

PD-AAA-966-F1 MONTHLY ACTIVITY REPORT

DECEMBER 1976

PROJECT: 521-15-190-069 THE J.G. WHITE ENGINEERING CORPORATION
HAITI Irrigation 4792

I INTRODUCTION

Staff level of the J.G. White Engineering team was reduced by one with the departure of Thomas Ryan, Topographer, on 8 December. Mr. Ryan had completed his contract and family problems prevent his renewal. Mr. Ryan's position will be filled shortly after the first of January 1977.

DARNDR personnel started the Christmas - New Year holidays leave on 17 December, thus closing the Dubreuil Irrigation System rehabilitation project until their anticipated return to work on 3 January 1977.

II GENERAL ACTIVITIES

With a foreshortened work month of but 13 days, construction progress fell behind schedule. Design work by J.G. White team members continued, and in spite of the lack of counter-part personnel in this area for November and December, is currently ahead of schedule.)
(See design drawings)

Organizational meetings for the Dubreuil Irrigation Cooperative continued through-out the month, with frequency only slightly reduced for the latter two weeks.)

One additional group was formed in December, bringing the total to six of a targeted 11 groups to be formed prior to the establishment of the Temporary Dubreuil Irrigation District.) The groups presently organized are at Le Duc - Ducis, Boval, Gerard Bourdet, Beraud and Massieux II. Remaining to be organized are the five groups of Massieux I, Burin I, Burin II, Labaye and St. Felix. (See Map 8.7-2)

Orientation of these groups has been aimed toward recognized common social and economic needs. This includes training in how cooperative efforts will establish water requirements and equitable permanent distribution of irrigation water. Groups are informed of the benefits of cooperative marketing of farm products and the advantages of cooperative purchasing of farm equipment, joint storage and purchased crop inputs, all of which could be made available through group action. The response from the vast majority of the farmers has been favorable, a reaction completely unforced and voluntary.)

Each of the groups organized has elected a slate of officers. These elected group officials tend to represent the more progressive farmer, as expected, but not necessarily the more affluent. Each officer is a land owner in the specific habitation or combination of habitations represented by a group. Because of the fact that it is common for a farmer to own or lease more than one parcel of land, it is possible that an aggressive and active farmer might serve as an official with more than one group. This however has not occurred during the formation of the first six groups.

Local interest continues high in the Dubreuil Irrigation System Rehabilitation. It is almost a daily occurrence that a group of Cayes area residents will tour the project to see just what is going on and ask questions of workers on the project.

Three planning meetings were held with DARNDR personnel assigned to the project. Problems exciting the most interest involved: authorization to use vehicles after normal work-hours or on non-work days for project business. An example would be attendance of a meeting after 1400 hours or on a week-end. It should be noted that most farmers work from early morning until approximately 1400 hours. They are usually free to attend meetings between 1400 - 1800 hours weekdays plus most of Saturday. [It is therefore probably not good project management to restrict official use of vehicles to the regular working hours.

It is anticipated some difficulty may be experienced in achieving the needed flexibility in the use but not abuse of vehicles during off-duty hours, however a suitable solution will be proposed in January.]

Other subjects at the meetings concerned security of vehicles, and control of their speed.

Classification of the areas of responsibility, DARNDR - USAID/H + J.G.P. was a major subject of one meeting. Projections of project material requisitioning requirements was another subject. [In many cases, parts and materials to be purchased with project funds are not available in the Cayes market-place. It was resolved that the J.G. White Port-au-Prince office should purchase the requisitioned materials, paying cash and send the paid invoices to Cayes for repayment from project funds.]

(The preliminary planning for the establishment of a permanent operating headquarters for the Dubreuil Irrigation District was a subject of another meeting. A search for a suitable site is now under way.) [Certainly because of the prolonged illness of the DARNDR design engineer and the resignation of a DARNDR survey engineer, the design and construction of this center of operations will be delayed. Because of the loss of these two valuable men some delay may also be expected in the start of construction of the secondary canals. The start of work on these canals was scheduled for the second week in December.] This starting date has now slipped to 17 January.

(Transportation of materials to the construction sites was hampered by a series of break-downs of the single dump truck assigned to the project.) This truck was not available for 5 of the 13 working days in December because of broken springs and 2 leaking grease seals. With planned acceleration of construction operations in several scattered locations within the project area, the sporadic shortage of hauling capabilities compounds project problems.

(It would certainly be recommended that when equipment requirement lists are established for a project of the size, or larger, than Dubreuil, consideration should be made of furnishing more than one dump truck.)

Personnel transportation (Jeeps and Cherokees) assigned to the project as new or almost new vehicles continue to maintain an average of 20% out of service. Recurrent problems are: batteries, suspension, springs, grease seals, and shock-absorbers. In the case of springs, one new heavy duty spring for a Cherokee (available only in Port-au-Prince)

retails for \$ 120.00. The project has found a satisfactory replacement for \$ 72.00 by building up on a "standard" truck spring. A set of brake shoes, complete, retails for \$ 130.00 for a CJ - 5 Jeep and \$ 187 for a Cherokee. We have found that 50% of the cost can be saved by riveting rather than bonding new shoes to the existing castings. Bonding facilities are not locally available.

The experience of 4 - 5 months of operation indicate the following time - costs.

<u>Cherokee V - 8</u>		± 1500 miles per month
Gas consumption	approximately	6.7 M.P.G.
Spark plugs	5000 miles - \$ 1.50 each	
battery	4 months	\$ 85.00
springs	1 per 6 months	120.00
brakes	set per 4 months	187.00
coil	6 months	36.00
tires	set of 4 - 6 months	340.00
body breaks	6 months	50.00
shock absorbers	4 per 6 months	88.00
electrical system	6 months	50.00

To these part prices approximately 10% should be added for labor costs.

