We later visited a local poinsettia grower who is entering into production for the first time. The visit was valuable to him in terms of some cultural practices he was not aware of that could cause crop failure and quality reduction.

During the evening, I attended a meeting arranged by Mrs. Ynestroza at her flower shop. Most of those in attendance were the persons from the Tegucigalpa region who I had previously visited. The general purpose was to discuss reviving the Flower Producers' Association and to voice mutual concerns. In regard to export potential, the meeting was valuable and terminated on positive themes:

(A) They will conduct a census on the whole ornamental industry.

(B) They plan to establish much closer contact with FEPROEXAAH and FHIA regarding the needs of the industry, both in terms of stimulating national growth designed to diminish Guatemalan imports and also to foment an atmosphere to promote the export industry.

(C) They concluded that export was possible and essential to the health of the country. Mr. Corrales again expressed that his visits to the U.S.A. and Costa Rica convinced him that Honduras could compete in the market but needed time to build an infrastructure. Several members expressed a positive "Yes--I want to export but need more guidance," to which I responded that

they should be able to acquire this assistance if they fulfill the self-imposed obligations enumerated in points A and B above.

(D) They said that of the many flower experts who had spoken with them in recent months, they found this presentation the most useful and credible. They are genuinely interested in working with our [the PROEXAG] organization. (I carefully explained the relationship among USAID/ROCAP, Chemonics, and FEPROEXAAH.)

Mrs. Lucila Ynestroza deserves a medal for her efforts and dedication in organizing the people, and for providing much of the transportation. Her interest in ornamentals in Honduras spans over 25 years and she recalls landmark incidents such as the deterioration of the Central American Common Market to the point where paper flowers were common. She stimulated many of the present flower producers to enter into the production phase of the industry; thus, she knows the personality of the industry well. My observations confirm that she is well respected in the industry and is a walking library of information on who-is-producing-what-crop. She is also engaged in the production of vegetable crops for export, which automatically gives her an export viewpoint. She would be a valuable addition to future meetings and proposals, and is outspoken about her desire to see Honduras participate in the world market. Her education, multilingual talents, and travel experiences have no doubt contributed to her viewpoint.

The assignment over, I had a good flight back to the U.S. that evening.

C. Conclusions and Recommendations

It is obvious that considerably more technical inputs will be required to raise the level of production sufficiently in order to export competitively. I suggest that a technical discussion meeting be held to provide interested producers with information on how to work with the industry and how to invest in such a venture.

The purpose of this meeting would be to discuss and formulate a working budget for an export industry for several crops determined to have potential based on the findings of this visit. This meeting should include:

- o Members of FEPROEXAAH
- o Members of FHIA
- o An economist from the Agricultural Bank
- o An agronomist from the Honduran cut flower industry (preferably someone who has some technical training abroad).
- o Persons in the present industry and/or persons who have the capital and interest to support a cut flower venture.
- o Paul Daum as coordinator of the technical discussions. During this discussion, the group would learn about industry terms and definitions, production scheduling, infrastructure requirements, and the economic cost-returns relationships. The forum would focus on several crops, demonstrating the importance of various inputs and protective structures that each cultivar would require. The immediate primary benefit would be realized in the establishment of a common industry language and the identification of present infrastructure deficiencies that exist in Honduras today.

The anticipated results of this effort would be to establish an organization capable of supplying the local market with a consistent and competitive product. This would be considered "stage one" of a process designed to result in production for export.

In the Valley of Cantarrana, I believe there exists the possibility of producing some bulb crops or other non-traditional cut flowers cultivars. I am awaiting additional climatological and soil information in order to make a final determination. It should be noted, however, that all of the suggested crops will require a minimum of three years planting for commercial results. Therefore, the study would involve more time and detail than

would an investigation of traditional flowers.

I have also suggested the possibility of growing some ornamental cut green foliage as an alternative. The advantage would be crops of lower perishability in the transport chain.

Considering the desire of the present producers for additional technical knowledge, it is difficult to neglect this need based upon their requests and general protocol. I recommend that in any future meetings it might be possible to charge a minimal rate for this type of assistance to cover a portion of the cost, i.e., the minimal cost of a technician in the field. In these cases it is best to program this type of activity after the main purpose of the visit has been decided upon. Normally, one can dedicate a day to diagnostic and remedial assistance. An effort should always be made to involve the local agency in recording, photocopying, and assisting in information dissemination and follow up.

In the case of this trip, I took it upon myself to follow up with providing technical information to various producers (including the photocopying and mailing of the data). While it meant incurring out-of-pocket expenses, I believed it to be a good investment towards the further development of the Honduran cut flower export industry due to the level of knowledge and the sincere interest in exporting among the producers.

ANNEX A

OUTLINE OF SPEECH GIVEN AT AUGUST 29, 1988 FEPROEXAAH SEMINAR

"The Current World Market for Cut Flowers and How Honduras May Participate"

I. Does the market exist? Yes.

According to 1985 United Nations figures, a U.S. market of 600 million units of flowers exists. 78,157 of these 600 million units came from Honduras.

The average annual growth of Honduras imports into the U.S. cut flower market is 4%, a higher average than that for most Central American countries.

There are 90 import distribution firms in Miami. The average annual gross for Honduran flower producers to date is 3 million dollars, far short of the 27 million needed if the producers want to stay functional.

