

G : RURAL SOCIETY AND HOUSEHOLD ECONOMY

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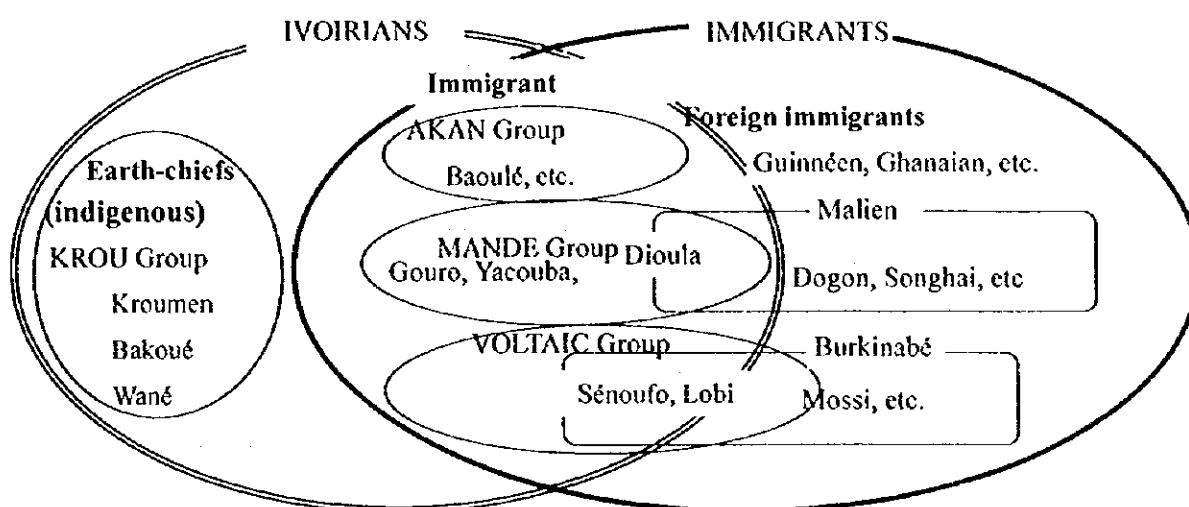
G : Rural Society and Household Economy

G.1 Society and Villages in the Study Area

(1) Society in the Study Area

The Study Area is located in the area of Krou, one of the 4 important Groups¹ of Côte d'Ivoire. Among Krou Group, Kourmen is living in the Atlantic littoral, and in the Study Area their territory is limited at north by Bakoué, at west by Wané. These three ethnic groups constitute the indigenous people, considered as earth-chiefs (Fig. G.1.1) of the area related to the Study. Since 1968, the area has received many aliens from not only inside but also outside the country, that is, neighbouring countries; Burkina Faso, Mali, Guinea and so on.

In short, the Study Area has a society characterized by its complex structure and cultural heterogeneity, which would ensue "dynamism" and perhaps "disorder" at the same time.



Various Constituents of the Study Area

Today, these different groups of people are living side by side in this area or even in the same village as shown in Table G.1.1 to G.1.3.

(2) Society in the Project Area

Cité Agricole, the only village in the Priority Area, consists of two colonies; Campus I and Campus II established in 1976 and 1980, respectively. Apart from other villages in the Study Area which were spontaneously formed by the immigrants who intended to have their own coffee or cacao plantations, Cité Agricole was created by the government having the plan to settle farmers in order to promote irrigated rice production. The population structure by nationality and by ethnic group of the village is different from that of the surrounding areas: Major ethnic groups of this village are Yacouba (Dan) and Sénoufo and also there are small groups of Baoulé and Wobé. The important posts of the village such as a chief or the presidents of GVC are occupied by Yacouba, which gives Sénoufo few opportunities to appear in the stage

¹ Group : large linguistic family comprised of plural ethnic groups. There are 4 Groups in Côte d'Ivoire (Akan, Krou, Mandé and Voltaic).

of external negotiation. However, the solidarity among Sénoufo seems to be strong. They are very good at group works and are used to transplanting and irrigated rice production. The staple food of Wobé and Yacouba is cassava and that of Sénoufo and Baoulé is maize and yam, respectively. But "the most favorite food" is rice for around 60% of adults, first generation of immigrants, and almost all their children.

No conflict among different groups can be observed apparently. However, some frictions among women's groups like between Yacouba and Sénoufo can be recognized. In consideration of the ethnic make-up in surrounding areas, both Yacouba and Sénoufo are minorities, and many Baoulé, Mossi and Gouro people are expected to participate in the Project. Therefore, the power-relations among ethnic groups may change in the Priority Area after new settlers come in for the Project.

Classification of farmers' households and population in the Project Area (as of March 1999)

By living place

	No.H/S	%	population	%
Cité Agricole (Campus I)	6	8.3	35 (38)	8.7
(Campus II)	60	83.4	336(409)	83.8
Other in F/S Area	6	8.3	30 (30)	7.5
Total	72		401(477)	

() No. of members of family including those who living separately

By nationality and ethnic groups

Nationality	No.H/S	%	Ethnic group	No.H/S	%	Religion	No.H/S
Ivoirien	58	80.6	Sénoufo	18	25	Catholic	10
Malien	5	6.9	Yacouba	22	30.6	Protestant	8
Burkinabé	6	8.3	Baoulé	9	12.5	Reveil	8
Others	3	4.2	Wobé	6	8.3	Other Cris.	9
Total	72		Others	17	23.6	Moslem	29
			Total	72		Animist	5
						Other	1

Nationality, ethnic groups and religion to which the head of the family belong to.

G.2 Rural Society and Farm Household Survey in the Study Area

G.2.1 General

The village survey was conducted by the JICA Study Team in collaboration with the ANADER, following the phases below.

- 1) Preliminary survey through the visits to 15 villages related to the Study (listed in Table 3.3.1) to inform the villagers of the objectives of the Study, collect general information and grasp their problems (A village meeting was usually organized by villagers);
- 2) Questionnaire Survey by interview to 107 households carried out by the agricultural extension workers of ANADER San-Pédro Zone Office together with agricultural survey² by means of Questionnaire;
- 3) Survey at the 3 Targeted Villages with different characteristics³ to understand more deeply

² 107 household survey and 99 agricultural survey answers to the questionnaire were collected.

³ These three villages are Petit Pédro (type 2: tree crops cultivation), Cpt. Bernard (type 1: tree and food crops cultivation, focused on market gardening by women), and Cité Agricole (type 2: but rather particular / food crops cultivation, to analyze the causes of failure of the San-Pédro Paddy Project).

- the current situation of concerned villages; and
- 4) Survey households in Cite Agricole for Feasibility Study carried out by the agricultural extension workers of ANADER San-Pédro Zone Office⁴ by means of Questionnaire under the guidance and supervision of the Study Team.

Results of these surveys are described hereinafter.

G.2.2 Preliminary Survey

(1) Preliminary Survey

A simple village survey was carried out in 15 villages or hamlets related to the Study Area in order to inform the villagers of the objectives of the Study, collect general information and grasp their problems. For this survey, a village meeting was usually organized by villagers with the help of ANADER's extension workers. Basic data on these 15 villages or hamlets, social classification and ethnic components are shown in Table G.1.1 to G.1.3. Out line of surveyed 15 villages is shown in Table G.2.1.

(2) Classification and Selection of the Concerned Villages

Among the 15 villages surveyed in preliminary stage, the villages, which meet the following conditions, have been defined as main villages related with the Study Area.

- Relatively considerable population (more than 40 households listed during the preliminary survey)
- Independent village (not belongs to others)
- Recorded in the list presented by the authorities concerned (town council, office of sub-prefecture)
- (A part of) inhabitants having agricultural activities in the Study Area

Then, the following eight (8) villages were selected as main villages and classified from the social and agricultural points of view mentioned below:

- Type of dominant cultivation (tree crops or food) (Table.G.2.2 and G.2.3)
- Ethnic relation between the village chief and territorial chief in connection (Table. G.1.2)

Selected 8 Villages and Their Classification

Dominant cultivation	Tree Crops		Food Crops	
	type1	type2	type1	type2
Cité Agricole				type2
Cpt. Bernard			type1	
Blahou			type1	
Pont Bascule			Type1	
Petit Pédro			type2	
Grand Gabo		Type1		
Scaf		type2		
Fahe	type1			

The village-type 1 directed by one of the indigenous people, and type 2 by one of the immigrants. In the villages type 1, the authority of village chief seems to be exerted on all the villagers as he

⁴ 137, including who are now living out of Cite Agricole village, answers to the questionnaire were collected.

is among territorial chiefs who has an absolute power related with the attribution of land to newcomers. Concerning the village type-2, territorial chiefs are not living there. The village chief himself is an alien and very often the first comer to the place. His role is to lead new comers to contact with the territorial chief who manages the land from outside the territory. As a matter of fact, he is just intermediary and he might not have an absolute influence on the villagers.

In short, type of the village chief is important for the organization of the village and especially for the decision-making on the matters concerning the village. At the village-type 1, the decision belongs only to the chief of indigenous families. On the other hand, in the village-type 2, the chief doesn't always manage whole the village in particular if it is composed of several ethnic groups.

It should be noted that Cité Agricole is rather particular among the villages. It was established for the immigrants with the object of exploiting virgin forest by ARSO. It was created with the initiative of the Government by gathering young volunteers led towards the same goal of "irrigated rice cultivation".

G.2.3 Questionnaire Survey in the Study Area

(1) Questionnaire Survey in the Study Area

This survey was carried out by the agricultural extension workers of ANADER San-Pédro Zone Office, according to the following stages:

- 1) Census of the farmers having some agricultural activities in the Study Area ;
- 2) Sampling of 107 farmers' households based on the census list in Table G.2.5, consideration of their living place and area of their farm land;
- 3) Interview the samples using a formulated questionnaire given in the following pages.

Results of survey and summaries are shown below:

(2) Characteristics of Interviewees

1) Place of residence

Village	No. of farmers selected	Village	No. of farmers selected
San Pédro	10	Cpt. Colonele	7
Cité Agricole	12	Petit Pédro	21
Grand Gabo	7	Blahou	12
Cpt. Bernard	18	Fahé	8
Petit Gabo	6	Scaf	3
Pont Bascule	2	Total	106

2) Nationality

Ivoirien	72	Malien	8
Burkinabé	25	Other	1

3) Social background

Group	
Krou	17
Akan	21
Mandé	27
Voltaic	12
Other	29

Ethnic group (language spoken in the family)			
Kroumen	7 (6)	Sénoufo	8 (8)
Bakoué	6 (6)	Dioula	6 (11)
Other Krou	4 (5)	Other Mandé	3 (3)
Baoulé	21 (20)	Mossi	11 (5)
Gouro	8 (8)	Other	23 (25)
Yacouba	9 (9)		

Religion			
Catholic	20	Animist	11
Protestant	5	Other	16
Harriste	8	No religion	8
Muslim	38		

(3) Household Characteristics

A family is composed of 8.6 members on average, in which 6.4 members live together in the same house. Among them, the economic active population is estimated at 3.6 persons (2.3 men) with an average of 2.2 farmers (1.5 men). The average age of the head of a household is 42.1 years old and 31.7 years old for his wife. 64% of the heads have no educational background and 25 % of them have finished primary school.

13% of the married men are polygamous even though polygamy has been abolished by the law since 1964. The majority of couples (87.7%) make the customary marriage. 97% of the households notify birth, but the death is notified only by one third of them. That is because the certificate of birth is necessary for its identity card.

1) Family Characteristics

Total No. of members per family	8.6
In which living together	6.4
Potential work force : over 15 years old (men)	3.6 (2.3)
No. of children per couple	4.8
Average age of Heads (their spouses)	42.1 (31.7)
% of Heads who have been enrolled (spouses)	25 (13.5)
% of enrolled children of 7-14 years old (girl)	61.2 (43.3)

Sex of head (%)	Male	94.3	Female	5.7
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2) Marital status of couple (%)

Officially married	9.4
Customarily married	73.6
Single	6.6
Widow / Widower	6.6
Divorced	3.8

Monogamy	88.6
Polygamy	11.4

3) Occupation

Occupation (%)	Head of household		Spouse (/100*)	
	Main	Secondary	Main	Secondary
Farming	83.0	13.2	44.0	27.0
Business	0	17.9	10.0	10.0
Public service	1.9	0	0	0
Other type of salaried worker	7.5	2.8	0	0
Housework	0	0	46.0	19.0
Nothing	0	62.3	0	44.0
Other	7.5	3.8	0	0

*including second wife

4) % of families who register

(% of households / all)

Birth	80.2	Death	27.4
Marriage	5.7	Move in/out	0

(4) Living Conditions

1) House

92% of the interviewees stated that they were the owners of their houses, often built on the ground granted by the village chief. The typical village house is built of banco (earth) with the thatched roof of wild raffia (called "papeau"). The well-built house with cement and zinc roof can be one of the symbols of richness in the village.

a) How long have you lived in this place?

14.8 Years

b) The status of your house occupation (%)

Owners	91.3
Tenants	8.7

Number of rooms	
	3.9

* 3/4 of families have 4 rooms or less

c) The building material of your house (% of all households)

Wall	
Wood	16.0
Banco (earth)	53.8
Cement	23.6
Concrete	0.9
Wood and banco	12.3

Roof	
Papeau	44.3
Tin roof	54.7
Straw	0.9
Tile	1.9
Other	2.8

2) Farmlands (refer to 3.3.4 in the Main Report)

a) Scale of land and ownership

Type of holding	% / all	Average area
Owners	92.4	10.9 ha
lease	14.3 (5.7*)	2.1 ha
No cultivated land	1.9	-

* those who have only leased land

Modality of access to the lands (% of 98)		Average
Customary	81.6	10.9 ha
Legally	20.4	2.1 ha
Other	3.1	-

What did you pay to get the lands in customary way? (% of 79)	
Material	17.7
Cash	44.3
Nothing	32.9
Other	5.1

Area of owned land by nationality or ethnic group (ha)

Nationality	Area	Ethnic group		Area
Ivoirien	12.4	Kourmen	Indigenous	11.2
Burkinabé	8.3	Bakoué		15.0
Malien	6.8	Baoulé	Ivoirien immigrants	11.1
		Gouro		5.9
		Yacouba	Foreigners	10.9
		Mossi		6.6

b) Do you pay any land tax? (% of total 90 farmers)

Yes	2.2	No	97.8
-----	-----	----	------

c) Do you want your children take over your farming? (% of 102 farmers)

Yes	96.1	No	3.9
-----	------	----	-----

If "Yes", to whom do you intend to give your farm? (% of 99 farmers)

Eldest son	63.6	75.8	Eldest daughter	2.0	6.0	Brother or sister	15.2
Other son	12.1		Other daughter	4.0		Other	3.0

2) Energy

Only 7% of the households are connected to CIE grid and 11% use batteries as source of electricity supply. The majority of villagers (90%) have just oil lamps to light the house. Among the villages concerned, Fahé was electrified in 1997. But the investment cost was so expensive then only about 10 households out of 360 can access to it now. The most widespread electric appliance is the transportable radio used by 66% of the households. 20% have a television set, sometimes by batteries. Nearly 90% of the households use firewood as the principal fuel, generally collected by women on their way from field.

a) Do you have the facility of electricity supply? (%)

Yes	19.8	No	80.2
-----	------	----	------

If yes, what kind?