<u>CJ - 5 Jeep (6 cylinder)</u>		± 1000 miles per month
gas consumption	approximately	11.2 M.P.G.
spark plugs	5000 miles	\$ 1.50 each
battery	3 - 4 months	85.00
springs	1 per 6 months	95.00
brakes	set per 3 months	120.00

coil	6 months	36.00
tires	set of 4 - 8 months	340.00
body breaks	6 months	80.00
shock absorbers	4 per 6 months	75.00
electric system	6 months	50.00

Labor cost are as above on Cherokee.

It is estimated that to operate a Cherokee under project conditions costs \$ 400 per month or \$ 0.2666 per mile (\$ 0.1656 per km). The cost of a CJ - 5 Jeep under the same conditions is \$ 250 per month or \$ 0.250 per mile (\$ 0.1554 per km).

The limited experience with the International Diesel dump truck, which was received by the project in damaged and poor condition, does not permit accurate operating cost estimates. This particular truck has cost the project over \$ 1200 in spare parts, tires, etc. in three months of operation. P.O.L. is currently \$ 0.182 per mile (\$ 0.113 per km). Usage is averaging 75 miles per working day (120.6 km).

[Notice was given to all workers that the free lunch program would be discontinued upon resumption of work after the 1st of the year. A search continues for a source of food stuffs which will allow the project to continue it's successful lunch program.]

Financial reports on the Dubreuil project for December can not be incorporated in this report as the Administrator, Mr. W. Timmer received a severe injury in an automobile accident which has hospitalized him in Port-au-Prince. The December financial data will be included in the January 1977 Monthly Report.

(Construction of the new canal section, in the spring area, has reached sufficient elevation to bring it to the turn-out point of the new aqueduct section. Excavations for this section are 40% complete and should be completed by mid-January.)

Other construction activity statistics follow:

Km of main canal right of way cleared	1.950
Km of secondary canal right of way cleared	1.010
Km of main canal constructed	0.132
Km of roads repaired	0.095
Km of roads opened	1.000

