

**ANNEX L. CLASSIFICATION OF MODEL AREAS AND SELECTION
OF TYPICAL MODEL AREAS**

L.1 Basic Development Plan

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Table L.1-1 Annual Income per Household by Model Area

Areas	Farm Income			Non-Farm Income	Total
	Crop	Livestock	Sub-Total		
1. Sappa-ac ARC, Bangued Abra, CAR	16,843	2,456	19,299	15,819	35,118
2. Talugtug ARC, San Juan La Union, Region I	9,044	1,020	10,064	44,141	54,205
3. Cofeaville ARC, Maddela Quirino, Region II	24,719	2,072	26,791	4,606	31,397
4. Montilla ARC, Tuyo, Balanga Bataan, Region III	9,659	3,827	13,486	91,890	105,376
5. Maulawin ARC, Calauag Quezon, Region IV	19,541	1,650	21,191	7,243	28,434
6. Pagasa, Tinambac Camarines Sur, Region V	19,809	1,903	21,712	3,128	24,840
7. Abiera Estate, Altavaz Aklan, Region VI	5,916	470	6,386	2,092	8,478
8. San Vicente ARC, Trinidad Bohol, Region VIII	15,472	1,901	17,373	5,556	22,929
9. Marangog ARC, Hilongos Leyte, Region VIII	7,811	2,501	10,312	2,939	13,251
10. Silae ARC, Malaybalay Bukidnon, Region X	21,974	1,343	23,317	1,316	24,633
11. Kipali ARC, Asuncion Davao Del Norte, Region XI	9,713	797	10,510	3,172	13,682
12. Matia ARC, Surigao City Surigao Del Norte, Region XIII	15,296	1,690	16,986	5,197	22,183
Average Total Income					32,043.83

Source: Farmer's Agro-Socio-Economic Survey, IICA Study Team, 1996

3 = > P 30,000

2 = P 30,000 - P 20,000

1 = < P 20,000

Table L.1-2 Employment Rate for Agricultural and Non-Agricultural Activities by Model Area

Priority Marginal Area	Agriculture Employment (%)	Rating	Non- Agricultural Employment (%)	Rating
1. Sappa-ac ARC Bangued, Abra, CAR	78.1	2	21.9	2
2. Talugtug ARC San Juan, La Union, Region I	68.4	3	31.6	3
3. Cofcaville ARC Maddela, Quirino, Region II	80.4	1	19.6	2
4. Montilla Est. ARC Balanga, Bataan, Region III	63.4	3	36.6	3
5. Maulawin ARC Calauag, Quezon, Region IV	77.1	2	22.9	2
6. Pag-asa ARC Tinambac, Camarines Sur Region V	70.5	2	29.5	2
7. Abicerra Estate Altavas, Aklan, Region VI	74.8	2	25.2	2
8. San Vicente ARC Trinidad, Bohol, Region VII	73.7	2	26.3	2
9. Marangog ARC Hilongos, Leyte, Region VIII	72.9	2	27.1	2
10. Silac ARC Malaybalay, Bukidnon Region X	94.6	1	5.4	1
11. Kipalili ARC Asuncion, Davao, Region XI	71.6	2	28.4	2
12. Mat-i ARC Surigao City, Surigao del Sur, Region XIII	83.9	1	16.1	1

Range of Rating Agriculture :

3 = < 70
2 = 79 ~ 70
1 = 100 ~ 80

Range of Rating Non-Agriculture :

3 = > 30
2 = 20 ~ 29
1 = < 20

Table L.1-3 Climate Characteristic Around the Study Area

Items	CAR	Reg-1	Reg-2	Reg-3	Reg-4	Reg-5	Reg-6	Reg-7	Reg-8	Reg-10	Reg-11	Reg-13
	Sappa-ac	Talugtug	Cocoville	Montilla	Maulawin	Pagasa	Abiera	San Vicente	Marangog	Silae	Kipalili	Mat-i
1. Climate Type	I	I	III	I	IV	II	III	IV	IV	III	II	IV
2. Meteorological Conditions												
- Temperature (C)												
Mean	25.3-28.9	25.8-29.6	24.4-28.4	25.0-29.6	24.5-28.0	25.5-28.3	25.3-29.0	26.2-28.4	25.7-28.1	23.0-24.9	26.6-28.2	25.7-28.1
Maximum Average	29.8-33.0	30.9-35.0	28.6-33.3	29.5-34.5	27.4-32.1	28.6-32.4	29.1-33.0	30.6-33.2	28.7-31.4	28.3-31.0	31.0-33.1	28.9-32.4
Minimum Average	20.8-24.8	20.6-24.7	20.2-23.6	22.1-24.9	21.6-23.9	22.3-24.3	23.5-24.9	21.8-23.8	22.7-24.7	17.8-19.2	22.2-23.6	22.6-23.9
- Relative Humidity (%)	76 - 87	72 - 87	79 - 83	70 - 82	82 - 89	81 - 86	78 - 83	79 - 85	82 - 87	79 - 88	78 - 83	81 - 89
- Pan Evaporation (mm)	1,467	1,746	1,746	1,362	1,589	1,815	1,503	1,231	1,231	1,969	1,448	1,231
3. Hydrological Conditions												
- Annual Rainfall (mm)	2,445	2,395	3,295	1,900	3,046	3,311	1,975	1,319	2,291	2,512	1,747	3,652
- Frequency of Typhoon Occurrence (times)	21	21	23	22	34	36	27	26	34	3	3	23

Data Source : PAGASA

Note : Climate data around the Study Areas are used observed at the following stations:

Sappa-ac ARC:	Vigan Station (Ilocos Sur)	Abiera Estate	Roxas City Station (Aklan)
Talugtug ARC:	Dagupan City Station (Pangasinan)	San Vicente ARC	Tagbilaran City Station (Bohol)
Cocoville ARC:	Baler Station (Quezon)	Marangog ARC	Tacloban City Station (Leyte)
Montilla ARC:	Sangley Point Station (Cavite)	Silae ARC	Malaybalay Station (Bukidnon)
Maulawin ARC:	Tayabas Station (Quezon)	Kipalili ARC	Davao City Station (Davao del Sur)
Pagasa ARC:	Legaspi Station (Arispe)	Mat-i ARC	Surigao Station (Surigao del Norte)

- 3 = Climate Type-II and IV
- 2 = Climate Type-I
- 1 = Climate Type-III

Table L.1-4 Education Facilities by Model Area

Priority Marginal Area	Elem. Educ. Facilities	Rating
1. Sappa-ac ARC Bangued, Abra, CAR	Yes	3
2. Talugtug ARC San Juan, La Union, Region I	No	1
3. Cofeaville ARC Maddela, Quirino, Region II	Yes	3
4. Montilla Est. ARC Balanga, Bataan, Region III	Yes	3
5. Maulawin ARC Calauag, Quezon, Region IV	Yes	3
6. Pag-asa ARC Tinambac, Camarines Sur Region V	Yes	3
7. Abicerra Estate Altavas, Aklan, Region VI	Yes	3
8. San Vicente ARC Trinidad, Bohol, Region VII	Not complete (Primary)	2
9. Marangog ARC Hilongos, Leyte, Region VIII	Yes	3
10. Silac ARC Malaybalay, Bukidnon Region X	Yes	3
11. Kipalili ARC Asuncion, Davao, Region XI	Yes	3
12. Mat-i ARC Surigao City, Surigao del Sur, Region XIII	Yes	3

Source of Data : Socio Economic Data Survey (Secondary Data)

Range of Rating :

3 = Yes

2 = Not complete

1 = No

Table L.1-5 Availability of Health Services by Model Area

Priority Marginal Area	Presence of BHS (25)	Public Hospital at Mun. (12.5)	Private hospital & Clinic at Mun. (12.5)	Presence of Midwife (25)	Availability of BHW (12.5)	Presence of Other Health Workers (12.5)	Total Score (100.0)	Rating
1. Sappa-ac ARC Bangue, Abra, CAR	25	12.5	12.5	25	12.5	12.5	100.0	3
2. Talugog ARC San Juan, La Union, Region I	0	0.0	12.5	0	12.5	0.0	25.0	1
3. Cofeaville ARC Maddela, Quirino, Region II	25	12.5	12.5	25	12.5	12.5	100.0	3
4. Montilla Est. ARC Balanga, Bataan, Region III	25	12.5	12.5	25	12.5	0.0	87.5	3
5. Maulawin ARC Calanag, Quezon, Region IV	25	0.0	12.5	25	12.5	0.0	75.0	3
6. Pag-asa ARC Tinambac, Camarines Sur Region V	25	12.5	12.5	0	0.0	0.0	50.0	2
7. Abierra Estate Altavas, Aklan, Region VI	25	12.5	12.5	25	12.5	12.5	100.0	3
8. San Vicente ARC Trinidad, Bohol, Region VII	25	0.0	0.0	25	12.5	0.0	62.5	2
9. Marangog ARC Hilongos, Leyte, Region VIII	0	12.5	12.5	0	0.0	0.0	25.0	1
10. Silae ARC Malaybalay, Bukidnon Region X	25	12.5	12.5	0	0.0	0.0	50.0	2
11. Kipahiti ARC Asuncion, Davao, Region XI	0	12.5	12.5	0	12.5	0.0	37.5	2
12. Mat-i ARC Surigao City, Surigao del Sur, Region XIII	25	12.5	12.5	25	12.5	0.0	87.5	3