II. Can Honduras compete? Yes.

Wages are much lower in Honduras than in the U.S., where the average wage is \$5/hour. Furthermore, airfreight from Honduras to the U.S. is much lower (32 cents/kilo) than from such neighboring countries as Costa Rica (75 cents/kilo). Other representative air freight costs include:

Ecuador	65 cents/kilo
Dom. Republic	40 cents/kilo
Guatemala	50 cents/kilo

III. To succeed, the following infrastructure should be in place:

- o A minimum greenhouse area of 2 to 2.5 ha per floral crop
- o For each crop, a particular protective measure should be followed, be it roof plastic, protective screens, plastic covered beds, irrigation tubes, etc.
- o A plentiful supply of good-quality water
- o Wind protection (if crop is exposed)
- o Adequate electrical power
- o Adequate supply of labor
- o Adequate roads linking farm, airports, local markets
- o Good airport facilities

- o Good airport facilities

IV. Growth Requirements and Market Needs

The market needs determine the cultivars and source to be planted. The color-percentage mix must be certified. The price of the product is only a part of the total cost; technical assistance rendered will be factored into the price.

Some examples of flowering growth requirements include:

- o Rose - 1 sq. ft. per plant
Replant every 7 years
5-month stock renewal cycle
- o Carnation - 3 sq. ft. per plant
Replant every 2 years
4-1/2 month stock renewal cycle
- o Chrysanthemum - 4 month stock renewal cycle
- o Gerbra Plants - Must replant every year
- o Alstromeria Rhizome - Replant every 4 years
- o Bird of Paradise - 4-year production cycle
Lasts 8 to 10 years
- o Fern Rhizome - Replant every 5 years
14 month stock renewal cycles

V. Requirements for a Competitive Product

The plants must pass USDA standards of phytosanitary regulations and plant quarantine service. The agency publishes regulations per each plant species and crop. For example, in the case of leaf miner with beetles, the USDA made 46,000 separate interceptions at various points-of-entry in 1986.

Furthermore, the plants must pass quality standards determined by market prices. For example, the length of the stems is an important factor. Also packing boxes must be strong to protect the flowers and maintain quality.

VI. What is the market?

There are approximately 90 import distribution firms in Miami. These companies distribute to 2,400 flower wholesalers in the U.S. who, in turn, supply retailers.

The number of flower imports from Colombia is especially high. Avianca's 747s fly to Miami six times a week with 9,000

- o Arrange for entry of a product into the U.S.
- o Arrange for movement of flowers from the customs area to an environmentally cool area as they await final shipment to wholesaler.
- o Be in charge of all handling/cooling during the transboarding period.
- o Serve as an information center on production trends and planning new competition strategies that can affect one's market position through diversification and services.
- o Purchase materials (such as chemicals) not available in Honduras.
- o Help identify a final purchaser, which involves answering questions regarding price, service, consistency, delivery, and credit.

VIII. Cost of Import Distribution Services

It is a structured cost that includes the following components:

A. Direct Charges

- o USDA user fees
- o Custom Broker Transport Charges
- o Custom Broker's 12-16% Commission

B. Import Distribution Firm's 16% Service Fee-- this is usually approximately 16% of the selling price to the wholesale firm

A rule of thumb--of every dollar declared sold, the producer receives 40%. The other 60% is used to pay for the following:

- o Custom Broker's Commission
- o Transport Cost
- o Import Distribution Firm's Service Fee
- o USDA Inspection Fees

Payment is usually due 30 days from the date of declared entry.

IX. Mutual Responsibilities of Exporter and Importer

- o Conduct study of market demand to select variety and color composition.
- o Study the competition and the capacity of the market to deal with x-amount of players.
- o Establish a good communication system between the two

color composition.

- o Study the competition and the capacity of the market to deal with x-amount of players.
- o Establish a good communication system between the two parties to discuss such details as number of boxes to arrive, airway bill numbers, quality of product, and product mix per shipment.
- o Stay abreast of current market trends by reading such market publications as Florida Flower Report, ITC Market News, and the USDA Market Reports. The use of more than one importer will insure the grower of a thorough knowledge of market conditions.

X. Important Factors in Securing a Joint Venture

First, the producer should secure a lending agency that will assist it in conducting the original feasibility study of the project, including visits to competitors and to the market prior to investment.

Foreign capital is received only after a demonstration of capability to deliver consistently. Buyers must feel that the producer will insure a good supply of cut flowers on a long-range basis. Usually, the buyer will offer certain services--such as buying the materials needed to modernize an operation--but this is a slow process and "an act of faith" before an advance on a future crop is forthcoming. Perhaps, in turn, the Honduran producer may offer the foreign investor a special service on a limited scale.

XI. What is the next step for Honduras?

A meeting should be held involving FEPROEXAAH's economist, banker, and agronomist, and all potentially interested flower producers. This forum should result in an entry and working budget on some traditional crops having potential for export to international markets.

