G.6.3 Components of the CESCO Project

The CESCO contemplates to participate in marketing and processing the following products.

1) Rice

The intervention in rice (3,700 t/month) is proposed in two phases:

a. Drying of paddy for storage and sell
   - 2 shelters [19 m x 70 m, x 5 m (h)]
   - 4 driers (1 1/2 ton/h)
   - Laboratory

b. Rice mill
   To mill paddy for storage of the CESCO's warehouse and to distribute to final markets.

The capacity of rice mill shall be 3 - 4 ton/h.

2) Maize

The CESCO will collect dry and store the products and mill them with target yield of 95% of milled maize.

3) Sorghum and Soybean

Participation of the CESCO in connection with these grains shall be limited to collection, drying, storage and commercialization.

4) Cacao

a. Phase I
   Infrastructure required for commercialization to international markets (1,500 ton/year)

b. Phase II

Processing facility to produce chocolate.

5) Plantain-Cassava

a. Processing of plantain shall be natural and artificial drying of cut products.

b. Processing of cassava shall be transformation of the product into powder.

6) Fruits - Papaya & Citrus

a. In the Phase I, the CESCO will participate in collection, cleaning, classification, freezing and packing of fruits.

b. In the Phase II, it is contemplated to process papaya's pulp and other sub-products.

7) Milk

Within the CESCO, Z freezing plants of milk (capacity 5,000 litre each) is envisaged.

8) Assorted animal feed

Making an efficiente utilization of sub-products to be derived from rice, maize, soybean, sorghum, plantain, cassava, cacao, fruits and milk, production of assorted animal feed is contemplated.

9) Distribution of inputs

The CESCO Project will involve regional center for distribution of inputs which will consist of warehouse and administration house. The inputs will be distributed to members of respective cooperatives participated in the CESCO.

10) Other Relevant Services

a. Market Information Center

A market information center equipped with data processing facilities and other information transmittant measures (telephone, telex, facsimile, etc.) will be established so as to supply members of cooperatives with up-date and more accurate information on price, supply and demand, and other relevant information on agro-products.

b. Agricultural Machinery Center

To comply with expansion of agricultural production, an agricultural machinery center will be incorporated. Machinery to be available will be, but not limited to: tractors, buldozers, combines, small agricultural machinery.

c. Transportation Cooperative

In order to facilitate transport of products, a cooperative to undertake this service will be established.

G.6.4 Investment Cost and Sources of Finance

The total investment cost of the CESCO Project is estimated at Col$616.3 million for the Phase I and Col$364 million for the Phase II. Breakdown of these costs is given in Table G-5-1 and Table G-5-2.

The financing proposal for the Phase I is shown in Table G-5-3. According the proposal, cooperatives will bear only 9% of the total investment and the remaining balance will be covered by loan and financial support from public organizations.

G.6.5 Management Proposal

The CESCO will be managed jointly by cooperatives in such manner as to guarantee each cooperative to conduct specific functions in compliance with their capacity, experience and etc.
For better management of the CESCO, it is proposed to form cooperatives into three groups as follows.

a. The major portion for the development of the CESCO shall be undertaken by the Cooperative de Caficultores and Procame, which have various experience in operation with considerable number of participants, and covers comprehensive area at departmental level.

b. The intermediate portion shall be to the responsibility of Coagroariari, which, in spite of being formed recently, has attained an efficient intervention in marketing of baddy and sorgham in municipalities of Granada and Fuente de Oro.

c. The minor portion corresponds to engagement of cooperatives located at P.N.R's zone. These cooperatives intervene mainly in the trade of plantain and fruits, and requires institutional supporting services for adequate operation and management.

There will be two alternatives to manage the CESCO viz:

- Establishment of a private entity for comprehensive management of Project, which, through participation of cooperatives concerned to the CESCO, shall be executive entity.

- Formulation of a mixed organization with participation of public agencies such as municipal and departmental government offices, institutions relative to the Project. The cooperatives shall take part of the organization being responsible for general administration of the CESCO and marketing of products in accordance with specific experience, capacity and efficiency.

TABLES

Table G-2-1 RICE PRODUCTION BY DEPARTMENT

Unit:ton

Department	1985			1986			1987			1988			% to Natuial Production
	Irrigated	DRY	Total	Irrigated	DRY	Total	Irrigated	DRY	Total	Irrigated	DRY	Total	
Tolima	456.300	1.100	457.900	423.000	1.200	424.200	442.300	2.000	444.300	415.400	2.000	417.400	22.4
Meta	174.000	16.500	335.500	146.100	119.300	265.400	203.000	207.800	410.800	211.600	197.500	409.100	21.9
Huila	199.900	–	199.900	181.600	–	181.600	175.000	–	175.000	192.000	–	192.000	10.3
Cesar	206.000	3.800	209.800	198.400	5.500	203.900	190.000	6.100	196.100	171.500	5.500	177.000	9.5
N.de Santander	69.500	2.300	71.300	68.500	2.600	71.100	86.700	10.800	97.500	84.600	11.200	95.800	5.1
Cordoba	22.000	37.700	59.700	16.000	69.400	85.400	24.400	72.800	97.200	21.500	71.000	92.500	5.0
Casanare	65.000	7.300	72.300	50.000	9.300	59.300	63.200	11.200	74.400	73.600	10.500	84.100	4.5
Santander	13.500	24.700	38.200	23.800	40.400	64.200	20.100	48.200	68.300	21.900	44.000	65.900	3.5
Bolivar	30.100	15.700	45.800	20.200	26.100	46.300	8.700	32.700	41.400	19.500	43.600	62.100	3.3
Magdalena	52.800	400	53.000	56.400	700	57.100	59.900	1.400	61.300	58.60	1.400	60.000	3.2
National			1.798.200		1.631.300				1.864.600			1.886.300	

Source:BOLETIN ESTADISTICAS AGROPECUARIAS. Margo de 1988
Ministerio de Agricultura.

TABLE G-2-2 EXPORT AND IMPORT OF RICE

Unit: in thousand of ton

YEAR	EXPORT	IMPORT
1970	7.5	0.2
1971	0.4	0.2
1972	2.7	-
1973	30.0	-
1974	1.7	-
1975	109.4	-
1976	119.7	-
1977	56.7	26.9
1978	0.5	27.0
1979	40.1	20.5
1980	65.0	6.3
1981	39.0	-
1982	-	-
1983	7.5	-
1984	55.5	-
1985	33.0	-
1986	24.0	-
1987	-	-