Rating:

3 = 100 ~ 66

2 = 65 ~ 34

1 = < 33

Table L.1-6 Ration of Topographic Slope for the Study Area

Study Area	S < 8 %	8%<S<18%	18%<S<30%	30 %< S	Total Area	Sub-Total	Area Ratio less than 18%
Sappa-ac (Reg.-CAR)	125.6	193.2	83.0	47.6	449.4	318.8	70.9
Talugtug (Reg.-1)	92.6	40.9	21.3	19.5	174.3	133.5	76.6
Co'vaville (Reg.-2)	132.8	203.0	139.1	16.1	491.0	335.8	68.4
Montilla (Reg.-3)	64.6	39.2	5.4	0.5	109.7	103.8	94.6
Maulawin (Reg.-4)	99.2	131.9	64.0	34.6	329.7	231.1	70.1
Pag-asa (Reg.-5)	123.9	126.4	23.2	34.6	308.1	250.3	81.2
Abiera (Reg.-6)	31.5	37.8	37.9	187.7	294.9	69.3	23.5
San Vicente (Reg.-7)	165.6	220.1	59.4	9.4	454.5	385.7	84.9
Marangog (Reg.-8)	34.8	109.7	67.5	100.2	312.2	144.5	46.3
Silae (Reg.-10)	36.0	40.9	37.3	24.8	139.0	76.9	55.3
Kipallii (Reg.-11)	106.3	14.8	13.0	186.2	320.3	121.1	37.8
Mat-i (Reg.-13)	31.4	59.4	82.0	134.0	306.8	90.8	29.6
Total	1044.3	1217.3	633.1	795.2	3689.9	2261.6	61.3

Note : Total area shows the whole topographic survey areas.

3 = > 70 %
 2 = 70 - 35 %
 1 = < 35 %

Table L.1-7 Climate Conditions Around the Study Area(1)

Region - I

Observation Station : Vigan (Ilocos Sur)

Month	Rainfall (1) (mm)	Temperature			Relative Humidity	Pan- Evapo. (2) (mm)	Available Retained Water (mm)
		Mean	Max.	Min.			
Jan.	2.9	25.3	29.8	20.8	76	130.2	-102.3
Feb.	2.4	25.7	30.2	21.2	76	117.6	-92.5
Mar.	2.1	27.1	31.4	22.7	76	155.0	-122.6
Apr.	15.4	28.5	32.8	24.3	76	129.0	-93.2
May	169.7	28.9	33.0	24.8	79	124.0	11.1
Jun.	416.5	27.8	31.5	24.0	84	120.0	174.7
July	548.6	27.2	30.7	23.8	86	96.1	279.7
Aug.	708.1	26.7	30.0	23.4	87	195.3	304.0
sept.	418.1	27.0	30.5	23.5	85	84.0	201.6
Oct.	129.1	27.2	31.2	23.3	81	89.9	12.0
Nov.	22.4	26.9	31.1	22.8	78	111.0	-74.2
Dec.	9.4	26.1	30.4	21.8	77	114.7	-85.7
Total/Ave.	2,444.7	27.0	31.1	23.0	80.1	1,466.8	986.1

Data Source : PAGASA

Note : Evaporation is derived from La Trinidad (Bengued) station

Available Retained Water = Rainfall*0.65 - Pan-Evaporation*0.8

Region - III

Observation Station : Dagupan City (Pangasinan)

	Rainfall (1) (mm)	Temperature			Relative Humidity	Evapo. (2) (mm)	Available Retained Water (mm)
		Mean	Max.	Min.			
Jan.	7.5	25.8	30.9	20.6	75	142.6	-109.2
Feb.	4.4	26.5	31.8	21.1	74	156.8	-122.6
Mar.	14.8	28.0	33.5	22.5	72	201.5	-151.6
Apr.	56.1	29.6	35.0	24.2	72	207.0	-129.1
May	211.3	29.6	34.4	24.7	77	176.7	-4.0
Jun.	378.6	28.7	33.0	24.4	82	138.0	135.7
July	520.4	28.1	31.9	24.2	85	124.0	239.1
Aug.	598.9	27.7	31.2	24.1	87	96.1	312.4
sept.	360.8	27.9	31.8	24.0	85	114.0	143.3
Oct.	176.9	27.9	32.1	23.7	81	127.1	13.3
Nov.	54.7	27.3	31.9	22.7	79	123.0	-62.8
Dec.	10.8	26.3	31.2	21.3	77	139.5	-104.6
Total/Ave.	2,395.2	27.8	32.4	23.1	78.8	1746.3	843.8

Note : Evaporation is derived from Tarlac station

Table L.1-7 Climate Conditions Around the Study Area(2)

Region - II

Observation Station : Baler (Queszon)

	Rainfall (1) (mm)	Temperature			Relative Humidity	Evapo. (2) (mm)	Available Retained Water (mm)
		Mean	Max.	Min.			
Jan.	178.7	24.4	28.6	20.2	82	142.6	2.1
Feb.	141.6	24.8	29.2	20.4	82	156.8	-33.4
Mar.	182.9	25.8	30.3	21.3	92	201.5	-42.3
Apr.	213.2	27.1	31.8	22.5	81	207.0	-27.0
May	306.2	28.2	33.0	23.3	81	176.7	57.7
Jun.	272.5	28.4	33.3	23.6	81	138.0	66.7
July	263.1	28.2	32.9	23.5	81	124.0	71.8
Aug.	208.8	28.2	32.8	23.6	79	96.1	58.8
sept.	311.7	27.9	32.5	23.2	81	114.0	111.4
Oct.	450.2	27.0	31.5	22.4	82	127.1	191.0
Nov.	461.8	26.1	30.3	21.9	83	123.0	201.8
Dec.	262.3	25.0	29.1	20.9	83	139.5	58.9
Total/Ave.	3,253.0	26.8	31.3	22.2	82.3	1,746.3	820.1

Note : Evaporation is derived from Tarlac station

Region - IV

Observation Station : Sangley Point (Cavite)

Month	Rainfall (1) (mm)	Temperature			Relative Humidity	Evapo. (2) (mm)	Available Retained Water (mm)
		Mean	Max.	Min.			
Jan.	18.6	25.0	29.5	22.1	77	89.9	-59.8
Feb.	3.9	25.5	30.4	22.3	75	106.4	-82.6
Mar.	6.2	27.7	32.5	23.5	71	158.1	-122.5
Apr.	14.6	29.6	34.5	24.6	70	165.0	-122.5
May	96.2	29.5	34.2	24.9	72	155.0	-61.5
Jun.	273.9	28.6	32.6	24.7	77	120.0	82.0
July	356.6	28.0	31.6	24.4	80	102.3	150.0
Aug.	491.0	27.7	31.0	24.4	82	108.5	234.3
sept.	276.8	27.9	31.3	24.4	81	96.0	103.1
Oct.	212.5	26.9	31.1	24.3	80	89.9	66.2
Nov.	105.4	26.5	30.6	23.8	79	81.0	1.3
Dec.	41.5	25.4	29.7	22.7	77	86.8	-42.5
Total/Ave.	1,900.2	27.4	31.6	23.8	76.8	1,361.9	636.9

Note : Evaporation is derived from National Agromet Research station

Table L.1-7 Climate Conditions Around the Study Area(3)

Region - IV

Observation Station : Tayabas (Quezon)

Month	Rainfall (1) (mm)	Temperature			Relative Humidity	Evapo. (2) (mm)	Available Retained Water (mm)
		Mean	Max.	Min.			
Jan.	154.8	24.5	27.4	21.6	87	108.5	13.8
Feb.	86.8	25.0	28.2	21.7	86	131.6	-48.9
Mar.	91.5	26.0	29.6	22.4	84	179.8	-84.4
Apr.	100.2	27.4	31.3	23.4	82	195.0	-90.9
May	201.2	28.0	32.1	23.9	82	179.8	-13.1
Jun.	282.7	27.5	31.4	23.7	85	135.0	62.8
July	275.4	27.0	30.8	23.2	86	124.0	79.8
Aug.	190.4	27.0	30.9	23.2	85	120.9	27.0
sept.	273.9	26.8	30.6	23.0	87	111.0	89.2
Oct.	500.8	26.4	29.8	23.1	87	108.5	238.7
Nov.	511.8	25.9	28.9	23.0	88	99.0	253.5
Dec.	396.4	24.8	27.5	22.1	89	96.1	180.8
Total/Ave.	3,045.9	26.4	29.9	22.9	85.7	1,589.2	945.6

