

MINISTRY OF ECONOMIC DEVELOPMENT OF THE REPUBLIC OF BOLIVIA
JAPAN INTERNATIONAL COOPERATION AGENCY

THE ENVIRONMENTAL IMPACT ASSESSMENT
OF
THE ROAD IMPROVEMENT
BETWEEN
SAN BORJA AND TRINIDAD
IN
THE REPUBLIC OF BOLIVIA

FINAL REPORT

APPENDIX

OCTOBER, 1995

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BETWEEN SAN BORJA AND TRINIDAD IN THE REPUBLIC OF BOLIVIA

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Meteorological Data in Bolivia

COCHABAMBA
PRECIPITACION TOTAL EN

	ENE	FEB	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC	TOTAL
1983	85.8	89.2	15.2	0.8	7.2	1.8	5.6	0.0	2.5	14.8	32.3	35.4	270.4
1984	166.6	157.9	133.8	9.7	0.0	0.0	0.0	1.2	2.8	32.6	95.6	75.3	705.6
1985	143.3	97.8	84.8	51.8	10.8	9.2	0.0	0.0	12.7	16.7	50.8	109.8	557.0
1986	133.3	59.8	180.4	35.0	2.4	0.0	1.3	4.4	33.2	33.9	15.7	186.0	615.2
1987	120.0	15.7	80.3	18.8	11.1	0.0	11.4	0.0	7.8	10.1	31.3	54.2	349.5
1988	82.2	75.8	152.5	24.8	3.2	0.0	0.0	0.0	10.9	33.1	14.7	35.1	435.8
1989	52.5	41.9	43.1	51.7	4.3	0.0	0.0	1.4	3.2	3.6	18.7	102.7	355.1
1990	84.5	89.4	15.8	18.1	4.8	27.5	0.0	2.4	3.8	37.3	48.5	88.1	400.5
1991	105.4	106.8	33.9	13.8	0.0	7.9	0.0	0.0	6.9	2.3	17.1	17.8	311.6
1992	91.6	70.2	39.6	0.8	1.3	14.0	0.0	18.3	2.4	20.1	37.6	87.0	383.8
1993	180.5	53.1	42.3	3.4	0.0	0.2	4.8	32.5	1.6	31.8	49.0	81.8	480.8
1994	74.1	69.8	90.8	14.8	1.8	0.1	0.0	0.1	3.6	28.9	30.2	39.6	353.9
PROM	109.2	77.3	71.0	20.3	3.3	5.0	1.9	5.1	7.6	23.2	36.6	74.4	

(A.A.S.A.N.A.)

BAN JAVIED
PRECIPITACION TOTAL EN

	ENE	FEB	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC	TOTAL
1983	247.2	263.8	217.8	59.0	259.7	33.4	28.7	0.5	22.6	200.6	172.2	222.0	1727.5
1984	236.8	66.2	255.3	79.7	45.2	16.2	1.6	79.4	132.7	103.4	192.3	413.3	1622.1
1985	262.4	335.3	107.6	179.9	21.9	3.4	124.2	46.4	142.4	47.5	191.9	85.4	1548.3
1986	189.4	332.3	229.3	73.0	226.1	0.0	27.2	77.3	144.1	57.5	151.1	85.5	1592.8
1987	202.2	122.9	151.2	41.2	55.3	49.6	26.2	32.6	30.3	176.5	351.4	203.0	1452.4
1988	108.4	142.9	202.7	163.6	46.9	3.7	3.1	22.4	25.6	72.8	181.6	184.3	1158.0
1989	319.0	155.7	139.7	149.8	39.6	62.8	44.4	18.8	26.1	6.5	41.4	256.2	1260.0
1990	201.7	168.6	90.5	78.5	133.7	41.2	70.1	39.6	37.0	72.2	60.2	172.7	1166.0
1991	278.5	126.7	62.5	108.8	171.5	76.6	2.5	9.1	110.0	113.1	32.4	189.7	1281.4
1992	165.7	234.9	296.3	318.2	67.7	85.7	31.5	101.0	209.9	87.9	289.9	152.6	2041.3
1993	205.7	147.5	141.4	12.9	19.1	29.1	6.8	9.9	51.6	114.4	129.9	184.2	1052.5
1994	226.2	164.5	103.3	79.0	30.0	193.8	17.1	8.4	149.7	173.7	97.3	235.6	1478.6
PROM	220.3	188.4	167.3	112.0	93.1	49.6	32.0	37.1	90.2	102.2	157.6	198.7	

(A.A.S.A.N.A.)

SANTA CRUZ
PRECIPITACION TOTAL EN

	ENE	FEB	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC	TOTAL
1983	386.9	94.9	270.3	166.7	199.5	76.1	182.9	24.6	10.6	215.7	240.4	112.7	1981.3
1984	294.7	50.7	91.9	70.8	37.0	48.0	54.2	42.1	77.8	145.2	291.6	330.5	1544.5
1985	143.2	49.7	258.1	182.2	35.1	64.2	172.3	31.0	107.7	43.1	119.7	197.5	1403.8
1986	366.5	338.6	149.6	113.4	162.7	85.9	147.0	73.9	177.2	47.9	201.3	198.1	2062.1
1987	231.0	134.2	227.7	167.6	87.3	157.7	205.8	47.4	19.1	177.7	169.0	325.1	1949.6
1988	180.4	93.3	155.0	109.1	48.0	9.6	20.9	8.8	31.6	75.0	88.5	240.8	1061.0
1989	194.5	199.3	146.6	110.8	80.2	159.6	68.8	86.2	27.2	12.5	158.6	259.3	1523.6
1990	87.3	142.9	72.6	77.4	199.3	115.3	68.3	72.5	109.7	40.6	193.6	167.4	1346.9
1991	337.0	137.1	189.7	108.4	111.6	92.5	73.5	5.7	44.2	152.8	162.1	164.9	1579.5
1992	295.3	269.1	126.3	380.2	187.7	91.9	42.9	91.7	203.8	74.8	104.5	402.1	2270.3
1993	148.4	239.5	160.2	12.7	86.6	18.7	59.0	50.7	165.5	81.1	217.2	164.2	1403.8
1994	102.5	153.2	58.9	39.8	29.1	11.8	19.2	18.2	117.8	84.9	33.1	245.9	905.4
PROM	230.6	159.4	158.9	129.1	105.3	77.6	92.9	46.1	91.0	95.9	165.0	234.1	

(A.A.S.A.N.A.)

SUCRE
PRECIPITACION TOTAL EN

	ENE	FEB	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC	TOTAL
1983	76.4	92.3	40.4	37.7	3.5	0.0	7.2	0.0	19.1	14.3	72.5	100.8	464.2
1984	384.9	215.3	235.5	60.1	0.4	0.0	0.0	3.1	2.3	26.3	138.9	93.5	1160.3
1985	113.9	193.5	17.4	50.9	0.2	12.5	3.7	1.1	124.4	30.9	174.5	206.2	929.2
1986	50.4	104.3	192.9	39.8	0.8	0.1	0.0	0.8	29.3	64.4	54.1	139.4	676.3
1987	181.8	60.3	39.7	51.6	0.6	1.4	0.2	0.0	9.8	107.2	81.2	104.4	638.2
1988	176.8	57.7	246.7	31.1	10.7	0.2	0.0	0.0	28.3	36.1	17.9	99.6	705.1
1989	115.0	85.9	35.2	90.2	0.3	0.6	0.6	2.5	9.7	4.4	80.5	113.3	538.2
1990	117.0	96.7	33.5	41.0	19.5	3.1	0.0	11.3	1.3	105.0	70.4	36.8	535.6
1991	124.8	80.5	73.1	14.7	1.3	0.0	0.0	0.0	24.6	9.3	73.4	75.1	476.8
1992	195.2	72.1	51.0	2.0	0.0	6.4	8.7	0.9	19.0	64.0	37.2	125.2	581.7
1993	110.7	98.3	114.1	6.3	0.2	0.0	1.0	9.9	32.3	64.0	170.6	89.7	697.1
1994	110.0	56.6	29.9	6.4	5.2	0.0	5.2	0.8	67.2	46.5	72.0	89.1	488.9
PROM	146.4	101.1	92.5	36.0	3.6	2.0	2.2	2.5	30.6	47.7	86.9	106.1	

(A.A.S.A.N.A.)

CANIRI
PRECIPITACION TOTAL EN

	ENE	FEB	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC	TOTAL
1983	51.0	64.0	56.0	54.0	44.0	44.0	62.0	5.0	5.0	49.0	62.0	112.0	608.0
1984	321.0	262.0	215.0	111.0	9.3	45.0	3.0	32.0	10.0	32.3	135.0	208.0	1383.6
1985	46.0	298.0	96.0	157.0	18.0	22.0	4.0	6.6	46.0	1.0	86.0		780.6
1986													0.0
1987	231.0	100.0	101.0	124.0	51.0	4.0	14.0	0.0	0.0	28.0	107.7	113.0	873.7
1988	75.4	92.3	158.0	80.1	23.2	3.6	8.2	0.0	0.5	19.4	45.3	157.5	663.5
1989	91.6	46.0	108.3	64.4	11.5	22.4	17.1	0.0	9.2	12.6	69.8	146.2	598.9
1990	118.3	19.3	30.3	0.8	11.3	7.5	0.1	10.4	1.6	16.0	69.4	127.4	412.4
1991	72.0	58.1	97.6	18.5	12.5	1.2	1.5	0.4	20.0	44.1	58.8	63.3	448.0
1992	257.7	208.5	24.2	16.4	35.2	15.5	5.5	2.9	24.5	83.0	30.5	384.5	1088.4
1993	100.8	53.5	57.7	22.0	7.3	3.4	14.8	5.1	3.5	48.1	19.7	212.2	548.1
1994	136.1	203.9	140.6	35.9	13.9	5.8	0.2	2.4	55.1	116.8	48.4	151.9	911.0
PROM	136.4	127.8	98.6	62.2	21.6	15.9	11.9	5.9	15.9	40.9	65.6	167.6	

(A.A.S.A.N.A.)

ORURO
PRECIPITACION TOTAL EN

	ENE	FEB	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC	TOTAL
1983	53.7	57.2	12.7	7.0	0.0	0.0	1.7	34.1	11.8	19.3	7.6	15.5	220.4
1984	195.7	217.6	138.8	7.8	0.0	7.9	0.0	18.9	0.0	2.8	73.6	30.5	894.4
1985	151.3	147.8	91.7	78.5	0.0	9.4	0.0	10.4	52.6	1.8	65.3	109.4	718.0
1986	38.5	54.5	74.0	8.3	4.3	1.4	0.0	9.4	39.3	20.1	24.9	102.0	377.8
1987	177.1	0.8	65.8	0.6	9.5	5.1	24.5	5.7	27.7	50.8	42.3	11.0	420.7
1988	54.7	84.3	115.2	50.9	7.9	0.0	0.0	0.0	35.5	15.1	4.1	27.6	395.3
1989	47.3	41.7	52.8	81.4	3.0	7.9	4.7	0.0	8.0	16.9	34.2	17.8	295.7
1990	132.5	39.4	18.8	5.3	16.3	35.6	0.0	6.5	3.0	31.4	42.4	83.4	394.7
1991	80.2	54.0	80.2	5.9	0.0	2.7	1.4	2.1	1.1	7.3	5.2	21.3	221.4
1992	77.0	38.5	12.1	4.9	0.0	13.5	7.2	2.9	0.0	14.0	37.8	71.8	279.8
1993	143.8	37.0	58.3	11.8	0.4	1.5	0.0	5.1	43.8	18.7	84.9	58.9	444.3
1994	43.0	79.9	21.5	21.2	0.0	0.0	0.5	6.2	3.9	10.5	31.5	88.4	304.6
PROM	97.9	71.1	60.3	22.1	3.5	7.1	3.3	8.4	18.9	17.3	38.2	51.3	

(A.A.S.A.N.A.)

GENERAL SAAVEDRA
PRECIPITACION TOTAL EN

	ENE	FEB	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC	TOTAL
1983	301.6	152.4	184.2	57.8	238.8	40.3	70.6	19.5	41.5	95.2	269.0	258.7	1729.6
1984	234.5	251.0	108.1	30.3	52.9	37.8	19.2	27.3	70.0	92.4	245.5	0.0	1169.0
1985													
1986													
1987													
1988													
1989													
1990													
1991													
1992													
1993													
1994													
PROM	268.1	201.7	146.2	44.1	145.9	39.1	44.9	23.4	55.8	93.8	257.3	129.4	

(mm)
(SENAMHI)

MAIRANA
PRECIPITACION TOTAL EN

	ENE	FEB	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC	TOTAL
1983	215.9	42.6	100.0	57.5	53.6	3.8	32.8	20.5	9.6	56.4	90.8	34.4	717.9
1984	180.9	90.5	131.1	41.3	41.2	1.3	1.3	27.0	1.5	94.5	198.0	119.6	928.2
1985	105.7	211.4	73.3	75.1	14.8	116.8	54.2	65.6	59.3	6.9	69.9	118.4	971.4
1986	110.3	162.7	136.0	85.7	85.0	13.1	4.9	3.0	104.5	13.6	55.3	105.9	880.0
1987	99.5	94.3	50.1	66.3	24.3	30.3	15.1	3.4	54.0	29.3	70.6	100.0	637.2
1988	189.2	89.8	186.4	11.7	53.4	4.9	0.5	0.0	33.5	81.2	46.4	154.2	851.2
1989	183.5	63.2	15.4	90.9	13.5	21.6	38.3	1.4	36.3	39.2	50.7	108.9	662.9
1990	90.4	49.7	29.4	22.0	49.9	12.8	6.8	53.3	13.2	47.9	60.9	97.2	533.5
1991													
1992													
1993													
1994													
PROM	146.9	100.5	90.2	56.3	42.0	25.6	19.2	21.8	39.0	46.1	80.3	104.8	

(mm)
(SENAMHI)

VALLEGRANDE
PRECIPITACION TOTAL EN

	ENE	FEB	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC	TOTAL
1983													
1984													
1985													
1986													
1987													
1988	161.4	67.7	164.2	13.8	39.5	3.6	2.7	1.5	15.2	16.8	29.1	129.5	645.0
1989	261.7	99.4	112.0	35.1	6.4	9.2	1.0	6.1	3.5	35.4	17.7	81.9	669.4
1990	101.7	53.8	43.7	34.8	35.2	0.6	1.0	12.0	8.7	14.8	68.5	217.0	591.8
1991	20.5	89.1	187.6	59.8	2.9	1.5	0.0	20.0	16.0	41.4	39.7	27.9	506.4
1992	241.4	161.9	57.3	36.8	25.8	10.0	8.6	7.9	32.2	54.6	83.1	127.5	847.1
1993													
1994													
PROM	157.3	94.4	113.0	36.1	22.0	5.0	2.7	9.5	15.1	32.6	47.6	116.8	

(mm)
(SENAMHI)

AIQUILE
PRECIPITACION TOTAL EN

	(mm)												TOTAL
	ENE	FEB	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC	
1983	160.0	112.5	42.0	17.0	8.5	0.0	9.5	0.0	4.5	22.0	118.5	43.0	537.5
1984	240.3	173.5	0.0	161.5	0.0	0.0	0.0	0.0	0.0	39.0	106.5	16.5	737.3
1985	182.5	114.0	42.0	60.5	0.0	0.0	0.0	0.0	31.0	14.0	102.5	130.5	677.0
1986	92.5	158.5	208.0	17.5	0.0	0.0	0.0	0.0	34.5	10.0	25.5	181.0	727.5
1987	173.2	26.5	116.5	0.0	5.0	0.0	0.0	0.0	12.0	77.0	140.5	54.0	604.7
1988	95.0	75.5	180.5	111.0	9.0	0.0	0.0	0.0	25.5	57.5	0.0	141.5	695.5
1989	104.0	77.0	46.5	39.0	0.0	6.0	0.0	6.5	0.0	20.0	106.5	146.0	551.5
1990													
1991													
1992													
1993													
1994													
PROM	149.6	105.4	90.8	58.1	3.2	0.9	1.4	0.9	15.4	34.2	85.7	101.8	

(SENAMHI)

TOTORA
PRECIPITACION TOTAL EN

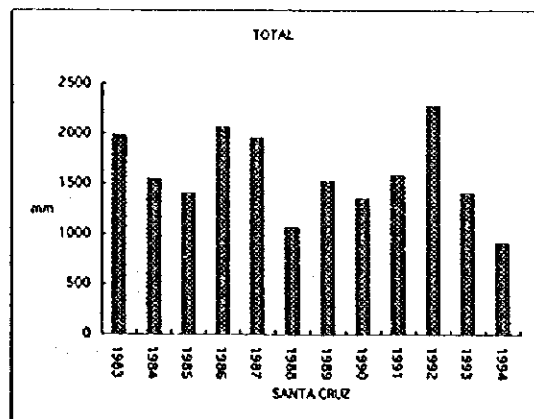
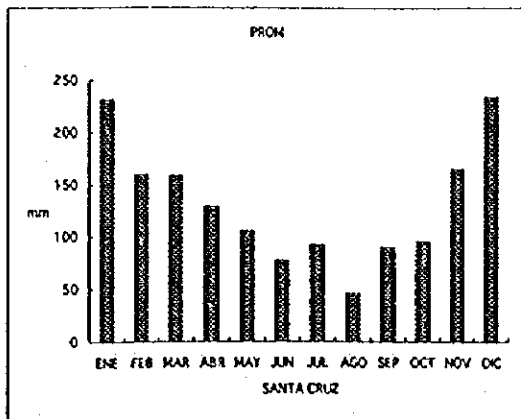
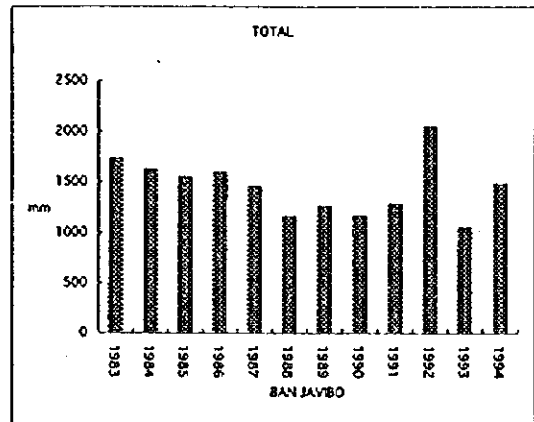
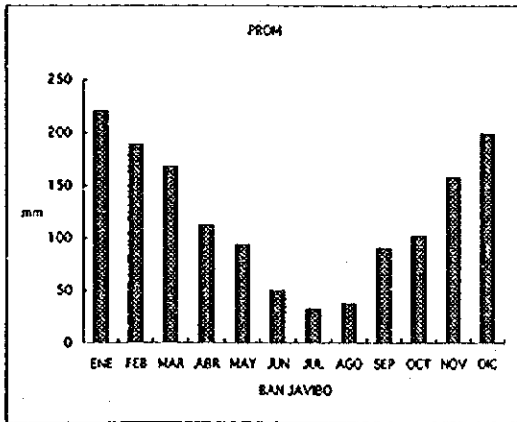
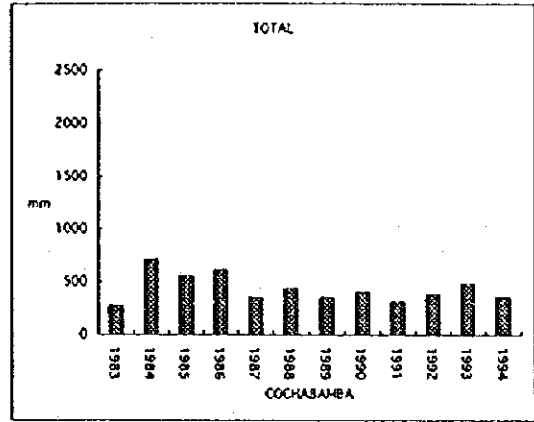
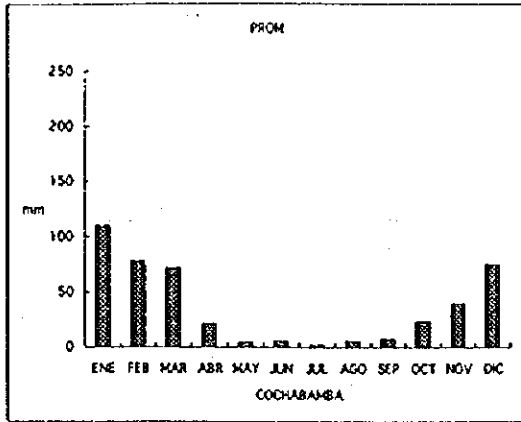
	(mm)												TOTAL
	ENE	FEB	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC	
1983	129.1	90.6	28.7	1.3	14.3	0.0	2.3	0.0	9.2	11.6	90.1	34.5	411.7
1984	277.5	191.4	162.9	16.8	0.0	0.0	0.0	7.8	0.0	86.6	164.1	119.5	1026.6
1985	175.1	206.9	74.6	86.4	9.5	14.4	0.0	1.6	9.8	10.3	68.4	160.1	817.1
1986	147.3	206.9	210.1	84.0	10.3	0.0	0.0	5.7	45.3	4.2	62.0	230.8	1006.6
1987	204.9	22.5	54.7	16.8	11.3	2.1	12.0	0.0	5.2	92.0	73.9	23.3	518.7
1988	222.0	131.7	260.0	120.0	10.2	2.4	0.0	0.0	24.2	29.1	59.1	23.3	882.0
1989	153.6	81.9	0.0	32.3	2.3	0.0	0.0	1.6	6.1	14.1	46.6	169.8	508.3
1990	146.6	79.0	14.9	31.5	0.0	13.5	1.2	4.2	17.1	48.2	59.7	155.3	571.2
1991													
1992													
1993													
1994													
PROM	182.0	126.4	100.7	48.6	7.2	4.1	1.9	2.6	14.6	37.0	78.0	114.6	

