Tableau 3 PRODUCTIONS ET IMPORTATIONS DES PRINCIPALES CEREALES

(Unit: Thousand tons/CFA F million)

Year	Production (tons)				Imports			
					Rice		Wheet	
	Rice (Paddy)		Maize	Millet & Sorghum	Quantity	Value	Quantity	Value
1969	22.0	(-)	250	400	10.3	421.4	34.5	628.4
1970	-	(-)	-	-	7.8	389.7	29.8	842.8
1971	13.7	(-)	278	357	31.9	871.8	26.8	608.3
1972	15.2	(10.9)	298	339	28.2	743.2	44.3	907.0
1973	12.2	(-24.6)	319	322	23.9	1,270.9	37.9	824.2
1974	13.3	(9.0)	332	322	17.3	2,121.3	46.9	1,871.9
1975	15.0	(12.8)	341	325	1.7	195.5	36.4	1,897.9
1976	22.2	(48.0)	380	370	7.0	504.3	37.9	1,759.3
1977	25.0	(12.6)	395	380	23.1	1,473.9	62.8	2,911.2
1978	33.0	(32.0)	380	330	18.8	1,365.6	57.1	2,781.1
1979	42.0	(27.3)	350	400	41.3	2,863.1	64.4	2,973.4
1980	46.0	(9.5)	410	410	20.7	1,385.8	78.8	4,164.5
1981	45.6	(-0.9)	414	441	11.0	967.6	50.2	3,270.9
1982	67.6	(48.2)	431	351	16.7	1,174.9	59.8	4,311.3
1983	-		-	-	51.2	5,102.2	89.8	6,452.0
1984	-		-	-	31.0	2,765.4	65.5	5,320.3
Average					21.4	1,476.0	51.4	2,595.3

Source: Marchés Tropicaux et Méditerranéens - Le Marché Camerounais; Documents de la Direction de la Statistique et de la Comptabilité Nationale; The Fifth Five-Year Economic, Social and Cultural Development Plan, 1981-1986; Annuaire de Statistiques Agricoles, 1981-1982.

Tableau 4 RECAPITULATION DES CONDITIONS METEOROLOGIQUES

Koundja Station: Lat. 5°37'N, Long. 10°45'W, Altitude 1,208 m, Record Period 1975-1984

Description		Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total or Average
Temperature (°C)	Mean	21.3	23.1	23.0	22.4	21.4	20.4	19.6	19.6	19.7	20.4	20.7	20.5	21.0
	Mean Max.	29.3	30.6	29.7	28.2	26.7	25.7	24.8	24.8	25.1	26.1	27.4	28.5	27.2
	Mean Min.	14.5	16.1	17.4	17.8	17.2	16.5	16.3	16.5	16.1	16.3	15.3	13.9	16.2
Relative Humidity (%)	Mean	57	55	62	74	80	81	83	83	81	78	69	61	72
	Mean Max.	87	85	90	96	99	99	100	100	100	99	96	92	95
	Mean Min.	26	23	34	50	60	62	65	66	62	56	40	30	48
Pan Evaporation	Total (mm)	163.2	184.0	188.8	146.2	124.4	104.4	91.1	87.7	99.7	120.0	133.4	143.7	1,586.6
	Mean (mm/day)	5.2	6.5	6.1	4.9	4.0	3.5	2.9	2.8	3.3	3.9	4.4	4.6	4.3
Atmospheric Pressure	Mean (millbars/day)	879.7	879.0	879.0	879.3	880.3	881.5	881.4	881.2	881.0	880.4	880.2	879.8	880.2
Water Vapor Pressure	Mean (millbars/day)	13.9	14.4	17.2	20.4	21.0	20.5	20.1	20.2	20.0	19.9	17.4	14.9	18.3
Sunshine Duration	Total (hours)	268.9	239.9	219.3	205.5	208.3	195.4	135.7	125.3	139.0	187.3	244.1	268.8	2,437.5
	Mean (hours/day)	8.7	8.5	7.1	6.8	6.7	6.5	4.4	4.0	4.6	6.0	8.1	8.7	6.7
Wind Velocity (m/s)	Mean	1.2	1.6	1.6	1.4	1.2	1.1	1.0	1.1	1.1	1.4	1.2	1.0	1.2
	Max.	7.2	8.3	11.6	11.2	10.6	10.4	8.3	8.5	9.1	10.8	8.7	7.2	9.3

Note: As the Baigom plain is about 100 m below the Koundja meteorological station, the temperatures in the plain are estimated by adding 0.6°C to the above records.

Tableau 5 EVOLUTION DE LA POPULATION 1976-1984

Region	Area (km^2)	Population		Average Growth Rate of Population per Annum (%)	Population Density per km^2	
		1976	1984		1976	1984
Cameroon	465,458	7,661,000	9,578,000	2.83	16.5	20.6
West Province	13,890	968,856	1,233,200	3.06	69.8	88.8
Noun Division	7,687	211,142	257,132	2.49	27.5	33.5
(Sub-Divisions & District)/*						
Foumban	1,363		104,762			76.9
Magba	1,169	137,876	12,946	1.5	31.4	11.1
Malentouen	1,360		16,630			12.2
Koutaba (Dist.)	500		21,109			42.2
Foumbot	1,002	73,266	72,517	4.2	22.2	72.4
Massangam	2,291		29,168			12.7
Project Zone	314	26,436	31,547	2.2	84.2	100.5
(Villages in Koutaba District)		12,054	14,779	2.6		
Ngoundoup		1,465	1,531	0.6		
Koundja		2,117	3,054	4.7		
Koundja Military Camp		2,580	3,000	1.9		
Poundimoun Didango		1,378	1,960	4.5		
Kounchakap		1,718	1,802	0.6		
Maparé		1,718	2,085	2.4		
Bafolé		1,078	1,347	2.8		
(Villages in Foumbot Sub-Division)		14,382	16,768	1.9		
Baigom		4,285	4,800	1.4		
Nkoundja		807	1,410	7.2		
Nkouparé		9,290	10,558	1.6		

Sources : Rapport Annuel du Service Provincial des Statistiques Agricoles de l'Ouest, 1983-1984;
Note Annuelle de Statistique 1983-1984;
Bilan Diagnostique du Secteur Agricole de la Province de l'Ouest;
Rapport de l'Etude de Faisabilité de la Plaine de Baigom, SEDA, 1984.

Remarks : /* Reorganization of the administrative divisions took place in 1979 and 1982. Two (2) Sub-Divisions: Foumban and Foumbot were divided into 5 Sub-Divisions and 1 District.

Tableau 6 (1/2) PRODUCTION, COMMERCE ET PRIX DES PRINCIPAUX PRODUITS AGRICOLES DANS LE DEPARTEMENT DU NOUN (30 AOUT 1984)

Products	Production (tons)	Marketed Volume (tons)	Marketing Rate (%)	Price per Kg (CFA F)
Food Crops				
Maize	209,500	65,000	31.0	550
Rice	75	9,200	122.7	190
Yam	60,300	35,000	58.0	60
Macabo	10,750	5,050	47.0	40
Taro	1,110	370	33.3	50
Sweet potato	25,000	12,000	48.0	30
Cassava	71,000	35,000	49.3	35
Groundnuts	43,000	27,500	64.0	170
Haricot beans	53,500	35,600	66.5	222
Plantain	71,230	30,000	42.1	50
Banana	40,250	24,300	60.4	55
Potato	4,650	3,800	81.7	150
Garden Crops				
Tomato	19,450	18,500	95.1	140
Cabbage	1,500	1,480	98.7	125
Onion	25	23	92.0	200
Lettuce	1,800	1,780	98.9	125
Carrot	1,955	1,945	99.5	175
Celery	250	248	99.2	1,000
Pumpkin	360	359	99.7	90
Red pepper	130	110	84.6	2,700
Soybean	40	37	92.5	75
Beet	150	150	100.0	260
Turnip	35	35	100.0	100
Welsh onion	420	400	95.2	85
Eggplant	975	970	99.5	100
Water melon	4	3.5	87.5	500
Garden Crops				
Parsley	10	10	100.0	800
Radish	42	42	100.0	185
Sweet pimento	19	19	100.0	185
French bean	134	134	100.0	175
African vegetable	15,000	5,500	36.7	70

Tableau 6 (2/2) PRODUCTION, COMMERCE ET PRIX DES PRINCIPAUX PRODUITS AGRICOLES DANS LE DEPARTEMENT DU NOUN (30 AOUT 1984)

Products		Production (tons)	Marketed Volume (tons)	Marketing Rate (%)	Price per Kg (CFA F)
Fruits					
Oil palm	- Oil	700	450	64.3	900/ℓ
	- Kernel	150	150	100.0	-
Orange		15	12	80.0	300
Grapefruit		-	-	-	-
Lemon		10	9.5	95.0	210
Avocado		950	750	78.9	100
Mango		15,500	11,000	71.0	75
Papaya		20	5	25.0	25
Guava		0.2	0.2	100.0	230
Cooking plums		150	100	66.7	300
Kola		5	2	40.0	600

Source: Rapport Annual de la Section Départementale de la Statistique Agricole du Noun, 1983-1984.

Tableau 7 EVOLUTION DES CREDITS ACCORDES 1980/81–1984/85

(Unit: CFA F)

Divisions/Year	1980/81	1981/82	1982/83	1983/84	1984/85	Total
Noun	154,992,945 (75.1)	82,464,000 (69.4)	45,514,746 (48.8)	42,950,560 (37.3)	451,055,155 (19.1)	776,977,406 (26.8)
Mifi	20,929,160 (10.2)	15,750,000 (13.2)	15,225,040 (16.3)	22,848,510 (19.9)	580,961,067 (24.6)	655,713,777 (22.6)
Bamboutos	11,453,000 (5.6)	5,189,000 (4.4)	8,950,000 (9.6)	8,500,000 (7.4)	527,097,950 (22.3)	561,189,950 (19.4)
Ndé	8,342,500 (4.0)	- (0.0)	5,200,000 (5.6)	5,692,350 (4.9)	191,711,105 (8.1)	210,945,955 (7.3)
Ménoua	8,389,200 (4.1)	7,800,000 (6.6)	13,911,000 (14.9)	31,056,270 (27.0)	527,202,731 (22.3)	588,359,201 (20.3)
Haut - Nkam	2,258,000 (1.0)	7,610,000 (6.4)	4,463,015 (4.8)	4,003,000 (2.5)	84,904,456 (3.6)	103,238,471 (3.6)
Total	206,364,805 (100.0)	118,813,000 (100.0)	93,263,801 (100.0)	115,050,690 (100.0)	2,362,932,464 (100.0)	2,896,424,760 (100.0)

Souruce: FONADER, Agence de Bafoussam

Tableau 8 PRIX FINANCIERS ET ECONOMIQUES

Farm Outputs and Inputs			Financial Prices as of December 1985	Economic Prices in 1995 (1985 constant)
Paddy		(CFA F/kg)	78	150
Maize		(CFA F/kg)	70	103
Groundnuts		(CFA F/kg)	200	200
Soybeans		(CFA F/kg)	100	190
Tomato		(CFA F/kg)	80	80
French beans		(CFA F/kg)	110	110
Timber				
- Diameter	> 50 cm	(CFA F/m^3)	25,700	28,800
- Diameter	20~50 cm	(CFA F/m^3)	10,100	7,800
- Firewoods		(CFA F/m^3)	1,000	770
Fertilizers				
- Urea		(CFA F/kg)	145	210
- TSP		(CFA F/kg)	130	136
- KC1		(CFA F/kg)	107	112
Agro-chemicals				
- Insecticides		(CFA F/kg)	2,950	2,800
- Fungicides		(CFA F/kg)	1,500	1,400
Machinery				
- Hand tractor		(CFA F)	1,318,000	-
- Sprayer		(CFA F)	682,000	-
- Thresher		(CFA F)	596,000	-
Labour		(CFA F/day)	830	600