(% of 23)	
Battery	10.9
Generator	1.9
C.I.E	7.5

Electrical appliances (%/all)

TV	20.0
Radio	67.6
Refrigerator	1.9

Light (% / all)

Lamp	89.6
Generator	1.9
C.I.E	7.5

b) Fuel used in the house (%)

Firing material	Principal	Secondary
Fire wood	90.4	7.7
Coal	9.6	13.5
Gas	0	1.0
Nothing	-	77.9

3) Transportation

The bicycle is the most common individual means of transportation among villagers (half of the interviewed households have it). The motor bike, one of the symbols of richness, is owned by 10% of the households. There are shuttle "mini-car" between San-Pédro City and the villages along the asphalt road. However, people living in the hamlets away from the road have to make sure of a means of transportation by themselves to reach the road, and very often, walking is the only means. In the villages, there is no telephone service, but communication networks seem to be developed in a way. *Mouth-to-mouth communication* among the ethnic or religious communities cover whole the village, regions, and then all over the country

% of households / all	
Tractor	1.9
Car	2.8
Bike	9.4
Bicycle	47.2
Nothing	46.2

4) Domestic water

Through a year, the most important source of water is the individually owned wells (for 50 % of the households in the rainy season and 43 % in the dry season). The wells used by about 70 % of the households, both individually owned and communal owned, are likely to be dried up in the dry season (especially January to May). In the Study Area, 10 communal tube wells are installed. Water from these tube wells is charged at F.CFA 10 /bucket. Usually a village water committee collects charges. As for quality of consumed water, 91% find its quality good or acceptable in the rainy season, but 26 % of the households find it bad in the dry season.

The average distance to the water points is 26 m for the individually owned wells, 100 m for tube wells in the rainy season. In the dry season, the distance becomes a little bit longer. For 90 % of the households, women and their daughters take the responsibility for supplying water.

a) Water source

Sources (%)	Rainy Season		Dry season	
	Main	Secondary	Main	Secondary
River	2.8	2.8	5.7	2.8
Individual well	50.0	12.3	43.4	12.3
Communal well	27.4	4.7	25.5	5.7
Tube well	13.2	3.8	17.9	1.9
Rain	0	6.6	0	0.9
Tap water	6.6	1.9	6.6	2.8
Other	0	0	0.9	4.7
Nothing	-	67.9	-	68.9

Sufficiency (%)	Rainy Season		Dry season	
	Main	Secondary	Main	Secondary
Sufficient	80.0	16.0	38.4	7.5
Just enough	9.5	2.8	14.1	8.5
Insufficient	8.6	7.5	33.3	8.5
Very insufficient	1.9	0.9	14.1	2.8

Quality (%)	Rainy Season		Dry season	
	Main	Secondary	Main	Secondary
Good	61.5	14.2	44.2	6.6
Acceptable	29.8	9.4	29.5	15.1
Bad	8.7	5.7	26.3	6.6

Distance (m)	Rainy Season		Dry season	
	Main	Secondary	Main	Secondary
	40.9 (0-300)	49.1 (0-500)	60.1 (0-1000)	89.5 (0-1000)

Shortage of water for the inhabitants who depend on individual or communal well

Sufficiency (%)	Rainy season (/81)	Dry season (/67)
Sufficient	74.1	16.4
Just enough	12.3	16.4
Insufficient	11.1	47.8
Very insufficient	2.5	19.4

b) Supplying water

- Do you pay for the water? (%)

Yes	27.5	No	72.5
-----	------	----	------

How do you carry water to house? (%)	
On foot	99.1
By bicycle	0.9
How many times / day	
3.4 times (1-10times)	

Who take a responsibility? (%)				
Wife and daughter	12.3	79.3	Son	2.8
Wife	65.1		Other	7.5
Daughter	1.9		Not fixed	10.4

5) Sanitary

Style of toilet (%)	
W.C	1.9
Latrines	50.0
Open air	48.1

Place for taking bath (%)	
In the court	36.8
Shower place	50.0
Other	10.4
Not fixed	1.9

Place for washing (%)	
In the court	75.5
Near the well	9.4
Other	7.5
Not fixed	4.7

6) Storage

53.8 % of families have one or some storage room(s) in the court or house to keep their harvest and/or farm tool.

(5) Expenses and Home Consumption

1) Home consumption

Almost all the interviewed households cultivate rice for home consumption, but their production does not satisfy the family demand. In January, villagers start feeling the shortage of rice, and it lasts until the moment of harvest. 90% and 75% of the households also cultivate cassava and maize, respectively. The shortage of these two products coincides with the shortage of rice. Most of the households have fruit trees, which supply to the family with various nutritive elements. Nearly 70% of the households have domestic animals (particularly poultry) or fish for sources of protein and also for the festivals.

a) What kind of products do you consume from your own farming? (% of households)

Food crops	97.2
Vegetables	92.4
Fruits	86.7
Other	69.5



Cassava	90.3
Rice	100.0
Yam	43.7
Banana	36.9
Maize	76.7
Other	11.7

b) Does your family keep any food in stock? (%)

Yes	33.7	No	66.7
-----	------	----	------

Food in stock (% of households/ all)

Cassava	23.6	Yam	4.7	Maize	4.7
Rice	28.3	Banana	2.8		

c) Is your family self-sufficient in food? (%)

Yes	28.6	No	71.4
-----	------	----	------

If not, what kind of food is insufficient?

Staple food	% / all	Period	Staple food	% / all	Period
Cassava	25.5	Jan or Jun - harvest	Maize	35.8	Feb. - harvest
Rice	67.0	Dec. - harvest	Banana	11.3	-
Yam	20.8	Jan. - harvest			

2) Expenditure (refer to 3.6.4 in the Main Report)

a) Expenditure (1997) (Fig.G.2.1)

Item	CFA / Year (/all)	CFA / Year (/ concerned)
Rice	97,027	136,362 (74)
Other staple food	90,886	94,522 (100)
Other kinds of Food	165,688	167,296 (103)
Total Food	353,600	-
Rent	2,885	50,000 (6)
Housing / Repairing	10,798	29,551 (38)
Water	7,066	31,948 (23)
Combustible	4722	23,386 (21)
Electricity	17,273	19,740 (91)
Clothing	141,184	141,184 (104)
Transportation	60,566	73,243 (86)
Hearth care	57,810	66,802 (90)
Education	67,083	120,286 (58)
Social activity	160,927	170,780 (98)
Other	16,917	-
Total	900,829	-

b) Shopping living items

Where do you buy daily necessities? (%)	
In the village	16.2
In the neighboring village	5.7
At San Pédro	78.1

Transportation (%)	
Taxi	48.5
Tractor	1.9
Own transport	27.2
On foot	21.4
Other	1.0

The result of the survey using the questionnaires indicates that the crops productions constitute the most important source of income. For 79 % of the interviewed households, 45 % of which depend on this activity entirely without having other sources of incomes.

The following tables show the total average amount of income by category. The average income by village range between F.CFA 1 and 1.5 million except for the two ends, Scaf and Cité Agricole. The latter recorded a relatively or absolutely very small annual income, which represents less than 30 % of the means of the zone.

Annual average income by category

Income source (F.CFA)	Amount (per related household)
Crops Production	913,272 (982,760)
Agriculture*	990,221 (1,021.166)
Non-agriculture	301,573 728.101
Total	1,289,907

* Agriculture: Crops production + livestock + Fishing

Annual average income by village concerned (1997)

Village	Annual average income(F.CFA)	Household having second source of income (%)
Cité Agricole	354,708	17
Grand Gabo	1,079,621	57
Camp. Bernard	1,347,410	72
Pont Bascule	2,054,500	100
Petit Pédro	1,592,905	61
Blahou	1,112,865	20
Fahe	1,167,874	50
Scaf	2,121,000	33
San-Pédro	1,429,996	88
Zone	1,289,907	52

Source: JICA Study Team

On the whole, there is a great difference in income among the targeted households or villages related to the Study Area, which could be explained by the following factors⁵:

- Development of tree crops production related to the topographic condition
- Diversification of the economic activities

The diversification of agricultural or economic activities could be, therefore, one of the most determining factors for the size of incomes. As for the expenditure, nearly 42 % of the current expenditure are absorbed by the purchase of food, in which 25 % and 27.8 % are spent respectively for the purchase of rice and other basic food. These figures suggest that food self-sufficiency is difficult to realize for the farmers, perhaps due to the following reasons;

- Predominance of the tree crops production in the area
- Unfavorable conditions recently appearing such as the inadequate pluviometric distribution, the demographic pressure, etc.

70% of the surveyed households are not able to realize food self-sufficiency and 61% of them feel the shortage of food during a year. The distribution of expenditure also marks the considerable portion on clothing (19 %) due to "the obligatory purchase of women's clothes", one of interesting social aspects. Moreover, the importance attached to the various ceremonies in the society results in financial efforts intended for the social activities (14 %).

For the year 1997, 32% of the sampled households declare a financial deficit, which could be made up by a debt. In addition, the red often observed at farmers' household could suggest that whole expenditures and incomes were not quantified during the interview. The income from "small trade of all the kinds" being regarded as barter (sale and purchase on the spot), and it is practically impossible to count. The annual average income by nationality, perhaps reflect one of the realities of this country. The Burkinabé immigrants dominate the others as regards the size of income. They are weak from the social and political standpoints, but considerable from the demographic and economic viewpoints.

⁵ It should be noted that the year 1997 was pluviometrically abnormal in the rainy season, which devastated the agricultural production in the lowland. Taking into account the type of dominant cultivation in Cité Agricole in question, its very low income for 1977 can be explained.

1) The sources of income (1997) (refer to Fig. G.2.2 to G.2.6)

Source (%)	Principal	Secondary	No. of Sources	% of households
Crops Productions	71.7	16.0	1	50
Livestock Production	4.7	7.5	2	42
Fishing	0.9	0	3	11
Business	4.7	12.3	4	3
Monthly Salaries	3.8	1.9		
Temporal Salaries	2.8	1.9		
Rent	0	4.7		
Monetary Aide	2.8	4.7		
Other	8.5	3.8		
Nothing	-	47.2		

Average amount by source

Source	No. of households (%/all)	Amount 1*	Amount 2 **
Crops Productions	96 (90.6)	954,759	864,688
Livestock Production	18 (17.0)	269,333	45,736
Fishing	1 (0.9)	1600000	15,094
Business	19 (17.9)	569,158	102,019
Monthly Salaries	6 (5.7)	1,392,372	78,808
Temporal Salaries	6 (5.7)	286,897	16,239
Rent	7 (6.6)	532,286	35,151
Monetary Aide	10 (9.4)	503,700	47,519
Other	16 (15.1)	464,781	70,156

* / 106

** / No. of concerned households

Importance of source	No. of households (%/all)	Average amount (CFA)
Principal	106	1,063,657
Secondary	56 (52.8)	298,769
Third	14 (13.2)	275,000
Fourth	3 (2.8)	621,667

Annual amount of incomes (F.CFA)

Average	Std. deviation	Mini.	Maxi.
1,275,413	1,308,813	30,000	7,726,000

Income by nationality or ethnic group (F.CFA)

Nationality	Amount	Ethnic group		Amount
Ivoirien	1,162,207	Kourmen	Indigenous	816,000
Burkinabé	1,619,091	Bakoué		912,274
Malien	802,198	Baoulé	Ivoirien immigrants	1,343,045
		Gouro		1,057,634
		Yacouba		1,105,594
		Mossi	Foreigners	1,531,051

2) Tendency of the evolution of income

The income of 1997 in comparison with 1996 (%)		If your answer 1,2,4 or 5, the main cause of this change is the Fall or the Increasing in (% / 98)			
1. Much more	6.7	Crops Productions	88.8	Salaries	2.0
2. More	42.9	Livestock Production	3.1	Monetary Aid	2.0
3. Same	7.6	Business	5.1	Other	2.0
4. Less	38.1				
5. Much less	4.8				

Tendency of the evolution of income during the latter ten years (%)		If your answer and 1 or 3, the main cause of this change is the Fall or the Increasing ... (%/88)			
1. Increasing	53.0	Crops Productions	86.7	Salaries	4.1
2. No change	12.0	Livestock Production	2.0	Monetary Aide	3.1
3. Decreasing	35.0	Fishing	1.0	Other	3.1
		Business	4.1		

By village	No. of households (%)		
	Increasing	No change	Decreasing
Cité Agricole	1 (9.1)	0	10 (90.9)
Cpt. Bernard	14 (82.4)	0	3 (17.6)
Petit Pédro	6 (28.6)	1 (4.8)	14 (66.7)

c) Intention

Are you satisfied with present income? (%)

Yes	29.2	No	70.8
-----	------	----	------

Is your present income enough for keeping the family life? (%)

Yes	16.0	No	84.0
-----	------	----	------

If No, how much do you expect to maintain your life (annually)?

2,951,000 CFA/year

3) Debt

Do you often have a debt? (%)		Type of debt (% / 65*)		From whom? (% / 65*)	
1. Very often	1.9	In kind	12.3	Bank	1.6
2. Often	12.4	In cash	86.2	GVC	17.5
3. Sometimes	32.4	Other form	1.5	Middle man	1.6
4. Rarely	14.3			Individual	66.7
5. Never	39.0			Others	12.7

*Those who answered 1,2,3,

How many percentage of the interest you borrow? (%)

Interest rate	0%	5%	25%	50%	100%
Share in %	86.4	1.7	1.7	5.1	5.1

* debt with interest only from individual lender

How and when do you pay back?

When	(%)	How (%)	
Monthly	13.8	In kind	3.2
Regularly	8.6	Giving a part of harvest	9.7
Just after harvest	74.1	In cash	87.1
Other	3.4		

(6) Social Activities

1) GVC

Are you a member of agricultural GVC?