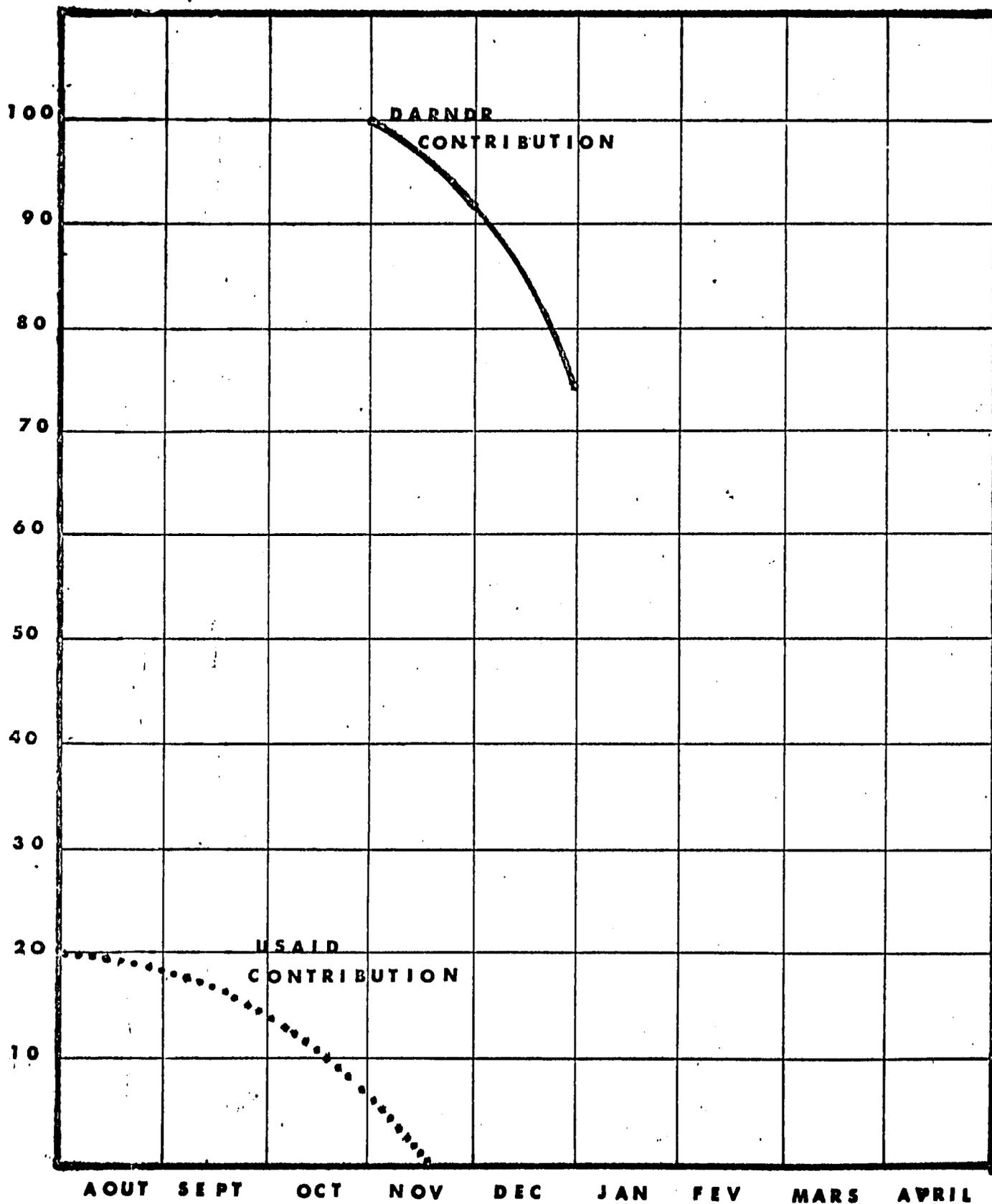
Material Stock-piled

Sand (washed)	39.16 m ³
Gravel (washed)	24.92 m ³
Rock (not washed)	64.08 m ³

PROJET DE DUBREUIL

SITUATION FINANCIERE

MILLIER