Source: EVOLUCION DE ALGUNOS INDICADORES FISICAS Y ECONOMICOS, DNP, UNIDAD DE DESARROLLO AGRICOLA

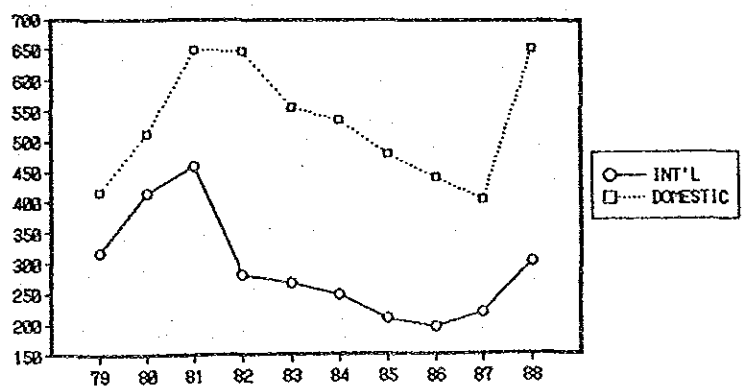


Fig. G-2-3 EXPORT AND IMPORT OF RICE

Table G-2-3 SUPPLY AND DEMAND OF RICE

YEAR	SUPPLY 1)	APPARENT Total 1)	CONSUMPTION Per-capita 2)	BALANCE AS OF DIC. 31 1)
1970	702.7	509.3	24.1	185.9
1971	1038.0	803.1	37.1	234.9
1972	1232.0	970.4	43.9	258.9
1973	1410.0	1233.0	54.6	147.0
1974	1687.0	1341.6	58.2	344.1
1975	1958.1	1542.6	65.6	306.1
1976	1866.1	1551.1	64.7	195.3
1977	1529.2	1364.2	55.8	108.3
1978	1850.1	1571.1	63.1	278.5
1979	2231.4	1845.8	72.7	345.5
1980	2149.7	1801.8	69.6	282.9
1981	2070.8	1809.7	68.5	222.1
1982	2240.3	1861.9	69.0	378.4
1983	2158.2	1804.8	65.6	345.9
1984	2041.7	1722.1	61.4	264.1
1985	2062.3	1781.0	62.2	248.4
1986	1880.2	1603.9	55.0	252.3
1987	2116.9	1998.8	67.3	118.1

Note : 1) in thousand of ton
2) Kg/year
3) All figues are represented in poddy

Source : EVOLUCION DE ALGUNOS INDICADORES FISICOS Y ECONOMICOS
DNP, UNIDAD DE DESARROLLO AGRICOLA

Table G-2-4 INTERVENTION OF IDEMA IN THE TRADE OF RICE

Unit : Col$/ton

SEMESTER	National Production	Trade by IDEMA	IDEMA'S Participatim
1983 I	720.161	71.130	9.9
II	970.100	118.263	12.2
1984 I	701.396	29.135	4.2
II	904.400	13.236	1.5
1985 I	720.300	6.738	0.9
II	987.900	63.940	6.5
1986 I	739.300	1.218	0.2
II	1.100.000	180.000	16.4
1987 I	741.100	9.529	1.3
II	1.123.500	33.327	3.0
1988 I	633.500	285	0.04

Source : Informe de Labores Octubre 1983-Junio 1988. IDEMA

Table G-2-5 TRADED VOLUME OF IDEMA AT PURCHASE CENTER OF GRANADA

Unit : ton

YEAR	VOLUME
1978	1,730
1979	5,003
1980	8,871
1981	3,434
1982	6,105
1983	6,801
1984	804
1985	10,538
1986	5,559
1987	2,416
1988	2,126

Source : Information Obtained from IDEMA's Purchose Clnter in Granada

Table G-2-6 SUPPORTING PRICE OF RICE

Unit : Col$/ton

SEMESTER	PRICE	VARIATION (%)
1983 I	20.700	
II	22.500	8.7
1984 I	24.180	7.5
II	25.390	5.0
1985 I	27.200	7.1
II	30.900	13.6
1986 I	33.700	9.1
II	38.000	12.8
1987 I	43.700	15.0
II	47.750	7.0
1988 I	52.440	12.1
II	70.000	33.5
	(80.000) 1)	
1988 I	89.600	28.0

Source : IDEMA

Note : revised in the intermediate period

Table G-2-7 DISCOUNT RATE OF PADDY ACCORDING TO PRODORTION OF FOREIGN MATERIALS AND MOISTURE CONTENT

H / I	3	4	5	6	7	8	9	10	11	12
26	8506	8418	8330	8243	8155	8067	7979	7891	7804	7716
25	8621	8532	8443	8354	8265	8177	8087	7998	7909	7820
24	8736	8646	8556	8466	8376	8286	8195	8105	8015	7925
23	8851	8759	8668	8577	8486	8395	8303	8211	8120	8029
22	8966	8873	8781	8688	8596	8504	8411	8316	8226	8133
21	9080	8986	8892	8799	8705	8612	8517	8424	8330	8237
20	9195	9100	9005	8910	8816	8721	8625	8531	8436	8341
19	9310	9214	9118	9022	8926	8830	8733	8637	8541	8446
18	9425	9327	9230	9133	9036	8939	8841	8744	8647	8550
17	9540	9441	9343	9245	9146	9048	8949	8852	8752	8654
16	9655	9555	9456	9356	9257	9157	9057	8957	8858	8759
15	9770	9669	9568	8468	8367	9268	9165	9064	8963	8863
14	9885	9783	9681	9579	9477	9375	9273	9171	9069	8967
13	100	9897	9794	9691	9588	9485	9381	9278	9175	9072

Table G-2-8 MARICET PRICE OF RICE

Unit : Col$/ton

SEMESTER	PRICE	VARIATION (%)
1983 I	18,000	
II	20,000	11.1
1984 I	22,500	12.5
II	24,380	8.4
1985 I	24,922	2.2
II	29,023	16.4
1986 I	32,500	12.0
II	n.a	
1987 I	n.a	
II	45,000	
1988 I	63,000	40.0

Source : ANUARIO ESTADISTICAS DEL SECTOR AGROPECUARIO 1988.
Ministerio de Agricultura

TABLE G-2-9 STORAGE AND PROCESSING CAPACITY OF RICE (1983)

REGION	STORAGE		DRYING		MILLING	
	TONS.	%	TON/Hr	%	TON/Hr	%
Tolima y Huila	276.497	39.7	1.147	51.1	178	36.2
Santanderes	106.798	15.3	321	14.3	107	21.7
Cesar	10.364	1.5	11	0.5	7	1.4
Costa Atlantica	140.780	20.2	252	11.2	97	19.7
Llanos	130.681	18.8	466	20.8	78	15.9
V.del Cauca	20.210	2.9	26	1.2	14	2.9
Others	11.357	1.6	20	0.9	11	2.2
Total	696.687	100.0	2.243	100.0	492	100.0

Source:Ministry of Agriculture

TABLE G-3-1 PRODUCTION OF ANNUAL CROPS 1985-1988

Unit:ton

	1985		1986		1987		1988		1988/1985	
	National	Meta	National	Meta	National	Meta	National	Meta	National	Meta
Maize	762,600	22,800	788,100	19,500	859,600	22,400	880,500	23,900	1.54	1.05
Soybean	104,181	150	166,974	2,150	128,210	3,636	101,100	11,360	0.97	75.73
Sorghum	499,400	15,000	599,900	31,000	703,800	33,600	681,100	46,000	1.36	3.07
Cotton	339,570	9,200	337,660	4,095	320,530	3,315	383,240	5,200	1.13	0.57
Sunflower	n.a.	n.a.	n.a.	n.a.	4,650	98	2,280	95	—	—
Kidneybean	98,964	110	103,943	685	90,425	800	99,900	880	1.01	8.0