Tableau 9 CARACTERISTIQUES GENERALES DES BARRAGES DE RETENUE

Description	Ndoup Dam	Nja Dam
1. Reservoir		
(1) Drainage Area	16.7 km^2	20.8 km^2
(2) Gross Storage Capacity	8,760,000 m^3	4,930,000 m^3
(3) Dead Storage Capacity	130,000 m^3	160,000 m^3
(4) Active Storage Capacity	8,630,000 m^3	4,770,000 m^3
(5) High Water Level	El. 1,173.0 m	El. 1,142.5 m
(6) Full Water Level	El. 1,171.5 m	El. 1,141.0 m
(7) Low Water Level	El. 1,156.0 m	El. 1,127.0 m
(8) Reservoir Area at Full Water Level	620,000 m^2	580,000 m^2
2. Dam		
(1) Dam Type	Fill Type	Fill Type
(2) Dam Crest Elevation	El. 1,175.5 m	El. 1,145.0 m
(3) Freeboard	2.5 m	2.5 m
(4) Dam Height	25.5 m	26.0 m
(5) Dam Crest Length	155.0 m	260.0 m
(6) Embankment Volume	180,900 m^3	245,600 m^3
3. Spillway		
(1) Design Discharge	95.0 m^3/sec	115.0 m^3/sec
(2) Type	Over Flow Type	Over Flow Type
(3) Crest Length	26.0 m	32.0 m
(4) Overflow Depth	1.5 m	1.5 m
4. Outlet		
(1) Design Discharge	1.261 m^3/sec	1.157 m^3/sec
(2) Type	Drop Inlet Type	Drop Inlet Type
(3) Intake Section	ϕ800 mm Steel Pipe	ϕ800 mm Steel Pipe
(4) Energy Dissipator	Jet Flow Gate	Jet Flow Gate
5. Diversion Structure		
(1) Design Discharge	12.3 m^3/sec	9.4 m^3/sec
(2) Section	Concrete Box 2.0 m x 2.0 m	Concrete Box 2.0 m x 2.0 m
(3) Length	150.0 m	150.0 m

Tableau 10 CARACTERISTIQUES GENERALES DES INSTALLATIONS D'IRRIGATION

1. Ndoup Intake Weir

1)	Type	:	Fixed type concrete weir
2)	Crest Elevation	:	El. 1,125 m
3)	Crest Length	:	13.0 m
4)	Height of Weir	:	1.0 m
5)	Scouring Sluice Gate	:	Width 1.0 m x height 1.5 m x 1 no.
6)	Intake Discharge	:	1.44 m^3/sec
7)	Intake Gate	:	Width 1.0 m x height 1.0 m x 2 nos.

2. Irrigation Canals and Related Structures

Name of Irrigation Canal	Canal Length (m)	Related structures (nos.)				
		Turnout	Drop	Culvert	Checkgate	Spillway
1) DMIC	3,650	4	3	-	3	1
2) DSIC-1	5,900	2	-	2	3	1
3) DSIC-2	1,950	2	-	1	2	1
4) JMIC	4,420	3	-	-	3	-
5) JSIC-1	1,230	1	-	-	2	1
6) JSIC-2	9,050	2	-	-	3	1
Total	26,200	14	3	3	16	5

Note : DMIC - Ndoup Main Irrigation Canal
DSIC - Ndoup Secondary Irrigation Canal
JMIC - Nja Main Irrigation Canal
JSIC - Nja Secondary Irrigation Canal

Tableau 11 CARACTERISTIQUES GENERALES DES INSTALLATIONS D'ASSAINISSEMENT

1. Drainage Canals and Related Structures

Name of Drainage Canal	Canal Length (m)	Related structures (nos.)				
		Drop	Culvert	Drain Inlet	Drainage Junction	Cross Drain
1) KMDC	3,690	1	1	7	1	-
2) KSDC-1	2,090	-	1	6	-	-
3) KSDC-2	910	-	1	4	-	-
4) JMDC	7,725	3	2	18	-	-
5) DMDC	5,540	11	3	7	-	-
6) CD	36,400	-	-	-	-	23
Total	56,355	15	8	42	1	23

Note : KMDC - Nkoup Main Drainage Canal
KSDC - Nkoup Secondary Drainage Canal
JMDC - Nja Main Drainage Canal
DMDC - Ndoup Main Drainage Canal
CD - Catch Drain

2. Diversion Flood Way

1) Side Spillway : Crest length 8.0 m, Overflow depth - 0.6 m
2) Cross Drain : Length 28.3 m
3) Flood Canal : Length 700 m

3. Regulating Gates

1) Gate Type : Roller Gate
2) Number of Gate : 3 nos.
3) Size of Gate : Width 3.0 m x height 2.5 m

Tableau 12 L'EFFECTIF NECESSAIRE A LA REALISATION DU PROJET

Stage		Detailed Design	Construction (including O&M)					Operation & Maintenance		
Staff	Category & Grade	1987	1988	1989	1990	1991	1992	1993	1994	1995–
Managing Staff										
a) Director General of the Project	A2/940	1	1	1	1	1	1	1	1	1
b) Department Director	A2/605	-	-	-	2 (2)	3 (3)	3 (3)	4	4	5
c) Senior Officer or Principal Engineer	B2/610	2	2	2	2	2	2	3	3	3
Technical and Administrative Staff										
d) Civil Engineer	A1/530	1	2	2	2	2	2	2	2	2
e) Agricultural Engineer	B2/420	1	3	3	4 (1)	4 (1)	4 (1)	5	5	6
f) Agricultural Technician	B1/480	2	3	3	6 (3)	9 (6)	11 (8)	12	12	17
g) Accountant & Cashier	B1/480	2	2	2	2	2	2	3	3	4
h) Agricultural Extension Worker	C/250	-	-	-	3 (3)	5 (5)	5 (5)	6	6	7
i) Secretary & Typist, Clerk, Store Keeper	V/D	8	16	16	16	16	16	18	20	22
j) Mechanic, Electrician	V/D	-	-	-	1 (1)	2 (2)	2 (2)	2	2	3
Workers and Laborers										
k) Gatekeeper, Milling Operator	IV/D	-	-	-	10 (10)	12 (12)	15 (15)	22	22	22
l) Driver, Operator of Tractor and Foreman	III/D	5	5	5	8 (3)	10 (5)	10 (5)	11	12	15
m) Guardsman, Office keeper	II/D	3	5	5	10 (5)	11 (6)	11 (6)	12	13	13
m) Laborers										
- Permanent	II/D	4	6	6	10 (4)	14 (8)	16 (10)	18	20	23
- Temporary (A)	II/D	-	-	-	5 (5)	5 (5)	5 (5)	8	10	10
- Temporary (B)	II/D	-	-	-	15 (15)	20 (20)	20 (20)	30	35	40
Total		29	45	45	97 (52)	118 (73)	125 (80)	157	170	193

Remarks: Figures in Parentheses ( ) show the number of staff required for operation and maintenance during the construction stage.

Tableau 13 QUALITES REQUISES DU PERSONNEL

No.	Post	Qualifications Required	Least Experience (Years)	Other Abilities or Qualifications Expected
1.	Director General	Bachelor	15	Master or Ph.D.
2.	Department Director	Bachelor	8	Master,Proficiency in English
3.	Senior Officer & Principal Engineer	Bachelor	5	Command of English
4	Civil Engineer, Agricultural Engineer, Agricultural Technician	Bachelor or Diploma of College	3	Command of English
5.	Accountant & Cashier, Nurse	Diploma of College or Senior High School	2	Certificate of Accountancy, Notion of English
6.	Agricultural Monitor	Graduate of Junior High School	1	Completion of Training Programme, Notion of English
7.	Secretary & Typist, Draftsman, Clerk & Store Keeper	Diploma of Senior or Junior High School	2	Certificate of Speciality, Notion of English
8.	Mechanic, Electrician, Mason, etc.	Diploma of Senior or Junior High School	3	Certificate of Speciality, Notion of English
9.	Gatekeeper, Milling Operator	Diploma of Junior High.School	2	Certificate of Speciality, Notion of English
10.	Driver and Operator of Tractor	Graduate of Primary School	5	Certificate of Speciality, Proficiency in French
11.	Laborer	Good Health and Diligence	-	Notion of French

Tableau 14 COUT ECONOMIQUE DE CONSTRUCTION

(Unit: CFA F 10^3)

Year in Order	Year (Tentative)	Direct Construction Cost	Cost for Rice-mill, Office, etc.	Administration Cost	Engineering Cost	Sub-Total	Physical Contingency	Total
1	1987	-	-	51,802	367,330	419,132	41,913	461,045
2.	1988	907,551 (15%)	262,770	77,938	117,272	1,365,531	136,553	1,502,084
3.	1989	1,512,585 (25%)	455,480	77,937	117,272	2,163,274	216,327	2,379,601
4.	1990	1,512,585 (25%)	-	77,938	117,272	1,707,795	170,780	1,878,575
5.	1991	1,210,068 (20%)	-	77,937	117,272	1,405,277	140,528	1,545,805
6.	1992	907,551 (15%)	-	77,938	117,272	1,102,761	110,276	1,213,037
7.	1993	-	-	-	-	-	-	-
8.	1994	-	-	-	-	-	-	-
Total		6,050,340	718,250	441,490	953,690	8,163,770	816,377	8,980,147

Tableau 15 AVANTAGE DU PROJET

(Unit: CFA F 10^6)

Crops	Total Value							
	1990	1991	1992	1993	1994	1995	1996	1997 -
With Project								
- Rice	46.4	132.5	290.4	595.7	736.2	845.6	909.5	942.6
- Maize	8.2	24.1	53.3	111.8	147.8	175.7	195.2	195.2
- Tomato	20.9	72.2	166.7	347.0	488.6	568.6	608.6	608.6
- Soybean	0.5	4.1	9.1	20.1	30.6	38.1	42.9	42.9
- Groundnuts	0.2	4.0	10.1	25.2	48.2	62.2	72.2	72.2
Sub-total	76.2	236.9	529.6	1,099.8	1,451.4	1,690.2	1,828.4	1,861.5
Without Project	66.9	66.9	66.9	66.9	66.9	66.9	66.9	66.9
Incremental Benefit	9.3	170.0	462.7	1,032.9	1,384.5	1,623.3	1,761.5	1,794.6

Tableau 16 EVOLUTION DES COUTS ET AVANTAGES ECONOMIQUES

(Unit: CFA F 10^6)