DE US \$



PROJET DE DUBREUIL

RESEAU DE DISTRIBUTION PREVU

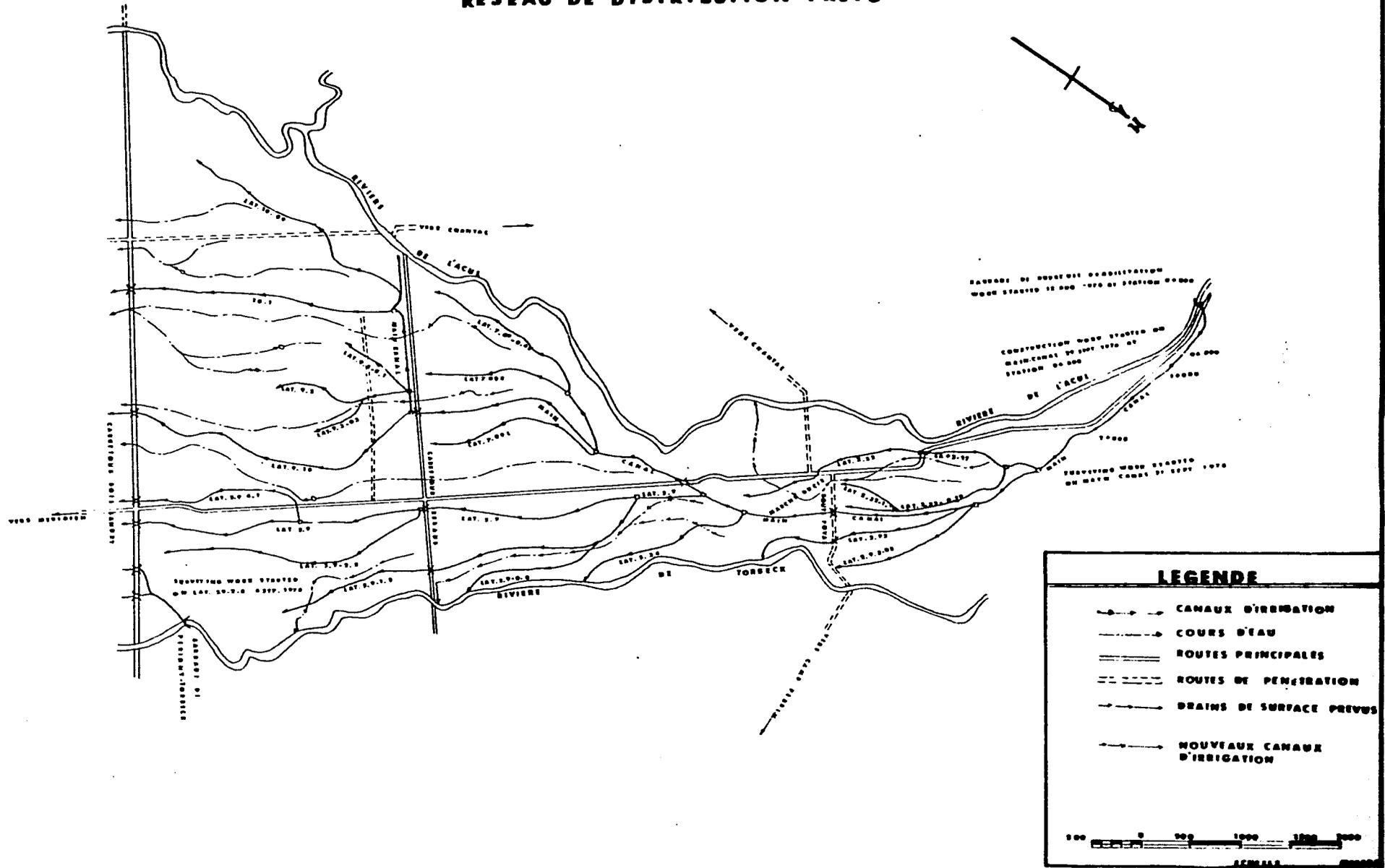
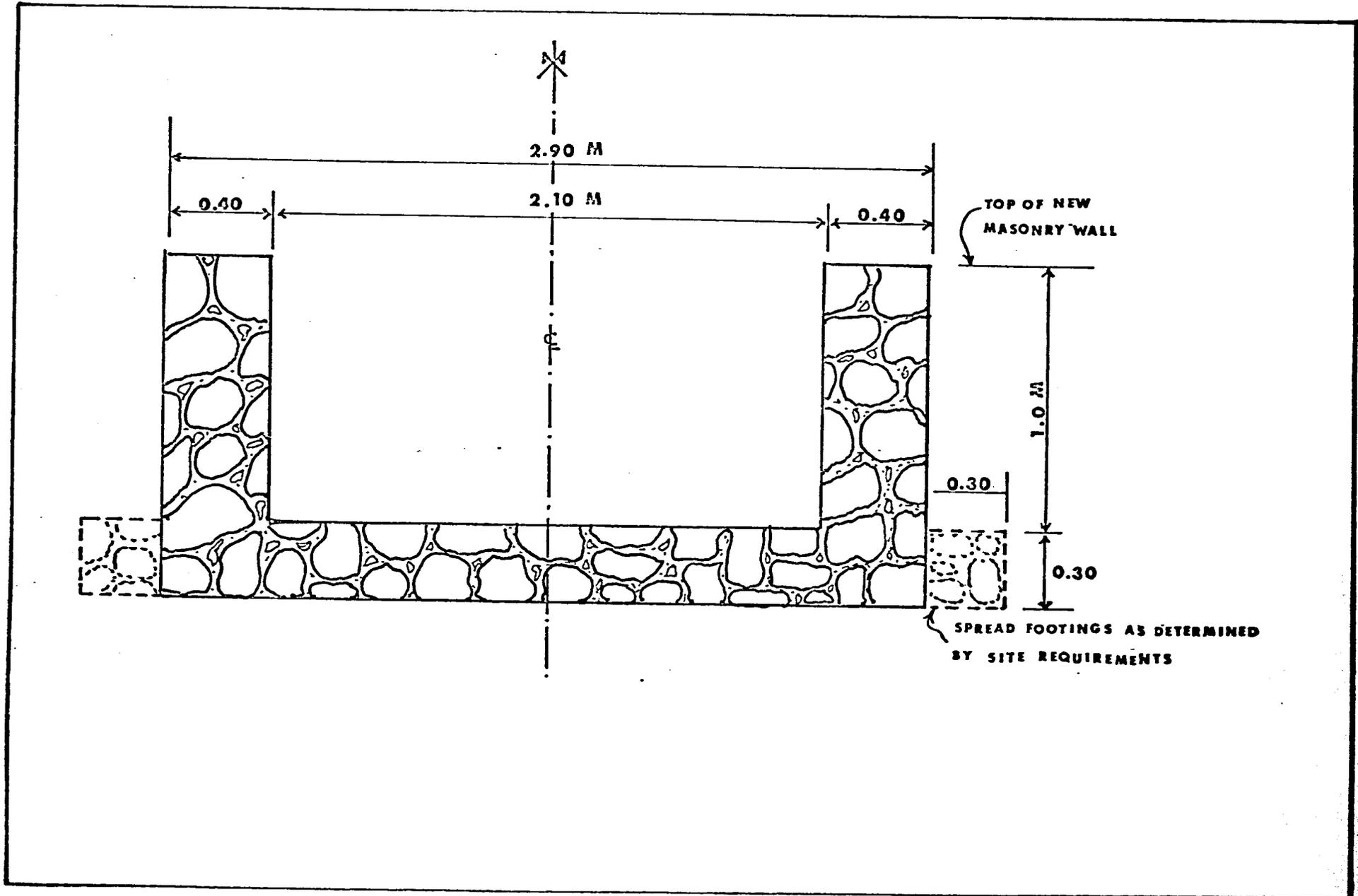
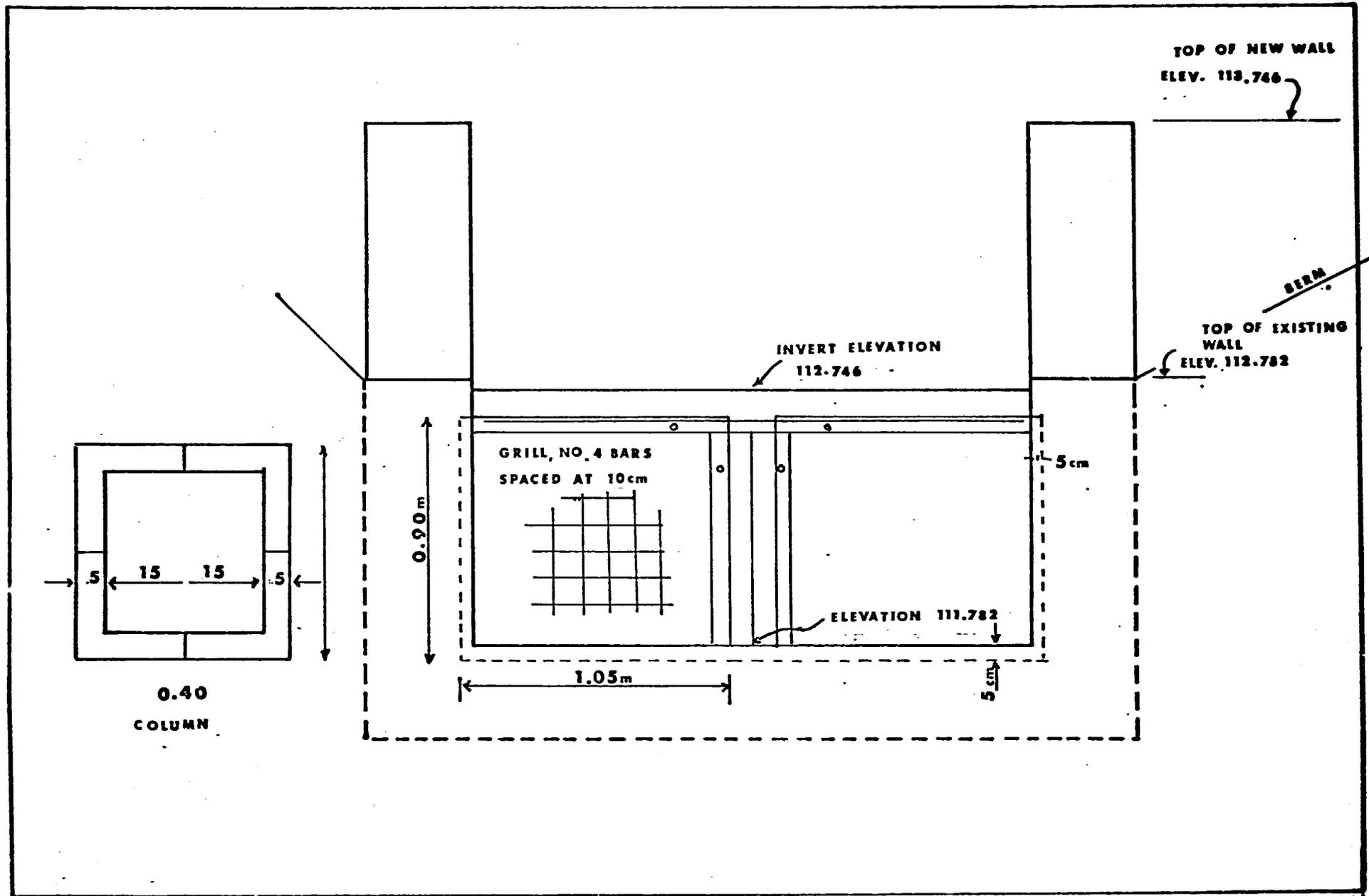