ANNEX B

AGENDA OF FEPROEXAAH SEMINAR
AND OUTLINE OF PAUL DAUM SPEECH (SPAN.)
SEMINARIO SOBRE FLORES DE EXPORTACION

A G E N D A

- 1.) INAUGURACION DEL SEMINARIO:
ING. HERNAN PINEDA BARPALES - PRESIDENTE FEPROEXAAH
- 2.) "PAPEL DE FEPROEXAAH EN LAS EXPORTACIONES"
 - DESARROLLO DEL PRODUCTO
ING. JOHN GAFFNEY
 - MERCADEO
LIC. FERNANDO BENDAÑA
 - INFORMATICA
LIC. FERNANDO SILES
- 3.) APOYO DE FHIA AL PRODUCTOR
ING. JOSE ALFONSO
- 4.) DISERTACION SOBRE EL ESTADO ACTUAL DE LA FLORICULTURA
EN HONDURAS Y LA EXPORTACION DE FLORES A LOS ESTADOS
UNIDOS.
DR. PAUL DAUM

FECHA: 29 AGOSTO DE 1988
LUGAR: SALA DE CONFERENCIAS FEPROEXAAH
HORARIO: 10:00 A.M. - 12: M. SEMINARIO
12:00 M. - 12:30 P.M. RECESO
12:30 P.M. - 2:00 P.M. SEMINARIO

**

I. ESTADO ACTUAL DE LA FLORICULTURA EN HONDURAS

*** POTENCIAL ACTUAL DE EXPORTACION**

*** ESTADISTICAS GENERALES DEL MERCADO DE USA**

FLORES TRADICIONALES:

- CRISANTEMOS
- CARNATION -TIPO MINIATURA
- ROSAS
- GERBRA
- GYPSOPHILIA
- STATICE
- LIATRUS

CORTE VERDE - FOLLAJE PARA DISTRIBUCION AL MERCADO CONVENCIONAL Y AL MASIVO.

FLORES ESTACIONALES: FLORES ANUALES DE DISTRIBUCION EN LAS CADENAS DE MERCADO MASIVO.

FLORES TROPICALES EXOTICAS:

- AVE DEL PARAISO
- HELICONIAS
- GINGER

II. DESCRIPCION DE LAS CONDICIONES CLIMATICAS E INFRAESTRUCTURA NECESARIA

A. PROTECCION CON INVERNADERO

B. EQUIPO ADICIONAL NECESARIO PARA LA EXPORTACION

C. FLORES QUE NO NECESITAN INVERNADERO

III. **DISCUSION DE TECNICAS CULTURAES**

A. ORGANOS DE PLANTAS PARA SIEMBRA

B. SUPLIDORES CERTIFICADOS

C. CICLO DE PRODUCCION Y FRECUENCIA DE RENOVACION

IV. *ESTANDARES DE CALIDAD NECESARIOS PARA ENTRAR Y
COMPETIR EN EL MERCADO NORTEAMERICANO

*TENDENCIAS ACTUALES DEL MERCADO DE CONSUMO

*CENTROS IMPORTANTES DE PRODUCCION COMPETITIVA

V. *DESCRIPCION DE LAS ENFERMEDADES MAS COMUNES Y SU
CONTROL PARA EXPORTACION

*DISCUSION DE LOS REQUERIMIENTOS DEL SERVICIO DE CUA-
RENTENA DE PLANTA DEL DEPARTAMENTO DE AGRICULTURA
DE LOS ESTADOS UNIDOS

VI. *PROCEDIMIENTOS ACTUALES DE IMPORTANCIA Y MERCADEO
DE PRODUCTOS DE FLORICULTURA

*FUNCIONES Y SERVICIOS OFRECIDOS POR IMPORTADORES Y
"BROKERS"

*CARGOS Y PROCEDIMIENTOS DE PAGO POR SERVICIOS DE
MERCADEO

VII. **REQUERIMIENTOS DEL IMPORTADOR Y DEL EXPORTADOR
PARA MANTENER UNA RELACION COMERCIAL EXITOSA**

- * EL ESTUDIO DE MERCADO PREVIO A LA INVERSION
- * IMPORTANCIA DE LA COMUNICACION ENTRE PRODUCTOR
E IMPORTADOR
- * INTERPRETACION Y UTILIZACION DE INFORMACION DE
MERCADO OFRECIDA POR EL USDA Y OTROS PUBLICADO-
RES

VIII **PRACTICAS Y ACTITUDES SUGERIDAS CON POTENCIAL DE
PROMOCION DEL COMERCIO "JOINT-VENTURE"**

ANNEX C

LIST OF COORDINATORS ASSISTING IN THE VISIT

Principal Coordinators:

Mr. John A. Gaffney, Product Manager, FEPROEXAAH

Lic. Richard P. Pell, General Manager, FEPROEXAAH

Lic. Rolando Pretto, Export Promotion Manager, FEPROEXAAH

Private Citizens Who Coordinated Meetings:

Mr. Fernando Villar, producer

Ms. Lucila Ynestroza, producer

Mr. Victor Manuel Pleytez M., agronomist

Donaldo and Dora Suazo, producers

ANNEX D

LIST OF ORGANIZATIONS VISITED AND PERSONS MET
WHO REQUESTED ADDITIONAL INFORMATION

Most of the following persons will be receiving additional technical information on cultural techniques from the author.

I. Producers Whose Farms Were Visited

<u>Producer</u>	<u>Locale</u>	<u>Cultivar(s)</u>	<u>Area Planted</u>
D. Suazo	Santa Cruz	Chrysanthemums	1/2 manz.
B. Plowden	Yojoa	Bird of Paradise	5 manz.
C. Lrenzana	Siguatepeque	Roses	1 manz.
J. William	Siguatepeque	Roses; Gladiola	N/A
A. de Agurcia	Comayagua	Anthuriums	N/A
B. Vasquez	Zambrano	Chrysanthemums; Roses	2 manz.
" "	Valle de Angeles	Chrysanthemums; Roses	N/A
C. Enriquez	La Brea (Lepat)	Bird of Paradise; Roses	2 manz.
Mariol	Uyuca	Chrysanthemums; Carnations	1 manz.
F. Salgado	Zamorano	Chrysanthemum	1/2 manz.
F. Villar	N/A	Gladiola; Roses; Anthuriums; Heliconia; Bird of Paradise; Ornithogalum	N/A