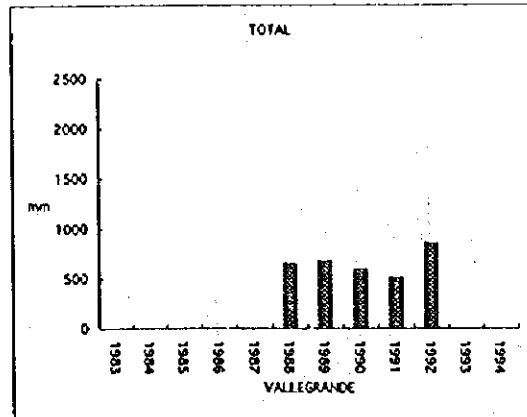
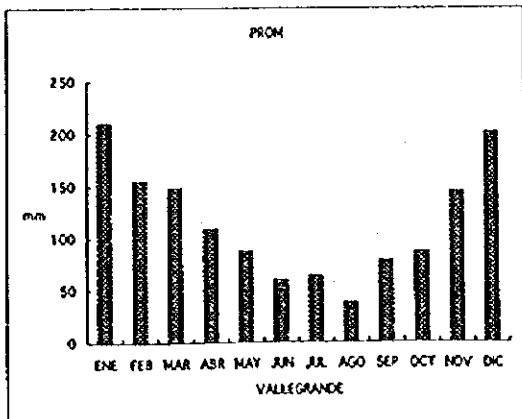
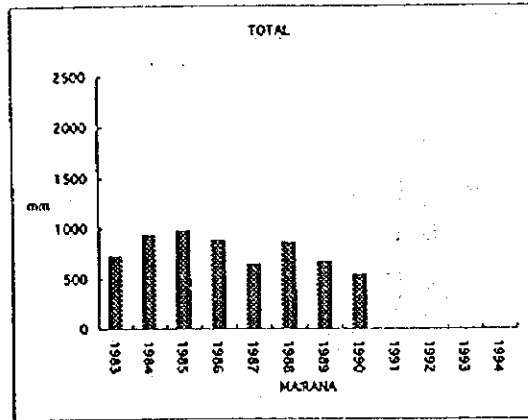
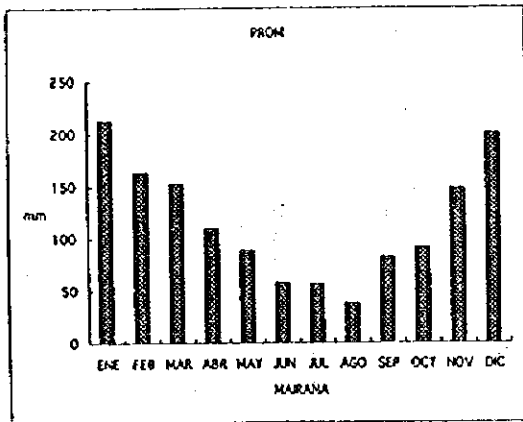
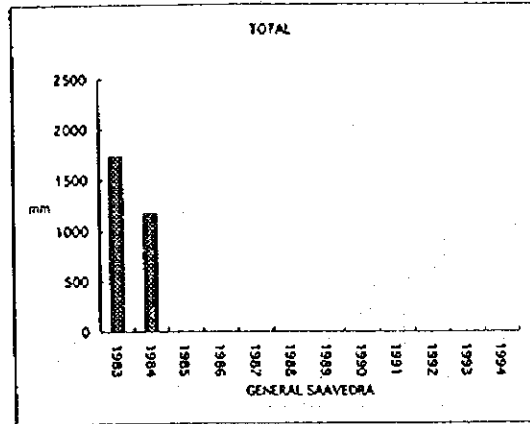
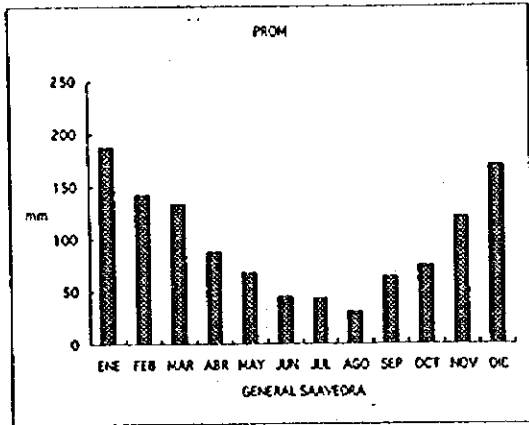
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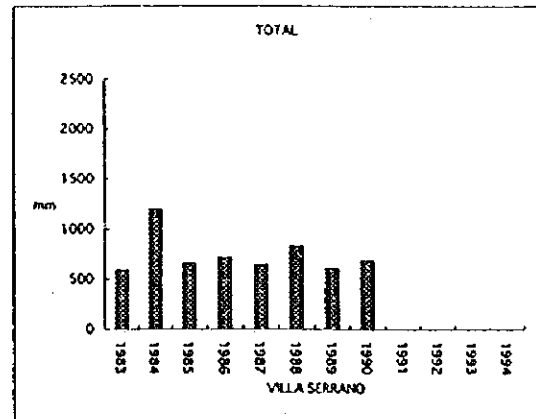
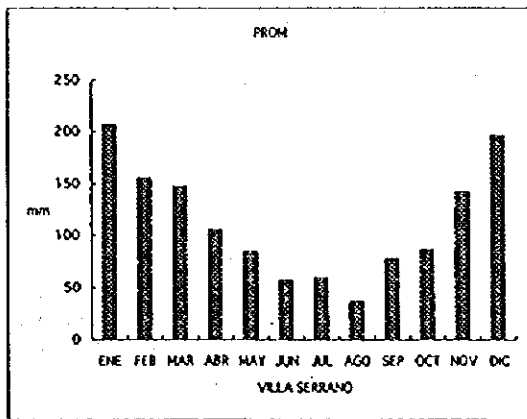
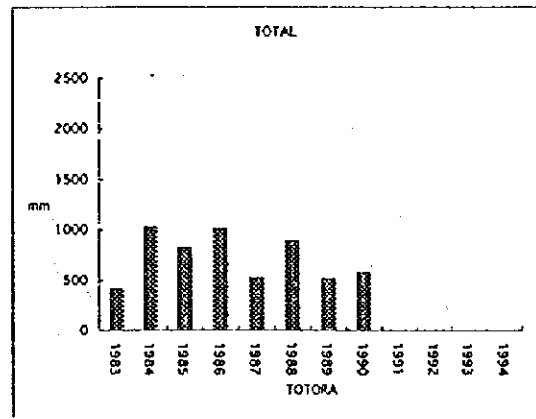
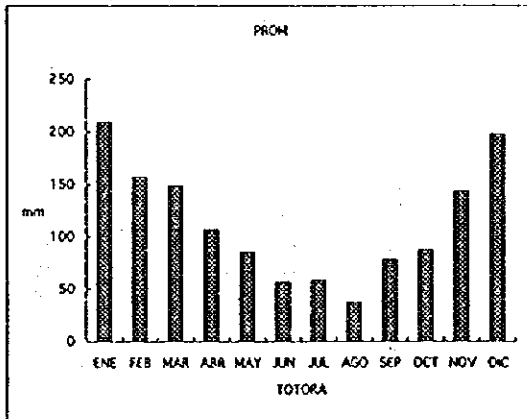
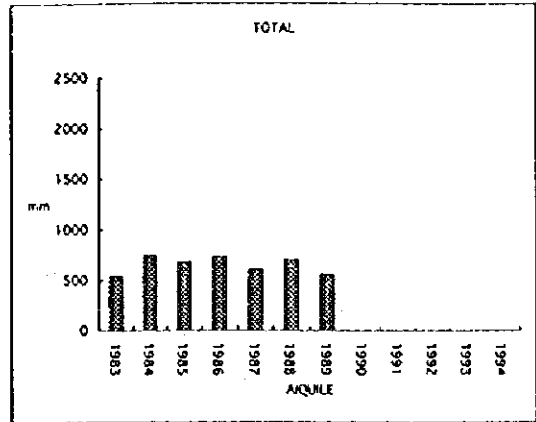
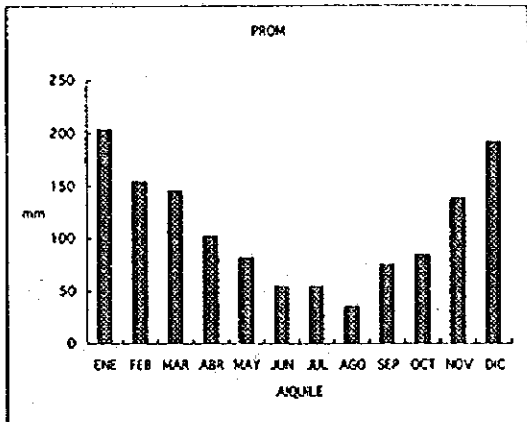
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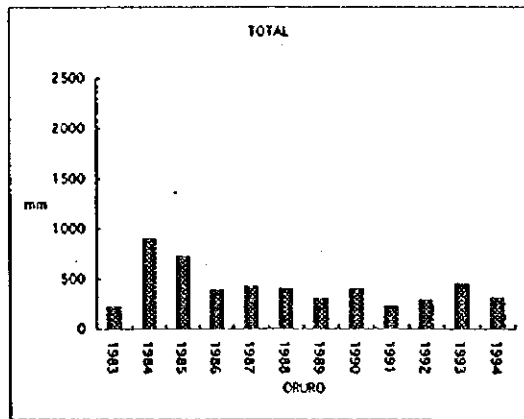
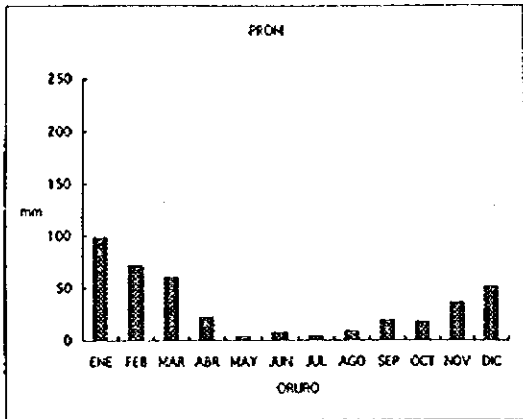
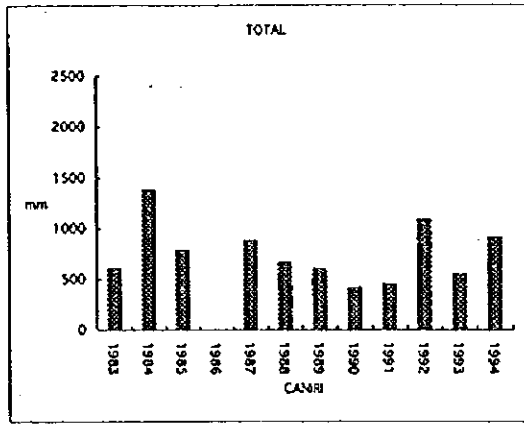
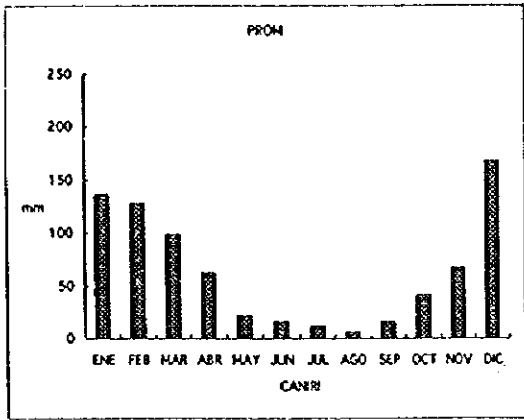
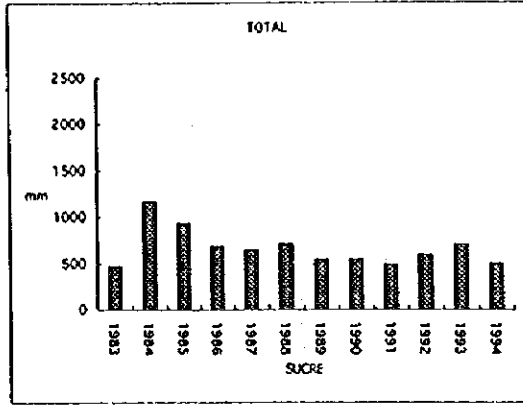
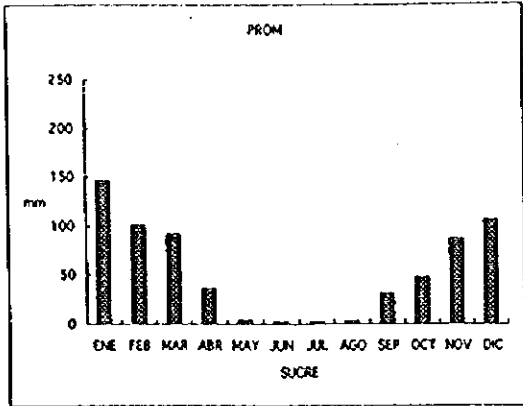
	(mm)												TOTAL
	ENE	FEB	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC	
1983	198.2	78.3	86.4	34.3	15.3	4.7	17.3	1.2	34.4	11.4	53.3	48.0	582.8
1984	352.8	200.8	177.7	20.6	29.0	0.0	0.0	0.4	24.5	133.4	125.2	129.0	1193.4
1985	89.6	189.9	42.5	82.9	2.6	17.5	1.0	19.4	29.2	24.0	75.7	76.4	650.7
1986	112.0	229.9	107.8	19.0	13.3	0.0	0.0	19.4	29.2	24.0	75.7	76.4	706.7
1987	223.9	73.5	58.8	52.2	0.0	10.0	0.0	0.0	10.5	77.0	43.0	87.5	636.4
1988	101.8	108.5	316.7	30.8	20.6	0.0	0.0	0.0	15.5	31.0	57.8	137.5	820.2
1989	157.5	60.0	141.3	66.2	0.0	9.8	11.9	9.0	2.7	19.0	31.0	95.6	604.0
1990	103.4	128.7	98.1	12.0	37.8	0.0	0.0	17.7	23.0	98.5	83.6	74.4	677.2
1991													
1992													
1993													
1994													
PROM	167.4	133.7	128.7	39.8	14.8	5.3	3.8	8.4	21.1	52.3	68.2	90.6	

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Appendix-2.2

Results of the Interview Survey in the Objective Area

Administration

- All communities belong to neighboring cities (San Borja, San Ignacio)
- Establishment: Many communities are newly established a quarter of a century up to present.

Years	Number of established communities
1950's	4
1960's	1
1970's	6
1980's	1

Population: As a whole, there are more younger generations.

Population	Number of communities
50 or less	0
100 or less	2
200 or less	2
200 or more	3
No answer	5

Population of 18 years old or under	Number of communities
50 or less	3
100 or less	5
200 or less	2
200 and more	0
No answer	2

Population between 19 years old and 60 years old	Number of communities
50 or less	2
100 or less	2
200 or less	1
200 and more	1
No answer	6

Population of 60 years old	Number of communities
50 or less	9
100 or less	1
200 or less	0
200 and more	0
No answer	2

Birthrate (people/year)	Number of communities
5 or less	6
10 or less	2
10 and more	3
No answer	1

Mortality (people/year)	Number of communities
5 or less	9
10 or less	1
10 and more	0
No answer	2

Main causes of death:

Tuberculosis, heart attack, cancer, various adult diseases

Household

- Number of households: All communities consists of fifty households or less.

- Characteristics of house:
 Frames are made of woods of bamboos
 Roofs are made from dried leaves of plants (name of the plant is not investigated yet)
 Walls are made of mud or by piling up sun-dried bricks. Sometimes there are walls made of wood panels, which have good ventilation
 Houses have no floor and the furniture is directly placed on the ground
 Each house has a furnace made of mud at outdoor location

Public facilities: School and health center

Communities having both school and health center	4
Communities having a school only	5
Communities having a health center only	1
Communities having no school nor health center	2

School

- Because only one student wants to go to high school every five years, there is no high school.
- There are one to six teachers. They are relocated to other school within Mojo prefecture every three to four years, which is not obligatory.
- Rate of illiteracy is 0%. Almost all children attend school. There were some children that could not attend school due to economic reasons, but teachers take care of children well so that they can read, write and calculate. Classes held in the morning.
- Number of classrooms, teaching materials, and desks are really lacking.
- School yard is usually used as the recreation facility of the community.

Number of Students	Number of communities
50 or less	3
100 or less	5
100 and more	2
No answer	1
No school	1

Health care

- There is no clinic that has a doctor. There is a health center called POSTA, where there is always a nurse. However the amount and type of medicine are insufficient. Water and electric facilities are broken and unrepaired, and there is no outlook that the repair cost will be supplied. Some clinic has no bed, which does not actually function as health centers.
- Vaccination is conducted once a year.
- Because the water from river or wells is not suitable for drinking, there is a case of diarrhea.
- Main diseases: Diarrhea, tuberculosis, influenza, cancer, various adult diseases.

Presence of POSTA	Number of communities
Yes	5
No	7

Communication

- In the entire communities, there is no one that has a telephone. Some communities have radio as communication equipment.

Presence of radio communication equipment	Number of communities
Yes	2
No	10

- There is no television nor newspaper, but the radio receivers are widely spread

Radio receiver	Number of communities
Each family has one receiver	5
Five or less receivers in a community	1
There is no receiver in the community	6

Natural conditions

- Specified areas: Meeting place, farm, forest, and damp ground
- Sometimes travelers come to visit the community, but there is no facility to accommodate them
- Recreational facilities: Soccer field and basket court.

Water

- Water source:
In the dry season, the number of wells as the source of living water is insufficient for the number of households. Water quality of some water sources is not good, which causes diarrhea or contagious diseases.
There is no water right for both rivers and wells.

Water source	Number of communities
Well	8
River	3
Using both water sources	1

Number of wells (among de above nine communities)	Number of communities
Only 1	8
2 or more	1

- Because there is no drainage canal or sewage facility, living waste water is directly drained to rivers, which causes water quality of rivers polluted. Then the living creatures of rivers cannot live, leading to the drop of catch of fish, which finally causes the people who damp the waste water to be blamed. At present, people in the communities are eating fishes from polluted rivers.

Land use: Houses, public facilities, central public square, farms, churches, reserve forest.

Natural disasters: Effect of flood in rainy season to the living, and the damages of harmful insects, rainstorm, drought to agricultural products.

Traffic situation: There is one truck jointly owned by the community in Tacuaral. Other communities has no vehicle. Main traffic measures are bicycles and oxcart, although the number of which is very few.

Economic activities

- Food are supplied self-sufficiently. Excess agricultural products such as rice or corn are sold in neighboring cities, from which profit necessary items for living are bought. Therefore, profit and expense are almost same. There is no room for saving money.
- There are some families that leave the community because of poverty.
- Some youngsters go to work to cities such as La Paz, Santa Cruz, or Trinidad.

Average Income (Bs/month)	Number of communities
50 or less	2
100 or less	1
200 or less	1
300 or less	7
No answer	1

Impression of business conditions	Number of communities
Upwards	4
No change	3
Downwards	4
No answer	1

Reasons for considering the business conditions are upward:
Development of roads and wells. Increase of sales of agricultural products.

Reasons for considering the business conditions are downwards:
Decrease of materials for woodwork due to felling of forests. Decrease of employment opportunities in neighboring cities. Drop of food price.

- **Primary industry:** All the adults are engaged in agriculture except for those going out of community for work.

Main agricultural products (including cash crops)
1) Rice (about 10 Bs for a bag of 11,5 kg)
2) Other, corn, yucca (?) (potato), banana, grapefruit.

The cultivated area for one household is about 1 ha.

Domestic animals: Mainly of chickens and pigs. Cows are small in number.

- **Secondary and tertiary industries:** Earth ware, textile, hand crafted products, bread, ferry operation

Presence of these industries	Number of communities
Yes	5
No	7

- **Other**

Presence of grocery store	Number of communities
Yes	5
No	7

Items handled at the grocery store: Rice, pasta, cans, tobaccos, soaps, batteries, cookies and candies, fishes

There is one restaurant in Totaizat.

Traffic measures:

There is no bus nor taxi in the communities. People go to neighboring cities by walk, or using bicycle or oxcart.

Environmental problems

- There is no claim for the air or noise. With regard to the water, there are some communities having questions about the quality of water. There actually was some report that there were cases of diarrhea due to the well water. In rainy season, the odor of rotten fishes floating from upstream seems to be severe.
- With the enlargement of farmland, the primeval forests are being destroyed. All communities are conducting slash-and-burn farming.
- The amount to catch wild animals such as hochi (?) (rats), wild pigs or deer is decreasing every year.

Minority races:

Berneco: In the following two communities, minority races are coexisting. Tenanano, Mobima, and Trinitario, which stand about 10% of the population and have some economic relationship.

Categories

Dease: Located 4 km from the community towards San Berja, where twelve families live and have economic relationship

Development plan

Presence of public development plan	Number of communities
Yes	10
No	2

Construction of wells, bridges, roads, and expansion of schools

Existence of private development plan	Number of communities
Yes	6
No	6

Development of agricultural technique and establishment of playing field and meeting place.

Appendix-3.1

Laws and Regulations Related to the Environment

SUMMARIES

LAWS, LAW DECREES, SUPREME DECREES AND RELEVANT SUPREME RESOLUTIONS FOR THE ASSESSMENT OF THE NATURAL ENVIRONMENTAL IMPACT OF THE ROAD TRINIDAD - SAN BORJA

I. GENERAL FRAMEWORK OF THE BOLIVIAN LEGISLATION RELATED TO NATURAL ENVIRONMENT

1. State Political Constitution

Dated February 2nd, 1967 and amendments of the law 1585 dated August 12, 1994.

Article 1. Bolivia is recognized as a unitary, free, independent, sovereign, multiethnic and pluricultural Republic, adopting as government the representative democracy.

Article 7. Fundamental rights of the persons:

- a) Right to life, health and security.
- d) Right to work and be involved in trade, industry or any legal activity, under conditions which do not impair the collective welfare.
- g) Right to enter, stay, transit and leave the national territory.
- h) Right to make individual or collective requests.
- l) Right to private, individual, and collective property, as long as it has a social function.

Article 136. Besides the goods given by law, the soil and subsoil with all their natural resources, lake waters, river water and medicinal waters are owned by the State as well as the elements and physical forces.

Article 171. The State recognizes, respects and protects the social, economic and cultural rights of the indigenous communities, specially the rights related to common lands, guaranteeing the use and the sustained utilization of the natural resources. The State recognizes the corporate existence of the indigenous and peasants communities, as well as the peasant unions and associations.

2. Natural Environmental Law (Modified by Law of Ministries of the Executive Power)

Low No. 1333 dated April 27, 1992

Title I General Provisions

Chapter I Object of the Law

Object: Protection and conservation of the natural environment and natural resources; it regulates the action of the man related to the nature; promotes the sustained development in order to raise the quality of life.

Sustained Development: It is the process by which the necessities of the present generation are satisfied without risking the satisfaction of necessities for future generations. The sustained development is a global and permanent task.

The natural environment and the natural resources are the nation's patrimony, their protection and utilization are ruled by law, they are of public order.

The Natural Environmental Law is of public order, of social, economic and cultural interest.

Title II The Natural Environmental Issue

Chapter I The Natural Environmental Policy

The natural environmental policy shall contribute to raise the quality of life based on the following aspects: Definition of government actions, promotion of sustained development, promotion of the conservation of the biodiversity, optimization and rationalization of the utilization of water, air, soil and others, incorporation of the natural environmental dimension and the natural environmental education in the processes of national development, promotion and encouragement of scientific and technological research related to this issue, territory order through the ecological, economic, social and cultural zoning, creation and strengthening of means, instruments and methods for the development of the recent natural environmental process, the national policies should be consistent with the international trends with precaution of the nation's sovereignty and interests.

Chapter II The Institutional Framework

It creates the National Natural Environmental Secretary (SENMA) under the Nation's Presidency. Its basic functions are established. The Natural environmental Department Councils (CODEMA) are created, which are organisms of maximum decision and counsel. Their functions are established. The Natural environmental Department Secretaries under the SENMA are created, these offices are responsible for executing the departmental policies originated from CODEMA. The organic departmental structure should be adequate in order to have an instance for natural environmental issues.

Chapter III The Natural Environmental Planning

The introduction of the natural environmental dimension to the national and regional planning will be done through a permanent, dynamic and agreed process. The basic instruments of natural environmental planning are indicated. SENMA should be in charge of organizing the commission for the territory order.

Chapter IV The National System of Natural Environmental Information

SENMA and SEDEMA are in charge of the organization and good operation of the National System of Natural Environmental Information (SNIA). All information, document related to the natural environmental issue, of national or international origin should be sent to SNIA.

Title III The Natural Environmental Aspects

Chapter I The Natural Environmental Quality

It is a duty of the State and of the society to guarantee a healthy and pleasant natural environment for the development of all the people and living beings.

SENMA and the SEDEMA will promote and execute actions directed to monitor the natural environmental quality. The targets for this process are given.

Chapter II The Activities and Probable Factors Susceptible to Degrade the Natural Environment

It is understood as activities or factors which degrade the natural environment when they go beyond the permitted limits established in one unique rule (pollution of the air, of the waters, of the soil, of the subsoil, hydrologic, climate conditions or the ones which affect the cultural patrimony, biodiversity, etc.). A person who performs actions susceptible to degrade the natural environment should take precautions to avoid any possible damage and should advise them to the related authority.

Chapter III The Natural Environmental Problems Originated from Acts of God

It is the State and the society duty to prevent and monitor natural environmental problems originated from acts of God or to human activity. The investigation of the effects shall be encourage in order to avoid damages in the community. The Ministry of National Defense will be in charge of the prevention and contingency of the acts of God.

Chapter IV The Evaluation of Natural Environmental Impacts (EIA)

EIA: set of management procedures, studies and technical systems to determine the effects of certain actions in the natural environment. Every task of activity shall have an Evaluation of Natural Environmental Impact. It establishes the management process that should follow the tasks or activities in order to comply with the evaluation of the natural environmental impact. Through express rule it is determined the cases in which EIA is required. SENMA and SEDEMA and in charge of controlling the compliance of EIA. Specific regulations are established to govern the administrative and legal aspects of EIA.

Chapter V The Natural Environmental Issues in the International Context

The State should be interested in legalizing the international relationships related to natural environmental preservation. It prohibits the entering, transit or deposit of toxic wastes dangerous or radioactive.

Title IV The Natural Resources in General

Chapter I The Natural Renewable Resources

It is the State and the society duty to preserve, maintain, restore and promote the utilization of the natural renewable resources (Biotics and Abiotics). The right of utilization of the natural resources by private people is guaranteed when this right does not damage the natural environment. Special laws will be passed to regulate everything related to each resource. All the departments or regions that have natural resources in use, shall participate from the benefits derived from the utilization in order to promote the sustained development.

Chapter II The Water Resource

The water in all its states belongs to the State, it is a basic natural resource, for that reason it is considered an important task to protect and conservate it. It is a national priority the planning, protection and conservation of the water.

Chapter III The Air and the Atmosphere

It is the State and the society duty to maintain the atmosphere in the best condition. The State will rule and monitor the pollution of the atmosphere. It is considered as a willfull damage to smoke tobacco in closed areas.

The State will rule and monitor the noise level in order to prevent a damage to the community.

Chapter IV The Soil Resource

The utilization of the soil should be effected in such a way that it maintains the quality of the soil. SENMA and the local organisms will promote the territory order in order to harmonize the use of the soil and to obtain the sustained development. MACA and SENMA will establish rules for the soil resource.

Chapter V The Forests and Forestlands

The forests and forestlands belong to the State which through its related organisms should take care of their conservation and it will regulate their production, industrialization and trade. The forests should be classified in order to plan their utilization and conservation. The forest industry shall favor the national interests increasing the economic resources obtained from it. It is declared as a public necessity the reforestation and agroforestation.

Chapter VI The Wild Flora and Fauna

The State and the society should take care of the protection, conservation and restoration of the wild flora and fauna. It is the State duty to preserve the biodiversity and the integrity of the genetic patrimony of the wild native and domestic species. The related organisms should take care of ruling the hunting, collection, extraction and trading of fauna and flora and to determine the time when hunting and fishing is forbidden.

Chapter VII The Hydrobiological Resources

The State will rule the sustained utilization of the hydrobiological resources. The benefit of theses resources shall be governed by special law.

Chapter VIII The Protected Areas

The protected areas are the natural areas where either the human being intervenes or not, which are declared under protection of the State in order to protect them in their integrity conservating the natural environment, the natural resources, preserving the natural and cultural patrimony of the Nation. The protected areas are the patrimony of the State, of public and social interest, therefore they should be managed based on a natural environmental criteria, of scientific research, recreation, education and encouragement of tourism. In order to comply with the objectives of the law, the National System of Protected Areas is created which shall be organized by SENMA and SEDEMA. The declaration of protected areas is consistent with the existence of traditional communities and indigenous communities. A special law will be passed in order to rule this aspect in a global manner.

Chapter IX The Agricultural Activity

The agricultural production should reach production systems and sustained utilization, assuring the conservation of the agro-economic systems and the execution of the plans of soil restoration. MACA will develop the corresponding ruling.

Chapter X The Non Renewable Natural Resources

It establishes that the State owns the natural resources.

Chapter XI The Mineral Resources

It indicates that the exploitation of the mineral resources besides assuring an economic and positive utilization it should be done protecting the natural environment and avoiding pollution. The Ministry of Mining and Metallurgy in coordination with SENMA shall be in charge of the issue.

Chapter XI The Energy Resources

The exploitation of the energetic resources constitutes one of the main support of the national economy, and this should be done under strict compliance protecting the natural environment. The Ministry of Energy and Hydrocarbons in coordination with SENMA will be in charge of this issue.

Title V The Population and Natural Environment

Chapter I

The National policy of population shall consider adequate policies of migration, urban order, territory extension, etc., within the frame of natural environmental variable and with the target to protect and conserve the natural environment, and the natural resources. The participation of the communities and indigenous communities will be taken into account.

Title VI Health and Natural Environment

Chapter I

The State will take care of Preventing, controlling and evaluating the degradation of the natural environment which in any way attempts against human, animal and vegetation health.

Title VII The Natural Environmental Education

The State through the related Ministry shall define policies and strategies to encourage, plan and develop programs of formal and non formal natural environmental education. The media should help transmitting the natural environmental education.

Title VIII Science and Technology

The State and the specialized institutions shall promote, encourage, and support the development of the science and technology in relation to the natural environment and its protection.

Title IX Promoting Incentives to the Activities of Natural Environment

Chapter I The National Fund for Natural Environment

The National Fund for Natural Environment is created under the Presidency of the Nation with the main objective to raise internal and external resources to finance the plans, programs, projects, scientific research and activities for the conservation of the natural environment and the natural resources.

Chapter II The Incentives and Productive Activities Related to Natural Environment

The State will establish mechanisms to encourage the incentives for all those industries which use technology and procedures directed to the production of natural environment and sustained development.

Title X Citizens Participation

Chapter I

People have the right to get true and timely information on matters of natural environment, to participate in the environmental issue and to request and promote indicatives before the related authorities, thus a procedure is established including public meetings.

Title XI The Security Measures, from Management Violations and from Natural Environmental Delinquency

Chapter I Inspection and Surveillance

SENMA and SEDEMA will be in charge of the necessary surveillance and inspection to assure the compliance of the present law and its regulation.

Chapter II The Security Measures of Natural Environment

SENMA and SEDEMA based on inspections shall set forth the necessary measures to correct the Irregularities found.

Chapter III The Management Violations and their Procedures

The contraventions to the present law will be considered administrative violations and crimes when found. The administrative violations will be subject to a specific procedure (Art. 101). In case the fact constitutes a crime, the legal documents will be remitted to the Public Ministry.

Chapter IV The Civil Action

The civil action will be executed by any person with legal representation. The amounts obtained shall be used with preference for restoring the damaged natural environment.

Chapter V The Natural Environmental Crimes

It states natural environmental crimes, imposes fines and jail.

It establishes that the natural environmental crimes shall be processed by the ordinary law, based on the penal code and its procedure. The sentence will be doubled when the delinquent is a public servant or public officer.

Title XII Temporary Provisions

It grants SENMA 180 days to present its organic law and the ruling to the present law; the National Fund for the Natural Environment (FONAMA) is given the same period to present its rules, internal law, etc.

