A G R I C U L T U R A L E X P O R T P R O M O T I O N

1965 ACTIVITY REPORT

WALTER T. TATUM
Market Promotion Specialist

(USAID Contract No. 514-46-T)

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USAID/Colombia
Rural Development Division
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OUTLINE FINAL REPORT

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ANNUAL REPORT - 1965

WALTER T. TATUM - CONTRACT AGRICULTURAL EXPORT SPECIALIST

A. Background of Agricultural Export Activity in Colombia:

Starting in January, 1964 the contractor has since worked under the AID Agricultural Advisor, Crop Diversification to promote, stimulate and create greater activity in exporting products raw and processed from the agricultural sector of Colombia. By our efforts in helping growers, working with canners, divulging information to exporters and stirring up the thinking of GOC entities interested in this activity, a new "export mentality" not only has resulted but dollars have begun to flow back into the country, results of which appear in DANE statistics on exports.

We have sometimes had to go beyond the call of duty to get exports moving or start growing programs. Some of it even smacks of the Peace Corps. From the Guajira desert to Tumaco; from the far reaches of the Llanos to the banana zones of Uraba, we have had a hand in agricultural activity stimulation. Through it all, the contractor sincerely feels that thousands of new friends have been created towards the goals that the Alliance for Progress is reaching for.

From 1963 through 1965, minor exports (i.e. those other than coffee) have climbed 69.1% which is the highest increase in Colombia's history. It was hoped that minor exports would reach 100 million dollars in 1965 but "under-billing" of cattle caused a lowering of the expected figure. A steer in some instances would be billed at US$35. as the export price when we know that they were closer to $120.

1. Situation existing at start of contract to promote exports:

The contractor has had two years in which to plan, investigate, sort out, obtain worldwide data, arrange contracts and contacts between buyers and sellers, bring out the potentials by circulating bulletins within the GOC entities involved in this activity, create growing programs, answer thousands of letters of inquiry and act in areas where information heretofore was completely unavailable.

Our first year of efforts resulted in only $38,000. of additional exports compared with 1½ million dollars in 1965 generated by the initial impetus. At the start, the contractor was alone working out a sputtering hit or miss program on his own. There was no distinct GOC entity ready to take on a concentrated effort.

2. Attitude of businesses and institutions towards present exports:

When the dollar went as far as 20 for 1 and no controls existed, the contractor was flooded with requests for information. The Superintendent of Foreign Commerce's offices had a bustling business going. Everyone wanted to ride the bandwagon of large, easy profits by exporting low-priced products to gain the difference in the exchange. However, the government was in such dire needs to meet it's own budgets that they decided to establish 13.50 as the exchange rate.

Businessmen are not in accord that 13.50 is a fair rate. It has not been enough to create stimulated exports because it has been offset by rising costs. The contractor believes that if the rate should be raised to about 15, this would allow for greater volume of export business and greater returns to the GOC. Several institutions are making detailed studies of the rate situation for presentation to Congress. However, before they do this, they are rechecking with each other on preagreed figures to present.

Institutions directly involved with our AID efforts are the Institute of Technological Investigations and the Caja de Crédito Agrario. The I.I.T. group does the technical study work and investigations in depth. The Caja de Crédito Agrario is encouraging large scale plantings with a view to exports.

3. Situation of existing export opportunity information:

Thousands of letters in our files attest to the busy activity of the AID Agricultural Diversification office. With the excellent help of the AID Crops Advisors, past and present, the contractor has been able to obtain valuable information to transmit to private as well as GOC sectors. The capability and cooperative willingness of all of the members of AID's agricultural staff has

paved the way for the contractor to actively promote exports. Without these men the job could not have been accomplished. The contractor feels that the coordinated teamwork of the AID/RD makes him proud to be a small part of this group.

Under the new contract a whole, new effort will now be aimed at training Colombian counterparts as Export Managers or Export Promoters. The activity will be concentrated in the Bank of the Republic (BOR) in the form of a principal Information Center with satellite centers in 30 branch banks. We have been able in our previous work to store up a wealth of informative material and worldwide data to create the following:

a) Development of competitive export products.
b) Access to world markets.

It is hoped that once the BOR Information Centers are actively engaged in daily, complete, informative services to all sectors, both industrial and agricultural, that the planned Association of Exporters will automatically form a solid organization to carry on into actual dollar earnings. However, it will still be necessary for the contractor to depend on the AID/RD for technical agricultural help and guidance. Planning, growing, producing and final product development takes a great amount of skill and long experience when one is dealing with tropical products on which there is only very limited knowledge or scientific investigation.

The advantage that an experienced American Contractor has over those who are unfamiliar with foreign buying habits, merchandising, world demand trends and product presentation, is that he is able to clearly envision the whole flow of good from producer to the ultimate consumer. He can determine quality and influence buyers to seriously test marketing of new products. The mere fact that the contractor is working for a U.S. government entity such as AID, allows for a certain amount of confidence and integrity that would be difficult to attain when dealing directly with local exporters.

4. <u>Initial approaches taken and their results</u>:

The contractor was first motivated by the interest displayed by the GOC and National Coffee Federation to move

away from overproduction of coffee and diversify into other easier marketable products that could be produced under similiar climatic conditions as for coffee. Our immediate approach was towards the Fondo de Desarrollo de Caldas, Manizales under the dynamic administration of Dr. Hernan Uribe. Basic advice and information interchange with Dr. Uribe is now paying off. Pineapple, strawberry, ramie fiber, lulo, mint and citronella oil crops are all showing progress. We have also advised another group there, the Private Development Committee on how to grow asparagus and fejoa fruit.

On the coastal plains, the contractor attempted to entice American melon growers to form joint ventures. Difficulties arose that were not anticipated such as nut grass infestation and some fungus diseases. Surprisingly, the Charleston Grey watermelon stood up well under these conditions. Turning to Dr. Rafael Uribe U., head of crop promotion for the Caja de Crédito Agrario, we are now studying trials for cantaloupe and honeydews as well as a small spanish melon project at Cartagena. The contractor is extremely confident in this melon crop being a success that could lead into 2 million dollars of newly earned foreign exchange. It is recommended that ICA agronomists take an active part in this product jointly with the Caja de Crédito Agrario.

Fruco of (Corn Products Corporation of the United States) is now engaged in large scale plantings along the Magdalena River near Barranquilla to produce melons and tomatoes. We have advised them on buyers, packaging, U.S. grades, standards and marketability. In 90 days we will have more of the answers. Exportadora Panamericana of Cali shipped a trial load of tomatoes to Market America (their associates) in New York from Cali. Even with an unexpected 5-day delay in the Panama Canal, the New York buyers were highly enthusiastic with the product received (January 11, 1966), so that the exporters have asked us to find new markets for reliable weekly shipments. W. R. Grace & Co. is also highly active and interested in tomato development, both fresh and processed.

We believe that the tomato in a short time will open up the entire Atlantic coastal region and create millions of dollars in export earnings despite certain pessimism by some. Mexico shipped over 25 million dollars in fresh tomatoes alone during the U.S. scarce period. Colombia can participate in this off-season market in a short time once we break through the know-how barrier.

In 1964, we met with Indugan, Nieves of Puerto Rico, Carnes Colombiana, Conganado and interested cattlemen who felt that the time had arrived to attempt exporting frozen carcass beef to European markets. We contacted buyers in France for them. The Ministry of Agriculture cooperated fully, resulting in an ending figure of close to 15 million dollars in meat exports in 1965. This figure could reach 30 million dollars in 1966. The contractor also helped start meat exports to Peru via Air France twice weekly and helped find a market in Guadaloupe.

B. Current progress in exports and agricultural investments:

1. Schedule of new export products promoted under AID Agr./RD Crops Section Marketing Consultant Contract - 1965.

   List attached.

2. Table showing areas in the process of developing exportable agricultural products promoted under Contract planned for 1966:

   List attached.

3. Prospects for increasing agricultural exports through immediate and future development:

   The following is a list of prospects that need immediate or future investigation, research and development, but which present enormous potential. We have letters from buyers seeking these fresh products:

Avocados	Peppers
Cantaloupes	Pineapples
Coconuts	Plantains
Garlic	Summer Squash
Mangoes	Winter Squash
Okra	Watermelons
Cucumbers	Strawberries
Cucumbers for pickling	Blueberries
Eggplant	Cherry Tomatoes

In processed products buyers seek many new items not now exported:

Salted Cashews	Tamarind Kernel Powder
Brazil Nuts	Whole Strawberries in Cans
Aloe	Curuba Juice
Hawaiian Punch	Meat Tenderizer
Canned Meats	Biscuits
Tomato Paste	Lobster Tail Frozen
Candied Fruit Peel	Blackberry Concentrate
Vegetable Sponges	Frozen Berries
Tropical Fruit Powders	Canned Pineapple
Banana Puree	Ice Cream Flavors
Bakery Trade Items	Canned Tropical Fruits

All of the above need development. INCORA is taking the lead on several of these new products in their growing programs which we hope will pave the way for the local processors to compete worldwide.

The contractor recommends a monthly meeting with INCORA officials to obtain relevant information on the progress of the growing programs. One hour per month would guide us as to future planning towards exports. One of the most important functions that AID's R/D could accomplish would be to attempt to coordinate activities in the numerous agricultural institutions where there is at times a reluctancy to check one with the other, resulting in a duplication of efforts or complete stagnation of progress due to lack of how to proceed ahead with a given crop. Oftentimes they find out what the other is doing by reading about in the newspapers.

The prospects for Colombia with its varying climatic conditions are unsurpassable. More specific growing programs aimed at export markets are indispensable. Perhaps with the new BOR Information Center or the Export Association, GOC groups will be goaded into acting firmly taking on or promoting the growing and adaptation trials leading to quality export products.

We have elaborated a list, working on the following:

18 fresh natural fruits
24 processed fruits
24 fresh vegetables
9 processed vegetables
6 fish and shellfish products
10 spices
8 essential oils
2 classes of nuts
6 edible oils
9 medicinal plant products
14 classes of fresh cut flowers
15 miscellaneous items

Please see my study "Colombia's Diverse Crops Potential" dated November 1965.

4. Agricultural investments promoted by AID Marketing Consultant:

Active in enticing foreign investors to travel to Colombia and witness first-hand this wealth of opportunity, the consultant hopes that in 1966 some of the following firms will decide on investsments here:

a) Tillie Lewis Food Corp., Modesto, California - ½ million dollars in tomato paste processing equipment to be able to export a million dollars per year in paste. Consultant travelled to Barranquilla with the Tillie Lewis V. P. and the investment is now being studied. There is also a possibility of a joint venture pending. The problem is to find enough growers willing to produce tomatoes at a guaranteed fixed price.

b) Kinwood Corp., Brownsville, Texas - This firm has been working with the USDA, Weslaco, Texas to produce an avocado pulp (frozen guacamole salad dip) for the supermarket trade. Consultant travelled with Kinwood Pres. to Valledupar and is helping obtain data as well as a possible utilization of the Bavaria Brewery plant in Sta. Marta for processing the pulp from wild avocado trees. Could reach $300,000. in exports annually.

c) Marcel Calvet Corp., New York - Interested in banana puree. Contractor is negotiating with potential investors in Sta. Marta. Could reach $100,000. in annual exports.

d) John Dougherty, Washington, D.C. - Interested in yucca chips for animal feed. Correspondence being handled by contractor to obtain working data needed before a decision can be made. Could reach $250.000. in annual exports.

e) Petterson Company, Omaha, Nebraska - Interested in broiler chickens for local sales. Placed in contact with local group.

f) Cargill, Inc. (Tradax Internacional, S.A., Panama) - Interested in animal feeds, we have placed them in contact with Finca, S.A.

g) Talisman Sugar Corp., Orlando, Florida - Contractor attempting to connect with Azucarera Santa Cruz, Cartagena. Now studying lab sugar analysis and balance sheets.

h) Vesta Corp., Chicago, Illinois - Interested in meat packing; contractor has placed them in contact with local group for meat export.

i) Olivarria Corp., New York - Now contacting group in Planeta Rica for meat from Cartagena to European nations.