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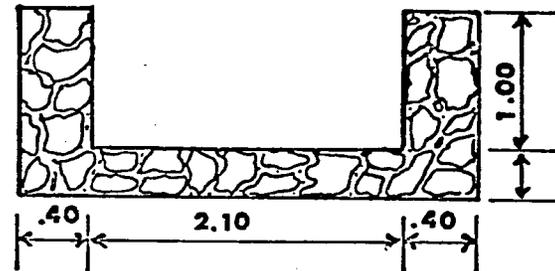
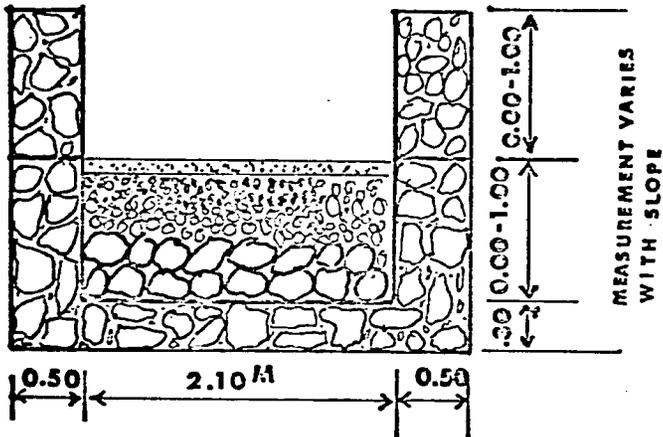
DUBREUIL PROJECT
TYPICAL CROSS SECTION OF NEW CANAL



DUBREUIL PROJECT.
CROSS SECTION AT STA. 0 772 (END OF BYPASS)



DUBREUIL PROJECT
NEW MASONRY SECTION AT THE SPRING AREA



MATERIALS FOR ABOVE SECTION (173 M³)

ROCK	86.5 M ³	
MORTAR	28.3 M ³	
CEMENT	198 SACKS	
SAND	28.5 M ³	
GRADED ROCK	182 M ³	(FILLER)

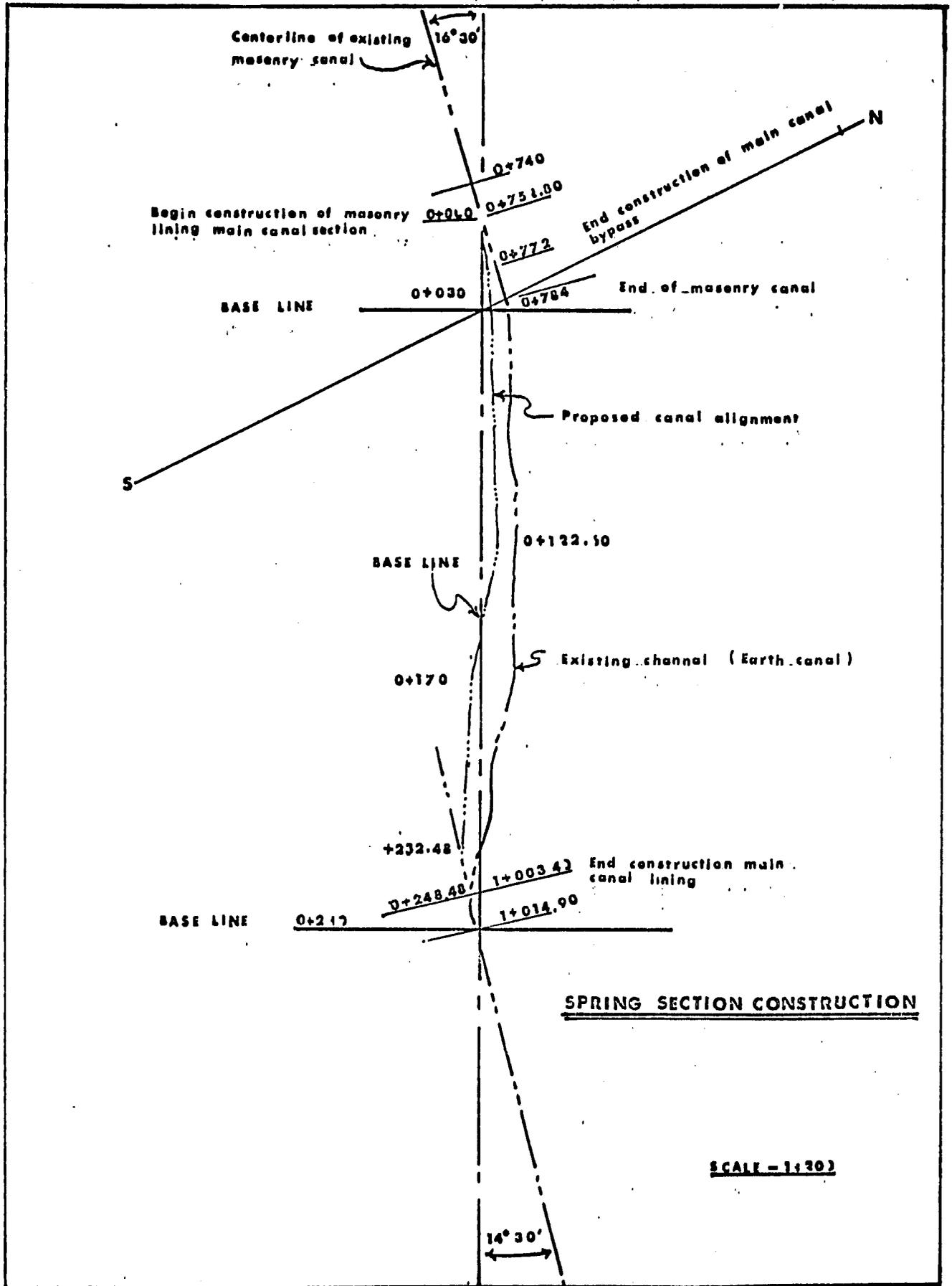
CONCRETE CAP (36.5 M³)