Year in Order	Year (Tentative)	Economic Cost				Economic Benefit		
		Construction Cost	Replacement Cost	O&M Cost	Total	Agricultural Benefit	Other Benefit (Forest Exp.)	Total
1	1987	461.0	-	-	461.0	-	-	0
2	1988	1,502.1	-	-	1,502.1	-	-	0
3	1989	2,379.6	-	-	2,379.6	-	12.0	12.0
4	1990	1,878.6	-	66.1	1,944.7	9.3	18.0	27.3
5	1991	1,545.8	-	93.6	1,639.4	170.0	30.0	200.0
6	1992	1,213.0	-	106.0	1,319.0	462.7	60.1	522.8
7	1993	-	-	222.8	222.8	1,032.9	-	1,032.9
8	1994	-	-	228.4	228.4	1,384.5	-	1,384.5
9	1995	-	-	268.9	268.9	1,623.3	-	1,623.3
10	1996	-	-	269.3	269.3	1,761.5	-	1,761.5
11	1997	-	-	269.6	269.6	1,794.6	-	1,794.6
12	1998	-	0.2	269.6	269.8	1,794.6	-	1,794.6
13	1999	-	192.7	269.6	462.3	1,794.6	-	1,794.6
14	2000	-	-	269.6	269.6	1,794.6	-	1,794.6
15	2001	-	-	269.6	269.6	1,794.6	-	1,794.6
16	2002	-	-	269.6	269.6	1,794.6	-	1,794.6
17	2003	-	-	269.6	269.6	1,794.6	-	1,794.6
18	2004	-	-	269.6	269.6	1,794.6	-	1,794.6
19	2005	-	-	269.6	269.6	1,794.6	-	1,794.6
20	2006	-	-	269.6	269.6	1,794.6	-	1,794.6
21	2007	-	-	269.6	269.6	1,794.6	-	1,794.6
22	2008	-	0.2	269.6	269.8	1,794.6	-	1,794.6
23	2009	-	192.7	269.6	462.3	1,794.6	-	1,794.6
24	2010	-	-	269.6	269.6	1,794.6	-	1,794.6
25	2011	-	-	269.6	269.6	1,794.6	-	1,794.6
26	2012	-	-	269.6	269.6	1,794.6	-	1,794.6
27	2013	-	130.0	269.6	399.6	1,794.6	-	1,794.6
28	2014	-	-	269.6	269.6	1,794.6	-	1,794.6
29	2015	-	-	269.6	269.6	1,794.6	-	1,794.6
30	2016	-	-	269.6	269.6	1,794.6	-	1,794.6
31	2017	-	-	269.6	269.6	1,794.6	-	1,794.6
32	2018	-	0.2	269.6	269.8	1,794.6	-	1,794.6
33	2019	-	192.7	269.6	462.3	1,794.6	-	1,794.6
34	2020	-	-	269.6	269.6	1,794.6	-	1,794.6
35	2021	-	-	269.6	269.6	1,794.6	-	1,794.6
36	2022	-	-	269.6	269.6	1,794.6	-	1,794.6
37	2023	-	-	269.6	269.6	1,794.6	-	1,794.6
38	2024	-	-	269.6	269.6	1,794.6	-	1,794.6
39	2025	-	-	269.6	269.6	1,794.6	-	1,794.6
40	2026	-	-	269.6	269.6	1,794.6	-	1,794.6
41	2027	-	-	269.6	269.6	1,794.6	-	1,794.6
42	2028	-	0.2	269.6	269.8	1,794.6	-	1,794.6
43	2029	-	192.7	269.6	462.3	1,794.6	-	1,794.6
44	2030	-	-	269.6	269.6	1,794.6	-	1,794.6
45	2031	-	-	269.6	269.6	1,794.6	-	1,794.6
46	2032	-	-	269.6	269.6	1,794.6	-	1,794.6
47	2033	-	-	269.6	269.6	1,794.6	-	1,794.6
48	2034	-	-	269.6	269.6	1,794.6	-	1,794.6
49	2035	-	-	269.6	269.6	1,794.6	-	1,794.6
50	2036	-	-	269.6	269.6	1,794.6	-	1,794.6

Discount Rate	10%	12%	15%
B/C	1.206	1.006	0.788
B-C (CFA F 10^6)	1,829.76	52.03	-1,557.14

EIRR: 12.1%

Tableau 17 CASH FLOW DU PROJET

(Unit: CFA F 10⁶)

Year in Order	Year (Tentative)	Cash Outflow: Capital Cost Foreign Currency	Capital Cost Local Currency	Loan Repayment /1 Interest	Loan Repayment /1 Principal	Replacement Cost	O&M Cost	Fund for Purchase of Paddy	Total	Cash Inflow: Construction Fund Foreign Currency	Construction Fund Local Currency	Revenue from Forest Expl.	Revenue from Milled Rice	O&M Service Fee/2	Government Subsidy	Total	Balance
1	1987	443.3	174.7	-	-	-	-	-	619.0	444.3	174.7	-	-	-	-	619.0	0
2	1988	1,052.6	1,253.4	15.6	-	-	-	-	2,321.6	1,052.6	1,253.4	-	-	-	15.6	2,321.6	0
3	1989	1,860.5	2,000.3	52.4	-	-	-	-	3,913.2	1,860.5	2,000.3	13.6	-	-	38.8	3,913.2	0
4	1990	1,476.2	1,829.2	117.5	-	-	88.0	48.7	3,559.6	1,476.2	1,829.2	20.3	60.7	21.1	152.1	3,559.6	0
5	1991	1,249.2	1,691.7	169.2	-	-	125.4	128.7	3,364.2	1,249.2	1,691.7	33.9	160.5	52.8	176.1	3,364.2	0
6	1992	1,007.2	1,494.3	212.9	-	-	142.3	267.9	3,124.6	1,007.2	1,494.3	67.8	333.9	105.7	115.7	3,124.6	0
7	1993	-	-	248.2	-	-	299.4	543.3	1,090.9	-	-	-	677.5	211.3	202.1	1,090.9	0
8	1994	-	-	248.2	-	-	308.0	604.6	1,160.8	-	-	-	753.8	211.3	195.7	1,160.8	0
9	1995	-	-	248.2	-	-	362.1	654.0	1,264.3	-	-	-	815.5	211.3	237.5	1,264.3	0
10	1996	-	-	248.2	-	-	362.6	681.9	1,292.7	-	-	-	850.2	211.3	231.2	1,292.7	0
11	1997	-	-	248.2	354.5	-	362.9	695.8	1,661.4	-	-	-	867.5	211.3	582.6	1,661.4	0
12	1998	-	-	235.7	354.5	0.2	362.9	695.8	1,649.1	-	-	-	867.5	211.3	570.3	1,649.1	0
13	1999	-	-	223.3	354.5	228.1	362.9	695.8	1,864.6	-	-	-	867.5	211.3	785.8	1,864.6	0
14	2000	-	-	210.9	354.5	-	362.9	695.8	1,624.1	-	-	-	867.5	211.3	545.3	1,624.1	0
15	2001	-	-	198.5	354.5	-	362.9	695.8	1,611.7	-	-	-	867.5	211.3	532.9	1,611.7	0
16	2002	-	-	186.1	354.5	-	362.9	695.8	1,599.3	-	-	-	867.5	211.3	520.5	1,599.3	0
17	2003	-	-	173.7	354.5	-	362.9	695.8	1,586.9	-	-	-	867.5	211.3	508.1	1,586.9	0
18	2004	-	-	161.3	354.5	-	362.9	695.8	1,574.5	-	-	-	867.5	211.3	495.7	1,574.5	0
19	2005	-	-	148.9	354.5	-	362.9	695.8	1,562.1	-	-	-	867.5	211.3	483.3	1,562.1	0
20	2006	-	-	136.5	354.5	-	362.9	695.8	1,549.7	-	-	-	867.5	211.3	470.9	1,549.7	0
21	2007	-	-	124.1	354.5	-	362.9	695.8	1,537.3	-	-	-	867.5	211.3	458.5	1,537.3	0
22	2008	-	-	111.7	354.5	0.2	362.9	695.8	1,525.1	-	-	-	867.5	211.3	446.3	1,525.1	0
23	2009	-	-	99.3	354.5	228.1	362.9	695.8	1,740.6	-	-	-	867.5	211.3	661.8	1,740.6	0
24	2010	-	-	86.9	354.5	-	362.9	695.8	1,500.1	-	-	-	867.5	211.3	421.3	1,500.1	0
25	2011	-	-	74.4	354.5	-	362.9	695.8	1,487.6	-	-	-	867.5	211.3	408.8	1,487.6	0
26	2012	-	-	62.0	354.5	-	362.9	695.8	1,475.2	-	-	-	867.5	211.3	396.4	1,475.2	0
27	2013	-	-	49.6	354.5	153.0	362.9	695.8	1,615.8	-	-	-	867.5	211.3	537.0	1,615.8	0
28	2014	-	-	37.2	354.5	-	362.9	695.8	1,450.4	-	-	-	867.5	211.3	371.6	1,450.4	0
29	2015	-	-	24.8	354.5	-	362.9	695.8	1,438.0	-	-	-	867.5	211.3	359.2	1,438.0	0
30	2016	-	-	12.4	354.5	-	362.9	695.8	1,425.6	-	-	-	867.5	211.3	346.8	1,425.6	0
31	2017	-	-	0	0	-	362.9	695.8	1,058.7	-	-	-	867.5	211.3	-	1,078.8	20.1

Remarks: /1 Interest: 3.5%
Grace period: 10 years
Repayment period including grace period: 30 years
/2 Revenue from operation service fee to be collected from farmers. The total amount of this fee for each farm household occupying 2.1 ha was fixed at CFA F 222,000 per year.

This analysis was made on the basis of price level and exchange rate (US$1.0 = CFA F 384.5) as of November, 1985.

Tableau-18 STANDARDS APPLICABLES AU JAPON POUR LA QUALITE DE L'EAU DANS L'ENVIRONNMENT

(1) Standard relating to human health (Hazardous substances)
- *Standards are indiscriminate to all aquatic areas*

(unit: mg/ℓ)

Item	Standard Value
Cadmium	0.01
Cyanide	not detectable
Organic phosphorous*	not detectable
Lead	0.1
Hexavalent chromium	0.05
Arsenic	0.05
Total mercury	0.0005**
Alkyl mercury	not detectable
PCB (polychlorinated biphenyl)	not detectable

* Organic phosphorous includes parathion, methyl demeton and E.P.N

** Standard value for total mercury is based on the yearly average value

(2) Standards relating to living environment
- *Standards are set up by classifying the public water area into categories of utilization purposes*

(unit: mg/ℓ)

Category***		pH	BOD (max.)	COD (max.)	Suspended substance (max.)	Dissolved oxygen (min.)	No. of coliform group bacteria (max.) (MPN/100ml)	Others
River	AA	6.5−8.5	1	—	25	7.5	50	
	A	6.5−8.5	2	—	25	7.5	1,000	
	B	6.5−8.5	5	—	25	5.0	5,000	
	C	6.0−8.5	5	—	50	5.0	—	
	D	6.0−8.5	10	—	100	2.0	—	
	E	6.0−8.5	10	—	—*	2.0	—	* Floating matters and garbages should not be observed

*** AA, A, B and C can be used as drinking water by using suitable water treatment facilities in purification plant.

Tableau-19 PRODUITS CHIMIQUES AGRICOLES DONT L'APPLICATION EST INTERDITE ET RESTREINTE

Name	Application
γ-BHC	Prohibited to sell
DDT	Prohibited to sell
Endrin	Can be used for control of insects on citrus, before seed-setting
Dyldrin	Can be used for control of insects on trees, except for fruit trees
Aldrin	Can be used for control of Scepticus griseus (Roelofs) on nursery stock

Tableau-20 PRODUITS CHIMIQUES AGRICOLES ET ENGRAIS RECOMMANDABLES POUR LE PERIMETRE DU PROJET

(1) Farm Chemicals

Item	Production Name	LD_{50} (RAT)
Insecticides	Sumithion EC.	800 mg/kg
	Sumithion L. (60)	800 mg/kg
	Diazinon EC. (40)	500 mg/kg
	EPN EC. (1.5)	20 – 40 mg/kg
Pesticides	Rabcide EC.	2,500 mg/kg
	Rabcide EC., F.	2,500 mg/kg
	Rabcide - Validacin EC.	2,500 mg/kg
	Rabcide - Neoaso EC.	2,500 mg/kg

(2) Chemical Fertilizers

Name	Formula
Ammonium Sulfate	$(NH_4)_2SO_4$
Triple Super Phosphate	$Ca(H_2PO_4)_2 \cdot H_2O$
Mixed Fertilizer	N:P:K = 10:14:12