We expect that several other prospects will be on our list and investments accomplished as well as local plant expansions by the end of 1966. Having formed part of the U.S. Department of Commerce Investment Mission, two months were spent interviewing local agricultural and processing groups interested in finding an American partner. Several of these groups are now in direct negotiations.

The contractor recommends a repeat performance of the type of investment interviews as carried out by the Department of Commerce team. It was most encouraging to meet the hundreds of anxious Colombians who came forward needing technical and financial help from foreign firms, especially the U.S. "know-how". AID could easily

take on a similar investment interview program utilizing some of its present personnel; forwarding the data to AID, Washington and binding the detail work into the job carried on by the Private Development Committee in Bogota. This could have a tremendous impact if carefully organized by AID.

C. Recommendations for the future:

1. Newly planned Export Information Center with AID technical advisor and export marketing consultant cooperating with counterparts in the Bank of the Republic.

After initial conferences with BOR officials, UID, and PDC, arrangements are being made to form an Information Center for Exports within the confines of the bank and its 30 branch banks. This will be the new vehicle through which the contractor will work on the development of export products and their access to world markets. All information on potentials, products and markets gathered by the contractor since 1964 will be turned over to the new Information Center group. Teaching and training counterparts in how to promote and manipulate a continous export program which will become a part of the contractor's activities.

Mr. Stanley Ehrlich, UID, has drawn up some organization charts which we hope can be implanted with the aims of the BOR export policy as well as for GOC acceptance. Technical advisors will be made available on industrial products.

2. Dissemination of information on Colombian products in other countries:

Within the BOR efforts, we will help to contact consuls and commercial attaches in countries where Colombia is represented, once a determination of availability, price and quality is made. We will attempt to establish goals for a total increase of 100 million over present agricultural exports (excepting coffee) within the next ten years so that the working force within the BOR can set their sights on a far reaching development program.

Some of these goals will naturally not be met, but some will go beyond expectations if enough force is put into the program through follow-up by an Exporters Association. It will be necessary to change the goals from time to time to conform with world market changes, new products and tastes.

The main problem will be in creating enough local development to be able to compete worldwide. We are highly in favor of having GOC institutions directly related to growing and production play an important role in export development together with the BOR employees.

3. Interim Table of Organization:

Until the policies are agreed upon by the steering committee consisting of officials of the BOR, CPD and AID, only an interim table of organization is planned. It must be functional enough and flexible enough to be practical and within the scope of the ability of the persons handling the Information Center.

4. Recommendations to develop a "Project Agreement" document with the BOR describing what both parties agree to do and to provide.

It is anticipated that a project agreement between the BOR and USAID, providing agricultural export-consultant services to the BOR, will be developed after the BOR has set up an Export Information Service within it's organization.

New Export Products Promoted Under AID Agriculture
Crops Division Marketing Consultant Contract During 1965
(Products are distinct than new ones exported during 1964)

Product	Area	Extent Consultant's Efforts	Use	Cooperating Agency	U.S. Value	Private Exporters
1. Annatto Seed	Atlantic Coast	a) Discovered acceptable product b) Found buyer in U.S. c) Turned product over to three exporters d) Indicated packaging methods	Only acceptable product for coloring oleo-margarine	Caja Agraria	$60,000	Rolant Hughes Johnny's
2. Cinchona Bark	Huila	a) Depicted world shortage b) Investigated sources c) Interviewed Collectors d) Sent samples to U.S. e) Turned collectors over to exporters	Quinine Extract Quinine Water Medicinal	I.I.T. MinAgr. INCORA	pending	Exportadora Nacional Liquid Carbonic
3. Guava Candy	Boyaca Codazzi	a) Found buyers in U.S. b) Product development with I.I.T. labs	Candy for Cubans in U.S.	Caja Agraria I.I.T.	$32,000	Exportadora Nacional
4. Canned Fruit pulps	Atlantic Coast	a) General cooperation b) Indicated F&D Laws c) Tariff schedules checked d) Presentation of product	Juice Trade for Mixtures	INCORA	$48,000	Conservas California Fruco Constancia San Jorge
5. Fresh Tomatoes	Cali	a) Created original correspondence between buyers & grower producers	Fresh Market during scarce U.S. periods	Caja Agraria INCORA	$28,000	Fruco Export Panam

	Product	Area	Extent Consultant's Efforts	Use	Cooperating Agency	U.S. Value	Private Exporters
5.			b) Gave growing instructions for type, size, seed. Also shelf life and packing. c) U.S. Standards discussed d) Market potential discussed. e) Plant sanitation difficulties worked out.				
6.	Tara	Boyaca	a) Cooperated with U.S. importer b) Helped line up sources.	Supervisor Quality Tanning Agent	Caja Agraria	$90,000	Harshaw Chemical
7.	Candy	Bogota	a) Helped find buyers (new) b) Suggested improvements to product.	U.S. consumer	None	$475,000	Colombina Dulces Italo Colombiana
8.	Orchid Bulbs	Bogota	a) Discovered new sources b) Helped popularize collection c) Found buyers in Miami & Canada	U.S. Collectors	Caja Agraria	$ 38,000	Dr.H.Schmidt Ines Neuwirth
9.	Ipecac	Atlantic Coast	a) Established new plantings b) Found buyers in U.S. c) Discovered new regions	Medicinal	INCORA	$ 41,300	Hendell DuBose Honorio Vargas
10.	Chilled & Frozen Beef carcasses	Atlantic Coast	a) Gave original impetus b) Correspondence with Europe buyers c) General cooperation to push forward.	European Popular Market	Bco.de la República	$16,000,000	INDUGAN Carnes Colombianas

	Product	Area	Extent Consultant's Efforts	Use	Cooperating Agency	U.S. Value	Private Exporters
11.	Sugar Syrup	Cali	a) Located buyers in California b) General advice on shipping	Cattle feed	Asociación Azucarera	$400,000	Colombiana Mieles
12.	Animal Feed Cake	Bogota	a) Helped locate new buyers b) Suggested package improvement	Animal feed	MinAgr.	$300,000	Varios
					TOTAL.....	$ 17,546,600	

Areas in the Process of Developing Exportable Agricultural Products Promoted Under A.I.D. Agricultural Market Consultant Contract During - 1965

Product	Area	Cooperating GOC Agency	Estimated Number Producers Involved	U.S. Dollar Expected Export Value	Year return	A.I.D. Consultant's Efforts
Papaya	Atlantic Coast	INCORA	10	26,000	1966	Product Handling-Foreign Marketing
Plantains	Quindio	IIT-Cafeteros	2,000	320,000	1966	Advising coop in Quindio
Pineapples	Atlantic Coast	INCORA	200	500,000	1967	General Cooperation if requested
Melons	Magdalena	Caja Agraria	5	200,000	1966	All phases
Blackberries	High Altitudes	INCORA	50	130,000	1967	All phases being promoted
Tomatoes	Atlantic Coast	Caja Agraria	3	400,000	1966	U.S.Standards & Plant Quarantine information
Garlic	Boyaca	Caja Agraria	200	80,000	1966	Packaging-Market Potential
Tomato Paste	Atlantic Coast	Caja Agraria	350	600,000	1966	Investment in Colombia
Paprika	Magdalena	Caja Agraria	3	50,000	1966	Adaptation trials, Introduced seed.
Canned & Dry Mushrooms	Bogota	Private only	1	100,000	1966	Expansion started with new investors.
Shrimp	Buenaventura	MinAgr.	6	2,000,000 (import substitute)	1966	New Capital infection - coordination
Anise	Nariño	Caja Agraria	150	40,000	1966	Suggesting growing areas to Caja.
Fish Fillets	Atlantic Coast	Min.Agr.	20	150,000	1966	Pointing out sources
Datura Sanguinea	Andes	IIT	300	10,000	1966	Gaining interest. Direct contact.
Annatto	Coast	Caja Agraria	200	170,000	1966	Plantings started.Exporting.
Essential Oils	Coffee regions	Cafeteros	1,000	250,000	1967	New areas substituting coffee.

SPECIAL NOTE: With the creation of an Information Center in the Bank of the Republic and possible Association of Exporters in 1966 the above agricultural export promotion efforts will be transferred over to those groups. A.I.D. Consultant will act as advisor and counterpart to GOC "to have them do what he proposes them to do without doing it himself". We have had to go beyond the call of duty in many instances to get farmers to grow products with export potential. This has been one of the most time consuming parts of the consultant's job which it is hoped will now be transferred to GOC counterparts for continuing and permanent growth.

Agricultural Investment Promotion for 1966:

Agricultural Marketing Export Promotion Consultant for AID has been active during 1965 on enticing foreign investors to study the potentials of Colombian agriculture especially, processed foods for export. It is hoped that these promotions will blossom forth in 1966. However, due to the policy of having Institutions do this, from now on we will seek out a GOC group which can take over these functions.

EXAMPLE:

Company	Product	Expected Export Value	AID Consultant's Efforts to date
Tillie Lewis Food Corp.	Tomato Paste	$600,000	Accompanied investors growing area. Arranged purchase existing facility for Joint-Venture.
Kinwood Corp.	Frozen Avocado Pulp	300,000	Accompanied investor. Acting as liaison.
John Dougherty	Yucca Chips	250,000	Conducting correspondence on feasibility.
Marcel Calvet	Banana Puree	300,000	Conducting correspondence on investment.
Petterson Co.	Chickens	500,000	Beginning contacts made for ALALC trade.
Marco Chileno	Fish	1,000,000	Discussion at Bavaria. Show installations.
Cargill, Inc.	Animal Feed	Local	Now in contact with subsidiary
Patterson Shrimp	Lobsters	$ 100,000	Helping form company with locals.

HOW TO DEVELOP & SELL COLOMBIAN PRODUCTS BY STEPS

1. Decide on the product with the greatest potential and best area.

   Example: Lulo in Caldas; Corozo in Magdalena; Curuba in Antioquía; Guava in Atlántico; Pineapple in Santander; Papaya in Bolivar; Coconuts in San Andres and Plantains in El Choco.

2. Make a specific feasibility study on each product keeping in mind yearly climatic conditions, past experience, present production in the area, nearness to canneries and ports.

3. Recommend the product to INCORA and ILMA for final agreement as to acreage to be grown and marketability. Guarantee a price through canners or buyers.

4. Obtain seed from selected sources and distribute it with technical assistance on growing. Personal credit loans have been used very successfully in Caldas. Also distribute fertilizers, fungicides and insecticides on credit.

5. Pass out simple literature and bulletins on the particular crop. Have agronomists recheck progress with each grower at least once every two weeks and hand in written reports.

6. Work with processors on uniformity and quality. Establish contact with interested U.S. importers or processors and if possible have sample cases sent ahead.

7. Send personal salesman to U.S. who will locate the product at highest prices in the U.S. by carrying several cases of samples with him. Get Food & Drug acceptance. Sell only to U.S. processors.

8. Make effort to request U.S. tariffs be lowered on particular products to help underdeveloped country.

9. Allow tins to come into Colombia under the Plan Vallejo for exports.

10. Arrange Specific Commodity Rates with shipping lines or airlines.

11. Make final adjustments on prices, quantities, ordering periods and payments.

12. Show growers when to pick, how to pack. Arrange transport to canner or packer.

13. Invite Time, Newsweek, Fortune, Business Mgt., Food Trade Magazines to Colombia to do a reporting job. Pay their air ticket and hotel plus accompanying visit.