CEMENT	290 SACKS
GRAVEL	22 M ³
SAND	15 M ³

MATERIALS FOR ABOVE SECTION (248.5 M³)

ROCK	186 M ³
MORTAR	91 M ³
CEMENT	647 SACKS
SAND	91 M ³
EXCAVATION	454 M ³

DUBREUIL PROJECT



REHABILITATION OF DUBREUIL

EXHIBIT 8.6-1

SOCIO ECONOMIC SURVEY

CHARITE JEAN, AGR.

AUGUST - SEPTEMBER 1976

DUBREUIL REHABILITATION PROJECT

I.- General

II.- Project Area

III.- Work Plan

1) Population

1.1 Age

1.2 Matrimonial conditions

1.3 Family charges

2) Land Tenure

2.1 Total area in used

2.2 Total area irrigated

2.3 Total area without irrigation

2.4 Size and number of farms

2.5 Current land used

- leased land

- Metayage

- Owner

3) Agriculture

3.1 Activities in the area

3.2 Principal crops

3.3 Cropping calendar

3.4 Financial and technical aid

3.5 Work organization

4) Breeding

5) Recommandations and conclusions

I) GENERAL

The Dubrauil rehabilitation project undertaken by the J.G. White Engineering Corporation in cooperation with the Haitian Government and financed by USAID was started in Cayes Plain at the beginning of August.

In the past most of the infrastructure was built such as the diversion Dam on the Acul River upstream of Ducis, and the main Canal, but there were practically no laterals constructed, making the systems less than fully operational.

The aims of this project are very precise: - Rehabilitation of the Dam and the deteriorated main canal, construction of additional laterals - In other words to set up an adequate and operational irrigation system.

In the mean time the Agriculture Section started an agricultural survey in the area which will be served by the system as the first stage of its program.

II) PROJECT AREA

The project area is approximately 2,300 ha (see Soils Map) and has 9,350 inhabitants, (see SNEM Bensors 1972) an average of 0.25ha/inhabitant.

II.I - A list of the farms, population irrigable area in each of them is contained within the Interim Report.

III) WORK

This survey was made in August - September 1976 on 10% of the population. The following is a summary of this study.

A.- IDENTIFICATION OF THE FARMERS

1.1 Age

Age	No of Farmers	%	Category
0 - 20	3	0.3	Very young
21 - 40	315	34.1	Young
41 - 60	423	45.3	Old
61 - 80	186	19.5	Very old
81 - 100	8	0.8	Very old
TOTAL	935	100	

1.2 Matrimonial Conditions

Matrimonial Conditions	Number of People	%
Married	275	29.6
Common Law Marriage	430	46.9
Widowers	25	2.8
Bachelors	195	20.8
TOTAL	935	100

III.-2 LAND TENURE

Agricultural development has been held up by the fragmentation of the land. The parcels are very small, from 0.5 to 1 ha. They are not only very small but frequently not close to each other. The farmer usually occupies several small tracts of (0.25 to 0.50) located in different places perhaps even in different habitations.

These small tracts may be of different origin:

- a) Land of a property which comes from inheritance or sale.
- b) Leased land.
- c) Metayage.

2.1- The farmer may be, owner, leaseholder or "Metayer".

2.1- Total land used:
963.61 ha (an average of 1.03 ha/farmer)

2.2- Size and number of farms

Size of farms	No. of farms	%
Farms of 0.50 carreau	1.111	71.08
Farms of 0.50 to 0.99 carreau	269	17.21
Farms of 1 to 1.49 carreau	127	8.13
Farms of 1.5 to 2 carreaux	36	2.30
Farms of more than 2 carreaux	20	1.28
TOTAL	1.563	100

2.3	<u>Total area irrigated</u>	(ha)	270.16	.....	28%
2.4	<u>Total area without irrigation</u>	(ha)	693.45	.....	72%
2.5	<u>Current land used</u>				
	leased land.....	(ha)	57.48	.....	5.96%
	metayage	(ha)	167.45	.....	17.38%
	owner.....	(ha)	738.68	.....	76.66%

The size of the farms is generally very small and the introduction of better crop production is particularly difficult. The vulgarisation, the credit and buying the inputs can be applied only through agricultural groups. Formation and extension of development is indicated if this will help in grouping the land and developing a cooperative spirit among small farmers.