Yes	49.1	No	50.9
-----	------	----	------

* all interviewees of Cité Agricole and Scaf join GVC, more than 3/4 of interviewees of Petit Pédro join also GVC. Meanwhile, less than 50 % of interviewees are members of GVC in the other villages.

a) How many years since you become the member? average (/ 52)

b) Describe the GVC

Type of GVC : production (55.8%),..... marketing (90.4%), credit (0)
 No. of members : annual crops GVC (35 - 463),... food crops (paddy) GVC (5 - 26)
 Process of Decision making : by general assembly

2) Religion

a) Is your family believing the same religion? (% / 103 with out "no religion")

Yes	78.6	No	21.4
-----	------	----	------

b) Do you go to church / temple / mosque regularly? (% / 86, without "no religion" and animists)

every week	65.1	sometimes	25.6	Rarely	2.3	Never	7.0
------------	------	-----------	------	--------	-----	-------	-----

(7) Life Style

1) Disease / Sickness (epidemic , parasite)

a) Frequent disease for the family

The most frequent disease in a year (%)	
Malaria	72.3
Diarrhea or bellyache	5.3
Buruli ulcer	4.3
Headache	2.8

Frequent diseases in a year (%of 106)	
Malaria	84.7
Diarrhea or bellyache	34.6
Buruli ulcer	6.1
Headache	3.8

b) Period of the disease (% / concerned)

Disease	Dry season	Rainy season	All year long
Malaria (/83)	22.9	43.4	33.7
Diarrhea or bellyache (/34)	45.2	32.3	22.6

c) Treatment

Disease	Medical consultation	Medicine	Traditional care
Malaria (/83)	50.6	22.9	26.5
Diarrhea or bellyache (/34)	45.2	45.2	9.7
Buruli ulcer (/6)	16.7	0	83.3

2) Eating habit

56% of the households chose rice as the most favorite basic food, followed by yam (16.3%, especially Baoulé) or maize (15.3%, Burkinabé, in particular). In 1997, one household spent FCFA 100,609 on average for purchasing rice and this is higher than the amount spent on all the other basic foods.

a) Describe the most common / popular meals of the day in your family

Staple food	Morning		Noon		Evening	
	primary	secondary	primary	secondary	primary	secondary
cassava	5.7	13.2	13.2	22.6	13.2	17.9
rice	47.2	20.8	57.5	11.3	54.7	21.7
yam	2.8	3.8	8.5	2.8	10.4	6.6
banana	0.9	4.7	6.6	9.4	1.9	7.5
maize	6.6	13.2	5.7	15.1	19.8	14.2
bread	34.0	10.4	0	0	0	0
other	1.9	5.7	0.9	0	0	0
nothing	0.9	28.3	7.5	38.7	0	32.1

b) Family's favorite staple food (%)

cassava	8.6
rice	58.1
yam	15.2
banana	2.9
maize	15.2

By ethnic group

cassava	2/3 of interviewed Yacouba
rice	100 % of interviewed Kroumen, Bakoué, most of Dioula, Sénoufo, Gouro
yam	3/4 of interviewed Baoulé
maize	2/3 of interviewed Mossi

c) Is the food sufficient all the year round? (purchased or produced by the family) (%)

Yes	39.0	No	61.0
-----	------	----	------

d) What do you do when serious food shortage is occurred in your family? (%)

	Ask help to	Borrow from
Neighbors	3.8	3.8
Friends	11.5	28.2
Relatives	19.2	5.1
Others	10.3	9.0

e) What do you do when your relatives have serious food shortage ?

f) What do you do when your neighbors have serious food shortage ?

	e) (%)	f) (%)
Give assistance	94.4	72.5
Lend	4.4	25.3
Other	1.1	2.2

3) Role of the family member

a) Decision making (refer to Fig. G.2.7)

b) Role of each family member (refer to Fig. G.2.8)

c) Situation of women in family

46.9% of women consider housework as their principal occupation and 43.2% believe that they are rather farmers. In any case, they take charge of whole domestic tasks, sometimes with their daughters. In 88.1% of the households conducted by man, the family money is mainly managed by the husband, and a quarter of the wives take part in the decision-making on how to use the money. The decision on farming is also made by man. Woman can, however, decide how and what to do in her plot.

d) Situation of women in Agriculture

Generally speaking, the tree crops production being regarded as the field of men, women concentrate their efforts on the production of food crops like rice, maize, cassava, yam and

vegetables. Its objective differs from one ethnic group to another. For example, the food crops production carried out by Kourmen women is, aiming to nourish all their family, whereas Dioula or Mossi women intend to sell them, since their husbands cultivate food crops to provide for the family. The market gardening is also developed among women. They grow eggplant, okra, chilli, tomato, etc. They consume a part of them in the family as condiments of their daily source, and they sell the remaining part of them. In the village society, women, in general, have no property. Thus they undertake their agricultural activities just in the corner of their husband's plantation or sometimes for the immigrant women, in the land borrowed from the territorial chief.

e) Source of income

Women have the right to sell their own produce that constitutes the sources of their income, and the income from tree crops production belong to the men. Aside from selling their own harvest, women have other sources of incomes from their daily small trade. The incomes of women and those of men contribute to the family economy in a different way. For men, as the majority of incomes are obtained from the harvest of coffee or cocoa, they gain two to three times the income of women a year. So the income of men is rather intended for the important expenditure such as purchase of non-consumable products, education of children, voyage, etc. On the other hand, the incomes generated by women are relatively very small and they are used for daily purchase of the needs of every day's life. These two types of income of different sources and natures are compensated each other to support the family life. Especially for the poor family, the revenue created by women would surely ensure the daily supply. The money that women gain belongs to women, except in the case of Gouro's women. Gouro women are glad to devote to their husbands all they earn through their own activities.

(8) Problems (refer to 3.6.5 in the Main Report)

1) Daily Life

The problems expressed by villagers vary from one village to another. The common problems to all the villages relate to the basic human needs such as drinking water and health. The problem concerning the road and means of transportation counts more, naturally for the hamlets wedged and dispersed in the area, and it is strongly related to the other problems on the access to the basic social infrastructures (school and medical facility). As for the family level, a third of the households declare "insufficiency of food" as a major matter, in spite of their occupation. The problem of business among women is divided into two categories: lack of funds necessary to launch its business and the adverse condition of marketing of its agricultural produce. For the husband, his largest headache consists of agriculture.

a) What kind of problems do you have in the daily life?

Problem (family)	% of households
Economical Problem	40.7
Food	36
Health	36
Agriculture	18.6
Housing	18.6

Problems (husband)	% of husbands
Agriculture	53.1
Economical Problem	32.1
Health	11.1
Housing	9.9
Transport	3.7

Problems (wives)	% of wives
Economical Problem	40.4
Agriculture	26.1
Health	23.2
Marketing	19.2
Clothing	8.7

Problems (children)	% of children
Education	60.9
Health	32.8
Food	26.6
Clothing	7.8

b) Problem according to village (remote or not) (refer to Fig. G.2.9)

2) Agriculture

The land use shows that the agriculture of the area rests on two principal productions: cocoa and coffee. During the interview, almost all the farmers insist on the considerable fall of cocoa output. The majority of farmer's families in the area depends more or less upon this type of cultivation, solving the "relative problems" should have priority for them. With regard to the rubber cultivation, as recently introduced into the area by SAPH (1989), and just started the production, the problems are not quoted for the moment. This new fashion interests the farmers more as coffee and cocoa do not succeed well. Moreover, it has some following merits:

- Technical and financial supports undertaken by SAPH
- Monthly remuneration, system of payment which differs from that of coffee-cocoa

In comparison with the cultivation of crops for export, the food production remains always minor, but it seems to take more and more importance from the point of view of food security as well as creation of new income sources (the demand for rice seems so strong). The market gardening, which allows women to obtain a daily income, shows more and more its potential and not only women but also young people are interested in it. (because they can't find the forest for their own plantation)

G.2.4 Survey in Targeted Villages

This survey aimed at supplementing the survey with questionnaire mentioned in section G.2.3 and understanding the current situation of the concerned villages better and more deeply. The process is summarized as follows.

- 1) Classification of the concerned villages (refer to section G.2.2)
- 2) Selection of one village from each group

Selected village	Type	Main crop	Focus, if any
Cpt. Bernard	Type 1	Tree + Food	Indigenous family, Women's activities
Petit Pédro	Type 2	Tree crops	Immigrants, Coffee-cacao GVC
Cité Agricole	Unique (2)	Food crops	Failure in the last paddy project

- 3) Survey on village level, which allows to collect general information on the village through the interview with key informants⁶ in each village and to classify the households according to the standard of living given by villagers

Rich	Poor
<ul style="list-style-type: none"> - well-built house with cement floor and zinc roof equipped with a latrine, individually owned well (P/P) - some motor bike(s), a television set - tractor (C/A) - the wife always dresses well - lending money to their neighbors 	<ul style="list-style-type: none"> - asking their neighbors for help (food) - their children don't go to primary school - no chicken for festival (P/P)

P/P : only in Petit Pédro, C/A: only in Cité Agricole

⁶ Village chief, Earth chief, doyens, villagers' committee members, each ethnic community chief, each religious chief, representatives of GVCs, women' group, youth groups and pupils' association, teacher, extension workers, private nurses and so on.

- 4) Survey on household level by interviewing with the households selected through the survey of 3) above in Cité Agricole and Petit Pédro.

Family 1	Relatively rich in village
Family 2	Relatively poor in village
Family 3	Standard in village

Since the results of this survey was integrated in each concerned chapter of the Main Report, only summary tables and figures of the results are shown as follows:

Outline of targeted farm households are shown in Table G.2.5 and G.2.6, the decision making and women's situation in household and women's group activities are shown in Table G.2.7 to G.2.8 and external factor and concepts of household economy are shown in Fig. G.2.10 to G.2.11, also the farming activities and household economy are summarized calendars of Fig. G.2.12 to G.2.16.

G.2.5 Questionnaire Survey in the Project Area

(1) Questionnaire Survey in the Project Area

The Study Team executed the survey in cooperation with the villagers of Cité Agricole by means of a semi-structured interview with the Farmers in the Priority Area following the questionnaire as shown in Attachment G-2. "Farmers in the Priority Area" are defined as: 1) Farmers living in the Priority Area; 2) Farmers having agricultural activities in the Priority Area, or; 3) Participants in the past Paddy Project having intention of taking part in the future project. According to the census done by the farmers themselves, 137 farmers are concerned and 116 of them⁷ have been interviewed during the survey.

(2) Classification of farmers (refer to Table G.2.9)

1) Social background

a) By place of residence	No.	%
Cité Agricole (Campus I)	60	43.8
(Campus II)	6	4.4
Other in F/S Area	6	4.4
San Pédro city	59	43.1
Other places	6	4.4
Total	137	100.1

b) By nationality	No.	%
Ivoirien	79	57.7
Malien	27	19.7
Burkinabé	12	8.8
Guinean	4	2.9
Others	1	0.7
Unknown	14	10.2
Total	137	100

c) By ethnic group	No.	%
Sénoufo	23	16.8
Yacouba	25	18.2
Baoulé	9	6.6
Wobé	7	5.1
Others	54	39.4
Unknown	19	13.9
Total	137	100

d) Speaking Language	% of 118
Sénoufo	19.5
Yacouba	21.2
Baoulé	7.6
Wobé	5.9
French	89.8
Dioula	75.4
Other	35.6

⁷ The rest (21 farmers) were impossible to interview because of their schedule, illness or absence.

c) By religion

Religion	No.	%	Religion	No.	%
Catholic	13	9.5	Animist	6	4.4
Protestant	11	8.0	Other	2	1.5
Reveil	10	7.3	Unknown	21	15.3
Other Christianity	10	7.3	Total	137	100
Muslim	64	46.7			

2) Experiences

a) Date of arrival in the Project Area (to start farming activities)

Year	- 1975	1976 - 80	1981 - 85	1986 - 90	1991 - 92	After pump stopped	Unknown
Farmers	24	47	14	10	1	17	24

b) Training for farming

Yes : 57	In the center	25	No	52
	In the project site	32	Unknown	28

c) Experience in irrigated paddy cultivation

Yes	96.0	No	41.0
-----	------	----	------

d) Participation in the previous 13 GVCs (shown in Table.G.2.10)

Yes	84.0	No	53.0
-----	------	----	------

d) Participation in the present GVCs

North	10	68	Lycée professionnel	24
West	11		No member	45
Central	22		Total	137
South	25			

4) Mode of access to the plot in the Project Area

	No.
Distributed by supervising organizations	52
By GVCs	37
By OCTIDE	3
Independent of the family or inherited	12
Not clear	9
No land in the developed area	24
Total	137

(3) Household Characteristics (% for 116 interviewees)

1) Demography

Population in the village by age and sex are shown in Fig. G.2.19.

2) Family Characteristics

Total No. of members per family	7.3
In which living together	6.3
Potential work force : over 15 years old (men)	3.6 (2.0)
No. of children per couple	5.3
Average age of Heads (their spouses)	44.7 (36.4)
Literacy rate of Family Heads (spouses) (%)	55.9 (27.5)
% of enrolled children of 7-12 years old (girl)	74.9 (73.0)

Sex of head (%)	Male	97.4	Female	2.6
-----------------	------	------	--------	-----

* 3 households have female head.

3) Marital status of couple (%)

Married	15.8	Monogamy	89.0
Single	84.2	Polygamy	11.0

4) Present occupation

Occupation (%)	Head of household		Spouse	
	Main	Secondary	Main	Secondary
Farming	89.6	11.3	8.6	73.3
Business	1.7	12.2	15.2	4.8
Public service	0.9	0	0	0
Other type of salaried worker	4.3	0.7	0	0
Housework	0.9	0	76.2	15.2
Nothing	0	29.6	0	5.7
Other	0.9	8.7	0	1.0
Contractual work	1.7	37.4	0	0

* including second wife

5) Characteristics of household's head

a) Age group	(%)
20s	8.6
30s	19.8
40s	42.2
50s	19.8
60s	8.6
Over 70	0.9

b) Educational background	(%)
No instruction	29.6
Primary school	28.7
Junior high school	23.5
High school	2.6
Arabic school	14.8
Vocational school	0.9

* the youngest: 20 years old, the oldest: 75 years oldest

6) Potential labor

No. of members over 15 years old	Male	Total
0	0.9	0
1	49.6	13.9
2	25.2	25.2
3	7.0	19.1
4	7.8	13.9
5	6.1	12.2
More than 6	3.5	15.7

(4) Property

1) House in Cité agricole (C/A)

No. of households (% of 137)

No house in C/A	51 (37.2)	Rented house in C/A	6 (4.4)
Owned house in C/A	68 (49.6)	Living with the others*	2 (1.5)

* but independent livelihood

2) Land

a) Plot in the Project Area

No	25 (18.2 %)	Average	Minimum	Maximum
Yes	112 (81.8 %)	2.79 ha	1 ha	6ha

b) Annual crops plantation

No	63 (55.8 %)	Average
Yes	50 (44.2 %)	3.3 ha

Place (%)	In Project Area	64.3
	In Study Area	7.1
	Other place	28.6

c) Others (% of households / 116)

Item	Radio	TV	Bicycle	Bike	Tractor	Spray
	64.9	20.7	35.3	5.2		24.1

(4) Economic Activities

1) The sources of income (during the last five years)

Source (%)	Principal	Secondary	Tertiary
Vegetable cultivation	22.2	22.4	11.2
Rice cultivation	35.9	13.8	1.7
Maize cultivation	6.0	20.7	13.8
Other food crops	5.1	7.8	7.8
Tree crops	12.8	1.7	2.6
Livestock Production	0.9	1.7	0.9
Other type of farming	0.9	0.9	1.7
Contractual work	6.0	8.6	9.5
Other	7.7	8.6	6.9
Business	2.6	3.4	5.2
Nothing	-	10.3	38.8

% of households having following activities as income sources (% of 116 farmers)

Source	%	Source	%
Vegetable cultivation	61.5	Livestock Production	6.0
Rice cultivation	53.0	Other type of farming	3.4
Maize cultivation	42.7	Contractual work	34.2
Other food crops	24.8	Other	25.6
Tree crops	19.7	Business	12.8

2) Expenses (for 66 families living in C/A)

The particular periods of expense during the year in % of households of 66 farmers.