14. Send photos and news to U.S. newspapers. Have home economists and nutritionists give demonstrations at Good Housekeeping, Ladies Home Journal, etc. Offer to show on TV and through Osterizer shows.

15. Give local publicity to products being exported so that more farmers will grow.

THE MOVE AWAY FROM SUGAR

Diet conscious Americans are rapidly abandoning sugar in favor of sweeteners for foods and beverages. The race is on amongst the chemical manufacturers of saccharin and cyclamates. Pepsi, Coca, Canada Dry and Royal Crown have announced new soft drinks. Saccharine runs about $1.65 per lb. Japan is one of the largest exporters of saccharine.

Should the sweeteners gain further momentum, it could spell disaster for much of the new world production of sugar. Off beat flavors are coming out on the market also all over the U.S. using sweeteners.

Here is the opportunity for tropical fruits since the fruits in the U.S. are limited for this new gigantic market of 191.7 million americans.

CANS AND COMPETITION

Cost of importing raw material for cans and canning equipment is so high in Colombia, that the local canneries find it difficult to compete with other producing areas on exports of tropical fruits. This problem is being studied by AFA (Asociación de Fabricantes Alimenticias) and the government to permit entry of the raw material for can making, allowing re-export under the Plan Vallejo.

Until this problem is solved, Colombia will always be at a disadvantage to compete.

NOTES ON ECONOMIC BOTANY

Tomatoes

1. Tomatoes - most valuable vegetable crop grown for processing in U.S.

   a) Tomatoes - $125,426,000.
   b) Snap Beans 49,577,000.
   c) Peas 43,554,000.

2. More than twice as many tons of tomatoes (4,220,500) than sweet corn.

3. Important data on Fungi and Treatment of Tomatoes April-June 1963.

Spices

1. Malabar coast - home of Piper Nigrum and True Cardamom
   long pepper (Piper Longum)

2. Malaysia - cloves and nutmeg
   cassia (completes with Ceylon cinnamon)
   Falce Cardamom, ginger, turmeric

Rauvolfis Serpentina

1. Along lower elevations of the Himalaya associated predominantly with Bamboo forests. Found commonly in freshly deforested areas after burning. Up to 2,000 ft.

2. Almost exhausted in India due to indiscriminate collecting.

3. Ideal conditions for rauvolfia serpentina.

   a) soil - pH was acid 4.0.
   b) electrical conductivity was below 1 millo who/cc.

c) organic carbon 0.94% to 1.27%.
phosphorus and potassium being 21.6 to 54.6 lbs. per acre and 90 to 320 lb/resp. acre.

d) susceptible to root knot disease (nematodes).
e) climate - 51°F to 97°F.
f) rainfall - 23" to 161"
g) found in inclined soil profiles to insure good drainage.

Safflower

1. 230,000 acres in U.S.

2. High level of polyunsaturation as a food oil (linoleic acid) measured by iodine value.

Hyacinth Bean
(Dolichos lablab)

1. Resists drought, stays green during the dry season in Sao Paulo, Brazil, would be good for cattle areas in Bolivar.

2. Improves soil and is a cattle feed.

3. Best in warm climate. Needs water 2 or 3 months after sowing.

4. Can be used as a green manure.

5. Cattle put on weight during drought.

Above studies are included in April-June 1963 Ec.Botany.

Biology, Food & People

1. World Population figures:

1950	-	2,400 millions
1960		2,900 millions
1990		5,000 millions (estimate)

2. In 1952 world population increased at rate of 60,000/day.

3. In 1960 world population increased at rate of 134,000/day.

4. World is now fed by 12 species of plants.

   a) 3 cereals - rice, wheat, corn
   b) 2 sugarplants - sugar cane, sugar beets
   c) 3 root crops - potato, sweet potato and cassava.
   d) 2 legumes - common bean and soybean
   e) 2 tree crops - coconut and banana.

5. 50% of worlds people get 60% of their energy from rice.

A PAPAYA PRODUCTS INDUSTRY

A complete canning facility could be set up adjacent to a large Papaya Plantation for the elaboration of Papaya Products for export. The facility would best be suited on the Atlantic Coast for fast transport. Products would be elaborated according to U.S. standards and markets sought world-wide as well as a strong advertising program.

Growing would cover 500 hectares in the most ideal soils possible with irrigation canals running through the land.

Products

1. Fresh Papaya in Cool-Containers.....One 25 ton container weekly to U.S. One 25 ton container weekly to Europe.
2. Papain, crude
3. Pepsin
4. Pepsin Oil
5. Carpaina
6. Papaya Leaves
7. Candy, Pressed
8. Slabs
9. Powder, Instant
10. Cake Filling, Dried Sweet
11. Pulp for juices, concentrated.
12. Pie filling, spiced
13. Meat Tenderizer
14. Medicinal refined papain
15. Tablets for digestive
16. Skins for animal feed
17. Baby food

A TYPICAL FIELD DAY IN A.I.D. MARKET PROMOTION

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7A.M. and the jeep is ready to take me out to the fields to check on the agricultural potential of the island of Margarita and how it can fit into the export picture for more dollars for Colombia. The night before was spent planning today's trip with members of the Sociedad de Mejoras Públicas, Alcaldía Lion's Club, three private farmers and one Peace Corps Volunteer.

Six interested men crowd into the jeep and off we go after warming up with hot coffee at the corner store. I have my note-book ready to jot down any information that appears useful. I start picking at their imaginations about every conceivable potential item in the area. They all start thinking and it takes only a few minutes when they let loose with ideas on places, products, soil conditions, possibilities, plant life, fruits, trees, industry, etc. I try to verify and recheck each statement by cross questioning. We suddenly come upon a tree with huge spikes called Ceiba de Leche whose latex is supposed to kill fish. I call for a halt.

The tree is tapped by cutting deep into the bark with a machete. Some of the liquid is brought back and I place it in my ever-present cellophane bag rolled up in my pocket for gathering samples. These bags are saved by my wife when shirts come from the Laundry.

No time is wasted so on we go until we reach a Hobo Tree. "Hobo". What is that, I ask"? They chorus that it is the Hog Plum fruit, very tasty. Several minutes are spent discussing its possibilities, samples being taken. It is observed in large quantities all along the road. Hurriedly I scratch down notes while the jeep bumps to another stop.

"Here is the Mamoncillo", they say. Samples are again taken. Soon we arrive at an orange orchard and tramp through the field to where the trees are heavily laden. Questions are asked. All want to answer at once. Everyone is animated over the possibility of exporting these fruits to the U.S. My pen starts working double time. I even count the trees myself not trusting the rounded calculations that they give me. Seeing this they are careful to only give me precise data.

We cut the fruit, taste it, interchange ideas and criticize the quality. I explain about the need for color and sweetness in the international markets. It is decided the fruit are sweet enough and well-balanced in acid but lack color. We talk about fertilizers and minor elements. Credit seems to always pop up when expenditures are discussed. I throw the problem right back in their laps, "get it", I repeat. They stare at me, not being accustomed to such straight-forward talk. But then everyone breaks into a laugh, because they realize that they have not seriously tried to obtain credit from the banks.

Now we stop at a cattle ranch. One of the group owns 5,000 head of the finest tropical Cebu at this location. He is a German and proud of having drained the swamp; with excellent elephant grass growing head high. I observe that the borders of the ranch are not utilized for pasture and ask him how much of the land is wasted. He realizes that it is not bringing him any income but no one had ever said anything to him about it. "Why not orange trees all around the borders," I say. He does not reply but mulls it around in his thoughts. Soon he says, "Where can I get technical help"? I assure him immediately, that if he will purchase 5,000 grafted trees that I will find him an agronomist to care for them.

We stop at a campesino shack surrounded by a mixed group of orange, mango, guanabana (sour sop) and lemon trees. The family welcomes us and the trees are inspected. I let the other do the questioning. They find out that fifty nearby families have fruit trees, that almost all of the fruit is eaten locally and not utilized because too much falls to the ground during the harvest period. The hogs eat the mangoes because there are too many and not marketable. No care is given to the trees nor do they bother to plant more. The campesino has 20 orange trees, the fruit is well developed and tasty "No vale la pena", he says. There is no market for them.

Other campesinos are visited. The same story of no market is everywhere. The truckers offered them 2 pesos a sack last year (20c U.S. for 120 lbs.) but the sack alone cost one peso (10¢ U.S.). They did not sell.

Suddenly I spot a Sour Guava tree loaded with full ripe guavas. "Do you sell these", I ask the campesino. "Oh yes", he says pridefully "this I sell at good prices". "Then why not grow more"? I ask. "Takes too long", he answers. Everyone looks at each other in despair. No comments.

Back in the jeep, over back country roads and to a launch waiting for us to go up river...fruit trees, especially oranges everywhere....mangoes falling out over the river banks touching the water heavily laden with fruit that will soon fall and sink. We come to Pam Pam over the river bank; go into a small cove and jump from the launch.

The farmer comes out to meet us with his ten dogs yelping at our heels. We cut through a long row of poorly cared for orange trees and arrive at a large nursery. 40,000 grafted trees of a "criollo type" orange called Margarita ready for sale, packed in used cement bags for the price of 2.50 pesos (US$0.25) per tree. "Who buys these"? I ask. "They come from all over the country", replies the farmer, whose name is Candelario Martinez.

He invites us for a much needed coffee and we talk "oranges" for a full hour.

"When was the last time agronomists were here from INCORA, ILMA, IIT., Ministry of Agriculture or FAO"?, I ask.

"Three years ago when a Frenchman came here on a fruit report he was making for I.I.T.", was the answer. Samples were tasted for the oranges. Half a glass of juice was aqueezed from one orange. As earlier in the day, It lacked color only. The fruit was healthy and sound. All it needed was some element to help give it color. "How many oranges are there on the Island of Margarita and the surrounding"? I inquired.

Martinez looks at me and says quietly "about 40,000". This confirmed the statement made earlier by the entire group.

"How many fruit per tree are available at harvest time"? I further question

"Three to five thousand oranges per tree", he answered. The figures sound high so I jot down 30,000 bearing trees of 3,000 oranges each, taking a low conservative figure of 90 million oranges. Then I deduct 30 million for local needs and calculate an export potential of 60 million.

Back in the launch, the river is cool and we head for a pineapple plantation at El Peñon. All of this fruit is sold at low prices to Barranquilla, taking 20 hours to arrive there by the Magdalena River.

It is getting late and the rain is cold, so we head back downstream to another orange grove owned by a doctor. This is beautifully cared for, well fertilized and has the best fruit although still the same Margarita variety, proving what a little attention will do to produce quality.

Corozo palms are spotted everywhere and the interest of the group is turned to gathering the fruit that we have named "Plum Palm". Nisperos also are highly desired there. Samples are washed and placed in my trusty cellophane bags.

By 3 PM we reach Mompos half starved and have lunch. Everyone of the group now feels part of "Operation Fruit Export". We change from our muddy, wet clothes and a town meeting of the town fathers is called at the local hostelry. Everyone wants to hear what the "gringo" is going to say. In half an hour thirty men show up and the meeting is in full swing.

Using the system of local pride and great potential, I expound on what they should do; how they should do it. Questions are put to many of those present. Everyone becomes interested in telling their part of the problems facing the region. But finally they all agree to form a giant cooperative and plan a system of credit for fertilizers if the bank will cooperate. I promise to tell INCORA or whoever will listen, but in my heart I feel sad knowing that nothing will be done.

So ends the day.