3. Forest Regulations (Abrogated by several by-laws)

Decree dated August 2, 1939

The first National Park Sajama is declared. The cutting of various forest species is prohibited. It refers to exploitation and cutting of trees, and it establishes the compulsory reforestation in all the territory of the Republic, it declares the day of the tree (August 20). Encourages the planting of trees and establishes penalty fees for the violators of the law. The Ministry of Agriculture has the attribute to declare fiscal reserve forest zones and national parks for conservation of the Bolivian Flora.

4. Law of Dominion and Utilization of Water (Abrogated and modified)

Law dated November 28, 1906

S.D. dated September 8, 1989

"The Dominion of the Rainy Water"

This chapter refers to the ownership of water, stating that the existing water in a certain place belong to the owner, rainy water belong to the public dominion.

"The Dominion of the Running Water, Small Lakes and Streams"

The water defined as public dominion is that one which is born or runs in territories of the same dominion, the lakes or small navigable streams or floating ones in a natural or artificial manner, running water of rivers or streams non navigable nor floating if they are used for forest life necessities. The water belongs to the owner of the land as long as it runs through its territory. The owner of a spring cannot change its course when it provides water to a community. The water of a river or a small stream can be utilized by the owner of the riverside as long as it does not interfere with third parties, if the stream crosses a property, the owner should use it and let it go to its original course, it is not permitted to build dams, change the course of the water for the benefit for a private property without a contract with the riverside owners.

It is not permitted to utilize the water of the rivers or streams which will interfere with navigation, the water found during public works belongs to the municipality.

"The Dominion of the Stagnant Water"

The property of the stagnant water belongs to the owner of the land.

"The Dominion of the Underground Water"

The underground water belongs to the owner of the land where it is found. It authorizes the owners to open wells to extract water and indicates the conditions for doing it.

"The Bed of the Water"

The bed of the water belongs to the owner nevertheless the owner cannot build works which will change the course of the water in prejudice of third parties.

"Accessions, Dragging and Sediments of the Water"

The modifications which are produced in the land structure as a consequence of the running water are regulated.

"Draining of Lagoons and Swampy Lands"

The draining of lagoons and swampy lands in public and private properties is permitted.

"Right of Way"

The low lands receive water that naturally runs from the upper lands. The owner of the lower land can present a claim in case the course of the water has been interrupted. The economic costs for defines works should be covered by all the beneficiaries. The right of way of water supply line, of support, of dam, of stop and departure is established.

The right of way of drinking trough and draining of water can only be imposed by reason of public utility in favor of a community or a village previous indemnity.

The riverside lands are subject to right of way of town line path.

"Utilization of Public Water"

The utilization of water which runs in public natural streams for domestic use is authorized.

Fishing, according to specific rules is authorized. Fishing is not allowed without the permission of the owner. The Government will declare rivers or streams which can be considered navigable or floating. The State can confiscate properties and civil works to transform them in navigable rivers and streams.

"Granting of Utilization"

The State can grant utilization of public water to enterprises of public and private interest. The grants include lands for necessary civil works.

"Utilization of Public Water"

Public water can be utilized for the use of communities and railways. The utilization to water the land will be done according to the geographic zones in which the lands are located, the surfaces of these, the requirement for each plantation and the availability of water in the source. The water will also be utilized previous authorization to channel a river or stream in order to make it navigable or floating, in the rivers or streams that are not suitable for this activity, bridges or barges can be established aimed for public service.

The municipal government can grant utilization of water for green houses or fish nurseries as long as they do not harm third parties.

"Water Police"

It is a duty of the management the surveillance of the private water which could affect public health and security of the people and properties. It prohibits to throw

hazardous and toxic materials to rivers, streams and canyons that can damage the quality of the water.

It also regulates the waters groups and their unions, the courts of watering.

The controversies related to water will be solved by the ordinary court.

5. Forest Direction of Hunting and Soil Conservation (Abrogated)

S.D. 3612 dated January 22, 1954

The Forest Direction of Hunting and Soil Conservation is created under the Ministry of Agriculture, Cattle and Colonization which will be in charge of the conservation, development, exploitation, industrialization and economic utilization of the economic renewable resources. Its functions and its offices are defined. Wild animal life is declared of public utilization; the natural forests are declared instruments of national defense. It is specified that the land and the forests are under the forest control. Exceptions for the destructive exploitation of the forests are stated. It is set forth that the forest and hunting exploitations are under control of DFCCS. The necessary documents for the legal exploitation, transport, trade and export are established. Forest rates and destiny of funds raised are regulated. DFCCS will create forest districts in the required regions of the Nation.

6. Lien for the Trade of Forest, Hunting and Fishing Products (Abrogated)

S.D. 08063 dated August 16, 1967

It established a tax scale for the local and international trading of forest, hunting and fishing products, in connection with this matter own terms and conditions are established and administrative laws are established for charging the rates.

The trade and hunting of certain species (especially named) are prohibited, time when hunting and fishing is forbidden and trading of alligators and lizards and felines is regulated. It is prohibited the establishment of new sauro skin industries, unless they have breeders; the use and import of traps is prohibited. The sauro skin industry is obliged to set breeders in a period of one year, otherwise, they will not be able to get raw material, trade is limited to 20,000 crocodile skins a year, which should be done through the customs office in Conchabamba.

7. Rules Related to Violations on Natural Renewable Resources (Abrogated)

S.D. 09328 dated July 23, 1970

It grants the National Forest Guard jurisdiction and national competence for the compliance of the conservation laws, and to prevent, fight, omit and punish the irrational exploitation, industrialization and trading, as well as the fire of natural renewable resources.

Title I The Violations

Chapter I General Provisions

It expressly establishes which actions are considered violations, when from one way or another they go against the protection of the natural renewable resources.

Hunting and Fishing

It expressly establishes which actions are considered violations in relation to hunting and fishing.

Title II The Penalties

The violations according to their severeness will originate fines or judgment for crime before the ordinary court. Fines will be given through the regional police and through the National Chief of Forest Guard, when the action is severe. Fines not paid within 15 days will be doubled.

Title III The Redress and Revision Remedies

The penalties imposed for the regional police could be redressed in the first legal step before the National Chief of Forest Guard, in the second legal step before the Board of the Guard and in revision remedy before MACA. GFN in certain places and previous government authorization has the right to avoid crimes of black market.

8. Defense Committees for Flora and Fauna

S.D. 10127 dated February 18, 1972

It creates, under the jurisdiction of MACA defense committees for flora and fauna at the level of capital of departments, provinces, countries and rural communities, these offices are adhonorem and should be composed by representatives of the zones, no members who had affected or affect in some way the flora and fauna are accepted. MACA through its related office will rule the operation of committees.

9. Center of Forest Development (CDF) (Modified by Forest Law and Others)

S.D. 1103 dated August 17, 1973

It creates CDF under MACA, in order to promote the forest development and for this purpose the policy, management and forest legislation will be stated and the plan for national forest development will be developed. The Center has legal personality and the way it should operate is stated.

10. General Forest Law of the Nation

D.L. 11686 dated August 13, 1974

Title I "General Provisions"

Chapter I "Object of the Law"

The object of the law is to promote, regulate and control the utilization, trade, industrialization, protection and conservation of forest resources with the purpose of obtaining the development of the sector for the benefit of the Nation.

The forests and land of the State are patrimony of the State and they are goods of public utilization.

It is of public interest to assure its national utilization, trade and others, avoiding their destruction and damages which could suffer jeopardizing the society.

It establishes the functions and attributes of the State for public utilization reasons.

Chapter II "Definitions"

The terms Forests, forestlands, forest products, natural forest, artificial forest and domesticated forest are defined.

Chapter III "The Classification of Forests"

The forests are classified as follows:

- a) Permanent forests of production
- b) Permanent forests of protection
- c) Forest reserves of immobilization
- d) Special forests
- e) Forests of multiple utilization

Forests not classified are those with non-determined functions and are composed by:

- a) Fiscal forests of the Nation on Uncultivated land
- b) Non-classified forests privately owned

Title II "The Forest Regime"

Chapter IV "General Provisions"

It defines the forest regime as a set of special regulations which govern the management, utilization, trade, industrialization, handling, order, control, research, protection and conservation of forests or lands covered with vegetation.

It distinguishes two regimes:

- Forest of production
- Forest of protection

It establishes the register of forest enterprises.

Chapter V "The Management of Permanent Forests of Production"

The plan for managing the same should be approved by CDF and supported by Ministry Resolution. The control of the plans for handling is under the CDF.

Chapter VI "The Utilization and the Authorizations for Cutting and Crop"

Cutting trees and the secondary forest utilizations should be done through express authorization according to the provisions indicated by law and its amendments.

Authorizations for timber extraction for short, medium and long terms are given through contracts with CDF.

Chapter VII "The Circulation and Trade of Forest Products"

Circulation of timber should be done according to what is provided in the Rule. It provides systems of measurement and weight for forest products, fair price policy for primary and secondary forest products, rules for classifying timber.

Title III "The Forest Protection Regime"

Chapter VIII "The Time when Hunting and Fishing is Forbidden and Classified Protection Zones"

It grants CDF the ability to declare partial, total, temporary or indefinite prohibitions for the utilization of forests.

The process which leads to the establishment of a time when hunting and fishing is forbidden or classification of a permanent protection area begins at the request of CDF.

If the forbidden basin for fishing is over 1000 Has, it is called "Classified Basin"; if it is under 1000 Has, it will be called "Protection Area".

Chapter IX "The Rehabilitation of Soil under Private or Equivalent Dominion"

The soil under public or private dominion affected by advanced depletion in its natural fertility, compact aspect or threat of erosion will be subject to rehabilitation treatments applicable at CDFs criteria.

In case of a negative answer, expropriation or reversal to the State will be applied.

Chapter X "Fire, Plagues and Forest Diseases"

CDF is in charge of controlling and applying measures to prevent forest fires and its extinction.

During the land burning, practice used to prepare the land for planting, precaution measures shall be adopted.

The prevention measures are provided to avoid forest fires.

It declares of public interest the measures to control, prevent, etc. plagues and forest diseases. The import of seeds should be under the regulations given by CDF.

Chapter XI "Deforestation and Land Burning"

CDF will establish a minimum percentage of the colonization area and agricultural properties as natural forest green areas which will be under the care of the owners and supervision of CDF.

The natural vegetation on hills equal or over 45 percent are declared of permanent protection.

In areas with smaller hills (15% to 45%) CDF is in charge of its classification.

Chapter XII "The Windscreen Protection Curtains"

The windscreen protection curtains are declared of public interest.

CDF will promote and give technical assistance to create tree areas throughout the country.

It is declared compulsory the protection of green areas in certain cases established by the regulations.

Title IV "The Commercial Plantations"

Chapter XIII

The programs of CDF related to forest plantations will be supported by other state entities.

CDF will promote the private forest plantations, enterprises dedicated to forest and reforestation. The utilization of the product will be approved by CDF through a management plan.

Title V "The Management, Financial and Fiscal Provisions"

Chapter XIV "The Forest Development Center" (CDF)

It creates CDF as a decentralized entity with legal personality, management autonomy and independent patrimony.

CDF is in charge to register technicians and advisory enterprises of the sector.

CDF has 11 attributes such as administrative, monitoring, etc.

Five other attributes are given related to its ruling and promotion capacity.

Chapter XV "The Forest Fund"

The Forest Fund is created in order that CDF can comply in an efficient manner its functions and attributes.

The attributes, constitution and destiny of funds.

Chapter XVI "Forest Taxes and Custom Duties"

Types of forest taxes and custom duties are indicated.

Chapter XVII "The Forest Guard of the Nation"

The Forest Guard of the Nation created by S.D. 9013 dated November 27, 1969, goes under the direction of CDF which is in charge of restructuring.

The School of Forest Guards is created.

The forest guards are authorized to carry weapons during the exercise of their functions.

Title VI "The Industry"

Chapter XVIII "General Provisions"

It recognizes 11 types of industries.

It prohibits the use of circular sawmills related to transformation of fine timber.

Chapter XIX "Preparing and Preserving Forest Products"

CDF will promote the making of industrial products economically favorable, it will dictate measures for improving the systems sawmills and industrialization, it will regulate the usage of timber for long life service.

Title VII "The Incentives"

Chapter XX

Special credits are given to enterprises that develop programs of industrialization and reforestation.

Credit, fiscal and other incentives are given to create new green areas.

Wave of duties to investment and credits for new forest plantations or for bettering the wild forest areas in general prior approval of CDF.

Title VIII "The Education"

Chapter XXI

CDF has the right to establish forest schools and also a system of scholarships.

CDF is in charge to promote campaigns to widespread the responsibility on the issue of national forest.

Title IX "The Investigations"

Chapter XXII

CDF is in charge to create an organism specialized and to conduct through the same, investigations to determine 11 different issues.

Title X "Violations and Penalties"

Chapter XXIII

There are 5 violations and it is the responsibility of the Regulation of the Law to define types of forest crimes and violations and the corresponding penalties.

Title XI "The Jungle Tribes"

Chapter XXIV

It is the responsibility of the CDF to protect the jungle tribes of the country, to determine the national territory adequate for their lives guaranteeing and protecting their sources of hunting and fishing.

It is the responsibility of the CDF to incorporate jungle tribes to work in the forest and to be forest guards.

Title XII "General Provisions"

Chapter XXV

Temporary Provisions

11. Wild Life, National Parks, Hunting and Fishing Law

D.S. 12301 dated March 14, 1975

Title I

General Provisions

The Law governs the protection, management, utilization, transport and trade of animals of wild fauna and their products, protection of species threatened of being extinguished, conservation of the flora and fauna habitat, declaration of national

parks, biologic reserves, shelters and sanctuaries of wild life, tending to conservation and development.

It defines wild fauna.

It establishes as property of the nation the species mentioned in the chapter, whose utilization and appropriation are subject to authorization.

It indicates the animals that are excluded from the law.

It declares national patrimony the national parks, reserves, shelters and sanctuaries of wild life.

It declares of public utilization various activities related to the conservation, classification, investigation, etc.

It establishes that the declarations of national parks and others, as well as the scientific research and classification of wild animal groups is limited by the rustic private property.

It defines hunting and the conditions and requirements to exercise it.

It establishes the capacity of the Supreme Government to execute itself through the CDF.

It indicates as an attribute of CDF the encouragement of the constitution of associations dedicated to the conservation of nature and others.

Title II "The Investigations and Management of the Wild Life."

Other attributes of the CDF are mentioned, among them there are:

Other attributes of the CDF are mentioned, among them there are:

- To encourage the scientific research.
- To arrange the classification and management of wild fauna.
- To sponsor studies on research related to the conservation and protection of the wild fauna.
- To agree with the moving, relocation, regrouping, etc., of wild animals.
- To adopt measures to preserve and restore the wild animals habitat.
- To achieve the compliance of regulations related to managing of fauna in plans of colonization.
- To adjust the management of wild fauna in critical zones, of wild fauna or of colonization.
- To supervise plans on management agreed with state or private entities.
- To authorize the moving of species of the wild fauna.
- To capture animals in order to organize artificial breeders and their export.
- Previous studies, the import of exotic animals, for zoos or centers of amusement.

The obligation of traders of wild fauna to create artificial breeders is established.

It prohibits the export of unique species of the Bolivian fauna fit for reproduction.

Title III "National Parks, Reserves, Shelters of Fauna and Sanctuaries of Wild Life"

The incumbency to declare National Parks, Reserves of Wild Life, Shelters and Sanctuaries of Wild Life is stated.

The Supreme Government declares National Parks, Equivalent Reserve and Wild Life Reserve, previous studies and at the request of the Center of Forest Development.

The declaration of a zone as Shelter or Sanctuary of Wild Life, corresponds to the Ministry of Peasants and Agricultural Affairs previous study and reports of the Center of Forest Development. (disposition abrogated by the Law of Ministries of the Executive Power).

The extension of the parks, reserves, shelters and sanctuaries will not be reduced nor be a place for other objectives other than the ones established in their declaration.

The division and colonization of parks reserves, shelters or sanctuaries of wild life is prohibited.

CDF is in charge of the care and protection of the protected areas above mentioned.

Title IV "Utilization of the Wild Fauna in General"

It grants MACA and CDF the prohibition, inspection, control and regulation of rational utilization of the fauna, determination of time when hunting and fishing is forbidden, transport, trade and holding of wild animals and their products.

It regulates the "hunting license" the register, control and information to which people who pretend to utilize the wild fauna should be under it.

Chapter I "The Exercise of Hunting"

It completely prohibits the hunting of animals threatened to be extinguished or declared under protection.

The domestic hunting can only be done for survival reasons by people who inhabit the region.

It classifies the hunting in: domestic and of survival, sports, commercial and scientific.

Chapter II "The Licences of Hunting"

Licences are granted by the Supreme Government through CDF. They are temporary, revocable, specific for the specie and quantity of animals.

The Licences can be granted for: domestic hunting or of survival, sports, commercial, scientific and control of animals that cause problems.

Chapter III "The Hunting Weapons"

The import of weapons for hunting and spots will be regulated.

These should be registered and their use and holding will be regulated.

Chapter IV "Zones and Time when Fishing and Hunting is Prohibited"

CDF will determine time and areas for hunting.

Hunting in protected national areas and places near housing and communities is prohibited.

Chapter V "Animals Prohibited for Hunting and Fishing"

Animals fit for hunting will be determined by CDF in a list.

It is prohibited to hunt animals which are not mentioned in the list.

A list is established with expressly prohibits to kill certain animals, the same should be subject to regulation.

Certain methods of hunting are prohibited.

Chapter VI "Hunting Methods and Systems"

The methods which cannot be used for hunting animals and their exceptions are expressly stated: at night or with artificial light.

To destroy eggs, damage or disturb nests, to hunt baby animals or at caves and couches.

Metallic traps with clasps or springs.

Fire weapons not authorized.

It is prohibited to carry weapons in protected natural areas.

Chapter VII "Transport and Trade of the Wild Fauna and Its Products"

In order to transport or trade or import or export wild animals, alive or dead, it is necessary to have licence from the CDF.

Customs authorities will keep wild animals that do not have the corresponding licence.

Protected species cannot be exported.

Title V "CRIMES AND VIOLATIONS"

It establishes several crimes and violations against the Law.

Title VI "PENALTIES AND FINES"

Violations against the Law will be punished according to what is established in the Law of crimes against the national economy.

Fines are established as penalties, confiscation of wild animals, confiscation of the hunting equipment and jail for fine conversion.

Chapter VIII "Penal Management Process"

Penalties will be imposed by the CDF. The corresponding penal management process will be established and regulated.

Title VII "FINAL PROVISIONS"

The range of the Law can be extended according to the needs of the country.

Title VIII "THE FISHING RESOURCES"

They are the dominion of the State permanent or temporary water where plants, fishes and other aquatic beings live and near ecologic environments formed by the influence of water.

Fishing resources are animals and organisms that reproduce themselves, life and die in natural or artificial water environments.

Chapter IX "Management of the Fishing Resources"

The rules, monitoring, conservation, utilization, transport and trade of the fishing resources corresponds to the Supreme Government through the CDF.

Specific rules will be issued.

Introduction of fishes and other aquatic animals without permission of CDF is prohibited.

Import of aquatic animals is subject to authorization of CDF.

Chapter X "Fishing, Fishing Zones, their Granting and Utilization"

Fishing is classified as follows: fishing for survival, commercial or industrial fishing, fishing as a sport and scientific or experimental.

Permitted fishing methods will be established according to regulations of the Law.

Utilization of the water bodies is subject to an operation plan.

Chapter XI "The Conservation"

It is declared of public use the maintenance and reforest of the river basins, lakes and small lakes.

Deforestation at 100m from big riversides and 50m from their affluents is prohibited.

Cutting trees and bushes from the margins of the rivers is subject to authorization of the CDF, if it does not alter the natural environment.

It is prohibited to pollute rivers and marshy water.

It is prohibited to alter the aquatic environment where fishes live and/or reproduce themselves.

Rules to drain plenty of water, breeders and fishfarms are established. Some methods of fishing are prohibited.

The Ministry of Peasants and Agricultural Affairs (MACA) can declare national or regional reserves with the purpose to protect the ichthyologic fauna.

Chapter XII "The Fishing Industry and Trade"

It establishes some sanitary rules to protect products and peoples health.

Chapter XIII "The Time when Fishing is Forbidden and about Fishing"

The time when fishing is prohibited and the time of fishing, the species as well as the annual volume to extract will be determined by the CDF.

Fishing to survive is established in special regulations.

Title IX "THE FISHING REGISTRY"

A fishing registry is established.

The period of licences will be determined by the CDF.

Title X "CRIMES, VIOLATIONS, PUNISHMENTS AND PENALTIES"

Crimes and violations will be sanctioned according to what is established in the Law of Crimes against the National Economy.

12. Development Committee from the Biological Sciences

D.S. 12982 dated October 22, 1975

It creates the Development Committee of the Biologic Sciences, with its seat in La Paz, and with voters in the Departments of Chuquisaca, Cochabamba, Santa Cruz and Beni. The Committee will be composed by ten members who will be elected for four years. It is mentioned who will be the members of the committee. The State will finance its operation.

13. Regulation of the General Forest Law of the Nation

D.S. 14459 dated March 25, 1977

Title I The Organization of the Center of Forest Development

Chapter I The Organic Structure

CDF is the entity in charge of controlling the correct application and compliance of the forest general Law. Its organic structure is as follows: one director, one general direction, regional directions and regional subdivisions within the country.

The Forest Guard belongs to the CDF, its attributes are stated.

Title II The Forest Fund of the Nation

Chapter II General Provisions

The forest fund should assure the financial conditions for the good operation of CDF, the entry sources of the FF are stated.

Chapter III The Budget Program

The administration of resources of FF will be based on the Budget Program of the CDF activities.

Chapter IV The Budget Execution

The income will be collected by the Internal Revenue Office based on settlements prepared by the CDF, these collections and others from aids, grants, etc., will be deposited in accounts of the General Treasury aimed for the CDF.

Chapter V The Accounts and the Accounting

It is established the manner and way to manage the budget related to the rotation fund, bank accounts, books; accounting documents, etc. The accounting of the Forest Fund will be executed by programs, subprograms and activities established in the annual budget of CDF.

Chapter VI Monitoring the Management of the Forest Fund

The management of the forest fund is subject to the permanent intervention of the Ministry of Finance and of the Comptrollers Office.

Chapter VII Reserve for Payment of Indemnities

The management department of CDF is authorized to create and organize the reserve fund for indemnities.

Chapter VIII Property of the Center of Forest Development

All the property of CDF should be registered in the related registry book at the Comptrollers Office.

Title III Forest Classification

Chapter IX Functional Classification

CDF is in charge of forest classification at national level in order to lead to its rational utilization. Part of the process of classification is indicated and also the basic criteria which should be taken into account in the process of classification.

Chapter X Forest Reserves of Immobilization

The forest reserves of immobilization will be created by Supreme Decree in order to protect a forest area while classification is done.

Chapter XI Regime of Forest Property

Forests and forestlands refer to private forests and fiscal forests.

Title IV Management of Forests

Chapter XII General Provisions

The utilization of the forests should be done based on management plans which guarantee the economic sustained profitability of natural forests.

Title V Forest Industry

Chapter XIII Registration and Operation of the Forest Industries

The opening of new industries will be authorized by the related ministry based on a report from CDF, institution that provides the operation authorization needed to operate. The requirements for registration are indicated. The forest enterprises are classified in four categories. Management aspects related to CDF forest industries are established.

Title VI Utilization of Fiscal Forests

Chapter XIV Utilization Authorizations

The content of the chapter is passed to the General Forest Law (D.L. 11686)

Chapter XV Free Utilization

Free utilization is established for certain forest products.

Chapter XVI Unique Utilization

The unique forest utilization is authorized in case of deforest with agricultural purposes, public building, settlement of communities, in this case it is compulsory to

use the timber for industrial purposes. The requirement to obtain authorization of unique utilization is indicated.

Chapter XVII Annual Cutting Authorization

The requirements for cutting authorization and preferential cases in which this authorization is given are indicated.

Chapter XVIII Contracts for Forest Utilization

General Provisions

It establishes the conditions and requirements for granting contracts of forest utilization for short, medium and long terms.

Chapter XIX Contracts of Utilization at Short Term

The rules under which the short term utilization contracts are granted are established indicating that the enterprises classified under the fourth category (Article 61) are excluded from this type of contract.

Chapter XX Utilization Contract at Medium and Long Terms

It establishes that this type of contract will be granted through a bidding technical system, the terms and references for bidding and the procedures are indicated. The specific provisions for granting contracts to enterprises of the first and the second category are established.

Chapter XXI Authorization of Crops of Secondary Forest Products

It indicates the groups of secondary forest products and the considerations to be taken into account for authorization of their crop and utilization. The background and information to be presented to the regional CDF in order to obtain the contracts of crop and utilization are indicated. It also indicates payments of the forest right in the relevant cases.

Chapter XXII Forest Rights

The forest rights constitute prices of timber and of the secondary forest products, these prices will be fixed annually through interministerial resolutions, the forest rights should be paid before extraction.

Title VII Control of Utilization, Trade, Transport of Forest Products

Chapter XXIII Control Procedure

CDF through the forest guard will control the utilization, transport, industrialization, and trading of forest products, this control is done based on the contracts or authorizations granted. The general rules, checking and verifications for doing the control are established.

Title VIII Forest Protection Regime

Chapter XXIV General Provisions

The prohibitions and restrictions for the utilization of the forests in protected zones will be given by resolutions from CDF. General rules of protection, emphasizing deforest and land burning are granted.

Chapter XXV Preparation and Preservation of Forest Products

CDF will inspect from time to time the industries and sawmills in order to guarantee the rational utilization. Some prohibitions are regulated.

Title IX Violations and Penalties

Chapter XXVI Procedure Regime

It indicates in a general and specific manner the violations and forest crimes which are classified in four groups: damages to forest patrimony of the nation, illegal utilization, transport, industrialization or trading of forest products; failure to comply contracts of forest utilization and crimes against the state economy; according to the group the respective guidelines for penalties are established. The violations will be processed through administrative action with right to appeal, the crimes will be passed to the Public Ministry.

Title X Registration of advisory Enterprises and Forest Professionals

Chapter XXVII General Provisions

CDF will keep a registry book of advisors and forest professionals.

Title XI Temporary Provisions

Chapter XVIII

It establishes a period of one year in order that the enterprises comply with the duties of the new regulation.

14. General Indefinite Time When Hunting and Fishing is Forbidden

S.D. 22641 dated November 8, 1990

Indefinite general time when hunting and fishing is forbidden for persecuting, capturing, gathering and conditioning of wild animals and collection of wild plants is declared. Scientific non commercial activities are permitted based on agreements legally subscribed. The period of time when hunting and fishing is forbidden allows the undergoing of inventories and studies of these resources, it could be suspended with another express S.D. for each specie. The operation of the advisory council related to wild life is ratified, its functions are regulated. The transport and/or authorization of transport of wild fauna and flora and their products is prohibited, CDF will proceed to confiscate the same, regulating the methods to be applied. The penalties for violators of the time when hunting and fishing is forbidden are established. S.D. 21774 dated November 26, 1987 is abrogated.