Because of farming condition, land may not belong to the person working on it, the grouping of land is difficult in the metayage and leasing system.

III-3 AGRICULTURE

The main agricultural problem is the lack of irrigation. Even a good credit program may be unsuccessful without this factor of production.

Fertilizers, chemicals, imported seeds, must be used carefully where there is no irrigation. Prices of inputs are more than double, which is heavy for the farmer. That is why the farmer have difficulties to reimburse the loans after planting of corn and beans.

during long droughts where precipitation is scarce and irregular, it is not worth using total input regularly.

3.1 Area Activities

During the survey on 935 persons questioned, 880 (95%) do farm work and the rest have other activities such as handicrafts, peddling etc., however the economy of this area is essentially based on agriculture.

3.2 Principal Crops

Two (2) crops - seasonal crops - are dominant in the area. Corn and Sorgho. Red beans comes in second because it requires special conditions. Sweet potatoes, manioc, tayo are in association as an insurance crop for local consumption.

3.3 Crops Calendar

Several types of local corn are used for the 1st season February - March to July - August. Sorgho comes in second season August - September to January - February immediately after the corn.

Red beans are cultivated during the rainy season.

CROP CALENDAR (CORN - SORGHO - BEAN - SWEET POTATO)

Crops	Jan.	Fev.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Fev.
Corn 5 mo. Local	:	:	Preparation of land: sowing	:	:	Weeding	:	Harvest	:	:	:	:	:	:
Sorgho (petit-mil): Type 5 months	:	:	:	:	:	Preparation - sowing	:	:	Maintenance weeding	:	:	:	Harvest	:
Beans 2 to 2 1/2 months Cycle 1st	:	:	:	:	:	:	:	:	Preparation	sowing	weeding	:	Harvest	:
Cycle 2nd	Preparation - sowing	:	:	weeding	harvest	:	:	:	:	:	:	:	:	:
Sweet Potato 6 months	:	:	Preparation planting	:	:	Maintenance	Scheduled crops	:	:	:	:	:	:	:

3.4 Technical and Financial Aid

Credit: For 10 years IDAI has had a program of agricultural credit to help the small producer and also for development of agriculture in the area. Some farmers in order to obtain a loan individually sign a contract for the corn and bean planting which will be reimbursed after harvesting the crop.

Introducing new Species

The introduction of the new species of hybrid corn, Pioneer X 304 B - X 304 A (3 months) and using a new cropping system with a good season, should have such results that will create an optimistic climate for the small farmers.

Cultural Practices

Generally cultural practices are rather poor. The tools used - in spite of efforts made by IDAI - are the hoe, the machete and the serpette. Only 17% of the farmers out of 88% which received financial aid from IDAI, used the plough, pulled by animal traction.

3.5 Work Organization

The agricultural work is organized differently depending of the plantation. On the small tracts of 1/16 to 2/16 of carreau, the farmer uses family labor. On larger surface he uses paid labor.

Theoretically a laborer works 5 hours per day but actually the work day lasts only 4 hours from 7 AM to 11 AM. Cost of labor varies between \$ 0.30 and \$ 0.40 per day depending of the season. In the area where rice is cultivated, like Massé and Torbeck wages reach \$ 0.50 per day. Sometimes the laborer comes back in the afternoon and works

from 2:30 to 5 PM, in this case he then receives half of the wage mentioned above.

3.6 Cost of Crops

Cost of crops varies depending of the period of the year and climate. While the cost of corn by container (marmite) was \$0.35 in November in Berault and Bois Landry area, the price was double 3 months later.

After long dryness with the lack of crops the prices go up and usually the Government has to intervene.

In the Ducis market where the majority of crops is sold the following prices were reported during the month of September.