A TYPICAL OFFICE DAY IN A.I.D. MARKET PROMOTION IN BOGOTA

8 A.M.	Shuffle papers and plan day's schedule. Make new notes.
8:15	Pass letters written at home to the secretary.
.	Check on technical data from large source in A.I.D. Agricultural Diversification Library.
8:30	Start calls to pending items from day before. Appointments. Finish most urgent letters to U.S. firms inquiring on tropical products.
9:00	Private entrepreneur arrives to ask about Lemon, Lemon juice preparation and export potential. Another man on Avocado Oil.
9:30	Man wants to start making Potato Flakes. Technical data shown. Ideas exchange on Drum Drying, packaging, public acceptance.
10:00	Man arrives with news on Cashew Nuts from the Llanos. Ideas exchanged.
10:30	Man wants to know-how he can export Cut Flowers. Information given.
11:00	Talk to Pepsi-Cola on fruit concentrates for new diversification plan.
11:15	Write a confirming letter to Pepsi International on Colombian potential.
11:30	Advise a Peace Corps Volunteer on how to grow Mint in Huila and other products.
12 Noon	Talk to man interested in exporting birds and monkeys.

P.M.

12:30	Study technical magazines and morning mail.
2:00	Visit Esso Colombiana (Inversiones) on Caña Guadua and Takay Nut.
3:00	Visit Liquid Carbonic Corp. on new extracts and flavors for export.
3:30	Speak to man interested in Babassu Coconut Granules for oil well drilling and for activated charcoal in cigarette filters.
4:00	Write letters that are pending on Plum Palm, Wild Cherry, Oranges, Lulo, Berries. Send Verifax copies to canners for export markets.
5:00	Speak to manufacturer interested in exporting Wooden Salad Bowls made out of Guayacan Wood. Explain markets and merchandising.
5:30	Clean up day's mail and plan schedule for following day.
6:00 to 6:30	Go home??

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In a single day A.I.D. crop diversification has received as many as 10 visitors discussing evernthing in the realm of agriculture. Drs. Haynes and Olea have been seen handling three different people at a time on such broad subjects as fertilizers; diseases; crops to grow; seed; planting material; oil bearing nuts; staple crops; credit sources; acreage production; acreage planning for higher yields; select areas for specific crops; costs of farming; feasibility of a product; chemurgy; markets; people utilization; explanations on scientific potentials; machinery and product development.

The door of their crops office is never closed. They have never been seen to be too busy to give full and undivided advice on any agricultural subject besides handling their routine jobs. It is indeed a pleasant experience to have worked under such agreeable conditions. People walk out of

their office singing the praises of the excellent information that they have obtained from the "Gobierno Norteamericano".

REGIONS OF COLOMBIA WHERE INCREASED PLANTINGS SHOULD BE STIMULATED

Under the scope of this contract, A.I.D. was most helpful in facilitating my trips to the most important agricultural areas for "on the spot" study of marketing potentials with the view in mind for the stimulation of exports. I have proven that markets exist for the products, under study with names and addresses of foreign buyers including their desire expressed in hundreds of letters through an exchange of correspondence. Many copies of these letters were circulated to interested exporters and growers to create confidence in the fact that waiting markets really do exists. Quality and price are the two biggest factors to be coped with. It was found that many exporters and farmers have no idea of standards of quality necessary for competing in International Trade. A lack of knowledge and antipathy towards the ample application of insecticides and fertilizers was also found. I tried to point out wherever I travelled of the need to improve quality, flavor and appearance through these applications which were the secret of success in the United States improving its agriculture.

AREAS VISITED

Sibundoy

Ideal for mint and ramie development on a much larger scale than at present. Mint growing is being studied by the Corporación Financiera de Nariño at our insistence.

Menthol is consumed in large quantities in Colombia and here is the opportunity to eliminate needlessly spent dollars. The barbless black raspberry could also be grown at Sibundoy. I noted that papayuela does exceptionally well there. The Yellow tree tomato and lulo were found here being harvested from wild or poorly cultivated stands by the Sibundoy Indians.

We have recommended draining the peat bog for improving agriculture by dynamiting the run-off of the Putumayo River nearby. See Schedule C. attached -letter to Corporación Financiera de Nariño and Schedule D, their answer.

Pasto

Much work has been done by Agricultural Diversification, A.I.D. to create enthusiasm with the Agricultural College in Pasto. This is a truly potential region for diverse crops. I feel that the strawberry and blackberry would do well in this semi-dry, cool climate. Since they are high value crops, airplane rates are secondary. Seed propagation should also be stimulated to produce varieties especially adaptable to Colombian climates and to form a source of income for farm families. Schedule D. brings out the results of our trip there.

NOTE: This report does not deal with potatoes, oats, wheat barley, or similar staple crops which have no bearing on Colombia's potential to earn dollars or as an import substitute. We do however, mention in this study the need for potato storage, dehydrated mashed potatoes using atmospheric single drum dryers, malted milk powder from malt extract and similar by-products which are derived from the staple crops.

Tuquerres - Ipiales

More garlic could be produced in these areas having such rich soil as well as onions from which dehydrated by-products and flakes having an export market could be made.

Piedrancha

This small village in Nariño had an abundance of passion fruit that surprised us because of its healthy condition and freedom from insect attacks. Here we found the purple curuba with its sweet, acid flavor needed for ice creams flavors; the granadilla which went well when mixed with guanabana at the I.I.T. lab, the baby banana in which we feel development should be done and several other varieties.

The town fathers were called together and we had an informal chat with them regarding the possibility of developing a local fruit concentrating industry. The reasons were clear:

1. Take advantage of an overabundance of fruit when the crop arrives by creating a local product.

2. Eliminate the necessity to ship bulky fruit of low unit value containing water and paying high truck fees.

3. Establish an extra source of income for the village.

This particular town set us off on a search for the answer to Rural Development by processing in an area far distant from markets. We canvassed all of the food technologists in the best U.S. universities. Most of them suggested jams, jellies, home canning and syrup concentrates. The responses were encouraging but missed the point on creating a new approach to rural food preservation. Dr. Carlos Mueller of I.I.T. felt that simply pulping and freezing would be the best method to handle these fruits, at the same time assuring a uniform product with no flavor loss. I am inclined to agree with him.

Electric power then becomes an important factor. It aroused our curiosity as to why Colombians do not use the old-fashion millwheel in many of these regions where rapid rivers exist for cheap electrical power and a source that never fails. Or where enough fall is available through utilization of more modern style Pelton wheel which have unusual efficiency in power production.

Recently I have been giving much thought to brine solutions of preservation. But again I am stymied by the cost of trucking a heavy product. I.I.T. has agreed to help me on this point. Our plan is to freeze fruit pulp free of seed and skin into hard blocks of ice at very low temperatures to determine length of time before melting. These blocks pack easily in wrapped containers should withstand a trip of over six hours to a receiving center such as is done with exported shrimp.

Liquid Carbonic Corporation and Bavaria have agreed to cooperate in receiving frozen fruit juices. My approach to this situation of fruit preparation in rural areas, is to create such a great demand by large quantity exporting, that the local processors would seek means to obtain more raw material at any cost. The processors would have to move out into these distant areas and plead for more.

Tumaco And the Pacific Slope

On the way down the Cordillera Occidental from Piedrancha one gets the feeling of complete abandonment of lands that could easily be turned to beneficial crops for export. With a well-kept road and good port lying ahead there is no reason why these lands should be in a totally wild condition.

The pineapple could do well at these low altitudes under 1,000 meters. The rainfall is heavy; the thick forest stands have laid down a rich vegetation yet little has been done to take advantage of these conditions. Oranges, avocados and papaya would also do well there. The reason that these lands have not been utilized has been a lack of markets and a fair sized number of small "minifundio" landholders. The people are poor, so only meagre staple crops are grown such as platano and yuca.

If INCORA steps in, I feel that they will be big enough to realize the value of concentrating on this region for export crops and support the farmers until the first harvests arrive.

Lumber and logs are hewn from stands close to the highway. The U.S. lumber company at Tumaco works day and night on virola wood used for moldings which is sold to U.S. Plywood Corp. IFA continues to plant more African Palm and Coconut to help catch up on edible oil shortages. At the rate they are advancing Colombia should have no shortage within eight years.

The only sour note was the Japanese farm which is cutting out its banana plantings in favor of cacao because they could not afford to keep combatting the Sigatoka disease. The Hda. Escocia plantings nearby are in good condition due to constant spraying, but can produce only a few thousand stems per week, not enough for a ship to bother within.

The land is appropriate for bananas and plantains but long time will pass before this type of plantings are renewed. More lumber companies should be encouraged to invest in Tumaco and exploit other hardwoods as well as only the virola. Virola grows only in a boundary of 4° North and 4° South of the Equator in a belt around the world. Chipboard was not being made but should be promoted.

The only way that this area will ever have success is to have U.S. and European investors come in with their forced operations on a large scale. Several Colombians are growing appreciable acreages of African Palm there.

We visited the sardine cannery at Tumaco where they had been working all night to can a particularly heavy catch. The Manager told me that their main problem was enough good fishing boats and equipment. The fish are there but the gear is inadequate. This could be a source of great wealth for Colombia. Shrimp can be had in commercial quantities.

Everything in the Tumaco area is waiting development. Time will take it in stride and when it does, it may well be one of the richest areas. The Port should be dredged and kept open at all times. Labor is cheap so that American investors could make huge profits there with little effort.

Cauassu plants (bihao) are numerous along the river deltas. A wax factory could be established at little cost. The ginger flower could be gathered and distilled into a soap essence. IFA could start oriental spice plantings that would be ready by 1970 for export. Cacao and rubber would do very well. The avocado should be extended.

Tumaco is one of the sleeping giants of Colombia's future.

How Would the Pacific Coast Region Extending From The Ecuadorean Border All The Way to Panama Be Developed?

The answer is through Investment Promotion. Mr. Jacques Heller of the Comité Privado de Desarrollo has been working on this phase through A.I.D. U.S. corporation executives should be invited to fly down -all expenses paid- as guests of the Colombian government to inspect these lands. Planes should be made available with trained men to point out the advantages.

1. Tuna and Ocean Fish. Japanese Fishing Companies.

2. Shrimp - U.S. & Colombian Joint Venture Groups (Florida).

3. Lobster - U.S. & Colombian Joint Venture Groups (N.Y. & Florida).

4. Fish Meal - Colombian - Japanese Groups.

5. Lumber - U.S. Lumber Corporations (concessions).

6. Rubber - U.S. Corporations (Goodyear, Firestone, etc.)

7. Cacao - Hershey and Nestle's.

8. Cauassu - Johnson's Wax and Simoniz Corp.

9. Bananas - United Fruit & Standard Fruit - Japanese.

10. Plantains - United Fruit & Standard Fruit - Japanese.

11. Medicinal Plants - S. B. Penick.

12. Cattle - Banco Ganadero.

Leticia-Putumayo

This area was not visited under this contract due to its long distance from markets. However, should any development plans take effect, it would immediately become an important export area using the Amazon River.

Cost of road construction in these jungles is estimated at one million pesos per kilometer because of the lack of solid bases and the rolling terrain. At present the Texas Petroleum Company is using helicopters in its oil concessions at Puerto Asis. Should the oil prove "fully" a pipeline will be built over the mountains and into Cali.

Cali-Palmira (El Valle)

This area is well-known to me having visited it many times during my years in Colombia. The tea farms at Bitaco are now producing a good grade of orange tea that in a few years will be offered on ALALC markets. The sugar cane growing will saturate the local market by 1966 to such an extent that sugar by-products will become an important factor. More effort will be placed on export of sugar and its use in other industries such as confectionery, syrups, rum and canned fruits.