15. Organic Law of Municipalities

Law dated January 10, 1985 and amendments of Law 113 dated October 19, 1989

Article 9 refers to issues related to municipalities, in its legal jurisdiction territory, among which we can find the following:

1. Planning and promotion of urban development.
2. Management of list of urban real property.
3. Implementation of the basic infrastructure of communities.

- 4. Public services and their regulation.
- 12. Assistance of urban hygiene.
- 17. Environmental preservation, control of pollution and the maintenance of the ecological equilibrium, in coordination with the Executive Power.
- 20. Imposition of management restrictions and public services on urban property by reasons of technical and legal aspects and of social interest.

16. CDF - Auction of Confiscated Animal Skins

M.R 211/88 dated June 9, 1988

CDF is authorized to proceed with the public auction of alligator confiscated skins on December 23, 1987 and February 5, 1988. 20% of the amount collected will be hundred to DN-CDF. 20% to CDF of Cochabamba and the remaining 60% to the regional offices of origin of the skins in order to develop projects of conservation and research of wild flora and fauna.

17. Ecological Pause - Forest Sector

S.D. 22407 dated January 11, 1990

Chapter IX Agricultural Policy and Peasants Development

Article 61 demands that MACA coordinating with the productive sectors design as a priority, programs for the production of soya, wheat, silk, cattle, quina, wool, camel hair, coffee, flowers, garlic. Article 62 establishes that beginning January 11, 1990 the ecological pause is for more than 5 years during which no forest concessions are granted and requests MACA to make rules to protect the natural environment.

Article 63 determines that MACA works on a national ecological letter to determine protection areas, conservation, production of public interest in order to comply with the principle of the sustained utilization of national flora and fauna.

Article 64 demands that the government develop a policy of ecological conscience.

18. Fishing and Aquiculture Reglamentation

Appendix to the S.D. 22581 dated August 14, 1990

The fishing and aquiculture reglamentation is approved and becomes effective.

Title I General Provisions

Chapter I Of the Object

It establishes the ruling framework of reglamentation, operation, order and promotion of the development of fishing activities in the country.

Chapter II Competitive Targets

The fishing and hydrobiological resources are the States dominion, it is its duty to assess, preserve, plan, manage, rule and monitor the fishing and hydrobiological resources promoting their development and rational utilization.

Title II Management Structure

Chapter III Management of the Fishing Resources

The MACA entities in charge of this activity are the Subsecretary of renewable Natural Resources and Natural Environment and the Center for Fishing Development, their responsibilities are stated.

Chapter IV Organization of the Center of Fishing Development

The Center of Fishing Development was created by S.D. 20080 dated March 13, 1984, its constitution, objectives, competence, organization, etc. are determined by the S.R. 201646 dated October 23, 1986. CDP is composed by: the National Executive Direction, the Regional Direction of the Amazon Basin (formed by the Departments of Beni and Pando), the Regional Subdirection of the Center (formed by the Department of Cochabamba), the Regional Direction of the Altiplano Basin (formed by the Departments of La Paz and Oruro), the Regional Direction of the Plata Basin (formed by the Department of Tarija and long extensions of the regions of the Departments of Santa Cruz, Potosi and Chuquisaca), the Regional subdirection of the East (formed by the Department of Santa Cruz) and the Subregional Chief Agencies of the Intermediate South (formed by the Departments of Potosi and Chuquisaca)

Chapter V The Fishing Fund of the Nation (FPN)

FPN was created by S.D. 20080, in order to comply efficiently the functions and attributes of CDP, its monetary resources and distribution of the same are established in order to guarantee that CDP complies with its functions at national and regional level. All the economic management is regulated.

Chapter VI Budget Execution and Systems of Account and Accounting

The procedures, systems of accounts and accounting are under the responsibility of the finance management department of CDP.

Chapter VII Fishing and Aquiculture Regional Councils

The organization and operation of fishing and aquiculture regional and subregional councils of the CDP are established, their capacities are given by the National Board (S.D. 22232 dated June 23, 1989). It is also established how these councils are formed. The actions of the councils are aimed to the creation, infrastructure extension, the encouragement of the technological development, research, prospection and conservation of the fishing and hydrobiological resources, financing and incentives for the fishing production and industry, and training of the participants of the production-consume process of fishing products.

Chapter VIII Properties of CDP

The annual audit and control of issue of CDP is responsible for the properties of the institution.

Title III The Fishing and Aquiculture Subsector

Chapter IX Its Composition

The Subsector is composed by: MACA through the Subsecretary of Natural Renewable Resources and Natural Environment, individual and collective persons

dedicated to the activity, labor unions and entities duly registered and the regional and subregional councils.

Chapter X Intersectorial and Interregional Relationships

MACA is the responsible organisms for the intersectorial and interregional relationships be fluent and timely; part of this responsibility is given to CDP.

The Municipalities, Municipal councils, police, etc., will cooperate with CDP; the universities, regional corporations and other institutions will participate and cooperate in actions of research, planning, etc.

Title IV The Fishing Process

Chapter XI Fishing and Aquicultural Activities

The activities in the fishing process comprise two basic streams: The riverside fishing (extraction of fishes in natural water environment) and the aquiculture (breeding of aquatic organisms). The extraction can be continental (in rivers, lakes, lagoons, etc.) and marine (marine environment).

Fishing is classified in: of survival, handcrafting, commercial or industrial, sport and scientific or experimental. The aquiculture can be continental or marine and it operates in an intensive, semi-intensive and broad way. MACA based on the fishing policy will establish plans and programs of national and sectorial development which will be executed by the related organisms. The activity of navigation and of fishing is regulated, establishing conditions, requirements, etc.

Chapter XII Transforming

Transforming is the process in which a natural product becomes an human eatable product, the persons in charge of this process should be registered in the CDP books.

Chapter XIII Trading

MACA through its related organisms and in coordination with the ministry of Industry shall determine the rules of internal and external trade.

Chapter XIV Services and Incentives

MACA through its related competent organisms shall provide the necessary technical assistance to achieve the enhancement and efficiency of the services of unloading, collection, transport, refrigeration, etc. of fishing and aquicultural products. Besides it shall make arrangements to adopt incentive measures for the above mentioned activity.

Chapter XV Use of Hydric Resources

MACA is responsible for the preservation, utilization and management of the hydric resources. It shall authorize the utilization of water for projects and specific activities of the fishing process. The river fishing and the aquiculture are permitted throughout the national territory. The hydric resources which constitute a fundamental element for the survival of communities and indigenous towns will be subject to protection by the State.

Chapter XVI Participation and Agreement

The democratic participation of all the interested sectors in the fishing activity is sought, in order to achieve the best results for all the sectors.

Chapter XVII Time when Fishing is forbidden in the Fishing Process

It shall be established the time when fishing is forbidden either partial or totally, according to the reproductive cycles of the species. This activity shall be maintained for the fishers and communities which depend on fishing for living.

Title V Fishing Right and Obligations

Chapter XVIII Collector Fishers and Aquiculturers

Fishers, aquiculturers and fish breeders should be registered and shall obtain licence from CDP, the survival fishers and/or handcraft fishers will be subject to what is established by CDP. The activities of sport fishing or scientific fishing also have requirements for their legal operation.

Chapter XX Handcraft Fishing, Communities and Fishing Enterprises

The persons who dedicate themselves to fishing and handcraft aquiculture book of CDP in order to receive the incentives established by Law.

The fishing communities or the fishing organizations which are dedicated to handcraft aquicultural or survival activities are recognized as person of public right of the social sector, deserving at a priority level, special attention to their needs.

The fishing enterprises can be of public and private right, national, foreign or mixed, productive and of services, they will be governed by the provisions of this regulation and by its by-laws.

Title VI Procedures

Chapter XXI Authorizations, Permits, Licences and Contracts for Fishing Concession

MACA through the Subsecretary of Natural Renewable Resources and Natural Environment and through the CDP, shall grant authorizations, concessions, permits and licences for the legal exercise of the fishing activities. The process for getting authorizations is established.

Chapter XXII Restrictions with Prohibitions and Penalties

MACA through its related organisms shall restrict, condition or prohibit the fishing and aquicultural activities in the national territory in order to preserve and conserve the fishing and hydrobiological resources and to achieve a better utilization of the raw material. Private and collective persons are obliged to avoid any type of pollution of the water, air or soil and to avoid irretrievable damages to animal and vegetal life under the responsibility of the law.

Activities which are definitively prohibited are expressly established and penalties to be imposed to the persons who do not comply with the established provisions in the present regulation are regulated.

Chapter XXIII General Registration, Certificates and Fishing Statistics

CDP will carry out the general registration of fishing which will include all the activities, institutions and organizations related to the issue. Procedures for the registration and costs are established.

Title VII Temporary Provisions

Chapter XXIV Compliance of the Registrations and Informations

All fishing and aquicultural persons, enterprises and organizations are urged to have in order their registration according to what is stated in the present rule. CDP will classify the organizations and enterprises in order to provide incentives and benefits which are established in the present rule.

19. National Fund for The Natural Environment (Amended by the Environmental Law) (FONAMA)

S.D. 22674 dated December 12, 1990

FONAMA is created as an organism of decentralized management, having legal personality, autonomy of issue and ruling ability.

The institution is in charge to obtain and manage funds aimed to support conservation projects and the sustained utilization of natural renewable resources of the nation. It determined the attributes of the Board of Directors, the nomination of its executive director and his attributes, urging him to prepare not later than 90 days the project of the by-laws, rules, management structure, operating and procedures handbooks.

20. General Secretary of the Natural Environment (abrogated Law of the Ministries of the Executive Power)

D.S. 22710 dated January 18, 1991

The National Secretary of Environment under the Presidency of the Republic is created.

It will be an organism of decision, control on issues related to utilization, management and conservation of the natural renewable resources and protection of the natural environment. The following attributes are given to it: to formulate and execute the environmental policies of the country, adjust the programs and projects of national development to the objectives of conservation of natural renewable resources and the protection and enhancement of natural environment, to control and monitor the protection of natural environment and the rational and sustainable utilization of the natural renewable resources, it creates the Subsecretary of Natural Renewable Resources and of Natural Environment, stating its specific functions and the technical and ruling units.

21. Statutes of the Regional CDFs

S.D. 22763 dated March 28, 1991

The statutes of the regional CDFs are approved. S.D. 21273 dated May 23, 1983 and S.R. 201042 dated April 14, 1986, 201534 dated September 3, 1986, 204694 dated July 26, 1988 and 206182 dated May 18, 1989 are abrogated.

Appendix - Estatutes

The regional CDFs are autonomous and decentralized organisms with public right, which work in coordination with the general direction of CDF under MACA. They have jurisdiction and competence over their respective territories.

Among its functions and attributes there are: to formulate, define, and execute the forest policy and the departmental wild life, to promote and make arrangements for the creation of national parks, forest reserves and of the biosphere, and to manage the same, to promote the creation and management of shelters of fauna, sanctuaries of wild life.

The statutes also refer to the internal organic structure of the decentralized CDFs, to the functions and attributes of the Board of Directors, to meetings, levels of support, to its president, executive director, their functions and attributes, they also mention about the patrimony, investment, and the fiscal control; the personal regime, responsibilities and inconsistencies and on the statutory reform.

22. Rule of The Ecological Pause

D.S. 22884 dated August 3, 1991

Chapter I General Provisions

It broadens the application of the historic ecological pause to all the natural renewable resources of the country, MACA and SGMA are in charge of preparing the national ecological letter (instrument of national planning, for utilization of the national space and natural resources). The same institutions and other similar institutions are in charge of the coordination of the integrated studies of natural resources for the preparation of rules and codes for its adequate use, as well as the preparation of reference terms for applying evaluations of the environmental impact for development civil works.

Chapter II Classification of the Forests

CDF will continue with the classification of forests throughout the country and for this purpose it should take into account the most suitable technical criteria and those established by the same law. The forest that produce rubber and nuts are declared special forests.

Chapter III Orderly Utilization of the Soil

The Regional Development Corporations and the Departmental Directions of CDF are in charge of preparing a map related to the maximum capacity of utilization of the soil, previous presentation of a feasible project, using a compatible methodology at national level. MACA and SGMA are in charge of applying the orderly use of utilization of the soil.

Chapter IV Protected Areas

The protected areas constitute the patrimony of the State, they are under its protection and conservation. MACA and SGMA should constitute a National System of Protected Areas (SNAP) within a period of two years. MACA, SMGA and other related institutions can declare new protected areas, based on the SNAP.

Chapter V Critical Areas and Deforests

Based on specific and sold criteria it is prohibited to deforest and to destroy natural green areas or to prepare land for agricultural purposes, the eolithic sceneries and cloudy and rainy forests are protected. MACA is in charge of seeking alternatives for the burning of prairies. The Ministry Resolution 47/90 is incorporated to the present reglamentation (deforests and burning of land).

Chapter VI Forst Utilization of the Indigenous Communities of the East, Chaco and Amazonia

The indigenous communities of the East, chaco and Amozonia are the ones who live in these lands from ancient times, they have the right to utilize the natural resources of the land, every different activity against the behavior of these people should comply with the provision of the law and what the related institutions provide.

Chapter VII Peasants Communities

The legal personality of the peasants communities is recognized (these are the communities not included in the previous chapter). Community areas are those granted by the Land Reform, these people have the right to utilize the natural resources of their land and at the same time they should protect them. They cannot occupy areas outside their jurisdiction.

Chapter VIII Ordinance of Cutting Areas

As long as the ecological pause is in effect, no permissions neither area privileges will be granted. The granting of utilization contracts at the short, medium and long term are regulated as well as the reversion to the State.

Chapter IX Regulation of Timber Enterprises

It regulates the reclassification of the forest enterprises according to Forest General Law, its ruling and the present regulations.

Chapter X Contracts of Forest Utilization

The enterprises will only have an area of cutting within the permanent forests of production, the contracts will be only at the long term. The term of the contract, revision, renewal, cancellation are established.

The utilization contracts outside the permanent forest of production will have priority for the peasant communities, these are: at the long term and unique, the procedure and the requirements for subscription of contracts are regulated.

Chapter XI Utilization Volume

The maximum volume of extraction will be determined by the Departmental Direction of the CDF.

Chapter XII Minimum Diameters of Cutting

The minimum diameters of cutting will be established by the Departmental Direction of the CDF.

Chapter XIII Protection of Cutting Areas

The Departmental Direction of CDF will grant 20% of the income regarding right of forest in order to guarantee the protection of the cutting areas. The concessionaires

will be responsible for the flora and fauna of their areas. In these zones it is prohibited peasant settlement. The Department Directions of CDF will present a Protection Plan.

Chapter XIV Control and Monitor

The Departmental Direction of CDF in coordination with the Forest Guard should present a national plan of control and monitor by regions, and of forest utilization in order to guarantee the replacement of the forest resources (during the period of 180 days).

Chapter XV Forest Guard of the Nation

It instructs MACA and SGMA the restructuring and strengthening of the Forest Guard through CDF.

Chapter XVI Follow up of the Plans of the Forest Management

MACA and SGMA through CDF will follow up and evaluate the management forest plan. The enterprises and communities which do not comply with what is established will have the risk of reversion.

Chapter XVII Reforestation

MACA, SGMA and related institutions will prepare a strategy of reforestation in order to protect energy and commercial resources as well as silvicultural technics in order to promote forest plantations, they will also grant technical assistance.

Chapter XVIII Agroforest Systems

MACA and SGMA through CDF will provide the development of agroforest and silvipastoral practices through adequate technics and assessment to the rural communities.

Chapter XIX Development and Incentives to the Forest Management

The techno-economic feasible study for the creation of a national forest finance is given to MACA and SGMA. It is established everything related to export, taxes, royal rights, etc., within the forest exploitation.

Chapter XX Wood Royal Rights and Rights of Forest

The regional development corporations will reinvest the incomes obtained from the wood royal rights, they will present a plan to the executive power.

Chapter XXI Export of Wood

At the end of the ecological pause, the government will authorize the export of timber, conditions areas are established. It prohibits the export of poles of cuchi.

Chapter XXII Protection of Wild Fauna Within the Cutting Areas

It prohibits the hunting of wild fauna with commercial purposes in forest areas. The enterprises will provide meat to their working people. The enterprises and communities will denounce the hunters.

Chapter XXIII Conservation of the Forest Biodiversity

MACA and other institutions related to natural environment will determine and protect representative forest areas within or outside the forest reserves in order to preserve the genetical forest biodiversity.

Chapter XXIV Production of Poles

It prohibits the production of poles from fine species.

Chapter XXV Preparation and Trading of Logs

It regulates the export of logs of red quebracho bark. A regulation for their conservation and protection is prepared, meanwhile the Departmental Direction of CDF will be in charge of the issue.

Chapter XXVI Utilization and Trading of Secondary Forest Products

It rules the utilization and trading of palmetto, rubber and nuts, wood, vegetal carbon, MACA and SGMA will establish and rule the operation of extractive reserves to guarantee the sustained production of the secondary forest products.

Chapter XXVII Institutional Aspects

MACA, SGMA and all the institutions which have to do with the protection of natural environment will prepare a regulation which establishes a general framework of coordination in order to establish the national policy of sound management of forest resources. Operative technical directions of the CDF will be created. Everything related to granting, settlement or execution of projects should have the approval of MACA and SGMA.

Chapter XXVIII Human Resources

The Government through the Ministry of Education and related institutions will develop and contribute to train university and school human resources within the field of natural environment.

Chapter XIX Natural Environmental Education

The national councils for environmental education are created under the protection of the Departmental Direction of CDF. The Regional Environmental Education Council will be in charge of planning, executing and evaluating programs of environmental education, they will coordinate targets of environmental education of other institutions. They will support with assessment and training to the formal education, they will develop informal environmental education system. The necessary budget for the operation of the regional environmental education councils will be MACAs responsibility.

Chapter XXX Penalties

It establishes ecological crimes and procedures related and based on the penal ordinance in effect, in order to guarantee in an efficient manner the strict compliance of the present Decree.

Chapter XXXI Legal Supplementary Aspects

MACA through the National Direction - CDF will prepare the ruling of the wild life, national parks or hunting Law. Besides, it will make the LGF and its ruling consistent with the actual legal provisions.

Chapter XXXII Temporary Provisions

CDF, in cases where it cannot directly control the extraction done by forest enterprises, will calculate the volumes based on established budgets in the related Article.

Decree 18543 dated June 30, 1981 is abrogated.

23. Reglamentation of The Protected Areas Issue

M.R. 1294 dated March 12, 1994

Title I Object of the Issue

The present rule is to regulate the issue of the protected areas according to what is regulated by the Law of Natural Environment. The targets of the issue and management are established (the National System of Protected Areas is created).

Title II Educational and Decision Instances

It establishes that the national system of protected areas issue be the responsibility of the National Direction of Conservation of Biodiversity, under the Subsecretary of Natural Resources which at the same time is under the National Secretary of Natural Resources and Environmental Issue.

It indicates the functions of the Departmental Direction, Management Direction of the Protected Natural Area, Coordination Council, Advisory Council and Issue Committee.

Title III Functions and Attributes of the Executive and Decision Instances

It establishes the functions of the National Secretary and environmental Instances, among others it indicates: "To Rule and Monitor the management and the adequate control of the protected natural areas and to supervise the operation of the Management Direction".

It establishes the assignment and the functions and attributes of the Departmental Unit of Protected Areas and of the Management Direction of Protected Areas.

Title IV Functions of the Instances of Assessment and Advise

It indicates the functions of the Coordination Council, Advisory Council, Issue Committee.

Title V Management

The management of the issue of protected areas will be established through agreements publicly signed and confirmed, these can be subscribed with public and private entities that do not seek any profit. The requirements are established.

The issue of protected areas can be done under three ways: under type I the issue of protected areas will be under the direct responsibility of the local community through its representatives. Under type II, the issue will be under the responsibility of a

group, non-governmental organization or other private institution without seeking any profit. Under the III type, exceptional cases are indicated in which the management of natural protected area will be under the direct responsibility of the Ministry of Sustained Development and Natural Environment through its corresponding offices, within a certain prudential time the protected area shall be included in type I or II. Operating rules for each type are established.

24. Law of Ministries of The Executive Power

Law 1493 dated September 17, 1993

Chapter I General Provisions

Business matters of the Public Administration are under the responsibility of the Ministers of State, who will be nominated by the President of the Republic. The Ministries are responsible together with the President for their actions.

The Law establishes ten Ministries, keeping the traditional ones based on the State Policy, and it creates others based on the actual needs such as the Ministry of Sustained Development and Natural Environment. The organic structure of the Ministries is as follows: Minister of State, National Secretary, Subsecretary.

Article 7 indicates the common attributes of the Ministries, Article 8 indicates the common functions of the National Secretaries.

When article 17 refers to the competent areas of the Ministry of Defense it indicates in point d) that in coordination with the Ministry of Sustained Development and Natural Environment it will execute actions aimed to the defense of the natural environment.

When Articles 18 indicates the functions of the Ministry of Finance and Economic development it states under point f) that it should take care of formulating, rule and control policies directed to the development, incentive, protection and conservation of resources and activities related to hydrocarbons, energy, agroindustry, fishing, silviculture, mining, etc. in coordination with the Ministry of Sustained Development and Natural Environment.

When Article 19 refers to actions of the Ministry of Human Development in its point f) it indicates that while taking care of the health of the national population, related to communities and native towns their identification and organization will be respected.

Article 20 refers to the functions of the ministry of Sustained Development and Natural Environment, indicating that it is its responsibility everything related to the harmonic development of the country, as well as the human aspects, environmental quality, maintenance and recovery of the natural renewable resources and the national economic utilization. Particularly, it expressly indicates actions that the Ministry should face in order to comply with the principal objective of protection and conservation of the natural environment and the natural resources.

Article 23 refers to the inconsistency of the exercise of positions at a high category in the public sector with others.

Article 21 states that the principal leading organism of the National and Planning System is the Ministry of Sustained Development and Natural Environment.

25. Regulation of The Law of the Ministries of The Executive Power

S.D. 23660 dated October 12, 1993

Chapter I Organization of the Ministries

It establishes the number, the specific areas, and the common and specific functions of the National Secretaries and Subsecretaries of the Ministries.

When article 5 states the common functions of the Secretaries, it establishes point k) that it should be coordinated with the Ministry of Sustained Development and Natural Environment, the execution of policies that guarantee the quality of the natural environment in the operations developed in its sector.

Chapter IV referred to the Ministry of National Defense creates the National Secretary to support the integral development, and in Article 30 states that its principal objective is to promote the participation of the armed forces in programs linked to the integral development of the country, to the civil defense, and to the defense of the natural environment. When establishing functions of the National Secretary of this Secretary it states that it should propose actions for the participation of the Armed Forces in the protection of the natural environment always in coordination with the Ministry of Sustained Development.

Chapter VII referred to the Ministry of Finance and Economic Development creates among other Secretaries, the National Secretary of Energy, and in Article 47 when it refers to the functions of the Secretary, it states that it should promote the rational use of energy (hydrocarbons and energetic resources), of the natural resources and the natural environment, the scientific and technological investigation, etc. The above mentioned article also creates the National Mining Secretary that is in charge of the mining and metallurgic development at a specific way, it does not state among the functions assigned to it, the protection of the natural environment in relation to the extraction of that resource. The National Secretary of Agriculture and Cattle, also included in Chapter VII, states at point a) Article 59 that in coordination with the Ministry of Sustained Development will propose and execute policies oriented to the development of the agricultural, agroindustrial, forest and fishing activities.

Chapter VIII referred to Ministry of Human Development in Article 85 refers to the National Secretary of Gender and Generations, whose prime objective is to promote the complete development of the human being, recognizing its ethnic, cultural, gender and generational identity, and to promote its respect in all their behavior; the Secretary of Ethnic Issues is responsible for the relative policies of the Indigenous communities (Article 87). The National Secretary of Culture also under the Ministry of Human Development, should promote the restoring and conservation of architectonic and archeological patrimony, it will spread the culture and their native tongues and in general it should preserve and strengthen all the expressions of our culture seeking the confirmation of the national identity.

Chapter IX talks about the Ministry of Sustained Development and Natural Environment which will be composed of two Secretaries: The National Secretary of Planning which at the same time is divided into: Subsecretary of Development Strategy, Subsecretary of Territory Order and Subsecretary of Projects and Investments; and the National Secretary of Natural Resources and Environmental Issue, subdivided into Secretary of Environmental Quality and of Natural Resources

and Environmental Issue. The above mentioned chapter expressly indicates the functions of each one of these offices.

Chapter XII refers to the protection of the entities, institutions and public enterprises, the Ministry of Finance and Economic Development protects several institutions related to National Environment (Article 117), the Ministry of Human Development protects at a lesser degree (Article 118) and Article 119 refer to the protection of the Ministry of Sustained Development.

26. Popular Participation Law and Regulations

Law 1551 dated April 20, 1994 and S.D. 23858 dated September 9, 1994

Promotes the process of popular participation incorporation the indigenous, peasant and urban communities to the legal, political and economic life of the country.

It recognizes the Urban and Rural Base Territory Organizations (OTB). It recognizes the Country Section as a jurisdiction of the Municipal Government and transfers them the physical infrastructure of education, health, sports, neighborhood roads, microwatering with the obligation to manage, maintain and renew the same.

Among the rights of the Base Territory Organizations, the following are mentioned:

- a) To propose, request, control and supervise the execution of works and public services servicing according to the community needs, related to education, health, sports, basic improvements, microwatering, neighborhood roads, and urban and rural development.
- b) To participate and promote actions related to the issue and preservation of the natural environment, the ecological equilibrium and the sustained development.
- c) To take actions to modify the decisions, works or services granted by public organisms, when they are contrary to the community interests.

Among the rights of OTBs the following are mentioned:

- b) To participate and cooperate in the execution and management of public services.
- c) To cooperate to the maintenance, defense and protection of public, municipal and communitary property.
- d) To establish management and judicial resources to define the rights recognized by the Law.

The attributes of the Municipality established in Article 9 of the Organic Law of Municipalities are broadened. Among the attributes related to natural environment, the following are mentioned (not including the ones mentioned in the first part of the summary of this Law):

- a) To manage and control the equipment, maintenance and improvement of real state of its property.
- f) To manage the register book of taxpayers based on rural and urban registration and on the national plan of utilization of soil approved by the Executive Power.

- i) To promote the rural development through the use of their own technologies and other technologies applied, works of microwatering and neighborhood roads.
- j) To give and construct new infrastructure in education, culture, health, sports, and neighborhood roads and basic improvement.

It creates the Regional Development Corporations and grants them attributes for the regional, subregional and microregional planning, the investment for physical infrastructure in the social, environmental, and basic services field, and road linkage, and strengthening of the Municipal ability.

The regulation of the above mentioned law establishes definitions of Base Territory Organizations, Indigenous Community, Peasant Community and Neighborhood Council, as subject to popular participation.

27. National Secretary of Popular Participation

S.D. 23792 dated May 31, 1994

Article 14 creates the National Secretary of Popular Participation with the purpose of instituting and executing the aspects related to the Law of Popular Participation, scheduling and executing the policies, plans and necessary actions to adjust them. Article 16 creates the Subsecretaries of Support to the Base Territory Organizations and of Support to the Municipalities. The functions of the National Secretary and Subsecretary are established.