FIGURES

Figure 1 ORGANIGRAMME POUR LE DEVELOPPEMENT RURAL DE LA REGION

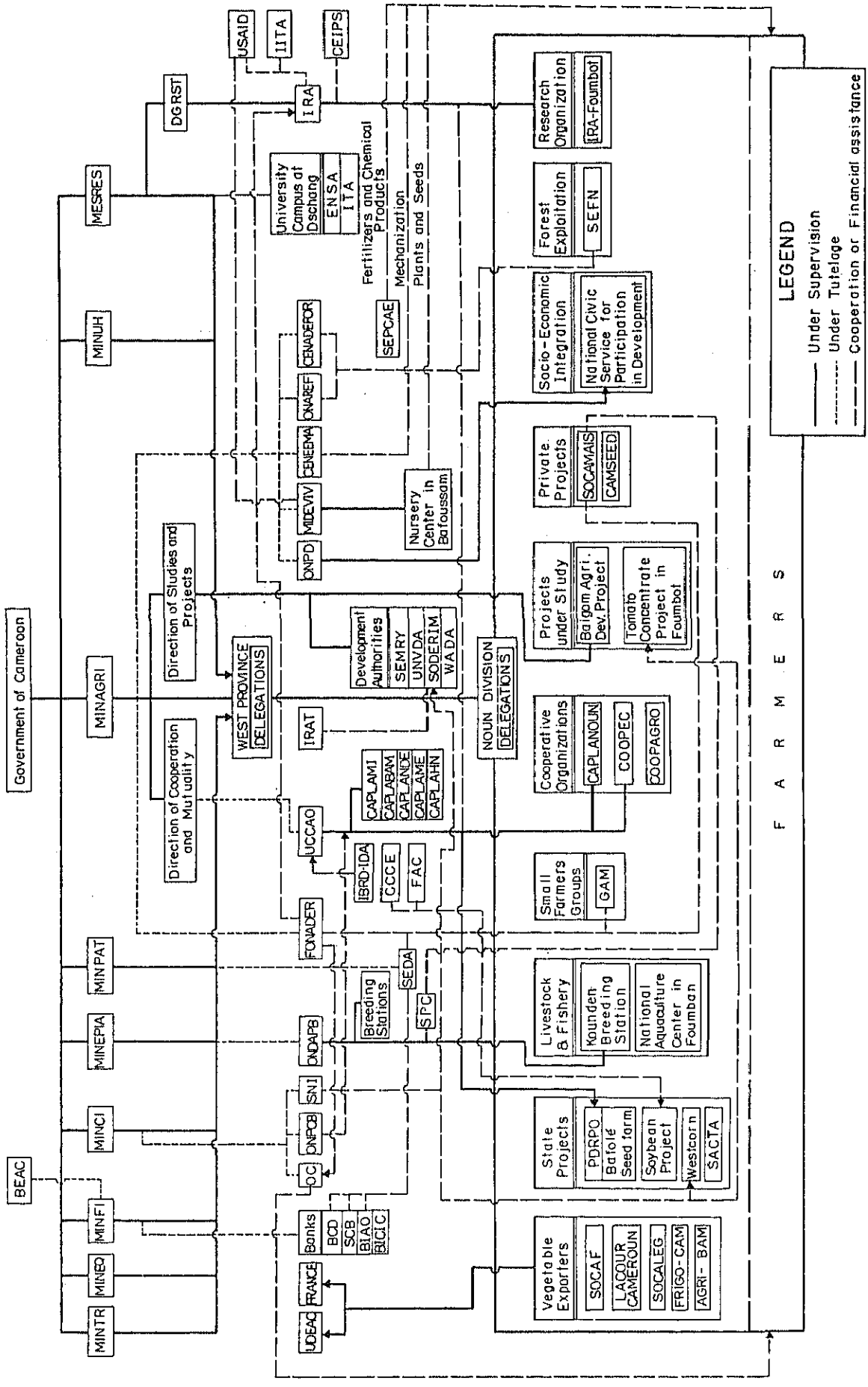


Figure 2 ORGANISATION DES SERVICES AGRICOLES DANS LA REGION

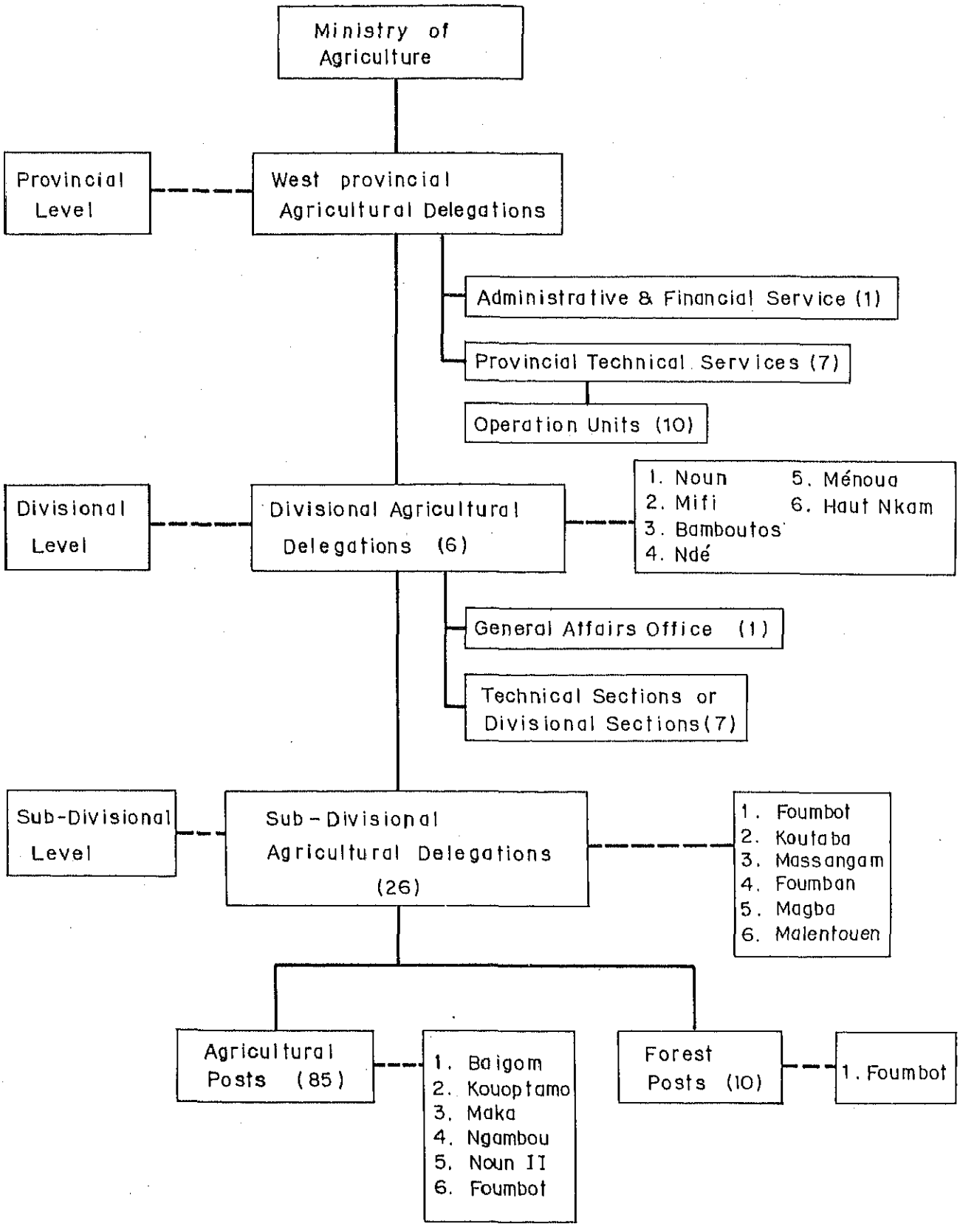
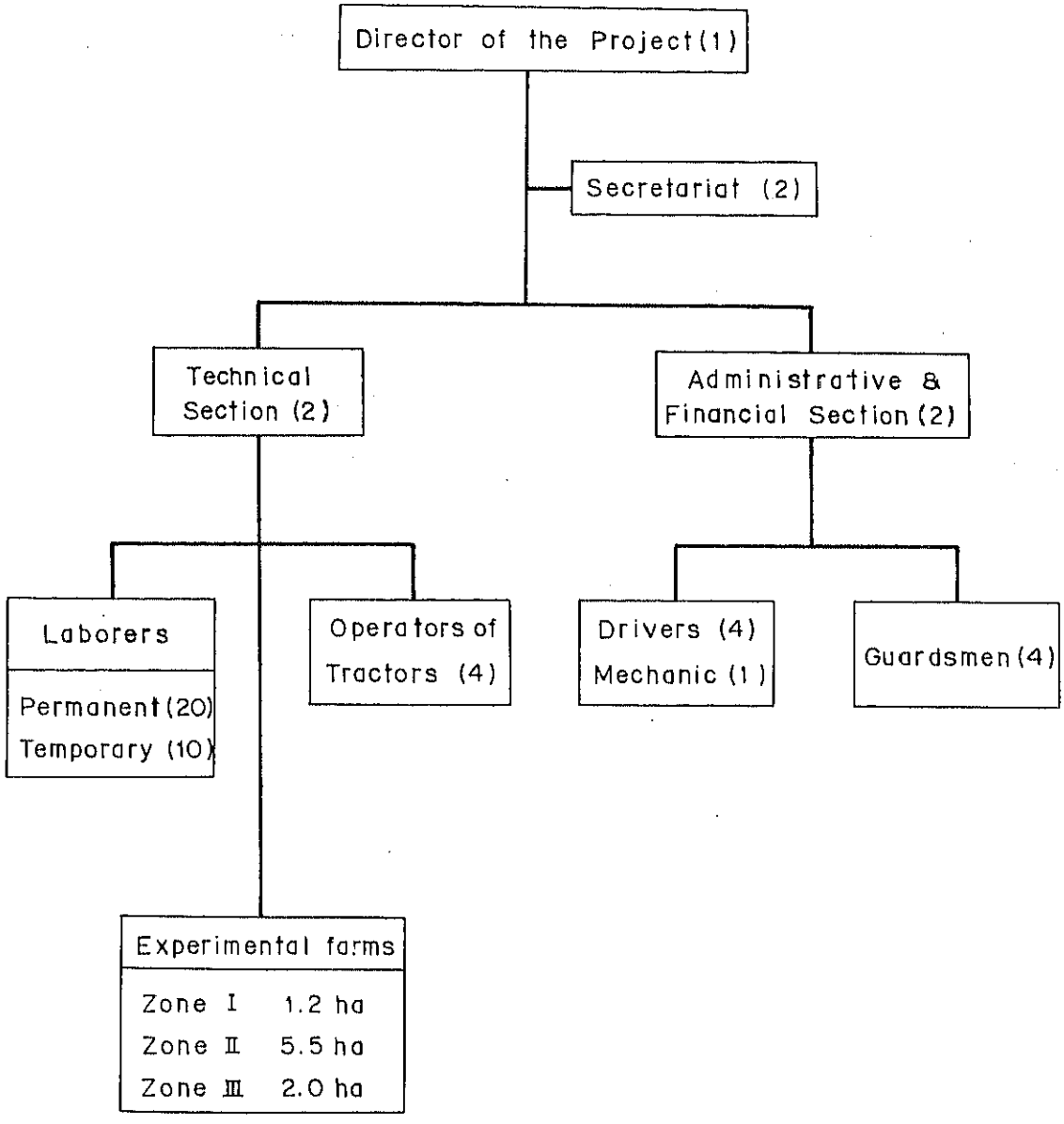


Figure 3 ORGANIGRAMME DE LA DIRECTION DU PROJET RIZICOLE DE BAIGOM



Remarks : Figures in parentheses ( ) are number of staff as of November 1985.

