

Table A.24 Consumer Price Index of Urban Area in Ecuador (1/12)

(May 1978 - April 1979 = 100)

Goods and Services	1981											
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
General Index	124.4	128.0	131.7	133.5	136.2	136.8	137.1	137.8	139.0	140.4	142.9	143.4
Foods and Drinks	128.7	131.0	132.6	135.0	138.3	138.8	138.7	139.0	141.3	142.2	147.1	146.6
Cereals	114.1	118.2	118.2	120.8	125.4	124.8	121.9	126.9	130.7	128.0	131.5	129.8
Meat	125.6	125.0	129.7	129.6	133.3	135.7	135.1	135.4	135.7	137.7	143.6	140.5
Fish & shellfish	153.1	146.2	148.3	155.2	159.6	158.5	159.1	165.2	165.9	169.2	165.2	167.5
Fat & cooking oil	118.0	121.2	121.2	124.6	128.1	126.8	126.1	125.8	124.6	123.8	125.0	124.3
Milk, cheese & others	153.4	153.2	154.7	156.8	157.8	160.1	163.5	164.0	164.0	164.5	164.8	165.6
Fresh vegetable	143.0	141.6	141.9	149.8	157.4	163.6	159.1	143.1	147.6	138.5	135.0	128.4
Tuber	114.6	114.3	114.2	115.6	124.0	123.7	125.7	129.4	135.7	143.1	165.7	167.4
Beans	124.4	125.7	129.8	132.6	135.0	133.7	134.0	136.4	137.7	139.8	140.2	141.0
Fresh fruits	125.5	140.4	139.4	139.0	128.4	125.3	127.2	127.3	136.6	138.6	140.0	141.9
Preserved fruits & vegetables	124.7	125.4	128.3	130.4	131.8	132.2	132.6	132.7	133.2	133.4	134.3	134.5
Sugar, salt & seasonings	128.2	141.0	144.6	146.4	153.8	153.2	151.9	147.6	149.5	155.7	180.8	183.9
Coffee, tea & carbonated beverage	110.0	110.6	111.8	112.9	113.4	114.2	114.4	114.7	114.7	114.7	115.5	115.5
Foods for children & babies	104.2	104.4	104.9	105.0	106.4	106.5	106.9	107.4	107.8	107.8	108.1	108.2
Other food products	147.5	148.6	150.4	152.6	153.4	153.4	153.4	153.4	153.4	157.5	162.3	167.4
Candies	128.7	128.9	129.8	136.8	137.7	138.1	138.2	138.4	138.4	138.5	138.6	139.2
Alcoholic beverage	123.5	123.8	125.6	126.4	127.2	127.8	129.7	130.5	130.9	134.6	137.4	139.1
Ready-made dishes	139.4	145.8	152.1	163.3	162.8	170.6	174.0	173.4	177.5	176.0	195.1	191.0
Out-door foods & drinks	125.4	126.7	128.6	133.1	133.6	134.6	134.8	135.4	137.4	137.4	137.8	137.8
House & Household	120.0	125.6	127.8	129.9	130.9	131.9	132.7	133.9	134.5	135.5	136.8	138.7
Rent-a-house	119.9	119.6	123.4	125.8	126.8	127.7	129.1	130.5	131.0	131.7	133.1	134.9
Lightening & fuel	113.6	143.7	150.9	153.7	152.2	154.3	153.2	154.1	156.2	155.4	154.8	156.0
Maintenance	125.9	126.8	127.7	128.1	132.4	132.4	132.7	132.9	133.1	138.3	142.2	145.6
Out-door textile articles	121.7	122.9	126.7	128.7	130.8	131.1	131.2	131.8	132.7	133.6	135.0	135.3
Table & ranges	124.1	127.2	134.2	137.1	130.1	139.5	139.6	141.2	141.3	142.8	143.1	144.9
Furnitures	123.5	123.7	128.2	129.5	130.4	130.9	131.0	131.4	131.5	132.0	132.3	133.2
Other out-door appliances	129.5	133.2	137.0	138.2	140.0	140.2	140.6	141.7	143.4	143.5	144.6	145.3
Other out-door articles	117.3	118.3	122.3	122.3	123.0	123.5	125.0	125.3	125.3	126.1	126.3	127.2
Clothing	128.3	129.0	132.5	134.2	137.1	138.2	139.4	140.3	141.3	142.0	142.9	143.7
Fabric & accessories	130.3	132.0	133.0	134.9	136.9	137.2	137.6	138.6	139.1	140.0	141.9	142.7
Ready-made male clothes	125.1	125.6	129.7	131.0	134.3	135.4	136.2	137.1	138.0	138.4	139.5	140.3
Ready-made female clothes	130.3	131.1	133.8	135.6	138.1	139.7	142.1	143.2	144.2	145.2	146.0	146.5
Ready-made baby clothes	134.7	135.6	139.5	141.0	143.8	144.0	144.4	145.0	147.5	149.0	150.0	151.1
Cleaning services	137.0	138.3	146.1	151.9	153.4	153.9	153.9	153.9	154.7	154.8	155.5	156.0
Miscellaneous	120.2	125.0	133.8	134.2	138.0	138.4	138.5	138.8	139.0	142.1	142.9	143.5
Medical supplies	112.6	113.6	117.6	118.1	118.8	118.9	119.1	119.1	119.7	121.3	121.9	123.0
Cosmetics	122.6	123.0	127.0	127.7	128.5	129.2	129.2	129.8	130.2	130.6	130.7	132.4
Recreation & printing materials	132.7	133.3	138.5	139.1	140.3	141.3	141.3	142.1	142.1	143.5	147.2	147.7
Tobacco	113.7	114.2	114.2	115.1	115.4	115.9	115.9	116.2	116.7	150.0	150.1	150.2
Education	128.5	128.5	129.2	129.2	143.5	143.6	143.6	143.6	143.6	150.0	150.0	150.0
Transportation	114.4	114.4	165.6	165.6	165.8	165.8	165.8	165.8	165.8	165.8	165.8	165.8
Communication	104.6	104.6	106.7	107.5	107.9	107.9	107.9	107.9	107.9	108.2	108.2	108.2
Vehicles	111.6	167.6	175.5	176.4	177.7	177.8	178.4	178.5	178.7	179.1	179.5	179.9

Source: Índice de Precios al Consumidor Area Urbana, INEC.

Table A.24 Consumer Price Index of Urban Area in Ecuador (2/12)

(May 1978 - April 1979 = 100)

Goods and Services	1982.0											
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
General Index	145.1	146.3	148.1	150.2	151.7	153.9	156.9	159.8	162.2	169.3	174.9	178.4
Foods and Drinks	149.3	151.0	152.7	154.8	156.8	156.8	160.2	162.7	164.8	171.3	178.7	185.2
Cereals	131.6	134.0	135.2	139.0	143.0	141.1	142.0	143.3	144.3	147.6	168.4	178.2
Meat	146.2	147.8	151.6	156.5	157.8	160.4	160.3	163.7	164.7	176.0	179.6	187.9
Fish & shellfish	165.9	156.0	166.5	170.1	173.6	176.8	180.0	184.8	187.3	191.9	196.0	195.7
Fat & cooking oil	123.7	124.2	123.7	125.9	127.1	126.3	126.9	141.1	144.1	145.7	147.8	149.1
Milk, cheese & others	167.6	168.1	169.0	169.7	171.4	171.4	172.6	174.4	177.8	179.1	184.4	186.0
Fresh vegetable	136.3	147.1	154.3	164.2	164.7	160.4	150.8	148.4	155.3	167.4	175.4	205.7
Tuber	161.7	155.0	144.8	141.1	137.4	138.2	145.4	147.0	154.0	170.1	175.3	166.2
Beans	145.0	147.6	148.7	151.4	153.6	152.2	156.9	158.5	160.7	163.2	164.4	165.6
Fresh fruits	153.0	158.1	156.2	143.8	147.1	144.4	153.6	159.4	163.1	180.4	185.4	186.1
Preserved fruits & vegetables	134.6	135.1	135.3	138.3	139.3	140.7	141.1	143.7	145.0	146.4	147.9	150.8
Sugar, salt & seasonings	181.4	182.0	193.6	195.5	198.3	193.0	199.9	198.3	194.9	200.7	204.3	216.6
Coffee, tea & carbonated beverage	117.9	120.7	120.5	120.7	121.7	122.7	122.7	123.5	124.9	125.0	126.2	131.3
Foods for children & babies	108.5	108.9	109.6	112.8	112.9	123.5	127.0	129.4	129.7	130.9	133.2	137.0
Other food products	171.4	174.3	177.0	177.5	178.0	179.4	180.6	182.8	183.1	194.2	205.7	208.8
Candies	139.4	142.4	145.2	148.2	148.8	150.4	152.5	153.9	154.7	158.2	164.2	165.1
Alcoholic beverage	140.6	142.2	142.7	144.8	147.7	153.0	163.0	168.4	173.6	175.1	179.1	181.2
Ready-made dishes	191.6	188.2	192.0	197.8	214.1	210.5	216.8	227.6	225.4	251.2	254.7	259.3
Out-door foods & drinks	142.3	144.4	146.9	147.8	151.3	153.4	170.8	171.3	172.9	177.3	182.5	186.6
House & Household	140.2	141.6	143.7	145.3	146.8	149.9	152.0	154.9	156.6	161.5	162.0	163.4
Rent-a-house	136.6	137.3	138.3	139.8	141.5	142.5	144.1	145.2	146.7	148.4	149.9	150.8
Lightening & fuel	157.0	161.7	173.1	174.4	175.5	175.8	178.5	188.8	190.1	215.8	206.4	210.2
Maintenance	149.2	150.5	152.1	155.5	156.3	166.3	168.6	174.5	177.2	179.6	182.1	183.1
Out-door textile articles	135.6	135.8	136.0	137.6	138.3	145.2	148.6	152.2	154.7	159.3	160.8	165.7
Table & ranges	146.5	147.8	148.8	150.7	151.7	170.8	175.6	178.9	180.7	182.9	186.1	188.8
Furnitures	133.3	133.4	133.9	135.1	135.3	141.1	143.5	144.4	145.5	149.5	151.9	153.7
Other out-door appliances	145.5	147.3	147.9	149.1	153.4	154.9	158.5	163.7	165.1	172.6	175.9	182.2
Other out-door articles	128.0	128.3	133.0	135.8	136.4	148.1	153.3	155.7	157.9	161.6	167.9	170.3
Clothing	144.9	145.8	147.7	148.9	150.5	156.2	161.2	164.6	167.1	170.8	175.3	177.6
Fabric & accessories	143.4	145.0	146.5	147.8	151.9	163.5	169.0	171.5	173.9	179.7	184.9	190.4
Ready-made male clothes	142.1	143.0	145.2	146.3	147.9	153.3	158.8	162.7	165.5	168.2	174.0	176.2
Ready-made female clothes	147.0	147.8	149.5	150.7	151.9	156.5	161.4	164.0	165.7	170.4	172.8	174.6
Ready-made baby clothes	152.4	154.0	154.9	157.0	158.4	165.0	168.9	173.8	176.5	181.7	184.8	187.8
Cleaning services	156.7	157.5	158.0	158.1	159.6	167.1	170.6	177.2	181.4	184.1	189.4	193.6
Miscellaneous	144.1	144.6	146.0	149.3	150.2	153.9	156.3	158.8	162.2	174.5	182.7	184.4
Medical supplies	124.4	125.2	126.3	127.3	128.1	131.0	136.9	141.8	145.6	150.9	152.7	153.7
Cosmetics	133.2	135.3	136.8	142.1	143.3	151.7	156.8	165.3	170.0	174.7	176.7	178.4
Recreation & printing materials	148.1	148.8	155.6	157.0	157.3	164.5	165.3	167.6	171.5	183.2	184.4	187.2
Tobacco	150.7	150.8	151.7	151.1	152.8	153.9	154.5	155.7	156.0	156.0	158.2	170.5
Education	150.0	150.0	150.0	158.4	160.0	161.9	161.9	161.9	169.0	171.5	172.9	173.7
Transportation	165.8	165.8	165.8	166.0	166.0	166.7	167.1	167.1	167.1	176.7	245.3	246.0
Communication	108.2	108.2	108.2	111.2	111.2	111.6	111.6	111.6	111.7	111.7	111.7	112.1
Vehicles	180.3	180.5	180.5	180.9	181.6	182.9	184.4	185.0	185.0	284.3	270.8	270.9

Source: Índice de Precios al Consumidor Area Urbana, INEC.