Source:ANUARIO Y BOLETIN ESTADISTICAS AGROPECUARIO. Ministerio de Agricultura

TABLE G-3-2 IMPORT AND EXPORT OF ANNUAL CROPS

Unit:ton

	IMPORTATION				EXPORTATION	
	Maize	Soybean	Sorghum	Kidneybean	Kidneybean	Cotton(Fiber)
1970	6.6	56.2	—	—	3.5	71.3
1971	47.3	13.8	—	4.7	6.0	50.6
1972	0.6	9.6	21.0	1.1	6.4	69.6
1973	97.3	19.6	—	—	9.5	46.2
1974	39.2	30.0	—	—	12.9	34.1
1975	—	46.5	—	—	11.6	79.8
1976	16.2	126.7	—	—	12.0	53.4
1977	100.7	181.7	13.7	3.6	19.8	71.3
1978	66.2	267.8	50.6	—	12.5	45.5
1979	60.0	386.3	4.7	1.6	5.0	26.2
1980	192.6	432.5	176.9	4.1	9.7	48.5
1981	79.7	544.5	10.9	2.3	5.9	56.3
1982	89.5	753.3	58.7	25.9	1.6	17.6
1983	68.7	665.2	194.7	21.4	—	14.3
1984	10.4	684.1	44.0	4.9	—	26.9
1985	28.3	418.3	92.0	6.7	—	48.6
1986	31.5	373.3	66.9	1.4	—	52.0
1987	34.7	535.2	—	—	—	35.5

Source:EVOLUCION DE ALGUNOS INDICADORES FISICOS Y ECONOMICOS
DNP. Unidad de Desarrollo Agricola

Table G-3-3 SUPPORTING PRICES

Unit : Col $

Semesters	Maize		Soybean		Sorghum		Kidneybean		Sunflower	
	Price	Uari(%)	Price	Uari(%)	Price	Uari(%)	Price	Uari(%)	Price	Uari(%)
1983 I	20.900		33.000		17.900		58.300			
II	22.780	10.0	35.475	7.5	19.240	7.5	64.130	10.0		
1984 I	25.060	10.0	39.400	11.1	20.780	8.0	69.900	9.0		
II	26.310	5.0	43.340	10.0	22.440	8.0	85.000	21.6		
1985 I	32.000	21.6	54.000	24.6	24.300	8.3	102.000	20.0		
II	36.800	15.0	61.000	13.1	27.500	13.2	120.000	17.6		
1986 I	40.500	10.1	67.000	9.7	31.500	14.5	165.000	37.5		
II	43.700	7.9	71.200	6.3	34.000	7.9	181.000	9.7		
1987 I	46.760	7.0	74.760	5.0	38.500	13.0	181.000	—		
II	51.000	9.1	83.500	11.7	43.200	12.2	190.000	5.0		
1988 I	57.000	11.8	94.000	12.6	46.200	6.9	218.500	15.0	128.330	
II	65.500	14.9	125.000	33.0	58.000	25.5	270.000	23.6	150.000	16.9
1989 I	82.000	25.2	162.000	29.6	72.200	24.5	335.000		177.000	18.0
1989 I / 1983 I	3.92		4.91		4.03		5.75		—	

Source : IDEMA

TABLE G-4-1 PRODUCTION OF PERENNIAL AND TREE CROPS 1985-1988

Products	1985		1986		1987		1988		1988/1985	
	National	Meta	National	Meta	National	Meta	National	Meta	National	Meta
Cacao	42.477	3.610	46.700	3.886	53.680	3.690	57.700	4.186	1.36	1.16
Oil palm	125.250	16.550	140.000	18.180	147.000	21.014	108.750	26.100	1.35	1.58
Plantain	2.092.540	68.600	2.242.160	70.000	2.374.260	77.000	2.530.480	86.100	1.21	1.26

Source : ANUARIO ESTADISTICAS AGROPECUARIO. Ministerio de Agricultura

TABLE G-5-2 CATTED TRADED AT CATAMA

YEAR	TOTAL CATTLE TRADED IN META (A)	TRADE AT CATAMA			(B) / (A)
		FOR BOGOTA AND OTHER REGION	FOR META	TOTAL (B)	
1984	214.296	67.867	37.852	105.719	49.3
1985	178.069	68.017	37.177	105.194	59.1
1986	217.748	81.450	38.147	119.594	54.9

Table G-5-1 POPULATION OF CATTLE AND DISTRIBUTION OF PASTURE (1986)

DEPARTMENT	NO.OF HEAD	%	AREA (HA)	%	Haper Head
TOTAL COUNTRY	23,593,286		26,979,494		1.14
Antioquia	2,314,975	9.8	2,472,219	9.2	1.07
Arauca	620,000	2.6	1,830,000	6.8	2.95
Atlantico	217,612	0.9	189,228	0.7	0.87
Bolivar	967,152	4.1	926,068	3.4	0.95
Boyaca	959,999	4.1	1,066,666	4.0	1.11
Caldas	452,946	1.9	387,300	1.4	0.86
Cauca	478,800	2.0	1,222,500	4.5	0.49
Caqueta	1,409,372	6.0	690,978	2.6	0.98
Cesar	1,283,000	5.4	1,256,524	4.7	0.64
Cordoba	2,696,800	11.4	1,719,000	6.4	0.79
Cundinamarca	1,552,667	6.6	1,230,080	4.6	0.64
Choco	71,701	0.3	46,200	0.2	1.72
Huila	546,594	2.3	939,165	3.5	1.36
La Guajira	358,655	1.5	488,669	1.8	1.24
Magdalena	1,151,295	4.9	1,423,644	5.3	4.70
Meta	1,306,858	5.5	6,146,100	22.8	0.66
Narino	472,598	2.0	310,003	1.1	1.25
Norto de Santander	494,041	2.1	618,870	2.3	0.84
Quindio	79,118	0.3	66,140	0.2	0.74
Risaralda	155,960	0.7	115,785	0.4	0.67
Santander	1,436,794	6.1	959,802	3.6	1.40
Sucre	1,027,881	4.4	1,436,800	5.3	0.89
Tolima	1,034,116	4.4	920,613	3.4	1.05
Valle	494,352	2.1	517,140	1.9	
Territorios Nacionales	2,010,000	8.5			

Source : Colombia Estadistica 1987, DANE

TABLE G-6-1 PROPOSED INVESTMENT FOR THE CESCO PROJECT PHASE I

	Area	Lands	Infrastructure	Machinery & Equipments	Working Capital
Grains	3	4,500.0	97,000.0	29,000.0	45,000.0
Maize	-	1,500.0	-	1,800.0	
Cacao	1	-	30,000.0	113,000.0	28,000.0
Plantain-Cassava	1	1,500.0	8,500.0	4,500.0	4,000.0
Fruits	1	1,500.0	6,000.0	13,000.0	3,000.0
Milk	1	1,500.0	2,000.0	29,000.0	1,000.0
Animal Feed	1	1,500.0	11,000.0	23,000.0	20,000.0
Inputs	1	1,500.0	6,000.0	-	25,000.0
Basic Goods	1	1,500.0	13,000.0	-	10,000.0
Admini.	1	1,500.0	27,000.0	15,000.0	10,000.0
Public Services				25,000.0	
Total	11	16,500.0	200,500.0	253,300.0	146,000.0

Source: Estudio de Prefactibilidad y Predimensionamiento, FINANCOOP-DRI

TABLE G-6-2 PROPOSED INVESTMENT FOR THE CESCO PROJECT PHASE II

Product	Industrial Process	Machinery & Equipments	Working Capital
Rice	Milling	80,000.0	60,000.0
Cacao	Final Processing Plant	250,000.0	30,000.0
Fruits	Pulp Treatment Plant	34,000.0	8,000.0