- a) School fees in October: 80.6 %
- b) Land preparation for their farming (between Feb. and April): 48.4%
- c) New year and religious festivals: 51.6 %

3) Intention

- a) How much do you expect to get (annually) to live without any grave problem?

1,285,000 CFA

b) Introduction of activities beside paddy

Activity	% of households	Activity	% of households
Vegetable cultivation	72.3	Tree crops	32.5
Maize cultivation	10.8	Livestock Production	49.4
Other food crops	16.9		

4) Expected training

Activity	% of households	Activity	% of households
Irrigated rice	80.3	Livestock Production	25.4
Farming machinery	25.4	Coop. Management	9.9
Vegetable cultivation	29.6	Tree crops cultivation	9.9

(5) Other information

1) Reduction in production during the last paddy project (to 64 senior farmers) (%)

a) Since when?	%	b) Cause of reduction	%
-1984	18.8	Lack of water	32.7
1985	10.9	Breakdown of irrigation pumps	23.6
1986 - 88	9.3	Replacement of pumps	16.4
1989	15.6	Bad management	9.1
1990	20.3	Decatur of Taiwanese experts from project	7.3
1991	15.6	Do not know	16.4
1992-	9.4		

2) Eating habit (% of 116 farmers)

a) Family's staple food	%	b) Family's favorite staple food	%
cassava	26.5	cassava	9.7
rice	90.3	rice	69.9
yam	3.5	yam	8.8
banana	8.0	banana	2.7
maize	23.0	maize	5.3
		Other	3.5

G.3 Analysis of Causes of Failure of San-Pédro Paddy Project

G.3.1 Social Aspects on Failure of San-Pédro Paddy Project

As the causes of failure of the San-Pédro Paddy Project, the following three items have been pointed out from the technical aspects on the project implementation; 1) insufficiency of irrigation water, 2) unequal water ponding in a farm lot and 3) poor drainage. Here the causes of failure of the project have been analyzed from the social and sociological points of view based on the results of interview survey with the farmers in and around the Study Area. The following matters are the results of the analysis. These matters are interrelated and rather interlocked with each other, and also complicatedly with the technical items mentioned above.

1) Lack of cooperation mind

Farmers could not respect others even within their group and did not have a mind for mutual cooperation on farming practice maybe due to the group being composed by the people of different ethnics and/or places. There were four main farming groups; a group of traditional farmers in San-Pédro, a group of the youth mainly from Dabou ethnic, a group of the youth mainly from Man and a group of exSODERIZ instructors. Some of the farmers sold the their products illegally. This fact further produced the mutual faithlessness among the farmers.

2) Unfamiliarity with farming work

Most of the farmers were the immigrants from other places who had not got any farming experience. Mostly they were young. Therefore, they might not bear the hard work of farming operation and might look for easy way like stealing irrigation water and being lazy in maintenance of irrigation facilities and common farming machines.

3) Insufficient farmers' organizations

Even though GVCs were organized for the project, They did not function well due to insufficient experience of the members of GVCs. They could not properly manage the pump operation nor control the expansion of irrigated field. The farmers simply thought that the expansion of irrigated field would bring about more profit to them. GVCs could not also give

appropriate advice to the farmers about the diversity of production.

4) Decreasing of intention/will of the farmers

Due to the unexpected troubles such as shortage of water, stealing water, unplanned expansion of fields and frequent flood, the production amount fluctuated largely in spite of inputs year by year. Accordingly the farmers' intention/will for farming practice drastically declined, and only debt spent for purchasing inputs, etc. increased and remained on their shoulders.

G.3.2 Analysis of Farmers' Problem and Their Intention to the Development

(1) Farmers Review of Previous Project

As described in details in the section G.5.2, several workshops were conducted among villagers, Study Team and government agencies concern in order to repeat the failure on irrigated rice cultivation again. On under mentioned steps with specified aims, the farmers who took part in the past project (hereinafter referred to as the farmers) were led to analyze the problems they faced while carrying out irrigated paddy cultivation in the past and set the purposes for future project based on the problems analyzed.

- 1) Individual interview to collect information on the project carried out in the past and opinions for the future project, which can be barely drawn from interview in-groups.
- 2) SWAP^s workshop (SWAP W/S) to lead the farmers for reaching a common understanding on the past project, then setting purposes for future project in unanimous agreement by carrying out a series of individual interviews.
- 3) PCM (ZOPP) workshop (PCM W/S) based on the problems pointed out during the SWAP W/S, to allow both the representatives of concerned government authorities and the farmers to reach consensus on the past and future project and ultimately to share the responsibilities of each planned activities by both sides

(3) Results of Farmers' Review of Previous Project

Through the analysis of success and failures of the previous project done by the farmers themselves, all of them attributed their failure just to "deficit of water in the plots", which had caused secondarily any other minus factors such as collapse of organizations, farmers' indiscipline attitude, low yield and so on. The farmers cited the following factors as causes of water deficit, of which 1 and 2 concerning water pumps were especially, pointed out by many of them.

- 1) Though many cases of mechanical troubles occurred as pumps were getting old, no prompt repair works were carried out, resulting in the ceasing of water supply.
- 2) Operation of new pumps was costly, thus impossible to operate long time.
- 3) Damages of irrigation canals without concrete lining became grave as time went by, causing the increase in water loss.
- 4) Plots could not be filled with water enough due to incomplete land development, especially imperfect leveling from the beginning.
- 5) Water management carried out by supervising organizations and farmers after the departure of Taiwanese experts was inadequate.

In consideration of these problems described above, different approaches (gravity irrigation,

^s Abbreviation for Success Weakness Aims Purpose. Participatory method of analyzing the village situation.

concrete lining canals, land preparation etc.) from those of the past project are being considered, through which the trust and understanding of farmers on planned facilities may be obtained. The farmers also pointed out the problems of supervising organizations. They mentioned insufficient communication between farmers (and their GVCs) and supervising organizations as well as unclear task sharing of each of them as troubles. In the PCM W/S, this matter became a subject of discussion among farmers and government officials, and as a result, it gave light on the divergence of standpoints and misunderstanding on the past systems and experiences between both sides.

On the other hand, farmers were not very stern in evaluating their own organizations such as GVCs. At SWAP W/S held aiming mainly at analyzing the problems of farmers' organizations, most of the participants said, "There had been no problem in their organizations or solidarity". However through the individual interviews, not a few farmers expressed the distrust of GVC committee members or village leaders, especially of their unclear accounting management and they look on the other GVCs with distrust or even hostile feeling, which may show farmers' basic manner of "No trust in others". Additionally, they seem too ready to be misled by "canards" and show excessive reaction to rumors concerning their interests in.

Details of these workshops are described in section G.5.2.

G.4 Formulation of Master Plan

G.4.1 Potential and Constraints for Social Development

(1) Social Development Potential

The ethnic diversity is a reality and can be a potential. A peaceful contact of different culture always produces something unique new ones. In the region, for example, Bakoué immigrants brought yam cultivation with them to widen the scope of food crops production.

Changing of value-system in a community can be regarded as a potential, if the people are persuaded by reason and proof that will be worth while shouldering the task challenging their further effort. Changing from shifting cultivation to sedentary cultivation has a huge potential.

The existing traditional communities, based on the same ethnicity, nationality or religion, can lay the foundation of modern and official units which will be expected to evolve into formal groups whose purpose, objectives and goals are explicitly defined. In the Study Area, there is only one women's formal GVC at present. But the women seem to show more potential for being organized well because of more constrains they face than men and can't individually cope with: less accessibility to land, fund and market. Their will, to overcome these difficulties, leads them to form associations.

(2) Constraints of Rural Development

In order to achieve the agricultural and rural development in the Study Area, the following items have become out as the constraints:

(3) Social and Human Resources Constraints

- 1) **Various groups with different cultural background:** The Study Area consists of mainly three nationalities (Ivoirien, Malien and Burkinabé). They are further divided into more than 10 ethnic groups showing cultural diversity characterized by various knowledge, norms,

beliefs or values. Among these different groups, ethnocentrism manifests as an obstacle to the formation of multi-ethnic organizations. Additionally, social factors such as ethnicity, gender and nationality determine the access to resources and public services, and also attribute to political and socio-economic inequalities. This fact prevents people from not only forming but also maintaining organizations for the common objectives and interests.

- 2) **Land disputes:** Indeterminate title to land hinders its efficient use and investment in agricultural land. Moreover it leads to land disputes as the demographic pressure increase. Though virgin forest has almost disappeared in the Study Area nowadays, newcomers or young generations are anxious to obtain their own plantation. Concerning low land, arable area is limited due to the absence of water management system depending on the seasons. On the other hand, the legislation of classified forest (Rapide Grahs) creates fear for removal of its inhabitants, who may be candidates for "new settlers" in the Study Area at the moment of the implementation of projects.
- 3) **Poor management of farmers' organizations:** In addition to the difficulty of formation, existing organizations (GVC) are not managed well, especially with regard to accounting. The lack of transparency concerning "money" is the biggest cause for the fission or dissolution of GVCs.
- 4) **Inadequate extension service:** Not only the number of extension workers are less but also the quality of their services is low, and the fact doesn't allow farmers to receive sufficient and appropriate technical support.
- 5) **Low accessibility to basic social facilities:** People living in the Study Area sometimes can not reach educational or medical facilities due to complicated reasons: low density of facilities, lack of financial ability, bad condition of access roads and lack of transportation means.
- 6) **Limited accessibility to information:** Farmers can not have much information on agriculture (advanced technology, marketing etc.) as well as daily life to improve their farming or living condition. Then it is attributed to low literacy rate and limited exchange of information or experiences between individuals, particularly who belong to different ethnic groups.
- 7) **Dependence on assistance:** Subsidiary system supporting the agricultural development implanted deeply aid dependence in farmers' mind, and they got used to top-down way of thinking even regarding their own farming. The forfeit of autonomy is considered as one of barriers to "participatory" development.

G.4.2 Social Development Components in the Master Plan

(1) Basic Concepts for Social Development

Not only the social but also the economic development mostly depends on people (participants), since the development for the people should be extended by the people (participants). And "Organization" must be one of the determinants to the development activities because people can participate in the development more effectively through their organizations.

The plan is required to reflect potential participants' intentions and concerns harvested during the survey as well as the lessons gained from experiences in the past in order to respond to their needs and motivate them to take part in the development activities in the short term. In the long run, the people have to "advance development" by themselves along the plan in order to become not only real beneficiaries but also actors of the development. From this standpoint, "organization of people" is an indispensable tool to participatory development and its strategy or plan should be elaborated in consideration of all aspects to be examined in the Study. From the social viewpoint, the organizations need under the following principles:

- *help the members to get out of present difficulties that they can not individually cope with* (= motivations for people to associate with each other);
- *make best use of existing groups*, especially traditional ones (by gender, generation, ethnicity or religion) whose members act and help each other usually under the same rules and customs (= source of sustainability to maintain the organization at first stage);
- *promise to the members equity, benefit (above all economically) and empowerment* (= sustainable source to develop the organizations in the long term).

(2) Master Plan Component of Social Development

The women seem to have much potential for solidarity. The first program intends to involve them more effectively in agricultural development activities through their organization, which will contribute toward raising women's economic self-reliance and finally gaining their self-confidence.

The second and third programs target children or youth directly, and adults indirectly. In the Study Area, it is possible to say, "children are the future of the region". Because the children socialized in the mixed society from their birth may show possibility of forming an integrated society over the differences, particularly ethnicity and religion which their parents have hardly surmounted for long time. The Programs aim in the first place, to train the children or youth to be organized and to have cooperative mind through the practical education. Then, it intends to organize the adults under the same interest "for children" because children's matter such as education or food is always one of the biggest concerns for adults as shown in the results of survey related to problems in family. To solve them, the adults prefer, therefore, being organized over the differences. And finally, the Program will help village children farming, that is, their future profession.

In addition to the strategies mentioned earlier, these programs are based upon the following same principles:

- make the best use of participants' contribution financially, materially and physically;
- improve the accessibility to the existing external resources, particularly the access to the existing funds supplied by the government, NGO, etc., through their organization in order to reinforce the financial and technical abilities;
- lead the participants not only to plan the activities on their own initiative so as to make them responsible but also to evaluate the activities by themselves for feed-backing to the next planning.

Realization of the Programs along these principles requires strong technical supports which are supposed to be mainly given by ANADER and then NGO, external technical cooperation, etc. The supports cover various fields such as organization, account, agriculture, commercialization and so on. Much emphasis should be placed on accountancy training after learning lessons from experiences in the past. Therefore, improvement in quality and quantity of supporting services is one of the determinants to the success of these Programs. Meanwhile, the last Program proposes combined solution to the problem on the accessibility to the social infrastructure.

(3) Formulation or Reinforcement of Women's Groups

1) Objectives

For the development of food crops production, women and its organizations are considered as

key-actors, since men are busy in taking care of their coffee and cacao plantation. Furthermore, they seem easy to be organized, if the Program could show them practical interest or solution to their problem on "money" particularly. And with a little assistance, they could obtain many "fruits".

Now some women's group generally in ethnic line product vegetables as well as rice for commercial purposes. This trend seems to be expanding gradually from one village to other because of its small economic success shown by the forerunners. The Program helps women to have them more organized or consolidated through the actions mentioned below and leads them toward economic self-dependence. Then it will promise them regular income, which makes up domestic economy now mostly relying on men's unstable income and contributes consequently to financial stability of their family. The targeted products depend on the groups, but vegetables and/or rice are proposed based on the observed cases. These products also contribute to food security in their family.

2) Outline of the program

Taking account of the constraints and experiences given by the women, the Program will be carried out in the following stages in order to develop the organizations gradually.

- Acquisition of suitable land and creation of permanent water intake points such as reservoir, wells and river etc. for production in group (the group will be acknowledged as a contact group by ANADER to obtain its technical support)
- Creation of common fund and introduction of mutual aid and reward system
- Promotion of collective purchase and use of agricultural input such as seeds, chemicals, fertilizer, sprayers (the group will have access to 2KR input)
- Promotion of collective commercialization based on marketing information
- 4th stage: Introduction of simple food processing technology using their own products

3) Expectable results

As a matter of fact, women are much more hardworking and motivated than men. Furthermore, they seem easy to be organized, if the Program could show them practical interest or solution to their problem on "money" particularly. And with a little assistance, they could obtain many "fruits". The Program will promise them regular income, which makes up domestic economy now mostly relying on men's unstable income and contributes consequently to financial stability of their family. At the same time, the acquisition of housework technique help them improve their living condition by themselves.

(4) Formulation of Pupils' Committee and Diversification of its Activities

1) Objectives

Now, some schools have its body, association of pupils, conducting activities such as the exchange programs with other schools or organizations of contractual works (weeding or care of plantation, for example) carried out by the pupils to generate funds. On the other hand, some schools are equipped with canteen built by parents' contribution. And WFP, which often support the provision, is now planning to withdraw and preparing the funds for the creation of provision system managed by the villagers. The Program, firstly, aims at creating or reinforcing pupils' body regarded as training for "organization" at school, a model in the mixed society. Then it proposes to diversify their activities including farming which will be combined with the efforts toward the food provision to school in cooperation with other villagers' groups. The activities should be planned and carried out on pupils' own initiative so that they will be able to foster a sense of responsibility.