II. NATURAL PROTECTED AREAS

28. National Amazon Reserve of Manuripi Health

28.1 L.D. 7044 dated January 30, 1961

It declares Mining Fiscal Reserve to the existing bed deposit field in the Northwest zone of the Republic, their limits are specified.

28.2 S.D. 14119 dated November 15, 1976

It authorizes MACA through the I.N.C. and C.D.F. to create the adequate conditions for human settlement in border zones of the country. It is established that MACA executes six projects of frontier colonization in a total extension of 731,000 Has of fiscal land with the principal goad to consolidate the national unity and to protect our territory.

28.3 L.D. 11257 dated December 20, 1973

It creates the National Amazon Reserve of Manuripi Health (fauna, flora and geo reserve) in the Departments of Pando and La Paz, it indicates its limits as follows: to the North, from the origin of Rio Manuripi to the border of Peru, following the same course until meeting with the Beni River. To the East, from joint of Orthon River and Beni River to the joint of Madre de Dios, to the South, the limit will be the direct line that connects the joint of Madre de Dios and Beni River in the Health Port location of the Department of La Paz. To the West, from Health Port to the origin of Manuripi River in the border with Peru.

Within the indicated area commercial and sport hunting is prohibited, as well as the settlement of people, the private properties are governed by the related laws and the management of the reserve is regulated.

29. National Reserve - Beni and Pando Lagoons

29.1 S.D. 5912 dated October 27, 1961

It declares National Reserve all the lagoons of the Departments of Beni and Pando. The hunting of alligators and lizards related to time, animal characteristics, requirements for hunters, are regulated; the trade of the products are established.

It determines that the Ministry of Agriculture through the forest and hunting service will expressly declare fiscal reserves the zones of reproduction of saurian. The hunting of these animals is regulated.

30. National Park Isiboro Secure

30.1 S.D. 7401 dated November 22, 1965

It declares National Park Isiboro Secure to the dominant area Isiboro Secure. Its limits are determined, no human settlement is permitted in this area, the status of the private properties within the indicated area will be governed by the provisions stated by the Ministry of Agriculture, the managing of the park will be the responsibility of the forest, hunting and fishing division and its budget will depend of the Ministry of Agriculture.

30.2 M.R. 118-89 dated May 24, 1989

It creates a technical and Socio-economic Commission headed by the national CDF, to make the delimitation of territorial areas in the Isiboro Secure Forest in favor of native ethnic groups, it shall prepare a population census, socioeconomic studies of ethnic groups to determine the necessary territory for their survival; they shall also present to the government a S.D. project draft of granting territories. The period of time for completing this work was due on July 15, 1989.

30.3 M.R. 161/8 dated May 24, 1989

Due to the fact that the institutions from Beni did not want to participate in the commission created by S.D. 118-89, (previous point) the government decides to continue the planned activities only at a government level. M.R. 118-89 is abrogated.

30.4 RR CDF-RN 12/90 dated April 27, 1990

The Board of Directors of The North Regional CDF decides to declare National Isiboro Secure Park in all its extension as an important indigenous area for survival and development of mojeñas, Trinitarians, earaches and other communities which inhabit the park. The RR is presented for its approval to the Ministry of Peasants and Agriculture.

30.5 S.D. 22610 dated September 24, 1990

It recognizes to Isiboro Secure National Park as indigenous territory of the Mojeño, Yuracare and Chimán communities bearing the name of Indigenous Territory Isiboro Secure National Park as of that date.

It extends its surface to the external areas of the Isiboro Secure rivers incorporating the communities settled in that place and constituting along its course a mitigation band.

It respects the area set forth by S.D. 7401, together with what it was indicated before.

It instructs MACA the preparation of the regulation in 90 days respecting its double quality of indigenous territory and protected area.

It ratifies the agreement of January 19, 1990, which sets forth a "red line" in order to avoid new peasant colonist settlements; its present settlements are recognized. The indigenous representative and the sub-central city halls shall participate in this task.

Every civil work and building (roads, polyducts) shall have a study about the environmental impact, guaranteed by MACA and the indigenous organizations.

31. Amboro National Park

31.1 S.D. 11254 dated December 20, 1973

It creates the natural reserve "Teniente Coronel German Bush" in the Amboro Region, Ichilo Province of the Department of Santa Cruz, its limits are set forth. Hunting and new settlements are prohibited, the private properties will be subject to the new regulation, the Reserve will be under the responsibility of one office of MACA.

31.2 S.D. 20423 dated August 16, 1984

It creates the National Park Amoro, with an approximate extension of 180,000 Has. on the same area of the reserve. Hunting, fishing and extraction of wood are prohibited and the forest concessions existing at that time are null and void. The private properties and settlements will be governed by the new regulation. The park will be under the responsibility of the Wild Life National Department, its budget will be responsibility of MACA.

31.3 S.D. 22939 dated October 11, 1991

It extends the surface of Amoro Park to 637,600 Has. located in the Provinces of Andrés Ibañez, Ichilo, Florida and Manuel María Caballero of the Santa Cruz Department. The settlements are declared illegal and all paper work related to land concession after August 16, 1984 and December 9, 1988 are null and void (M.R. 381/88), the settlements before that date shall be governed by the new regulation.

32. Shelter of Wild Life Farms Elsner Espiritu and San Rafael

M.R. 210/70/78 dated September 22, 1978

It declares Shelter of Wild Life the Farms Elner Brothers located in the Provinces of Ballivian, Yacuman and Marban of the Beni Department, it is declared that the status of legal ownership of said farm will not be affected.

33. National Park Noel Kempff Mercado

33.1 S.D. 16646 dated June 28, 1979

It creates the Huanchaca National Park, with a surface of approximately 541,200 Has. in the Velasco Province of the Department of Santa Cruz. It prohibits every kind of settlements as well as utilization of forest, hunting and fishing. The Park is under the responsibility of CDF.

33.2 Law 978 dated March 4, 1988

It changes the name of the Huanchaca Park to Noel Kempff Mercado in honor to the well-known professor.

33.3 S.D. 21997 dated August 31, 1988

It expands the surface of the Park to 706,000 Has. It sets forth a pre-park band of 208,000 Has. The Park and the Pre-Park are under the responsibility of an organism to be created. The settlement of land, hunting fishing and forest utilization is prohibited. The marking of physical boundaries of the park is instructed, the timber neighbor enterprises will pay the operation. MACA shall finance part of the research programs.

It creates the Conservation Regional Center of Nature Noel Kempff Mercado, as a decentralized organism of CORDECRUZ, its president, will be at the head of the center, his main occupation shall be to manage the Park and the Noel Kempff M. Reserve.

34. Biosphere Reserve - Biological Station of Beni

S.D. 19191 dated October 5, 1982

It creates the Biological Station of Beni under the National Academy of Science, located in the City of Trinidad-Beni with the purpose to protect the flora, fauna, geo, hydric resources and in general all the biosphere, for this reason research, investigation and classification will be done, the boundaries of the station and its patrimonial force are set forth. It protects the area of the station from concessions of any type, the ones already granted are maintained trying to keep the ecosystems. The ethnic people are protected because they are considered as part of the ecosystem. The National Academy of Science together with other similar institutions is authorized to create a fund or association without lucrative purposes to manage and finance the station: the National Academy of Science is instructed to prepare an organic reglamentation of the station within 180 days.

35. Reserve of the Biosphere - Indigenous Territory Pilon Lajas

S.D. 23110 dated April 9, 1992

It recognizes the Indigenous Territory Pilon Lajas in favor of the original communities (Mozetenes and Chimanes Communities), in the area located between the Departments of Beni and La Paz.

It creates the Reserve of the Biosphere Pilon Lajas within the territory above mentioned with the purpose to preserve the biodiversity and the genetic integrity of flora and fauna.

The approximate surface of the reserve is 400,000 Has. and sets forth its boundaries.

It is instructed to make studies of internal zoning and it is prohibited to grant new areas of agricultural, forest, mining and oil colonizations, the settlements of peasants are guaranteed and also the agricultural properties. The Chimanes and Mozetenes Communities have the right to the rational use of natural resources.

Every enterprise performing oil, mining activity in the zone should inform to the Secretary of Natural Environment and shall present environmental impact studies.

It instructs the organization of the directory of the reserve and it establishes management aspects.

36. Sanctuary Caverns of Repechon

M.R. 157/86 dated May 22, 1986

It declares sanctuary of wild life to the area where the caverns of Repechon are located in the Province of Chapter in the Department of Cochabamba, with an extension of 1,500 Has. in order to protect the night birds, Guacharos or Luceros from extinction, its capture, hunting and trade is prohibited, it is also prohibited to enter into the caverns, the forest utilization and settlements in this zone are also prohibited.

37. Protection Zone of Hydrographical Basins Eva Mosetenes

R.R./CDF - N/No. 02/87 dated February 23, 1987

It approves to grant a utilization area within the San Borja Station, (225,000 Has.). The boundaries and reference points are set forth. CORDEBENI shall present a forest study within the period of one year, if after the year is over this study is not

presented the resolution becomes void and null. The authorization does not permit to initiate work of utilization, nor machinery installation, before presenting a forest study and subscribing a utilization program.

38. Regional Park Yacuma

R.R. CDF-RN 01/87 dated February 11, 1987 (same as point 54.4.)

It declares Regional Park Yacuma to the area between the North of the road which unites San Borja and San Ignacio de Mojos Communities, to the west with the Biological Reserve of Beni. The forest utilization, concession of land, colonist settlements, burning of land, hunting, etc. are prohibited. CDF is in charge of the management of the park. The applications for an area of deforest and hunting are definitively suspended. A term of 180 days is set forth in order that the Direction of Natural Resources prepares a plan of work for managing this area.

39. Biological Reserve Noel Kempff Mercado

S.D. 22020 dated September 19, 1988

It declares a Biological Reserve Noel Kempff Mercado to the Bahía and to the area of its influence, located in the province of Velasco and Ñuflo Chavez of the Department of Santa Cruz, its management and control will be under the responsibility of the Park.

40. National Park Carrasco

40.1 R.M. 381/88 dated December 9, 1988

It declares National Park Carrasco to the area located in the Province of Carrasco of Cochabamba and Florida, Ichilo, Caballero and Andres Ibañes of Santa Cruz. It declares as Permanent Forest of Production Sajta-Ichilo to the area located between the Provinces of Carrasco of Cochabamba and Ichilo of Santa Cruz. In the two zones the activities of hunting, fishing, forest, flora and fauna utilization are prohibited; it is also prohibited the occupation of land and new settlements, the ones already in existence and the land owners should be governed by the new regulation. The jungle tribes of the area will have a special treatment. MACA will be in charge of its budget.

40.2 S.D. 22940 dated October 11, 1991

It declares National Park to the area between the Carrasco, Tiraque and Chapare Provinces of the Department of Cochabamba including the west zone of the permanent forest of production Sajta-Ichilo and the Sanctuary Caverns of Repechon. It is prohibited the occupation and sales of lands, all the adjudgement paper work is stopped, the people who have property land titles will be subject to the new regulation, the ones who do not have them will be relocated in other zones. The regional CDF will take care of the park.

41. Reserve of Wild Life of The Blanco and Negro Rivers

R.M. 139/90 dated August 10, 1990

It declares Reserve of Wild Life of the Blanco and Negro Rivers to the zone between the west part of the forest reserve of production of Bajo Paragua of the Department

of Santa Cruz in order to protect, conserve, utilize and manage the natural resources. Settlements, grants, hunting, fishing and mining exploitation are prohibited; granting new forest concessions is stopped, the ones already in existence should be subject to the new reglamentation, the reserve will be managed by UTD-CDF-SC and Friends of the Nature.

42. MACA CDF and Prodena-Bolivia Agreement dated July 22, 1986

By means of this agreement MACA is obliged to do all the related work in order to assure the fulfillment of the Projected objectives when creating Park Amboro, CDF sets forth targets and activities with the same purpose. PRODENA shall install infrastructure directed to the research, health and protection of the resources of the Park. The right of property is recognized to Estancia San Rafeal. It is clearly established that this agreement does not restrict any of the institutions which subscribe it, to enter into others in favor of the natural environment. The term of the agreement was 5 years.

III. FOREST RESERVES

43. Guarayos Forest Reserve

43.1 S.D. 8660 dated September 12, 1969

It declares Forest Reserve of the nation the zone between Grande and San Julian rivers and the parallels 150 and 30 south and 17,000 min. The settlement of people of any kind, the cutting of trees and the clearing up of the forest with agricultural purposes are prohibited. MACA through its forest division will be in charge of management and control of the reserve.

43.2 S.D. 11615 dated July 2, 1974

It extends the region of San Julian (contained in the L.D. dated April 25, 1905), the forest reserve of Guarayos is partially included in the extended region.

The existing settlements will be respected. MACA is in charge of executing the present S.D.

43.3 S.D. 12268 dated February 28, 1975

In compliance with S.D. 7779 and 8660; and the forest Law, all the documents, titles and resolutions of the Service of Agricultural Reform and of the National Institute of Colonization granting lands with agricultural purposes within the forest reserves of El Chore and Guarayos (Department of Santa Cruz) are declared void and null.

44. Forest Reserve Bosques de Aliso

S.D. 11212 dated December 5, 1973

It declares forest reserve to all the natural forests of Aliso for the exclusive purpose to supply wood as raw material for the National Factory of Matches S.A.M. (FNF).

MACA and FNF small subscribe agreements for the payment of rates, using the money for reforestation and creation of green houses for new species. MACA and FNF have the right to exploit in other forest reserves as long as they comply with reforestation.

45. Forest Reserve Quinera Del Aten

S.D. 14686 dated June 23, 1977

It declares Forest Reserve Quinera del Aten to the Zone of the Hydrographic basin of Aten-Yuyo River (La Paz). The settlement of people, cutting of trees and clearing up of forests are prohibited, the existing settlements will be respected. MACA through CDF and Ministry of National Defense and through Cossmil will manage the reserve.

46. Immobilization Forest Reserve Chiquitana

46.1 S.D. 14928 dated September 22, 1977

It declares immobilization reserve, temporarily for the period of two years, while the related studies are done, the area in the provinces of Velasco, Chiquitos and Angel Sandoval of the Department of Santa Cruz. Forest utilization and hunting are prohibited. The sale of timber, conditions, prices, funds destiny, etc. are regulated.

The regional office of CDF and the army are in charge of the compliance of what is provided. The zone of the influence of the location of San Matias is declared as an exception area, allowing the forest commercial utilization. The destiny of the funds raised is regulated. The organisms above mentioned have the right to confiscate products and working instruments for violations committed.

46.2 S.D. 15500 dated May 26, 1978

It abrogates Article 3 of S.D. 14928, CDF is authorized to grant contracts of forest utilization, within the immobilization reserve, for wood species used for building and Sorioco to the enterprises legally constituted.

47. Immobilization Forest Reserve Rio Grande Masicuri

S.D. 17004 dated August 2, 1979

It creates the reserve of Rio Grande-Masicuri with an extension of 242,000 Has. in the province of Valle Grande of the Department of Santa Cruz. The forest utilization is prohibited while the classification of the reserve is done by CDF.

48. Immobilization Forest Reserve Boopi River

S.D. 17005 dated August 2, 1979

It creates the immobilization Forest Reserve o the Basin of Boopi River in an approximate surface of 128,100 Has. located in the province of Nor Yungas of the Department of La Paz: with the purpose of avoiding ecological disequilibrium, land impoverishment and land erosion. It protects this area from settlement of spontaneous colonists and irrational deforestation.

49. Immobilization Forest Reserve Covendo

49.1 D.S. 20649 dated December 12, 1984

It creates the Immobilization Forest Reserve of Convendo in a approximate surface of 294.195 Has. in the provinces of South Yungas and Inquisitive of the Department of La Paz and Ayopaya of the Department of Cochabamba prohibiting in the area all kind of forest utilization and the settlement of colonists with agricultural purposes; and the granting and adjudgement of lands within the limits of the reserve.

49.2 D.S. 21040 dated August 1, 1985

This Decree repeats the whole content of the previous one.

50. Immobilization Forest Reserve Itenez

D.S. 21446 dated November 10, 1985

It creates the Immobilization Forest Reserve Itenez in the province Itenez (Magdalena) of the Department of Beni with an approximate surface of 1,500,00 Has. It is prohibited all kind of forest utilization and settlement of colonists with agricultural purposes, as well as the granting and adjudgement of land in the limits of the reserve. CDF in coordination with MACA will create the reserve management entity.

51. Forest Reserve of Production Bajo Paragua

51.1 D.S. 22024 dated September 19, 1988

It creates the Forest Reserve of Production Bajo Paragua in the provinces of Velasco and Nuflo Chavez of the Department of Santa Cruz (in the border with the Department of Beni). It is prohibited the land occupation through settlement or grants as well as hunting and fishing within the reserve, it will be under the management of UTD-CDF-SC subject to a special regulation, private properties within the reserve will be under the regulation.

51.2 R.M. 139-90 dated August 10, 1990

It declares Wild Life Reserve from the Rivers Blanco and Negro to the zone in the west side of the forest reserve of production of Bajo Paragua (Department of Santa Cruz). It is prohibited the occupation of lands under settlements or grants, hunting, fishing and mining exploitations, no new forest grants will be granted, the wood enterprises that have cutting areas will be subject to the related regulation. The reserve will be managed by the UTD-CDF-SC and by the Fund of Friends of Nature.

52. Immobilization Forest Reserve Iturralde

S.D. 23022 Dated December 23, 1991

The immobilization Forest Reserve Iturralde is created, located in the province of the same name. The cutting areas of timber enterprises located in the zone are constituted in permanent forest of production. A second registration of property rights of lands located in this region is determined. It is stated that deforestation and/or land burning shall be authorized by M.R. of MACA, land concessions with agricultural purposes and settlement of colonists is prohibited. The installation of sawmills or converting machinery is regulated.

IV. FISCAL RESERVE

53. Fiscal Reserve

53.1 S.D. 05711 dated February 24, 1961

The gold mining reserve of the provinces of Ayopaya and Chapare of the Department of Cochabamba and Moxos of the Department of Beni are declared Fiscal Reserves, the acquired rights shall be respected, the Ministry of Mining and Oil will be able to accept bids for the exploitation according to its policy and the Investment Law.

53.2 S.D. 09009 dated September 27, 1969

The mineral reserves of the province Mamoré and Intenez of the Department of Beni are declared Fiscal Reserve, the existing rights are respected, any kind of mining procedure is prohibited, until the studies are projected to allow a rational and guaranteed exploitation.

53.3 S.D. 13163 dated December 10, 1975

The area between the provinces Ñuflo Chavez, Velasco, Chiquitos and Sandoval of the Department of Santa Cruz is declared Fiscal Reserve. It indicates the limits. The Ministry of Mining and Matalurgy will develop prospection and exploration works of mineral reserves in the zone. New mining requests will be prohibited, the legal rights duly constituted shall be respected.

V. ETHNIC GROUPS

54. Indigenous Area Chimanes

54.1 S.D. 15508 dated May 26, 1978

It declares immobilization forest reserves the closed areas by the polygons Chimanes, Maniqui and San Borja. Mentioned and abrogated by the D.S. 15585 not published in the Gaceta.

ABROGATED

54.2 D.S. 15585 date June 27, 1978

It abrogates S.D. 15508. The forest area Chimanes, polygons of the sector Chimanes, San Borja, Manique in the provinces Moxos, Ballivian and Yacuma of the Department of Beni is declared immobilization forest reserve. The commercial forest utilization is prohibited, and also hunting in the reserve, settlement of colonists, cutting of trees and forest burnings. CDF will be in charge of the jungle tribes that live in the reserve, providing them medical assistance and labor occupation. Requests for forest concessions, and forest concessions are definitively suspended, on the contrary, titles or permits provided will be null and void.

54.3 S.D. 21483 dated December 19, 1986

It changes the legal status of the immobilization reserve of Chimanes (Department of Beni) for the permanent forest of production, its rational exploitation will be strictly subject to the LGF, its regulation and to the organic by laws of CDFRN.

54.4 RR CDF-RN 01/87 dated February 11, 1987

It declares regional park Yacuma the area between the north side of the road that unites the communities of San Borja and San Ignacio de Moxos, limiting to the west with the biologic reserve of Beni. The forest utilization the lands concessions, settlement of colonists, burning of land, hunting etc. are prohibited, CDF shall be in charge of the management of the park. The requests for the deforest areas, and hunting etc., are definitively suspended. The term of 180 days is stated, so that the direction of Natural Resources prepares a labor plan for the management of this area.

54.5 S.R. 205862 dated February 17, 1989

It declares as national and social priority, the recognition, assign and holding of territorial areas in favor of jungle groups and indigenous communities of the East and the Bolivian amazon region. Instructs CDF, through an interinstitutional technical commission where the indigenous organizations are included, the preparation of a document in a period of 90 days, in which the specific conditions are established, particularly the Forest of Chimanes, and to determine general criteria to provide similar territories to other ethnic groups of the east; this document should be delivered to MACA. It is considered a socioeconomic indigenous space, to a certain geographic determined area traditionally occupied by the ethnic groups, that constitutes basic factor for its survival and development, based on a study of their needs and activities. It is prohibited all kind of land concessions, forest utilization, etc.

54.6 MR 34/89 dated February 22, 1989

It sets forth the organization of the technical commission above mentioned. The composition of the commission and the periods to deliver the research works are determined.

54.7 MR 58/89 dated March 21, 1989

It supplements the MR 34/89 (previous point) including the civic committee of Beni within the technical commission.

54.8 MR 100/89 dated May 5, 1989

It authorizes the beginning and the development of activities of the Chimanes Program in its three subprograms: forest, socioeconomic and biologic. It authorizes CDF to previously approve the plans, designations and activities of the Chimanes Program supervising its operation.

54.9 S.D. 22611 dated September 24, 1990

It declares the region of Chimanes as an indigenous area (Chimanes, Mojeños, Yuracares and Movimas communities). The Chimanes region is the surface of the previous immobilization forest reserve Chimanes plus the additional surface proposed by the commission T-S-E of the MACA in 1989.

It establishes that the Indigenous Area is the space appointed, in a permanent way, for the development of life and indigenous communities that inhabit the place, using the hydric, soil, fauna and flora resources. This is a protected area related to new property of third parties, the ones already in existence should be strictly governed by the related regulation.

It sets forth three kinds of zones: protection zone, indigenous territories, and zones of business utilization.

It declares as protection zone: the reserve of the biosphere Beni Biologic Station (ZP-1) Regional Park Yacuma (ZP-2) protection zone the hydrographic Basins of Eva Eva Mosetenes (ZP-3).

It declares as indigenous territory: the indigenous territory for the Chiman-Tsimane community including the protection zone ZP-3 with an approximate surface of 392,220 Has. and multiethnic indigenous territory to (Mojeños, Chimán, Yuracaré and Movima communities) with an approximate surface of 352,000 Has.

It declares business utilization zone to the rest of the Chimanes indigenous area with an approximate surface of 420,000 Has. (not including the protection zone and the indigenous territories). In this zone the enterprises that hold licences and who have complied with the LGF and other legal provisions related to this matter will be relocated. The process of relocation shall have done in a term of 90 days.

The forest enterprises Fatima and Bolivian Mahogani will be able to cut wood until October 31, 1990.

The forest enterprises affected by the T2 will be able to request new areas in other zones of production within the term of one year.

It should exist a plan to manage the indigenous area related to the Chimanes region as a whole, and as part of this one a management plan of the business utilization zone which the forest enterprises shall be subject. Under the principal plan, contracts will be entered into of long term utilization, the signing of these ones will

originate the existence of forest inventories, guidelines of relationship with the indigenous community and other requests.

The preparation and supervision of the management plans will be under the responsibility the Chimanes Program, based on the present Decree and with the participation of the indigenous organizations. The administration and execution of the management plans for each zone will be the responsibility of the related organizations.

Once the long term utilization contracts have been complied, the zones will be part of the indigenous territories.

The areas that present overlapping of the indigenous territory and the protection zone will assume this double character for its regulation and planification.

The utilization of the renewable natural resources will be regulated by the related laws.

The utilization and trading of renewable natural resources by third parties is prohibited as well as the cession or transfer of the recognized rights in the present S.D. in favor of any person or enterprise.

It sets forth the inalienable, indivisible, imprescriptible, unseizable character of the indigenous territories (Indigenous Area Chimanes Region).

The forest enterprises will take out their machinery, on the dated provided by their licence.

In the by-laws of the historic ecological pause, the rationality and the straightening of the forest sector taking into consideration the issue of wood royalties for a greater benefit of the region, are regulated.

55. Bolivian Indigenous Institute

S.D. 22503 dated May 11, 1990

It grants the Bolivian Indigenous Institute the quality of decentralized entity of MACA with autonomy of issue under the protection of the Subsection of the Renewable Natural Resources-Natural Environment. The functions of the Institute are extended in order to favor the ethnic groups (it sets forth eight important functions). The establishment of a board of directors of the Institute is declared. The Bolivian Indigenous Institute will be financed by the National Treasury of the Nation, it shall open offices where there are important ethnic groups. The board of directors shall present a draft of its by-laws to MACA within the term of 90 days.

56. Commission for The Drafting of The Law Project of The Indigenous People of The East and Amazon Region

S.D. 22612 dated September 24, 1990

The commission is formed with the purpose of drafting a Law project of the Indigenous People of the East and Amazon Region with 16 members, the project shall be presented in 120 days.

57. Water of Rural Tax

S.D. 22588 dated August 30, 1990

It sets forth the waiver of tax to the rural property, the original communities, ex-farms, new ones, ayllus, captainships, indigenous people, ethnic groups, jungle tribes

and others. In the case of indigenous people, ethnic groups or jungle tribes, the waiver of the tax is for all the territory where they transit, utilize and inhabit. The internal revenue will grant a certificate of waiver of the tax. Article 3, and 4 and of S.D. 22564 dated August 2, 1990 is abrogated.

58. Multiethnic Indigenous Territory

S.D. 22611 dated September 24, 1990

(Same as point 54.9)

59. Chimán Indigenous Territory

S.D. 22611 dated September 24, 1990

(Same as point 54.9)

60. Siriono Indigenous Territory

S.D. 22609 dated November 24, 1990

It recognizes as indigenous territory of the Siriono community to the area located in the village Ibiato San Javier, province of Cercado of the Department of Beni, besides an area of 30,000 Has. located in the forest of San Pablo, area which will be limited by a commission of MACA and representatives of the Siriono community within a period of 45 days. The two zones before mentioned are declared indigenous protected area. MACA is responsible to consolidate the affected areas in cattle raising farms located in this territory. The territory of Siriono has inalienable, indivisible, imprescriptible, unseizable character, the communities shall utilize all the natural resources found in the territory according to their uses, habits and needs.

61. Program of Bilingual Intercultural Education

S.D. 2303 dated January 28, 1992

It sets forth the execution of the Program of Bilingual Intercultural Education in all the guarani, aymara and quechua communities as well as the creation of the general direction of Bilingual Intercultural Education in order to execute the program throughout the country. The Minister of Education has the responsibility of executing this program.