Table A.24 Consumer Price Index of Urban Area in Ecuador (3/12)

(May 1978 - April 1979 = 100)

Goods and Services	1983.0											
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
General Index	186.1	190.6	196.4	205.9	220.3	283.0	245.5	255.2	265.1	272.7	272.1	272.0
Foods and Drinks	200.9	210.1	221.1	238.8	260.4	285.8	311.0	329.7	346.3	359.7	350.5	344.6
Cereals	206.1	226.3	229.9	244.3	268.9	297.4	314.9	336.3	394.5	423.1	395.8	388.6
Meat	200.9	204.5	215.7	229.4	241.5	247.6	263.0	267.8	277.2	282.4	291.0	299.4
Fish & shellfish	208.6	214.0	216.7	231.4	233.8	243.7	251.7	256.3	268.0	284.4	283.8	289.1
Fat & cooking oil	150.2	151.4	157.3	160.0	191.3	202.1	204.1	206.1	207.1	221.8	254.6	270.8
Milk, cheese & others	190.5	195.7	233.1	262.7	271.8	283.4	288.9	293.8	301.4	312.2	321.5	323.1
Fresh vegetable	264.4	316.3	340.4	385.2	460.1	533.2	594.8	550.1	444.8	395.7	367.4	309.6
Tuber	171.4	165.6	160.6	214.4	287.1	356.7	409.8	433.7	437.9	419.4	356.4	277.4
Beans	169.6	174.6	181.3	185.3	199.3	215.9	240.6	269.1	305.9	326.2	347.1	385.9
Fresh fruits	190.9	205.7	206.6	213.6	232.4	288.1	309.5	369.7	408.1	526.7	513.9	502.2
Preserved fruits & vegetables	152.3	153.2	155.3	160.0	164.0	176.4	180.6	185.3	191.3	195.1	204.4	212.7
Sugar, salt & seasonings	254.8	266.9	281.7	289.9	310.3	353.5	458.3	560.2	609.0	614.6	555.3	536.9
Coffee, tea & carbonated beverage	132.4	132.9	133.9	134.8	143.0	158.4	167.5	187.2	193.0	206.2	209.7	213.0
Foods for children & babies	141.4	145.0	146.8	152.2	157.0	157.2	158.7	164.1	165.9	168.5	174.4	177.6
Other food products	212.5	215.0	216.2	238.0	257.3	281.4	290.8	300.4	303.5	307.6	308.7	316.1
Candies	166.6	167.5	168.1	172.8	180.0	195.5	207.9	227.3	234.8	273.6	288.1	302.7
Alcoholic beverage	185.4	191.1	194.0	210.0	218.1	227.3	236.4	258.4	265.8	279.3	279.7	285.8
Ready-made dishes	260.8	272.4	285.1	304.3	342.0	341.8	383.9	381.5	415.8	424.8	480.9	502.2
Out-door foods & drinks	188.1	191.4	195.1	207.1	213.8	220.1	223.2	237.8	248.6	256.1	263.5	267.0
House & Household	165.4	166.8	169.1	172.3	176.2	179.5	184.1	186.7	189.7	192.9	198.4	202.1
Rent-a-house	152.4	153.7	154.8	156.5	157.4	159.4	162.7	164.2	165.2	166.2	171.8	175.4
Lightening & fuel	215.1	216.7	225.0	225.2	225.3	227.3	237.1	239.1	247.6	261.4	262.8	268.2
Maintenance	183.7	185.9	186.3	191.6	211.2	217.1	222.6	226.9	232.6	234.9	237.0	238.2
Out-door textile articles	166.9	168.4	173.1	177.3	181.7	187.1	193.1	198.1	203.3	207.8	216.4	217.4
Table & ranges	192.4	193.4	198.5	223.1	239.8	253.1	259.9	268.1	272.1	277.2	290.4	294.1
Furnitures	155.2	156.4	159.4	162.0	171.2	173.0	180.3	183.2	186.5	190.5	193.1	197.3
Other out-door appliances	184.0	184.6	188.3	193.6	200.9	208.5	216.4	232.7	244.1	247.3	264.4	268.0
Other out-door articles	175.1	179.3	181.8	193.3	216.0	219.9	227.3	236.1	240.1	245.3	250.5	251.3
Clothing	181.3	183.7	187.2	191.6	198.7	203.2	209.1	215.0	220.6	226.8	232.9	237.0
Fabric & accessories	193.0	195.8	198.3	206.9	215.1	218.8	232.0	239.4	244.7	253.9	258.8	261.9
Ready-made male clothes	179.5	182.1	185.7	190.4	196.7	199.9	204.7	209.6	215.1	219.9	227.3	232.0
Ready-made female clothes	179.4	181.5	185.1	188.0	196.0	201.1	205.0	213.0	218.5	225.6	230.3	233.4
Ready-made baby clothes	191.4	192.6	195.6	203.5	209.1	218.6	227.6	234.8	241.1	248.7	254.8	258.5
Cleaning services	197.4	201.5	204.4	207.6	214.8	228.5	233.1	239.8	245.7	256.6	260.0	265.3
Miscellaneous	186.8	187.4	189.7	194.3	211.7	217.3	220.1	224.8	232.2	235.8	239.2	242.7
Medical supplies	154.4	156.0	156.6	158.0	164.3	175.6	180.5	187.3	191.1	192.9	202.2	209.2
Cosmetics	181.3	182.3	183.8	189.0	201.5	209.1	219.2	236.8	246.3	256.9	263.3	271.4
Recreation & printing materials	187.8	188.0	199.8	211.3	228.1	231.4	233.6	235.7	237.5	239.6	242.3	244.4
Tobacco	219.2	220.3	221.2	227.3	310.1	346.7	347.2	348.4	349.6	353.4	353.7	354.0
Education	174.1	174.1	174.1	174.1	206.5	207.8	208.2	208.2	233.7	237.8	238.9	239.4
Transportation	246.0	246.4	246.5	246.8	248.7	248.7	249.1	249.1	249.2	249.2	249.4	249.4
Communication	112.1	112.1	112.1	112.4	112.4	112.4	112.4	112.4	112.4	112.4	112.4	112.4
Vehicles	271.3	271.7	272.8	284.0	289.4	291.8	292.4	294.6	294.6	295.9	296.2	314.6

Source: Índice de Precios al Consumidor Área Urbana, INEC.

Table A.24 Consumer Price Index of Urban Area in Ecuador (4/12)

(May 1978 - April 1979 = 100)

Goods and Services	1984.0											
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
General Index	278.6	283.6	290.6	298.0	301.7	303.7	307.3	313.0	317.9	324.9	334.5	340.2
Foods and Drinks	354.1	363.0	377.4	385.8	390.1	389.6	394.6	400.5	403.7	412.5	428.3	438.1
Cereals	397.6	415.9	434.8	443.2	451.4	441.4	439.1	448.4	451.9	470.9	502.9	511.4
Meat	312.9	324.9	337.0	347.3	357.2	365.1	374.0	379.7	385.6	399.4	416.2	434.3
Fish & shellfish	299.2	298.7	307.2	317.4	329.1	335.6	344.3	357.1	369.1	383.9	391.2	410.0
Fat & cooking oil	280.0	284.5	308.7	336.5	338.8	344.9	364.5	379.8	402.4	409.8	418.5	423.2
Milk, cheese & others	334.9	350.8	355.4	364.9	374.1	379.5	380.8	387.0	390.5	394.6	403.9	410.1
Fresh vegetable	330.0	372.8	434.8	465.3	427.5	456.3	458.1	415.1	366.0	357.9	368.8	393.3
Tuber	259.8	266.9	272.9	276.8	293.0	294.9	294.2	295.4	286.0	281.7	282.9	291.3
Beans	409.4	444.6	507.1	521.6	520.1	491.9	487.3	486.4	484.7	503.3	526.8	536.1
Fresh fruits	478.7	435.0	408.2	396.0	395.2	374.6	389.7	392.6	390.6	386.9	417.9	411.0
Preserved fruits & vegetables	216.6	219.6	221.4	223.4	226.5	227.7	232.8	233.9	236.8	237.8	240.4	242.6
Sugar, salt & seasonings	558.9	557.7	587.1	578.6	568.1	547.0	557.6	580.6	601.3	617.5	638.5	635.3
Coffee, tea & carbonated beverage	227.5	233.3	241.1	253.2	264.1	267.0	271.3	273.4	275.9	279.7	285.2	294.1
Foods for children & babies	180.5	189.9	194.7	200.5	204.9	209.6	211.0	211.7	230.8	232.4	243.2	244.3
Other food products	329.2	339.8	350.7	357.1	362.9	369.1	370.5	370.6	373.9	393.0	415.4	422.1
Candies	310.3	320.0	320.9	323.3	326.1	327.6	329.8	331.3	332.5	335.4	339.6	342.2
Alcoholic beverage	303.9	309.2	313.8	318.4	323.0	325.7	326.0	347.5	351.7	352.8	354.4	354.9
Ready-made dishes	492.1	536.3	540.4	572.9	594.0	605.2	627.1	627.1	648.6	650.7	713.6	715.1
Out-door foods & drinks	280.0	281.1	283.0	287.4	292.1	295.7	297.8	307.5	317.2	318.1	320.5	329.0
House & Household	206.9	209.9	213.6	218.8	220.5	222.8	224.8	226.8	229.0	231.4	236.6	239.6
Rent-a-house	177.6	179.5	183.1	185.6	186.6	188.2	189.7	191.3	192.9	194.1	196.5	197.3
Lightening & fuel	287.4	292.1	294.5	312.7	315.5	318.4	320.0	322.2	324.1	325.9	327.9	329.8
Maintenance	243.1	249.6	255.8	262.5	265.9	270.7	276.2	278.2	281.6	289.8	318.2	334.0
Out-door textile articles	221.2	224.2	227.0	230.9	236.1	239.8	241.7	245.1	250.7	259.6	269.5	275.4
Table & ranges	300.9	304.9	309.5	316.0	319.2	322.6	325.5	327.8	333.1	336.9	344.4	348.5
Furnitures	200.7	205.0	209.3	214.0	216.2	219.0	221.5	224.7	227.0	229.5	234.1	236.8
Other out-door appliances	271.3	274.5	281.8	288.6	290.8	295.8	300.2	303.2	306.3	310.1	312.5	323.5
Other out-door articles	253.2	255.6	257.5	260.1	266.2	267.9	268.6	269.7	271.6	273.4	280.8	288.4
Clothing	243.4	245.4	247.7	252.2	259.5	266.7	269.1	274.1	278.2	283.3	290.6	296.0
Fabric & accessories	267.1	268.3	275.0	278.9	290.1	295.7	299.9	304.8	311.0	320.8	333.2	342.4
Ready-made male clothes	236.6	237.9	239.3	243.3	252.3	258.1	259.9	264.6	268.7	273.1	281.5	285.2
Ready-made female clothes	240.8	243.8	245.5	251.1	155.2	266.2	269.2	273.8	277.0	282.0	286.7	292.4
Ready-made baby clothes	263.8	268.1	271.5	276.4	280.3	284.3	290.0	294.7	304.1	307.8	313.4	324.9
Cleaning services	283.2	286.2	290.3	293.8	295.7	296.7	297.2	306.8	310.0	315.7	321.6	329.0
Miscellaneous	246.5	248.5	249.5	258.9	262.2	266.4	269.9	279.3	288.7	298.1	303.0	305.3
Medical supplies	218.0	220.5	221.4	229.7	237.3	240.3	249.2	252.0	255.3	258.0	259.7	261.0
Cosmetics	278.5	283.8	286.4	291.7	294.7	299.9	303.2	306.5	311.0	313.2	323.6	327.5
Recreation & printing materials	245.6	247.4	248.7	249.8	258.7	271.5	274.4	275.1	281.7	324.9	329.4	338.2
Tobacco	378.8	382.3	383.2	383.2	384.6	386.3	386.3	386.5	386.5	389.6	389.7	390.0
Education	239.4	239.4	239.4	264.0	264.5	266.3	266.3	266.3	295.7	301.9	309.5	309.5
Transportation	249.6	250.2	250.2	250.2	250.2	250.2	255.9	317.9	325.0	325.9	326.3	326.3
Communication	112.5	112.5	112.5	153.0	154.3	154.3	155.5	169.9	170.8	170.9	172.8	173.6
Vehicles	314.9	319.3	320.2	320.3	321.8	325.3	328.7	334.2	335.6	336.6	339.2	339.2

Source: Indice de Precios al Consumidor Area Urbana, INEC.

Table A.24 Consumer Price Index of Urban Area in Ecuador (5/12)

(May 1978 - April 1979 = 100)

Goods and Services	1985.0											
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
General Index	362.0	366.2	372.9	383.9	388.5	396.1	402.3	403.1	406.6	408.9	414.1	423.1
Foods and Drinks	471.8	477.0	487.8	503.1	508.4	520.0	531.7	530.7	532.5	533.0	539.3	556.4
Cereals	537.0	547.6	567.2	592.4	606.8	612.2	622.5	633.8	638.6	634.8	642.0	668.3
Meat	471.0	486.1	493.1	501.2	507.5	520.5	528.0	540.4	547.8	552.7	556.7	564.2
Fish & shellfish	436.8	442.0	449.3	453.2	451.4	457.7	468.2	487.5	503.6	508.9	516.4	521.4
Fat & cooking oil	456.3	461.5	465.1	473.2	477.5	477.9	481.1	476.8	476.5	476.9	476.2	477.8
Milk, cheese & others	416.5	423.0	432.3	475.1	480.2	482.9	485.4	491.0	491.6	498.5	510.1	517.7
Fresh vegetable	416.5	398.2	395.7	422.3	436.7	510.5	556.9	484.8	440.5	391.1	395.9	438.5
Tuber	303.5	303.9	338.4	380.6	408.1	415.1	421.6	406.4	386.0	369.3	375.7	413.3
Beans	574.1	589.6	605.1	628.7	641.0	668.5	676.3	679.8	682.7	690.2	702.0	732.9
Fresh fruits	461.2	492.3	484.0	448.1	421.7	418.4	419.7	421.5	446.4	471.7	503.4	523.1
Preserved fruits & vegetables	246.5	250.3	252.9	255.3	257.1	258.2	265.7	268.0	269.1	271.2	275.0	277.6
Sugar, salt & seasonings	750.5	730.9	730.2	726.8	712.1	730.8	773.2	752.2	752.0	749.2	734.1	764.6
Coffee, tea & carbonated beverage	306.1	311.6	320.2	337.1	310.0	348.2	352.6	357.5	364.1	373.3	376.4	390.1
Foods for children & babies	244.9	245.3	246.2	246.2	246.2	247.7	247.7	248.1	269.4	278.2	283.4	290.2
Other food products	429.5	431.1	435.6	436.1	437.7	439.0	441.0	446.7	472.5	479.2	492.1	503.9
Candies	346.2	346.2	353.1	357.4	362.7	367.7	384.6	388.4	389.6	392.0	396.8	399.1
Alcoholic beverage	358.2	360.7	364.5	369.7	392.8	418.1	423.7	429.1	435.2	439.5	442.6	445.3
Ready-made dishes	761.5	796.0	802.3	829.3	821.3	859.8	876.2	894.7	936.2	967.6	980.6	974.1
Out-door foods & drinks	345.6	346.4	363.1	368.9	377.4	380.8	384.7	385.6	387.1	395.6	404.6	409.8
House & Household	243.6	246.7	249.4	251.9	254.2	256.5	258.6	260.2	262.5	264.6	267.1	269.9
Rent-a-house	199.7	202.1	203.9	205.6	207.3	208.6	210.3	211.8	213.3	215.2	217.4	218.8
Lightening & fuel	332.0	334.0	336.1	338.6	340.4	342.2	344.0	346.1	348.2	350.4	354.2	357.9
Maintenance	342.7	346.1	348.2	352.2	353.9	358.1	360.3	361.1	365.7	366.7	367.6	376.4
Out-door textile articles	288.0	293.3	301.7	306.5	310.4	313.0	317.7	321.3	331.0	333.4	336.9	338.5
Table & ranges	360.0	366.6	372.5	377.9	382.4	391.1	395.4	396.4	399.2	403.9	408.0	411.7
Furnitures	245.1	254.5	258.4	261.8	267.2	271.6	275.5	278.3	281.7	287.4	292.5	299.6
Other out-door appliances	326.0	330.7	354.5	363.0	376.2	388.3	390.5	394.9	399.4	401.8	405.3	418.7
Other out-door articles	298.3	309.4	318.4	324.3	342.7	345.5	351.2	353.1	364.1	366.3	366.7	371.8
Clothing	301.7	308.7	317.7	324.0	332.0	338.6	343.7	347.6	351.8	358.1	362.5	368.2
Fabric & accessories	351.5	358.9	373.9	379.9	387.1	392.5	398.0	403.7	407.3	414.2	419.3	425.1
Ready-made male clothes	290.1	296.0	303.7	310.5	319.5	327.5	332.2	336.8	340.1	345.7	350.3	354.7
Ready-made female clothes	298.0	303.5	313.0	318.7	326.4	331.2	336.5	338.8	345.1	353.4	357.0	365.2
Ready-made baby clothes	333.5	340.9	349.6	354.5	362.9	376.8	384.3	390.1	395.8	405.9	413.7	418.6
Cleaning services	337.2	361.3	369.9	377.7	381.7	387.5	392.6	395.7	398.5	401.0	403.5	409.3
Miscellaneous	333.1	335.4	338.6	354.7	359.0	366.2	368.4	369.6	376.1	380.3	386.9	390.7
Medical supplies	262.8	267.1	275.8	276.1	277.7	281.6	286.5	286.8	290.8	304.0	323.1	333.5
Cosmetics	332.8	339.5	346.1	348.0	351.9	356.4	360.6	362.9	366.5	368.4	371.3	373.0
Recreation & printing materials	343.5	345.7	349.1	357.4	359.1	370.9	373.9	377.1	379.9	387.1	400.6	401.3
Tobacco	390.0	390.0	390.1	390.1	390.1	490.6	492.7	492.7	492.7	492.7	493.3	529.5
Education	309.5	310.6	310.6	371.0	383.9	385.1	385.1	385.1	407.3	409.7	411.5	411.5
Transportation	472.9	472.9	472.9	472.9	472.9	472.9	472.9	472.9	472.9	472.9	472.9	472.9
Communication	173.6	173.6	173.6	173.6	173.6	173.6	173.6	173.6	173.6	173.6	173.6	173.6
Vehicles	455.7	458.3	462.6	464.5	465.9	468.5	469.3	469.9	473.9	475.6	475.7	476.4