Source: Estudio de Frefactibilidad y Redimensionamiento, FINANCIACOUP-DRI

TABLE G-6-3 FINANCING SOURCE FOR PHASE I

Unit: In thousand Col$

Sectors to be financed	TOTAL	Municipal Office	Departmental Office	Institutions CORFAS-PNR	Cooperatives (Own finance)	Credit FNC-DRI	Fondo-DRI Direct Investment
1. Working Capital	146,000			30,000	18,000	98,000	
2. Lands	16,500	16,500					
3. Services	25,000	25,000					
4. Infrastructure	200,500		69,500	43,000	6,000	55,000	27,000
5. Machinery and Equipment	228,300		109,500		31,300	10,000	77,500
Total	616,300	41,500	179,000	73,000	55,300	163,000	104,500

Source: Estudio de Prefactibilidad y Predimensionamiento, FINANCIACOOP-DRI

FIGURES

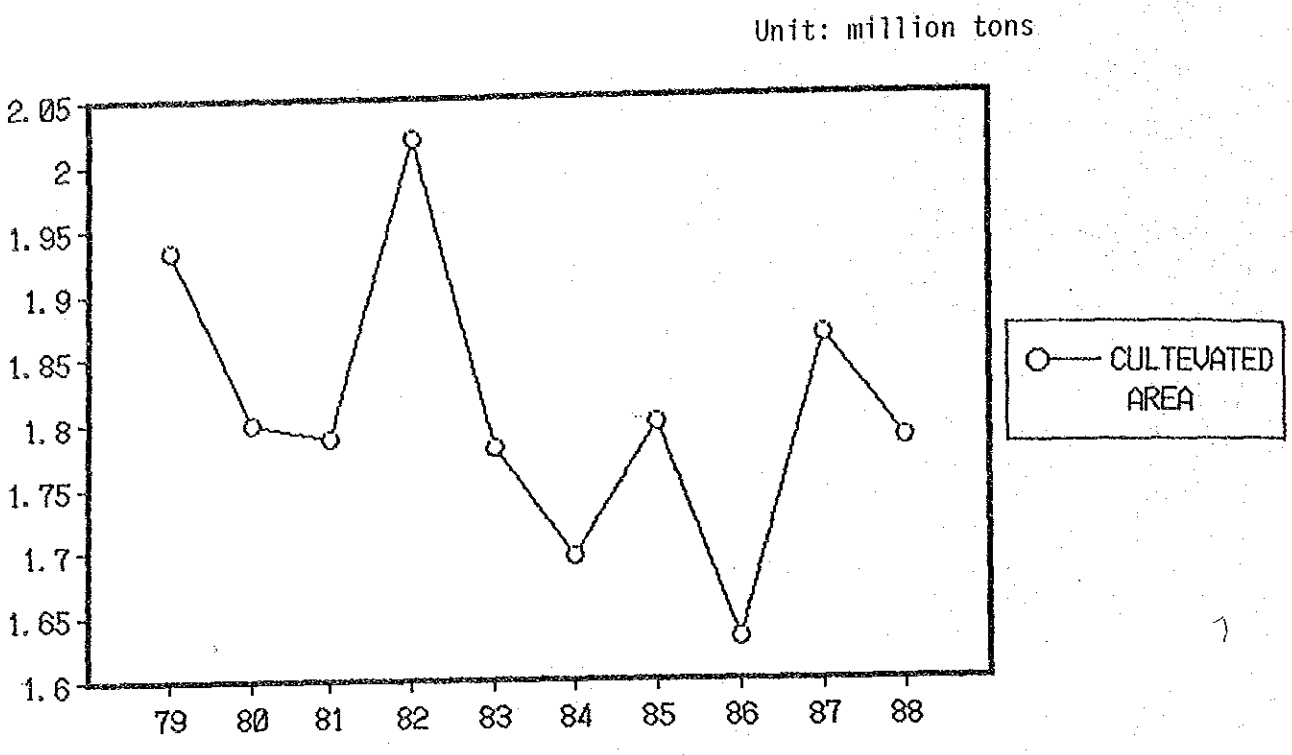
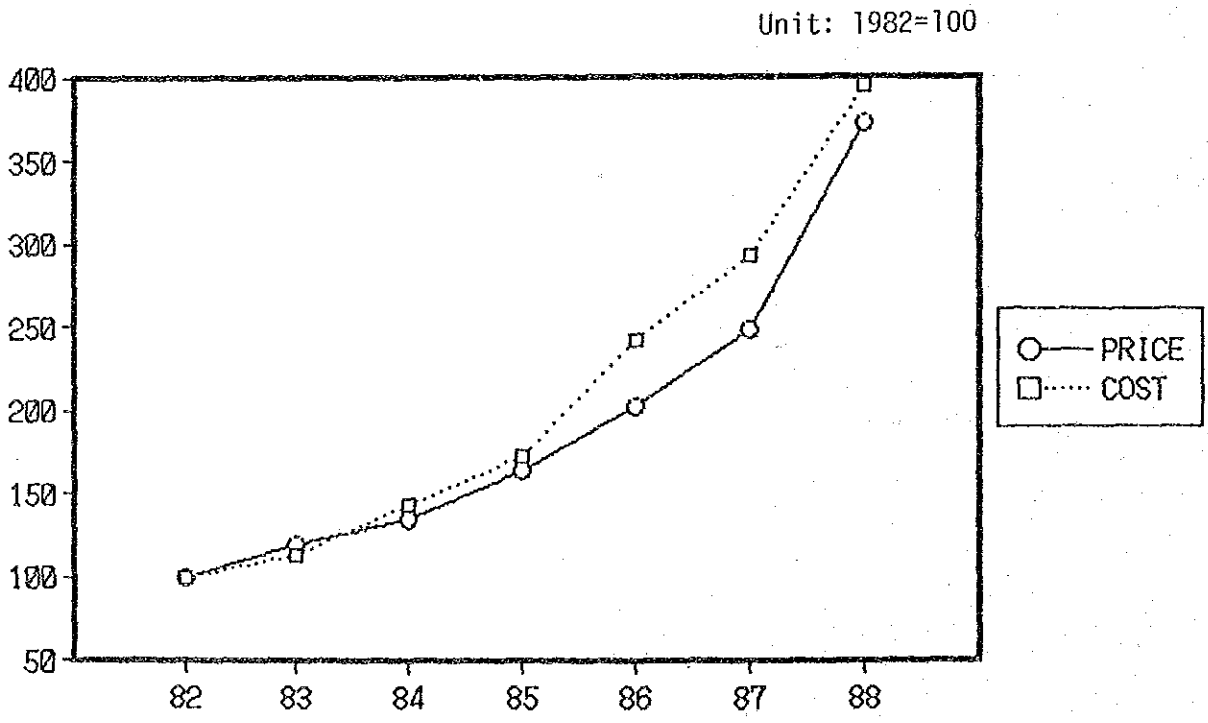