With Fruco forcing greater production on all fronts and its new interest in exporting canned food products, agriculture in the Cali area is progressing at a faster rate than most people realize. Their problem has been to raise papaya in El Valle on a commercial basis. The virus (mosaic disease) has not been eliminated. Good applications of Nemagon and a constant fumigation program should hold the nematodes and fruit flies down. I called this "Preventive Protection" in agriculture.

The region is a natural for pineapple along the barren hillsides; lulo and tea at Bitaco; oranges in the valley and corn oil to supply ALALC countries. Guava production is low but with the Fruco plant close by this is an excellent crop.

A hard, oil producing nut was shown to us by a Canadian living in El Valle. He is now offering the oil in Canada. Takay nuts are also grown, but I have no information as to the exact location.

Medellin

Two visits to Medellin were made for the purposes of developing export markets for flowers and fruits. Accomplishments were:

1. Stimulation to put on a Flower Show and exports.

2. Formation of an Orchid Society and Flower Growers.

3. Connect Khalil Choucair on Banana Drying equipment for flour.

4. Export of Concentrated Curuba Juice from Frugal to U.S.

5. Observation of exportable agricultural products with potential.

6. Wooden products made by Dr.Botero's coop for export.

7. Fertilizer plans between Botero and International Mining.

The area is a natural source for tropical fruits of good quality. Closer cooperation should exist with Antioqueño finance groups to help the small landholders and develop products with export potential such as is done in Caldas.

Sample of the curuba is being tested by Bressler Industries for Ice Cream. Orchids are being shipped by the Ospina group and soon will spread to cut flowers.

Island of Margarita

Three days were spent studying the Orange, Pineapple, Plum Palm, Sour Guava. Hobo (Hog Plum), Mamoncillo and other export dollar earners. The area is a natural growing grounds for plantain and banana exports as well as for orange and plum palm. Attention should be focused on the major city, Mompos, as a collecting center for these fruits. Good farm labor is available and river transport makes a low cost outlet to foreign markets. I was well-impressed with the progressive attitude of the town leaders to improve farming conditions on the Island, heartily recommending it for bananas and plantains. This could be studied with INCORA and Banana Distributors, United Fruit or Standard Fruit.

Orange trees would need fertilizer and minor elements that could be distributed on some kind of credit basis. The Banco Popular in Mompos was interested in this.

Plum Palm will be worked out with Bavaria for purchasing the fruit there and shipping it to their Barranquilla plant.

Barranquilla & Atlántico

Barranquilla with its extreme dry climate in December, January and February has ideal conditions for growing melons, tomatoes, cucumbers, peppers, oranges and mangoes. Mango paste, mangoes in brine and mango pulp are becoming more important as is Guava. Atlántico fits into these plans. We presented the idea of establishing a "vivero" there for fruit trees but the plan has been slowed down for some reason.

The Corporación Financiera del Norte and the Chamber of Commerce of Barranquilla are very interested in agricultural development and at present are cooperating with W. R. Grace's factory

called Conservas California. The new factory will be able to handle several tons more of fruit daily with export being one of its main objectives. Seed and technical help are distributed to the campesinos by California; prices are prearranged and collection made in their own trucks.

With INCORA irrigating several thousand new hectares of formerly dry land, Atlántico will open up its southern area to new and technically administrated products. Cashew and Mango will be grown on a large scale as well as Papaya, Pineapple and Oranges. Our intention is to bring U.S. farmers into the picture in 1966 on some of the faster growing crops for winter export. For example, Mexico ships almost 2 million dollars in Fresh Peppers to the U.S. Colombia could also participate in this market. Italy ships almost 4 million dollars in Tomato Paste that could be processed in conjunction with a tomato growing plan on the Atlantic Coast using the paste producing varieties. Almost 3 million dollars is shipped to the U.S. from several countries in Paprika, ground and unground. Atlántico offers an ideal climate for paprika production.

Peanuts can be an important crop in Atlántico. New, cheap harvesting equipment and shelling equipment are available to bring into the country. Several hundred tons of peanuts would help improve the diet, reduce edible oil needs and be available to export for dollar returns.

Valledupar -- Sierra Nevada

The region is mostly in cotton plantings but could diversify into seasonal cash crops such as melons, cucumbers during the export season. On the upper levels of the foothills leading up into the Sierra Nevada Range pineapple would have a good opportunity for growth. The mountains further up are prolific producers of all fruit crops. Lulo would do especially well as would Curuba. More avocado production is recommendable. Strawberries that could be flown out of Valledupar would go well in places like Pueblo Bello and above. The experiment station of the Cafeteros del Magdalena is conducting excellent breeding program on rabbits and has good nurseries established for other crops. This should be expanded and encouraged to grow items that have export markets because of its proximity to Venezuela. A specific study would be needed to determine logical crops for pin-pointed locations.

Guava can be grown along the Cesar River edge. Safflower would prosper there as would a good sized peanut crop.

Sevilla-Aracataca-Patuca

The first Colombian export program for melons will be tried at Patuca in a Joint Venture promoted by A.I.D. African Palm is replacing bananas. Teack Wood should be grown along the edges of the roads to provide an income in future years when sudden cash is needed. Wind storms cause heavy damage so that only strong trees are recommended. Date Palm plantings might do well there. More wind breaks could be established by planting "mata-raton" fences.

The area is excellent for Mangoes and Cashew. Guava might do well and Níspero should be planted. Guanabana could be planted out of the wind belt. Kadzu growing between the banana trees is an excellent cattle feed. Much of the area is returning to cattle. Transportation facilities make it ideal for animals and heavy agricultural products.

Guajira & Dibulla

Olive trees are recommended. Mid-summer honeydew melon growing would be ideal in these regions providing that U.S. tariffs are lowered. But Europe presents a good market that could be reached from Maracaibo. Tomatoes, cucumbers for pickles, squash, cantaloupe, watermelon and safflower could be produced near the Ranchería River. Dibulla could go heavy on grape growing, corozo, citrus, potatoes in the upper regions for the coastal markets, cattle, wild cherry, coconuts along the water-front and sugar cane (2 million pesos in cane planted there by A. Pumarejo for panela). Plantains closer to into the mountains would receive the needed moisture. Avocados should be grown in areas of access.

If the road goes into Santa Marta, a whole new agricultural region will be available close to the port for exports. Roads will automatically open up into the higher altitudes of virgin forests. Great potential lies along this coastal strip of the Sierra Nevada.

Forecasts, Predictions and Crystal Ball Gazing

No one can estimate with accuracy what will happen to the world export markets even from one year to the next. So many factors are involved that influence products and exercise forces to change the whole picture.

However, we cannot afford to be pessimists and sit back awaiting for things to happen. Quality always sells. Quality comes from trial and error, planning and experienced technical application. We must look ahead and plan. Countries will always export. There always have to be buyers for these consumer goods. A tropical country possessing the wide variations of land as in Colombia is in a fortunate position for these future markets.

I have attempted to bring out present potentials and their dollar values to form a basis of planning for these future markets. Without a projection into the future, agriculture and industry cannot hope to progress.

Some Tropical Woods Exploited in the Upper Amazon Basin

1. Spanish cedar - fine furniture, interior trim, cigar boxes.
2. Rosewood - pianos and cabinet work.
3. Virola - molding.
4. Dialyanthera - molding.
5. Balsawood - pulp and cellulose.
6. Rubber tree - rubber.
7. Chicle - chicle.
8. 200 Species of Palms in Colombia.

   a) Bacaba (Oenocarpus bacaba Mart.) -oil like olive oil.

9. Carnauba - wax.

   Qouricury - palm kernel oil, industrial wax

10. Feather leafed palm of Colombia - wax on the trunk for candles, matches.
11. Locust bean (Hymenaea courbaril L.) - gum resin (copal) for varnish. - Stein Hall & Co. is interested in importing this.
12. Copaiba - oleoresin used for varnish and medicine.
13. Quebracho - tannin.
14. Castenheiro - Brazil nut. 60-70% oil. Olive oil substitute.
15. Tonka-bean tree (Coumarouna odorata Aubl.) - near the Cauca River, - Ven.-cumarin for tobacco flavoring, cocoa, confection.
16. Cinchona (foothills) - medicinal.
17. Ipecac - alkaloid "emetin" for amoebic dysentery.
18. Curare - Heart operations.
19. Lonchocarpus nicou D.C. (barbasco, cubé)- fish poison, insecticide.

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The 10 Most Important Economic Phases Needing Development in Colombian Agriculture

In Order of Importance to the National Economy

Goals to Acheive by 1970 & 1974

LONG TERM

1. Cattle - Build up a total head population of 20 million cattle - 1970.

   a) Improved breeds
   b) Improved pasture
   c) Stop contraband

2. Bananas - Keep to the INCORA plan for 490 thousand tons for export by 1970, which will be close to 40 million dollars.

3. Tropical Fruits & Vegetables - Create modern growing methods to produce low cost, high quality, competitive fresh products for 16 million dollars in exports by 1970 through Joint-Venture promotion.

4. Processed Agricultural Products - Export 9 million dollars by 1970.

5. Ocean Seafoods - Develop industry for large fleets to exploit Colombian waters for 8 million dollars exports by 1970.

6. Hardwood logs & Lumber - Higher development of the lumber industry to produce 3 million dollars in exports by 1970.

7. Reforestation - Replanting of all harvested areas with selected single species stands to retain or improve natural resource value.

8. Rubber - Growing plan to supply local needs eliminating 10 million in imports by the end of 1974. 7 years for first tapping.

9. Cocoa - Eliminate imports of from 5 to 7 million dollars by the end of 10 years.

10. Diverse Tropical Oil, Spices, New Products - Endowment development over the next 10 years.

Total Value of Development by 1974 - 550 to 600 million dollars.

Fresh Foods
Permitted Imports to United States

USDA Plant Quarantine has a list of permitted items that can be imported as fresh items from Colombia:

All Ports:	Allium	Lemon
	Asparagus	Lime (sour)
	Banana	Palm Heart
	Cassava	Papaya
	Cichorium	Pineapple
	Cilantro	Strawberry
	Dasheen	Watercress
	Durian	
	Ginger Root	

North Atlantic:	Artichoke	Naranjilla	Cucumbers
	Citrus medica	Pepper	Peas
	Cactus Fruit	Tomato	Watermelons, cantaloupes, etc.
New York:	Grapefruit*	Orange*	Tangerine*

*Treatment required.

NOTES: Avocados and Melons (incl. cucumbers) are not on list. Mango neither.