Note : Evaporation is derived from Nas Uplb Los Banos station

Region - V

Observation Station : Legaspi City (Albay)

Month	Rainfall (1) (mm)	Temperature			Relative Humidity	Evapo. (2) (mm)	Available Retained Water (mm)
		Mean	Max.	Min.			
Jan.	303.4	25.5	28.6	22.3	84	130.2	93.1
Feb.	180.3	25.7	29.1	22.3	83	148.4	-1.5
Mar.	157.0	26.4	30.0	22.8	82	189.1	-49.2
Apr.	147.7	27.5	31.1	23.7	82	201.0	-64.8
May	167.6	28.3	32.4	24.3	81	204.6	-54.7
Jun.	253.2	28.2	32.2	24.1	83	159.0	37.4
July	285.5	27.7	31.6	23.8	84	148.8	66.5
Aug.	270.4	27.8	31.6	23.9	84	148.8	56.7
sept.	267.9	27.6	31.5	23.7	85	126.0	73.3
Oct.	327.9	27.2	31.0	23.3	85	127.1	111.5
Nov.	468.0	26.7	30.1	23.3	86	111.0	215.4
Dec.	482.3	26.0	29.1	22.9	86	120.9	216.8
Total/Ave.	3,311.2	27.1	30.7	23.4	83.8	1,814.9	870.7

Note : Evaporation is derived from CSAC Pili (Camarines Sur) station

Table L.1-7 Climate Conditions Around the Study Area(4)

Region - VIII

Observation Station : Catabalogan Western (Samar)

Month	Rainfall (1) (mm)	Temperature			Relative Humidity	Evapo. (2) (mm)	Available Retained Water (mm)
		Mean	Max.	Min.			
Jan.	221.2	26.1	30.3	21.9	82	89.9	71.9
Feb.	139.9	26.3	30.7	21.9	80	98.0	12.5
Mar.	126.3	27.1	31.9	22.4	78	120.9	-14.6
Apr.	101.5	28.2	33.1	23.4	77	129.0	-37.2
May	156.8	28.9	33.5	24.3	78	133.3	-4.7
Jun.	224.1	28.6	32.9	24.3	80	102.0	61.1
July	271.3	28.2	32.2	24.3	80	93.0	101.9
Aug	193.2	28.6	32.6	24.6	79	108.5	38.8
sept.	250.5	28.3	32.4	24.2	81	102.0	81.2
Oct.	280.4	27.8	31.9	23.6	83	96.1	105.4
Nov.	320.0	27.1	31.3	23.0	84	78.0	145.6
Dec.	278.2	26.6	30.6	22.6	81	80.6	116.4
Total/Ave.	2,563.4	27.7	32.0	23.4	80.5	1,231.3	737.7

Note : Evaporation is derived from Visca Baybay (Leyte) station

Region - VIII

Observation Station : Tacloban City (Leyte)

Month	Rainfall (1) (mm)	Temperature			Relative Humidity	Evapo. (2) (mm)	Available Retained Water (mm)
		Mean	Max.	Min.			
Jan.	274.6	25.7	28.7	22.7	86	89.9	106.6
Feb.	201.5	25.9	29.1	22.6	85	98.0	52.6
Mar.	145.5	26.5	29.9	23.1	83	120.9	-2.1
Apr.	117.7	27.5	30.9	24.0	82	129.0	-26.7
May	137.5	28.1	31.4	24.7	82	133.3	-17.3
Jun.	157.2	28.0	31.4	24.6	83	102.0	20.6
July	171.4	27.7	31.1	24.4	83	93.0	37.0
Aug	140.3	28.0	31.4	24.4	82	108.5	4.4
sept.	151.9	27.9	31.3	24.4	83	102.0	19.1
Oct.	189.8	27.6	31.0	24.2	84	96.1	46.5
Nov.	279.7	27.0	30.2	23.8	86	78.0	119.4
Dec.	320.6	26.3	29.3	23.3	87	80.6	143.9
Total/Ave.	2,290.7	27.2	30.5	23.9	83.8	1,231.3	550.0

Note : Evaporation is derived from Visca Baybay (Leyte) station

Table L.1-7 Climate Conditions Around the Study Area(5)

Region - VII

Observation Station : Tagbilaran (Bohol)

Month	Rainfall (1) (mm)	Temperature			Relative Humidity	Evapo. (2) (mm)	Available Retained Water (mm)
		Mean	Max.	Min.			
Jan.	102.6	26.2	30.6	21.8	83	89.9	-5.2
Feb.	71.1	26.3	31.1	21.6	82	98.0	-32.2
Mar.	67.6	26.9	31.9	21.9	80	120.9	-52.8
Apr.	66.1	27.8	32.9	22.7	78	129.0	-60.2
May	78.2	28.4	33.2	23.7	79	133.3	-55.8
Jun.	119.6	28.3	32.7	23.8	82	102.0	-3.9
July	115.8	28.0	32.3	23.8	82	93.0	0.9
Aug.	105.6	28.4	32.7	24.0	80	108.5	-18.2
sept.	124.3	28.2	32.6	23.8	82	102.0	-0.8
Oct.	169.7	27.8	32.2	23.4	84	96.1	33.1
Nov.	183.6	27.4	31.8	22.9	85	78.0	56.9
Dec.	114.5	26.8	31.2	22.4	85	80.6	9.9
Total/Ave.	1,318.7	27.5	32.1	23.0	81.8	1,231.3	101.2

Note : Evaporation is derived from Visca Baybay (Leyte) station

Region - VI

Observation Station : Roxas City (Aklan)

Month	Rainfall (1) (mm)	Temperature			Relative Humidity	Evapo. (2) (mm)	Available Retained Water (mm)
		Mean	Max.	Min.			
Jan.	97.3	26.3	29.1	23.5	82	108.5	-23.6
Feb.	40.5	26.4	29.5	23.4	81	106.4	-58.8
Mar.	48.0	27.2	30.5	23.9	80	142.6	-82.9
Apr.	51.1	28.4	32.0	24.8	78	165.0	-98.8
May	125.2	29.0	33.0	24.9	78	155.0	-42.6
Jun.	234.6	28.4	32.4	24.3	81	111.0	63.7
July	262.2	27.9	31.9	24.0	83	124.0	71.2
Aug.	224.6	28.0	32.0	24.0	83	117.8	51.8
sept.	222.2	28.0	31.9	24.0	83	123.0	46.0
Oct.	291.8	27.7	31.4	24.0	83	124.0	90.5
Nov.	235.1	27.4	30.7	24.3	82	114.0	61.6
Dec.	142.7	26.8	29.6	24.0	83	111.6	3.5
Total/Ave.	1,975.3	27.6	31.2	24.1	81.4	1,502.9	388.3

Note : Evaporation is derived from PSPC Mambusao (Capiz) station

Table L.1-7 Climate Conditions Around the Study Area(6)

Region - XIII

Observation Station : Surigao (Surigao del Norte)

Month	Rainfall (1) (mm)	Temperature			Relative Humidity	Evapo. (2) (mm)	Available Retained Water (mm)
		Mean	Max.	Min.			
Jan.	617.4	25.7	28.9	22.6	89	89.9	329.4
Feb.	479.5	25.8	29.0	22.6	88	98.0	233.3
Mar.	338.6	26.5	30.1	22.8	86	120.9	123.4
Apr.	253.5	27.3	31.1	23.4	85	129.0	61.6
May	145.6	28.1	32.3	23.9	83	133.3	-12.0
Jun.	135.7	28.1	32.4	23.9	82	102.0	6.6
July	165.8	27.9	31.9	23.8	82	93.0	33.4
Aug.	141.3	28.1	32.3	24.0	81	108.5	5.0
sept.	144.2	28.1	32.2	24.0	81	102.0	12.1
Oct.	255.5	27.5	31.5	23.6	84	96.1	89.2
Nov.	463.5	26.8	30.3	23.2	87	78.0	238.9
Dec.	518.2	26.3	29.5	23.1	88	80.6	272.4
Total/Ave.	3,658.8	27.2	31.0	23.4	84.7	1,231.3	1,405.2

Note : Evaporation is derived from Visca Baybay (Leyte) station

Region - X

Observation Station Malaybalay (Bukidnon)