II. Small-scale Producers Whose Farms Were Not Visited

<u>Producer</u>	<u>Locale</u>	<u>Cultivars</u>	<u>Area Planted</u>
B. deErrasuri	Siguatepeque	Bird of Paradise	N/A
L. Ynestroza	N/A	Anthuriums	N/A
L. Aguilar	N/A	Gypsophilia	N/A
R.M. Larios	N/A	Gypsophilia	N/A
A. Hook	N/A	Gladiola	N/A

III. Private Contacts Made During Visit (Names/Addresses)

George Garcelon Witting
AID Coordinator
AID/Honduras
Tegucigalpa, Honduras

Jose Angel Alfonso
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Tegucigalpa, Honduras

J. M. Perez Asturias
Assistant Manager
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Tegucigalpa, Honduras
Tel. 53-02-31

Wadi Farach A.
Apdo. Postal 24
Tegucigalpa, Honduras
Tel. 22-92-79 (C)
72-07-11 (H)

Jose Edgardo Sorto
Floristeria Valle Flor
Frente Parque Finlay
Tegucigalpa, Honduras
Tel. 37-18-65

Gustavo Agurcia
c/o Nadina Lefebvre
Col. Palmira
2nda. Calle #2244
Tegucigalpa, Honduras
Tel: 32-24-45
(36-53-28 in Guate.)

Julio C. Castillo
General Manager
Azucarera Cantarranas
Edo. Banadesa
Comayaguela, Honduras
Tel. 31-08-56

Ing. Carlos Lorenzana
Honduflor
Edificio Los Castaños
Tegucigalpa, Honduras
Tel. 32-52-42 or
32-98-39

José Carmen Orellana M.
Siguatepeque, Honduras

Gary Ronald Urrutia
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Cnl. César Elvir Sierra
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Flower Logistics In The Eighties

INTRODUCTION

In 1981, the total world trade amounted to approximately \$two trillion. The value of agricultural world trade, second only to oil, was estimated to be \$300 billion (15 percent of the world trade). Logistics' costs are



Ir. H. de Boon

approximately 15 to 30 percent of the trade value. This translates to \$300 to \$600 billion on a world trade level, and \$45 to \$90 billion for agrolistics. Flower logistics is a part of agrolistics (logistics for agricultural products). This article describes logistics in the flower business, which is strongly influenced by a rapidly changing world.

WORLD FLOWER TRADE

Fresh cut-flowers constitute one of the most difficult agricultural products from the point of view of logistics. Modern communication, transportation, and cooling systems have made it possible for the floriculture business to become an internationally oriented multi-billion dollar business.

In each culture and country, one can find flowers playing a part in people's lives.

In the past, fresh cut-flowers were locally produced and consumed. However, the import/export balance of several countries for floriculture trade (Table 1) and the exports of Holland products (Table 2) indicate that local production/consumption has changed into one that is international.

Fresh cut-flowers are transported by road and air all over the world. Due to socioeconomic reasons and new technological developments, production locations and consumption areas are more and more separated. This increases

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Westland Flower Market
Dijkweg 66
Postbus 220
2670 AE Naaldwijk
Holland

Table 1. World flower import/export in U.S. dollars, 1987.

Holland	\$950,000,000.00
Colombia	\$175,000,000.00
Israel	\$150,000,000.00
Italy	\$150,000,000.00
Kenya	\$ 35,000,000.00
Brazil	\$ 30,000,000.00
Thailand	\$ 30,000,000.00

Table 2. Flower export of Holland products to various countries in U.S. dollars, 1987.

European Economic Community	\$900,000,000.00
Rest of Europe	\$120,000,000.00
Middle East	\$ 15,000,000.00
Far East	\$ 3,000,000.00
United States	\$ 30,000,000.00
South America	\$ 1,000,000.00
Oceania	\$ 500,000.00

logistics problems.

FLOWER CONSUMPTION

A key question is "why do people buy flowers?" The answer is given by cooperative advertising slogans such as, "Flowers like people," "Say it with flowers," or "Take a Friday flower with you." Who does not know Mother's, Valentine's, or Secretary's Day flowers and such?

Flowers are used from a range of expressing our feelings of love and affection to decorating our houses and offices. In a year's time, billions of fresh cut-flowers in a thousand varieties (e.g. roses, carnations, freesia, tulips, orchids, lilies, pompons, bird of paradise) find their way to the consumer by stem, bunch, bouquet, or arrangement.

On the world level, there are large differences per capita consumption. Consumption in The Netherlands, West Germany, and Switzerland is five times larger than in the United States, three times greater than in Great Britain, and twice as great as in France. The possibilities for future years are good, as "time" is to our advantage. What a challenge for the flower business!

In Alvin Toffler's famous book, "The Third Wave," the agricultural stage is the first wave, the industrial stage is the second, and the post-industrial stage is the third. According to Toffler, we are living in the end of the industrial stage. We are living in a world of terrorists, threat of war, monetary and energy crises,

dehumanization, automation, unemployment, family breakdowns, food shortages, de-churching, etc. In his book, he shows the third wave as a new civilization with new values, new ideologies, new life patterns, and new technology. I want to add another wave, which fits very well into his third wave -- "the green wave."

Is it not a sign that the growth rate of flower consumption was as high as the growth rate of the computer industry these last years? Is it not a reaction to the increasing urbanization, bureaucracy, and the grey color of life?