Source: Índice de Precios al Consumidor Area Urbana, INEC.

Table A.24 Consumer Price Index of Urban Area in Ecuador (6/12)

(May 1978 - April 1979 = 100)

Goods and Services	1986.0											
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
General Index	437.0	448.1	456.8	465.5	469.3	474.7	478.3	491.5	503.9	521.4	531.2	538.8
Foods and Drinks	580.0	598.4	612.3	618.5	616.7	620.4	618.9	638.4	653.2	676.6	690.7	704.1
Cereals	684.3	700.1	719.6	731.7	719.8	704.1	696.6	700.1	710.3	746.0	763.8	768.4
Meat	582.1	592.1	596.6	604.2	616.9	628.9	632.1	640.3	646.3	654.7	673.2	685.0
Fish & shellfish	543.3	542.3	564.0	585.6	576.8	590.6	603.1	636.0	672.7	704.0	721.0	739.4
Fat & cooking oil	479.7	483.5	497.7	510.3	518.6	523.3	522.7	522.6	563.4	580.2	582.8	588.8
Milk, cheese & others	534.7	539.8	543.7	553.6	566.6	582.0	588.1	601.3	613.3	666.9	685.5	692.3
Fresh vegetable	540.1	650.3	692.1	689.2	674.5	669.7	610.7	712.2	703.6	655.8	640.1	716.2
Tuber	496.9	522.1	549.2	516.9	435.8	410.3	381.5	382.2	401.3	447.4	500.2	525.0
Beans	744.5	758.3	767.7	807.1	823.1	817.0	794.6	809.1	824.1	837.0	840.3	847.1
Fresh fruits	532.5	553.1	575.4	575.4	576.3	578.8	594.6	628.5	674.0	725.6	768.6	771.3
Preserved fruits & vegetables	285.3	292.1	302.6	313.1	313.7	321.8	326.1	329.4	338.0	345.2	367.4	384.1
Sugar, salt & seasonings	767.7	767.6	771.1	778.3	789.1	782.8	784.8	840.5	855.9	874.0	852.7	858.0
Coffee, tea & carbonated beverage	408.5	477.9	498.2	505.3	513.1	541.8	546.0	550.6	579.1	625.3	636.0	643.9
Foods for children & babies	292.7	299.0	302.6	309.4	316.4	320.3	321.1	323.4	324.5	330.5	334.5	341.9
Other food products	515.8	522.4	525.1	531.7	538.7	546.4	552.3	552.4	588.9	643.7	672.7	677.8
Candies	412.5	436.9	444.9	451.2	453.6	474.4	476.9	480.0	484.4	533.6	591.2	600.4
Alcoholic beverage	459.0	471.1	478.4	481.6	488.8	491.6	512.3	516.9	519.6	526.3	551.7	558.8
Ready-made dishes	1010.6	1031.9	1022.8	1068.8	1061.5	1085.3	1124.9	1144.4	1174.1	1178.0	1180.3	1176.0
Out-door foods & drinks	424.2	434.9	441.3	448.8	453.8	472.5	481.4	496.0	498.0	507.3	517.4	526.4
House & Household	274.3	278.7	283.7	288.9	294.1	299.2	304.7	309.7	314.4	319.2	323.7	327.3
Rent-a-house	220.5	222.6	224.5	226.6	230.1	232.7	236.0	238.5	240.8	242.9	245.5	247.7
Lightening & fuel	364.0	368.2	382.5	387.9	392.2	396.6	410.8	410.7	415.5	423.0	428.7	434.6
Maintenance	391.2	402.0	413.8	429.8	438.8	460.4	465.5	472.1	475.4	478.2	487.6	497.3
Out-door textile articles	341.5	355.2	364.5	374.9	383.8	392.5	407.0	432.6	445.4	464.6	473.0	477.6
Table & ranges	424.9	437.4	445.1	461.0	472.5	477.7	484.8	507.4	530.1	549.3	558.2	561.5
Furnitures	306.2	312.6	316.2	329.3	335.6	339.3	349.7	360.6	371.7	385.0	393.7	399.0
Other out-door appliances	430.2	452.5	457.5	473.0	494.4	513.9	519.5	523.5	533.3	537.6	554.4	557.3
Other out-door articles	302.1	392.9	403.8	410.3	425.8	435.8	441.8	473.9	499.5	512.2	523.9	526.4
Clothing	379.0	389.7	399.8	406.1	417.8	429.0	437.6	451.8	463.2	473.1	487.7	494.7
Fabric & accessories	447.3	469.3	488.1	493.0	511.6	526.8	535.1	568.0	585.5	599.3	609.5	614.8
Ready-made male clothes	365.7	376.2	385.3	392.1	404.3	416.1	427.6	440.7	451.8	460.4	476.5	484.6
Ready-made female clothes	373.4	380.7	388.5	394.3	403.5	409.6	416.8	429.2	438.9	449.2	463.5	469.3
Ready-made baby clothes	426.6	441.7	455.0	464.0	471.4	485.7	501.1	510.5	531.0	540.6	550.7	562.3
Cleaning services	426.1	439.7	462.8	468.7	476.5	481.7	489.1	496.9	506.8	519.4	538.0	547.2
Miscellaneous	400.0	406.2	409.7	428.1	437.0	443.5	451.2	462.0	478.8	501.2	507.6	510.2
Medical supplies	342.6	347.7	351.3	353.3	356.1	359.9	361.2	365.6	369.5	373.3	380.2	384.5
Cosmetics	380.7	393.3	400.4	413.4	424.6	442.0	456.7	469.1	479.1	506.0	520.4	528.2
Recreation & printing materials	410.4	413.5	421.8	453.3	457.5	458.6	476.2	508.9	520.2	526.2	537.8	540.5
Tobacco	555.2	557.5	562.8	563.1	603.0	662.0	664.4	738.6	746.2	747.0	747.4	747.4
Education	422.5	426.1	426.5	467.2	474.9	477.8	477.8	477.8	506.2	513.3	517.2	517.7
Transportation	474.0	474.0	474.9	475.4	486.3	486.3	496.2	499.6	560.1	626.3	628.5	630.6
Communication	173.6	178.4	178.4	203.6	204.1	204.1	204.1	204.2	204.2	204.2	204.2	204.2
Vehicles	491.1	510.4	511.5	512.5	521.2	522.4	532.4	544.6	544.6	599.4	601.3	604.1

Source: Índice de Precios al Consumidor Area Urbana, INEC.

Table A.24 Consumer Price Index of Urban Area in Ecuador (7/12)

(May 1978 - April 1979 = 100)

Goods and Services	1987.0											
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
General Index	548.5	562.4	591.4	603.0	611.3	625.2	631.1	637.8	650.9	663.5	693.7	713.8
Foods and Drinks	714.6	740.4	772.8	787.1	794.6	814.5	818.6	825.9	840.7	861.1	911.9	938.8
Cereals	783.4	822.0	836.4	851.8	848.1	834.2	846.0	869.0	879.8	890.7	950.2	976.9
Meat	705.9	721.2	733.6	743.0	761.9	771.6	786.4	797.8	805.1	820.4	847.7	886.9
Fish & shellfish	752.5	772.9	803.1	846.1	852.2	858.2	878.5	953.2	972.4	1004.9	1056.2	1090.3
Fat & cooking oil	588.6	600.3	640.7	660.3	673.4	690.0	708.6	711.8	711.9	712.4	771.0	779.5
Milk, cheese & others	697.5	704.0	716.2	730.3	737.1	753.1	758.8	804.3	822.5	842.4	898.1	920.5
Fresh vegetable	721.9	775.7	966.8	996.5	981.0	985.5	908.3	838.5	748.9	779.5	908.1	906.0
Tuber	535.3	517.5	516.5	502.7	485.5	493.7	511.0	532.8	702.4	747.7	744.7	716.7
Beans	852.3	858.1	869.0	882.2	890.6	905.2	914.7	913.2	924.9	917.3	933.3	962.0
Fresh fruits	764.9	818.0	862.6	849.3	832.0	899.7	903.3	965.7	999.0	1099.1	1036.5	996.1
Preserved fruits & vegetables	395.4	396.9	411.5	439.7	448.8	462.7	475.4	486.6	510.4	519.1	543.5	575.2
Sugar, salt & seasonings	867.1	935.9	1023.3	1049.7	1095.4	1239.9	1206.7	1059.7	1055.6	1054.4	1203.2	1307.5
Cuffee, tea & carbonated beverage	667.4	704.6	704.7	707.8	707.7	716.9	739.2	743.4	748.3	753.9	817.3	843.6
Foods for children & babies	346.2	357.5	365.4	367.8	369.2	370.3	381.9	402.3	407.2	410.5	415.5	422.5
Other food products	681.0	690.1	707.1	714.7	718.6	723.3	730.9	804.5	828.9	865.5	889.9	895.9
Candies	613.8	635.6	639.2	645.3	649.2	652.3	666.8	674.1	691.0	715.8	736.9	793.4
Alcoholic beverage	598.5	604.3	614.5	644.7	647.0	647.3	652.3	657.0	677.1	707.5	714.2	730.1
Ready-made dishes	1193.7	1211.5	1273.4	1325.1	1346.0	1417.8	1462.2	1554.4	1594.7	1653.4	1675.9	1724.5
Out-door foods & drinks	530.4	555.8	581.6	587.9	607.3	613.1	619.3	627.0	627.3	635.8	674.5	704.4
House & Household	331.7	338.4	356.3	362.7	369.5	378.6	384.4	390.3	395.2	398.8	410.6	423.9
Rent-a-house	251.0	254.1	258.1	261.4	267.4	271.0	274.2	277.1	279.5	281.4	284.6	288.6
Lightening & fuel	440.8	463.4	601.1	608.3	614.7	656.8	663.7	673.2	681.3	688.9	697.8	707.5
Maintenance	503.4	510.9	516.0	519.5	532.2	540.2	559.8	579.5	591.2	594.1	627.2	674.1
Out-door textile articles	484.1	506.3	511.0	519.0	529.9	537.4	549.8	556.5	564.5	572.5	622.8	660.2
Table & ranges	554.3	571.9	574.4	578.7	586.1	593.0	597.5	601.2	609.9	619.0	671.5	719.8
Furnitures	404.8	417.8	420.0	430.9	434.5	436.9	441.2	452.6	461.6	465.1	485.4	518.0
Other out-door appliances	584.1	594.7	599.3	603.2	614.4	636.9	662.2	673.0	684.8	692.4	711.9	747.8
Other out-door articles	531.6	533.9	534.9	535.2	545.0	551.7	556.8	562.6	574.1	583.5	639.7	673.1
Clothing	501.2	510.0	518.2	526.7	535.0	542.8	554.8	564.8	571.7	578.6	603.6	625.2
Fabric & accesories	628.3	631.7	638.6	646.5	653.8	668.1	679.0	698.7	710.2	723.6	777.9	806.4
Ready-made male clothes	488.9	496.4	506.5	516.4	526.5	532.2	543.8	553.8	558.7	563.9	587.8	609.8
Ready-made female clothes	477.5	485.9	491.2	498.0	504.6	514.1	524.3	530.2	538.4	545.5	563.7	581.0
Ready-made baby clothes	573.7	581.7	585.9	598.4	603.0	617.2	632.2	645.9	663.2	674.1	694.8	715.7
Cleaning services	552.2	587.4	596.3	604.3	608.6	612.1	638.2	658.2	663.8	671.3	701.1	741.8
Miscellaneous	524.7	529.2	569.1	586.7	598.3	611.5	618.2	623.1	642.8	654.0	673.0	688.0
Medical supplies	388.6	392.7	396.9	399.2	420.0	432.6	439.7	442.8	449.9	459.2	470.1	472.3
Cosmetics	533.1	547.4	553.6	561.7	569.9	576.9	596.3	620.6	641.4	649.0	664.1	706.7
Recreation & printing materials	558.5	562.7	579.5	588.6	589.7	594.4	602.9	603.3	610.4	635.9	676.0	691.1
Tobacco	894.5	907.3	916.1	916.1	916.1	1005.0	1006.1	1006.1	1008.6	1008.6	1008.6	1008.6
Education	535.8	535.8	535.8	595.9	615.3	636.2	636.2	636.2	703.3	711.8	731.7	736.8
Transportation	630.6	634.9	791.5	791.8	791.8	791.8	791.9	792.8	792.8	792.8	806.0	806.0
Communication	204.2	204.2	204.2	204.2	204.2	204.2	204.2	204.2	204.2	204.2	204.2	205.0
Vehicles	608.3	609.7	835.4	840.3	852.2	868.3	876.7	880.1	886.9	911.6	939.2	975.9

Source: Índice de Precios al Consumidor Area Urbana, INEC.