Month	Rainfall (1) (mm)	Temperature			Relative Humidity	Evapo. (2) (mm)	Available Retained Water (mm)
		Mean	Max.	Min.			
Jan.	127.7	23.0	28.3	17.8	85	170.5	-53.4
Feb.	103.6	23.1	28.6	17.4	84	176.1	-73.8
Mar.	99.4	23.6	29.8	17.5	81	229.4	-118.9
Apr.	100.4	24.5	31.0	18.2	79	240.0	-126.7
May	228.6	24.9	30.7	19.1	81	204.6	-15.1
Jun.	309.0	24.1	29.0	19.2	85	144.0	85.7
July	317.0	23.6	28.2	19.0	88	133.3	99.4
Aug.	309.6	23.6	28.4	18.9	87	136.4	92.1
sept.	298.6	23.8	28.8	18.8	87	141.0	81.3
Oct.	312.5	23.9	28.9	18.8	86	136.4	94.0
Nov.	182.0	23.9	29.3	18.6	85	135.0	10.3
Dec.	124.0	23.4	28.7	18.1	85	151.9	-40.9
Total/Ave.	2,512.4	23.8	29.1	18.5	84.4	1,998.9	462.8

Note : Evaporation is derived from CMU Musuan Bukidnon station

Table L.1-7 Climate Conditions Around the Study Area(7)

Region - XI

Observation Station : Davao City (Davao del Sur)

Month	Rainfall (1) (mm)	Temperature			Relative Humidity	Evapo. (2) (mm)	Available Retained Water (mm)
		Mean	Max.	Min.			
Jan.	110.8	26.6	31.0	22.2	83	105.4	-12.3
Feb.	102.6	26.7	31.2	22.2	82	106.4	-18.4
Mar.	83.9	27.4	32.3	22.6	79	127.1	-47.1
Apr.	150.5	28.2	33.1	23.2	78	138.0	-12.6
May	191.4	28.1	32.7	23.6	81	130.2	20.3
Jun.	196.4	27.6	31.8	23.2	83	105.0	43.7
July	155.5	27.3	31.6	23.0	83	130.2	-3.1
Aug.	178.7	27.4	31.8	23.0	82	124.0	17.0
sept.	183.5	27.5	32.1	23.0	81	135.0	11.3
Oct.	166.6	27.6	32.3	23.0	82	117.8	14.1
Nov.	130.9	27.6	32.2	22.9	82	111.0	-3.7
Dec.	96.3	27.0	31.5	22.6	82	117.8	-31.6
Total/Ave.	1,747.1	27.4	32.0	22.9	81.5	1,447.9	106.2

Note : Evaporation is derived from Twin river Tagum (Davao) station

Table L.1-8 Available Labor Force per Hectare by Model Area

Priority Marginal Area	Study Site Area (ha.)	Labor Force 15-64 Participants	Ratio Per Hectare	Rating
1. Sappa-ac ARC Bangued, Abra, CAR	375	172	0.46	1
2. Talugtog ARC San Juan, La Union, Region I	167	163	0.98	2
3. Cofcaville ARC Maddela, Quirino, Region II	490	145	0.30	1
4. Montilla Est. ARC Balanga, Bataan, Region III	108	151	1.44	3
5. Maulawin ARC Calauag, Quezon, Region IV	321	171	0.54	1
6. Pag-asa ARC Tinambac, Camarines Sur Region V	307	207	0.67	2
7. Abierra Estate Altavas, Aklan, Region VI	289	206	0.71	2
8. San Vicente ARC Trinidad, Bohol, Region VII	375	168	0.45	1
9. Marangog ARC Hilongos, Leyte, Region VIII	330	194	0.59	2
10. Silac ARC Malaybalay, Bukidnon Region X	173	150	0.88	2
11. Kipalili ARC Asuncion, Davao, Region XI	327	225	0.69	2
12. Mat-i ARC Surigao City, Surigao del Sur, Region XIII	200	180	0.90	2

Range of Rating :

3 = one and above

2 = .65 ~ .99

1 = < .65

Source of data:

Study site - Topo Survey

Labor Force Participants - Farmer's Survey

Table L.1-9 Education Attainment by Model Area

Priority Marginal Area	Labor Force	No. Completed Elem. Educ.	%	Rating
1. Sappa-ac ARC Bangued, Abra, CAR	172	25	14.5	2
2. Talugtug ARC San Juan, La Union, Region I	163	19	11.7	2
3. Cofcaville ARC Maddela, Quirino, Region II	145	17	11.7	2
4. Montilla Est. ARC Balanga, Bataan, Region III	156	8	5.1	1
5. Maulawin ARC Calauag, Quezon, Region IV	171	27	15.8	2
6. Pag-asa ARC Tinambac, Camarines Sur Region V	207	22	10.6	2
7. Abierra Estate Altavas, Aklan, Region VI	206	14	6.8	1
8. San Vicente ARC Trinidad, Bohol, Region VII	168	10	5.9	1
9. Marangog ARC Hilongos, Leyte, Region VIII	194	19	9.8	1
10. Silae ARC Malaybalay, Bukidnon Region X	150	12	8.0	1
11. Kipalili ARC Asuncion, Davao, Region XI	225	16	7.1	1
12. Mat-i ARC Surigao City, Surigao del Sur, Region XIII	180	20	11.1	2

Range of Rating :

3 = > 20%

2 = 19.9 ~ 10.0

1 = < 10

Source of Data :

Labor Force : Farmer's Survey

No. of Completed Education : Farmer's Survey

Table L.1-10 Women in Development by Model Area

Priority Marginal Area	Participation Rate of Women in Non-Farm Work Rate (%) (1)	Livelihood Enhancement (2)	Total Score (1+2)/2	Rating
1. Sappa-ac ARC Bangued, Abra, CAR	34.4	(No) 50	42.2	2
2. Talugtog ARC San Juan, La Union, Region I	35.6	(No) 50	42.8	2
3. Cofcaville ARC Maddela, Quirino, Region II	23.9	(No) 50	36.9	2
4. Montilla Est. ARC Balanga, Bataan, Region III	33.3	(Yes) 100	66.6	3
5. Maulawin ARC Calauag, Quezon, Region IV	14.1	(No) 50	32.0	1
6. Pag-asa ARC Tinambac, Camarines Sur Region V	27.4	(No) 50	38.7	2
7. Abierra Estate Altavas, Aklan, Region VI	23.0	(No) 50	36.5	2
8. San Vicente ARC Trinidad, Bohol, Region VII	16.5	(Yes) 100	58.2	2
9. Marangog ARC Hilongos, Leyte, Region VIII	26.0	(No) 50	38.0	2
10. Silae ARC Malaybalay, Bukidnon Region X	3.0	(Yes) 100	51.5	2
11. Kipalili ARC Asuncion, Davao, Region XI	22.0	(Yes) 100	61.0	2
12. Mat-i ARC Surigao City, Surigao del Sur, Region XIII	18.5	(Yes) 100	59.2	2

Range of Rating :

3 = 100 ~ 66

2 = 65 ~ 34

1 = < 33

Source of Data :

Participation Rate - Farmer's Survey

Livelihood Enhancement - Socio Economic Survey (Secondary Data)

Table L.1-11 Organization Maturity rating by Model Area

Priority Marginal Area	Capital Build-up (P)	Rating	ARB Coop Member	Total ARBs (Direct)	%	Rating	Year Estab.	Rating	Activity	Rating	Overall Rating	Overall Score
1. Sappa-ac ARC Bangued, Abra, CAR	60,219	3	18	155	11.6	1	1991	3	lending/consumer	1	60	2
2. Talugtug ARC San Juan, La Union, Region I	13,079	2	30	139	21.6	1	1994	2	lending/consumer	1	40	1
3. Cotacville ARC Maddela, Quirino, Region II	(Negative)	1	25	207	12.1	1	1991	3	lending/credit/stopped	1	40	1
4. Montilla Est. ARC Balanga, Bataan, Region III	7,350	2	21	63	33.3	2	1995	1	lending	1	40	1
5. Naulawin ARC Calaug, Quezon, Region IV	(Negative)	1	52	261	19.9	1	1991	3	stopped	1	40	1
6. Pagasa ARC Tinambac, Camarines Sur Region V	17,000	2	20	73	27.3	1	1994	2	lending/ cattle dispersal	2	50	2
7. Abierta Estate Alaynas, Aklan, Region VI	(Negative) (9,932)	1	19	140	13.6	1	1992	3	lending/stopped	1	40	1
8. San Vicente ARC Trinidad, Bohol, Region VII	56,095	3	64	137	46.7	2	1994	2	lending	1	60	2
9. Marangog ARC Hilongos, Leyte, Region VIII	3,000	2	36	214	16.8	1	1995	1	none	1	30	1
10. Silac ARC Malubalay, Bukidnon Region X	2,725	2	25	71	35.2	2	1992	3	marketing/ trading	2	70	2
11. Kipalili ARC Asuncion, Davao, Region XI	113,400	3	35	119	29.4	1	1992	3	multi-purpose	3	80	3
12. Mat- ARC Surigao City, Surigao del Sur, Region XIII	67,000	3	28	150	18.7	1	1995	1	lending/credit	1	40	1