2) Outline of the program

To begin with, at present establishment of pupils' committee or/and canteen is required for the schools without both or either of them.

- Introduction of small-scale agricultural activities such as vegetable cultivation, fruit tree planting, poultry breeding, etc. for school consumption as well as marketing.
- Creation of partnership between the Pupils' committee and villagers' groups (Parents' and Teachers association, women's group, etc.) who provide the pupils with not only technical support but also assistance in kind, especially food crops for meals, which can access to WFP fund.
- Realization of school lunch based on the products and benefits generated by themselves and supporters.

3) Expectable Results

As mentioned the above, first of all, the Program will lay the foundation of the future mixed organization in the harmoniously mixed society. Secondly, agricultural activities carried by the body will help children prepare themselves to go into the rural world. In the short term, the Program will allow schools to supply meals to the pupils often suffering from lack of food.

(5) Formulation of Young Farmer's Clubs

1) Objectives

About 40% of children between 7 and 14 years old don't go to school and they often help their parents at home or in farmland. This figure goes up particularly in hamlets remote from the main village. In some of them, however, some good attempts are observed such as construction of a private school by parents expecting their children to have access to education, and volunteers or teachers hired by the parents to give the children some lessons. The Program targets the children as well as youth in the remote hamlets who can not attend school and gives them an opportunity for receiving not only basic education but also practical training on agriculture, by making good use of villagers' voluntary spirit which has been already shown in some hamlets.

2) Outline of the program

Firstly, as villagers' large contribution is indispensable for the realization, the Program requires much effort to enlighten them and lead them to the participation. The following activities are proposed;

- organizing villagers' collective work to build a club cabin and equip it with minimum furniture such as blackboard, tables, benches, etc.,
- programming courses in reading, writing and calculation given to children by volunteers from the inside or the outside of the village, and
- organizing children's practical farming work in group with ANADER's or parents' assistance in technique or material after the acquisition of common plots, the Club will be considered as a contact group recognized by ANADER.

3) Expectable Results

Basic education will be provided for children or youth until they are able to acquire the literacy. Additionally, they will absorb new technologies and way of thinking on agriculture through farming practices, thanks to their more flexible nature than adults, which could lead the next generation to get rid of the old type of agriculture, shifting cultivation.

(6) Improvement of Accessibility to Social Facilities

In general, the following constraints restrict the accessibility to social facilities such as schools, medical facilities, etc. in the Study Area: 1) low density of facilities, 2) lack of the users' financial abilities, 3) poor condition of access roads, 4) lack of transportation means. Constraints 3) and 4) are especially concerned the inhabitants in the villages remote from main asphalt roads and seem to strongly restrict their daily and agricultural activities. As these constraints are inter-linked, the solution requires an integrated approach.

1) Access to basic education

To improve the access to basic education, the Program proposes the following direct or indirect measures, which have strong relation to the other sectors' Programs.

- Recognition of private school as public school
- Improvement of road condition and transportation means
- Increase families' financial ability

2) Accessibility to medical facilities

There are two dispensaries around the Study Area: one in Gabiadji, the other one in Blahou (now under construction), and there are some public and private medical facilities in San-Pédro. Above all, the Plan should aim to ensure physical access to these places for the inhabitants in the remote area through the improvement of road conditions and transportation means.

3) Creation of children's day-care facilities in villages

It is very often observed that mothers bring their babies or little children to the fields and carry them on their back during the farm work, which occasionally causes children sick. At home, care of little children taken by small girls sometimes prevents them from attending school. The creation of day care service system is proposed, therefore, to reduce the burden on women and to improve the little children's health condition. The service will be provided by old women who have much knowledge on diseases and also young women in the village. The villagers could contribute to the construction of "day care cabin", if it's necessary. After creating the day care service system in each main village, the departmental direction of public health will be strongly required to start visiting counseling service on children's health. It is desirable to create this service side by side with Program (1): formulation or reinforcement of women's groups.

G.4.3 Workshops on Master Plan and Feasibility Study

(1) Workshops for the presentation of the Master Plan

The Study Team organized successively following workshops in order to explain the contents of the Master Plan to concerned persons regarded as actors of targeted development and to exchange views about the Plan.

G3.1-1) Workshop for regional representatives of concerned organizations

G3.1-2) Workshop for the representatives of each village in the Study Area

G3.1-3) Villagers' meeting at deeply involved villages in the Study Area and a sample village in the classified forest

This series of workshops also led the Study Team to know needs and intentions of these actors while promoting their understanding of the Plan with the aim of involving them in the realization of the Plan from the beginning.

The minutes of the workshops and the summary of the meetings will be given later.

(2) Villagers Meetings

Meetings with villagers were organized by the Study Team in cooperation with ANADER as well as SODEFOR at the following deeply related villages in order to inform them of the Master Plan and the Priority Project, answer their questions and promote a better understanding between them and the Study Team.

- 1) Cité Agricole (the only village located in the Priority Area)
- 2) Fahé and Cpt.Colonele (the villages selected as potential areas for irrigation and located near the path of planned Grand Canal)
- 3) Cpt.Bernard and Blahou (the villages where the concerned earth chiefs are living)
- 4) Kremoué (sample villages in the Classified Forest)

The summary of each meeting is as follows.

1) Cité Agricole

Date: December 30 1998

Participants: Senior farmers living in both Cité Agricole and San Pédro City, other farmers in Cité Agricole or Grand Gabo Total about 140 farmers

<Farmers' opinions, concerns and questions>

- According to senior farmers, harvesting and threshing without using any machines seems difficult to realize because they know the harvest falls on rainy season.
- 1.5 ha, appropriate acreage of plot per household seems to the farmers to be too small in consideration of their expanding family size. And they hope that their sons over 15 years old will be allowed to have their own plot.
- Now, they think themselves to be too poor to buy inputs or machines they need to start again irrigated.
- Additionally, they asked the questions about the markets for paddy, farmers' share in funds for construction, the possibility that a foreigner will obtain a plot and so on.

The views and questions based on experiences in the past paddy project were given particularly by senior farmers. As the Project explained by the Study Team met with the farmers' hopes broadly, those present gave their consent to the Project.

2) Fahé and Cpt.Colonele

Date: 1) December 21 1998 (Fahé), 2) 22 (Cpt.Colonele)

Participants: 1) Representatives of Fahé and Scaf villages including all Bakoué indigenous families of Fahé Total about 80 farmers
2) Most villagers of Cpt.Colonele and some farmers of Classified Forest Total about 50 farmers

<Farmers' opinions, concerns and questions>

- The greatest concern of the farmers in these areas at the moment is the damage to their annual crops which will be caused by survey and construction works.
- They had not seen the Project would be for the farmers, because they believed the developed land and cultivated paddy would belong to Japan or a Japanese company.
- Naturally they showed deeper interest in the components other than that of irrigation development in low land, which are, for example, improvement of upland or tree crops farming and infrastructure such as dispensary, school and electricity.
- They asked the Study Team why the downstream developed area can not be supplied with the water directly pumped up from San Pédro River instead of the construction of the Grand Canal which

- requires the expropriation of their land. (1)
- Some farmers hope to make use of irrigation water running their lands to realize fish raising. (2)

3) Cpt. Bernard, Blahou and Kremoué

Date:	1) December 24 1998(Cpt. Bernard), 2) 31(Blahou), 3) January 13 1999(Kremoué)
Participants:	1) Representatives of Cpt. Bernard and Grand Gabo including representatives of women's groups Total about 40 farmers
	2) Representatives of all Bakoué indigenous families Total about 20 farmers
	3) Representatives of Kremoué and its adjacent hamlets Total about 50 farmers

<Farmers' opinions, concerns and questions>

- As for settlement condition, the farmers are concerned in particular about housing in the Project Area. And for farming condition, they seem to take much interest in the method of preparing land, that is, by themselves or by using machines.
- They hope to keep their present farming land such as annual crops plantation even after obtaining a plot in the developed area. Especially, farmers in the Classified Forest are afraid that to be candidate for participation in the Project will lead immediately to drive them out of the Forest because of their illegal occupation.

(3) Workshops on Feasibility Study Results

During the draft final report explanation to the GOCI, the second workshops were held as same as the workshop for the Master Plan in San-Pédro on June 25, 1999. Basically all attendants accepted the result of Feasibility Study on the Priority Project, and farmers attended expressed the intention to joint the Project. The details are shown in Data Book.

G.5 Social Development in the Project Area

G.5.1 Social Development in the Project Area

(1) Situation of the High priority Project in the Master Plan

The Rehabilitation of San-Pédro Rice Development Project (hereinafter referred to as the Project) aims to 1) re-cultivate rice in the reclaimed paddy land, 2) formulate sustainable farming practices especially for paddy and 3) resettle the abandoned farmers as well as establish new settlement in the Project Area. Therefore, the Project shall be formulated to maximize the synergetic effects with the other programs and components proposed in the Master Plan. The water source for irrigation is to be the San-Pédro dam, and the reservoir water will be taken with the existing industrial water intake facility. The water is conveyed through the conveyance canal (the Grand Canal) to the Project Area. As stated in the Master Plan, the Project is the pilot project of the Integrated Rural Development in the San-Pédro Plain and is expected as to become the model project for other development projects/programs. Therefore, the Project shall cover all the components required to get final goal of the development, 1) improvement and stabilization of farmers' living standard, 2) achievement of rice self-sufficiency of the nation and 3) activating of regional economy as much as possible.

The Project components consists of 1) Rice agriculture development, 2) Farmers' organization (formulation and management), 3) Agricultural support (extension service, post-harvest, marketing, farmers' credit), 4) Rehabilitation of San-Pédro paddy development project area including demonstration farm, 5) Rural infrastructure improvement (rural road and water supply), 6) Social Development (women's group activities, school body, youth group activities and improvement of accessibility to rural facilities) and 7) Environmental protection.

(2) Women's Paddy Cultivation Support Program

In the past, men as mentioned earlier have mostly managed incomes earned from irrigated paddy cultivation, and women had almost no income source from which they could earn disposable money for themselves. In this Program, women's work shall be organized in order to establish a system of earning income through their work, which in the past was carried out individually or within the community members without payment. In addition, through the process of getting out of old fixed idea of (irrigated) lands belonging to men, Program aims to help women manage lands and farm by themselves, thus obtain economical and mental independence by their own efforts. Organization of women in rural communities shall be carried out in three stages as shown below:

1) 1st stage: Form women's working groups in each irrigation block and create the source of income by contracting farm work

Volunteer women are recruited from each irrigation block, and they are formed into working groups of 10-15 each (it is desirable to include at least one Sénoufo woman or those who have experience in irrigated rice cultivation). Each group shall have a head, a sub-head, an accountant and a technical leader. The head carries out external affairs such as negotiation with other groups or farmers, that is, their clients. The sub-head performs coordination activities within the group. Working schedule will be made out and managed by the two leaders. The accountant manages fund, which will be used for mutual aid or diversification of their work. The technical leader has a role of transmitting techniques learned from ANADER or skilled farmers to other members. Price of contract farm works will be decided through negotiation between the group and individual farmers, and gained profit will be divided equally among participant members. As a basic rule, payment should be made in cash, avoiding the payment made in the form of products or returned labor. In each agricultural season, each member deposits certain amount in group's account to accumulate the joint fund.

2) 2nd stage: Joint upland field management by working group and diversify the source of women's income

Groups will start upland cultivation when the production of the irrigated rice of each household becomes stable. Land preparation, purchase of agricultural inputs and sale of products are carried out jointly, but each member has and manages her own plot and the profit obtained from each plot belongs to the individual member. At this stage, the women's groups are involved in the supporting activities for school lunch; cultivation of food crops other than rice and vegetables in order to supply them to school lunch at a low price.

3) 3rd stage: Joint irrigated plot management

For women's groups performing excellent contribution to school lunch activities, joint plots will be given inside irrigated areas in consultation with cooperatives that manage the land, and the women's groups will cultivate and manage the plots by themselves. They will enjoy the same responsibilities and privileges on the plots as the cooperatives give to member-farmers.

(3) School Lunch Assistance Program

With the aim of lightening the burdens of mothers who had to go home to prepare lunch for their school children by stopping their farm work, Cité Agricole has been giving school lunch with the help of WFP since 1989. WFP is providing rice and other materials free of charge, and paid-cooks (village women) are preparing lunch for up to 100 pupils a day. As mentioned in 3.3.3, for the withdrawal from school lunch program, WFP is trying to organize village women in

cooperation with Regional / District Inspection Office, aiming at self-management of school lunch by village. This Program will be carried out in partnership with concerned organizations to provide other villages with a good model and it consists of the following four actions to lead the villagers gradually to complete self-management.

- 1) Establishment of self-management system within PTA (reinforcement of existing committee)
- 2) Complete supply of paddy at a modest price by cooperative (about 9 tons/year)
- 3) Supply of cheaper materials for lunch (through vegetables cultivation in upland fields by the above mentioned women's groups and the pupils' association, or at irrigated fields by cooperative and contractual farmers)
- 4) Supply of protein sources (through poultry and/or fish raising by PTA, women's groups and the pupils' association)

400 meals in two schools on average (250 meals for existing one, 150 for new one) a day with 150 school days a year making total of 60,000 meals per year will be served to pupils when the Program achieves its aim.

(4) Pupils' Activity Support Program

About 20 % of the primary school pupils in Cité Agricole go to secondary schools. The rest of them are working as trainees in vehicle maintenance shops and saw mill in San-Pédro, or helping their parents in the farm. During peak farming seasons, children are regarded as important family work force in rice planting work together with female members. The Program proposes the following plans as a part of extra-curricular activities managed by the school in order to improve children's knowledge and skills in farming, thus revitalizing the pupils' association.

- 1) Guidance in paddy planting techniques: Technical extension workers of ANADER teach paddy-planting techniques to children on demonstration farms. By grouping children and introducing playing elements such as competition in work speed or correctness of works, children will be taught the paddy cultivation without the image of hard works. Pupils can also study natural science through observation of growing paddy and actual work in the farms.
- 2) Pupils' garden: Outside the irrigated area, vegetable gardens managed by pupils' association are established. With the help of PTA and teachers, annual cropping schedule is planned by pupils themselves. The products are sold to villagers or used for school lunch. And its profits are pooled in the pupils' association fund.
- 3) Formation of paddy planting children's groups: Wednesdays (no school days) in peak farming seasons are named self-activity days for pupils' association and each ten-member group of children practices contractual farm works in the farmers' plot. PTA whose member are also farmers, acts as an intermediary between the pupils' association and client-farmers. Maximum ten groups from two schools in one day can be dispatched and the profit goes to pupils' association⁹.