Figure 4 MODES DE CULTURE PROPOSES

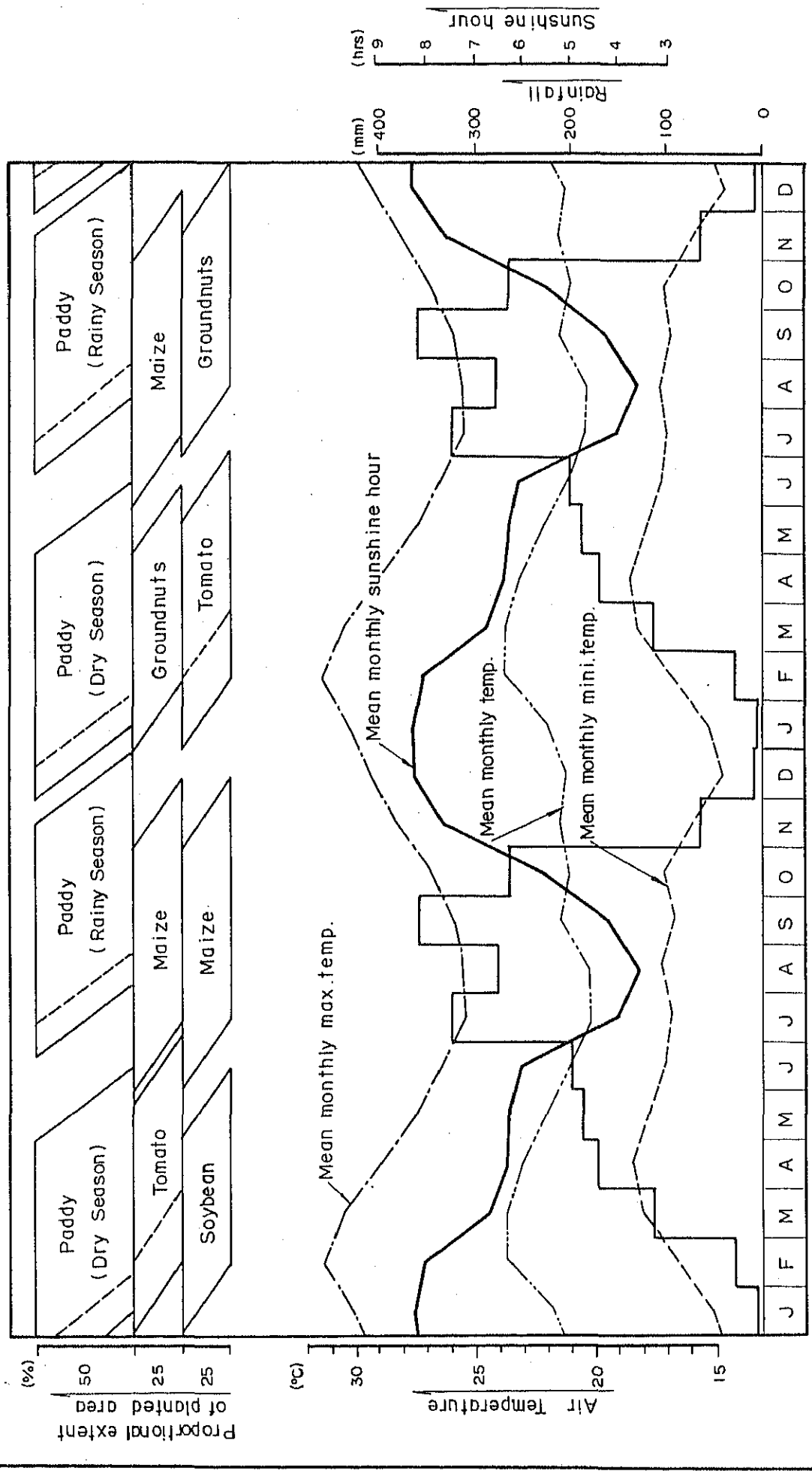


Figure 5 DIAGRAMME D'IRRIGATION

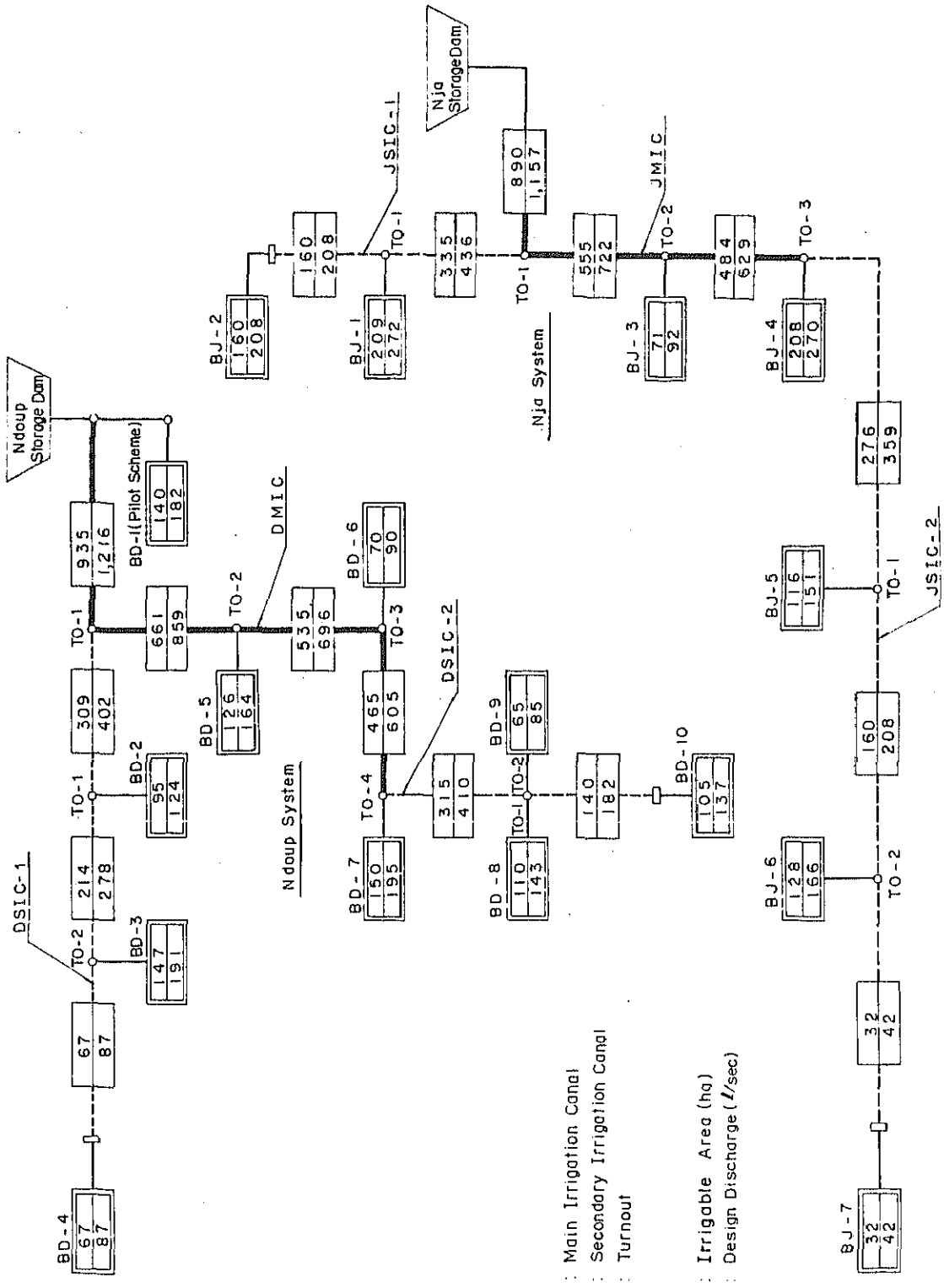
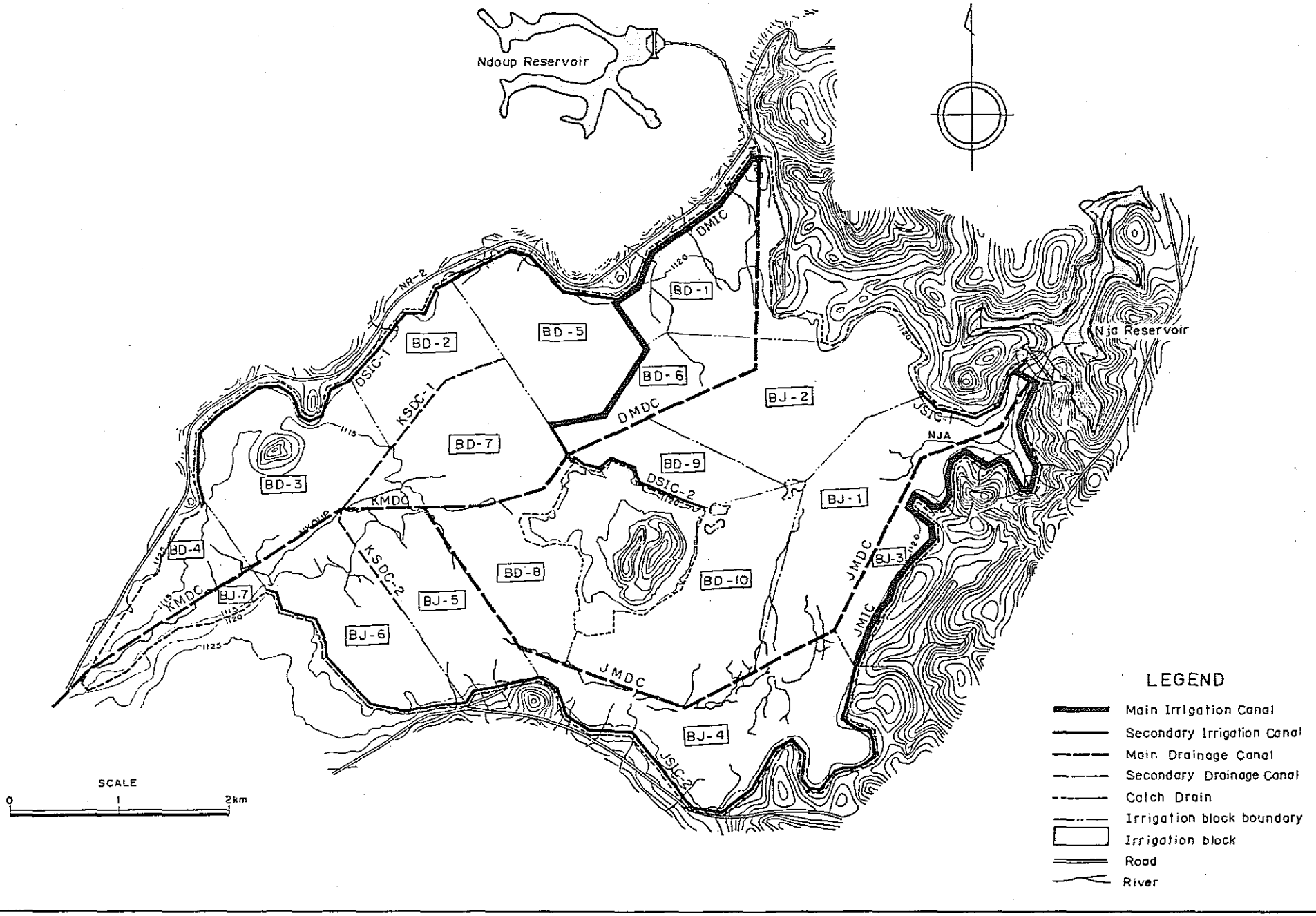