Table A.24 Consumer Price Index of Urban Area in Ecuador (8/12)

(May 1978 - April 1979 = 100)

Goods and Services	1988.0											
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
General Index	736.9	773.7	808.4	864.2	904.8	837.1	982.8	1039.3	1116.2	1177.0	1251.8	1325.6
Foods and Drinks	975.7	1033.8	1089.0	1170.1	1236.4	1284.5	1345.1	1438.5	1495.5	1547.2	1689.5	1832.9
Cereals	1006.9	1096.8	1186.6	1298.4	1385.5	1371.4	1427.0	1530.6	1630.5	1760.6	2196.1	2614.7
Meat	936.8	1009.6	1039.1	1053.7	1072.2	1112.9	1172.2	1227.0	1333.9	1378.2	1457.8	1563.3
Fish & shellfish	1142.7	1165.8	1233.5	1294.4	1317.7	1385.4	1522.9	1700.5	1889.7	1971.4	2007.8	1984.0
Fat & cooking oil	792.2	813.9	843.8	913.7	1025.9	1074.2	1091.3	1297.6	1324.5	1341.5	1363.8	1384.4
Milk, cheese & others	924.9	944.6	984.0	1076.9	1151.1	1174.1	1244.1	1298.4	1350.9	1382.6	1414.2	1475.0
Fresh vegetable	999.2	1082.9	1051.0	1189.3	1312.7	1609.9	1593.1	1542.0	1368.1	1241.6	1372.8	1469.7
Tuber	729.9	758.5	797.8	953.6	1055.2	1156.2	1296.8	1422.6	1421.9	1437.0	1452.1	1416.9
Beans	987.0	1028.7	1145.6	1318.3	1491.7	1581.6	1811.5	2000.4	2006.3	2062.1	2169.6	2275.3
Fresh fruits	1014.6	1075.9	1075.5	1106.1	1063.7	1129.7	1222.3	1265.8	1276.8	1316.7	1397.1	1473.3
Preserved fruits & vegetables	585.5	594.4	617.4	650.5	682.0	705.4	746.6	828.6	858.7	899.0	975.3	1003.4
Sugar, salt & seasonings	1388.3	1513.0	1688.5	1837.1	2022.2	2073.4	2040.8	2187.3	2217.3	2347.0	2634.0	2945.6
Coffee, tea & carbonated beverage	873.0	892.9	967.9	1022.4	1068.7	1093.7	1120.6	1270.1	1309.0	1348.7	1391.2	1434.6
Foods for children & babies	428.9	451.0	457.9	461.1	467.7	491.7	505.5	571.8	603.5	624.1	653.2	665.7
Other food products	906.1	918.6	1016.5	1075.6	1112.7	1146.6	1255.6	1384.5	1423.1	1445.9	1459.9	1631.3
Candies	823.7	893.2	915.3	957.8	989.7	1038.8	1089.6	1213.1	1262.2	1293.6	1400.0	1560.2
Alcoholic beverage	735.5	785.5	819.8	834.5	845.5	909.0	1050.9	1123.7	1257.1	1373.9	1452.2	1544.9
Ready-made dishes	1833.6	1877.5	1914.5	1997.3	2040.9	2118.7	2275.3	2556.0	2862.8	3008.1	3057.0	3134.3
Out-door foods & drinks	737.0	756.0	769.0	801.8	806.3	832.5	874.7	962.7	1015.5	1042.0	1106.2	1176.1
House & Household	437.5	446.0	465.8	481.0	493.9	509.4	523.7	545.9	574.2	592.1	611.1	625.7
Rent-a-house	295.1	300.5	306.8	314.8	321.6	328.8	335.3	342.9	350.8	356.0	363.0	372.1
Lightening & fuel	721.6	731.5	741.6	754.7	763.7	773.3	785.9	792.5	852.0	851.5	850.6	849.2
Maintenance	721.3	727.2	778.7	805.3	826.2	895.3	916.8	992.5	1022.4	1064.3	1164.9	1204.2
Out-door textile articles	685.4	730.8	805.1	859.9	920.7	956.3	1054.7	1179.6	1295.3	1378.0	1425.5	1501.9
Table & ranges	740.2	752.0	840.1	892.8	928.8	939.3	977.0	1034.7	1134.7	1232.6	1275.6	1289.7
Furnitures	534.6	552.4	589.8	607.6	622.2	643.0	668.4	714.2	786.9	834.1	862.4	892.8
Other out-door appliances	771.4	784.7	883.9	909.5	928.3	964.5	977.7	1024.5	1063.4	1093.8	1152.8	1220.4
Other out-door articles	698.1	727.0	799.3	845.1	926.6	950.9	997.5	1075.3	1153.3	1223.1	1272.2	1282.2
Clothing	644.7	663.8	697.5	733.4	761.9	795.0	843.7	892.5	968.8	1034.8	1093.0	1148.7
Fabric & accessories	852.6	894.3	956.1	1018.7	1073.9	1102.9	1153.8	1282.0	1436.8	1520.9	1567.6	1629.3
Ready-made male clothes	627.9	647.4	682.2	716.5	740.0	781.8	836.8	876.4	947.2	1013.2	1076.1	1131.2
Ready-made female clothes	593.3	605.8	632.8	663.0	691.6	711.5	745.3	790.8	859.9	917.6	969.3	1024.2
Ready-made baby clothes	736.5	760.6	791.1	846.4	892.9	923.4	982.9	1041.0	1118.2	1208.4	1282.5	1380.1
Cleaning services	763.5	778.7	809.7	849.8	870.3	921.8	1009.8	1033.3	1080.8	1189.8	1269.7	1289.7
Miscellaneous	701.2	740.6	757.7	827.0	861.8	886.3	938.4	972.8	1123.0	1236.7	1264.2	1297.1
Medical supplies	477.4	495.3	519.3	538.2	561.3	567.1	585.1	617.6	657.2	686.5	716.0	751.7
Cosmetics	740.2	782.3	829.5	868.5	909.0	935.8	959.7	1007.5	1078.1	1144.1	1195.7	1268.6
Recreation & printing materials	730.6	808.5	838.4	861.2	947.9	955.6	995.8	1082.0	1113.2	1217.2	1228.9	1285.7
Tobacco	1008.6	1470.2	1471.2	1473.0	1477.1	1842.2	1903.1	1904.5	1956.8	3304.7	3327.8	3345.3
Education	736.8	736.8	736.8	940.5	986.8	1006.1	1006.1	1016.6	1261.5	1294.4	1301.9	1301.9
Transportation	806.0	808.1	812.8	814.5	815.2	816.1	1120.7	1121.4	1145.6	1448.6	1448.6	1465.4
Communication	206.4	206.4	206.4	206.4	206.4	206.4	206.4	206.4	206.4	206.4	206.4	206.4
Vehicles	982.6	990.0	1010.3	1074.6	1078.5	1080.0	1108.6	1149.9	1659.1	1813.1	1957.3	2007.9

Source: Índice de Precios al Consumidor Area Urbana, INEC.



Table A.24 Consumer Price Index of Urban Area in Ecuador (9/12)

(May 1978 - April 1979 = 100)

Goods and Services	1989.0											
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
General Index	1395.8	1477.2	1609.7	1652.9	1670.6	1727.5	1750.9	1796.4	1882.9	1932.4	1992.4	2044.7
Foods and Drinks	1976.0	2136.5	2441.7	2475.7	2433.5	2516.0	2518.7	2591.9	2699.5	2774.1	2845.3	2926.5
Cereals	2868.1	3078.9	3912.1	3749.5	3581.1	3543.1	3631.8	3852.2	3974.9	4086.9	4134.5	4215.8
Meat	1649.3	1757.3	1879.3	1972.2	2046.5	2254.6	2297.7	2335.7	2375.5	2431.1	2524.3	2693.7
Fish & shellfish	2071.3	2256.1	2341.8	2418.2	2384.5	2532.6	2630.1	2875.3	3019.5	3135.2	3139.8	3318.9
Fat & cooking oil	1687.3	1782.8	1890.6	1983.9	1982.9	1988.7	1992.6	2014.1	2028.8	2060.7	2331.0	2335.1
Milk, cheese & others	1730.3	1836.2	2010.4	2069.5	2078.3	2135.6	2175.6	2227.1	2521.0	2632.1	2679.7	2682.7
Fresh vegetable	1787.2	1987.4	2502.1	2689.3	2383.7	2431.8	2110.5	2084.6	2097.1	2214.9	2425.1	2602.0
Tuber	1445.1	1500.5	1658.7	1915.0	1939.1	2106.2	1891.4	1875.6	1789.6	1762.1	1809.5	1801.5
Beans	2301.2	2426.4	2801.8	2883.1	2859.0	2835.3	2850.0	2877.3	2877.9	2932.0	2977.3	3033.8
Fresh fruits	1467.4	1556.1	1696.2	1798.9	1720.0	1942.1	1932.6	2048.1	2232.2	2299.5	2364.6	2211.3
Preserved fruits & vegetables	995.5	1044.8	1117.1	1157.6	1228.7	1266.2	1294.9	1322.9	1361.5	1391.8	1418.0	1441.7
Sugar, salt & seasonings	2940.5	3448.7	4004.8	3893.1	3653.6	3660.5	3574.1	3544.4	3750.7	3814.0	3853.2	4031.8
Coffee, tea & carbonated beverage	1540.2	1603.6	1645.7	1665.4	1675.4	1690.0	1698.7	1721.6	1839.7	1861.3	1889.8	1965.3
Foods for children & babies	696.8	733.9	758.3	796.0	827.1	919.9	953.6	999.8	1077.9	1155.0	1238.5	1259.1
Other food products	1807.8	1925.5	1971.9	2113.3	2440.4	2520.3	2531.9	2553.6	2573.8	2605.4	2633.3	2783.6
Candies	1729.8	1824.8	1891.7	2103.4	2146.9	2170.2	2190.7	2209.9	2218.2	2228.8	2269.6	2293.1
Alcoholic beverage	1764.8	1822.0	1720.1	1883.9	2007.2	1958.3	1982.5	2110.1	1866.4	1986.5	2023.1	2050.8
Ready-made dishes	3399.9	3479.1	3658.4	3941.0	4413.5	4796.8	4946.8	5018.3	5114.0	5232.4	5308.0	5724.4
Out-door foods & drinks	1297.3	1368.6	1424.4	1461.4	1522.3	1576.8	1598.5	1617.7	1719.2	1789.2	1841.0	1908.5
House & Household	652.6	678.1	691.0	708.6	732.1	757.2	807.2	821.3	845.6	869.6	897.9	926.2
Rent-a-house	384.8	394.3	401.9	408.8	420.5	431.2	446.1	455.7	466.3	478.3	490.2	499.8
Lightening & fuel	849.8	836.1	844.0	851.2	859.6	881.4	1123.5	1126.6	1139.4	1149.1	1160.5	1168.8
Maintenance	1339.0	1487.4	1514.0	1569.2	1696.0	1795.6	1857.0	1886.9	1988.5	2086.8	2213.5	2387.3
Out-door textile articles	1531.4	1588.5	1621.3	1676.9	1698.4	1756.7	1784.5	1805.6	1881.1	1920.6	1983.6	2019.2
Table & ranges	1344.4	1413.8	1461.1	1523.9	1562.3	1595.9	1642.7	1693.5	1739.3	1806.6	1877.9	1921.2
Furnitures	922.7	951.1	973.8	1012.6	1035.4	1070.9	1118.1	1146.7	1178.9	1201.1	1242.6	1281.1
Other out-door appliances	1265.7	1329.2	1345.7	1407.8	1455.4	1532.6	1559.0	1610.3	1648.7	1704.5	1792.2	1811.0
Other out-door articles	1341.8	1370.5	1386.8	1412.7	1434.4	1457.1	1491.2	1544.9	1560.5	1603.4	1617.1	1641.7
Clothing	1181.9	1231.4	1288.0	1321.5	1354.6	1407.6	1444.8	1491.8	1540.9	1580.8	1636.2	1672.5
Fabric & accessories	1668.4	1746.5	1785.2	1842.2	1880.1	1953.4	2002.9	2047.7	2102.2	2172.8	2234.9	2295.4
Ready-made male clothes	1156.2	1195.7	1244.7	1275.6	1303.2	1352.0	1397.5	1452.7	1509.6	1550.2	1608.3	1638.2
Ready-made female clothes	1062.8	1113.9	1189.3	1219.3	1249.1	1301.5	1321.5	1355.8	1385.2	1411.5	1454.1	1483.5
Ready-made baby clothes	1429.7	1486.3	1510.7	1538.7	1595.8	1654.3	1719.7	1787.9	1855.0	1883.6	1974.2	2014.9
Cleaning services	1324.9	1396.9	1472.0	1517.8	1608.6	1679.1	1698.4	1769.7	1852.1	1925.1	1992.8	2097.0
Miscellaneous	1313.7	1340.6	1350.0	1446.1	1546.6	1599.1	1623.3	1655.0	1778.8	1818.4	1889.8	1929.6
Medical supplies	781.7	798.9	803.7	809.9	841.8	909.8	947.5	962.6	1011.1	1021.5	1036.8	1047.9
Cosmetics	1313.0	1373.1	1406.1	1438.0	1468.5	1546.5	1584.0	1655.2	1747.0	1819.6	1885.2	1984.1
Recreation & printing materials	1294.1	1385.8	1405.1	1414.8	1484.6	1513.0	1537.7	1608.9	1605.8	1648.4	1703.7	1773.2
Tobacco	3349.4	3351.1	3350.1	3352.3	3352.3	3353.4	3353.4	3362.6	4278.9	4307.0	4308.6	4315.9
Education	1301.9	1301.9	1301.9	1660.6	1747.8	1790.0	1790.0	1790.0	2087.8	2118.5	2132.5	2132.5
Transportation	1465.4	1465.4	1465.4	1466.1	1466.1	1882.5	2009.1	2009.1	2015.4	2070.0	2434.2	2445.4
Communication	261.6	261.6	261.6	335.3	556.3	556.3	556.3	556.3	630.0	630.0	630.0	740.5
Vehicles	2020.3	2023.5	2023.5	2048.2	2078.6	2078.6	2180.8	2270.8	2357.5	2441.7	2525.8	2609.8

Source: Índice de Precios al Consumidor Area Urbana, INEC.