FLOWER DISTRIBUTION CHANNELS

Flowers are sold by several outlets in countries with high consumption. One of the outlets is the florist who specializes in arrangements for special occasions. Another outlet is the supermarket or mass marketer. Other sales outlets are cash and carries, garden centers, market florists, and gas stations. These outlets are supplied by several distribution channels. The shortest distribution channel is the channel from the local grower to local consumer. The longest distribution channel is the channel from producer -- exporter -- importer -- wholesaler -- retailer -- consumer.

The perishable character of fresh cut-flowers requires a distribution chain which is no longer than two days at most. A longer chain without refreshment of the flowers reduces the shelf life of the product to zero.

FLOWER PRODUCTION

Fresh cut-flowers in Western Europe are produced in ways that differ from those in Israel, Kenya, Colombia, and other countries. Heated greenhouses protect the crops against negative climatic conditions, increase productivity, reduce diseases, and improve quality. By multiplication in laboratories, virus-free plant material is produced through tissue culture and planted in computer controlled greenhouses.

Low wage and low energy

consuming countries can be a threat to the future of greenhouse production in Western Europe. Until now, production in Western Europe has remained competitive through technological innovation, specialization, mass production, and mass marketing. For several products, competition has become stronger where there is a large increase in production costs due to significant increases in energy prices. Optimum logistics is a key element for international competition in the flower business.

DUTCH AUCTION SYSTEM

One of the most competitive elements of the Dutch growers is their marketing system by the auction. The auction is a cooperative established and owned by growers. A grower has a plight to supply the auction. Each day 20 million stems supplied by 8,000 growers are sold to 5,000 buyers by a completely free market system, the well-known "Dutch Auction Clock." The pointer of the clock sets the price according to supply and demand. Produce from Israel, South Africa, Oceania, Thailand, and Colombia is also sold by the clock. The clock sets the prices on the world market. At 20 million stems a day, produced in 80 million square meters of greenhouse space (869 million square feet), the market flow is 50,000 cubic meters per day or one million containers. The size of the largest auctions are 300,000 and 200,000 square meters under one roof. These buildings are the largest one-roof buildings in the world. The sales of flowers by the clocks, the movement of goods, and the money flow, are completely computer controlled. The auction system is a computer controlled integrated "marketing-logistics-banking" system.

Thus far, this article has provided an insight relative to the floriculture industry. The remainder of the article will be directed toward a general view of logistics and the relationship between socioeconomic changes in the 80s and logistics. The last part of the article will provide some examples of flower logistics systems used today.

LOGISTICS IN GENERAL

Until 1970, logistics was a second

order item compared to production and marketing systems. In the 70s, logistics gained more attention due to factors such as specialization, channel thinking, total cost approach, modern transportation systems, new communication systems, intermodal synergy, and rationalizing. Several definitions of logistics are available. Logistics is a function; a process; a concept oriented toward the movement of goods, materials, and information from geographically separated sources and links, sellers and buyers, and suppliers and customers. Logistics is interconnected and interrelated with a number of components of the organization of a company.

Bowersox describes logistics as a process of planning, organizing, and controlling all necessary activities required for the strategic movement of elementary goods (semi-manufactured and finished articles of suppliers) between company facilities and to customers. Logistics, as a function, exists as several sub-functions which include transportation, inventory control, handling, packaging, forecasting, customer service, facility location, and order processing.

The aim of logistics is the realization of a system performance which is better than the sum of the sub-system performances. A special problem in non-vertically integrated logistics channels (loosely organized channels) is the control of power and conflict.

Rationalizing requires cooperation between channel members who are specialized in performing certain types of functions.

Logistics management should be sensitive to power and conflict situations and should be able to deal with resistance to change by negotiation, co-optation, manipulation, implicit and explicit forcing, education, communication, participation, and political behavior.

LOGISTICS IN A CHANGING WORLD

The decades of the 70s and 80s can be described as a period of discontinuities, heavy fluxes, etc. Energy shortages, high inflation, high capital costs, food surplus imbalances, labor humanization,

technological innovation, unemployment, and the third power are problems of today.

These socioeconomic factors have impact on the design and control of logistics systems. In the 80s, central items at the world level will be control of energy resources, reallocation of production facilities, changing economic power balance, high speed technological innovation, monetary problems, and threat of protectionism. Western Europe will face limited integration of the European Economic Community, inflation, unemployment, stagnation in population growth, high capital costs, changing relations with OPEC countries, increasing environmental concerns, changing work attitudes, more imports, high wages, high social securities, and decreasing consumer expenses.

These changes and developments influence logistics and cause increasing uncertainty on strategic decision making relative to production allocation, depot location, transport modes, storage systems, centralization or decentralization, automation, etc.

These factors also influence flower logistics. The future shape of the flower business depends especially on such factors as increasing energy costs, high capital costs and wages, imports from third world countries, and new technology.

STRATEGIC LOGISTICS MANAGEMENT

Strategy is setting goals, choosing positions, deciding on premises, and selecting targets. Strategy deals with choices, rational thoughts, ideas, feelings, developments, environmental systems, and future exploration. In the last 30 years, we have evolved from long-term planning (5 to 10 years) within a growth philosophy and strategic planning (relevant time span) within a decreasing growth philosophy to strategic management. Stagnation, uncertainty, conflicts, the socialization of the company, governmental influence, and the energy crises have made it necessary to change future thinking. Central themes in strategic management are a trend toward scenario building, the realization of conditions, the aim

of flexibility, a strong environmental orientation, more pressure for technological and social innovation, and also more attention to efficiency and productivity.