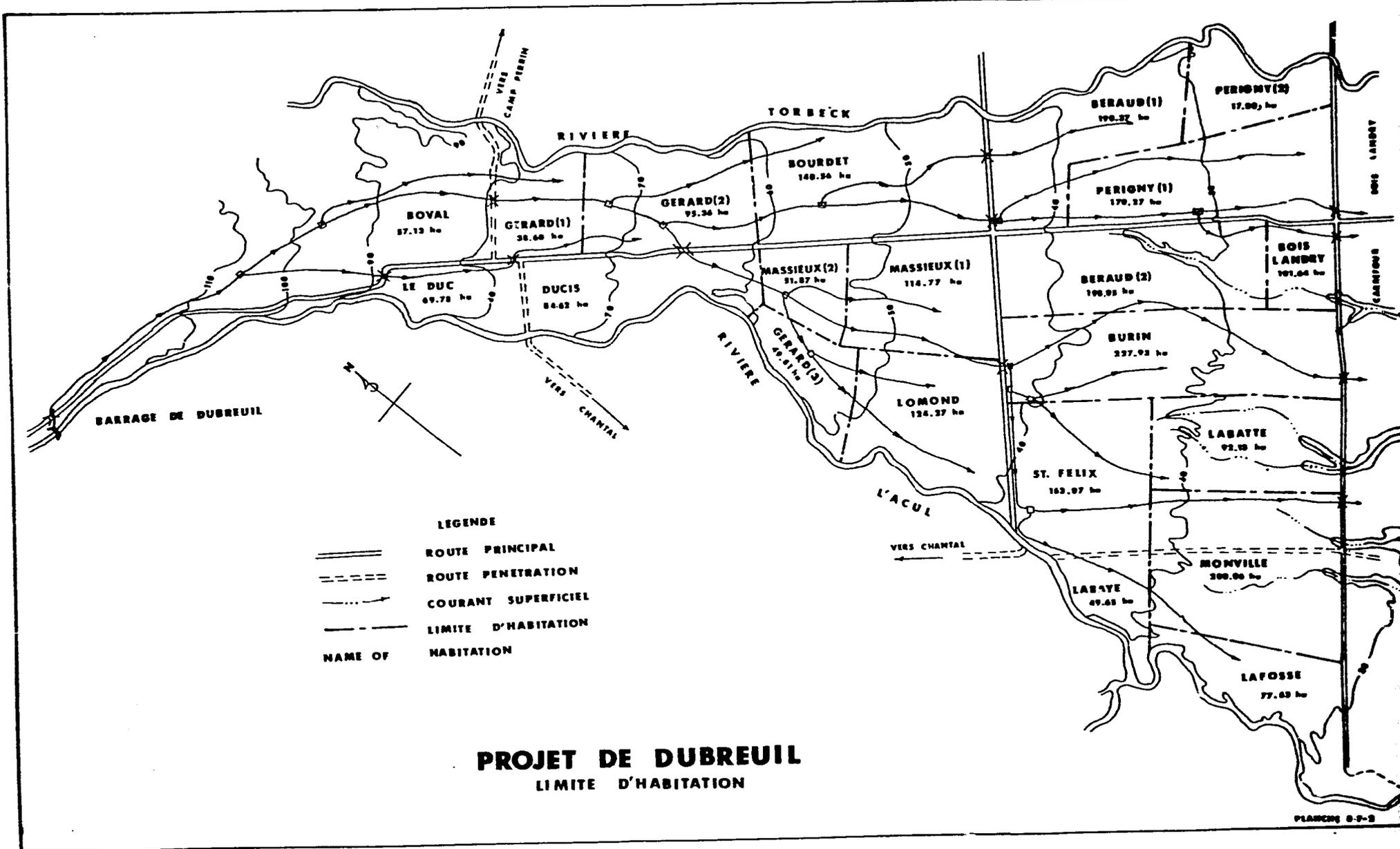
Com	\$ 0.60
Red beans.	1.00
Black beans	1.10
Rice hulled (local type)	1.20
Sorgho unhulled (assiette)	0.35
Egg (unit)	0.05
Beef #	1.00
Pork #	1.20

Prices increase

Price increases of agriculture products are obvious. Although cost for production is high, because of high cost of inputs and labor but the benefits from production are obvious.

YIELD ESTIMATE FOR TWO YEARS (1972 & 1976)

<u>1976</u>	<u>1972</u>
Crop: Local Red beans (2 months 1/2) Improved cultural practices	Crop: Local Red beans (2 months 1/2) Improved cultural practices
With irrigation, fertilizer, chemicals Ploughing with animal traction Yield: 1200 kg/ha (461 cans)	With irrigation, fertilizer, chemicals Ploughing with animal traction Yield: 1200 kg/ha (461 cans)
Estimate value in Gourdes: 461 x ₡. 5.00 = ₡. 2.305.00	Estimate value in Gourdes: 461 x ₡. 2.85 = ₡. 1.313.85
Item of expenses:	Item of expenses:
Inputs: Seeds 80 kg x ₡. 3.120 = ₡. 256.00 Fertilizer 100 kg x ₡. 1.50 . . . = 150.00 Irrigation = 12.00 Chemicals (2). = 40.00 ₡. 458.00	Inputs: Seeds 80 kg x ₡.1.25 = ₡. 100.00 Fertilizer 100 dg x ₡. 0.72 = 72.00 Irrigation = 12.00 Chemicals (2). = 20.00 Chemical for seeds = 5.00 ₡. 209.00
Land preparation animal traction 150.00	Cultural practice 172.00
Weeding, Seeds 60.00	Costs 110.00
Fertilizer, weeding (2)	₡. 491.00
Harvest, drying, transportation 165.00	Contingencies 10% 49.10
Contingencies 10% 83.30	TOTAL ₡. 540.10
TOTAL ₡. 916.30	Direct benefits: 1.313.85 - 540.10 . . ₡. 773.75
Direct Benefits: 2.305.00 - 916.30 ₡.1388.70	



When comparing losses and benefits for these two years we will note that direct benefits in 1976 were higher than 1972. This is because the increase of price for the beans was higher than the ratio of inputs and labor for the period.

The income per one gourde of investment respectively 2.5 and 2.4.

YIELD FOR SOME CROPS

Crops	Traditional cultural practices per kg/ha	Improved cultural practices per kg/ha
Corn	800	3000
Rice	1200	2500
Beans	700	1200
Sorgho	750	2000

III.4 CATTLE

The agricultural practices, of raising cattle are based on tradition. There is no specific grazing area and the animal is attached with a rope to a picket.

The survey indicates that there are:

- Donkeys 1,142
- Goats 376
- Fowl 4,460
- Hogs 1,738

III.5 RECOMMENDATIONS AND CONCLUSIONS

A community development project to be successful must have as principal aim the socio-economic promotion of the rural communities. Therefore the human factor is essential in the development process. This can be accomplished by motivation and real participation of the farmers.

Several methods were used in the past to achieve this objective, grouping of different farmers, or formation of groups on a pre-established pattern. These methods were usually lost in an administrative shuffle.

The cooperative seems to be the best way to motivate the farmers. The notion of a cooperative interests the farmers.

A program of agricultural credit, technical assistance using selected local seeds can be done with the unit in each community.

ESTADÍSTICAS