Table A.24 Consumer Price Index of Urban Area in Ecuador (10/12)

(May 1978 - April 1979 = 100)

Goods and Services	1990.0											
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
General Index	2121.2	2219.4	2312.3	2417.1	2487.6	2550.9	2632.2	2674.3	2767.0	2865.1	2985.7	3057.3
Foods and Drinks	3039.3	3218.7	3376.4	3520.1	3618.8	3704.0	3757.2	3798.6	3907.2	4077.9	4309.0	4423.6
Cereals	4307.2	4760.6	4860.2	4896.1	4928.7	4820.5	4781.8	4873.5	4941.6	5215.3	5438.8	5438.7
Meat	2841.4	2948.9	3023.0	3073.2	3138.5	3225.3	3324.8	3417.9	3572.5	3666.2	3985.6	4219.5
Fish & shellfish	3429.4	3537.6	3626.9	3784.3	3835.2	4059.9	4328.2	4704.7	4914.4	5214.4	5382.6	5507.9
Fat & cooking oil	2348.3	2365.4	2388.0	2449.3	2580.2	2607.7	2772.0	2863.0	2916.9	3104.1	3230.9	3240.5
Milk, cheese & others	2707.8	2728.0	2917.1	3074.4	3267.3	3275.5	3304.3	3335.2	3402.7	3630.6	3725.6	3891.8
Fresh vegetable	2877.6	2929.7	3703.4	4019.6	4147.5	4990.4	4570.6	4278.2	4271.8	3993.6	3955.4	3949.6
Tuber	1918.5	1852.9	1903.8	1902.9	1908.2	1914.0	1927.3	1928.6	2202.2	2995.0	3422.3	3431.3
Beans	3054.0	3144.2	3346.1	3515.1	3593.1	3671.4	3703.9	3763.3	3808.5	3840.0	3908.2	3962.5
Fresh fruits	2300.5	2392.6	2558.6	2572.4	2624.7	2742.5	2754.3	2786.9	2963.9	3127.5	3265.0	3346.5
Preserved fruits & vegetables	1461.2	1509.7	1546.6	1576.7	1630.0	1658.8	1683.9	1710.2	1768.7	1793.3	1841.4	1887.9
Sugar, salt & seasonings	4347.8	4961.9	5290.7	5937.2	6222.2	6364.9	6597.2	6451.6	6563.6	6677.4	7086.1	7231.7
Coffee, tea & carbonated beverage	2045.9	2096.6	2150.7	2231.6	2364.4	2473.8	2529.7	2603.8	2661.9	2709.8	2897.3	3003.3
Foods for children & babies	1289.3	1340.4	1385.1	1438.8	1484.9	1508.5	1580.1	1608.5	1674.6	1766.1	1816.9	1847.0
Other food products	2951.6	3006.2	3024.2	3152.4	3433.0	3565.2	3611.2	3658.8	3987.0	4162.1	4182.7	4241.9
Candies	2299.7	2368.3	2376.6	2393.3	2470.1	2576.2	2588.1	2606.3	2753.9	3166.5	3325.5	3354.1
Alcoholic beverage	2079.1	2101.4	2130.0	2132.0	2163.3	2179.9	2398.9	2389.2	2446.6	2571.7	2661.4	2689.2
Ready-made dishes	6032.5	6313.8	6403.0	6576.3	6872.1	7113.2	7201.6	7412.4	7690.8	7821.7	8198.5	8504.7
Out-door foods & drinks	1945.1	2037.6	2103.8	2261.3	2328.2	2354.3	2422.4	2446.7	2490.7	2527.6	2676.5	2836.2
House & Household	981.6	1009.9	1033.6	1059.9	1093.3	1121.4	1155.7	1187.2	1233.9	1265.1	1294.5	1322.5
Rent-a-house	519.3	539.2	558.4	574.8	591.4	613.7	632.1	647.3	670.4	690.0	711.6	734.8
Lightening & fuel	1397.5	1405.3	1411.4	1423.8	1438.5	1452.8	1466.9	1481.7	1497.5	1513.7	1529.8	1532.7
Maintenance	2450.5	2497.3	2519.1	2576.5	2672.5	2716.7	2838.7	2915.4	3153.3	3202.3	3251.5	3321.1
Out-door textile articles	2055.5	2106.0	2189.2	2269.4	2351.8	2443.3	2526.6	2587.5	2634.9	2702.7	2748.5	2778.8
Table & ranges	2010.8	2146.5	2171.3	2241.0	2377.6	2431.9	2521.2	2650.9	2728.3	2842.8	2929.1	2971.1
Furnitures	1338.7	1369.1	1408.3	1434.8	1482.9	1512.1	1555.0	1604.9	1648.6	1697.1	1767.1	1817.3
Other out-door appliances	1870.0	1958.7	2211.8	2274.2	2321.5	2411.8	2432.4	2567.0	2607.1	2726.7	2762.4	2857.8
Other out-door articles	1693.2	1717.9	1759.9	1819.6	1867.9	1891.1	1925.0	1945.1	2048.2	2107.5	2170.8	2186.3
Clothing	1735.0	1800.7	1865.9	1914.5	1981.7	2064.1	2122.4	2202.0	2285.7	2331.3	2410.6	2514.9
Fabric & accessories	2421.1	2482.5	2553.6	2627.1	2685.1	2787.7	2882.8	2994.2	3138.8	3234.5	3369.4	3512.4
Ready-made male clothes	1693.6	1767.4	1838.7	1872.9	1946.1	2036.0	2102.1	2197.8	2273.8	2297.1	2364.4	2466.2
Ready-made female clothes	1538.4	1588.4	1638.8	1686.0	1749.7	1817.7	1850.4	1897.0	1975.7	2035.1	2112.1	2199.1
Ready-made baby clothes	2074.4	2118.3	2175.8	2254.3	2326.6	2503.9	2546.3	2651.4	2718.8	2792.8	2920.3	3061.8
Cleaning services	2204.3	2331.8	2438.3	2582.8	2663.9	2698.8	2818.8	2864.5	2940.3	2976.4	3083.4	3251.7
Miscellaneous	1975.3	2028.9	2098.4	2256.3	2324.4	2381.7	2562.8	2603.7	2711.6	2781.0	2830.5	2864.8
Medical supplies	1086.3	1111.9	1159.8	1201.9	1246.9	1330.6	1361.0	1395.7	1477.7	1522.6	1540.6	1577.8
Cosmetics	2079.2	2226.8	2302.4	2409.2	2530.2	2624.8	2726.2	2812.8	2958.8	3039.3	3093.3	3221.9
Recreation & printing materials	1801.0	1939.4	1986.2	1998.3	2135.6	2212.8	2325.0	2412.8	2441.2	2568.3	2560.7	2584.7
Tobacco	4327.7	4327.7	5203.3	5203.3	5204.6	5204.6	6070.5	6093.5	6093.5	6100.1	6779.2	6931.0
Education	2200.6	2204.1	2204.1	2703.0	2770.0	2819.9	2819.9	3089.0	3089.0	3208.5	3217.5	3217.5
Transportation	2445.4	2445.4	2445.4	2445.4	2449.6	2449.6	3213.2	3210.4	3210.4	3210.4	3210.4	3214.6
Communication	740.5	740.5	740.5	740.5	740.5	740.5	740.5	740.5	740.5	740.5	740.5	740.5
Vehicles	2665.9	2722.2	2864.8	2997.9	3054.0	3110.2	3322.3	3415.4	3546.7	3651.0	3723.0	3724.9

Source: Índice de Precios al Consumidor Area Urbana, INEC.

Table A.24 Consumer Price Index of Urban Area in Ecuador (11/12)

(May 1978 - April 1979 = 100)

Goods and Services	1991.0										
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
General Index	3191.4	3315.0	3445.0	3556.7	3707.8	3800.7	3868.3	3973.3	4153.6	4286.8	4383.1
Foods and Drinks	4588.5	4791.3	5020.6	5155.0	5388.8	5486.3	5547.1	5712.1	5917.2	6133.1	6258.5
Cereals	5656.0	5825.2	6157.7	6335.3	6379.2	6357.7	6497.0	6652.6	6885.1	7116.6	7220.7
Meat	4464.8	4668.3	4804.5	4983.7	5295.3	5455.2	5634.0	5799.6	5949.8	6086.3	6430.5
Fish & shellfish	5584.6	5770.8	5833.9	5881.9	5957.6	6007.8	6047.5	6595.7	7078.7	7385.4	7683.8
Fat & cooking oil	3527.0	3639.6	3812.4	4219.6	4299.0	4336.0	4577.4	4652.7	4773.4	4861.3	4955.6
Milk, cheese & others	4004.4	4270.7	4385.8	4558.7	4730.2	4744.0	4768.7	4830.0	5081.2	5365.3	5476.1
Fresh vegetable	3977.7	4652.1	5143.9	5014.7	5068.8	5135.0	4998.0	5002.5	5883.5	6139.2	5533.3
Tuber	3427.1	3153.4	3119.8	3280.4	3337.4	3585.7	3675.5	4044.2	4225.6	4245.8	4203.8
Beans	4083.6	4573.4	4814.2	4940.0	4953.9	4969.0	5013.9	4981.8	4979.7	5088.9	5138.1
Fresh fruits	3262.4	3314.5	3741.7	3720.9	3893.8	4196.8	4235.2	4221.2	4457.0	4773.4	4921.7
Preserved fruits & vegetables	1907.8	1944.2	2010.9	2083.1	2092.3	2145.4	2209.7	2203.7	2380.2	2569.3	2556.9
Sugar, salt & seasonings	7634.3	8167.1	8713.0	8809.7	9825.8	10122.5	9710.2	9938.1	9912.5	10167.7	10280.9
Coffee, tea & carbonated beverage	3078.4	3136.4	3209.6	3309.1	3570.7	3691.1	3790.8	3977.4	4011.1	4182.2	4256.2
Foods for children & babies	1882.7	1951.3	2031.4	2092.0	2125.4	2216.9	2247.4	2326.9	2363.4	2470.6	2512.1
Other food products	4267.1	4393.4	4517.1	4665.2	5232.7	5340.0	5479.7	5591.6	5897.2	5987.4	6188.4
Candies	3382.3	3405.9	3420.7	3447.4	3478.3	3755.6	4094.4	4291.2	4503.1	4868.3	4956.2
Alcoholic beverage	2873.6	2932.7	3257.3	3356.4	3451.2	3479.9	3511.6	3566.4	3593.8	3869.3	3982.5
Ready-made dishes	8775.3	9002.1	9681.7	10223.2	10609.6	10978.5	11316.6	11562.6	12028.3	11968.9	11831.6
Out-door foods & drinks	2973.6	3036.1	3238.0	3296.5	3459.8	3514.4	3623.8	3719.3	3762.7	4021.2	4193.1
House & Household	1387.5	1447.6	1509.0	1551.5	1591.3	1634.6	1680.8	1729.5	1794.1	1835.8	1875.9
Rent-a-house	758.8	805.8	850.1	880.0	913.3	951.4	978.9	1001.1	1025.3	1053.4	1084.8
Lightening & fuel	1767.8	1781.2	1783.2	1783.7	1781.7	1782.1	1784.3	1786.1	2048.2	2065.2	2063.1
Maintenance	3399.7	3562.6	3749.3	3864.7	3951.8	4026.5	4203.9	4438.7	4539.2	4693.2	4800.9
Out-door textile articles	2877.2	2990.2	3128.9	3206.4	3285.3	3355.9	3420.6	3540.8	3638.9	3703.0	3814.4
Table & ranges	3071.7	3190.7	3292.4	3430.7	3489.6	3617.3	3713.5	3829.9	3868.2	3908.8	3968.6
Furnitures	1878.6	1940.5	2034.0	2081.5	2152.3	2195.4	2221.6	2291.5	2336.1	2407.7	2505.8
Other out-door appliances	3024.3	3162.2	3211.3	3260.8	3314.7	3373.1	3728.2	3791.5	3899.5	3952.3	4002.0
Other out-door articles	2274.3	2298.9	2396.0	2444.4	2492.1	2550.0	2608.8	2664.2	2693.7	2703.2	2761.1
Clothing	2596.7	2714.3	2796.4	2879.2	3005.5	3121.3	3201.2	3326.8	3426.7	3546.9	3664.5
Fabric & accessories	3639.9	3802.7	3896.3	3972.0	4099.9	4205.0	4342.5	4447.6	4539.9	4726.3	4874.6
Ready-made male clothes	2542.3	2673.9	2732.3	2814.6	2970.6	3066.8	3157.2	3298.4	3376.3	3494.6	3596.6
Ready-made female clothes	2277.8	2373.9	2458.1	2548.0	2621.5	2750.5	2798.9	2921.8	3041.1	3115.6	3199.5
Ready-made baby clothes	3149.8	3221.3	3295.5	3441.1	3648.2	3823.8	3949.7	4009.7	4092.6	4277.8	4413.3
Cleaning services	3345.6	3401.3	3646.4	3699.9	3788.2	4004.9	4061.4	4178.1	4392.9	4653.7	5120.7
Miscellaneous	3043.1	3106.3	3157.3	3331.8	3479.3	3610.5	3705.0	3753.5	4016.3	4114.0	4207.3
Medical supplies	1675.5	1709.8	1814.0	1847.1	1898.4	2166.9	2340.3	2460.9	2499.6	2548.8	2716.1
Cosmetics	3303.9	3466.5	3535.9	3674.5	3743.5	3828.5	3924.3	4057.1	4113.2	4202.7	4333.6
Recreation & printing materials	2588.6	2777.1	2935.6	2953.7	3187.7	3317.5	3529.1	3565.9	3653.2	3761.1	3822.8
Tobacco	7786.1	7799.0	7799.0	7926.1	8647.6	8682.8	8686.4	8686.4	8686.4	9476.4	9482.6
Education	3217.5	3217.5	3217.5	3800.8	4045.9	4109.1	4109.1	4109.1	4846.5	4935.8	5005.8
Transportation	4044.6	4047.8	4047.8	4054.1	4054.1	4054.1	4054.1	4055.8	4247.8	4250.5	4252.3
Communication	740.5	740.5	740.5	740.5	740.5	740.5	740.5	740.5	740.5	740.5	991.9
Vehicles	4005.3	4007.0	4020.4	4036.3	4080.6	4275.2	4525.0	4552.7	5255.1	5413.1	5525.5

Source: Índice de Precios al Consumidor Area Urbana, INEC.