Figure 6 RESEAUX D'IRRIGATION ET D'ASSAINISSEMENT PROPOSES



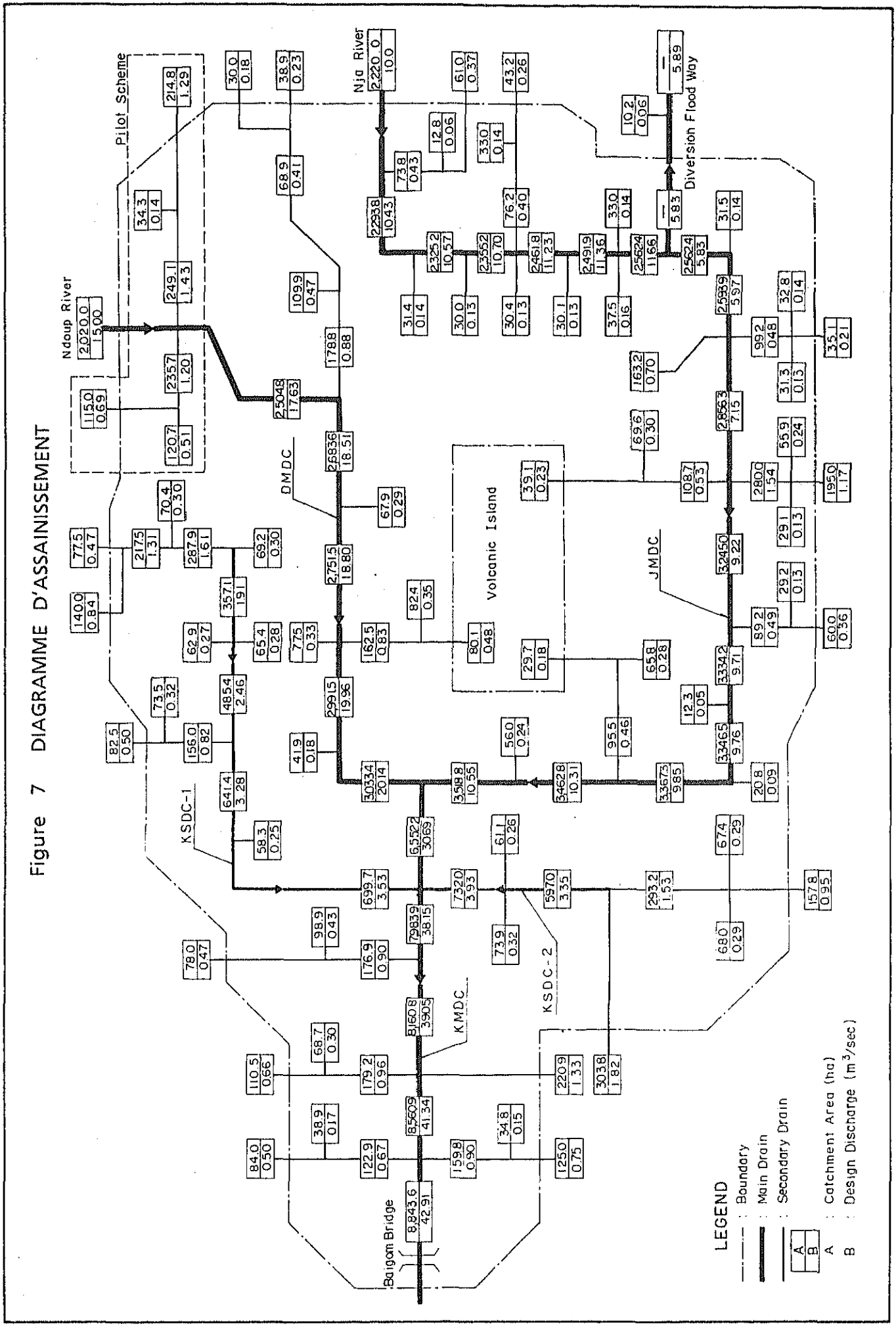
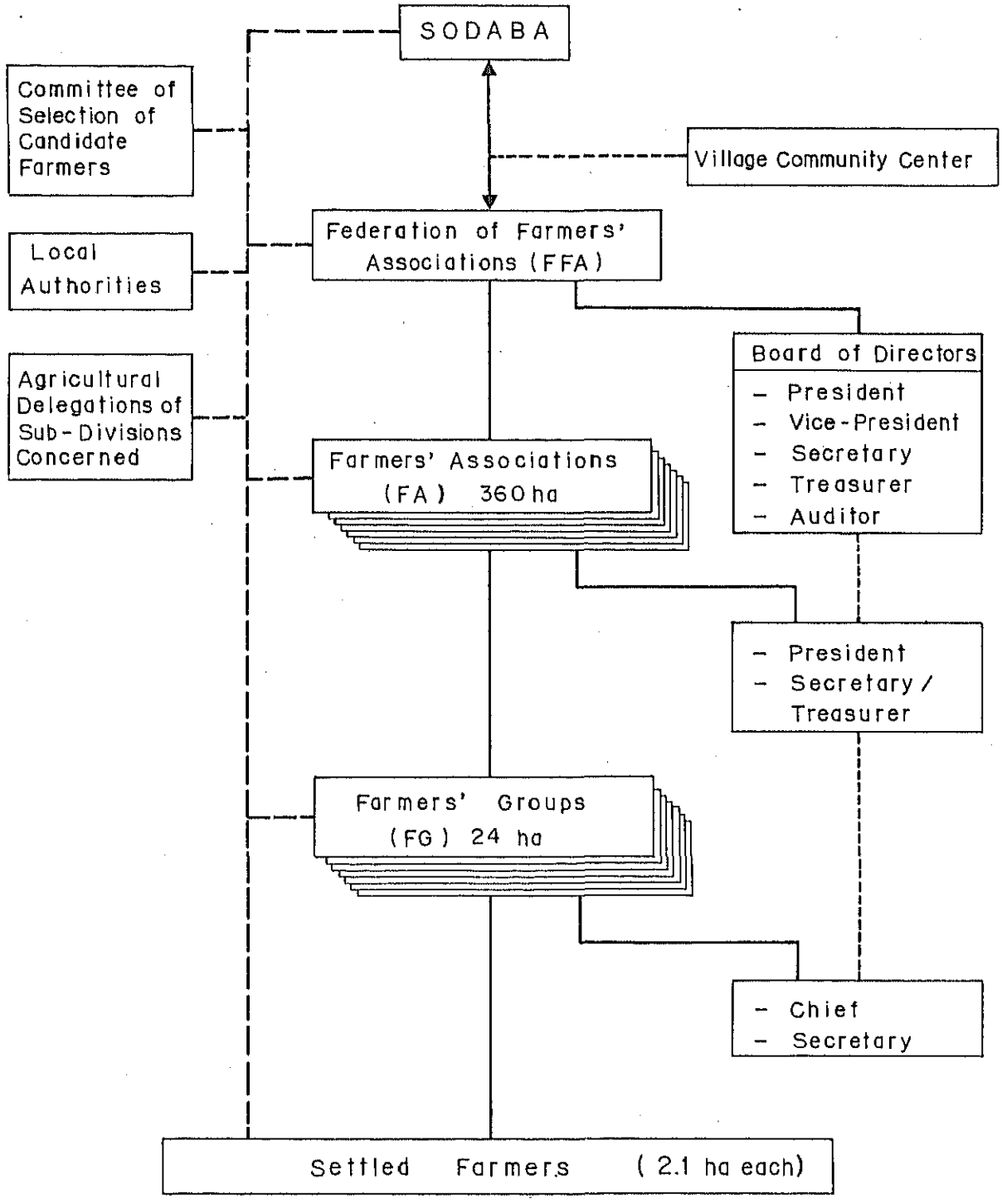


Figure 7 DIAGRAMME D'ASSAINISSEMENT

Figure 8 ORGANISATION PROPOSEE POUR LES ASSOCIATIONS DES AGRICULTEURS



Remarks :