FIG G-2-1 RICE PRODUCTION 1979-1988



G-2-2 GROWTH OF FARM-GATE PRICE AND PRODUCTION COST

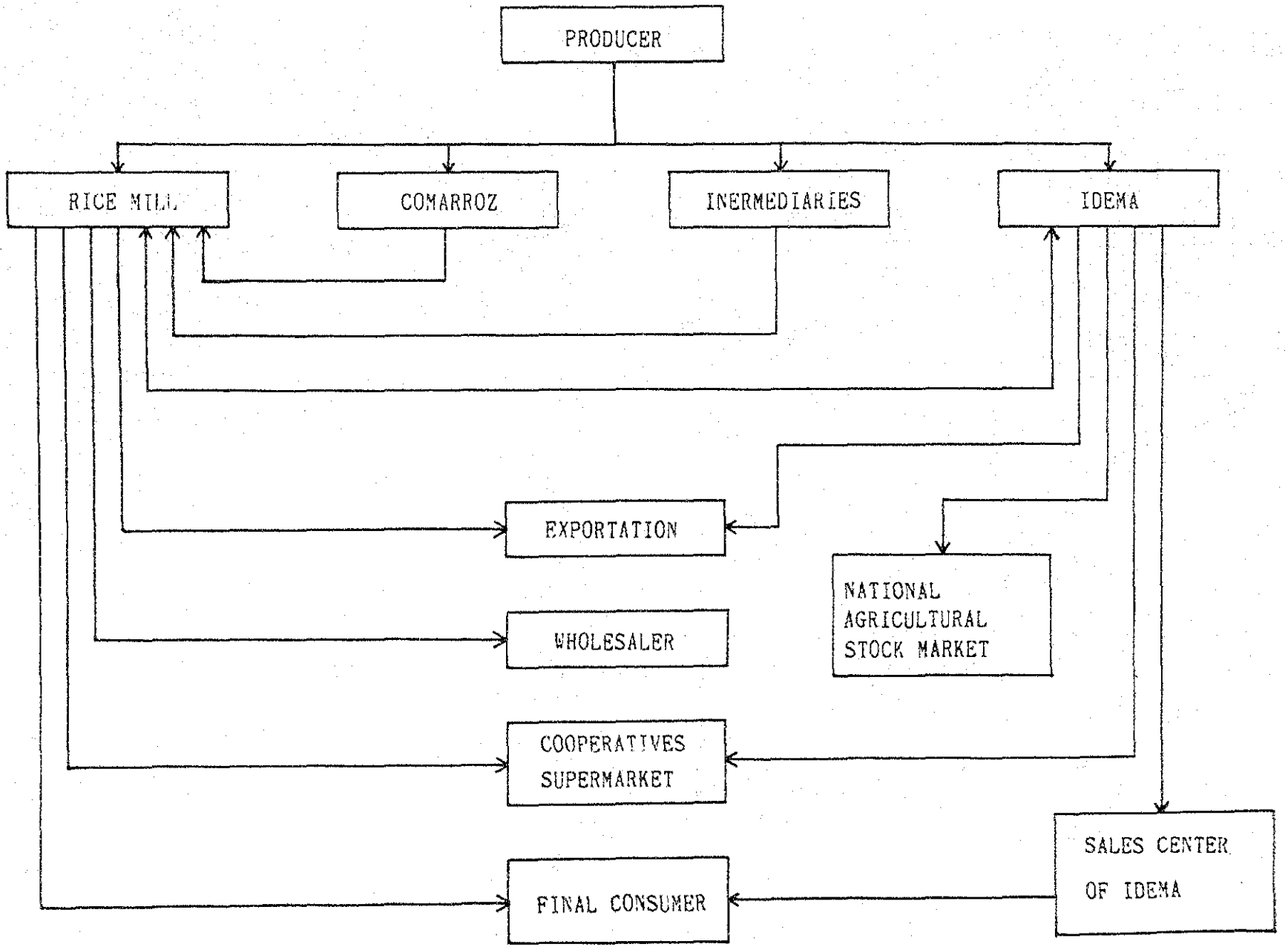


FIG.G-2-4 MARKETING CHANNEL OF RICE

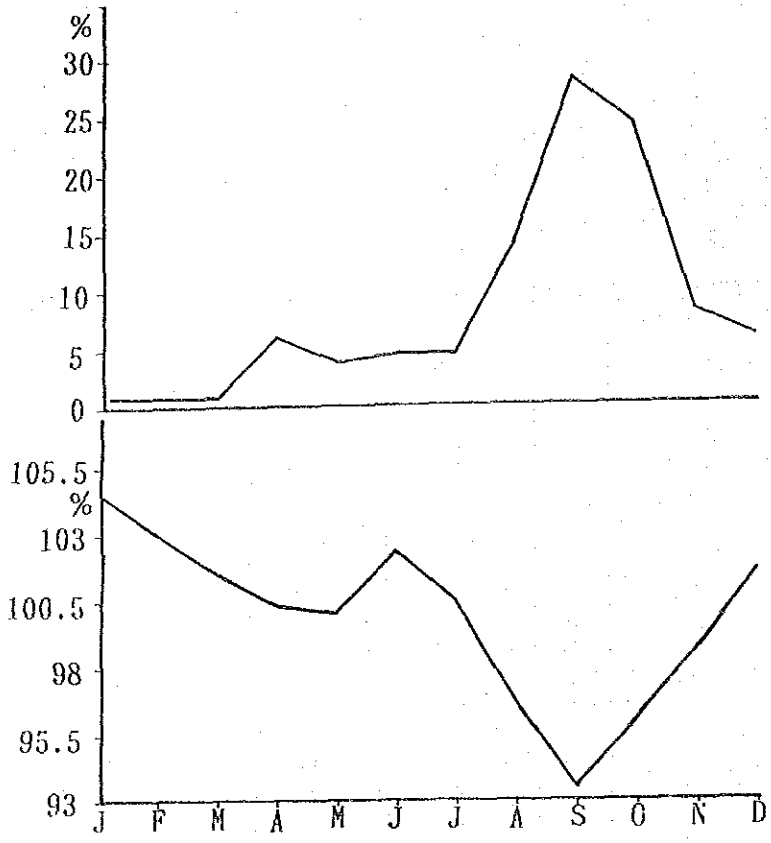
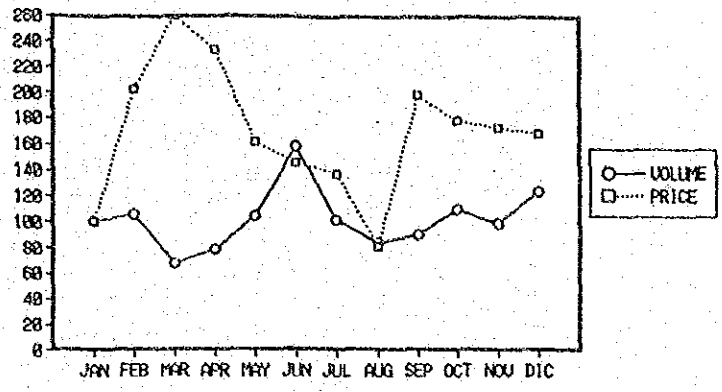
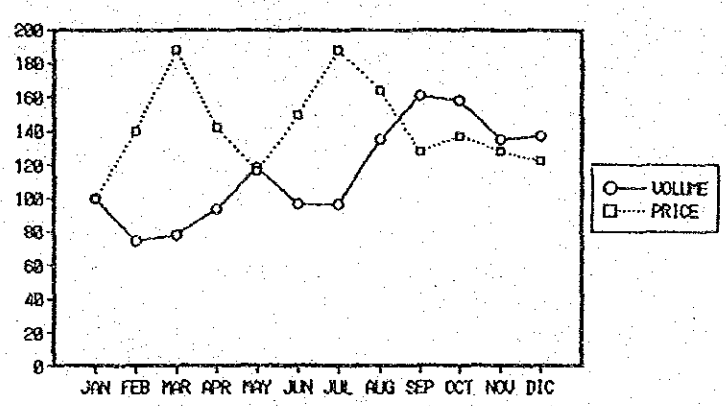