(4) Educational Facilities Improvement Program

In addition to the existing school, a new school with six classrooms will be opened in the new settlement area. Then, bigger chances of education will be provided to the children of newly settled families. The result of village survey indicates that in the Study Area, education of children is one of the most serious problems for the families who live in the villages without

⁹ The direction of extra-curricular activities of MEN recognized that pupils' association can engage in contractual works and the money earned from these works can be used for the activities of pupils' association.

school especially in the remote hamlets located near the planned Grand Canal. Assurance of access to the education, therefore, can be one of the motivations of these families to join the Project and settle themselves in the Project Area. It is presumed that some 400 families including the existing families will use these two schools; i.e. 250 families for existing school and 150 families for planned new school. Construction of the school facilities will be requested to FIAU by village committee through municipality office, while 27.5 % of the total (equivalent to 15.8 million F.CFA) are shared by the villagers. Maintenance and management of school facilities at the new school are carried out by PTA like that of existing one.

(5) Clinic Rehabilitation Program

Cité Agricole belongs to San-Pédro medical unit and is assured of medical treatments with medical facilities of the municipality. However, with the implementation of the Project, the Project Area will have big villages having around 380 families with some 2,500 persons all together. In Campus II, there exists old dispensary facilities constructed by the government in the past, and this facility can be usable with some renovation works. In connection with the above renovation and nurse's house construction, the same approach as (4) can be considered and 27.5% of the required costs have to be born by the villagers.

This dispensary is also expected to benefit the inhabitants living alongside planned canal who have difficulty in access to medical facilities at present due to their remoteness from the pave road.

G.5.2 SWAP and PCM Workshops

(1) More participatory workshops: SWAP and PCM

Among the farmers of the Study Area, those who took part in the past irrigated paddy project (hereinafter referred to as the senior farmers) are considered as key participants in the future project because of their experience in irrigated cultivation. Therefore, it is helpful to the Project to learn lessons from their past activities so that the same errors may not be repeated again.

On undermentioned steps with specified aims, both senior and farmers were led to analyze the problems they faced while carrying out the past project and set the purposes for future project with other farmers living in or near the Cité Agricole. Moreover, an occasion for discussion with the authorities concerned was given to the senior farmers, since multidistrust or divergence of standpoints between both sides had been observed during the previous surveys.

- G3.2-1) Semi-structured individual interview: aimed at collecting information on the past project and opinions for the future project which can be barely drawn from interview in groups.
- G3.2-2) SWAP workshop (Success Weakness Aims Potential): was organized in Cité Agricole in order to lead the farmers to reach a common understanding on the past project, as divergent views were noticed among them while carrying out a series of individual interviews. Then it helped them set purposes for future project in unanimous agreement.
- G3.2-3) PCM (ZOPP) workshop: based on the problems pointed out during the SWAP W/S was held so as to lead both the representatives of concerned government authorities and the farmers to reach consensus on the past and future project through analysis of the problems the participants have had not only during the realization of the past irrigated paddy project but also at present. The workshop equally attached

importance to the share of the responsibility for each planned action between both sides, since unclear share of responsibility was considered as one of the biggest causes of the failure in the past project by the senior farmers. This workshop was done with the help of a Ivorien moderator experienced in ZOPP method.

What is SWAP ?

SWAP is a simple diagnostic methods with strong participation of rural population. This method allows farmers to exchange their views about their principal activities or concerns and evaluate them through the discussion animated by moderator(s). Meanwhile it helps outsiders (study team, for example) understand their real situation. The participants are discussing their success as well as failures in targeted activities faced in the past and at present so as to clarify not only their problems but also their potentiality for future projects. Finally the participants know what to do to avoid the obstacles and to make the best use of potentialities, which shows them the objectives to attain.

(2) SWAP Workshop in Cite Agricole

SWAP workshop was conducted as follows:

- 1) Date: Monday 15th February 1998
- 2) Place: Meeting hall at Campus II in Cité Agricole
- 3) Subject: The past irrigated paddy project

4) List of participants:

They are selected out of senior farmers and other farmers in / near Priority Area by the farmers themselves in consideration of their position, ethnicity, age, sex and living place.

No	Name	village	Position
1	Jean Pierre	Grand Gabo	Chef du village
2	Bleu Maurice	"	
3	NASSOUO Jean Batiste	Campus II	Chef du village
4	KONE Seïdou Dodériné	"	doyen
5	SILUE Colée	"	
6	DOLE Joseph	"	Président de l'APE
7	GBOGBO Emmanuel	"	Président du GVC Centre
8	ZADY Désiré	"	Président du GVC Nord
9	MAHAN N'gada Gilbert	"	Secrétaire général
10	SORO Lelourou Blas	"	Ex-Président de l'Union
11	DIE Richepin	"	
12	Guehi Charles	Campus II	Président des jeunes
13	Ms. Tahan Eugenie	"	Présidente GVC FCA
14	Ms. Tieu Viviane	"	Présidente GVC Femmes
15	CAMARA Aboulaye	San Pédro	Président du GVC Ouest
16	Dekoué Jacque	"	
17	Aman Atino	"	Représentant Malien

5) Proceedings:

The first question to the farmers: The success you had during the past project were

The second question: The failures you had during the past project were

Then: Let's analyze the causes of success and failures you have mentioned together!

Through the experiences: The potentialities (strong points) you have now are

For the future: What to do is

6) Results (Table G.5.1)

The answers to these questions given by the participants are summed up in the table of next page after simple cause-effect analysis partly done by the participants.

At the end of workshop, 3 farmers were selected as representatives for the PCM workshop.

(3) PCM Workshop

Based on the SWAP workshop results, the PCM workshop was conducted as follows:

- 1) Date :24th – 26th February 1998
- 2) Place : Meeting room at ANADER San Pedro Zone Office

4) List of participants:

Government officers related agencies

Name	Organization	Position
SOUNGALO COULIBALY	MINAGRA	DR (for the opening speech)
KOSSA VICTOR	MINAGRA	REPRESENTANT DD
BRONI K. LAMBERT	MINAGRA	I.T.E
EBROTTIE ADOU	ANADER	CZ
DAGO N'DRIN	ANADER	SOP
LOBA DON ALEXANDRE	SODEFOR	Chef de secteur
AMIDOU KONE	PNR	CHEF DU SERVICE AMENAGEMENTS

The representatives of farmers

Name	Position
NASSOU JEAN BATISTE	Chef de village Cité Agricole
MAHAN N'GADA GILBERT	Secrétaire de village
SORO LELOUROU BLAS	Ex- président de l'Union GVCs

The Study Team

Name	Position
Hiroko MIURA	Expert sociologue
VEH Loua	Homologue MINAGRA/PNR
ABE Kouadio	Homologue MINAGRA/DAR

5) Program of workshop:

Date	Morning	Afternoon
Wed. 24. Feb.	Opening, Introduction of the participants, Presentation of the PCM method, Participation analysis	Problems analysis based on the results of SWAP workshop
Thurs. 25 Feb.	Objective analysis	Objective analysis, Alternatives analysis*, Formulation of PDM**
Fri. 26 Feb.	Formulation of PDM, Sharing the responsibility of planned actions	

Notes: * All approaches derived from the objectives analysis were integrated in selected project, since no approach could be eliminated for attainment of the core objective which is invariable.

** Indicators were not set in PDM at this stage of Project, but meanwhile the responsibility of actions planned in PDM was shared between the government and the farmers, which are presented in the PDM.

(4) Summary of SWAP and PCM Workshops

Results of SWAP workshop is summarized in Table G.5.1.

Potential participants to the Project and selection of target group is shown in Table G.5.2. And selection of core problems is shown in Table G.5.3. Then the problem trees and object trees are shown in Fig. G.5.1 ad G.5.2. Finally, project design matrix is shown in Table G.5.4.

C.5.3 Farmers' Intention for Participation to the Project

As the farmers of the Study Area had been informed of the Master Plan and the Priority Project through the above-mentioned workshops, the Study Team carried out a survey to see both farmers' reaction to the Plan or the Project and their intention of participating in the Project. The survey was done with the help of extension workers of ANADER and guards of SODEFOR in the following areas.

- G4.1) In the Project Area (for all farmers)
- G4.2) In the Study Area (focusing on the farmers near the site for Grand Canal and in villages around the Priority Area)
- G4.3) In the classified forest on the left bank of the San Pédro (for the farmers in a sample village)

The results of the survey are summed up below and more detailed information is shown in Table G.5.5 for the Study Area and Table G.5.6 for the Rapid Grah Classified Forest.

Number of households having intention of participating in each area

Village/Area		Number of Household	Remarks
Project Area	Cité Agricole	136	including farmer living in other area
Study Area		314	including farmers in San-Pédro
Rapide Grah Area	Kourémoué	117	equivalent to 67% of sample household
	Estimate	(11,161)	total 16,684 household
Total		567	estimate total 11,728 households

Potential participant households by nationality and ethnic group in the Study and Priority Area (%)

Nationality	Priority	Study	Priority	Study		
Ivoirien	63.9	65.9	Sénoufo	19.7	Indigenous*	14
Malién	22.1	13.1	Yacouba	20.5	Boulé	31.9
Burkinabé	9.8	15.9	Baoulé	7.7	Gouro	17.1
Others	4.1	5.1	Wobé	6.0	Mossi	10
			Others	46.2	Sénoufo	5.6
			* Kourmen, Bakoué		Dioula	5.2

[Reference : Rapide Grah Classified Forest]

<Basic Data>

Agricultural population (head of farmers' household)

Indigenous (Bakoué/ Kourmen)		524
Immigrants (Ivorien)	Baoulé	4608
	Abron	297
	Others	1253
Immigrants (foreigners)	Burkinabé	9440
	Malien	351
	Others	211
Total		16684

Total area: 315,000ha in which

protection area: 61,386ha

reforestation area: 18,440ha

production area: 86,675ha

cultivated land (enclaves): 48,500ha

7 enclaves = principal indigenous peoples' villages and neighbor land : average living condition (public primary school, tube wells, etc.) and permitted tree crops & food crops production

Other protection area = illegal area: hamlets of immigrants and illegal tree crops production (prohibited extension of plantation or creation of new plantation) but permitted food crops production in low land (with permission of SODEFOR)

*Cocoa and coffee produced illegally in the protection area are transacted by official GVC and strongly contribute to regional economy.

Tendency: No more new settlement but illegal extension of existing plantation observed

Problem (especially for foreign immigrants with a small-scale plantation)

Shortage of food (shortage of cultivable low land in comparison with population)

Unstable life (for fear of being removed, difficulty in finding a new job and returning to their own land)

Farmers' intention survey in Kremoué area

Village Kremoué located in the Forest across the San Pédro river is one of Kroumen villages and designated as enclave by SODEFOR. Some hamlets composed of various immigrant ethnic groups are attached to this village. The Team informed the villagers of this area selected as sample about the future project through villagers' meeting and carried out a survey to know their intention of participating in the Project.

SODEFOR activities

Rapide Grah classified forest divided into 5 sectors was watched by SODEFOR patrol groups (one group in each sector and 10 staffs in each group) whose activities are :

- Watch on farmers activities to hinder extension of plantation or creation of new plantation
- Reforestation (planting trees in fallow field or plantation, reforested area :85 ha/year '98)
- Campaign on forest preservation (10 meetings / month from 1999.Jan.)

Seeing that farming activity in the Forest is considered as illegal act except in enclaves, no extension worker of ANADER works officially there. So the Study Team executed the survey in the Forest in cooperation with SODEFOR, who grasps better the present situation of people living there.

Table G.1.1 Basic Data of Villages in the Study Area

as of 1998.5-7

Preliminary Survey	Questionnaire Survey	Village	Hamlet	Ethnic group	No. of Household	Date of immigration*	Earth chief
X	X	Cité Agricole		mixed(Yacouba)	69	1980	Kroumen
X	X	Grand Gabo		mixed(Kroumen)	40	1982	"
X	X	Camp.Bernard	Village	mixed(Kroumen)	133	1964	"
X	X	Petit Gabo	Scab	Burkinabé	13	1966	"
X	X	Pont Bascule		Bakoué	46	1967	"
X	X		Camp.Colonel	mixed(Bakoué)	66	1970	Bakoué
X	X	Petit Pedro	Village	mixed(Baoulé)	157	1969	Wané
X	X		Konan Kro	mixed(Baoulé)	34	1973	Bakoué
X	X		Kouassi Kro	mixed(Baoulé)	32	1974	"
X	X		Zilé Kro	mixed (Baoulé)	17	1976	"
X	X	Blahou	Village	mixed(Bakoué)	486	1967	"
X	X		Petit Zuénula	Gouro	54	1978	"
X	X		Lassina Kro	mixed(Burkinabé)	36	1974	"
X	X	Fahe	Village	mixed(Bakoué)	360	1963	"
X	X		Zato	Burkinabé	16		"
X	X		Adrouiaye	Burkinabé	40		"
X	X	Seaf	Village	mixed(Burkinabé)	1017	1963	"

Notes: () : ethnic group to which village chief belongs
* date when the first immigrant arrived at the village

Table G.1.2 Classification of Villages by Social Viewpoints

Earth-chief	TYPE 1		TYPE 1-2		TYPE 2	
	Kroumen	Bakoué	Kroumen		Kroumen	Bakoué
Cité agricole						
Grand Gabo	Kroumen					
Camp.Bernard	Kroumen					
Petit Gabo			Bakoué			
Pont Bascule			Bakoué			
Petit Pedro						Baoulé
Blahou			Bakoué			
Fahe						
Seaf						Burkinabé

Notes: ethnic group to which village chief belongs

Type 1: Village where the earth-chief is in charge of.

Type 2: Village where the chief is an immigrant.

Type 1-2: Villages the earth-chief is in charge of but located in another earth-chief's land.

Table G.1.1 Basic Data of Villages in the Study Area

as of 1998.5-7

Preliminary Survey	Questionnaire Survey	Village	Hamlet	Ethnic group	No. of Household	Date of immigration*	Earth chief
X	X	Cité Agricole		mixed(Yacouba)	69	1980	Kroumen
X	X	Grand Gabo		mixed(Kroumen)	40	1982	"
X	X	Camp Bernard	Village Seaf	mixed(Kroumen) Burkinabé	133	1964	"
X	X	Petit Gabo		Bakoué	13	1966	"
X	X	Pont Bascule		mixed(Bakoué)	46	1967	"
X	X		Camp Colonel	mixed(Wané)	66	1970	Bakoué
X	X	Petit Pedro	Village	mixed(Baoulé)	157	1969	Wané
X	X		Konan Kro	mixed(Baoulé)	34	1975	Bakoué
X	X		Kouassi Kro	mixed(Baoulé)	32	1974	"
X	X		Zile Kro	mixed (Baoulé)	17	1976	"
X	X	Blabou	Village	mixed(Bakoué)	486	1967	"
X	X		Petit Zuénoula	Gouro	54	1978	"
X	X		Lassina Kro	mixed(Burkinabé)	36	1974	"
X	X	Fabe	Village	mixed(Bakoué)	360	1963	"
X	X		Zato	Burkinabé	16		"
X	X		Adroulave	Burkinabé	40		"
X	X	Seaf	Village	mixed(Burkinabé)	1017	1963	"

Notes:
 () : ethnic group to which village chief belongs
 * date when the first immigrant arrived at the village

Table G.1.2 Classification of Villages by Social Viewpoints

	TYPE 1	TYPE 1-2	TYPE 2
Earth-chief	Kroumen	Bakoué	Kroumen
Cité agricole			Bakoué
Grand Gabo	Kroumen		Kroumen Yacouba
Camp Bernard	Kroumen		
Petit Gabo		Bakoué	
Pont Bascule		Bakoué	
Petit Pedro			
Blabou		Bakoué	Baoulé
Fabe		Bakoué	
Seaf			Burkinabé

Notes:
 ethnic group to which
 village chief belongs

Type 1: Village where the earth-chief is in charge of.