——— : Direct linkage

---------- : Supervisory relation

— — — — : Coordinating relation

Figure 9 CALENDRIER D'EXECUTION DES TRAVAUX DU PROJET

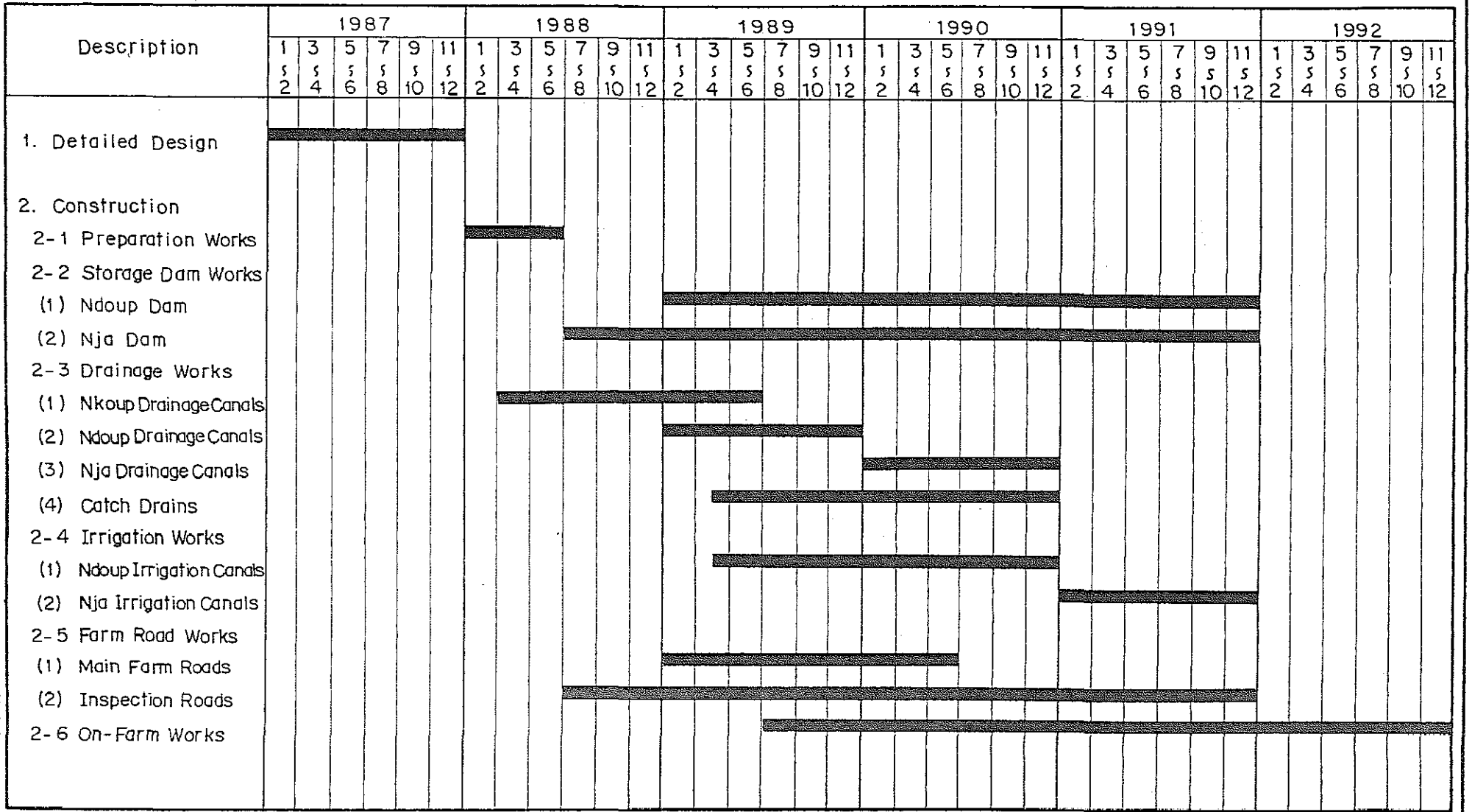


Figure 10 ORGANISATION PROPOSEE POUR L'EXECUTION DU PROJET

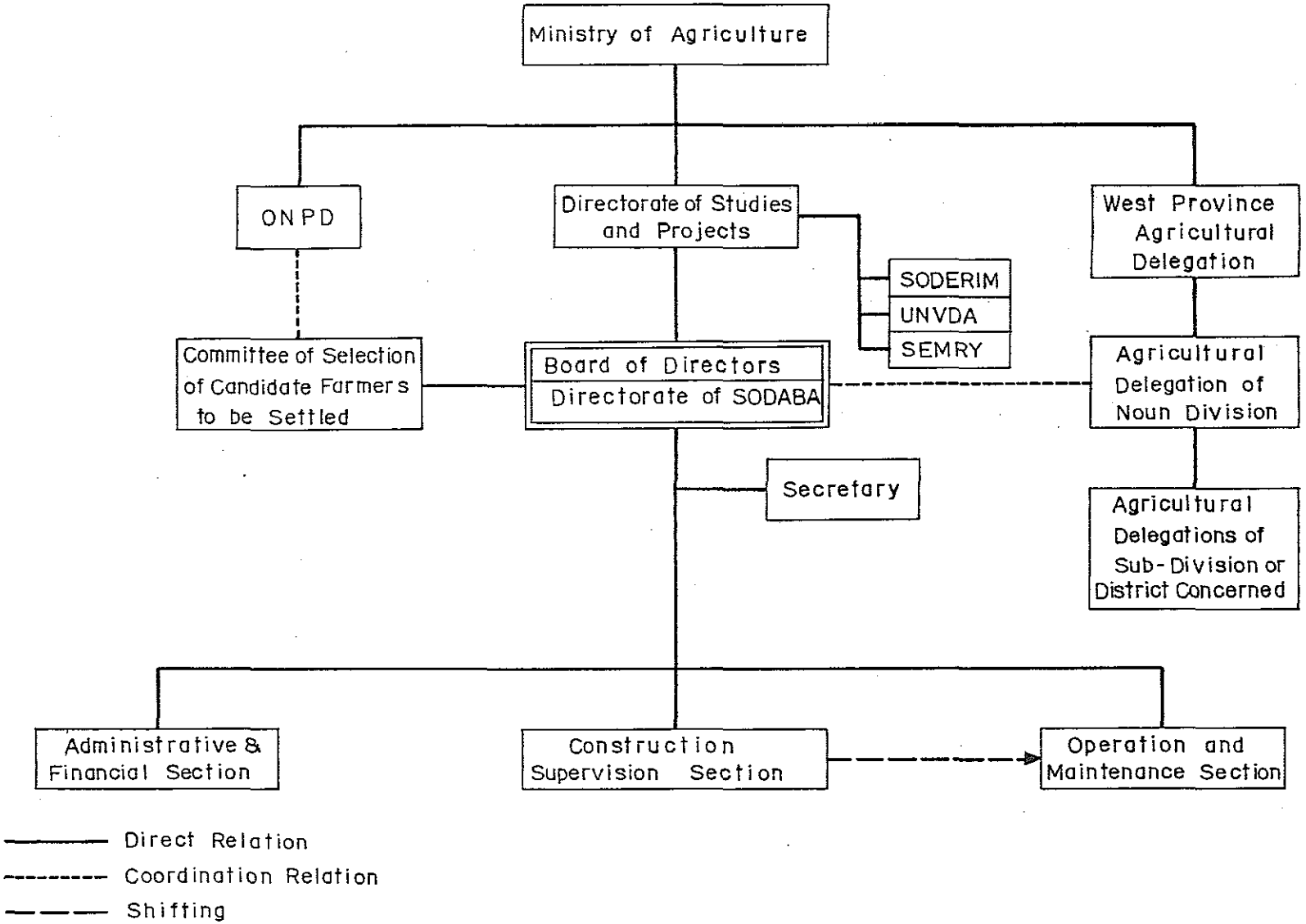
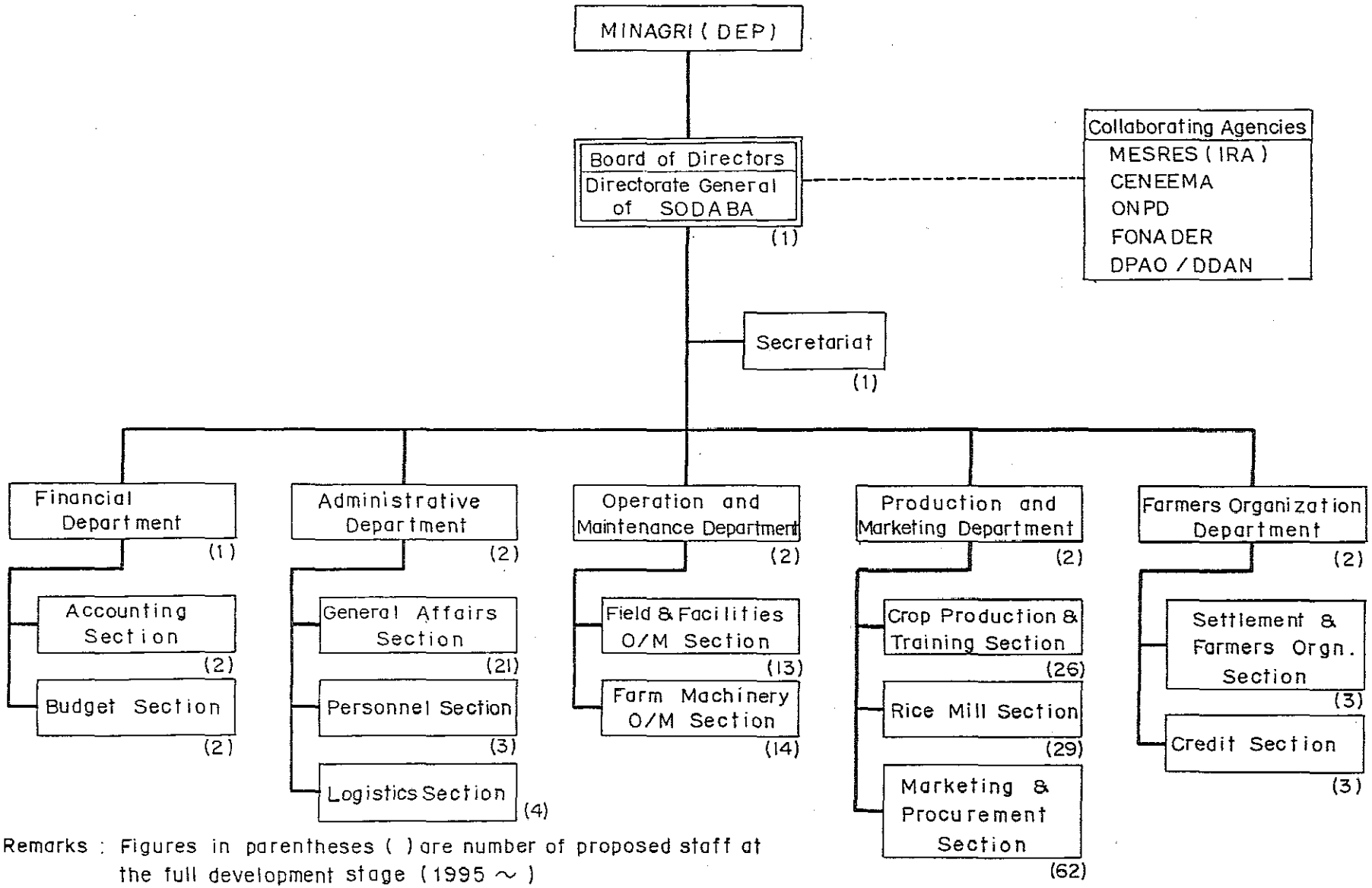


Figure 11 ORGANISATION PROPOSEE POUR L'EXPLOITATION ET L'ENTRETIEN



Remarks : Figures in parentheses ( ) are number of proposed staff at the full development stage (1995 ~)