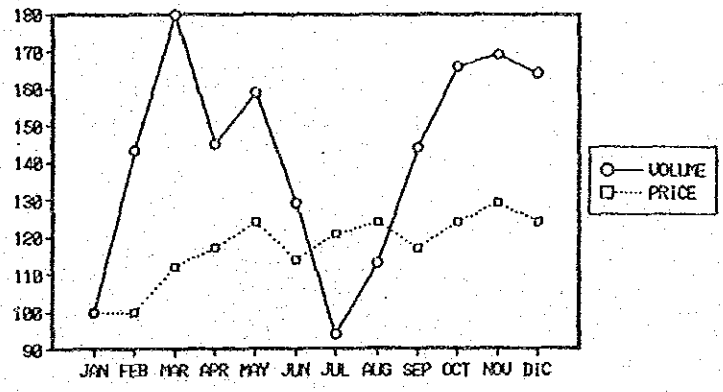
FIG.G-2-5 SEASONAL CHANGE OF PRODUCTION AND PRICE IN META



Maracuya



Papaya



Plantain

FIG. G-4-1 VOLUME AND PRICE OF MARACUYA, PAPAYA, AND PLANTAIN TRANSACTED AT CORABASTOS IN 1987

ANNEX H : FARMER'S ORGANIZATION AND AGRICULTURAL SUPPORTING SYSTEM

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ANNEX H: INSTITUTIONAL SUPPORTING SERVICES AND FARMS' ORGANIZAION

H.1 Institutional Supporting Services

Institutional services to support farmers' activities in the study area are provided by the following public agencies and crops growers' organization.

- Caja Agraria (Agricultural, Industrial and Mineral Credit Fund)
- ICA (Colombian Agricultural Institute)
- INCORA (Colombian Institute of Agrarian Reform)
- Fondo-DRI (Integrated Rural Development Fund)
- PNR (National Rehabilitation Plan)
- SENA (National Apprenticeship Service)
- Fedearroz (National Federation of Rice Growers)
- Fedecacao (National Federation of Cacao Growers)

H.1.1 Credit Services

Public credit services for crop production and livestock are rendered through three major lines: FFA (Agricultural Finance Fund of the Central Bank), Caja Agraria and DRI Program. These three lines cover about 90% of the total credit amount provided to farmers. The remaining portion is rendered by private banks represented by the Banco Cafetero and other agencies such as Fedearroz, Fedecacao and so on. There are some farmers who get financial assistance from cooperatives, friends or relatives. Rice shares the largest amount of credit services; for the first semester of 1988, 68% of the total amount provided by Caja Agraria (Granada) was directed to rice production (See Table H-1-1). According to the survey on farmers, more than 80% of rice producing farmers had access to credit services and greater portion of farmers received credit services for the production of soybean and cotton. On the other hand, only half of farmers got financial services to product maize and permanent crops. More than 70% of livestock farmers conducted animal husbandry without any credit service.

The loan conditions varied with agencies; Public agencies offer more favorable conditions to users than private ones. For example, as for rice cultivation, farmers get loan from public agencies with an annual interest rate of 21%, while an interest increases to more than 25% in case of loan from quasi- governmental agencies (Banco Cafetero, Banco Ganadero) and Fedearroz. In the first semester of 1988, the cultivated area of rice with loan of FFA covered 7,200 ha in Granada, Fuente de Oro and Lejanias and this area corresponds less than half of the total cultivated area (15,270 ha) of rice in the said three municipalities.

This fact intimates that more than half of the area with rice were cultivated with particular resources or loan from private sector without having access to the FFA.

The FFA's credit services are for small and medium farmes only; in case of rice cultivation, an average area among beneficiaries is 12 ha and the amount of credit was Col$93,000 per ha. Referring to the production cost of rice as of the first semester of 1988 (Col$181,000/ha), it is supposed that the FFA's credit covered 50% of the production cost.

The reason why the FFA's credit covers less area that strict appraisal system on providing farmers with loan is established so as to prevent failure of repayment as far as possible. On the other hand, the major cause for farmer to fail repayment of their loan is that they can not attain expected production at the time of loan request. In this connection, Caja Agraria is oblidged to render technical assistance to beneficiaries of their credit services, but it is not conducted appropriately. Under the situation, it is of importance that more appropriate and more frequent technical assistance should be rendered by Caja Agraria so that this assistance may contribute to increasing agricultural production followed by better repayment rate by farmers.

The credit condition depends on, purpose or activity, period, financial ability of users, etc. It is said that there are more than 120 credit lines to help farmers to develop agricultural activity and to improve their living conditions. In the case of credit to crops (annual or perennial) production, conditions are set forth as given below:

Beneficiaries:	small and medium farmers
Amount:	to be determined by borrowing capacity of users
Covering range:	direct production cost
Period:	until harvest time plus one month for marketing
Interest:	in accordance with fortune of users

Features of other credit line are given in TABLE H-1-3.

H.1.2 Extension and Technical Assistance

Technical assistance services are provided on a general basis by ICA. The function of ICA is based on two basic objectives: research on new technology and its transfer to farm level. ICA's office in Granada (Regional Center for Extension, Training, and Technology Transfer-CRECED) is operating to identify problems confronted by farmers pertinent to their crop and animal husbandries and to find their solutions. These services are rendered by five agronomists, one veterinarian, one zoological technician, 16 agricultural experts, etc.

Caja Agraria is obliged to give technical assistance to users of their credit services:

Fedearroz and Fedecacao are also in charge of advising technical aspects with regard to production of rice and cacao. Furthermore, they are many independent extension workers undertaking technical assistance (See Table H-1-3).

One of constraints on diffusing new and appropriate technology is that outcomes produced by public research institutes do not prevail among farmers. The lack in number of extension workers constitute the major factor for it. The coordination between public research institutions and farmers is very important not only to diffuse new and adequate technology but also to feed back the latter's requirements to the former. Accordingly, it is recommended that more investment should be distributed to train and educate extension worker, if one wishes to provide technical assistance more adequately to farmers.

H.1.3 Rural Development

In collaboration with other public organizations, rural development programs aiming at providing more adequate infrastructure and upgrading the quality of rural environment have been conducted in Colombia under responsibilities of PNR and Fondo-DRI.

PNR has objectives to eradicate absolute poverty in the least developed region of the country and to prevent the expansion of disequilibrium among regions. Three municipalities--Fuente de Ore, Granada and Lejanias--are among 11 municipalities to which PNR's programs are to be implemented and, in 1987 and 1986, 46% and 41% of the budget for the program was directed to these three municipalities (See Table H-1-4). The distribution of budget by sector: 36% for road improvement, 29% for INCORA's programs and 16% for development of water supply and sewerage system.