Logistics today fits this picture: the "system approach," "the total cost approach," "the intersystem synergy," and "channel thinking" are characterized by outside orientation, the replacement of system boundaries, and the search for optimal solutions under certain constraints.

CONTINGENCY LOGISTICS

There is no "one best way" of organizing logistics. Many logistics questions require decision making. Decisions must be made in such areas as centralization or decentralization of depots, mechanization or automation, warehouses, bulk or consumer packaging, road versus rail or air transportation, geographic or product organization of logistics, and line or staff responsibility of logistics.

Dealing with strategic and operational questions and making choices relative to today's logistic management depend on situational factors, the power and influence of the organization, and the power and influence of logistics in the organization. The fast changing social, economic, and technological environment requires flexible design systems. It is necessary to have a dynamic approach based on strategic scenarios. The "optimum" solution of today can be a bad solution for tomorrow. An inflexible distribution system, which acts like an oil tanker can be a threat for survival in the market.

LOGISTICAL, TECHNOLOGICAL, INFOLOGICAL, AND ORGANIZATIONAL INNOVATION

The most important developments which have shaped modern logistics and will change logistics tomorrow are the developments of the unit load and the chip. The integrated container, pallet, and standard carton, combined with microelectronic technology have had a great impact on the development of warehousing, material handling, and storage and transportation techniques. The computer provides opportunities of new control

systems at data, information, and process levels. New possibilities occur by standardization, intersystem, intermodal synergy, and integrated communication systems. New standards have entered logistics. Chips, data entry, multiprogramming, multiprocessing, time sharing, data bases, teleprocessing, and bar coding have become well-known elements. Control and control systems are the result of using new computer technology. High stacker cranes, driverless vehicles, and robots are show pieces of the power of microelectronics.

New technology supports the decision maker. Technology simplifies such tasks as material requirement planning, order processing, demand forecasting, inventory control, vehicle routing, and distribution system simulation (which uses the analysis of large amounts of data)

At retail level several developments will be available within a few years. Teleshopping and video-catalog selling will dramatically change consumer behavior.

Logistics is influenced by developments at the supply and demand side. This often occurs between production and market or market and production.

Economic, social, and technological developments influence production and marketing factors. Production factors include product design, level of automatization, machine tools, work procedures, production cycles and planning, and the extent of the production units. Marketing factors include sales units, product mix, packaging, and distribution.

Logistical, technological, and info logical innovation requires organizational innovation. The systems become large, complex, and capital intensive. The sub-systems are closely interconnected and require integration. Logistics is fit into the organization structure based on the character, extent, and complexity of the organization. More coordination mechanisms will be necessary to combine the efforts of staff and line management of different disciplines. Again, one has to deal

with a power balance in the organization.

Logistics management should recognize this power balance and control it in the sense that they are able to deal with it. The resistance to change is often based on loss of influence which results in political behavior, misunderstanding as a result of restricted overview, differences in taxation by lack of information, and a low change tolerance. A mix of training, participation, negotiation, manipulation, and co-optation is necessary to break the resistance to change. Restricted power balance control capacities of logistics management will result in a weak position in the organization or in the complexity of logistics channels.

The elements I have mentioned so far, in my opinion, influence logistics today.

KEY LOGISTICS ELEMENTS IN THE FLOWER BUSINESS

The main logistics variables are time, power of communication, and service. The perishable character of the product demands specific requirements on harvest stage, storage, transport mode, packaging, and cooling.

Standardization is necessary to make the many parts of the logistics chain as efficient as possible and to realize speed in distribution. Within 24 hours, each part of the world must be supplied with Dutch flowers via air or road. The distance between production and consumption, due to socioeconomic developments, is increasing which results in more need for logistical control. Logistical control is difficult because of lack of vertical integration in the distribution channels. The game of power in the chain between the several levels plays an important role in the development of logistical integration.

International concentration of supply and demand at the Dutch auctions results in a strong connection of marketing and logistics. Balancing market and logistical aspects is necessary to realize an optimum determination of prices by optimum service and lowest costs.

Communication by computers is a key element for further

integration optimization of the logistics channels. Infological and logistical rationalization has become possible by computers.

EXAMPLES OF FLOWER LOGISTICS SYSTEMS

The remainder of this article will include examples of flower logistics systems.

The first system (shown in Figure 1) is the supply of Israeli flowers to the Dutch auctions. Fresh cut-flowers from growers in Israel are sold by the Dutch auction clocks. A very sophisticated standardized logistics system is designed in order to auction the flowers 48 hours after cutting.

The second system (Figure 2) is to supply Dutch foliage plant growers products from Central America. Collected at production sites in Guatemala, Puerto Rico, Honduras, etc., plants are shipped in climate controlled containers by trucks, coasters, and large ocean container ships to Rotterdam and then loaded on trucks and transported to Dutch greenhouses.

The third system (Figure 3) shows the traditional distribution of Dutch potted plants from greenhouse to auction, to exporter/importer. Because the system was characterized by a tremendous amount of handling, a new unit-load system was developed with standardized cartons, rolling containers, and trucks. This system reduced handling tremendously and resulted in an integrated system with less logistics costs (Figure 4).