Note:

3 = Capital build-up of P50,000 and above

2 = Capital build-up of P50,000 and above

1 = Negative Balance

Table L.1-12 NGOs Participation by Model Area

Priority Area	Name of NGO Within the Area	Activity	Rate	Presence of NGO Outside the Study Area	Activity	Rating	Total Rating	Score
1. Sape-ac ARC Bangued, Abra, CAR	None		50	Philippine Rural Recon- struction Movement (PRRM)	Community organizing, training, extension work	100	150	2
2. Talugtug ARC San Juan, La Union, Region I	None		50	PRRM	Community organizing, training, extension work	100	150	2
3. Cofcaville ARC Maddela, Quirino, Region II	Pisang-rangay Ti Quirino Foundation	Community Organizing	100	PRRM	Community organizing, training, extension work	100	200	3
4. Montilla Est. ARC Balanga, Bataan, Region III	None		50	Philippine Peasant Institute (PPI)	Community organizing, training, institution bldg.	100	150	2
5. Maulwin ARC Calaug, Quezon, Region IV	None		50	KAISAHAN, SAMAKA	Strengthening of LGU, Community organizing etc.	100	150	2
6. Pag-asa ARC Tnambac, Camarines Sur Region V	Nestle Philippines	Coffee Production/ Marketing Dev't and Research	100	KAISAHAN, Plan international, Inc.	Strengthening of LGU, Community organizing, training, education, research	100	200	3
7. Abiera Estate Alifavas, Adlan, Region VI	Pambansang Kilusan Samahan ng Magsasaka (PAKISAMA)	Initial groundwork: Community organizing	100	KAISAHAN, PAKISAMA	Community organizing, training, institution bldg.	100	200	3
8. San Vicente ARC Trinidad, Bohol, Region VII	Philippine Peasant Institute (PPI)		50	PPI	Community organizing, training, institution bldg.	100	150	2
9. Marangog ARC Hilongos, Leyte, Region VIII	None		50	PPI	Community organizing, training, institution bldg.	100	150	2
10. Silae ARC Malaybuly, Bulidnon Region X	None		50	None		50	50	1
11. Kpalili ARC Asuncion, Davao, Region XI	None		50	PPI	Community organizing, training, institution bldg.	100	150	2
12. Mat-i ARC Surigao City, Surigao del Sur, Region XIII	San Nicolas Faculty and Employees Multi-Purpose Cooperative	Assist Dev't Plan Preparation of Surigao ARC including Mat-i ARC	100	Surigao Economic Devo- lopment Fund	Community organizing, livelihood programs	100	200	2

Range of Rating:
3 = Highest rate
2 = Medium
1 = Lowest

Table L.1-13 Subject to be Considered for Determination of Classification of Model Area

Items	CAR Sapra-ac	Reg-1 Talugtog	Reg-2 Cofeaville	Reg-3 Montilla	Reg-4 Maulawin	Reg-5 Pagasa	Reg-6 Abiera	Reg-7 San Vicente	Reg-8 Marangog	Reg-10 Silac	Reg-11 Kipallil	Reg-13 Mas-i
I. Poverty Conditions												
1. Rural Economy												
1.1 Annual Income per Household (000 Peso)	35.1	54.2	31.4	105.4	28.4	24.8	8.5	22.9	13.3	24.6	13.7	22.2
1.2 Employment Rate for Agricultural Sector (%)	78.1	68.4	80.4	63.4	77.1	70.5	74.8	73.7	72.9	94.6	71.6	83.9
1.3 Employment Rate for Non-Agricultural Sector (%)	21.9	31.6	19.6	36.6	22.9	29.5	25.2	26.3	27.1	5.4	28.4	16.1
II. Living Conditions												
2. Natural Conditions												
2.1 Climate Type	1	I	III	I	IV	II	III	IV	IV	III	II	IV
2.2 Frequency of Typhoon Occurrence (times/annum)	21	21	23	22	34	36	27	26	34	3	3	23
3. Agricultural Infrastructure												
3.1 Accessibility to Marginal Areas in Wet Season	Not Difficult	Not Difficult	Difficult	Not Difficult	Not Difficult	Difficult	Difficult	Not Difficult	Difficult	Not Difficult	Not Difficult	No Road
3. Rural and Social Infrastructure												
3.1 Village Water Supply (Place)	8	Many	29	5	13	2	4	-	1	-	2	-
3.2 Presence of Complete Elementary Education	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
3.3 Rural Health Services	100	25	100	88	75	50	100	63	25	50	38	88
3.4 Rural Electrification	Supplied	Supplied	Supplied	None	Supplied	Supplied	None	None	None	None	Supplied	None
4. Environment												
4.1 Landsliding and Soil Erosion	High	High	Very High	Moderate	High	High	High	Very High	High	Very High	Very High	Very High
4.2 Water Quality for Village Water Supply	Moderate	Good	Poor	Poor	Moderate	Poor	Very Poor	Poor	Moderate	Poor	Poor	Poor
4.3 Reforestation Needs	Moderate	Moderate	Very High	Moderate	Very High	High	High	Very High	High	Very High	Very High	High
III. Production Conditions												
1. Farming Conditions												
1.1 Cultivated Area per Farm Household (ha.)	1.2	0.9	2.2	1.0	1.0	0.8	1.1	0.4	2.5	2.0	2.1	4.7
1.2 Distributed Area per Farm Household (ha.)	1.7	1.0	2.7	1.7	2.2	6.2	2.9	2.8	2.7	3.3	2.9	5.5
1.3 Cropping Intensity (Distributed Area = 100%)	41.6	60.5	86.4	72.2	66.4	46.3	41.5	49.3	58.5	79.3	28.1	37
1.4 Corn Yield per Hectare (ton/ha)	1.5	1.5	2.2	0.6	0.1	-	-	1.2	0.4	1.6	0.5	-
1.5 Paddy Yield per Hectare	1.2	1.0	2.2	-	1.1	1.5	1.0	1.4	0.5	1.3	2.9	-
2. Agricultural Infrastructure												
2.1 Irrigation Areas	Small	1.5	21.5	-	-	35.0	-	Small	-	-	15.0	-
2.2 Farm Roads	L = 5.0	L = 1.0	L = 4.0	L = 5.0	L = 6.5	L = 5.0	L = 5.0	L = 2.0	L = 14.0	L = 4.0	L = 16.5	-
2.3 Post Harvest Facilities	1 Rice Thresher (Private)	Many Rice Thresher 1 Rice Mill 1 Rice Thresher (Private)	1 MPP 1 Corn Shelter (Private)	1 Tractor (Private)	-	1 MPP (Private)	1 Tractor (Private)	-	1 MPP	-	1 Rice Mill (Private)	-
		1 Kudligig 1 Reaper (Private)		1 Warehouse		1 Warehouse	1 Warehouse				1 Rice Thresher (Private)	

Items	Reg-1 Talugog	Reg-2 Confaville	Reg-3 Montilla	Reg-4 Maulawin	Reg-5 Pagasa	Reg-6 Abierra	Reg-7 San Vicente	Reg-8 Marangog	Reg-10 Silao	Reg-11 Kipabli	Reg-13 Mat-i
IV. Development Potential											
1. Land Resources											
1.1 Slope of Topography (Area Ratio less than 14%)	70.9	68.4	94.6	70.1	81.2	23.5	84.9	46.3	55.3	37.8	29.6
1.2 Soil Fertility	Moderate	Low to Moderate	Low to Moderate	Moderate	Low to Moderate	Low	Moderate	Moderate	Moderate	Low to Moderate	Moderate
1.3 Stoniness and Gravel (% of respondents)	44	12	32	2	56	40	52	60	24	44	72
2. Water Resources											
2.1 Available Soil Moisture (mm) and Effective Month	986 (6-10)	820 (5-11)	637 (6-10)	946 (6-1)	871 (6-1)	388 (6-12)	101 (10-12)	550 (6-2)	463 (6-11)	106 (5-10)	1,405 (6-4)
2.2 Available Surface Water	1 creek	3 creeks	2 creeks	1 creek	1 creek	1 creek	1 creek	1 creek	1 creek	2 creeks	2 creeks
2.3 Available Sub-Surface Water	2 springs	34 wells	3 springs	-	1 spring	-	-	1 spring	-	-	-
3. Human Resources											
3.1 Present Labor Force per Hectare	0.46	0.30	1.44	0.54	0.67	0.71	0.45	0.59	0.88	0.69	0.90
3.2 Completion Rate of Elementary Education for Available Labor Force	14.5	11.7	5.1	15.8	10.6	6.8	5.9	9.8	8.0	7.1	11.1
3.3 Woman in Development	42.2	36.9	66.6	32.0	38.7	36.5	58.2	38.0	51.5	61.0	59.2
4. Institutional Capacity in Development											
4.1 Ratio of ARBs Participating in Multi-Purpose Cooperative Organization (%)	60	40	40	40	50	40	60	30	70	80	40
4.2 Presence of NGO Activities in Development											
- Within the Study Area	no	yes	no	no	yes	yes	yes	no	no	no	yes
- Outside the Study Area but within Province	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

• Electricity - Supplied but due to typhoon Rosing on Nov. 1995 electricity is still not available.