62. Indigenous Forest Guard

S.D. 23107 dated April 9, 1992

Article 10 of S.D. 9320 is abrogated and the Indigenous Forest Guard is created under MACA and its responsibility is to protect the indigenous territories, flora, fauna and wild life in general. It sets forth the form of financing the guard. It modifies Article 155 of the by-laws of LGF stating that the amount collected from auctions and fines for violating the law, will be distributed as follows: 80% in favor of the indigenous communities and 20% in favor of the Indigenous Forest Guard.

63. Yuqui Indigenous Territory

S.D. 23111 dated April 9, 1992

It recognizes the indigenous territory of the Yuqui Indigenous community with an approximate surface of 115 Has., located in the fifth section of the province of Carrasco of the Department of Cochabamba. It has the social, community,

inalienable, indivisible, imprescriptible, unseizable character. The ownership of the natural resources for its use and utilization is granted. The interference of third parties with purposes of exploitation in the protected zone is prohibited. Every road, dams, industries or exploitation of nonrenewable resources shall have the relevant study of environmental impact, the authorization and approval of the General Secretary of Natural Environment and from the Bolivian Indigenous Institute.

64. Chiquitano Indigenous Territory

S.D. 23113 dated April 9, 1992

It recognizes as Chiquitano Indigenous Territory NI to the land located in the Villages of Santa Rosa del Palmar, San Pedro and Concepción of the province of Nuflo de Chavez of the Department of Santa Cruz. It has the inalienable, indivisible, imprescriptible, unseizable character, the exploitation of the territory by third parties is prohibited.

65. Araona Indigenous Territory

S.D. 23108 dated April 9, 1992

It recognizes as Araona Indigenous Territory an extension of approximately 92,000 Has. located in the Iturrealde Province of the Department of La Paz. It has the social, community, inalienable, indivisible, imprescriptible, unseizable character. The people will be able to utilize the natural resources, the utilization of natural resources by third parties is prohibited.

66. Constitutive Agreement of The Fund for The Development of The Indigenous Communities of Latin America and The Caribe

Law 1468 dated February 18, 1993

67. Weenhayek (Mataco) Del Gran Chaco Indigenous Territory

S.D. 23500 dated April 19, 1993

It recognizes the Weenhayek Mataco del Gran Chaco territory in favor of the Weenhayek indigenous community. The territory has two areas, with an approximate surface of 193,639 Has. in total, it is located in the province of Gran Chaco of the Department of Tarija. Other communities which have the right to occupy the territory besides the Mataco Community are mentioned. It has the inalienable, indivisible, imprescriptible, unseizable character, the properties and settlements of third parties are respected, and shall not interfere nor hinder the traditional activities of the Mataco community and these, at the same time, will allow the transit of cattle. The transfers of land made by farmers will always be in favor of the Mataco community. A forest guard composed of indigenous Matacos in order to protect the territory is set forth. The Villamontes Sachapera project shall respect the rights of the Mataco community over the land.

VI. OTHER LEGAL PROVISIONS RELATED TO NATURAL ENVIRONMENT

68. Organization and Procedures of The Service of National Agricultural Reform Law (SNRA)

L.D. 10397 dated July 31, 1972

The Organization and Procedures of the Service of National Agricultural Reform Law is approved. The L.D. 3451 is maintained in effect.

Organization

SNRA is the organism in charge of executing the Agricultural Reform, it is under the Presidency of the Republic and it is composed of INRA, CNRA and the inception of the agricultural work. The president is the maximum authority, it controls SRNA, his attributes and abilities are set forth.

INRA is an organism of research, planning and coordination of the social, agricultural process, its goals and objectives are set forth; its is composed by the national direction, department directions and regional committees. The policies of performance of this organism are established.

CNRA has national jurisdiction, it is located in the city of La Paz and it is composed by seven voters. The requirements to be a voter, the election method, the composition of the court and the attributes of room A and B are set forth. The requirements for agricultural judge, the composition of courts and their competency are established. The agricultural procedures, before the judge and before the national agricultural court are regulated.

The inspection of the agricultural work, shall be aware by way of conciliation about the problems of the agricultural work, it guarantees the rights of property and ownership of the land. It regulates its dependency, composition and national and departmental jurisdiction, and its attributes and its sufficiency. It sets forth the procedure before the departmental inspectors and the general inspector.

General Provisions

It regulates specific aspects, referred to: acts contrary to the agricultural production, to leave the properties without any justified cause, term for reversion, improper reversion, budget of the agricultural reform, etc.

69. Colonization Law

L.D. 07765 dated July 31, 1966

Title I Colonization Concept and Objectives

Colonization is: to inhabit uncultivated and not utilized zones in order to exploit them in a reasonable manner tending to their development. It is set forth the objectives of colonization, which generally refer to economic, social and sovereign strengthening of the uncultivated and not inhabited zones of the country; it also refers to the protection of the natural environment.

Title II Planning and Colonization System

Chapter I Planning

It establishes that the Institute of Colonization and development of rural communities shall operate according to the policy of the National Development Plan. The presentation and content of the programs and of the colonization projects are regulated.

Chapter II Colonization Systems

Two forms of colonization are recognized: Guided and spontaneous, the two forms shall be controlled by the Institute, which at the same time will control that the colonization be done in adequate zones for this purpose.

Chapter III Colonization of Private Initiative

This type of colonization will be done by societies duly recognized before the institute, the requirements for its recognition are indicated, once all the studies requested are completed and presented, the institute shall authorize and control the execution of their programs. The religious, social and charity entities will benefit from the utilities when facing a program.

Title III Colonization Finance

Chapter I The Finance Resources

The finance resources are three: National Budget, Internal and External Financing and Own Resources.

Chapter II Investments and Expenses

Four types of investments and expenses are recognized, they are: for managing the institute, for social services and development work, production, industrialization, trading and settlement of people.

Chapter III Recoverableness of Investments

It regulates the recoverableness of the investments (direct, indirect and not recoverable).

Title IV Rights and Obligations of the Colonists

Chapter I and II

It defines a colonist and sets forth the requirements to get that status. People over 18 years old have the right to be colonists, previous personal guaranty of compliance of contract. The public employees are prohibited to become colonists.

It sets forth the rights and obligations of colonists in specific way. In case of failure to comply the contract without any justified reason, the colonists will lose their rights and installments.

Title V Cooperative Societies in Colonization Zones

The National Direction of Cooperatives in coordination with the Institute shall encourage, develop and control the cooperative operation, considering them as the main ways and forms to develop the program of colonization.

Title VI Community Centers, Urbanization

Chapter I and II

The community centers are based structures of services and staff, necessary for the development of the colony. The Institute shall be responsible to provide the community centers with enough infrastructure, granting advantages to those who build what is needed in the centers and punish those who hinder the same. The population increase will be taken into account when planning the urban centers.

Title VII Colonization Land

Chapter I The Land that can be Colonized

It specifies the type of land which can be colonized. In case of existing mineral or oil beds, the Ministry of Mining and Oil will grant concessions previous consultation to the Institute.

Chapter II Distribution of the Land

The land is distributed based on the Family Economic Unit, each unit should totally satisfy the worklabor necessity of the colonist and his family and shall provide them the sufficient income. The cooperative organizations can have access to a greater extension of land if their program justifies it.

It is expressly stated which persons will be considered in the distribution of land.

Chapter III Adjudgement of Land

The administrative steps for adjudgement are indicated, which in the first place will be "temporary" and will last two years. After which and previous compliance of the requirements, the definite title of property will be granted. The expenses shall be for the account of the interested party.

Chapter IV Value of the Land

The Institute will fix the value of the land, this shall be lesser than the actual value, the colonists and colonization enterprises will have credit for paying the land.

Chapter V Transfer of Property Right

The transfer will take place by succession, grants and liabilities, with the institute's approval. The colonists who have paid all debts will be waived from this provision.

Chapter VI Land Reversion

Land reversion is regulated with or without indemnity according to the compliance of obligations, date of adjudgement and public need.

Title VIII Conservation and Defense of Natural Resources

The Institute is responsible for the conservation of the natural resources and natural environment in general, in the zones of colonization.

Title IX Assistance to the Colonists

Chapter I Technical, Economical and Social Assistance

The Institute shall provide technical, economical and social assistance to the colonists, in order that they can satisfy their basic needs, live adequately and meet the objectives of the colonization. Within the assistance, the bank loans from Banco

Agricola of Bolivia based on a bank-institute relationship are regulated, thus giving the colonists better opportunities.

Chapter II Trade Assistance

The State Shall grant opportunities for trading products of the colonies, the Institute will create the necessary infrastructure to assure the good trading.

Chapter III Assistance to the Spontaneous Colonization

The Institute shall promote the integration of spontaneous colonization to the process of colonization, for this purpose it shall perform studies to clarify the situation and find viable and useful solutions for the colonists and the country.

Title X Colonization with Immigrants

The colonization with immigrants is regulated, the same will be done based on special agreements. For this title everything provided in title II Chapter III of the present law decree will be applied.

Title XI Marginal Ethnic Groups

The institute shall protect the ethnic groups settled in the zones of colonization, it shall respect their territory, shall seek the development of the marginal ethnic groups and their incorporation to the national life in a gradual and pacific way.

Title XII Organisms of Execution

The Colonization Institute and development of Rural Communities will be governed by Title IV of the S.D. 7443 dated December 22, 1965.

Temporary and Supplementary Provisions

It regulates special situations related to getting titles, guaranties of payment, expedite of paper work and reversion.

70. Bolivian Tourism Institute

S.D. 10702 dated January 25, 1973

It creates the Bolivian Tourism Institute under the Ministry of Industry, Commerce and Tourism which will be located in La Paz and shall be in charge of planning, developing, coordination and promoting the tourism activity in the country. Its functions are indicated. The patrimony will be constituted by funds from the State and by tax collections, these collections are ruled. The board of directors of the Institute will be composed by a state sector and a private enterprise sector, the functions of the board of directors, of the president and manager are set forth.

71. Intervention of The National Council of Agricultural Reform

71.1 S.D. 23331 dated November 24, 1992

MACA together with all the public institutions related to the issue of natural environment will constitute a National Commission and Subcommissions which will be in charge of making a detailed study of everything related to the problem of land and its relationship with the agricultural reform in order to clarify the situation within a period of 90 days. This commission shall find the differences, illegalities, errors, etc. and propose solutions. While the Commission does the work assigned the

intervention of the National Council of Agricultural Reform and of the National Institute of Colonization is provided, leaving their officers temporarily without work. The supervisors will be nominated through Supreme Resolution and shall reorganized the intervened institutions besides complying with other specific tasks. As of that date all the grants, adjudgements and reversion of land are suspended, the cases in which agricultural paper work is permitted are established.

71.2 S.D. 23418 dated March 10, 1993

The intervention mentioned in Decree 23331 is extended. The INC is incorporated to CRNA, the intervention Commission is constituted as a temporary organism until there is a new institutional order, this organism is in charge of stating the legal procedures which correspond as a result of the research done. The National Commission of Territory Order (with equal peasant participation) is responsible for reviewing the legal documents of agricultural paper work beginning with the medium size property.

72. Non Traditional Basic Products

Law 694 dated December 30, 1984

It declares as national priority, the encouragement of exploitation, industrialization and internal trading and exploitation of the non traditional basic products of Beni and Pando Departments (meat, wood, rubber and nuts). The Government is instructed to take all the advisable, timely and practical measures in order to comply with this duty.

73. Mining Code

Law 1243 dated April 11, 1991

The Mining Code approved by Law Decree 7148 dated May 5, 1965 becomes a Law with the following amendments: Article 85. The concessionaires shall utilize the water that run through their properties with the obligation to restore them to its natural course with the same original quality.

Article 87. If the waters returned to their natural course become useless there is an obligation to indemnify the damaged people for hindrances and damages.

Article 90. The utilization of waters coming from underground streams or from eye of water will be subject to what is provided in Article 85. The neighbor concessionaires shall utilize the alumnus waters belonging to third parties, if they are not being utilized by them; if in the term of six months they do not claim prescription enters into effect.

VII. PROVISIONS OF INTERNATIONAL LAW

74. Amazon Cooperation Treaty

74.1 L.D. 16811 dated July 19, 1979

It confirms the Amazon Cooperation Treaty subscribed in Brasilia on July 3, 1978.

74.2 Treaty of Amazon Cooperation and Development Brasilia July 3, 1978

The Treaty applies to the territories of the Amazon Basin, the contractual parties, with the purpose of performing joint actions and efforts to obtain useful results and to protect and conserve the natural environment. To do this they will exchange information and enter into agreements.

The contractual parties have the right to assure the freedom of commercial navigation in the course of the Amazon and all other Amazon Rivers. Coasting-trade is excluded.

The use and utilization of natural resources of each territory is the sole responsibility of the State.

The State members conscientious of the economic, geopolitical and environmental importance of the rivers, are engaged in preserving the hydric resources and to improve the communication means through national, bilateral or multilateral actions.

The States shall be engaged in executing all the necessary actions in order to protect and preserve the flora and fauna that exist in the region, for this purpose scientific research and interchange of information and technical staff shall take place.

The contractual parties shall execute joint actions in order to improve the conditions of the health services.

There shall be a close cooperation in the scientific and technological research in order to join efforts to obtain better results. Joint research, creation of institutions, seminars shall be promoted.

The State members engage themselves to execute joint actions in order to achieve the economic and social development of the regions, and to incorporate them to the economies of each State. With the same purpose, they agree to improve the means of communication.

Based on bilateral and multilateral agreements, the retail trade in the regions will be permitted. The State members shall cooperate in order to increase the national and international tourism inflows, and to achieve an efficient protection policy of the ethnological and archeological resources of the zone.

The contractual parties will make their best efforts to maintain a permanent communication link between themselves and with the organisms of Latin American cooperation. The agreed issues in this agreement do not restrict the possibility of executing national projects which do not violate the International Right nor hinder the other nations. The States can present projects of common interest and benefit, more interest shall be given to the projects of underdeveloped countries.

The Treaty does not restrict the States from entering into other agreements which shall be useful to the nations, nor goes beyond of what is strictly provided.

The Ministers of Foreign Affairs of the member countries will have meetings as often as necessary, in order to analyze the compliance of the objectives of the agreement. The meetings will take place at the request of any member with the support of four members. The first meeting will take place two years later from the effective date of the agreement.

The Council of Amazon Cooperation is created composed by diplomatic members of high rank, which shall meet every year. Its functions are set forth.

The contractual parties shall create Permanent National Commissions which will be responsible for the compliance of the Treaty and the decisions of the related organisms.

The decisions of the organisms of the agreement will require the unanimous vote of the participant countries. The Treaty will not be subject of reserves or construed statement, it will have limited duration and will not be open to attachments.

Aspects of confirmation, effective date, give notice and publication are detailed.

The first meeting of Ministers of Foreign Affairs of the signatory countries of the Treaty for Amazon Cooperation took place in Belem, Brasil on October 23, and 24, 1980. The second meeting took place in Santiago de Cali Colombia on December 7 and 8, 1983.

The first meeting of the Council of Amazon Cooperation took place in Lima Peru on July 5 and 8, 1983.

74.3 Permanent National Commission of Amazon Cooperation

S.D. 17996 dated February 5, 1981

It creates the Permanent National Commission of Amazon Cooperation composed by the Ministry of Foreign Affairs, Planning and Coordination, National Defense and General Secretary of Integration. Their principal functions are set forth. It will be in charge of the creation of protection and conservation areas. The management operation of the Commission is established.

75. Tropical Wood International Agreement

Law 867 dated May 27, 1986

It approves the Tropical Wood International Agreement entered into at the Office of the United Nations on November 1, 1984.

76. Meeting on International Trade of Threatened Species of Wild Fauna and Flora

Law 1255 dated July 5, 1991

L.D. 16464 May 17, 1979 becomes a Law which ratifies the CITES, it approves the amendments to Article 21 of the Meeting, adopted in the Meeting of Gaborone (Botswana) dated April 30, 1983.

Meeting signed in Washington on March, 1973

The meeting regulates the granting of export licences based on a list of species contained in two annexes of world interest. Annex I, includes to threatened species

whose trade is subject to a strict regulation and can be considered almost prohibited. Annex II, includes the species that at the present time are not threatened of extinction, but whose trade is regulated, guaranties should be presented indicating that the export of certain species does not threatened the survival of the specie. Approximately, 200 animal species and a larger number of Bolivian plants are included in Annex I and II of the Meeting. Annex III, includes species that any of the parties consider necessary to protect within their jurisdiction and need cooperation to avoid their trade.

77. Agreement 169 Indigenous and Tribe Communities in Independent Countries

Law 1257 dated July 11, 1991

Agreement 169 approved by the 160 conference of the OIT dated June 27, 1989 is approved and ratified.

Part I General Policy

The jurisdiction where the agreement should be applied (original tribe communities and communities considered indigenous by origin) based on the conscientiousness of their indigenous identity is set forth.

Measures for government actions with the purpose to guarantee the compliance of the present agreement and its legal provisions (related to social, economical, cultural rights, cultural identify, habits and traditions, including punishments which are consistent with the national legal system and their institutions are established.

Part II Land

Everything related to land property and its possession, respecting the existing relationship between the communities is set forth; the protection of these rights on the part of the government, freedom for utilization of land and territories, including the regulations of monads are established; guaranties in order that the land concessions granted by the governments remained of public interest of the communities are set forth; the mechanisms of relocation of communities in new lands protecting their interests is established, but it is emphasized that the communities shall not be moved from the land they occupy unless it is strictly necessary. The agreement provides that penalties shall be established for the violators of the law. Lastly it establishes that all the agricultural programs of the governments shall guarantee the cultural production and/or cattle and the assignment of additional land when necessary under equal conditions to others sector of the community.

Part III Contracts and Conditions of Employment

The agreement indicates that the governments should include in the labor regulation the different types of indigenous and tribe people, guaranteeing the compliance of their rights and an equal treatment to the other workers, for this reason they shall take special measures in the required cases.

Part IV Professional Studies, Handcraft and Rural Industries

It is established that the governments within their formal and non-formal education policies should introduce mechanisms that guarantee the education of the interested people, respecting their cultural and traditions and if possible provide them technical and financial aid in order to generate a sustained and equal development.

Part V Social Security and Health

The social security regimes should be extended to these communities, health services shall be implemented, taking into account the culture of the communities and if possible use the same people to aim to the education within those communities.

Part VI Education and Means of Communication

It is established that measures that make the education in the communities possible should be taken, specially for children, under the same conditions as for the rest of the community, taking into consideration values, culture, history, etc. The process of treating them how to read and write should be done in their mother tongue, detaches within the community will be trained with the purpose of transfer education to the community. In the remaining national population and specially if it is related with these communities, the education given shall be related to the life of these people, in order to avoid prejudices.

Part VII Contracts and Cooperation through the Frontiers

The contracts and cooperation among tribe and indigenous communities shall be facilitated, to this purpose adequate mechanisms are set forth.

Part VIII Management

The governments through the relevant authority should taken adequate measures and shall create the necessary mechanisms to enable the efficient compliance of what is provided in the present contract.

Part IX General Provisions

The own conditions of each country shall determined the nature and the extent of the adopted measures in order to achieve the compliance of the present agreement. The provisions of the present agreement will be applied in favor of the interested communities, without meaning the waiver to other legal favorable provisions.

78. Agreement on The Biological Diversity

Law 1560 dated June 15, 1994

The above mentioned agreement entered into June 10, 1992 during the Conference of the United Nations about Natural Environment and Development which took place in Rio de Janeiro, Brasil is approved and ratified.

The objectives of the Agreement are: the conservation of the biological diversity, the sustained utilization of its components and just and equal participation from the benefits through an adequate access to those resources, a duly transfer of the related technological and a correct financing.

Based on the previous statements the following aspects are regulated: jurisdictional territory, cooperation, conservation in place, out place, education and public conscientious, interchange of information, scientific and technical cooperation, etc.

79. Cartagene Agreement

The Agreement has the following objectives: to promote the balance and harmonic development of the Country Members in conditions of equality, through the integration and the social cooperation; speed up their growing and the promotion of

occupation; facilitate its participation in the process of regional integration, looking at the gradual performance of a common Latin American Market. These objectives have as a final target to improve the standards of life of the inhabitants of the subregion.

Among the issues of the Agreement, the natural environment has an important relevance in the subregion. Article 3 provides the mechanisms which will be used to reach the objectives of the present agreement, "actions for the utilization and conservation of the natural resources and natural environment" are established in point c) of the second paragraph; Article 70 refers to the objectives reached related to the agricultural development of the subregion, establishing in point h) "Joint programs for the utilization and conservation of the natural resources of the sector", and in point i) "joint programs of cooperation in the field of research and transfer of technology in areas of common interest of the country members such as genetics, flowerculture, fishing, silviculture and those which the commission determines in the future."

80. Constitutive Agreement of The Development Fund of The Indigenous People of Latin America and Caribe

Law 1468 dated February 18, 1993

The mentioned agreement subscribed in Madrid on July 24, 1994 is approved and ratified.

81. Amazon Cooperation Agreement

Law 1572 dated July 12, 1994

The "Amazon Cooperation Agreement" between the Republic of Peru and Bolivia, subscribed in Ilo-Peru on July 30, 1993 is approved.

Agreement Ilo-Peru July, 1993

The contractual parties agree that the use and utilization of the natural resources is an inherent right of the sovereignty of the State and they decide to establish the adequate cooperation for conservation and utilization of said resources. They will seek the harmonization between the economic growth and the preservation of the natural environment.

They decide to establish a National Park in the zone of Tambopata Candame (Peru) annexed to National Pampas of Heat Sancturay (Peru) and to the future National Park Madidi (Bolivia) with the objective of conservating the biological diversity.

82. Framework Agreement of Cooperation between The Cartagena Agreement and Its Country Members with The European Economic Community

Law 1566 dated July 12, 1994

The mentioned agreement subscribed on April 23, 1993 in Copenhagen, Denmark is approved and ratified.

Agreement, Copenhagen April, 1993

Article 19 of this agreement refers to the cooperation related to natural environment, the contracting parties will execute joint actions aimed to the creation and

strengthening of the public and private environmental structures, to the information and sensibilization of the public opinion, to the development and the economic alternative use of the protected zones, etc. Article 20 of the related agreement establishes that the contractual parties will cooperate in order to preserve the biological diversity.

Appendix-6.1

Meteorological Data in the Study Area

SAN BORJA
DIRECCION MEDIA DEL VIENTO

	ENE	FEB	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC	PROM
1983							NW	N	NW	N	N	N	
1984								NW	N	N	N	N	
1985	N	N	N	S	N	N	S	N	N	N	S	N	N
1986	N	N	N	N	N	N	N	N	N	SSE	N	N	N
1987	NNW	NNW	NNW	NNW	SSE	NNW	NNW	NNW	N	NNW	N	NNW	NNW
1988	N	SSE/N	N	NNW	SSE	N	S	S	N	N	N	N	N
1989	N	N	N	SSE	SSE	N	NNW	NNW	NNW	N	WNW	N	N
1990	N	SSE	NW	NNW	NNW	S	S	N	N	N	N	N	N
1991	N	N	N	N	N	N	N	N	N	N	N	N	N
1992	N	N	N	N	N	N	S	S	S	N	N	N	N
1993	N	N	N	N	NW	N	S	N	N	N	N	N	N
1994	N	N	N	N	N	N							
PROM	N	N	N	N	N	N	S	N	N	N	N	N	

(A.A.S.A.N.A.)

SAN BORJA
VELOCIDAD MEDIA DEL VIENTO

(m/s)

	ENE	FEB	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC	PROM
1983							4	5	8	6	5	8	6.0
1984								4	8	5	4	5	5.5
1985	5	4	7	5	3	4	6	7	5	7	4	3	5.0
1986	6	5	4	4	4	4	4	5	4	5	5	5	4.6
1987	5	6	4	5	5	5	6	6	6	5	5	6	5.4
1988	6	4	5	5	4	5	7	5	7	8	6	5	5.6
1989	7	4	5	4	4	4	5	5	6	4	4	6	4.6
1990	6	3	4	4	4	4	5	4	6	5	7	6	4.7
1991	5	3	6	4	3	5	3	4	4	6	5	8	4.6
1992	3	4	3	4	4	3	4	4	4	5	3	4	3.8
1993	4	2	2	3	4	4	5	4	6	6	5	5	4.0
1994	4	5	3	3	4	4							3.7
PROM	5	3.9	4.2	4	4.1	4.1	4.8	4.9	5.9	5.6	4.7	5.5	

(A.A.S.A.N.A.)

SAN BORJA
PRECIPITACION TOTAL EN

(mm)

	ENE	FEB	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC	TOTAL
1983							105.0	1.0	94.6	133.0	171.6	367.0	872.2
1984								61.0	8.0	146.0	174.0	614.0	1003.0
1985	254.0	225.0	156.9	212.0	40.0	23.0	70.5	87.0	145.0	288.0	151.0	212.0	864.4
1986	180.0	398.0	203.0	112.0	132.5	35.0	30.4	62.5	187.5	203.5	358.0	225.4	2127.8
1987	255.5	221.4	202.1	142.0	186.4	127.9	74.5	51.9	60.6	144.9	196.7	363.8	2027.7
1988	156.1	245.5	356.0	351.1	62.4	1.0	15.4	9.8	55.8	345.0	101.5	298.5	1998.1
1989	202.9	214.7	331.6	168.0	77.3	100.2	24.8	13.9	127.0	148.3	77.1	289.6	1776.2
1990	415.7	146.0	92.4	64.9	182.2	113.6	53.2	92.8	77.8	238.5	242.6	340.5	2055.2
1991	313.8	240.2	167.3	255.7	35.3	124.8	61.6	17.2	61.1	58.0	158.5	119.9	1613.4
1992	200.6	398.3	417.0	189.1	104.3	118.0	24.2	168.2	131.7	347.6	293.0	260.7	2652.2
1993	293.2	362.7	209.7	171.1	87.4	2.4	88.9	42.1	47.4	84.7	110.8	277.5	1777.9
1994	298.8	176.6	216.8	98.4	81.3	23.4							895.3
PROM	257.1	262.8	235.3	176.5	98.9	67.4	54.9	55.2	90.5	194.3	185.0	306.3	

(A.A.S.A.N.A.)

SAN BORJA
TEMPERATURA MEDIA AMBIENTE

(°C)

	ENE	FEB	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC	PROM
1983							21.8	23.0	23.2	25.5	25.5	26.2	24.2
1984							22.3	23.4	26.1	27.6	26.0	26.3	25.3
1985	26.4	25.4	25.6	24.1	24.3	22.2	22.7	22.6	24.9	26.8	26.5	26.7	24.8
1986	26.5	25.9	26.1	25.8	24.4	23.6	22.6	24.3	24.8	25.6	27.2	27.1	25.3
1987	26.3	25.8	26.4	25.8	22.2	21.6	24.3	22.7	24.6	27.2	27.9	27.0	25.2
1988	27.6	26.9	26.8	25.5	22.3	21.8	19.9	24.9	25.2	26.0	26.6	26.1	24.9
1989	26.3	26.1	25.7	25.2	22.8	23.5	22.0	24.7	23.7	26.0	27.9	27.3	25.1
1990	27.0	27.3	27.9	26.5	24.0	21.6	21.0	24.0	25.1	27.2	27.4	27.0	25.5
1991	26.9	26.8	27.3	26.7	25.6	23.1	21.7	23.3	25.9	26.2	26.5	27.2	25.6
1992	27.4	26.6	26.5	25.8	25.0	23.8	19.3	22.5	23.7	26.0	25.7	26.8	24.9
1993	25.9	26.8	27.1	25.8	24.3	22.3	21.7	22.4	24.0	27.3	27.2	26.2	25.1
1994	27.5	27.2	27.1	26.5	26.0	24.0							26.4
PROM	26.8	26.6	26.6	25.7	24.1	22.7	21.7	23.4	24.6	26.5	26.7	26.7	

(A.A.S.A.N.A.)