Table A.24 Consumer Price Index of Urban Area in Ecuador (12/12)

Goods and Services	(May 1978 - April 1979 = 100)							Monthly increasing rate (%)
	1991		1992					
	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	
General Index	4555	4752.4	4916.3	5054.8	5321.6	5518.6	5716.2	2.83%
Foods and Drinks	6504	6865.6	7088.1	7321.3	7726.4	8071.2	8426.4	3.10%
Cereals	7839	8273.5	8822.4	9035.8	8998.3	9135.9	9400.6	3.27%
Meat	6796	7273.5	7441.5	7792.4	8094.8	8542.7	8988.9	3.17%
Fish & shellfish	7794	8122.5	8293.6	8618.5	9886.6	10299.5	10589.2	3.14%
Fat & cooking oil	5063	5383.0	5522.4	5769.1	6183.4	6528.3	6684.5	2.99%
Milk, cheese & others	5653	5703.4	5755.8	6120.3	7254.9	7380.8	7469.4	2.88%
Fresh vegetable	5331	5620.6	5546.5	5784.6	6413.1	7833.8	10417.0	3.18%
Tuber	4398	4574.5	4474.9	4494.2	4576.5	4732.3	4726.2	2.75%
Beans	5293	5476.2	5798.7	6335.8	6717.2	7025.4	7202.7	3.01%
Fresh fruits	5129	5281.4	5118.3	5026.1	5834.2	6468.5	6603.0	2.93%
Preserved fruits & vegetables	2698	2774.1	2832.9	2993.2	3049.1	3257.3	3342.7	2.43%
Sugar, salt & seasonings	10367	11456.4	12256.0	12420.9	12427.9	12741.4	12956.3	3.43%
Cuffee, tea & carbonated beverage	4307	4385.1	4484.9	4672.2	5401.1	5481.5	5528.9	2.90%
Foods for children & babies	2531	2563.6	2619.8	2665.8	2724.0	2799.6	2917.8	2.46%
Other food products	6207	6263.2	6350.5	6415.9	6522.8	6541.8	6591.6	2.81%
Candies	5079	5085.6	5189.3	5353.4	5418.3	5738.6	5979.6	2.84%
Alcoholic beverage	4027	4075.2	4412.8	4566.0	4628.1	4753.2	4818.6	2.71%
Ready-made dishes	12184	13286.1	13642.9	14637.6	15121.8	16384.6	17040.3	3.57%
Out-door foods & drinks	4300	4476.5	4549.9	4756.8	4966.1	5265.1	5414.3	2.79%
House & Household	1913	1968.8	2042.5	2096.3	2167.2	2227.9	2284.9	2.17%
Rent-a-house	1110	1153.9	1216.4	1256.3	1308.5	1358.6	1414.5	1.82%
Lightening & fuel	2048	2049.2	2056.6	2056.9	2057.1	2057.4	2057.7	2.14%
Maintenance	4910	5064.6	5305.5	5467.6	5713.0	5911.7	6015.4	2.86%
Out-door textile articles	3979	4088.2	4174.4	4271.9	4390.7	4470.1	4650.8	2.69%
Table & ranges	4006	4082.3	4176.1	4313.4	4439.1	4518.8	4577.7	2.67%
Furnitures	2600	2736.3	2783.6	2868.2	2919.0	2986.8	3048.6	2.37%
Other out-door appliances	4155	4211.9	4308.5	4364.7	4491.0	4564.4	4622.3	2.64%
Other out-door articles	2807	2848.4	2873.7	2917.7	2940.3	3003.5	3083.1	2.41%
Clothing	3792	3875.9	3972.3	4078.5	4226.5	4351.6	4467.1	2.63%
Fabric & accessories	5034	5197.5	5411.0	5512.7	5726.9	5851.7	6172.8	2.86%
Ready-made male clothes	3702	3772.1	3850.6	3963.6	4157.6	4303.0	4422.3	2.64%
Ready-made female clothes	3345	3421.3	3490.9	3574.8	3642.1	3709.0	3764.5	2.49%
Ready-made baby clothes	4527	4617.8	4677.5	4795.7	5012.9	5162.1	5245.6	2.71%
Cleaning services	5218	5310.2	5648.4	5872.6	5998.2	6335.1	6460.3	2.85%
Miscellaneous	4413	4542.5	4724.0	4801.1	5107.6	5257.3	5387.9	2.81%
Medical supplies	3229	3566.6	4094.0	4115.5	4149.2	4184.6	4397.5	2.71%
Cosmetics	4448	4599.8	4811.5	4986.4	5204.5	5338.5	5486.5	2.81%
Recreation & printing materials	4087	4115.1	4170.1	4402.7	4668.2	5086.3	5200.2	2.71%
Tobacco	9483	10337.3	10337.3	10398.5	11260.0	11260.0	11260.0	3.41%
Education	5006	5005.8	5005.8	5005.8	5805.9	6054.4	6197.4	2.87%
Transportation	4430	4429.6	4440.4	4451.1	4454.0	4466.6	4466.6	2.71%
Communication	1002	1001.6	1370.0	1370.0	1370.0	1370.0	1370.0	1.90%
Vehicles	5820	5936.0	6251.6	6382.4	6512.8	6528.7	6796.7	3.04%

Source: Índice de Precios al Consumidor Area Urbana, INEC.

Table A.25 Increasing of Consumer Price of Urban Area in Ecuador

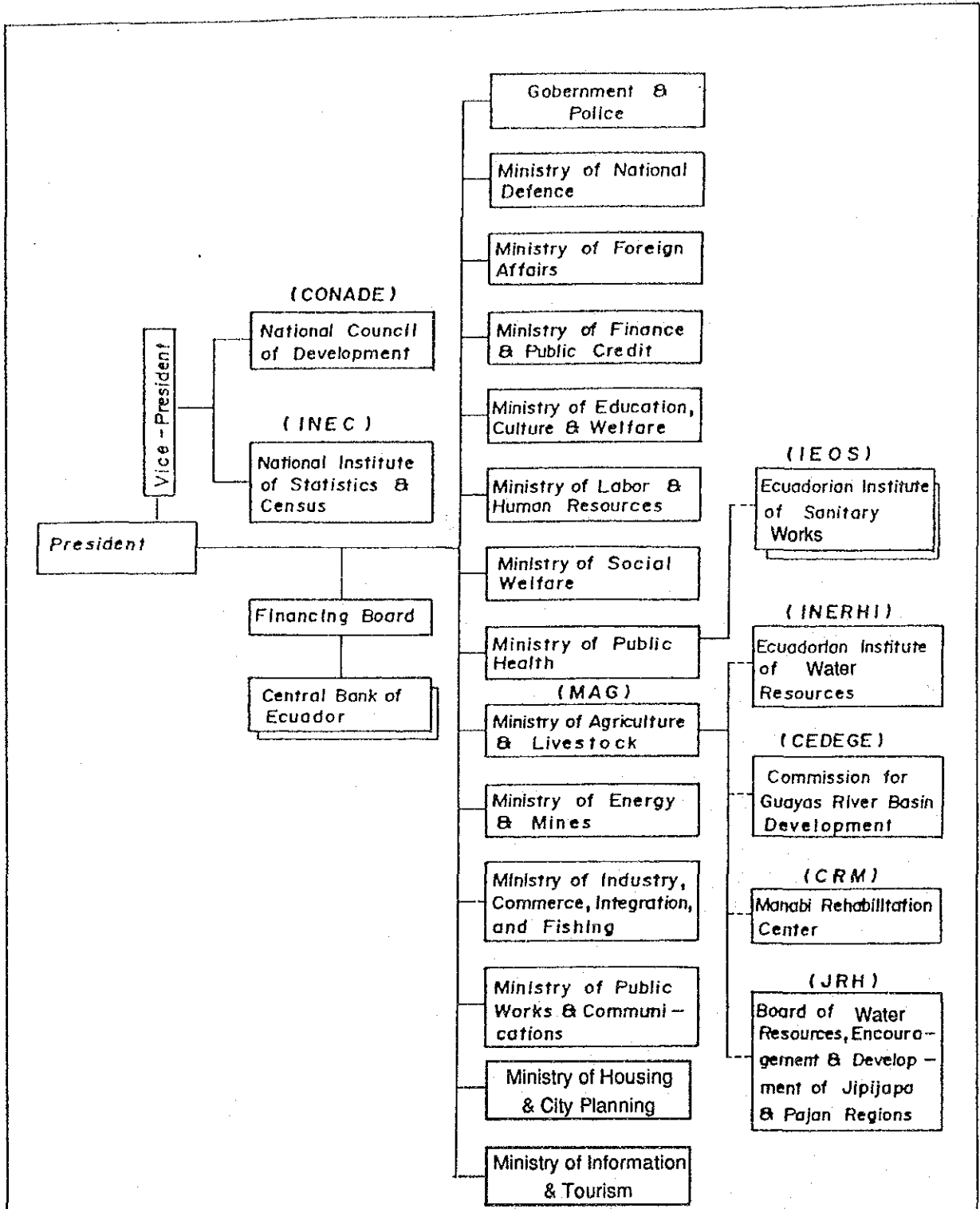
Goods and Services	Annual average Increasing Rate (%)*	Same month increasing rate of June for previous year										
		1981/82	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92
General Index	40.40%	12.50%	83.89%	7.31%	30.42%	19.84%	31.79%	33.89%	106.37%	47.66%	48.99%	50.40%
Foods and Drinks	45.25%	12.97%	82.27%	36.32%	33.47%	19.31%	31.29%	57.70%	95.87%	47.22%	48.12%	53.59%
Cereals	48.13%	13.06%	110.77%	48.42%	38.70%	15.01%	18.48%	64.40%	158.36%	36.05%	31.89%	47.86%
Meat	46.41%	18.20%	54.36%	47.46%	42.56%	20.83%	22.69%	44.23%	102.59%	43.05%	69.14%	64.78%
Fish & shellfish	46.52%	11.55%	37.84%	37.71%	36.38%	29.04%	45.31%	61.43%	82.81%	60.31%	47.98%	76.26%
Fat & cooking oil	43.40%	-0.39%	60.02%	70.66%	38.56%	9.50%	31.86%	55.68%	85.13%	31.13%	66.28%	54.16%
Milk, cheese & others	41.81%	7.06%	65.34%	33.91%	27.25%	20.52%	29.40%	55.90%	81.89%	53.38%	44.83%	57.45%
Fresh vegetable	45.88%	-1.96%	232.42%	-14.42%	11.88%	31.19%	47.16%	63.36%	51.05%	105.21%	2.90%	102.86%
Tuber	39.26%	11.72%	158.10%	-17.33%	40.76%	-1.16%	20.33%	134.19%	82.17%	-9.13%	87.34%	31.81%
Beans	43.68%	13.84%	41.85%	127.84%	35.90%	22.21%	10.80%	74.72%	79.27%	29.49%	35.34%	44.95%
Fresh fruits	43.39%	15.24%	99.52%	30.02%	11.69%	38.34%	55.44%	25.56%	71.91%	41.21%	53.03%	57.33%
Preserved fruits & vegetables	34.13%	6.43%	25.37%	29.08%	13.39%	24.63%	43.78%	52.45%	79.50%	31.01%	29.33%	55.81%
Sugar, salt & seasonings	49.69%	25.98%	83.16%	54.74%	33.60%	7.12%	58.39%	67.22%	76.55%	73.88%	59.04%	28.00%
Coffee, tea & carbonated beverage	42.29%	7.44%	29.10%	68.56%	30.41%	55.60%	32.32%	52.56%	54.52%	46.38%	49.21%	49.79%
Foods for children & babies	35.11%	15.96%	27.29%	33.33%	18.18%	29.31%	15.61%	32.78%	87.09%	63.99%	46.96%	31.62%
Other food products	40.76%	16.95%	56.86%	31.17%	18.94%	24.46%	32.38%	58.52%	119.81%	41.46%	49.78%	23.44%
Candies	40.85%	8.91%	29.99%	67.57%	12.24%	29.02%	37.50%	59.25%	108.91%	18.71%	45.78%	59.22%
Alcoholic beverage	39.09%	19.72%	48.56%	43.29%	28.37%	17.58%	31.67%	40.43%	115.43%	11.32%	59.64%	38.47%
Ready-made dishes	51.98%	23.39%	62.38%	77.06%	42.07%	26.23%	30.64%	49.44%	126.40%	48.29%	54.34%	55.22%
Out-door foods & drinks	39.91%	13.97%	43.48%	34.35%	28.78%	24.08%	29.76%	35.79%	89.41%	49.31%	49.28%	54.06%
House & Household	29.60%	13.65%	19.75%	24.12%	15.13%	16.65%	26.58%	34.55%	48.65%	48.10%	45.76%	39.78%
Rent-a-house	24.44%	11.59%	11.86%	18.07%	10.84%	11.55%	16.46%	21.33%	31.14%	42.32%	55.03%	48.68%
Lightening & fuel	26.55%	13.93%	29.29%	40.08%	7.47%	15.90%	65.61%	17.74%	13.98%	64.83%	22.67%	15.46%
Maintenance	41.47%	25.60%	30.55%	24.69%	32.29%	28.57%	17.33%	65.73%	100.56%	51.30%	48.21%	49.40%
Out-door textile articles	38.33%	10.76%	28.86%	28.17%	30.53%	25.40%	36.92%	77.95%	83.70%	39.08%	37.35%	38.59%
Table & ranges	37.35%	22.44%	48.19%	27.46%	21.23%	22.14%	24.21%	58.40%	69.90%	52.38%	48.74%	26.55%
Furnitures	33.13%	7.79%	22.61%	26.59%	24.02%	24.93%	28.77%	47.17%	66.55%	41.20%	45.19%	38.86%
Other out-door appliances	37.41%	10.49%	34.60%	41.87%	31.27%	32.35%	23.93%	51.44%	58.90%	57.37%	39.86%	37.03%
Other out-door articles	33.98%	19.92%	48.48%	21.83%	28.97%	26.14%	26.59%	72.36%	53.23%	29.79%	34.84%	20.91%
Clothing	37.16%	13.02%	30.09%	31.25%	26.96%	26.70%	26.53%	46.46%	77.06%	46.64%	51.22%	43.12%
Fabric & accessories	41.35%	19.17%	33.82%	35.15%	32.74%	34.22%	26.82%	65.08%	77.11%	42.71%	50.84%	46.80%
Ready-made male clothes	37.29%	13.22%	30.40%	29.11%	26.89%	27.05%	27.90%	46.90%	72.93%	50.59%	50.63%	44.20%
Ready-made female clothes	34.91%	12.03%	28.50%	32.37%	24.42%	23.67%	25.51%	38.40%	82.92%	39.66%	51.32%	36.87%
Ready-made baby clothes	38.66%	14.58%	32.48%	30.05%	32.54%	28.90%	27.07%	49.61%	79.15%	51.36%	52.71%	37.18%
Cleaning services	40.46%	8.58%	36.74%	29.85%	30.60%	24.31%	27.07%	50.60%	82.15%	60.73%	48.40%	61.31%
Miscellaneous	39.50%	11.20%	41.20%	22.60%	37.46%	21.11%	37.88%	44.94%	80.42%	48.94%	51.59%	49.23%
Medical supplies	38.85%	10.18%	34.05%	36.85%	17.19%	27.81%	20.20%	31.09%	60.43%	46.25%	62.85%	102.94%
Cosmetics	40.61%	17.41%	37.84%	43.42%	18.84%	24.02%	30.52%	62.21%	65.26%	69.73%	45.86%	43.31%
Recreation & printing materials	38.79%	16.42%	40.67%	17.33%	36.61%	23.65%	29.61%	60.77%	58.33%	46.25%	49.92%	56.75%
Tobacco	51.59%	32.79%	125.28%	11.42%	27.00%	34.94%	51.81%	83.30%	82.03%	55.20%	66.83%	29.68%
Education	40.81%	12.74%	28.35%	28.15%	44.61%	24.07%	33.15%	58.14%	77.91%	57.54%	45.72%	50.82%
Transportation	34.91%	0.54%	49.19%	0.60%	89.01%	2.83%	62.82%	3.07%	130.67%	30.12%	65.50%	10.17%
Communication	25.99%	3.43%	0.72%	37.28%	12.51%	17.57%	0.05%	1.08%	169.53%	33.11%	0.00%	85.01%
Vehicles	39.27%	2.87%	59.54%	11.48%	44.02%	11.50%	66.21%	24.38%	92.46%	49.63%	37.46%	58.98%