The fourth system (Figure 5) shows the network of purchasing and distribution of a Dutch exporter. He collects his flowers not only at the auction, but he also imports flowers from all over the world. After checking incoming goods, each product is repacked in its own quality oriented, standardized, non-returnable, customer-based carton; bar coded, precooled and sorted on distribution route; and put on a pallet, loaded, and transported by air or truck. This is a complicated, highly sophisticated system, providing service all over the world.

There are no distance obstacles today, only costs, air capacity, and tariff barriers.

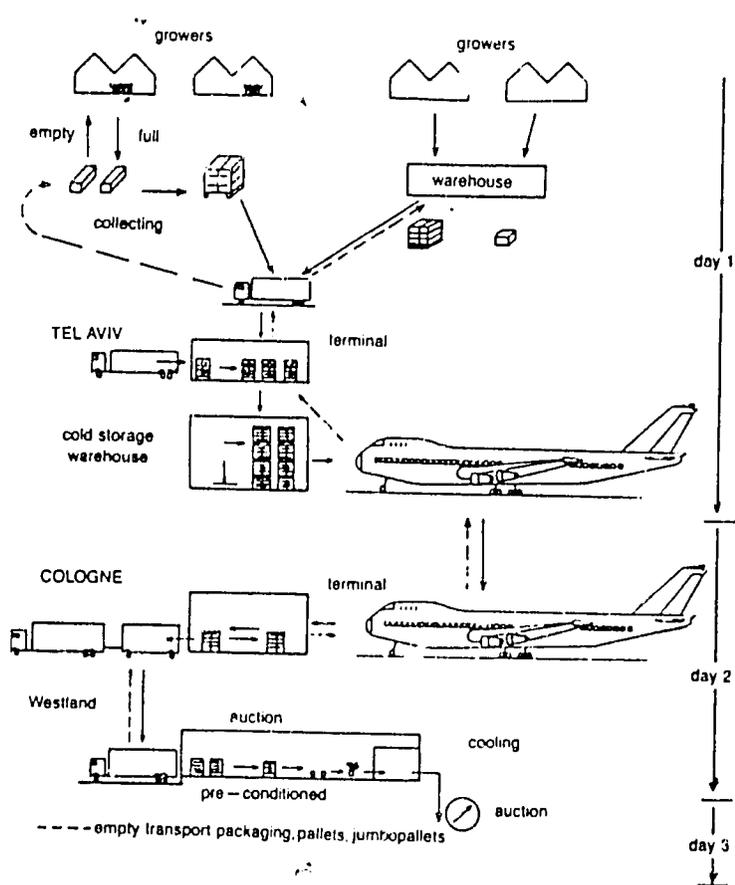
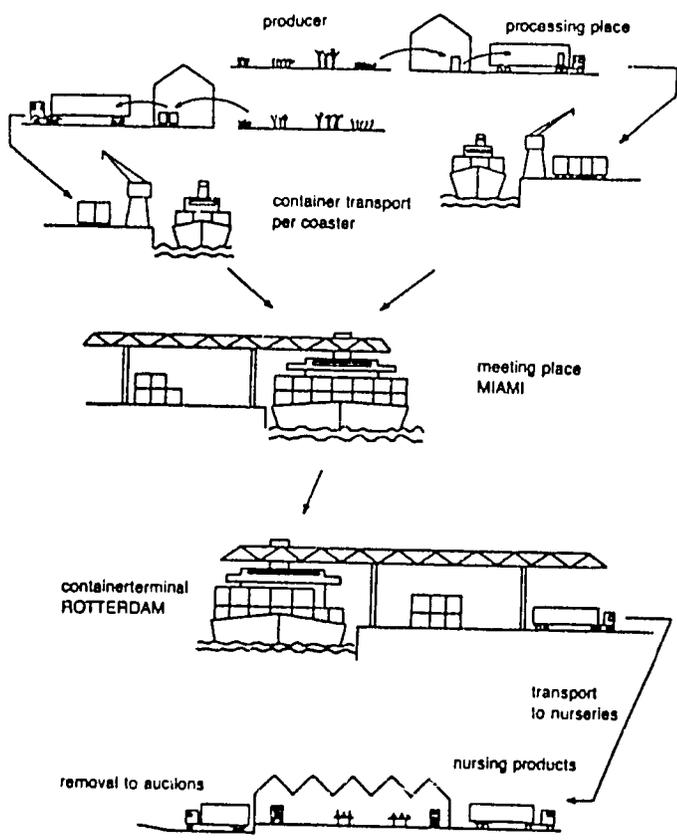


Figure 1. The delivery system of products from Israel to the Dutch auctions.



Foliage Plant System

Figure 2. The delivery of half-finished products from Central America.



ANNEX F

NOTICES RELATED TO
SECOND PHASE OF ASSIGNMENT

Apartado Postal 1831 - Tegucigalpa, D.C., Honduras, C.A. - Teléfono: 31-5237

TEGUCIGALPA, D. C. 13 DE SEPTIEMBRE 1988

Señor
PAUL DAUM

TE ADJUNTO COPIA DE LAS CARTAS QUE MANDE TANTO
A FEPROENAAH COMO AL A. I. D.

NOS HEMOS REUNIDO YA DOS VECES Y A TU REGRESO TENDRE
MUCHAS NOTICIAS PARA TI.

ATENTAMENTE,


LUCILA VNESTROZA

Arreglos Florales

Mantenimiento de
jardines

Venta de plantas

Venta de Maceteras

Cambio de plantas

Alquiler de plantas

Clínica

Decoraciones

Artesanías
de exportación

Venta
de Natural...

ASOCIACION COOPERATIVA DE FLORICULTORES Y AFINES LTDA.