Table I.1-14 Ranking Evaluation Criteria for Elements in Determining Classification of Model Area

Items	Good (Ranking-3)	Moderate (Ranking-2)	Poor (Ranking-1)
I. Poverty Conditions			
1. Rural Economy			
1.1 Annual Income per Household (peso)	< P 20,000	P 20,000 - 30,000	> P 30,000
1.2 Employment Rate for Agricultural Sector (%)	> 80 %	70 - 79 %	< 69 %
1.3 Employment Rate for Non-Agricultural Sector (%)	> 30 %	20 - 29 %	< 20 %
II. Living Conditions			
1. Natural Conditions			
1.1 Climate Type	Type-II and IV considering continuous and long natural growing season	Type-I considering abundant rainfall during the wet season	Type-III considering relatively scarce rainfall during the wet season
1.2 Frequency of Typhoon Occurrence (time/annum)	Less than 10 times a year	Between 10 - 30 times a year	More than 30 times a year
2. Agricultural Infrastructure			
2.1 Accessibility to Marginal Areas in Wet Season	Easy or possible access from main road	Difficult access	Very difficult or absence of access road
3. Rural and Social Infrastructure			
3.1 Rural Water Supply (Place)	Sufficiently supplied under fair conditions with Level-I or Level-II	Presence of supply systems, but under poor conditions	Absence of supply systems or just taking water from sources directly
3.2 Presence of Complete Elementary Education	Yes	With facilities, but not complete elementary education	None
3.3 Rural Health Services	Availability of a number of health facilities and services, > 65 %	Presence of moderate number of health facilities and services, 34 - 65 %	Absence or minimal presence of health services and facilities, < 33 %
3.4 Rural Electrification	Energized	No energized due to damage by typhoon	No energized
4. Environment			
4.1 Land Sliding and Soil Erosion	Moderate	High	Very High
4.2 Water Quality for Rural Water Supply	Good/Moderate	Poor	Very Poor
4.3 Reforestation Needs	Moderate	High	Very High
III. Production Conditions			
1. Farming Conditions			
1.1 Cultivated Area per Farm Household (ha)	> 3.0 ha	3.0 - 1.5 ha	< 1.5 ha
1.2 Distributed Area per Farm Household (ha)	> 3.0 ha	3.0 - 1.5 ha	< 1.5 ha
1.3 Cropping Intensity (Present Cultivable Area = 100%)	> 60 %	60 - 40 %	< 40 %
1.4 Corn Yield per Hectare (ton/ha) or Paddy Yield per Hectare	> 2.0 ton/ha	2.0 - 1.0 ton/ha	< 1.0 ton/ha
2. Agricultural Infrastructure			
2.1 Irrigation Areas	Presence of irrigation in wet and dry seasons	Presence of irrigation in wet season only	Absence of irrigation
2.2 Farm Road	Presence of farm roads with fair conditions	Presence of farm roads with poor conditions	Absence of farm roads
2.3 Post Harvest Facilities	Presence of post-harvest facilities more than tree items	Presence of post-harvest facilities less than tree items	Absence of post-harvest facilities
IV. Development Potential			
1. Land Resources			
1.1 Slope of Topography (Area Ratio less than 18 %)	> 70 %	70 - 35 %	< 35 %
1.2 Soil Fertility	Moderate	Moderate to Low	Low
1.3 Stoniness and Gravel (% of respondents)	< 33 %	33 - 66 %	> 66 %
2. Water Resources			
2.1 Available Soil Moisture (mm) and Effective Month	Soil moisture more than 700 mm and its effective period more than 7 months	Soil moisture between 700 - 300 mm and its effective period from 7 to 4 months	Soil moisture below 300 mm and its effective period less than 4 months
2.2 Available Surface Water	Available with fair quantity and easy for utilization	Available with poor quantity or difficult for utilization	Not available
2.3 Available Sub-Surface Water	Available with fair quantity and easy for utilization	Available with poor quantity or difficult for utilization	Not available
3. Human Resources			
3.1 Present Labor Force per Hectare	> 1.0 labor / ha	0.99 - 0.65 labor / ha	< 0.65 labor / ha
3.2 Completion Rate of Elementary Education for Available Labor Force	> 20 %	20 - 10 %	< 10 %
3.3 Woman in Development	100 - 60 %	65 - 34 %	< 33 %
4. Institutional Capacity in Development			
4.1 Ratio of ARBs participating in Multi Purpose Cooperatives	High ARBs participation, > 66 %	Moderate ARBs participation, 65 - 34 %	Low ARBs participation, < 33 %
4.2 Presence of NGOs Activities in Development	With NGOs participation within and outside the Study Area	With NGOs participation either within or outside the Study Area	No NGOs participation at both within and outside the Study Area

Table L.1-15 Ranking Evaluation of Element for Determination of Classification of Model Area

Items	Sappa-ac	Talugtug	Cofaville	Montilla	Maulawin	Pagasa	Abierra	Nun Vicente	Marangog	Silae	Kipallili	Mat-i
I. Poverty Conditions	2.33	3.00	1.67	3.00	2.00	2.00	2.00	2.00	1.67	1.33	1.67	1.33
1. Rural Economy												
1.1 Annual Income per Household (peso)	3	3	2	3	2	2	2	2	1	2	1	2
1.2 Employment Rate for Agricultural Sector (%)	2	3	1	3	2	2	2	2	2	1	2	1
1.3 Employment Rate for Non-Agricultural Sector (%)	2	3	2	3	2	2	2	2	2	1	2	1
II. Living Conditions	2.70	2.20	2.10	2.30	2.50	2.10	1.70	2.00	1.90	2.00	2.00	1.90
1. Natural Conditions												
1.1 Climate Type	2	2	1	2	3	3	1	3	3	1	3	3
1.2 Frequency of Typhoon Occurrence (time/annum)	2	2	2	2	1	1	2	2	1	3	3	2
2. Agricultural Infrastructure												
2.1 Accessibility to Marginal Areas in Wet Season	3	3	2	2	3	2	1	3	1	3	2	1
3. Rural and Social Infrastructure												
3.1 Village Water Supply (Place)	3	2	3	2	3	2	1	1	2	1	2	1
3.2 Presence of Complete Elementary Education	3	1	3	3	3	3	3	2	3	3	3	3
3.3 Rural Health Services	3	1	3	3	3	2	3	2	1	2	2	3
3.4 Rural Electrification	3	3	3	1	3	2	1	3	1	3	1	1
4. Environment												
4.1 Land-Sliding and Soil Erosion	2	2	1	3	2	2	2	1	2	1	1	1
4.2 Water Quality for Village Water Supply	3	3	2	2	3	2	1	2	3	2	2	2
4.3 Reforestation Needs	3	3	1	3	1	2	2	1	2	1	1	2
III. Production Conditions	1.86	2.00	2.43	1.57	1.43	2.00	1.43	1.57	1.57	1.86	1.86	1.57
1. Farming Conditions												
1.1 Cultivated Area per Farm Household (ha.)	1	1	2	1	1	1	1	1	2	2	2	3
1.2 Distributed Area per Farm Household (ha.)	2	1	2	1	2	3	2	2	2	3	2	3
1.3 Cropping Intensity (Present Cultivable Area = 100%)	2	3	3	3	3	2	2	2	2	3	1	1
1.4 Corn Yield per Hectare (ton/ha) or Paddy Yield per Hectare	2	2	3	1	1	2	1	2	1	2	1	1
2. Agricultural Infrastructure												
2.1 Irrigation Areas	2	2	3	1	1	3	1	2	1	1	3	1
2.2 Farm Road	2	2	2	2	1	1	1	1	1	1	2	1
2.3 Post Harvest Facilities	2	3	2	2	1	2	2	1	2	1	2	1