Within the study area, the following projects among others are envisaged under the PNR's program.

- Roads construction: Trocha 11, Lejanias-Mesa de Fernandez and Naranjal-Gualmal
- Provision of water supply (La cooperative and Reg. San Ignacio) and sewerage system (La playa, Canaguaro and Puerto Caldas)
- Rehabilitation of health center at Cacayal and construction of new sanitary center at Canaguaro and Aguas Claras

In 1987, the PNR's budget was distributed in Meta by organization in the following manner.

Organization	Amount	(%)
MOPT	109,051	(8.2)
Institute Nacional de Salud	102,991	(7.8)
Servicio de Salud del Meta	24,996	(1.9)
INDERENA	3,500	(0.3)
HIMAT	40,000	(3.0)
INCORA	384,415	(29.0)
SENA	113,505	(8.5)
Secretaria de Education	20,790	(1.6)
FNCV	483,639	(36.4)
ICA	45,750	(3.4)
Total	1,328,637	

Note: In thousand of Col$

H.1.4 Educational and Training to Farmers

The Agricultural Center "Los Naranjos", affiliated with SENA, is located within the study area. The Center is teaching and training students who will be engaged in agriculture and livestock sector in the future. Themes to be treated in this Center are:

- Operation and maintenance of tractors
- Land preparation
- Seeding, maintenance and harvest of crops
- Mechanization of livestock sector

Students are trained one year in the Center and another one year in fields or enterprises to study in a practical form.

H.1.5 Land Titling and Redistribution

Starting from 1967 when colonization project for Ariari-Guejar was promoted, INCORA has been attending to titling of virgin lands within the study area. At present, almost no virgin land is left in the study area, so INCORA's services area directed to rendering technical and financial assistance to small farmers.

By Law 30 of 1988, any public organization which envisages to implement an irrigation project is oblidged to inform INCORA of the outline of the said project so that INCORA may examine and analyze the social situation of the proposed project area, especially as for the land tenure. The result of INCORA's study will be advised to the project executing organization accompanied by their evaluation report on the situation of land tenure. If INCORA concludes that the actual lands in proposed project area are inappropriately distributed, they will undertake to negotiate with land owners for expropriation of their lands based on the prices registered with IGAC's property book and charges the whole cost to new settlers of redistributed lands (INCORA provides financially handicaped settlers with credit services subject to longer amortization period).

H.1.6 Land Improvement

There has been no example of large scale irrigation project in the study area, so reference is made to other irrigation districts.

In Colombia, the planning design and construction of main and secondary canals including intake facilities are conducted under the responsibility of HIMAT (Bogota). The operation and maintenance (O/M) for these works are implemented at first by regional office of HIMAT, but with the lapse of time the technology transfer will be made encouraging farmers to organize an association of users and the tast of O/M will be entrusted to the association. On the other hand, tertiary facilities at farm are, in principle, to be developed by farmers, although farmers may solicit HIMAT for their technical advice on the matter.

Although the investment on the irrigation facilities is to be borne for their total amount by users, in reality the Government puts subsidy in accordance with farm size, financial capacity of farmers, productivity of irrigable land, etc. The water charge is calculated on the basis of fixed tariff (/ha/hear) and proportional one ($/m^3$).

Other infrastructure relevant to rural development are developed under the responsibility of: National Fund for Local Roads (roads), National Hygien Institute (water supply and sewerage), EMSA (electric supply, etc.). An integrated rural development project in less development region is carried out under the program of PNR and Fondo-DRI.

H.2 Farmer's Organization

In the course of the field study, the following two farmers' organizations have been identified.

H.2.1 Coagrolejanias

This cooperative was organized with technical and financial assistance rendered by INCORA. About 40 farmers are participated in this cooperative. The principal motive to form the cooperative was to attain better marketing of products, mainly plantain and papaya. The cooperative has established its own sales place at Bogota's market to which products are transported twice a week by their own trucks.

H.2.2 Coagroariari

The cooperative, formed by 118 members, was established in 1986 without any assistance by public agencies. The main activities of the cooperative are to sell inputs and to buy grains. The cooperative has a plan to establish a rice mill but it has not come true yet.

There is another cooperative in Granada named "Coagrometa" with solo objective of commercialization of inputs. The Coagrometa is formed by 45 members in Vollavicencio who are inhabited all over the Department of Meta. The head office of this cooperative is established in Vilavicencio.

Furthermore it is confirmed that there exists ANUC (National Association of Rural Users) of Ariari in the study area, but its function and objective have not been revealed in the course of the present phase of the study (according to HIMAT's pre-F/S report, this association works for construction of rural infrastructure and redistribution of lands).

H.2.3 PROCAME

In search of better marketing of cacao, growers of cacao in Meta have incorporated the cooperative in 1984. The cooperative has its head office in Granada and five purchase centers are in Granada and the other four municipalities in the Ariari region. At present, a total of 280 growers are affiliated with the cooperative. The main activity of Procame is to purchase cacao from growers and to trade it to both international and domestic markets.

TABLES

TABLE H-1-1 CREDIT SERVICE TO FARMERS

		GRANADA			FUENTE DE ORO			LEJANIAS			TOTAL			
		N°.of Credit	Covering Area (Ha)	Amount (x 10³)	N°.of Credit	Covering Area (Ha)	Amount (x 10³)	N°.of Credit	Covering Area (Ha)	Amount (x 10³)	N°.of Credit	Covering Area (Ha)	Amount (x 10³)	Percentage %
I	Crop Production													
	Cacao	23	110	7,555	2	7	436	16	49	4,368	41	166	12,359	1,2
	Cassava	3	8	480				1	3	162	4	11	642	
	Coffee							27	124	3,810	27	124	3,810	
	Kidneybean	1	1	100							1	1	100	
	Lulo							4	11	1,140	4	11	1,140	
	Maize	142	746	53,684	14	201	13,816	70	314	19,030	226	1,261	86,530	8,6
	Papaya	1	3	400				23	47	9,345	24	50	9,745	
	Plantain	18	54	4,294	23	105	11,770	47	122	11,635	88	281	27,699	2,7
	Rice (Paddy)	10	255	30,544	5	187	18,960				15	442	49,504	4,9
	Rice (Upland)	273	2,948	271,343	267	3,615	340,903	29	217	21,004	569	6,780	633,250	62,6
	Sorghum				2	13	250				2	18	250	
	Sugarcane	1	3	240							1	3	240	
	Tomato	1	1	150							1	1	150	
	Citrus	1	7	1,496							1	7	1,496	
	African Palm	1	55	11,000							1	55	11,000	1,1
	Maracuyá							1	2	330	1	2	330	
	Subtotal	475	4,191	381,286	313	4,128	386,135	218	889	70,824	1006	9,208	838,245	82,9
II	Livestock													
	Cattle	16	-	25,727	6	-	8,860	47	-	20,020	69	-	54,607	5,4
	Swine	3	-	796	2	-	550				5	-	1,346	
	Poultry				1	-	808				1	-	808	
	Pasture	5	66	1,808	3	38	2,380	4	138	1,200	12	242	5,388	
	Aquaculture	13	-	4,040				6		2,450	19	-	6,490	
	Subtotal	37		32,371	12		12,590	57		23,670	106		68,639	6,8
III	Other Agricultural Purpose	13	-	17,922	16		62,230	11		2,585	40		82,737	8,2
IV	House and Infrastructure	27	-	6,175	12		2,996	52		11,628	91		20,799	2,1
V	Others	2		1,150							2		1,150	
	TOTAL	554		438,904	353		463,959	338		108,707	1,245		1.011,570	100