Figure 12 EMPLACEMENT DU PROJET DE FERME PILOTE

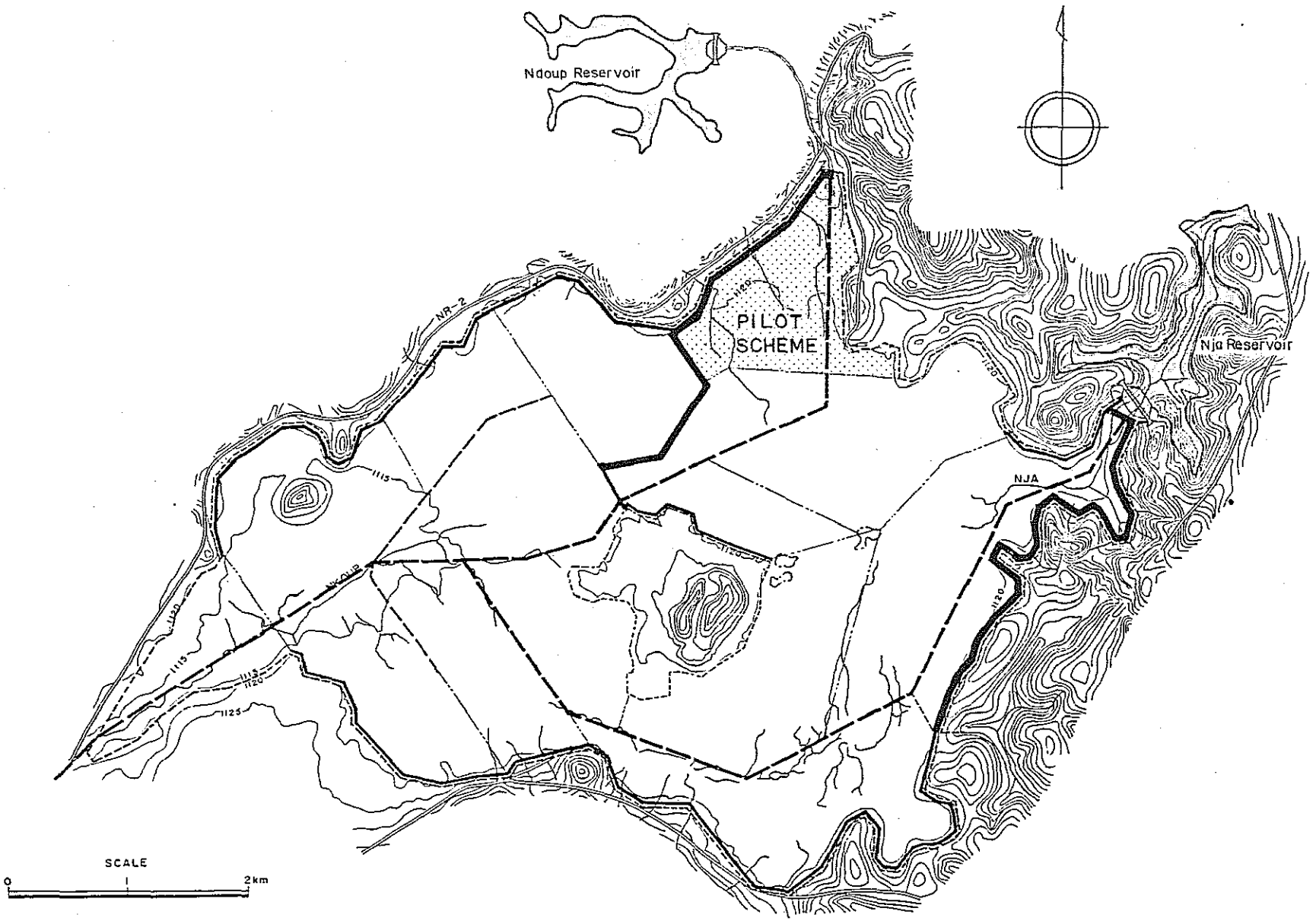


Figure 13 PLAN DE DISPOSITION DE LA FERME PILOTE

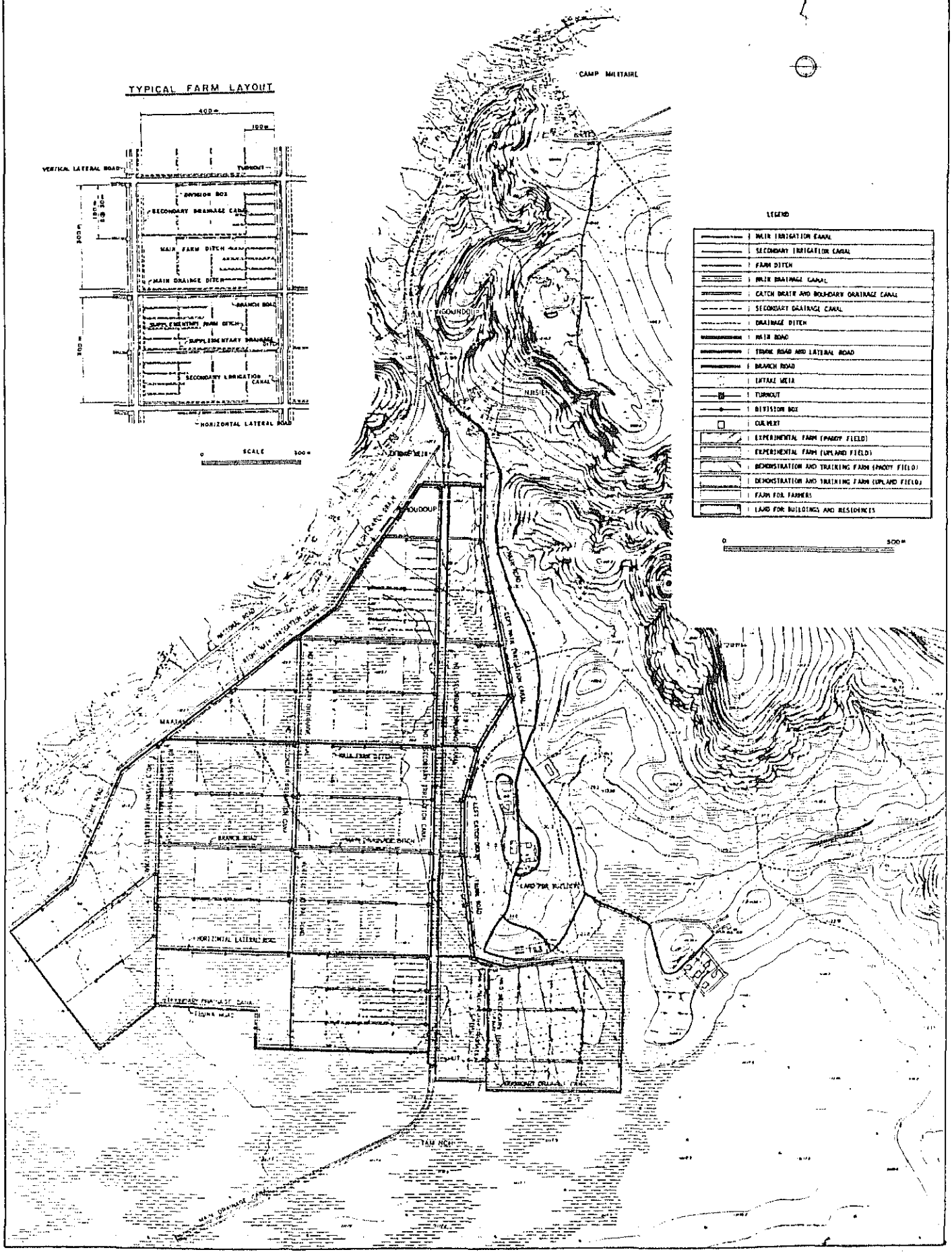


Figure 14 CALENDRIER D'EXECUTION DU PROJET DE FERME PILOTE

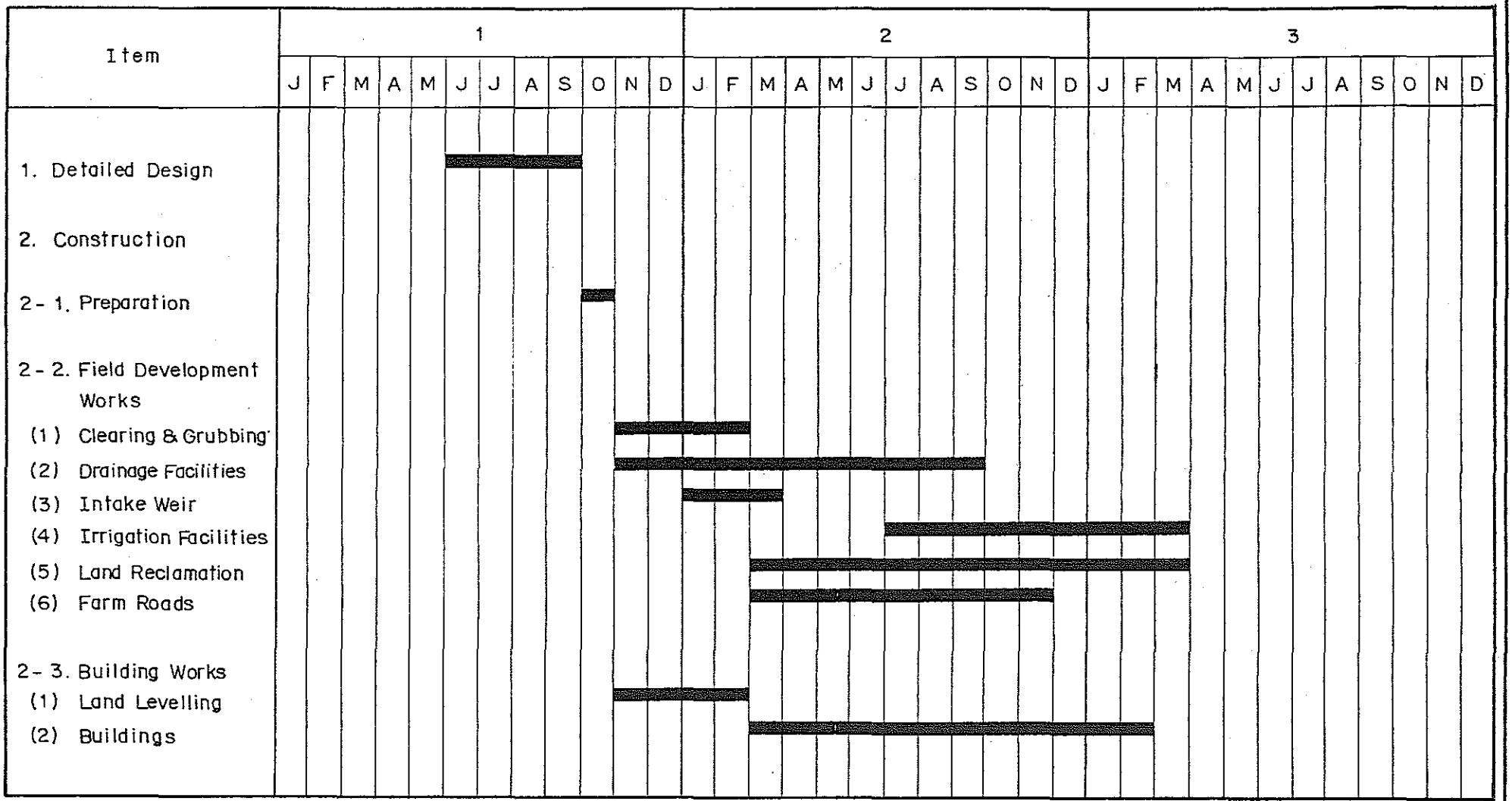
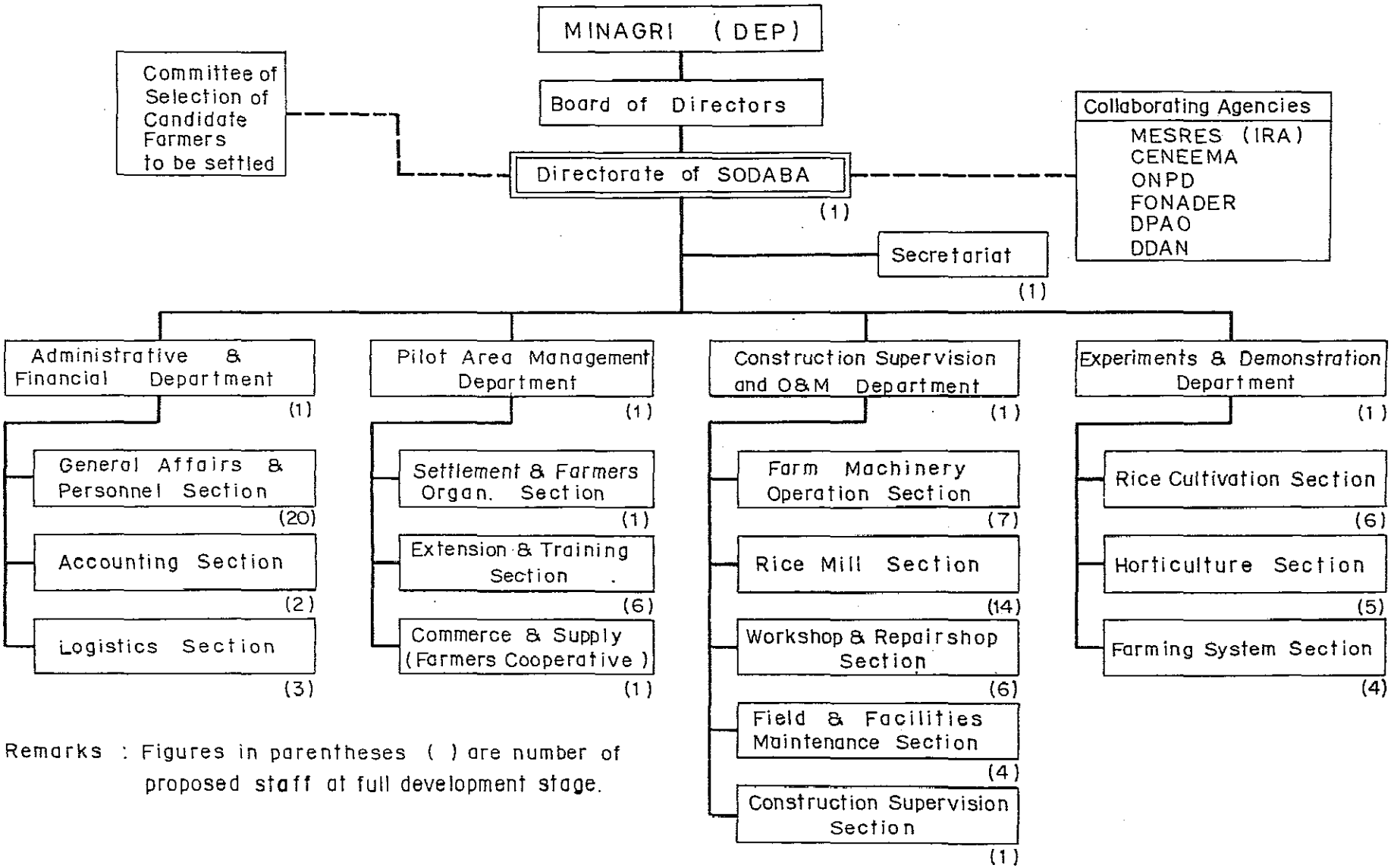


Figure 15 ORGANISATION PROPOSEE POUR LA CONSTRUCTION ET LA GESTION DU PROJET DE FERME PILOTE



Remarks : Figures in parentheses ( ) are number of proposed staff at full development stage.