Proof That Colombian Can Grow Through Exports

Export Comparisons

Grey Cement (Roman)

1953	-	19,735,050 kilos
1963	-	114,343,766 "

Artificial Silk Thread

1953	-	∅
1963	-	2,130,825 kilos

Planed or Sawed Woods

1953	-	573,559 kilos
1963		34,333,564 "

Tobacco

1950	-	3,600 tons
1963		11,369 "

Bananas

1950	6,500,000 stems	19,000,000 pesos
1963	10,500,000 stems	132,000,000 pesos

Some Colombian Ranking Worldwide in Exports to U.S. Markets

Statistics 1962

Dollars

A. Misc.Hardwood Lumber

1.	COLOMBIA	$1,473,568.
2.	Canada	1,174.761
3.	Ghana	481,563

B. Dowels of Teak, Ebony, etc.

1.	Thailand	$ 8,575
2.	COLOMBIA	6,215
3.	Guatemala	1,902

C. Lignum Vitae

1.	Guatemala	$ 20,227
2.	COLOMBIA	4,478
3.	W.Germany	2,999

D. Mahogany

1.	Mexico	$1,647,157
2.	Nicaragua	996,227
3.	Br.Hond.	932,705
4.	COLOMBIA	55,033

E. Shrimp, Headless, Frozen

1.	Mexico	$23,458,532
2.	Panama	3,022,022
3.	Salvador	2,304,498
4.	Venezuela	2,226,350
5.	Br.Guiana	1,781,068
6.	Ecuador	1,416,105
7.	COLOMBIA	937,974

F. Live Wild Animals

1.	Canada	$ 980,559
2.	India	483,402
3.	Phil. I.	421,305
4.	Br. EAF	144,772
5.	COLOMBIA	80,938

G. Tropical Fish

1.	Peru	$ 263,563
2.	B. Guiana	58,591
3.	COLOMBIA	51,287

H. Reptile Skins, Raw

1.	India	528,588Lbs.
2.	COLOMBIA	400,555Lbs.
3.	Brazil	245,041Lbs.
4.	Argentina	220,852Lbs.

I. Reptile Skins, Pieces

1.	India	$ 857,938
2.	Brazil	820,538
3.	Argentina	498,166
4.	COLOMBIA	305,120

J. NES Leather Mfgs.Reptile

1.	COLOMBIA	$ 144,295
2.	Japan	7,154
3.	Switzerland	4,260

K. Otter Fur

1.	Brazil	$ 387,533.
2.	Bolivia	95,109
3.	COLOMBIA	93,417

L. Ocelot Fur

1.	Brazil	$ 897,368
2.	Mexico	353,717
3.	COLOMBIA	276,538
4.	Peru	232,402
5.	Bolivia	204,274

M. Tanning Articles, Crude

1.	COLOMBIA	$ 14,680
2.	Canada	6,599
3.	U.Kingdom	2,183

N. Cotton Yarn, Not Bleached

1.	Portugal	$ 4,026,096
2.	COLOMBIA	976,008
3.	Egypt	932,151
4.	Israel	786,816

O. Mango & Guava Paste

1.	Venezuela	$ 22,785
2.	Canary Isles	22,623
3.	Mexico	14,368
4.	COLOMBIA	10,796

P. Balsam of Tolu

1.	COLOMBIA	$ 148,153
2.	Canada	4,299

Q. Ipecac

1.	Brazil	$ 171,132
2.	Panama	76,020
3.	Botivia	26,655
4.	Nicaragua	22,350
5.	COLOMBIA	8,750

R. Crude Petroleu, Testing 25 APl.

1.	Venezuela	$369,680,067
2.	Canada	194,927,805
3.	Kuwait	64,556,551
4.	S.Arabia	58,257,039
5.	COLOMBIA	24,331,848

S. Fuel Oil, Under 25 APl.

1.	N.Antil	$ 27,238,562
2.	Venezuela	23,705,830
3.	Trinidad	8,539,257
4.	COLOMBIA	252,741

T. Bottles, Auto Mach.Made

1.	COLOMBIA	$ 8,773
2.	Italy	8,169
3.	U.Kingdom	2,748

U. Precious Stones, Uncut(Emeralds)

1.	COLOMBIA	$ 1,032,650
2.	Brazil	51,250
3.	India	38,370

V. Hardwood logs

1.	COLOMBIA	$ 1,387,340
2.	Canada	912,717
3.	Brazil	206,954

W. NSPF Hardwood Lumber, Sawed

1.	COLOMBIA	$ 1,473,568
2.	Canada	1,174,761
3.	Ghana	481,563

X. Dowels of Teak

1.	Thailand	$ 8,575
2.	COLOMBIA	6,215
3.	Guatemala	1,902

Y. Others Doors

1.	Japan	$ 55,966
2.	COLOMBIA	20,940
3.	Mexico	18,563

Z. Tobacco Leaf, Filler

1.	Cuba (1962)	$ 3,680,332
2.	Dom.Rep.	438,505
3.	Brazil	335,901
4.	COLOMBIA	205,485

Tobacco, Scrap

1.	Cuba (1962)	$ 3,888,919
2.	Phil.	3,067,465
3.	Dom.Rep.	1,902,813
4.	COLOMBIA	1,292,081

Cut Emeralds, Not set

1.	India	$ 2,006,073
2.	COLOMBIA	446,045
3.	Switzerland	136,454

Coffee, Raw

1.	Brazil	$ 362,458,495
2.	COLOMBIA	226,277,663
3.	Mexico	62,907,052

MISCELLANEOUS

Notes, ideas, data, statistics, personal opinions, and miscellaneous commentaries as foot-notes to this report.

The Importance of Industrializing Agriculture.

The Importance of the Coconut Growing Plan by IFA.

How to Make Tomato Paste.

Home Canning in Rural Areas.

Fair Export Trades.

The Need for a Selective Seed and Planting Program.

Markets, Customers, Merchandising and Trends.

Frozen Food Possibilities in Colombia.

Some Tropical Woods Exploited in the Upper Amazon Basin.

Forecasts, Predictions and Crystal Ball Gazing.

How to Develop and Sell Colombian Products.

Cans and Competition.

The Move Away from Sugar.

A Typical Field Day in A.I.D. Market Promotion.

A Typical Office Day in A.I.D. Market Promotion.

Notes on Economic Botany.

A Papaya Products Industry.

Industrial Headlines Worthy of Note for Colombian Development.

THE IMPORTANCE OF INDUSTRIALIZING AGRICULTURE

The labor force employed in pareparing and processing farm products is one-eighth as great as the force it takes to produce on the farm. This does not sound large at first but when we take into consideration that several millions of persons are farmers, the processing force then becomes an important part of the whole economy.

Without processing and without exporting processed agricultural products a country cannot have a sound agricultural economy. Without a sound agricultural economy it is difficult to industrialize. Without industry a nation will remain backward in today's present rate of growth of per capita income.

THE IMPORTANCE OF THE COCONUT GROWING PLAN BY IFA IS BROUGHT OUT WHEN WE REVIEW THE FOLLOWING DATA:

COCONUT OIL - With the increased daily plantings taking place with coconuts at the IFA Station in Tumaco, that area will in a few years be a big source of Coconut Oil. To point out the value of such plantings I have broken down some comparative tables:

Seed Oils Consumed in Soap Manufacture & Detergents

Soap:	Millions of Pounds
Coconut Oil	144
Palm Kernel Oil	11
Palm Oil	5
Soft Oils (Soybean, cottonseed, corn, castor, peanut, sesame, tung)	1
Synthetic Detergents: (U.S.)	
Coconut oil fatty acid derivaties	41
Castor oil, sulfonated	4
Coconut oil, sulfonated	0.3
Rice-Bran oil, sulfonated	0.1
Soybean oil, sulfonated	0.2
	206.6
U.S. Imports of Seed Oils:	
Coconut Oil	655.5
Palm Kernel Oil	84.1
Castor Oil	118.6
Palm Oil	56.0
Tung Oil	26.9
Rapeseed Oil	4.8
	945.9

COCONUTS - IFA should be encouraged to keep up the intensive planting program on coconuts along with the African Palm Program at Tumaco. Dr. Cabrera of the IFA Station in Tumaco was endeavoring to plant 50,000 new trees last year resistant to the Red Scale Disease.

Coconuts in the shell sell for 5¢ each in the United States. But in Colombia it would be best to satisfy the edible oil need within the country. Refined Vegetable Oils in the United States brought the following prices in 1963 on the wholesale market.

	Crude	Refined
Soybean pound	.09	0.14
Cottonseed pound	.10	0.16
Corn pound	.10	0.16
Peanut pound	.11	0.16
Coconut pound	.12	0.17

CONSUMPTION OF SEED OILS IN NON FOOD END USES IN UNITED STATES

	Millions of Pounds
Coconut Oil	428
Linseed Oil	418
Soybean Oil	358
Castor Oil	129
Cottonseed Oil	99
Tung Oil	49
Corn Oil	30
Palm Oil	33
Safflower Oil	25
Oiticia Oil	8
Rapeseed Oil	5
Peanut Oil	5
	1,587

The Northern Regional Research Laboratory, U.S.D.A. has screened 3,400 samples of new seeds of potential industrial importance with the purpose in mind to devote acreage to crops currently in oversupply. Of the 3,400 samples, 1,320 were found to have over 20% oil and 10 new acids were identified.

Some new crops under consideration are:

1. Abyssinian Bale - for synthesis of new fibers, alkyd resins, polyesters, plasticizers and lubricants.

2. Ironweed - for plasticizer and as a monomer.

3. Queen's lace - for Nylon 6/6 production and surface active agents.

4. Meadow Foam - glyceride (richest source)

5. Bastard Toadflax - acetylenic oil.

HOW TO MAKE TOMATO PASTE

High brix and viscosity of tomato paste is due solely to concentration. For maximum retention of viscosity it is important that the so-called "hot break" procedure be used in crushing and cooking the tomatoes. This means that the tomato is heated almost instantly after it is crushed to a temperature of at least 83°C (180°F). This is done by mounting the crusher above the kettle in which the tomatoes are cooked and adding the crushed raw tomatoes to a larger quantity of hot cooked tomatoes at such a rate that the temperature is kept above 82°C all the time the tomatoes are cooking. The cooked product then runs to a finisher and is then concentrated.

The purpose of this procedure is to prevent the natural enzymes present in the tomato from acting on the tomato pectin and decreasing viscosity. If the enzymes are quickly inactivated by heating to 82°C, the juice, after concentrating, will have a higher viscosity than juice from tomatoes which have been heated slowly. The vacuum concentration of your paste is an important aid in retaining the excellent color.

ITALIAN TOMATO PASTE

Home Style

Wash and cut into slices:

6 qts. ripe tomatoes; add 3 teaspoons salt; you may add:
1 large stalk celery cut up with some leaves
3/4 cup onion chopped 1 clove garlic minced (optional)
3 tablespoons fresh herbs 3/4 teaspoon peppercorns
or
1 tablespoon dried herbs 12 cloves
1 -2inch stick of cinnamon

Simmer these ingredients until the tomatoes are soft. Stir frequently. Put the vegetables through a fine sieve.

Simmer the pulp over hot water or simmer over direct heat with some means of protecting it from bottom....asbestos plate, etc. Stir it frequently as it burns easily. After several hours when the pulp is thick and reduced by about 1/2, spread the paste to the depth of 1/2 inch on moist plates. Cut into the paste to permit air to penetrate.

Place the paste in the sun to dry, or dry it in a slow oven 250°. When the paste is dry enough to roll, roll it into balls. The balls may be dipped in salad oil. Store them in an airtight jar or store the paste in layers in a tin box with waxed paper between the layers.

HOME CANNING IN RURAL AREAS

The job of Market Promotion Advisor has carried us into the study of Home Canning. We have appealed to Peldar to produce a Colombian made heat resistant jar but thus far no answer has been received. Most of our U.S. rural communities were able to feed themselves through drought periods because they canned the excess harvested crops.

I would like to see Home Canning carried out in Colombia's rural areas. It also helps to balance the diet of growing children who need improved nutrition. The jars can be used many times over. Some farm families trade corn for tomatoes or peas to their neighbors and have even been known to pay debts with food in jars.

Should there be some reason why the heat resistant jar could not be made in Colombia, I would recommend that A.I.D. import about 100,000 jars and distribute them to deserving communities on a gift basis. But behind this gift should be a Home Demonstration Agent to show the wives in small villages how to pack food hygienically and safely. Pueblos would be visited before the arrival of the Home Economist to talk to the "town fathers" and find out when their crops would be at their best ripeness and maturity. A planned itinerary would be scheduled for a smooth, continued "show" in each pueblo. A local Colombian Home Economist could fit the bill and it would also relieve the language barrier.