Tegucigalpa, Honduras, C.A.

Tegucigalpa, D. C. Septiembre 10 de 1988

Lic. Ricardo Pell
Gerente, FEPROEXAAH
San Pedro Sula

Estimado Licenciado:

Adjunto a la presente la información requerida de algunos de los floricultores en el área central.

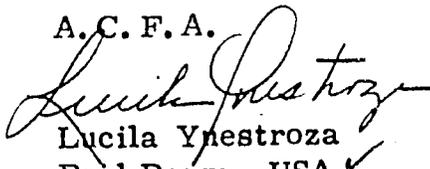
Como Ud. puede informarse, siempre existe una gran inquietud por acelerar la producción de este rubro para fines de exportación para lo cual estamos organizados en la Asociación Cooperativa de Floricultores y Afines Ltda. la cual está vigente y tiene su personería jurídica.

Por lo tanto por este medio solicitamos a esa Federación la cooperación necesaria en lo que asistencia técnica y financiera requerimos.

En la reunión a celebrarse mañana en Siguatepeque con la asistencia de los productores del área central como de la costa norte, estableceremos las estrategias a seguir para comenzar en una forma científica el cultivo de ornamentales y flores.

Esperando una respuesta positiva de parte de Uds. me suscribo atentamente,

A. C. F. A.



Lucila Ynestroza
Paul Daum, USA ✓
S. Rockman -A. I. D.
Arch.

ASOCIACION COOPERATIVA DE FLORICULTORES Y AFINES LTDA.

Tegucigalpa, Honduras, C.A.

<u>NOMBRE:</u>	<u>EXT. DE TERRENO</u>	<u>ALTURA</u>	<u>TRA BAJADORES</u>	<u>FLORES EN CULTIVO</u>
Bemilda Vásquez	9 Mzns.	5100 pies	17	Pompones Claveles Aves del Paraíso, Rosas Gypsophila.
Orlando Henríquez	80 Mzns.	5100 pies	16	Aves. del Paraíso, Rosas y Anthurium.
Wady Farach	10 Mzns.	4600 pies	8	Rosas.
Inversiones Rina (F. Villar)	60 Mzns.	5100 pies	32	Café - Gladíolas Anthrurn Stative Aves. Estrella de Belan.
SOL Y VERDE (L. Ynestroza)	15 Mzns	5100 pies	10	Rosas, Gerberas
San José del Mariol	20 Mzns.	5500 pies	15	Claveles Gerberas Rosas
Carlos Balladares	50 Mzns	2600 pies.	6	Rosas
Hondufloor	10 Mzns	4500	8	Rosas

Tegucigalpa, D.C. Septiembre 9 de 1988

Sr. Ricardo Pell
FLPROEXAAM
San Pedro Sula

Estimado Ingeniero:

Dándole seguimiento a la excelente reunión que tuvimos el 29 de Agosto en San Pedro Sula de los interesados en la producción de flores para la exportación, sirva la presente para informar que los días 6 y 7 de Septiembre he acompañado al Sr. PAUL DASH a hacer algunas visitas a ciertos productores de flores en esta área Central siendo la más importante la visita al Injudio Cantarranas en donde la Cooperativa de empleados está interesada en diversificar su producción sobretodo en ornamentales y flores.

Así como la visita a Mariol en la Uyuca, Zamorano cuya plantación urge de asistencia técnica ya que su inversión ha sido alta y son unos de los pocos que han arriesgado capital propio.

Concluimos con una reunión en las instalaciones de "Bosque Verde" con una asistencia de 19 personas cuya lista adjuntamos.- Como usted puede ver aún no hemos perdido el entusiasmo.

Tengo alrededor de 25 años de dedicarme a las flores y a las plantas, habiendo hecho de este trabajo una actividad. Desde los inicios de FLPROEXAAM participé como miembro activo de A.M.F.A.M. siendo actualmente su secretaria; mi constante preocupación ha sido la necesidad de impulsar la producción de estos rubros en esta área central ya que gozamos de excelentes microclimas, alturas y buenas tierras y considero que la labor que he hecho no se debe de dejar de tomar en cuenta ya que hay invertido además de experiencia una gran cantidad de tiempo.

Best Available Document

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Hoy me he informado del cierre de la Oficina de FEPRO aquí en Tegucigalpa y no queriendo dejar desperdiciado tanto esfuerzo, a través suyo le propongo a A.I.D. la posibilidad de que en mi Empresa SOL Y VERDE se tenga toda la información pertinente a ustedes y a Fhia para todas las organizaciones que quieren producir para exportar.

Tengo un local que tiene espacio suficiente para ese fin y es más accesible en el centro de Tegucigalpa.

Atentamente,

SOL Y VERDE

Lucila Ynestroza
LUCILA YNESTROZA

cc: Paul Barn ✓
Mr. S. Rockmann, A.I.D.
Arch.

SEPTIEMBRE 9, 1988 MEETING ATTENDEES

BEMILDA VELASQUEZ
EDGARDO SOPTO
ORLANDO FENRIQUEZ Y SRA.
FERNANDO VILLAR
NORMA DE CHAVERRIA
JOSE CORRALES
LEONEL ESPINAL
CARLOS LORENZANA Y SRA.
CARLOS VALLADARES
ALEX ERR
NORMA PAZ
LUCILA YNESTROZA
WADY FARACH
CHEMA MISELEN
LUIS AGUILAR
JOSE ANGEL BOBADILLA
FABIO SALGADO