Souce: Caja Agraria - Pfeestamo Nuevo - Programas Maneja Subgerencia de Credit, Acumulado Semestre A/1988

TABLE H-1-2 FARMERS CREDIT BY SOURCES UNIT: $ X 10^3

Mmicipal / Credit Source	Caja Agraria's Fund	(%)	DRI Program	(%)	Agricultural Finance Fund	(%)	TOTAL
Granada	43,821	10,0	100,030	22,8	295.053	67.2	438,904
Fuente de Oro	11,102	2,4	35.092	7.6	417,765	90.0	463,959
Lejanías	26,853	24.7	41,987	38,6	39,867	36,7	108.707
TOTAL	81,776	8.1	177,109	17,5	752,685	74.4	1.011,570

Source: Caja Agraria. PRESTAMOS NUEVOS - PROGRAMA MANEJA SUBGERENCIA DE CREDIT, Acumulado semestral. Semestre A/88

TABLE H-1-3 FFA'S CREDIT LINES

MODEL	OBJECTIVE	BENEFICIARIES	AMOUNT	INVESTMENT TO BE FINANCED	PERIOD	INTEREST	SPECIAL CONDITIONS
Integrated Rural Development	To supply small farmers with a series of integrated credit services in such fields as health, education, residence, construction of road and other infrastructure required to increase production and improve their income levels.	Small farmers	Individual project: up to Col$1,500,000	Agriculture, fishing, livestock, agricultural infrastructure, marketing facility, machinery, commercialization, house, sanitation, agro-industry	In accordance with vegetative or productive period	According to total assets of the user	The DRI's credit should be provided technical assistance
Annual, semi-permanent and permanent crops	To promote production of food and primary materials	Small and medium farmers	The amount shall be determined in accordance with debt capacity of the user	Direct production cost such as labor, land preparation, sowing, weed control, harvest, packing, transport, purchase of inputs	Until harvest time plus one month for marketing	According to patrimony of the user	
Milking cow	To improve nourishment of farmers	Small farmers	Up to Col$600,000	To buy no more than 4 caws with maximum unit price of Col$150,000	Until 6 years incluyend one year of grace period	According to patrimony of the user	
Integrated farm	To procure complete employment of faborforce, production, technology with lower cost	Small, medium and large farmers	To be determined in accordance with debt capacity of the user	Working capital for maintenance of crops and animals, development of integrated agricultural and livestock project and land improvement	Up to 8 years	According to total amount of assets	To have own farm no smaller than 3 ha. Technical assistance is obliged
Fattening animal	To increase production of fattening animal	Small and medium farmers	Up to Col$1,000,000 para integrated projects	To get animals	Up to 18 months	According to patrimony of farmers	
			To be determined in accordance with debt capacity of the user	Sowing of pasture for cutting and permanent use and to construct ranch	Sowing of Pasture: up to 4 years Construction of ranch: up to 12 months	According to patrimony of the user	
Land adquision	To contribute to socio-economic development and to guarantee equivalent distribution of income facilitating farmers to adquire land large enough to support their family	Authentic farmers and pensioners of public and private sectors	Up to Col$3,000,000 The amount will be determined on the basis of 150% of the assessment value of lands	To get farm	Until 15 years	According to patrimony of the user	Those who get credit of this model should be engaged in farming activity in exclusively
Agricultural machinery	To facilitate purchase of agricultural machinery	Small and medium farmers	The amount shall be determined in accordance with debt capacity of the user	Purchase new and used machinery and their repairment	Up to 5 years for new machinery, 3 years for used machinery and 2 years for repairment	According to patrimony of the user	To have own or leaged lands which are large enough to introduce machinery
Residence in rural area	To enhance living standard of farmers	Small farmers	Col$400,000	Sanitation: up to Col$100,000	Until 5 years	17% per year	To be land owner living in rural area more than 1 year
				Expansion or repair: up to Col$250,000	Until 10 years		
				Construction of new house: up to Col$400,000	Until 25 years		
Other agricultural investment	To promote development of land improvement and infrastructure required for attaining better productivity	Small and medium farmers	The amount shall be determined in accordance with debt capacity of the user	Construction and repair of fence, installation for ploutry, in-farm road, flood and erosion control, silo, irrigation works, wells and other works required to improve land productivity	In accordance with investment to be financed	According to patrimony of the user	To be owner of the land in which works are to be developed

TABLE H-1-4 EXTENSION WORKERS

ENTITY	NO. AGRONOMIST	NO. VETERINARIAN	NO. AGRICULTURAL EXPERT	NO. OTHERS
Independent	41	55*		
INCORA	2	3	14	6
SENA	1	1	20	1
UNILLANOS	-	-	3	-
FEDECACAO	1	-	4	-
CAJA AGRARIA	1	1	17	-
I.C.A.	5	2	17	4
FONDO GANADERO	-	2	-	-

* Especificar (P.Ejem: I. Agricolas, Agrologos, etc.)

Fuentes INFORMACION PERSONAL CON LAS ENTIDADES

TABLE H-1-5 PNR'S INVESTMENT BY MUNICIPALITY IN META

	1987	(%)	1988	(%)
CUBARRAL	35,230	(15.7)	36,900	(11.7)
EL CASTILLO	12,487	(5.6)	21,800	(6.9)
FUENTE DE ORO	19,476	(8.7)	27,300	(8.7)
GRANADA	62,510	(27.9)	78,600	(25.0)
LA KACARENA	4,000	(1.8)	15,000	(4.8)
LEJANIAS	21,650	(9.7)	21,400	(6.8)
MESETAS	19,100	(8.5)	23,400	(7.4)
PUERTO LLERAS	10,150	(4.5)	17,500	(5.6)
PUERTO RICO	6,800	(3.0)	24,400	(7.8)
SAN JUAN DE ARAMA	13,430	(6.0)	24,100	(7.7)
VISTA HERMOSA	19,037	(8.5)	24,100	(7.7)
TOTAL	223,870		314,600	

TABLE H-2-1 FEATURES OF THREE COOPERATIVES

	COAGRO LEJANIAS	COAGRO ARIARI	PROCAME
1. No. of Members	38	102	280
2. No. of Active Members	25	n.a.	204
3. Covering Municipalities	Lejanias	Granada Fuente de Oro	Granada El Castillo Guamal Cubarral Puerto Lleras
4. No. of "Veredas"	18	14	180
5. No. of farms			
1) Smaller than 50 ha	35	n.a.	268
2) Larger than 50 ha	3	n.a.	12
6. Major Products	Plantain Papaya	Rice Sorgham	Cacao
7. Financial Statuo			
1) Paid-up Capital	1,550,192	5,477,205	8,166,400
2) Total Assets	6,462,975	195,659,314	33,713,691
3) Total Liabilities	4,228,279	179,710,327	26,095,653
4) Profit	4,547,577	3,516,514	854,190