Items	Sappa-ac	Talugog	Cofcaville	Montilla	Maulawin	Pag-asa	Abierra	San Vicente	Marangog	Silac	Kipalili	Mat-i
IV. Development Potential	1.91	2.09	2.18	2.18	2.00	2.27	1.55	1.91	2.09	2.00	1.91	1.82
1. Land Resources												
1.1 Slope of Topography (Area Ratio less than 18 %)	3	3	2	3	3	3	1	3	2	2	2	1
1.2 Soil Fertility	3	3	2	2	3	2	1	3	3	3	2	3
1.3 Stoniness and Gravel (% of respondents)	2	3	3	3	3	2	2	2	2	3	2	1
2. Water Resources												
2.1 Available Soil Moisture (mm) and Effective Month	2	2	3	2	3	3	2	1	2	2	1	3
2.2 Available Surface Water	1	1	3	1	2	2	2	2	3	2	3	1
2.3 Available Sub-Surface Water	1	2	2	3	1	2	1	1	3	1	1	1
3. Human Resources												
3.1 Present Labor Force per Hectare	1	2	1	3	1	2	2	1	2	2	2	2
3.2 Completion Rate of Elementary Education for Available Labor Force	2	2	2	1	2	2	1	1	1	1	1	2
3.3 Woman in Development	2	2	2	3	1	2	2	2	2	2	2	2
4. Institutional Capacity in Development												
4.1 Ratio of ARBs Participating in Multi-Purpose Cooperatives (%)	2	1	1	1	1	2	1	2	1	2	3	1
4.2 Presence of NGOs Activities in Development	2	2	3	2	2	3	2	3	2	2	2	3

Table L.1-16 Major development Features of each Model Area

Items	Reg-1 Talingog	Reg-2 Cafaylat	Reg-3 Montilla	Reg-4 Maulawin	Reg-5 Pagaya	Reg-6 Abiera	Reg-7 San Vicente	Reg-8 Maragog	Reg-10 Silac	Reg-11 Kipalili	Reg-13 Mat-i	Total
1. Proposed Area (ha)												
1.1 Total Area (1)	167	490	108	221	307	289	456	330	164	327	200	2,534
1.2 Cultivable Area (2)	145	478	99	206	246	106	399	210	114	121	115	2,559
1.3 Ratio of Cultivation Area (1)/(2)	87	87	92	83	80	37	88	64	70	97	58	72
1.4 Topographic Slope (Area Ratio less than 18 %)	77	68	95	70	81	24	85	46	55	98	30	61
2. Major Development Features												
2.1 Irrigation Water Supply (ha)												
a) No Water Supply (Rainfed) (3)	101	472	97	246	234	106	379	190	108	115	115	2,388
b) Irrigated Area (4)	44	7	7	20	12	0	20	11	30	6	-	187
c) Ratio of Irrigated Area (3)/(4)	44	2	5	8	5	0	5	6	28	5	0	8
2.2 Main Crops												
d) Upland / Tree Crops												
e) Paddy	Paddy Rice	Corn	Mango	Citrus	Coconut	Coconut	Corn	Coconut	Corn	Corn	Coconut	
	Paddy Rice	Banana	Vegetable	Coconut	Coconut	Banana	Coconut	Corn	Mungbean	Mango	Banana	
2.3 Road Improvement (km)												
f) Farm Road	3.3	8.7	2.6	2.8	5.5	0.0	4.8	3.2	2.7	6.6	0.0	43.2
g) Access Road	6.8	3.8	4.0	5.0	11.0	12.2	10.0	9.6	0.0	8.0	2.5	72.4
h) Total	10.1	12.5	6.6	7.8	16.5	12.2	14.8	12.8	2.7	14.6	2.5	115.6
3. Project Scale and Project Economy												
i) Project Cost (Million Peso)	68.6	72.4	45.3	52.6	69.2	69.8	67.3	75.9	53.0	64.7	17.1	708.1
j) Project Cost (000 Peso/Hectare)	187.9	147.8	421.0	167.0	225.0	242.0	148.0	230.0	323.1	198.0	86.0	223.0
k) NPV with Project/Annum (000Peso)	16,780	23,230	7,010	14,800	15,860	11,060	15,130	12,060	14,370	11,900	8,890	13,430
l) Project Economy (FIRR) (%)	15.0	13.0	12.0	19.0	15.0	14.0	19.0	12.0	26.0	15.0	12.0	15.3
4. Development Type	I	III	III	III	III	IV	III	IV	IV	IV	IV	

Note : Project economy was preliminarily analyzed on the basis of incremental crop benefits and their related project costs.

Classification of Model Areas by project development:

- Type I : High Ratio of Cultivation Area + Irrigation + Paddy Rice
- Type II : High Ratio of Cultivation Area + Rainfed + Paddy Rice
- Type III : High Ratio of Cultivation Area + Rainfed + Upland/Tree Crop
- Type IV : Low Ratio of Cultivation Area + Rainfed + Upland/Tree Crop

Table L.1-17 Classification of Model Areas and Evaluation of Model Areas by Selection Criteria

Classification of Model Areas		Development Potential	Net Production Values with Project ('000 Peso)	Activity of Farmers' Organization	Project Economy (FIRR%)	Accessibility to the Areas	Selected Model Area
By Present Conditions	By Development Plan						
a) Cluster - 1							
Sappaac ARC (Reg. -CAR)	I, II	21 1/	16,780 2/	Active	15.0 2/	No difficult	○
Montilla ARC (Reg. -3)	III	24	7,010	Inactive	12.0	No difficult	
Maulawin ARC (Reg. -4)	III	22	14,800	Active	19.0	No difficult	
b) Cluster - 2							
Talugtug ARC (Reg. -1)	I	23	10,220	Active	12.0	No difficult	
Cofcaville ARC (Reg. -2)	III	24	23,230	Moderate	13.0	Difficult	○
Pag-asa ARC (Reg. -5)	III	25	15,860	Active	15.0	Impassable	
c) Cluster - 3							
Abiera Estate (Reg. -6)	IV	17	11,060	Inactive	14.0	Difficult	
San Vicente ARC (Reg. -7)	III	21	15,130	Active	19.0	No difficult	○
Marangog ARC (Reg. -8)	IV	23	12,060	Active	12.0	Difficult	○
Silae ARC (Reg. -10)	IV	22	14,370	Moderate	26.0	No difficult	
Kipalili ARC (Reg. -11)	IV	21	11,990	Active	15.0	No difficult	
Mat-i ARC (Reg. -13)	IV	20	8,890	Inactive	12.0	No road	

Note:

1/ : Obtained from ranking evaluation of present development potential.

2/ : Net production values were estimated on the basis of crop benefits, livestock and other benefits.

Figure L.1-1 Flow-Chart of Principal Component and Cluster Analysis

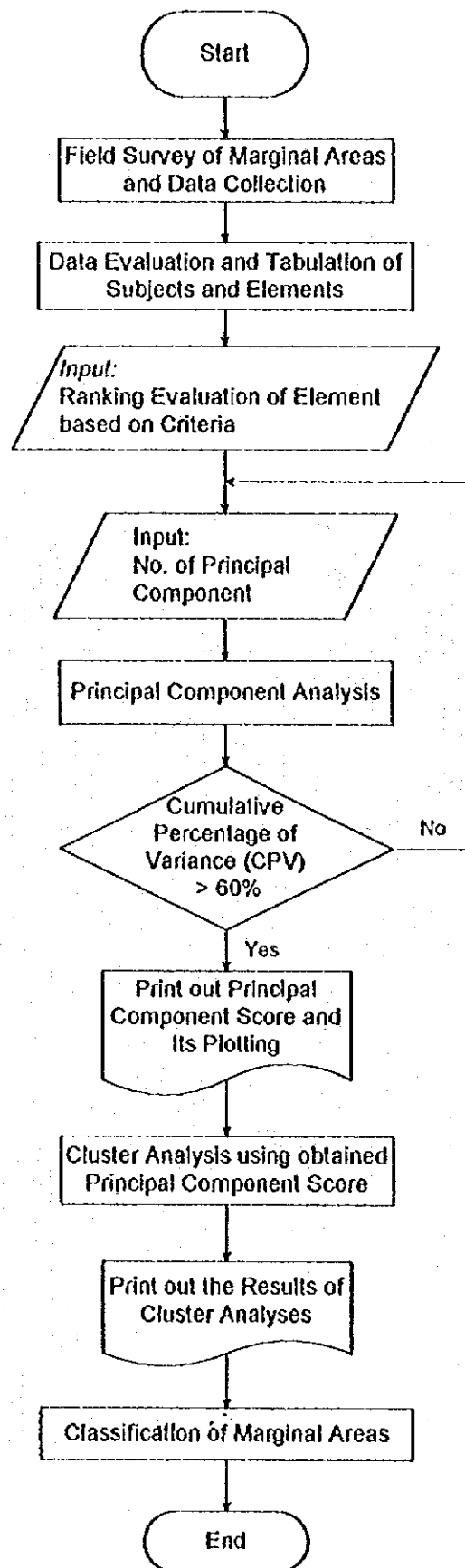
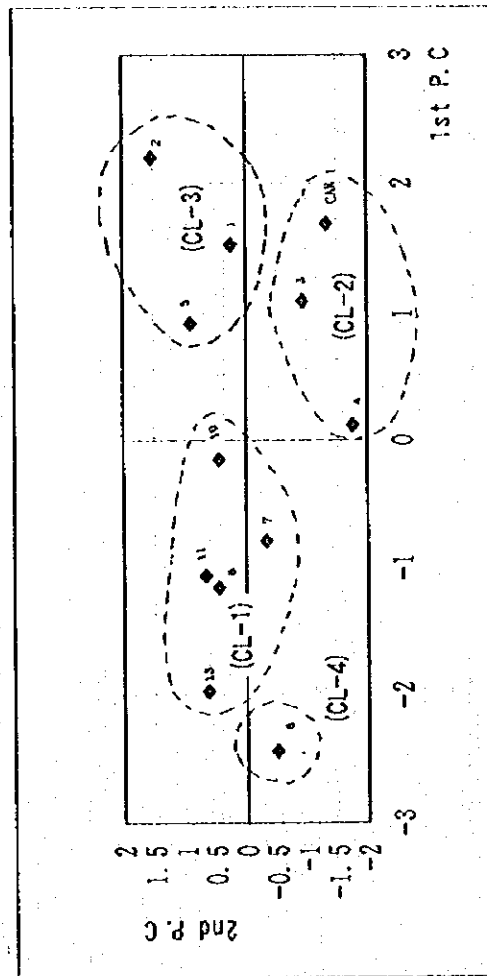