Type 2: Village where the chief is an immigrant.

Type 1-2: Villages the earth-chief is in charge of but located in another earth-chief's land.

Table G.1.3 Ethnic groups in Main Villages, 1998

Village	Ethnic group	Nr. of households	Date of Immigration
Cité Agricole	Yacouba	19	1976 - 79
	Sénoufo	18	"
		9	"
		8	"
		2	"
		1	"
		1	1972
	Gouro Malien	1	1976 - 79
		4	"
		3	"
Grand Gabo	Guinéen	3	"
		8	1970
		9	1983
		8	1979
	Sénoufo	4	1980
	Doula	2	1998
		2	1982
Camp BERNAR		1	1996
		6	1982
		17	1965
	Doula	61	1972
	Sénoufo	11	
	Tagbanan	11	
		2	1976
Pont Bascule		2	
		1	
		26	1973
	Bénois	2	
		10	1967
		14	1968
Petit Pédro	Doula	5	1976
		4	1968
		13	1978
		53	1970
	Doula	28	1977
	Gouro	8	1974
		3	
	3		
	2		
	59	1973	
	Mole	1	

Village	Ethnic group	Nr. of households	Date of Immigration
Blahou		32	1967
	Doula	200	1977
		42	1972
	Gouro	32	1981
	Lobi	26	1986
	Yacouba	20	1971
		5	
	Abron	3	1977
		120	1972
	Fahe		62
Doula		121	
Odiennekan		26	
		4	
		4	
		3	
Scat		130	
	Nigerien	10	
		987	1963
		5	1974
	Doula	4	
		2	1984
		2	1993
		2	1997
		1	1995
		1	
		1	1991
	Beninese.	7	1983
	Nigérian	4	1988
	From Niger	1	1990

Notes:

By Group (large linguistic family)




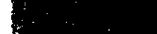
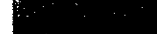

	Sénoufo
	Mandé du nord
	Mandé du sud
	Akan
	Krou
	Burkina

Table G 1.3 Ethnic groups in Main Villages, 1998

Village	Ethnic group	Nr of households	Date of Immigration	Village	Ethnic group	Nr of households	Date of Immigration
Cité Agricole	Yacouba	19	1976-79	Blahou	Bakoué	32	1957
	Sénoufo	18			Doula	200	1977
	Baoulé	9			Baoulé	42	1972
	Wobé	8			Gouro	32	1981
	Guéré	2			Lobi	26	1986
	Bété	1			Yacouba	26	1971
	Kroumen	1	1972		Guéré	5	
	Gouro	1	1976-79		Abron	3	1977
	Malien	4				120	1972
			3				
		Guinéen	3				
Grand Dabo	Kroumen	8	1970	Faba	Bakoué	62	
	Baoulé	9	1983		Doula	121	
	Yacouba	8	1979		Odiennekan	26	
	Bété	4	1980		Bakoué	4	
	Sénoufo	2	1998		Dida	4	
	Doula	2	1982		Yacouba	3	
	Agni	1	1996			130	
			6		Nigerien	19	
Simpilé RNAR	Kroumen	17	1955	Scaf		987	1963
	Doula	61	1972		Wobé	5	1974
	Sénoufo	11			Diola	4	
	Tagbanan	11			Baoulé	2	1984
	Baoulé	2	1976		Agni	2	1993
	Bété	2			Gouro	2	1997
	Yacouba	1			Bété	1	1966
			26		Dida	1	
		2	Wen	1	1991		
	Béninois	2		Beninese	7	1983	
				Nigérian	4	1988	
				From Niger	1	1990	
Pati Bassoué	Bakoué	10	1957				
	Gouro	14	1968				
	Doula	5	1976				
	Baoulé	4	1968				
Petit Padio		13	1978				
	Baoulé	53	1970				
	Doula	28	1977				
	Gouro	8	1974				
	Kroumen	3					
	Yacouba	3					
	Néyo	2					
		59	1973				
	Mofe	1					

Notes: By Group (large linguistic family)

- Senoufo
- Mandé du nord
- Mandé du sud
- Akan
- Krou
- Burkina

Table G.2.1 Outline of Surveyed Villages (1/3)

1) Infrastructure and public services

Village	Wells <rate> / (period of dry up)	School	E/W	Elec.	Lots	Road / Transportation	Health	Religious facilities
Cité Agricole	2 communal / some individual wells	Public school or to S/P (Campus I)	S/P			3.5 km of dirt road Tractors	Building of dispensary To S/A	Mosque
Grande Gabo	5 individual wells (1-3)	To Cité Agricole				5.4 km of dirt road	To S/P	-
Cpt. Bernarad	1 communal / 2 tube wells <10 CFA>	Public school, Kinder garden, Koranic school				On the main road Mini-car (250 CFA to S/P)	Private nurse Pharmacy	3 churches of different sects / Mosque
Petit Gabo	3 individual wells (1-3)	To Cpt. Bernarad (45 min. on foot)				On the main road Mini-car (350 CFA to S/P)	To S/P	-
Pont Bascule	2 individual wells (1-8)	To Petit Pédro or Cpt. Bernarad (1h)	P/P			On the main road Mini-car (350 CFA to S/P)	To S/P	-
Cpt. Colonel	some individual wells	To private school across the river (5 km)				4.9 km of dirt road Colonel's car or truck	To S/P	-
Petit Pédro	2 tube wells <20 CFA>	Public school, Koranic school	X			On the main road Mini-car (500 CFA to S/P)	2 Private nurses Pharmacy	3 churches of different sects / Mosque
Konan Kro	1 communal / 1 tube wells <10 CFA>	To Petit Pédro (45-60 min.)	P/P			2 km of dirt road	To S/P	-
Kouassi Kro	4 communal wells	Private school (CPI, 2) To Petit Pédro (1h)				5 km of dirt road	To S/P	-
Zilé Kro	3 communal wells (1-6)	To Kouassi Kro or To Petit Pédro (2h)				6.9 km of dirt road	To S/P	-
Blahou	2 communal wells (March)	Public school	X		X	On the main road Mini-car (500 CFA to S/P)	Dispensary under construction. 2 Private nurses	2 churches of different sects / Mosque
Petit Zénoula	Some communal (1-5) / 1 tube wells <10 CFA>	Private school (CPI, 2, CEI)	Bla			8.6 km of dirt road	To Blahou	-
Lassina Kro	3 communal wells (12-4)	To Petit Zénoula or To Petit Pédro				10.6 km of dirt road	To S/P	-
Fahe	Some communal (1-5) / 2 tube wells <10 CFA>	Public school	X	X	X	On the dirt road Mini-car (1000 CFA to S/P)	Private nurse, Pharmacy or to Gabiadji	Church
Scaf	Some communal (2-5) / 2 tube wells <10 CFA>	To Fahe Kinder garden	Fa.			On the dirt road Mini-car (1000 CFA to S/P)	Pharmacy To Gabiadji	Mosque

E/W: X Extension worker living in the village Elec.: X Electrified Lots.: X Readjustment of village lots already done S/P: San Pédro

Table G.2.1 Outline of Surveyed Villages (2/3)

2) Activities and Problems

Village	Principal Economic Activities (Main crops)	Major Problems	
		Villagers' Life	Farming
Cité Agricole	Rice, vegetable, maize, cassava	1. Health, 2. Electricity, 3. Drinkable water	1. No water for paddy cultivation, 2. Land dispute, 3. Input
Grande Gabo	Coffee, cacao (C/C)	1. Drinkable water, 2. Dirt road /Transport (traffic cut off in rainy season), 3. Health	Low price of C/C
Cpt. Bernard	Coffee, cacao, rubber (since '89), vegetable	1. Readjustment of village lots, 2. Electricity	1. Insects, luck of spray, 2. Decreasing production of C/C, 3. Luck of water
Petit Gabo	Coffee, cacao, rubber	1. Buruli Ulcer, 2. Drinkable water, 3. Children's education	1. Soil, 2. Insects, 3. Flood in low land
Pont Bascule	Coffee, cacao, rubber	1. Drinkable water, 2. Electricity, 3. Children's education	1. Flood/Lack of water in low land, 2. No GVC
Cpt. Colonel	Coffee, cacao, cola, vegetable	1. Classified forests, 2. Hearth, 3. Children's education, 4. Dirt road (traffic cut off in 7,8)	1. No organization, 2. Luck of water, 3. Insufficient care of plantation C/C, 4. Selling on credit, 5. Snails
Petit Pédro	Coffee, cacao	1. Health, 2. Drinkable water, 3. Readjustment of village lots	1. Decreasing production of cacao, 2. Luck of water in dry season
Konan Kro	Coffee, cacao	1. No church, 2. Children's education, 3. Hearth	No means of picking up products from plantation
Kouassi Kro	Coffee, cacao, vegetable	1. Drinkable water, 2. Hearth, 3. Children's education	Luck of means for pest, insect control
Zilé Kro	Coffee, cacao, vegetable, fish-raising	1. Dirt road (traffic cut off during 4 months), 2. Children's education, 3. Drinkable water	1. Decreasing production of cacao, 2. Flood, 3. Snails, 4. Transport of products, 5. Low price of vegetable
Blahou	Coffee, cacao	1. Drinkable water, 2. Luck of residential place	1. No GVC, 2. Luck of rain fall for rice cultivation
Petit Zénoula	Coffee, cacao, vegetable	1. Children's education, 2. Dirt road /Transport, 3. Hearth	Luck of Spray
Lassina Kro	Coffee, cacao, rice	1. Drinkable water, 2. Dirt road, 3. Hearth	1. Decreasing production of cacao, 2. Luck of fertilizer for C/C
Fahe	Coffee, cacao, rubber (since '89), fishing	1. Dirt road (traffic cut off in rainy season) 2. Drinkable water, 3. Hearth	1. Decreasing production of cacao, 2. Land dispute
Scaf	Coffee, cacao, cola, chicken raising	1. Classified forests, 2. School, 3. Hearth, 4. Electricity, 5. Road (traffic cut off in rainy season)	Decreasing production of cacao due to old age of trees

Table G.2.1 Outline of Surveyed Villages (3/3)

3) Other information

Village	History of creation of the village Events	Acquisition of land / Selling of land	Farmers' organization (O: good, X: bad working)	Other remarks
Cité Agricole	Refer to Tab.3.7.1 in Main report	Distribution of developed land to farmers by GOCI	4 paddy GVCs (X),	
Grande Gabo	Movement of Kroumen from "old Grand Gabo" village to come close to school and road ('82)	The Kroumen earth chief (E/C) living in Grand Gabo has given or sold neighboring land to immigrants. (selling land since '84)	C/C GVC under creation	A part of inhabitants (including E/C) moved to Cpt. Bernard
Cpt. Bernard	Arrival of 1 st Kroumen (Mr. Bernard) moving from Kremoué village across the river due to road construction ('64/'65)	Land was given by E/C of G. Gabo to Bernard and neighboring land came to be managed by Bernard. After his death ('80), his family started selling land.	3 C/C GVCs (X)	Cpt. Bernard and G. Gabo gave land to the Paddy Project.
Petit Gabo	Movement of Bakoué from old Petit Gabo village across the river due to new road ('66)	Land sold since 80s by Bakoué to new comers (Land price/ha : '87-20000 Cfa, '97 -100000 Cfa)	Join GVC of Cpt. Bernard	
Pont Bascule	Arrival of Bakoué from neighbor place attracted by new road ('67)	Land for housing was given by E/C of G. Gabo to them, but Bakoué had farmland to sell to immigrants	No GVC / Some farmers join GVCs of Petit Pédro	
Cpt. Colonel	Colonel inherited land from his uncle, Bakoué of Blahou ('70)	Land distributed free to immigrants by Colonel	Burkinabé join GVC "Noufoudougou"	Land dispute with Kroumen
Petit Pédro	Immigration of Baoulé searching land for C/C plantation ('69), Creation of present village ('83)	The E/C, Wané started selling in '72.	3 C/C GVCs (2:O, 1:X) in which "Kouassi Kro" integrated 6 small GVCs created in each village.	Weekly market on Friday
Konan Kro	Immigration of Baoulé searching land for C/C plantation ('75 -)	Land sold by Bakoué of Blahou (from '76)		
Kouassi Kro				
Zilé Kro		Land sold by Bakoué of Blahou (from '83)		
Blahou	Movement of Bakoué from Mélan village across the river caused by new road ('67)	Land was given by Bakoué of Fahe to them and came under management of newly settling Bakoué, who started selling to immigrants in '70s.	No GVC (existed '80 - '86) / Some farmers join GVCs of other villages	Weekly market on Sunday
Petit Zénoula	Arrival of 1 st Gouro for C/C plantation ('78)	Land sold by Bakoué of Blahou (from 2 nd arrival)	1 C/C GVC (X)	
Lassina Kro	Arrival of 1 st Burkinabé for plantation ('74)	Land given or sold by Bakoué of Blahou	No GVC	
Fahe	Movement of Bakoué from neighbor villages due to road built by SCAF company ('63) Settlement of Baoulé by GOCI ('66), Fahe dam construction ('78)- compensation ('88)	Land expropriated from indigenous Bakoué who managed neighboring land, for these 2 cases	No GVC / Using trucks of Scaf's GVCs	
Scaf	Presence of forest exploitation company (SCAF) ('60 - '75), classified forest ('72)	Bakoué of Fahe started selling after former village chief. (Land price: '98-20000Cfa/ha, Lease: '98-15000Cfa)	11 C/C GVCs of Burkinabé in which 6 are official (O)	Seasonal immigration of laborer from Burkina Faso
Poro*	Movement of Kroumen from ? (about 1800) Evacuation asked by GOCI for port project ('90)	The E/C, Kroumen started selling land in '80s.		Providing land to the Paddy Project

: village where earth chief (E/C) is living * Poro located completely outside the Study Area was surveyed as it concerns the past Paddy Project