Slides could be shown in the public or parochial school and then a live demonstration given. At the end of the demonstration, some of the more eager women would be called up to repeat the canning operation. If the Home Economist decided that there was interest and value in helping the community, she would give out several "free" jars to those present. A thousand jars in a small Colombian community, put to good use, would help to provide perhaps 5,000 extra dishes every six months, heretofore not available. Besides this, the farm family would take more interest in improving their table fare as well as their own edible crops. It might even help to swing slightly away from starch diets.

The Alliance for Progress seal could be placed on each metal top. I sincerely feel that this could be a worthwhile project if properly carried out. It sounds like Peace Corps work. Perhaps we could approach them on such a program or to participate in gathering the people together to attend the demonstrations and doing some follow up work. Recipes would be distributed in Spanish.

I cannot think of a more "grass roots" approach to Rural Development than Home Canning.

The recipes we have gathered are on file at this office. Some of these are on the attached sheet.

List of Home Canned Products. Recipes Available at A.I.D.Rural Development (Crops Section) Office

1. Cucumber Pickles
2. Sweet Chunk Pickles
3. Sour Pickles
4. Bread & Butter Pickles
5. Dill Pickles
6. Dilled Okra
7. Green Tomato Crystal Slices
8. Pickled Beets
9. Pickled Pears
10. Pickled small peaches (duraznos)
11. Pickled Crab Apples
12. Watermelon Pickles
13. Chow-Chow
14. India Relish
15. Horseradish
16. Corn Relish
17. Pepper Relish
18. Piccalili
19. Tomato Pear Chutney
20. Red Relish (Cabbage & Beet)
21. Chili Sauce
22. Sandwich Spread
23. Apple Chutney
24. Barbecue Sauce
25. Hot Pepper Sauce
26. Tomato Catsup
27. Pepper Sauce
28. Sauerkraut
29. Beef Stew
30. Sausage
31. Corned Beef
32. Soup Stock
33. Heart & Tongue
34. Liver
35. Raw Cured Ham
36. Poultry
37. Gilbets
38. Rabbit
39. Mince Meat
40. Head Cheese
41. Pigs Feet (Pickled)
42. Chili
43. Applesauce
44. Berries
45. Fruit Juices
46. Fruit Purees
47. Grapes
48. Grapefruit
49. Pineapple

50. Rhubarb
51. Tomatoes
52. Tomato Juice
53. Asparagus
54. Dry Beans
55. Lima Beans
56. Snap Beans
57. Carrots
58. Corn, Cream Style
59. Corn, Whole Kernel
60. Hominy
61. Peas, English
62. Pimientos
63. Potatoes Cubed
64. Potatoes, Whole
65. Pumpkin
66. Spinach
67. Squash
68. Sweet Potatoes
69. Vegetable Stew
70. Jelly (all types)
71. Jam (all types)
72. Tropical Fruits

a) Lulo
b) Curuba
c) Guanabana
d) Badea
e) Papaya
f) Borojo
g) Maracuya
h) Guava
i) Corozo
j) Wild Cherry
k) Chirimoya
l) Granadilla
m) Mango
n) Hobo

FAIR EXPORT TRADES

This country should not spend prolonged efforts and large sums in attempting to grow Wheat, Oats or some of the other cereals as cheaply or abundantly as in the U.S. It should buy the bulk of these products from the U.S. instead of utilizing good lands for low marginal returns to the farmers. Barley might be an exception to the rule.

As a token return, the U.S. should import "tropical crops" not produced there or crops that would not interfere with its own farmers. A long term agreement could be signed.

The U.S.D.A. would within the agreement help the Colombians raise the "tropical crops" that it needs for export plus helping to raise up the internal level of food production and the subsequent lowering of prices to the consumer.

A straight-forward offer should be made by the U.S. to the Colombians (dollar for dollar). The U.S.D.A. Marketing Service would be directly responsible to see that the Colombian crops were properly marketed at a predetermined price.

Coffee and bananas would be excluded from the agreement.

One might ask, what crops could Colombia produce in sufficient quantities to balance off the U.S. products?

I have elaborated a list of products that can easily reach the desired trade balance. This list is presently being projected over a 10 year development period. Processed agricultural products are included.

THE NEED FOR A SELECTIVE SEED & PLANTING PROGRAM

If the GOC were to approach ICA and sell them on the idea of setting up a complete 10 year Agricultural Development Program to be carried out by the various interested groups, Colombia would be well along on the road to economical independence. Besides the elaboration of the Program, ICA could take on a seed selection and planting program to determine the best varieties.

The Program would break down as follows:

GOC --Ministry of Agriculture

v

INVESTS AUTHORITY

ICA --- Seed Selection Planting

v

FORMS PROGRAM

ILMA --- INCORA LAND REFORM --- I.I.T.

v v v

Economics of Marketing Action Economic Feasibility

Private - Corporaciones Financieras - Banks - F.I.P.

MARKETS, CUSTOMERS, MERCHANDISING & TRENDS

The most wide awake country in the world on likes and dislikes of the public tastes is the United States. We have become a country of fads and fancies but merchandisers never lose sight of these facts. They are ready at a moment's notice to switch radically into an entirely new product.

We have seen this with stainless steel razor blades, Hawaiian Punch, compact cars, blue jeans, filtered cigarettes and now the latest craze "European Beer". Actually the Pabtz, Schlitz and all the better brands are made by European brew masters in the United States. But it is snobbish and of good taste now to offer "foreign beer".

Colombia is trying to move in this direction with 100% Excelsior Colombian Coffee. It may succeed.

England, on the other hand, sticks to its Orange Marmelade, Chutney, Roast Beef and Yorkshire Pudding. A product that the British accept is certain to stay on the market for a long time. In the United States a product can be "obsolete" overnight.

Thus our efforts have been directed towards tropical, exotic -new flavors and tastes for this changing American market. The potential exists. It is all a question of courageous development. This development will come through the initiation of a "break through" with tropically produced foods which have a definite appeal.

INDUSTRIALIZATION OF AGRICULTURE
FROZEN FOOD POSSIBILITIES FOR COLOMBIA

The time has arrived for a Frozen Foods Industry for local sales in Colombia. The initial outlay for the installation of frozen food equipment is high but most of it can be made in this country. Success depends on the immediate presentation and quality offered to the public with the ability to compete in price with fresh and canned foods.

I could promote such an industry amongst local and foreign capitalists with Bogota as a central point for elaboration and distribution. Warehouse space is of prime importance since there must be enough freezing room to handle several months sales of harvests such as sweet corn, early June peas, strawberries, green beans, potatoes, prepared specialties and the like.

The company at the same time would need to initiate a growing program to support its levels of production. I have in mind to promote this between Supermarkets Carulla, Stouffers of Cleveland, Ohio. Frozen Food would be air-jetted to the new jet port going in at Cali and Barranquilla at prefixed low rates. Intermediate cities would receive merchandise by truck. Everything from Shrimp Chop Suey to Apple Pie to Cannelonis to Potato Whirls would be frozen and distributed nationally.

The impact on the entire agricultural community would be with emphasis on perfect quality, high volume and very low prices. It would also be necessary to bring in a refrigeration company such as Glottman (ICASA); Haceb of Medellin or Talleres Centrales of Bogota to fabricate low temperature cabinets in small stores as well as giant supermarkets.

Freeze trucks would carry frozen foods to places such as Bucaramanga and return with an unrefrigerated load of pineapple. The truck would go to Pasto with frozen orange juice, tomato juice, frozen peas, etc. and pick up a load of potatoes direct from the farmer at a fair price to him but lower than if purchased through intermediaries. But the industry would also have its own farms.

Colombia has 11 cities of more than 100,000 population and 17 cities from 40 to 90 thousand. These cities would have sub-

station holding freezers of 20 ton capacity and their own distribution system. Promotion and public acceptance would come through "give-away" programs, television prizes, free samples, demonstrations and newspaper advertising.

Approximately 3 million dollars would be neded to be invested in the business.

Land and building	$500,000.
8 freezer trucks	160,000.
Quick freezers	280,000.
Machinery-equipment	380,000.
Furniture & Fixtures	220,000.
Sub-stations	300,000.
Working Capital	500,000.
Farms	760,000.
Total	$3,100,000.

To reach the lower and middle income groups which comprise the greatest segments of the population, INA would be asked to invest in the operation for the distribution in their commissaries.

The invested capital would come from the following:

Stouffers Frozen Foods	US$ 300,000.
Carulla	300,000.
INA	300,000.
Bavaria, S.A.	300,000.
Esso Colombiana	300,000.
	US$1,500,000.

Stock could be floated for another US$1,500,000 amongst concerns such as Fruco, Grace, Shell, Comisariato, Glottman, Corporaciones Financieras, Colombiana de Seguros, Texas, Cafeteros, ABOCOL, Caja de Retiro de las Fuerzas Armadas, INCORA, ILMA, IIT, Caja Agraria, AFA, and private capitalists.

This should be studied by ILMA supported by contributions from the private concerns interested. The study could be for three technicians for a six month's contract of $50,000. to $60,000. U.S. (all included). Farming, processing, distribution and financial returns would be part of the study with each contributing firm paying $5,000. to $6,000. or A.I.D. making up the balance. The supporting farms would have to be of such large scale growing under expert management, that costs

would be far below any farming operation known today in this country. U.S. know-how and techniques would be employed at different altitudes and varying climates. A.I.D. agricultural officials and advisors as well as ICA would be asked to guide many aspects of the growing program because of their local experience. Prices for the products would be higher than fresh or canned foodstuffs. INCORA would be asked to furnish cheap land. ABOCOL or some other fertilizer companies would be enlisted to cooperate. Shell and Texas might be invited to participate because of their insecticide interests. All known factors of good agricultural practices would be applied. The company would also sell its products on the fresh market and gradually turn to foreign markets with tropical products proving export potential.

The farm program alone would need the following acreage: (expressed in hectares).

1. Sweet hybrid corn..... 1,500 hectares. To be grown in lots of 100 hectares and harvested at intervals.

2. English peas..... 300 hectares. To be grown in lots of 150 hectares one week apart for continued production.

3. Strawberries, sweet..... 150 hectares. Continual picking and gradual spreading of plants.

4. Spinach..... 10 hectares. All processed from one harvest.

5. Onions..... 50 hectares. Continual harvesting for factory preparations.

6. Apples & Pears..... 50 hectares. Special varieties under long term operation.

7. Pineapple - To be purchased at local farms only.

8. Oranges..... 1,200 hectares. For long term operation with new Florida varieties grown.

9. Carrots..... 10 hectares.

10. Potatoes (creole & Kat.).....500 hectares. Plantings of 50 hectares at a time.

11. Beets..... 10 hectares.

12. Grapefruit.....200 hectares.

13. Lemons.....200 hectares.

14. Limes.....100 hectares.

15. Green Beans, Snap....150 hectares.

16. Moras (raspberry).... 10 hectares.

17. Special Feed Beef Steers (selected).....1,000 hectares. Herd to be built up in 5 years for Special Steaks and Tender Meat cuts.

18. Sweetpotatoes.....110 hectares.

19. Blueberries..... 10 hectares..New varieties to be introduced.

20. Rhubarb..... 10 hectares.

21. Mustards..... 10 hectares.

22. Mangoes..... 200 hectares. Hayden, Bombay, Smiths, Sensations, Fascells, Kents, Irwins.

23. Mushrooms. To be purchased locally.

24. Garlic. To be purchased locally.

25. Chickens - complete installation for 50,000 broilers eggs to be utilized in preparations.

26. Spices & Herbs - 10 hectares (cool climate) - 50 hectares (hot). Including red pepper with black seed.

27. Asparagus ..... 10 hectares.

28. Beans, Dry..... 10 hectares.

29. Peanuts.....100 hectares. Harvesting machinery to be brought in. Special varieties.

30. Plantains.....2,000 hectares.

31. Lulo, Curuba, Chirimoya, Guanabana.....50 hectares. To be frozen for export market.

32. Pork Chops and Lamb Chops - Only select cuts will be packaged.

33. (Check on Frozen Food Book). Processed Foods.