Figure L.1-2 Results of Principal Component and Cluster Analysis (Case 1)

Case 1

Principal Component Score

	1st P.C	2nd P.C	3rd P.C
1	1.69161654	-1.3372407	-0.4854772
2	1.53263652	0.23891845	-0.3815494
3	2.20432949	1.52881527	-0.5682011
4	1.09842074	-0.9342481	0.11160406
5	0.12199862	-1.7530688	1.01703
6	0.9243319	0.90023917	0.64063299
7	-2.4343846	-0.4941585	-1.5547304
8	-0.7915163	-0.3287863	-0.2413366
9	-1.1623436	0.44926465	1.08734775
10	-0.1493356	0.44053537	-0.2171434
11	-1.066773	0.6628648	0.26659304
12	-1.9690216	0.62636604	0.32522845



P.C : Principal Component

PC	CR	PTV	CPV
1	2.280588	57.01470	57.01470
2	0.956326	23.90815	80.92285
3	0.549374	13.73436	94.65721

PC : Principal Component

CR : Characteristic Root

PTV : Percentage of Total Variance

Model Area by Clustering

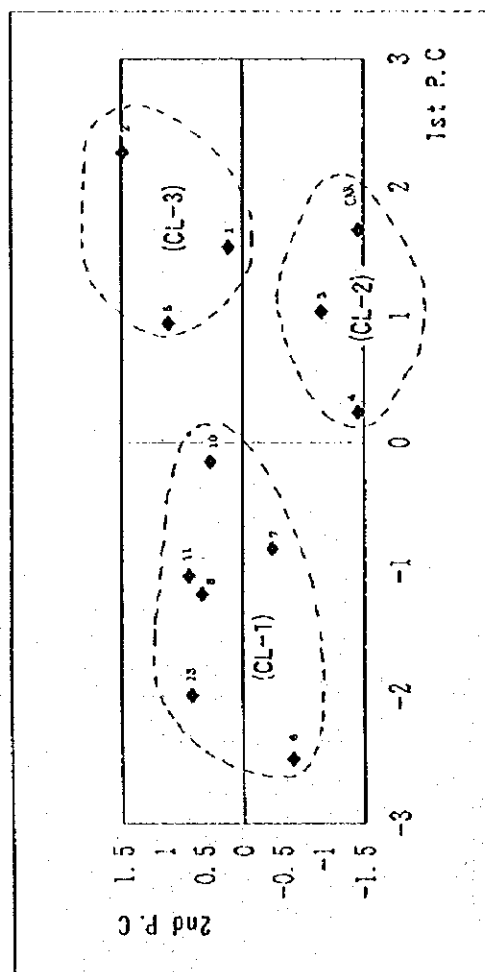
C L U S T E R				
Cluster 1	Cluster 2	Cluster 3	Cluster 4	
7	CAR	1	6	
8	3	2		
10	4	5		
11				
13				

Figure L.1-2 Results of Principal Component and Cluster Analysis (Case 2-1)

Case 2-1

Principal Component Score

	1st P.C	2nd P.C	3rd P.C	4th P.C
1	1.655755	-1.47209	-0.2737	0.786511
2	1.498308	0.137632	-0.45036	-0.29293
3	2.233539	1.410012	-0.82907	0.052375
4	0.984179	-0.98791	0.198928	-0.83036
5	0.203498	-1.40371	1.072058	0.12523
6	1.111468	1.072096	0.733368	-0.23661
7	-2.43386	-0.65955	-1.41812	-0.21115
8	-0.83636	-0.38133	-0.18691	-0.18366
9	-1.2232	0.55313	0.996814	-0.12934
10	-0.15785	0.387584	-0.28116	0.110205
11	-1.0439	0.678395	0.199169	0.929085
12	-1.99359	0.665751	0.23898	-0.11737



P.C : Principal Component

Cumulative Percentage of Variance (CPV)

PC	CR	PTV	CPV
1	2.311787	57.79467	57.79467
2	0.928172	23.20431	80.99897
3	0.537022	13.42556	94.42453
4	0.223019	5.57546	100.00000

PC : Principal Component

CR : Characteristic Root

PTV : Percentage of Total Variance

Model Area by Clustering

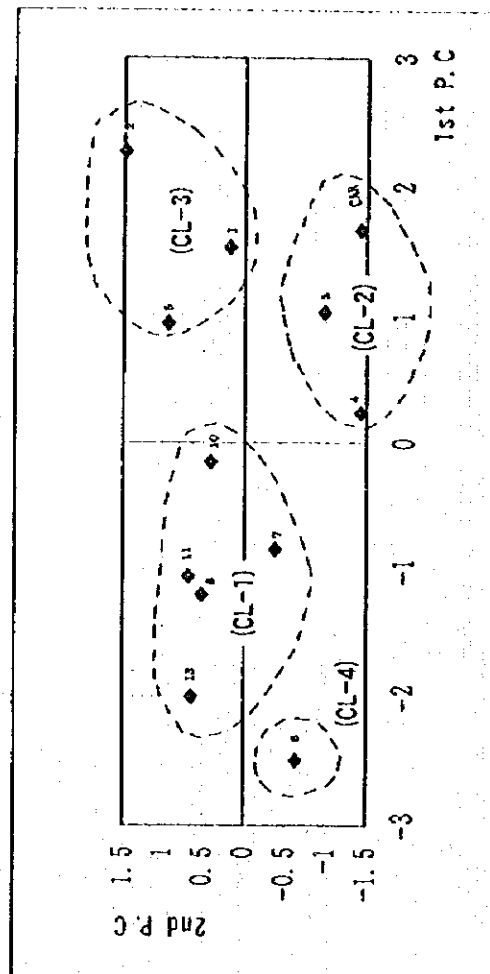
	C L U S T E R				
Cluster	1Cluster	2Cluster	3Cluster		
6		CAR	1		
7		3	2		
8		4	5		
10					
11					
13					

Figure L.1-2 Results of Principal Component and Cluster Analysis (Case 2-2)

Case 2-2

Principal Component Score

	1st P.C	2nd P.C	3rd P.C	4th P.C
1	1.655755	-1.47209	-0.2737	0.786511
2	1.498308	0.137632	-0.45036	-0.29293
3	2.233539	1.410012	-0.82907	0.052375
4	0.984179	-0.98791	0.198928	-0.83036
5	0.205498	-1.40371	1.072058	0.12523
6	1.111468	1.072096	0.733368	-0.23661
7	-2.43386	-0.65955	-1.41812	-0.21115
8	-0.83636	-0.38133	-0.18691	-0.18566
9	-1.2232	0.55313	0.996814	-0.12934
10	-0.15785	0.387584	-0.28116	0.110205
11	-1.0439	0.678395	0.199169	0.929085
12	-1.99359	0.665751	0.23898	-0.11737



P.C : Principal Component

Cumulative Percentage of Variance(CPV)

PC	CR	PTV	CPV
1	2.311787	57.79467	57.79467
2	0.928172	23.20431	80.99897
3	0.537022	13.42556	94.42453
4	0.223019	5.57546	100.00000

PC : Principal Component

CR : Characteristic Root

PTV : Percentage of Total Variance

Model Area by Clustering

C L U S T E R				
Cluster	1	2	3	4
7	CAR	1	2	6
8		3		
10		4	5	
11				
13				