(Note) 1. Based on consumer price index mentioned in Table A.24.

2. (\*) based on the data from June to June.

## FIGURES





Source: Dirección de Normas y Consolidación Financiera de la Contraloría General del Estado (Department of Regulation & Financial Consolidation for the General Supervision, Ecuador).

Fig.A.1 Executive Branch of Government of Ecuador, July 1992

GOVERNMENT OF THE REPUBLIC OF ECUADOR  
 CENTRO DE REHABILITACION DE MANABI (CRM)  
 THE FEASIBILITY STUDY ON THE WATER  
 RESOURCES DEVELOPMENT FOR  
 CHONE-PORTOVIEJO RIVER BASINS  
 JAPAN INTERNATIONAL COOPERATION AGENCY



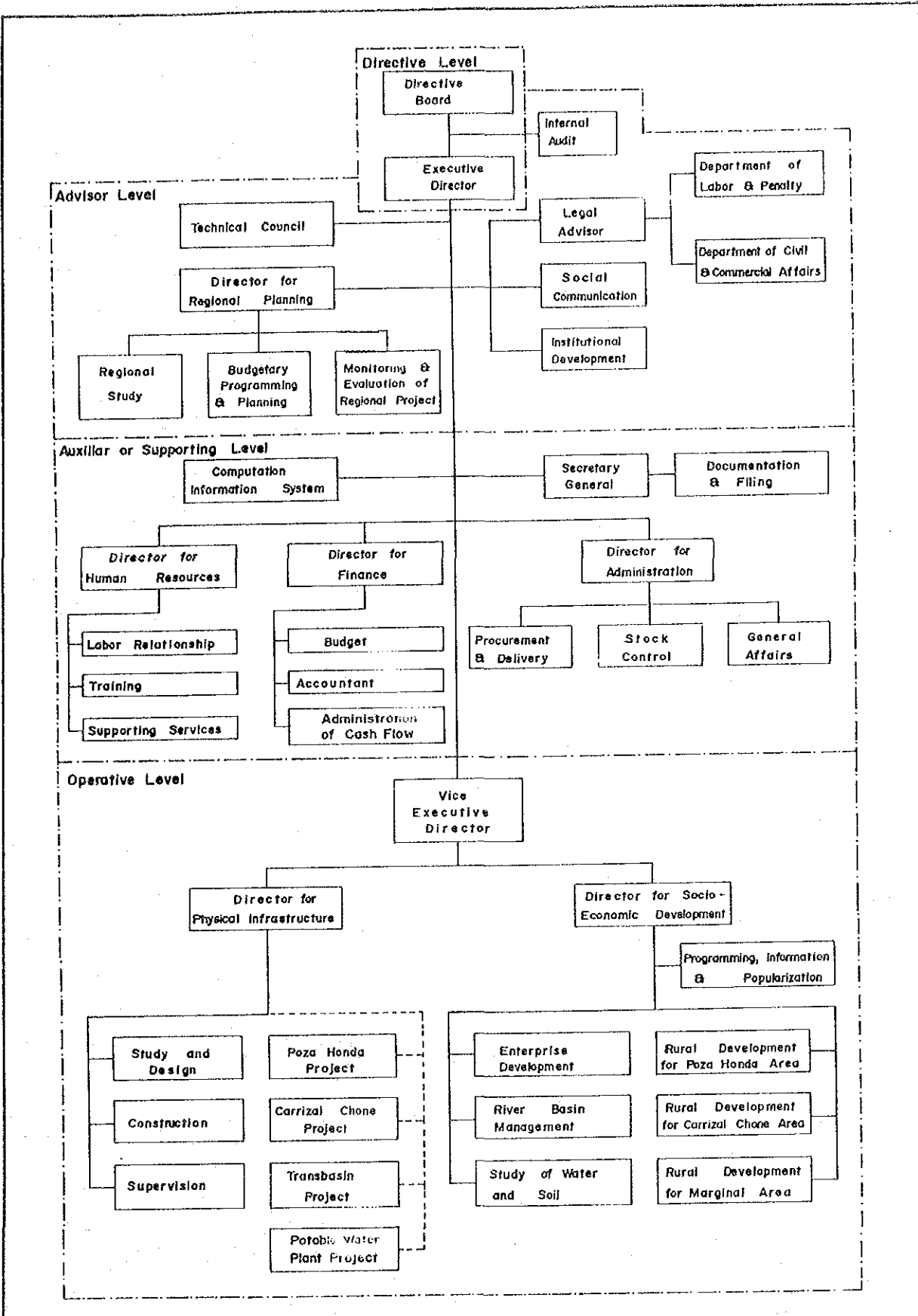
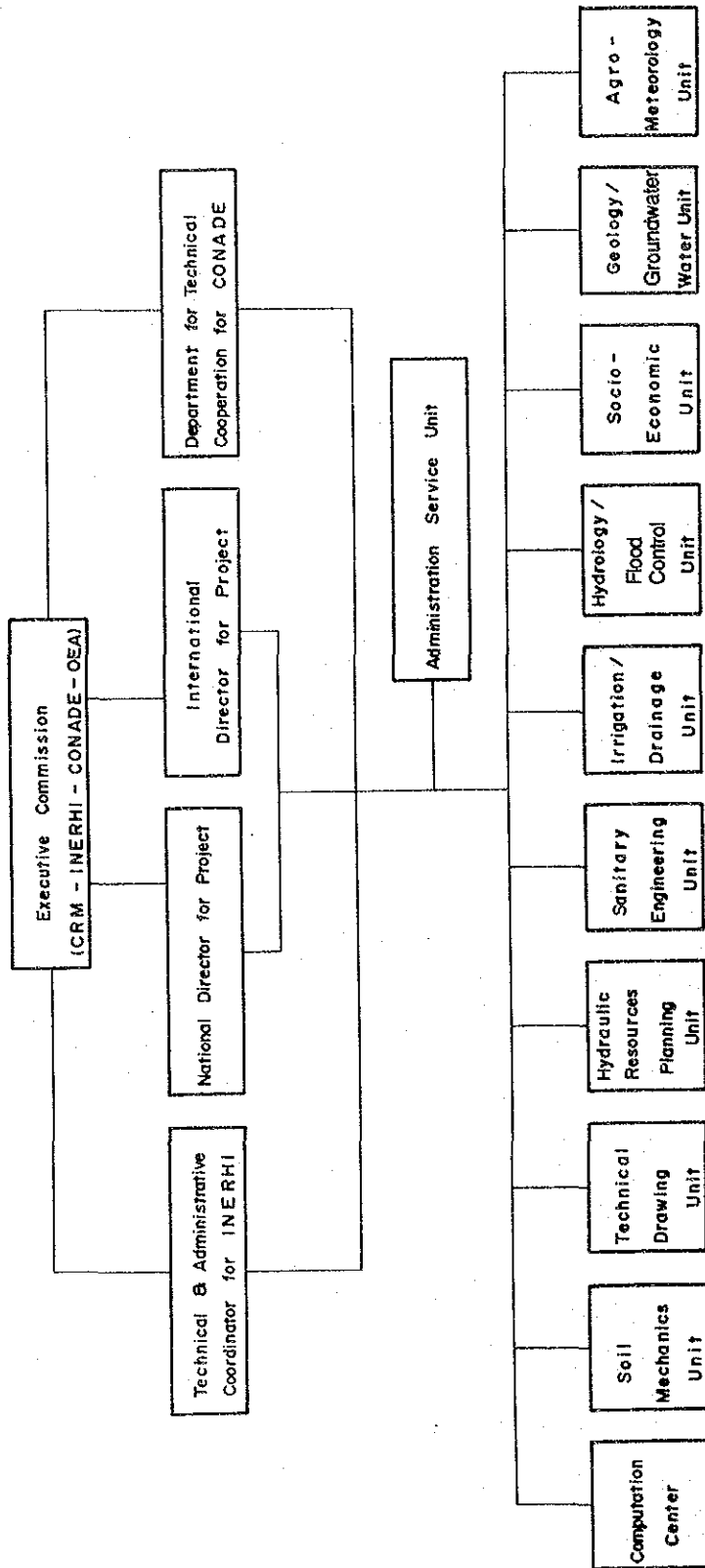


Fig.A.2 Existing Organization of CRM

GOVERNMENT OF THE REPUBLIC OF ECUADOR  
 CENTRO DE REHABILITACION DE MANABI (CRM)  
 THE FEASIBILITY STUDY ON THE WATER  
 RESOURCES DEVELOPMENT FOR  
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 JAPAN INTERNATIONAL COOPERATION AGENCY



GOVERNMENT OF THE REPUBLIC OF ECUADOR  
 CENTRO DE REHABILITACION DE MANABI (CRM)  
 THE FEASIBILITY STUDY ON THE WATER  
 RESOURCES DEVELOPMENT FOR  
 CHONE-PORTOVIEJO RIVER BASINS  
 JAPAN INTERNATIONAL COOPERATION AGENCY

Fig.A.3 Organization of PHIMA

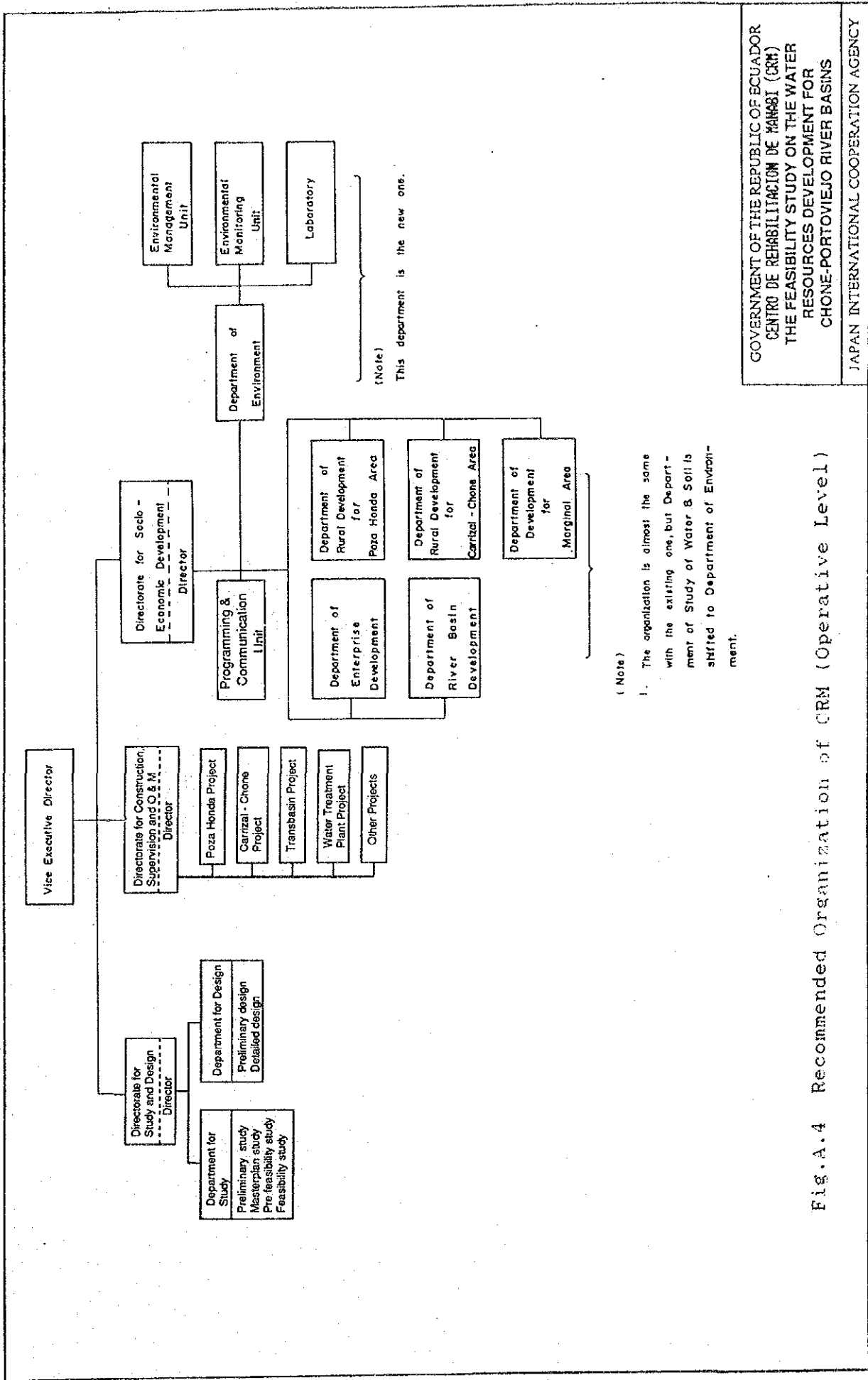


Fig.A.4 Recommended Organization of CRM (Operative Level)