Table G.2.2 Classification of Villages by Main Crop Cultivated, 1997

Village	FAHE	SCAF	Blahou	Petit Pédro	Camp. Bernard	Cité Agricole	Grand Gabo	Pororo	San Pédro	Total
Nr of Farmers.	87	38	96	303	200	91	39	14	60	868
Coffee	119.0	26.3	79.0	425.95	310.0	58.2	31	16.5	11	1065.9
Cocoa	263.5	103.5	579.0	1305.85	232.5	33.75	56.5	3	2.5	2577.6
Rubber	57.6	10.0	0.0	3	54.0	6.25	30	0	0	160.8
Palm tree	0.5	0.0	2.0	2	8.0	4.4	0	0	0	16.9
Kola	0.0	0.0	0.0	9.5	4.0	5.5	1.5	0	0	20.5
Annual crop.	440.6	139.8	660.0	1746.3	608.5	108.1	119	19.5	13.5	3841.7
Area	81.5	76.6	72.8	75.8	64.7	30.6	76.3	55.3	18.8	70.7
%										
Upland Paddy	13.0	0.5	0.0	0	0.0	0	0	0	0	13.5
Lowland Paddy	61.0	25.0	104.5	231.5	167.5	110.25	20.75	14	37.5	734.5
Maize	18.5	12.5	38.5	118.5	107.8	83	10	0	8	388.8
Yam	0.3	0.8	22.2	59.6	2.5	1.8	0	0	0	87.1
Cassava	3.5	4.0	42.2	97	43.0	40.5	6	0	0	236.2
Banana	3.8	0.0	0.0	0	4.3	1	0	1.75	0	10.8
Vegetables	0.0	0.0	39.8	50.15	7.3	8.7	0.25	0	12.75	118.9
Food crops	100.0	42.8	247.1	556.75	332.3	245.2	37	15.75	58.25	1589.6
Area	18.5	23.4	27.2	24.2	35.3	69.4	23.7	44.7	81.2	29.3
%										
Total	540.6	182.5	907.1	2303.1	940.8	353.3	156.0	35.3	71.8	5431.3
Area/Farmer	6.21	4.80	9.45	7.60	4.70	3.88	4.00	2.52	1.20	6.26

Notes: Petit pédro: Mangoe tree (1111a)
 * Pont Bascule is merged with Petit Pédro

Main crop.	
Annual crop.	██████████
Food Crops	██████████

Table G.2.3 Crop Cultivation Area, 1997

Village	Annual crop.	Food Crops	Area per Farmer(ha)
Cité Agricole	30.6	69.4	3.88
Grand Gabo	76.3	23.7	4
Camp. Bernard	64.7	35.3	4.7
Petit Pédro	75.8	24.2	7.6
Blahou	72.8	27.2	9.45
Fahe	81.5	18.5	6.21
Scaf	76.6	23.4	4.8
San Pédro	18.8	81.2	1.2
Zone	70.7	29.3	6.26

Table G 2.2 Classification of Villages by Main Crop Cultivated, 1997

Village	1991	1993	1995	1997	Camp Bernard	Cité Agricole	1997	Poto	San Pedro	Total
No. Villages	8	8	9	9	9	9	9	11	6	88
Cocoa	119.0	26.3	59.0	125.95	310.0	58.2	31	16.5	11	1065.9
Cashew	263.5	103.5	379.0	1365.85	732.3	337.5	56.5	3	2.5	2577.6
Rubber	57.0	10.0	0.0	3	54.0	6.25	3.0	0	0	169.8
Peanut	0.5	0.0	2.0	2	8.0	1.1	0	0	0	16.9
Rice	0.0	0.0	0.0	9.5	1.0	5.5	1.5	0	0	25.5
Vegetables	149.6	139.8	699.0	1746.3	998.5	198.1	119	19.5	13.5	3841.7
Area	33.8	67	13	13	64.7	39.6	17.5	55.3	18.8	70.7
Food Crops	13.0	0.5	0.0	0	0.0	0	0	0	0	13.5
Food Crops	61.0	25.0	104.5	231.5	167.5	119.25	30.75	11	37.4	734.3
Mango	18.5	12.5	38.5	118.5	107.8	83	10	0	8	388.8
Yam	6.3	0.8	22.2	59.6	2.5	1.8	0	0	0	87.1
Cassava	3.5	1.0	12.2	65	43.0	19.5	6	0	0	236.2
Banana	3.8	0.0	0.0	0	1.5	1	0	1.75	0	10.8
Vegetables	0.0	0.0	39.8	30.15	7.3	8.7	0.25	0	12.75	118.9
Area	100.0	12.8	247.1	556.55	332.3	245.2	31	15.75	38.25	1589.6
Food Crops	18.5	23.4	27.2	24.2	35.3	69.4	23.7	11.7	81.2	29.3
Total	846.6	182.5	967.1	2303.1	910.8	353.3	156.0	35.3	71.8	5431.3
Area Farmer	6.21	1.89	9.15	7.60	1.70	3.88	1.00	2.55	1.20	6.26

Notes: Petit pèdro - Mangoe tree (HHA)
 * Petit Bascoles is merged with Petit Pedro
 Main crop
 Area crop
 Food Crops

Table G 2.3 Crop Cultivation Area, 1997

Village	Annual crop	Food Crops	Area per Farmer (ha)
Cité Agricole	30.6	69.4	3.88
Grand Toles	76.3	23.7	4
Camp Bernard	64.7	35.3	4.7
Petit Pedro	75.8	21.2	7.6
Blahou	72.8	27.2	9.15
Fabe	81.5	18.5	6.21
Scaf	76.6	23.4	4.8
San Pedro	18.8	81.2	1.2
Zone	70.7	29.3	6.26

Table G.2.5 Outline of Household in Cité Agricole (1/3)

Family 1 (with the head trained for rice and vegetable cultivation)

Age of head : 35	Nationality : Ivoirien	Ethnic group : Sénoufo
Religion : Muslim	Education : primary school (CM2)	Available land: 9 ha
No. of members : 8	No. of labor force : 2 (+2 : independent brother and his wife)	

Agricultural Input and Out put for 1996/97

Input	Cost	Detail
For rice (1.5 ha)		
Diesel oil	23,400 Cfa	Land preparation: 60 l x 300 Cfa/l
Herbicide	76,500 Cfa	Rice-mill: 18 l x 300 (for 1 t)
Fertilizer	37,500 Cfa	9l x 8,500 Cfa/l
Contractual worker	52,500 Cfa	3 sacks x 12,500 Cfa/sack
Sub-total	189,900 Cfa	Harvest: 17,500 Cfa/ha x 1.5 ha
		Threshing : idem
For vegetable (50 a)		
Diesel oil for preparation	4,500 Cfa	30l/ha x 0.5 x 300
Seed	9,600 Cfa	400 Cfa/ pouches x 24
Insecticide	7,500 Cfa	1,250 Cfa/unit x 6
Fungicide	4,800 Cfa	800 Cfa/sack x 6
Fertilizer	25,000 Cfa	12,500 Cfa/sack x 2
Diesel oil for irrigation pump	36,000 Cfa	12 l/cycle x 300 Cfa/l
Sub-total	87,400 Cfa	
For coffee (2 ha)		
Contractual worker	35,000 Cfa + 345 kg	Care of plantation : 17,500 Cfa/ha x 2
		Harvest: 1/3 of harvested products
Maize (2ha)	0	
Cassava (0.5 ha)	0	
Chicken raising	0	
Transport by tractor	About 60,000 Cfa	10 l/ transport (plots-home-S/P)
Total of expense		372,300 Cfa

Output	Production	Unit price	Sales	Market
Rice (trashed)	1000 kg + H.C	300 Cfa/kg	300,000 Cfa	To fixed customer/H.C / Sold to send children to school
Vegetable	Tomato : 1000 kg	375Cfa/kg	375,000 Cfa	To fixed customer
	Cucumber : ?		65,000 Cfa	Sold by wife in S/P
	Eggplant : ?		70,000 Cfa	Idem
Coffee	690 kg	350 Cfa/kg	241,500 Cfa	To middleman
Maize	?		25,000 Cfa +	H.C / Sold in S/P
Cassava	?		-	Home consumption (H.C)
Chicken	15 + H.C	2500 Cfa	37,500 Cfa	Many died of New castles
Other income sources		Amount		
Land preparation for the others		85,000 Cfa		
Rice-mill		? (20 Cfa/kg)		Used by all families of Cité Agricole and Grand Gabo
Transport		72,000 Cfa (500Cfa/sack)		
Total income			1,271,000 Cfa (gross)	898,700 Cfa (net)

Table G.2.5 Outline of Household in Cité Agricole (2/3)

Family 2 (with old and sickly head of family)

Age of head : 68	Nationality : Ivoirien	Ethnic group : Kroumen
Religion : Harrist	Education : primary school (CP2)	
No. of members : 5	No. of labor force : 3	Available land: 7 ha

Agricultural Input and Out put for 1997/98

Input	Cost	Detail
For rice (?* ha)		
Seed	5000 Cfa	500 Cfa/ pouch x 10
For melon		
Insecticide (snails)	600 Cfa	100 Cfa/ pouch x 6
For coffee (3.5 ha)		
Contractual worker	20,000 Cfa	Care: 10,000 Cfa/ha x 2 (on credit)
Maize (?* ha)	0	
Cassava (?* ha)	0	
Vegetable (?* ha)	?	On responsibility of the wife
Fishing with net	0	
Total expense		25,600 + ? Cfa

* these crops are mixed and put in coffee plantations.

Output	Production	Unit price	Sales	Remark
Rice	3 bundles		0	No harvest due to flood
Melon	56 + H.C	250 Cfa	14,000 Cfa	Many consumers
Coffee	0		-	Not yet given product
Maize	?		?	H.C / Sold by wife and
Vegetable	?		?	almost bartered for daily
Cassava	?		?	necessities
Chicken	3	2500 Cfa	7,500 Cfa	Sale
Fish	?			H.C / Sale
Other income sources				
Distilling of spirits based on suger		750 Cfa/l	90,000 Cfa	Sold to villagers
Total income			111,500 + ? Cfa	

This family and next one could hardly express expenses and incomes numerically, perhaps, because of « farming without schedule » and « barter of their products », i.e.

- they buy input (material and labor) when they have some money, so that cropping does not depend on their planning but on availability of money
- women usually bear responsibility for selling the daily consumed products such as vegetables, maize or fruits in the market. Immediately after selling them, they buy daily necessities for their family, especially food which they are always short of.

Table G.2.5 Outline of Household in Cité Agricole (3/3)

Family 3

Age of head : 51	Nationality : Ivoirien	Ethnic group : Yacouba
Religion : Evangelical	Education : primary school (CE I)	
No. of menders : 7	No. of labor force : 3	Available land:

Agricultural Input and Output for 1996/97

Input	Cost	Detail
For rice (0.75 ha)	0	
For vegetable (40 a)		
NPK	2,500 Cfa	250 Cfa / kg x 10 kg
Urea	2,500 Cfa	250 Cfa / kg x 10 kg
Sub-total	5,000 Cfa	
For coffee (1 ha)	0	
For cacao / cola (3ha)		
Chemicals	20,400 Cfa	10,200 Cfa/time x 2 times
Maize (1ha)		
Seed	1,000 Cfa	1,000 Cfa/can x 1can
Cassava (with maize)	0	
Contractual work	22,000 Cfa	
Transport + market fee	16,200 Cfa	450 Cfa/day x 3 days/M x 12
Total of expense		64,600 Cfa

Output	Production	Sales	Market
Rice (treshed)	650 kg	50 kg :16,000 Cfa	To villager / sold to send chidre to school
Vegetable	?	30,-37,000 Cfa	Sold by wife or children in S/P
Coffee	100 kg	50,000 Cfa	To middleman in S/P
Cacao	5,000 kg	200,000Cfa	Sometimes obliged to sell them at low price to send chidre to school
Cola	25 kg	2,500 Cfa	
Maize	?	27,000 Cfa	Sold by wife in S/P /
Cassava	?	15,000 Cfa	Self sufficient for family
Fruits	?	10,000 Cfa	Sold by wife, children in S/P or on the rode
Other income sources			
Hunting, Brokerage of fish, maize, selling of bread		Hard to estimate sales	
Debt		20,000 Cfa	From intimate family without interest
Total income	350,500-357,000 something	Cfa plus	285,900-292,400Cfa plus something (net)

Table G.2.6 Outline of Household in Petit Pedro

Family 1 (1997 -- 98)

Age of head :	Nationality : Burkinabé	Ethnic group : Mossi
Religion : Muslim	Education :	Available land: 20 ha
No. of members :	No. of labor force :	
Crops	Income (Cfa)	Expenses (Cfa)
Cacao (4 ha)	1,032,000	150,000
Coffee (8 ha)	1,062,500	110,000
Cola	15,000	0
Avocado	25,000	0
Mouton	75,000	0
Rice (sold all)	137,500	5,000
Chicken	16,500	0
Farming labor	-	100,000/year + food
	2,363,500	365,000
Other crops: maize(until April sufficient), cassava (self-sufficient)		
Other income sources: small scale Business (87,000 Cfa)		

Family 2 (1997 /98)

Age of head : 64	Nationality : Ivorien	Ethnic group : Baoulé
Religion :	Education :	Available land: 6 ha
No. of members :	No. of labor force :	
Crops	Income (Cfa)	Expenses (Cfa)
Cacao (3.5 ha)	346,500	42,000
Coffee (0.5 ha)	0	0
Yam	0 (H/C)	30,000
Vegetable	0 (H/C)	1,200
	346,500	73,200
Other crops: cassava, taro, avocado (for home consumption: H/C)		
Other income sources: Bangui (palm wine) 30,000Cfa/year		

Family 3 (1997/98)

Age of head : 54	Nationality : Ivoirien	Ethnic group : Gouro
Religion :	Education :	Available land: 11 ha
No. of members :	No. of labor force :	
Crops	Income (Cfa)	Expenses (Cfa)
Cacao (6 ha)	588,300	427,700
Coffee (2 ha)	257,500	40,000
Yam	0 (H/C)	25,000
Vegetable (2.5 ha)	391,300	23,300
Cola	30,000	0
Peanuts	9750	0
Fruit	50,000	0
	1,326,850	516,000
Other crops: rice, maize, cassava (for home consumption: H/C)		
Other income sources: business (tobacco) 648,000 Cfa		

Table G.2.7 Women's Group Activities

Agricultural Input and Out put for 1996/97 (in the case of group's head)

Input	Cost	Detail
Rice(1.5 ha) individual		
Rent	22,500 Cfa	Low land: 15,000/ha x 1.5 ha
Seeds	62,500 Cfa	12,500/sack x 5 sacks
Herbicide	112,500Cfa	15l x 7,500 Cfa/l
Fertilizer	4,500 Cfa	3 00/kg x 3 kg
Contractual worker	49,500 Cfa	Land preparation:15,000/ha x 1.5 ha Sowing: 7,500 /time x 2 times Weeding : 750/man/day x 4men x 4 days
Sub-total	251,500Cfa	
Rice(1 ha) by group		* for 12 women
Seeds	12,500 Cfa	12,500/sack x 1 sacks
Herbicide	15,000 Cfa	7,500 /can x 2 cans
Contractual worker	15,000 Cfa	15,000/ha x 1ha
Sub-total	42,500 Cfa	
Vegetable (2 ha) by group		* for 12 women
Rent	30,000 Cfa	Low land: 15,000/ha x 2 ha
Control	34,200 Cfa	1,000/can x 30 cans
(paid individually)		600 sack x 7 sacks
Contractual worker	3,750 Cfa	Land preparation:750/day x 5 days
Sub -total	67,950 Cfa	37,000 Cfa by head

Output	Production	Unit price	Sales	Market
Rice (paddy)	1,500 kg	250/kg (Paddy)	137,500 Cfa	250 kg for next year's seeds
Individual		300.kg (trashed)		
Rice (group)	900 kg	250/kg		To the group's cash box 200kg for next year
Vegetable (for head)	Salad : ? Cucumber : ? Okra : ?	?	45,400 Cfa 12,800 Cfa 6,100 Cfa	Sold individually in S/P