SAN BORJA
HUMEDAD RELATIVA MEDIA

(%)

	ENE	FEB	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC	PROM
1983							85	71	71	75	76	79	76
1984							79	47	65	71	75	82	70
1985	76	80	79	82	76	74	73	71	70	70	77	74	75
1986	79	78	78	74	85	79	77	78	66	69	76	81	77
1987	82	75	81	80	80	80	78	70	63	66	74	83	76
1988	81	81	83	84	83	78	72	67	70	73	73	84	77
1989	82	82	81	82	83	83	72	66	68	73	71	77	77
1990	80	79	79	79	83	83	73	73	69	75	79	74	77
1991	84	58	80	80	82	80	74	73	74	70	79	79	76
1992	79	84	82	80	84	84	80	73	77	77	75	81	80
1993	81	76	80	81	79	73	74	71	69	70	76	79	76
1994	77	80	77	80	80	76							78
PROM	80	77	80	80	82	79	76	69	69	72	76	79	

(A.A.S.A.N.A.)

SAN IGNACIO DE MOXOS
DIRECCION MEDIA DEL VIENTO

	ENE	FEB	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC	PROM
1983	N	N	NW	N	NW	SE	NW	NW	SE	NW	NW	NW	NW
1984	NW	NW	NW	SE	NW	S	S	SE	NW	NW	NW	NW	NW
1985	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW
1986	NW	NW	NW	NW	NW	NW	N	NW	SE	NW	NW	NW	NW
1987	NW	NW	NW	NW	SE	SE	NW	NW	NW	NW	NW	NW	NW
1988				NW	SE	NW	SE	NW	NW	NW	NW	NW	NW
1989	NW	NW	SE	SE	SE	NW	NW	NW	SE	NW	NW	NW	NW
1990	NW	NW	NW	NW	NW	SE	SE	NW	NW	NW	NW	NW	NW
1991	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW
1992	NW	NW	NW	N	N	N	N	SSE	SSE	N	N	N	N
1993	N	N	N	N	N	N	N	S	S	N	N	N	N
1994	NW	NW	N	N	NW	NW	N	N	NW	NW	NW	NW	NW
PROM	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	

(A.A.S.A.N.A.)

SAN IGNACIO DE MOXOS
VELOCIDAD MEDIA DEL VIENTO

	ENE	FEB	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC	PROM
1983	6	2	4	5	5	4	6	5	5	4	4	4	5.0
1984	4	3	3	4	4	3	3	5	4	5	3	6	4.0
1985	4	5	6	7	6	7	6	8	6	8	5	4	6.0
1986	9	6	6	8	6	5	4	4	5	6	7	6	6.0
1987	9	8	7	6	7	7	8	7	7	7	5	7	7.0
1988				6	6	6	8	5	7	7	5	5	6.0
1989	6	4	4	4	5	4	6	6	7	5	5	6	5.0
1990	6	3	4	5	3	4	5	5	6	5	6	6	5.0
1991	5	4	6	4	4	6	4	4	4	6	4	8	5.0
1992	3	5	3	4	6	5	5	4	5	6	4	5	5.0
1993	3	4	3	4	5	5	6	3	8	6	4	6	5.0
1994	5	6	5	4	4	5	6	5	5	5	6	6	5.0
PROM	5	4	5	5	5	5	6	5	6	6	5	6	

(A.A.S.A.N.A.)

SAN IGNACIO DE MOXOS
PRECIPITACION TOTAL EN

	ENE	FEB	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC	TOTAL
1983	332.0	491.0	394.0	184.0	90.4	133.9	10.0	18.0	85.0	46.0	189.0	343.0	2316.3
1984	462.0	497.0	545.0	140.0	252.0	6.0	0.0	10.0	49.7	152.0	163.0	441.0	2717.7
1985	457.0	320.0	174.5	277.0	109.3	8.0	42.5	18.3	143.0	120.0	160.0	91.0	1920.6
1986	208.0	390.5	323.0	148.0	288.0	4.3	50.8	274.0	72.0	195.0	257.0	411.0	2621.6
1987	481.0	119.0	133.0	180.0	314.0	70.0	21.0	73.0	15.0	223.0	279.0	572.0	2480.0
1988				265.0	77.0	11.0	37.0	0.0	94.0	203.1	70.8	420.1	1178.0
1989	342.1	192.0	228.5	128.4	22.2	38.0	49.6	38.7	84.9	133.8	67.3	232.9	1558.4
1990	321.2	218.2	212.3	128.2	185.4	71.9	44.9	34.1	40.7	198.9	306.2	326.2	2088.2
1991	332.2	144.5	352.6	185.2	21.8	19.5	40.1	39.9	112.9	59.3	236.8	144.8	1689.6
1992	526.8	579.7	404.2	106.4	213.2	144.9	36.8	134.1	315.4	428.2	364.5	306.8	3561.0
1993	331.4	241.9	251.2	183.8	104.5	87.0	45.4	60.5	72.0	95.1	165.7	319.3	1957.8
1994	206.5	94.1	172.5	58.0	70.7	32.3	0.0	42.8	147.5	172.6	32.9	217.5	1247.4
PROM	363.7	298.9	290.1	165.3	145.7	52.2	31.5	62.0	102.7	168.9	191.0	318.8	

(A.A.S.A.N.A.)

SAN IGNACIO DE MOXOS
TEMPERATURA MEDIA AMBIENTE

(°C)

	ENE	FEB	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC	PROM
1983	27.7	27.2	26.7	26.7	24.7	18.2	22.7	23.2	23.4	25.9	25.6	27.1	24.9
1984	25.9	25.8	26.3	24.6	25.0	22.2	22.6	23.0	25.8	27.2	26.1	26.5	25.1
1985	26.7	26.7	26.9	24.8									26.3
1986							22.6	23.9	22.9	25.3	27.3	27.6	24.9
1987	27.2	27.0	27.1	26.0	22.0	21.4	24.4	27.8	25.5	27.3	27.6	26.9	25.4
1988				25.7	22.6	22.4	19.9	24.6	25.3	26.4	26.9	26.5	24.4
1989	26.9	26.8	26.8	26.0	22.6	23.4	21.4	24.6	22.9	26.4	27.4	26.8	25.1
1990	26.7	26.4	27.5	26.5	23.4	20.9	19.7	23.0	24.3	27.2	27.3	21.8	24.5
1991	26.9	26.8	27.3	26.4	25.7	23.2	21.2	22.5	25.1	26.5	26.4	27.1	25.4
1992	27.0	26.3	26.6	25.6	24.8	23.3	18.7	21.6	23.4	25.1	25.4	26.7	24.5
1993	25.5	25.7	26.3	25.6	23.1	21.8	20.9	20.7	22.3	25.6	26.5	27.0	24.3
1994	27.1	26.4	25.8	25.5	24.6	22.6	21.5	22.8	25.5	26.5	27.2	27.3	25.2
PROM	26.7	26.5	26.7	25.7	23.8	21.9	21.4	23.0	24.2	26.4	26.7	26.5	

(A.A.S.A.N.A.)

SAN IGNACIO DE MOXOS
HUMEDAD RELATIVA MEDIA

(%)

	ENE	FEB	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC	PROM
1983	80	81	81	81	86	90	77	69	67	69	77	77	78
1984	84	83	83	79	77	84	79	59	65	72	84	82	78
1985	81	83	82	84	79	75	75	68	72	75	78	79	78
1986	81	80	86	72	81	79	74	81	83	73	79	79	79
1987	80	75	74	81	81	77	75	70	58	70	79	82	75
1988				83	77	74	66	61	67	70	70	81	72
1989	82	78	77	80	77	79	67	65	66	65	67	76	73
1990	79	82	79	78	82	82	72	71	65	72	77	77	76
1991	84	56	82	80	81	78	72	70	75	65	80	81	75
1992	80	85	82	81	81	84	72	72	72	76	75	81	78
1993	81	75	81	81	78	80	73	69	72	70	77	78	76
1994	78	80	79	80	81	76	69	70	72	73	66	66	74
PROM	81	78	81	80	80	80	73	69	70	71	76	78	

(A.A.S.A.N.A.)

TRINIDAD
DIRECCION MEDIA DEL VIENTO

	ENE	FEB	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC	PROM
1983	NW	NW	NW	NW	NW	SE	NW	NW	NW	NW	NW	NW	NW
1984	NW	NW	NW	SE	NW	NW	NW	SE	NW	NW	NW	NW	NW
1985	NW	NW	NW	SE	NW	NW	NW	SE	NW	NW	NW	NW	NW
1986	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW
1987	N	NW	NW	NW	SE	NW	NW	SE	SE	NW	NW	NW	NW
1988	NW	SE	NW	NW	SE	NNW	SE	NNW	NNW	NW	NNW	NW	NW
1989	NW	NW	NW	NW	SSE	NNW	NNW	NNW	SSE	NNW	NNW	NW	NNW
1990	NW	NNW	NNW	N	N	SSE	SSE	NNW	NNW	NNW	NNW	NNW	NNW
1991	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW
1992	NNW	NNW	NNW	NNW	NNW	NNW	SSE	S	S	NNW	NNW	NNW	NNW
1993	NNW	ESE	NNW	NW	NNW	NW	NNW	S	S	N	NNW	NNW	NNW
1994	NNW	NNW	S	S	N	N	N	S	NNW	N	NNW	NNW	NNW
PROM	NW	NW	NW	NW	NW	NW	NW	NNW	NW	NW	NNW	NW	

(A.A.S.A.N.A.)

TRINIDAD
VELOCIDAD MEDIA DEL VIENTO

	ENE	FEB	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC	PROM
1983	6	4	4	4	5	5	6	5	8	5	5	6	5.3
1984	5	5	4	4	5	4	6	7	6	6	5	6	5.3
1985	6	4	6	6	4	4	5	7	6	7	3	3	5.1
1986	7	8	4	5	4	4	8	4	9	5	6	5	5.8
1987	6	6	6	4	5	5	6	9	5	6	5	10	6.1
1988	7	4	4	5	5	4	6	4	5	6	5	4	5.0
1989	5	4	4	3	4	4	6	5	7	5	4	5	4.7
1990	5	3	4	5	4	4	6	4	8	7	4	5	4.9
1991	5	5	6	5	4	8	6	6	6	9	7	10	6.3
1992	6	5	6	7	9	7	8	6	7	9	7	7	6.8
1993	6	6	5	5	6	6	8	7	8	6	6	8	6.3
1994	7	7	5	5	5	5	7	5	6	7	8	6	5.0
PROM	5.9	5.1	4.7	4.8	4.9	4.9	6.5	5.8	6.8	6.4	5.5	6.2	

(A.A.S.A.N.A.)

TRINIDAD
PRECIPITACION TOTAL EN

	ENE	FEB	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC	TOTAL
1983	531.7	178.1	182.7	116.8	345.6	7.1	71.0	1.6	100.9	128.1	277.3	399.9	2340.8
1984	276.3	261.1	325.7	137.4	80.0	17.1	9.2	50.7	77.5	151.1	166.0	348.6	1900.7
1985	369.6	198.4	246.1	205.6	21.5	6.2	71.5	79.0	74.8	109.7	351.5	122.4	1856.2
1986	365.7	332.9	243.5	188.0	181.9	0.6	23.2	188.0	192.8	231.6	337.8	127.7	2413.7
1987	270.7	221.5	118.9	112.9	93.3	37.2	67.6	67.5	19.5	147.4	208.4	399.8	1764.7
1988	231.1	95.1	469.1	154.1	206.3	3.5	11.2	5.0	138.4	76.2	36.0	241.7	1667.7
1989	213.4	201.2	206.2	153.2	18.5	25.0	74.3	53.6	54.4	179.6	108.5	263.3	1551.2
1990	463.5	274.7	181.2	113.8	113.8	36.2	81.2	39.8	99.9	66.8	335.2	370.9	2477.0
1991	209.8	348.8	149.5	133.3	74.2	57.4	33.7	8.2	138.0	107.0	200.3	157.9	1618.1
1992	289.4	793.7	307.6	192.7	194.9	130.3	25.0	129.1	441.3	209.5	232.3	313.3	3259.1
1993	404.1	182.4	250.1	95.6	97.2	10.3	16.6	37.8	213.6	90.5	115.6	336.5	1850.3
1994	341.7	212.4	169.8	113.1	191.3	127.4	9.1	13.5	204.6	203.6	120.8	313.7	2021.0
PROM	330.6	275.0	237.5	143.0	159.9	38.2	41.1	56.2	146.3	141.8	207.5	283.0	

(A.A.S.A.N.A.)

TRINIDAD
TEMPERATURA MEDIA AMBIENTE

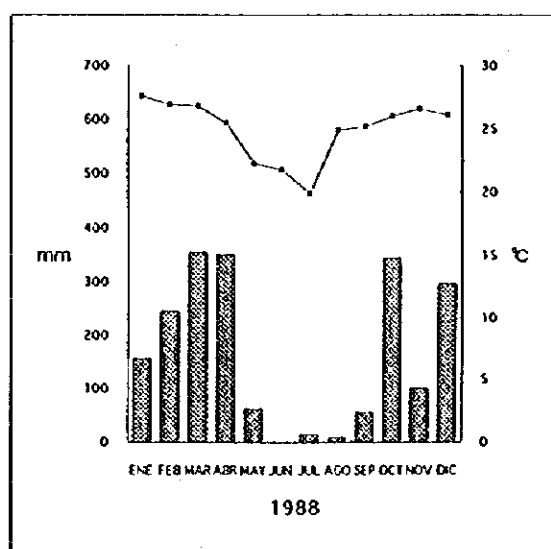
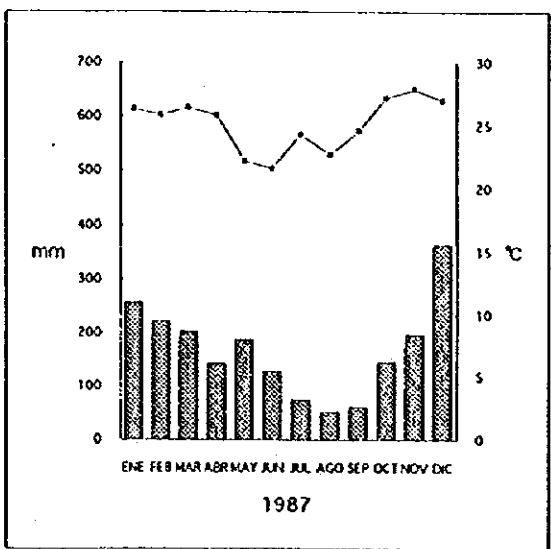
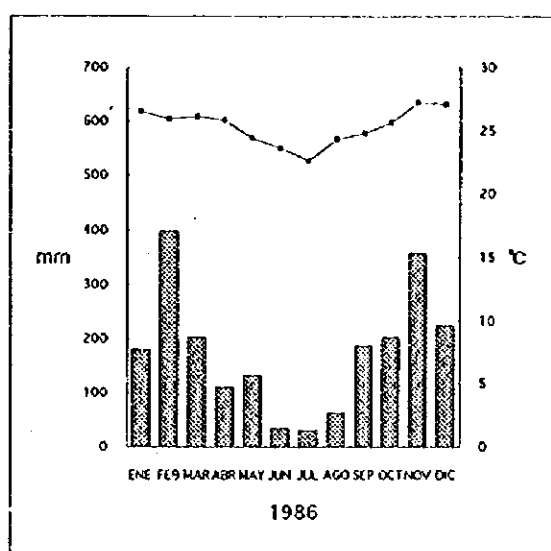
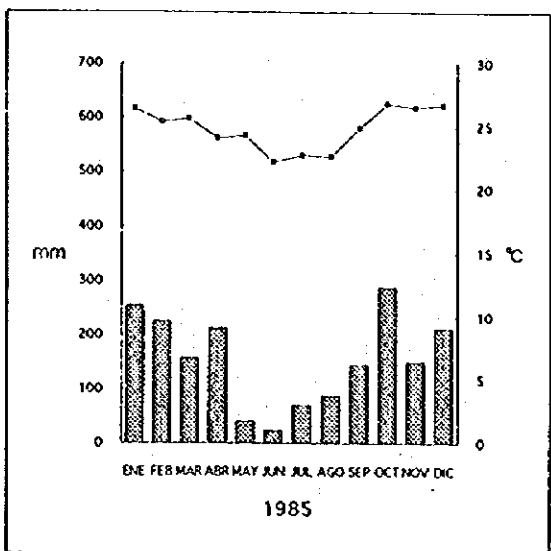
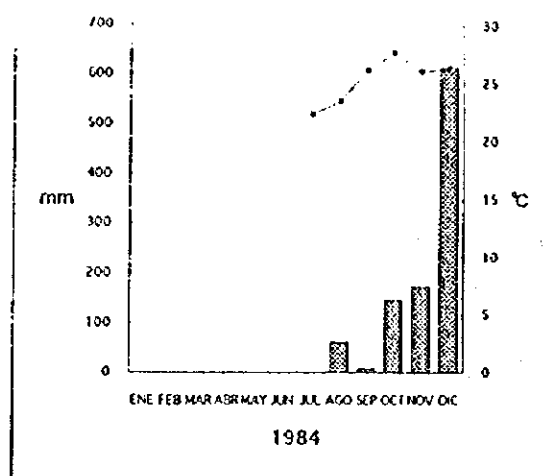
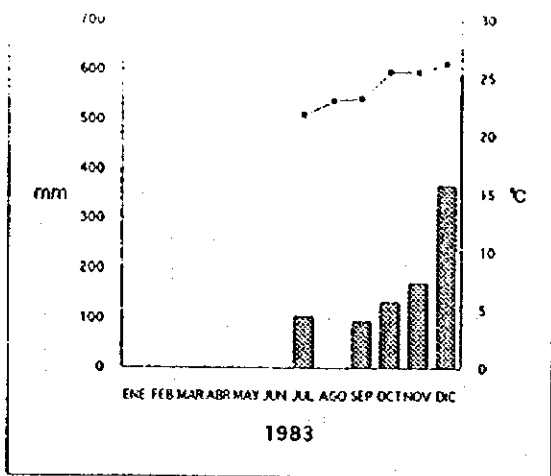
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	ENE	FEB	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC	PROM
1983	27.9	27.8	27.7	27.4	25.2	18.5	22.6	23.7	23.6	26.0	25.8	26.8	25.2
1984	26.2	25.2	23.2	25.1	25.5	22.2	23.5	23.6	26.4	27.6	26.4	26.6	25.2
1985	26.8	27.1	27.2	25.4	25.9	22.9	22.9	23.0	25.0	27.3	26.6	27.3	25.6
1986	28.2	26.3	26.4	26.9	25.3	23.8	22.3	24.8	24.3	25.9	26.9	27.3	25.6
1987	27.1	27.2	27.7	26.4	22.3	22.3	24.6	21.7	25.7	27.6	28.0	27.1	25.6
1988	27.6	27.5	27.4	25.7	23.1	21.3	20.3	25.0	26.3	27.1	27.3	25.8	25.4
1989	26.7	27.5	26.9	26.5	23.5	24.6	22.5	25.5	24.4	27.4	27.8	27.1	25.8
1990	26.4	26.8	27.9	26.5	23.8	21.7	20.8	24.4	24.7	27.1	27.0	27.3	25.3
1991	26.8	27.4	28.0	26.7	26.0	23.4	22.1	23.6	25.9	26.9	26.6	26.8	25.8
1992	27.1	26.3	27.1	26.1	25.3	24.9	19.3	22.5	24.1	25.5	25.7	26.9	25.0
1993	26.6	28.0	27.1	26.3	24.2	23.0	21.8	22.2	24.4	26.6	26.5	27.3	25.3
1994	27.2	26.8	26.8	26.2	25.8	24.0	22.6	24.3	26.3	27.3	28.5	27.6	26.2
PROM	26.9	27.1	26.9	26.2	24.6	22.7	22.1	23.7	25.1	26.8	26.9	27.0	

(A.A.S.A.N.A.)

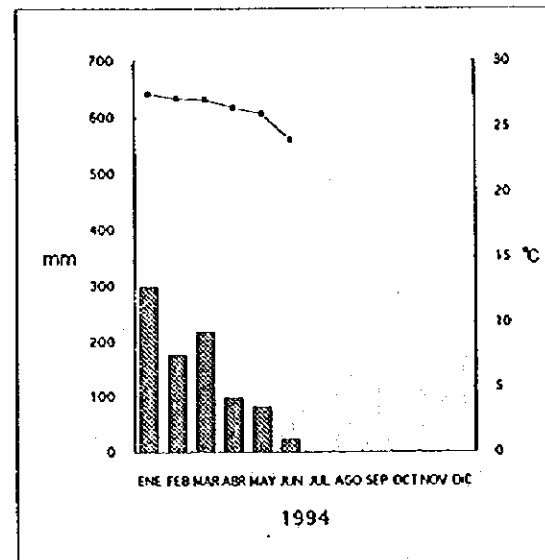
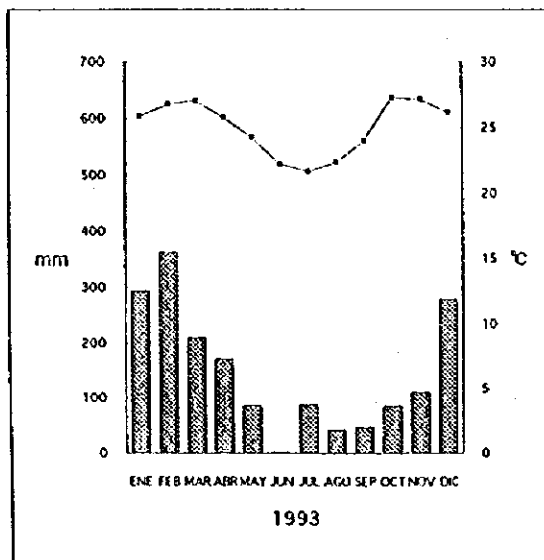
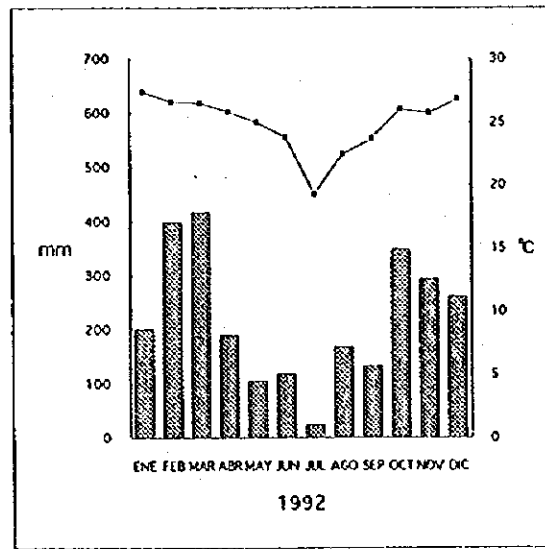
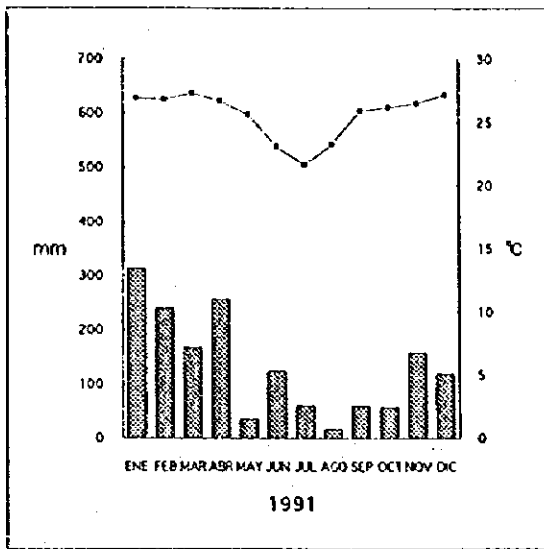
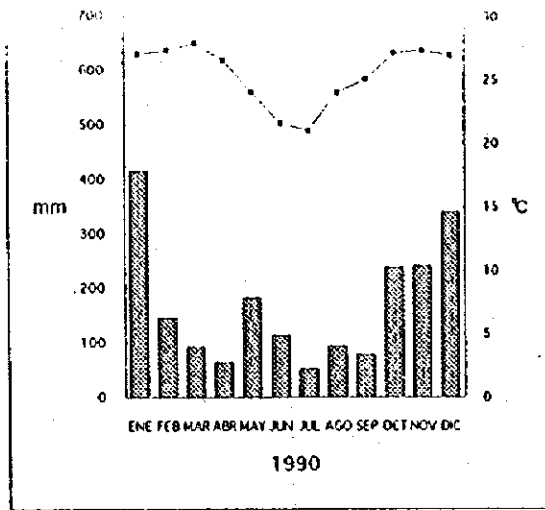
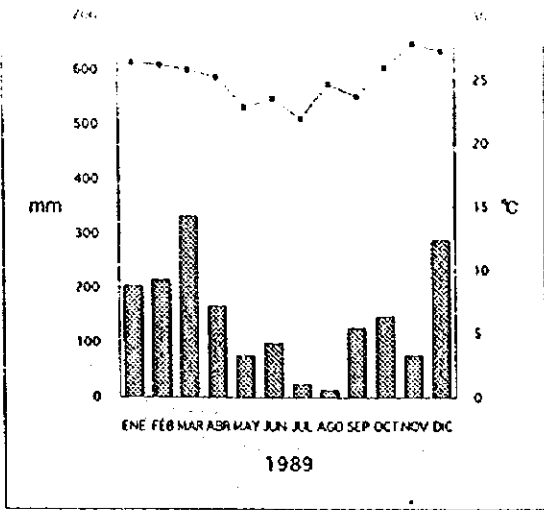
TRINIDAD
HUMEDAD RELATIVA MEDIA

	(%)												
	ENE	FEB	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC	PROM
1983	84	83	83	82	85	88	82	77	75	77	85	85	82
1984	88	86	85	81	82	84	76	69	71	75	83	84	80
1985	83	86	85	85	82	76	77	75	75	76	80	84	80
1986	86	89	89	86	87	79	78	79	79	75	84	85	83
1987	87	79	76	79	88	78	75	60	65	77	78	84	77
1988	85	82	87	85	82	78	70	67	67	67	67	87	77
1989	87	84	85	85	80	81	71	70	68	74	78	82	79
1990	86	85	84	82	85	85	70	82	61	72	51	85	77
1991	86	85	84	85	85	75	70	67	74	70	80	85	79
1992	81	87	82	80	80	80	67	71	80	77	77	82	79
1993	81	79	84	79	77	47	67	66	68	74	78	79	73
1994	80	83	77	79	81	76	66	63	67	73	70	76	74
PROM	85	84	83	82	83	77	72	71	71	74	76	83	