Land would be divided into three categories:

Cold climate.....	500 hectares
Temperate climate.....	4,000 hectares
Hot climate.....	5,500 hectares
	10,000 hectares

10,000 hectares at 400 pesos/hectare - 4,000,000 pesos = US$400,000.
This is a capital investment.
Under the INCORA reform some land might be obtained "Free".

To start, an estimated 138,000 packages (average ½ lb.) would be produced per day for all markets. This would cover only a small segment of the total population. Low temperature cabinets could be sold to stores on a credit plan to deduct the amount from the sale of the merchandise each month until payment is made. A peso per pound could be established for this payment. If the retailer sold 50 pounds in a day from the cabinet, 50 pesos would be credited to his account. In this way the cabinet would be paid for in one year by most stores. Interest would be included in the total cost price of the cabinet.

Food trim and swill would be used from the factory as an animal feed at the adjoining farm. This would amount to approximately 3,000 pounds per day, enough to feed the hogs and chickens

of the farm. Since cans and tins are so high in cost, the frozen carton with its cellophane window would have a distinct advantage although still higher than canned food to prepare and package. The INA setup could be elaborately displayed in the center of each public market where thousands of shoppers could take advantage of the low priced foods.

All employees would sign a contract as follows previously agreed to by the Ministry of Labor:

3 months	-	training and testing
3 months	-	period of trials
3 months	-	until accepted definitely
9 months		

At the end of one year, all original employees would receive a guaranteed 5% raise in pay. At the end of the second year, a guaranteed additional 5% raise and at the end of the third year 10% plus social benefits.

Profit would be pre-estimated at 20% net on sales. With average sales of 200,000 pesos/day, sales would be $60,000,000 per year. 20% of the sales would be a net profit of Pesos 12,000,000. or US$1,200,000. Thus the investors would have a complete return of their investment in 3 years on 3 million dollars. Sales would be increased to equal plant capacity.

An idea, would be to work this Frozen Foods industry in with the Slaughterhouse and Processing Plan for Meats throughout the entire country. A.I.D. could be a valuable factor and influence in helping Colombia to develop this most important Agricultural Industry.

SOME ITEMS THAT HAVE GOOD FREEZING PRESENTATION

Fruit tarts
Puff Paste
Potato Croquettes
Yorkshire Pudding
Cream Eclairs
Cream Sponges
Oysters
French Fired Potatoes
Lobster Meat
Trout
Shrimp
Chinese Foods
Turkeys
Potato Whirls
Ranch Steaks
Hamburgers
Steak & Kidney Dinner
Sausage Rolls
Ducks
Cannelloni
Artichoke Hearts
Broccoli
Apples Slices
Lamb Chops
Pork Chops
Crabmeat
Pineapple
Fruit Salad
Veal Cutlets
Ice Cream Cake Roll
Strawberries
Lamb Stew, Irish
Beef Stew
Brussels Sprouts
Guavas
Broad Beans
Orange Segments
Corn on Cob
Mixed Vegetables
Duraznos in Syrup
Ice Cream Sandwich
Mushrooms
Doughnuts with Cream
Dairy Cream, Whipped
Lima Beans
Blackberries
Wild Cherry
Mandarines
Mixed Brill
Cheeseburgers
Chicken Pie
Crepe Suzette
Fish Fingers
Fruit Pies
Lobster Newburg
Lobster Bisque
Meat Balls
Orange Juice Concentrate
Danish Pastry
Ravioli
Shish Kebab
Vol-au-Vents
Scampi
Pumpkin
Bacon
Flan
Pudding
Ice Cream Cake
Liver Calves
Ox Tails
Sirloin Steak
T-Bone Steak
Cauliflower
Pineapple
Gooseberries

I recommend that a thorough study be made.
Frozen Fish & Seafoods would also be considered.

COLOMBIAN AGRICULTURAL HEADLINES OF RECENT DATE

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1. 100,000 Cattle, Contraband to Venezuela
2. Decree of Free Exportations
3. Private Development Committee Promotes Industrial Fishing
4. The Agrarian Reform in the Next 3 Years will Benefit 100,000 Families.
5. Ten Million Kilos of Tobacco have been Exported
6. It is Possible to Aument Rubber Production
7. Greater Agricultural Production is Being Programmed.
8. Notable Increase in World Sugar Production
9. What Quantity of Food Will the World Need in the year 2000.
10. Only Peletized Fertilizer Will be Allowed
11. A New Rural Mortgage Bank Proposed
12. Potato Producers Ask For Effective Measures of Credit & Markets
13. High Prices Hold Back National Production of Soybean.
14. INA Further Plans for National Network of Silos.
15. Extension Work Should be Placed in Practise
16. 132,000 Tons is the Deficit on Fish
17. Fish Plan with 87 million peso Investment in 1966
18. Bamboo Can be a Good Industrial Crop of the Country
19. Notable Decline in the Gross Production of the Cattle Industry.
20. Cattle Plan for 300,000 Hectares is Studied.
21. Meat Will be Exported to France
22. Either We Increase Production or We Face Catastrophe
23. The Cattle Reality
24. 100,000 New Hectares will be Incorporated to Production
25. Grave Disease Attacks Wheat Crops in Boyaca
26. Agreement Between INCORA and AID to Import Seeds
27. Caqueta, Agricultural and Cattle Power in the South
28. Feasible to Cultivate Lulo on Industrial Scale
29. Great Deficit of Fertilizers in the Country
30. 40,000 tons of Wheat Arrive in Santa Marta
31. Tilapia, the Best Sweet Water Fish
32. Over $200 millions for Agricultural Imports
33. Tax Exemptions to Exporters
34. Alarming Sacrifice of Cows in the Country.
35. Cacay Exploitation if Feasible
36. High Costs of Milk Production in Antioquia
37. Less Coffee is Produced. 22% less Worldwide
38. Exporters Ask to Abolish Obstacles
39. There Will be a Superintendent of Exports

40. Large Fishing Industry for Colombia
41. Male Papayas Can be Avoided
42. Previous Deposit Eliminated for Lesser Exports
43. Wood Production Will be Increased in the Country
44. ANDI Denounces Low Agricultural Production
45. Colombo-Venezuelan Integration
46. Agrarian Reform on 20,000 hectares in Santander.
47. 600 Cotton Growers Produce 2/3 of the Crop
48. Pilot Plan for Food Storage
49. Balance of Agricultural Production in the Country
50. Colombia Should Quintuple Its Corn Production
51. Fruit Cultivation Offers Good Perspectives
52. Agricultural Market Structure Ought to be Better
53. Insecticides Poorly Prepared - Producing Losses.

SOME INTERESTING HIGH PRICED CHEMICALS
ON WORLD MARKET FOR CONSIDERATION IN RELATION TO COLOMBIA
PRICES F.O.B. NEW YORK

Pound		
$ 120.00 -	140.00 -	Angelic Root oil, in bottles
120.00 -	130.00	Angelic Seed oil, in bottles
2.00 -	3.00	Anise Oil
0.54 -	0.59	Beeswax
0.45 -	0.50	Belladona leaf & root, barrels
13.25 -	14.00	Bergamot oil, natural, Italian, cans
2.45 -	2.65	Boise of rose oil, Brazil, Peru, drums
12.00 -	20.00	Calamus oil, bottles
0.60 -	0.61	Candelilla Wax, crude, bags
4.00 -	5.25	Capiscum oleoresin, African
4.50 -	4.90	Caraway Oil, NF drums
30.00 -	40.00	Cardamon Oil, NF, bottles
1.60 -	1.70	Cardamon Seed, Guatemala, bags
0.38 -	0.93	Carnauba Wax, chalky, bags, ton lots, Brazil
25.86		Carotene, liquid in vegetable oil 500,000 A units per grain.
0.33	0.35	Cascara sagrada bark, bulk
0.28½		Cashew nut shell liquid
0.14½		Castor Oil, Brazil
15.25	18.00	Celery Seed Oil, cans
1.00	1.80	Citronella Oil, Ceylon, drums, Formosa
0.58	0.63	Cocoa Butter
0.13		Coconut Oil, crude
0.16		Cube Root, powder, 5% (Rotenone), bags
0.24	0.27	Cumin seed, Iranian, Turkish, bags
15.50	17.00	Cumin Seed Oil
4.25		Dillweed Oil, high-test bottles
1.25	1.30	Eucalyptus Oil, N.F., rectified, 70-75%
2.40	2.75	Fennel Oil, sweet, cans
0.14	0.19	Fennel Seed, Argentine, India, bags
0.14		Fish Oil, refined, alkali, drums
64.00	65.00	Garlic Oil, imported
12.00	13.00	Geranium Oil, Algerian, Turkish
16.50	25.00	Ginger Oil, distilled, bottles
0.30		Ginger, Sierra Leone, Jamaica
3.00		Goldenseal root, barrels
0.25	0.30	Guar gum, edible
11.25	14.50	Ipecac Root, whole & powder (Emetine hydrochloride $51./ounce)

Pound		
$ 0.90	- 1.00	Lavender flowers, select
3.90	4.45	Lavender flowers, oil, French 35% ester, cans
1,500.		Lilac Oil
7.00	10.00	Lime Oil
0.45		Linden flowers
1.25		Mace
8.00	9.00	Mace Oil
3.25	3.50	Menthol, Brazil
2.50/gallon		Olive Oil, edible, Spanish
9.00	11.25	Palmarosa Oil, cans
4.75	12.00	Papain, powder, bottles
0.48	0.50	Paprika, Bulgaria, Spain
0.44	0.47	Passion Flower Herb
0.32	0.34	Pepper, black, Malabar, Lampeng
0.28	0.35	Pepper, rid, Nigerian, Funtuas, Japan, Hontaka.
0.43		Pepper, white
4.75	5.00	Peppermint oil
1.25		Peppermint leaves, imported
2.35	2.75	Petitigrain Oil, South American
0.66	0.72	Pimento, Jamaica, Honduras, Mexican, bags.
6.50	7.00	Pimento berry oil, N.F.
2.70	2.85	Pimento leaf oil
0.70		Pyrethrum flowers, powder
11.00	11.25	Pyrethrum oleoresin
1.35	1.55	Quince seed, bags
7.20	7.50	Quinine
0.13	0.15	Rapeseed oil
1.65	1.85	Rauvolfia serpentina root, powder.
0.50	0.60	Rhubarb root, powdered, whole, India.
0.15	0.17	Rice Bran oil
(Large variance)		Rose Oil, Bulgarian - 1,152; Turkish - 600.
1.25	1.50	Rosemary oil, Spanish, cans
0.10½		Rotenone, fiber
0.14		Safflower oil
26.00		Saffron, Mancha, Spanish
0.28	0.40	Sage Leaves, Albania, Dalmation
(Large variance)		Sage Oil, Clary - 11.50; Dalmation - 3.90; Spanish - 1.75.
1.40		Sassafras oil
4.75		Savory oil, cans
8.00		Serpentaria root, barrels

Pound		
$ 3.25		Spearmint oil
4.50	4.75	Tolu Balsam, cans
1.00	1.50	Tonka Beans, Angostura, Brazil, Surinam
0.28	0.30	Tung Oil, Chinese Sandalwood
		Vanilla Beans, Madagascar - 6.75; Mexican - 8.25; Tahitian - 4.75.
10.75	15.50	Vetiver Oil, Haiti, Bourbon
7.00		Ylang Ylang oil, Bourbon
24.00	25.00	Ylang Ylang oil, extra

WTTatum:agp
1/20/66