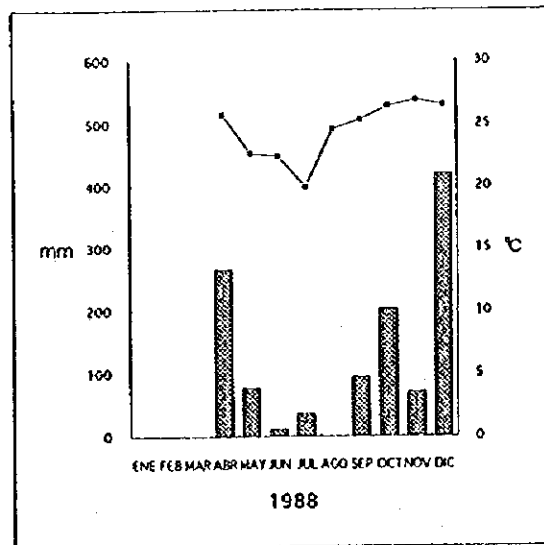
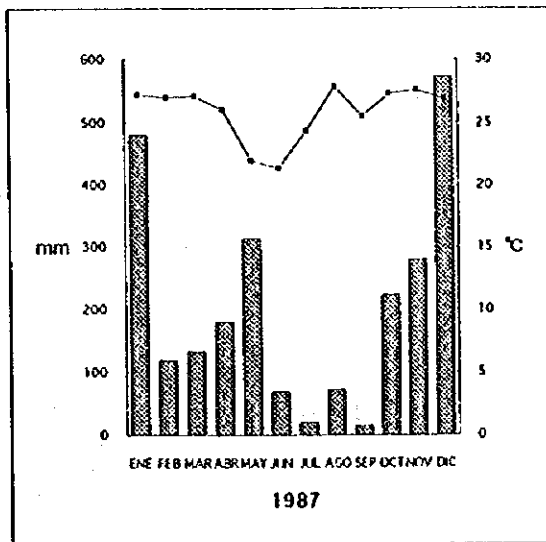
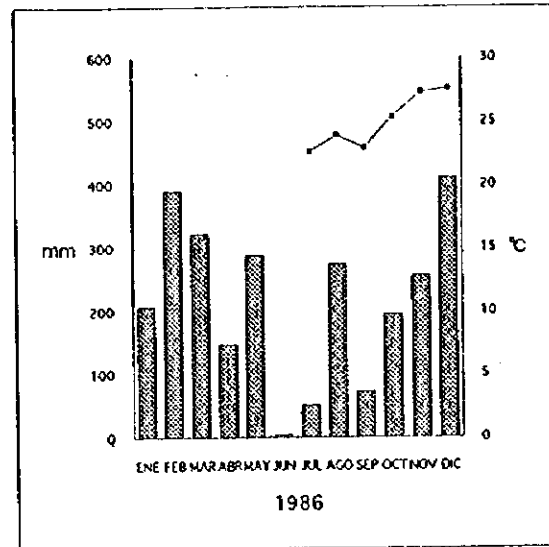
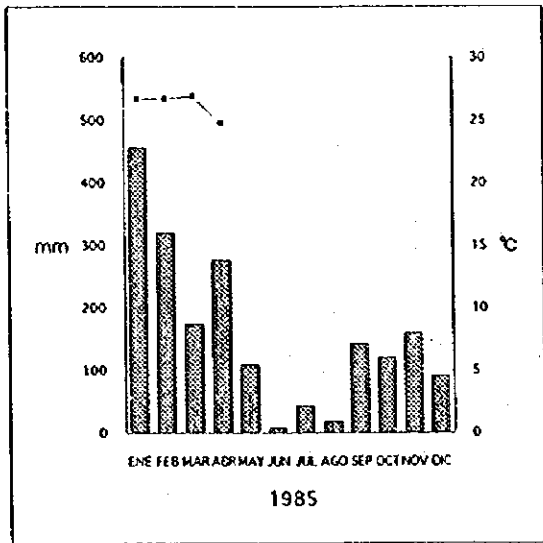
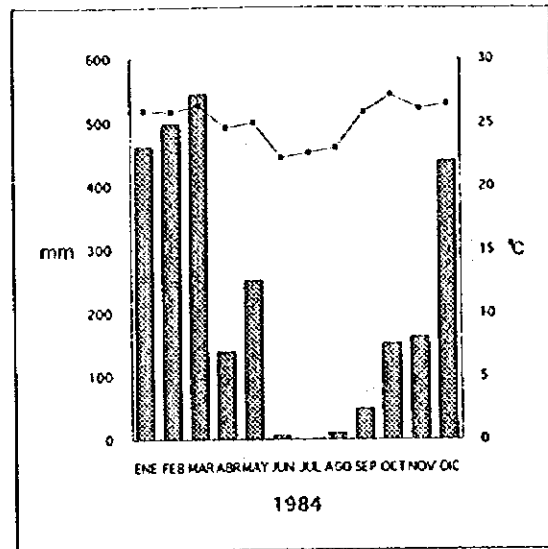
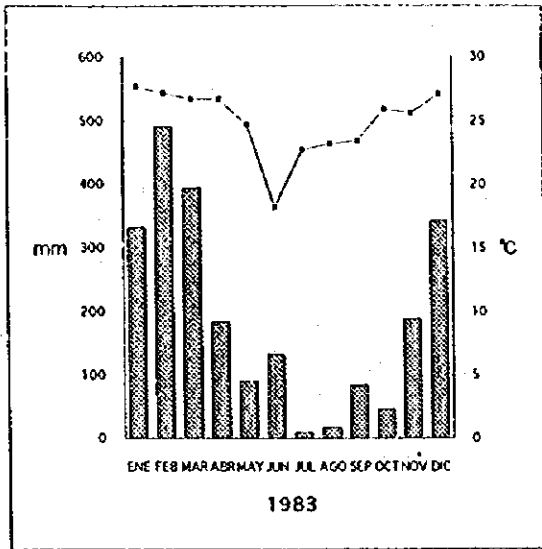
(A.A.S.A.N.A.)



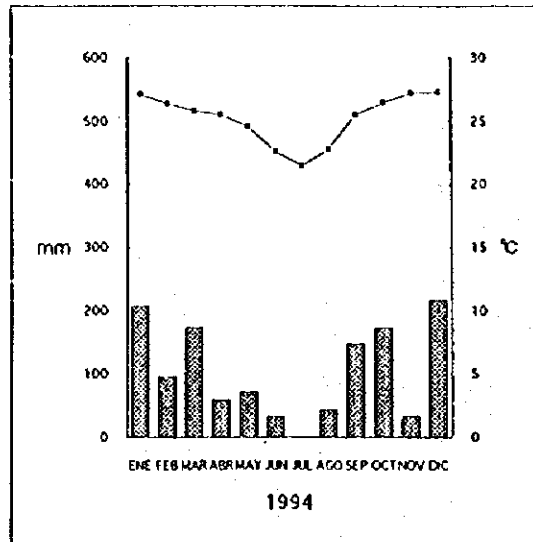
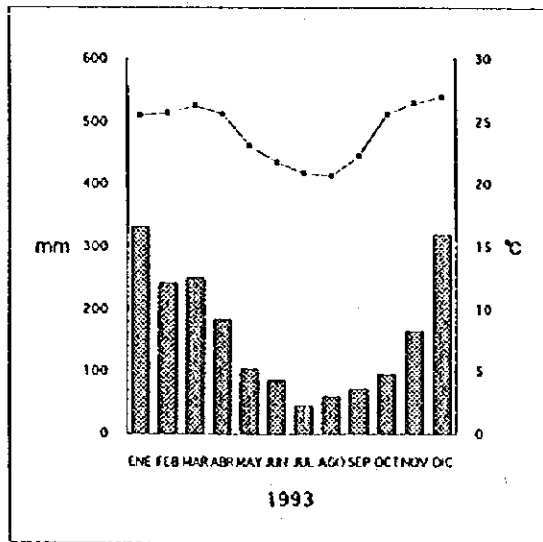
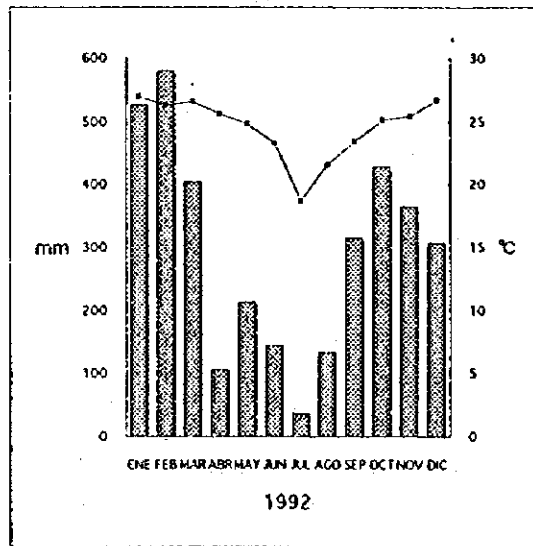
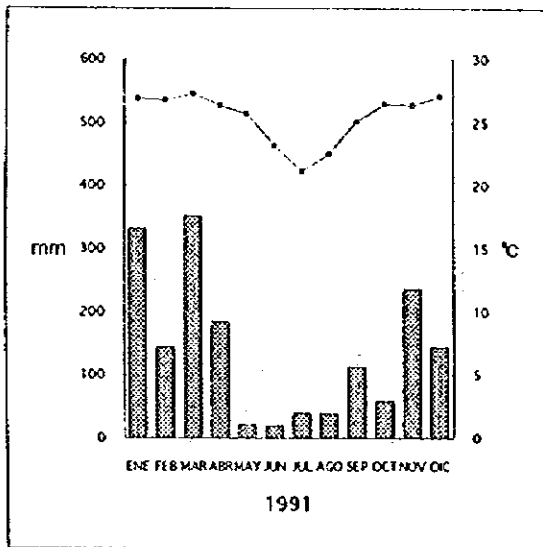
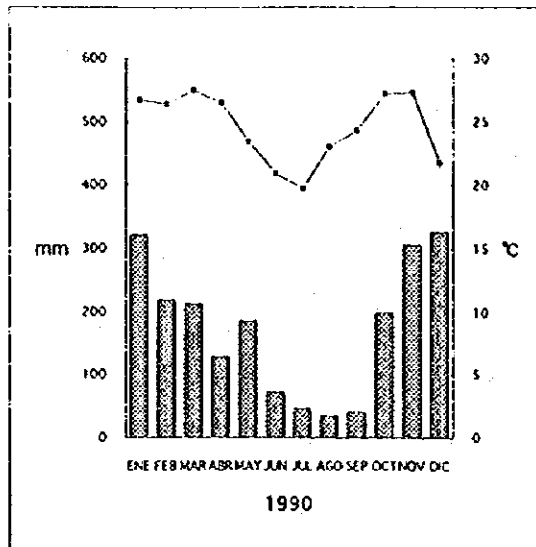
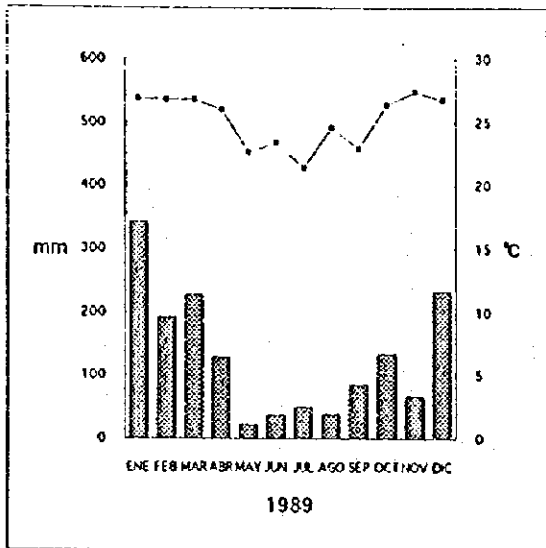
SAN BORJA



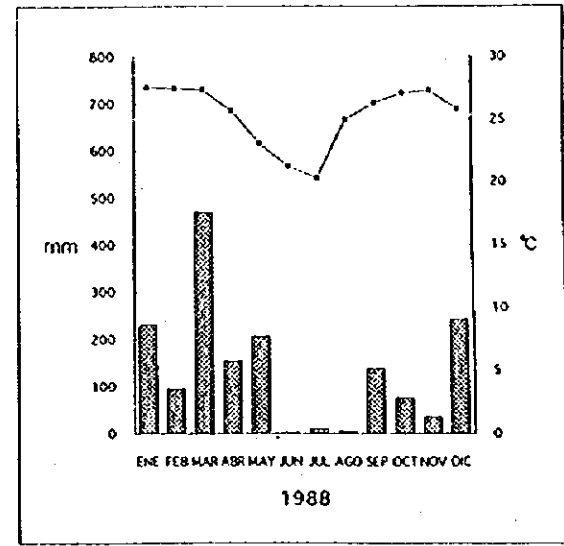
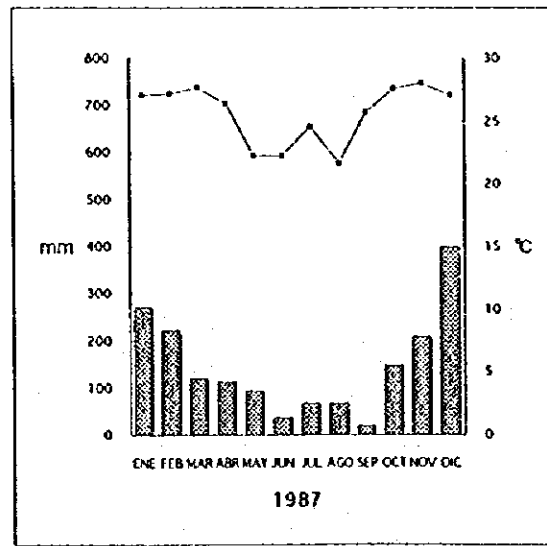
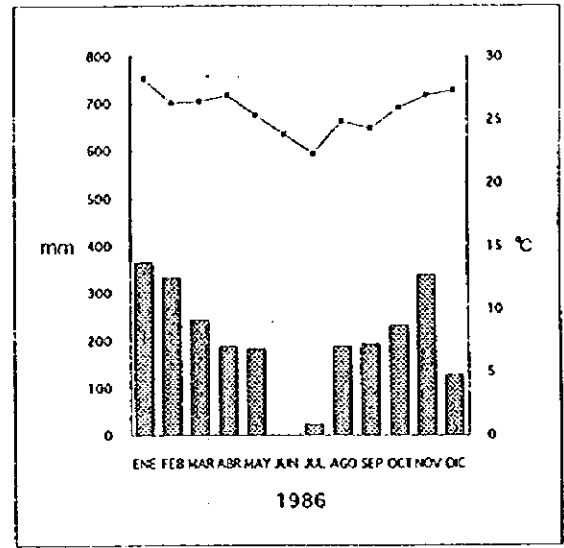
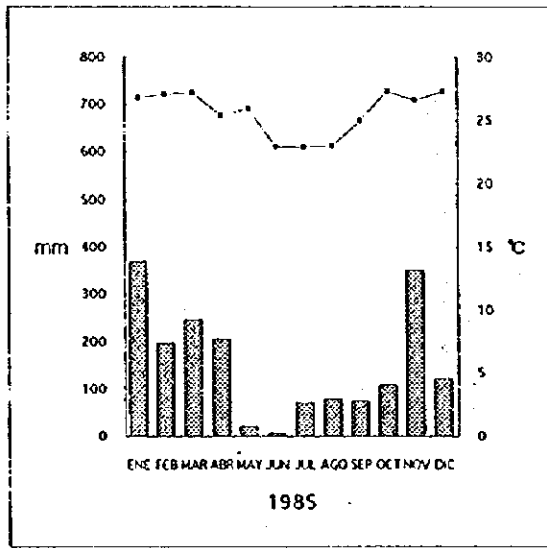
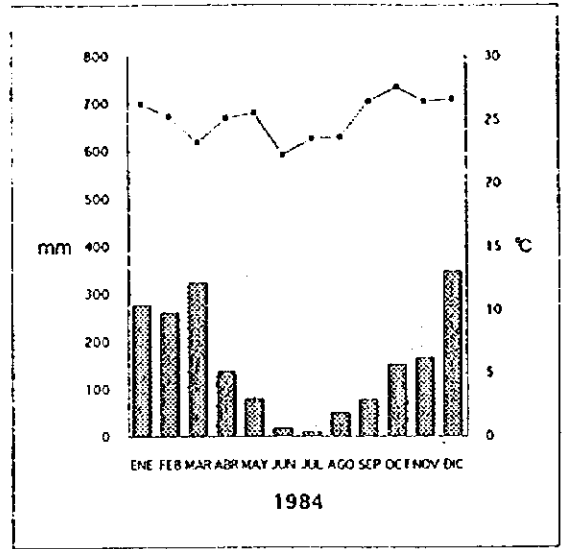
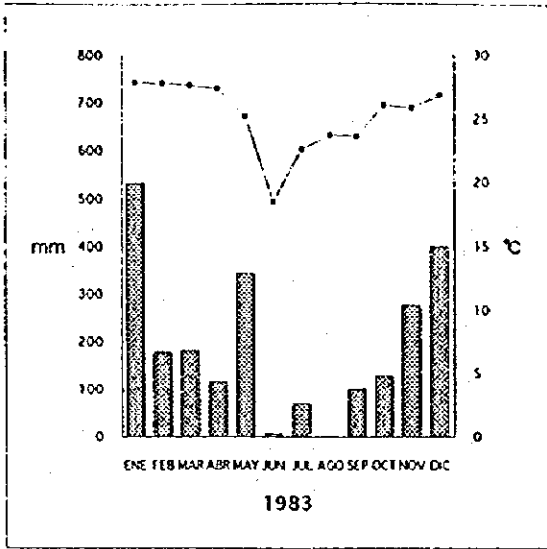
SAN BORJA



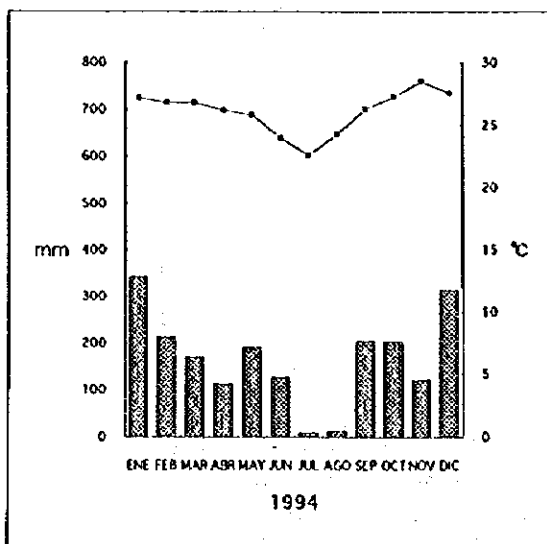
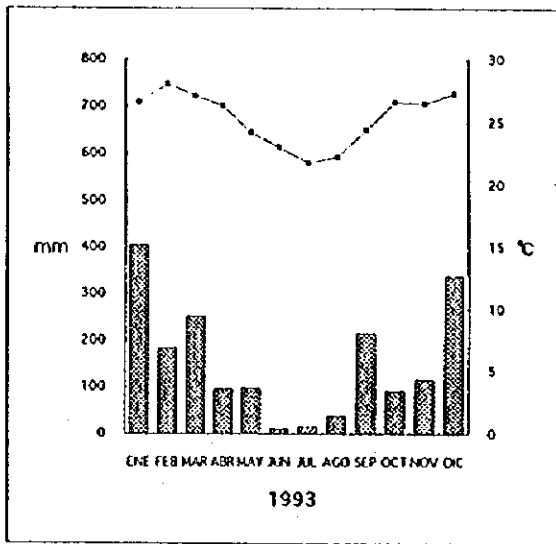
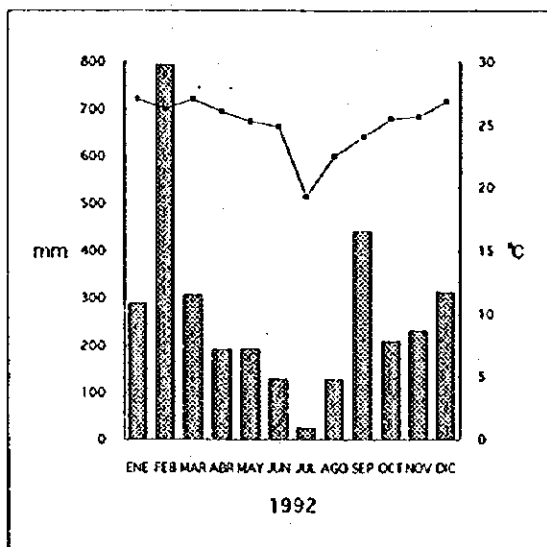
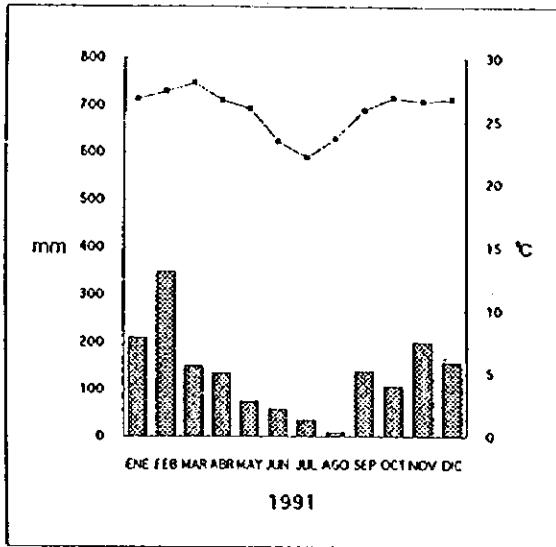
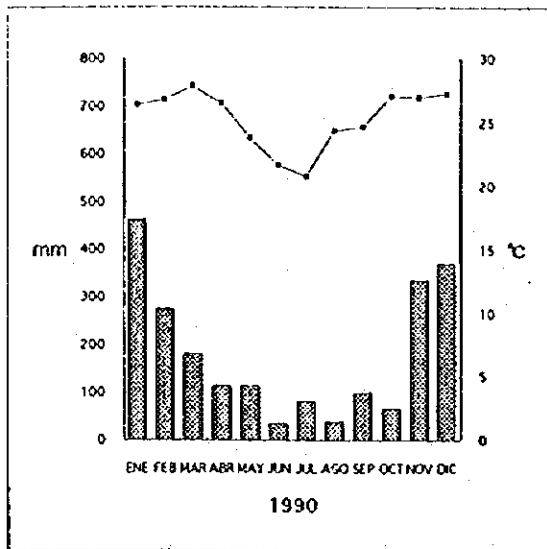
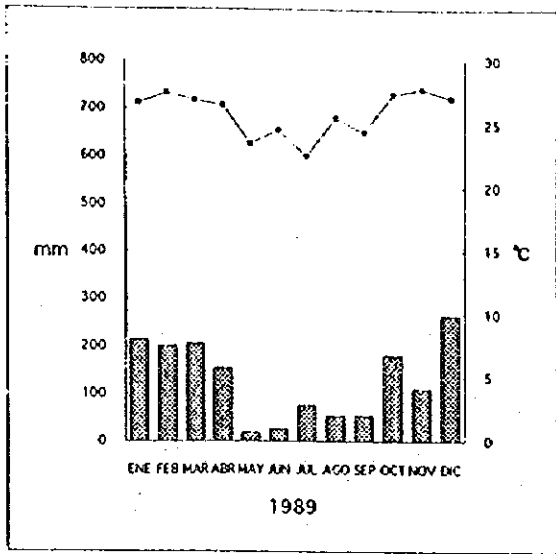
SAN IGNACIO DE MOXOS



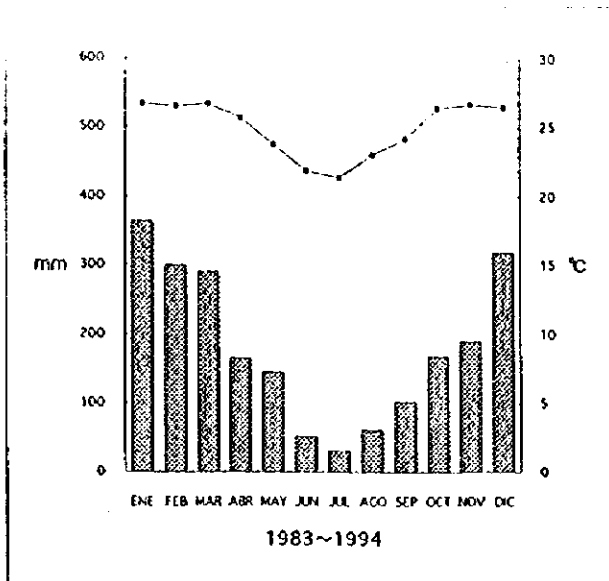
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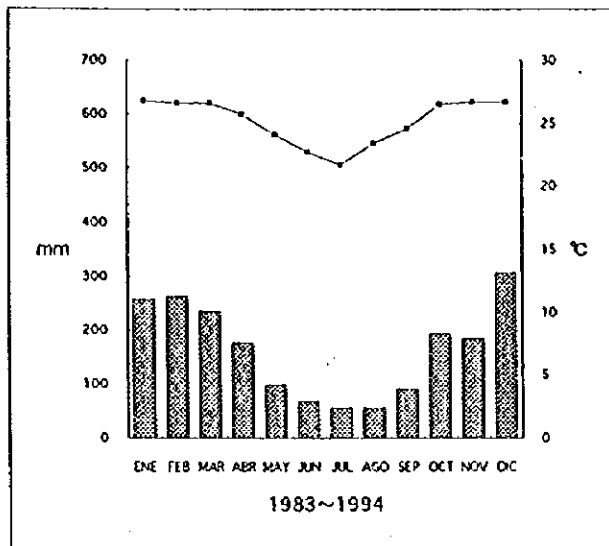
TRINIDAD



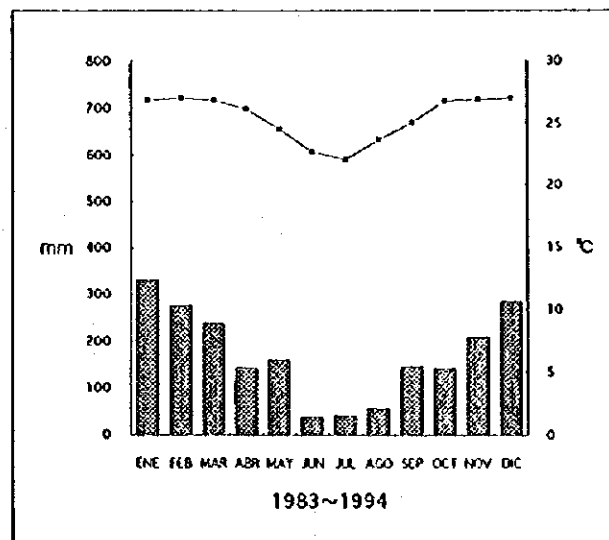
TRINIDAD



SAN IGNACIO DE MOXOS



SAN BORJA



TRINIDAD