GOVERNMENT OF THE REPUBLIC OF ECUADOR  
 CENTRO DE REHABILITACION DE RANOS (CRM)  
 THE FEASIBILITY STUDY ON THE WATER  
 RESOURCES DEVELOPMENT FOR  
 CHONE-PORTOVIEJO RIVER BASINS  
 JAPAN INTERNATIONAL COOPERATION AGENCY

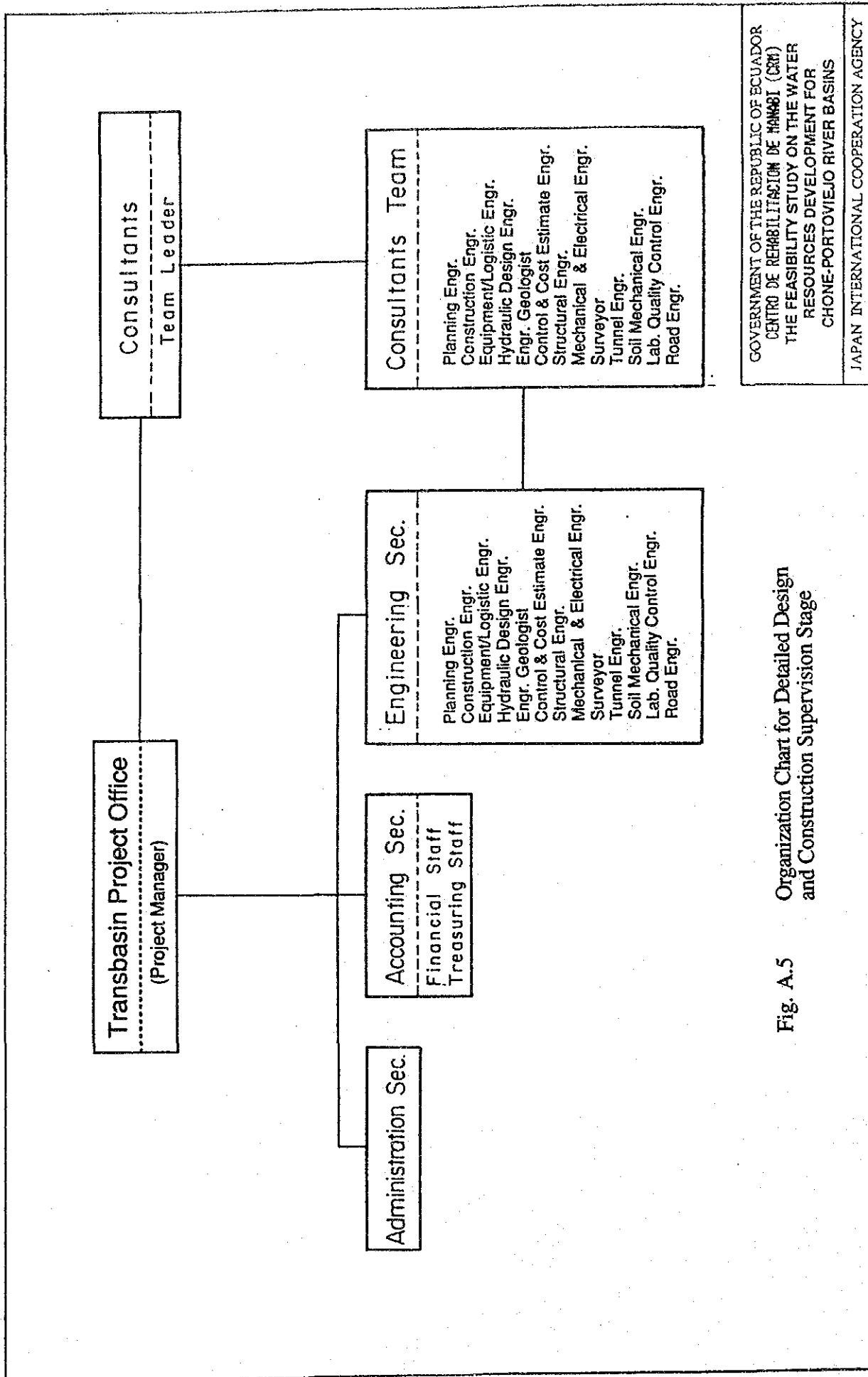


Fig. A.5 Organization Chart for Detailed Design and Construction Supervision Stage



**Annex B**  
**HYDROLOGY**







## ANNEX B HYDROLOGY

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## **1. INTRODUCTION**

In order to operate the restricted water resources in the Study area, it is indispensable to find out the long-term streamflow records. There exist or existed 22 runoff gauges in the Study area. Most of the measured records, however, are fragmentary and limited. It is impossible to adopt them directly for the analysis. Some simulation methods, therefore, will be applied to the long-term surface runoff estimation for the target rivers.

## **2. DATA COLLECTION AND REVIEW**

The Study Team collected the meteo-hydrological records from Manabi Rehabilitation Center (CRM) and National Institute of Meteorology and Hydrology (INAMHI). Table B.1.1 - Table B.1.3 show the summary of data collected necessary and available for meteorological and hydrological analyses, respectively. As for their location, both the meteorological and hydrological stations are as illustrated in Fig. B.1.1. And Fig. B.1.2 show the isohyetal map for the Study area.

By using the effective data, the respective mean meteorological and hydrological characteristics for the next five stations is summarized and as illustrated in Fig. B.2.1 - Fig. B.2.5.

- Portoviejo station;
- Santa Ana station;
- Rocafuerte station;
- Calceta station; and
- Estancilla station

These analyzed results are also applied to the irrigation study.

### **3. FIELD INVESTIGATION**

#### **3.1 Meteorology**

Most of the meteorological observatories are under good conditions, except for the operation and maintenance of the rain gauges, all of which doesn't allow to obtain more valuable data, as observed in Tables B.1.1 and B.1.3, showing incomplete rainfall series and meteorological data.

#### **3.2 Hydrology**

The Study Team reconnoitered the existing and the proposed reservoirs so as to grasp the surrounding vegetation conditions. In general, the catchment area is still being deforested in progression.

It can be judged that the vegetation conditions upstream both the proposed La Esperanza damsite and Chirijos damsite are poor. On the other hand, the existing Poza Honda reservoir and Daule-Peripa reservoir keep desirable vegetation conditions compared with the formers. The runoff coefficient for the former two sites may be large, and accordingly yield more sediment loads during the rainy season.

As for the gauge stations, many grasses and bushes growing around the measurement site for some of them in spite of the existing of good equipment. The rating curve, however, need to be reviewed periodically to improve its availability and application.

### **4. RAINFALL**

#### **4.1 Monthly and Daily Rainfall**

The rainfall records are also disconnected and confined as shown in Table B.1.2. Some complement, consequently, will be applied to obtain the long-term data necessary for analyses.

The records at Chamotete station and Dos Bocas station are longer and more significant than the others. However, correlation method can be utilized to complement the missing data among Chamotete - Zapote station, Dos Bocas - Chamotete station,

Poza Honda - Chamotete, El Carmen - Dos Bocas station and Santa Ana - Poza Honda station respectively. As a result, it can be judged that the rainfall pattern and depths are well correlated. Table B.1.4 - Table B.1.8 show the respective monthly correlation equation and correlation coefficient for the above-mentioned 5 sets.

The monthly rainfall in 1973 for Chamotete station will be obtained from the same periodical data at Zapote station by the equations mentioned above. Then, the rainfall at Chamotete station is applied as the suitable and representative long-term monthly rainfall for both the proposed Chirijos dam.

As for the proposed La Esperanza dam, the rainfall records at Dos Bocas station where locates in the catchment area of the Carrizal River can be applied except 2-year missing records. The monthly rainfall for 1975 and 1976, therefore, were also respectively calculated from Chamotete station by the same method.

Similarly, the long-term monthly rainfall for Poza Honda station and El Carmen station is thus estimated respectively by Chamotete station and Dos Bocas station, and is to be applied for the existing Poza Honda and Daule-Peripa dams.

On the other hand, the representative monthly rainfall for the following basins are estimated by Thiessen method as shown in Fig. B.1.3.

- basin of the Chico River;
- basin of the Portoviejo River (confluent with Chico River);
- basin of the Portoviejo River (estuary);
- basin of the Carrizal River;
- basin of the Chone River (confluent with Carrizal River); and
- basin of the Chone River (estuary)

As a result, the respective observed and estimated long-term monthly rainfall for the above-mentioned stations is as summarized in Table B.1.8 - Table B.1.19. Moreover, the mean annual rainfall for the stations mentioned above, corresponds to the isohyetal line as shown in Fig. B.1.2.

#### **4.2 Probable Rainfall**

Based on the monthly rainfall records, 5-year probable non-excessive monthly rainfall is respectively estimated for the following stations:

- Alajuela station;
- Calceta station;
- Estancilla station;
- Pechiche station;
- Portoviejo station;
- Rocafuerte station; and
- Santa Ana station

Table B.1.20 show the summary of results calculated and is also applied to the irrigation study.

## **5. HYDROLOGY**

### **5.1 Long-term Monthly Runoff Estimation**

In the Study, the runoff is defined as equivalent to the "net inflow" to the reservoirs, which included seepage and evaporation losses together with observational errors.

Taking the seasonality of the rainfall-runoff characteristics into account, the Study Team estimated the surface runoff of the next 4 rivers respectively for a 21-year period (October 1970 - September 1990) by the Tank Model simulation method.

- the Carrizal River;
- the Portoviejo River;
- the Chico River; and
- the Daule-Peripa River

The Tank Model structure for the respective site was estimated on the basis of the daily and monthly rainfall data mention above and the observed daily and monthly runoff data by giving due attention to the following conditions:

- Annual runoff coefficient;
- Hydrograph pattern;
- Base flow; and
- Total Annual Runoff



By use of such tank structures, the respective long-term monthly surface runoff for the above-mentioned periods is thus estimated for the next 5 sites:

- the proposed La Esperanza damsite;
- the proposed Chirijos damsite;
- the existing Poza Honda damsite;
- the existing Daule-Peripa damsite; and
- Santa Ana gauge station on the Portoviejo River (new diversion damsite)

As a result, Table B.2.1 - Table B.2.5 show the respective estimated long-term monthly surface runoff and are applied to the planning and management study. The dam, if exists, can function obviously during the dry season by reason of the poor streamflow.

The same periodical runoff for the next six sites located in the Portoviejo River and the Chone River are simultaneously estimated by the related models. Table B.2.6 - Table B.2.11 show the respective estimated runoff and are thus applied to the environmental study and shrimp ponds.

- the Chico River (Confluent with Portoviejo River);
- the Portoviejo River (Confluent with Chico River);
- the Portoviejo River (Estuary);
- the Carrizal River (Confluent with Chone River);
- the Chone River (Confluent with Carrizal River); and
- the Chone River (Estuary)

## **5.2 Flood Discharge**

For the purpose of flood control, the peak discharge at the proposed La Esperanza damsite and Chirijos damsite, and the existing Poza Honda damsite and Daule-Peripa damsite is respectively estimated in the stage of master plan as below.

Return Period (years)	Flood Discharge (cu.m/sec)			
	La Esperanza	Chirijos	Poza Honda	Daule-Peripa
2.3	52.5	31.9(*)	39.2	243.9
5	192.9	99.8	133.2	713.0
10	271.3	136.1	185.1	952.8
25	384.6	189.2	260.2	1,295.1
50	479.6	231.0	320.5	1,567.9
100	577.9	275.1	383.8	1,851.6
200		300.0		
500	759.4	356.2	499.0	2,366.7
1,000		417.1		
10,000		556.4		

## 6. SEDIMENT LOAD

The sampling and analyses of sediment load in the Study area had already been conducted and analyzed in the stage of Master Plan. Their results are as shown in Table B.3.1.

As for the proposed La Esperanza damsite and Chirijos damsite, and the existing Poza Honda damsite and Daule-Peripa damsite, the sediment production can be estimated by a relation curve modified from American Society of Civil Engineers as shown in Fig. B.3.1.

Sediment production at the above-mentioned damsites is respectively thus estimated and as shown in Table B.3.2.

(\*) Newly estimated for the purpose of Spillway design.



## **T A B L E S**





Table B.1.1 Summary of Collected Data for Meteorology

Name of Station	Item	1970												1980												1990											
		9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1													
Portoviejo	Mean Temperature	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==														
	Relative Humidity	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==														
	Monthly Rainfall	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==														
	Class A Pan Evaporation	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==														
	Wind Velocity	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==														
	Sunshine Hours	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==														
Cloudiness	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==															
Santa Ana	Mean Temperature	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==														
	Relative Humidity	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==														
	Monthly Rainfall	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==														
	Class A Pan Evaporation	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==														
	Wind Velocity	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==														
	Cloudiness	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==														
Rocafuerte	Mean Temperature	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==														
	Relative Humidity	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==														
	Monthly Rainfall	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==														
	Wind Velocity	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==														
	Cloudiness	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==														
	Calceña	Mean Temperature	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==													
Monthly Rainfall		==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==														
Class A Pan Evaporation		==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==														
Wind Velocity		==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==														
Sunshine Hours		==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==														
Cloudiness		==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==														
Estancilla	Mean Temperature	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==														
	Relative Humidity	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==														
	Monthly Rainfall	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==														
	Class A Pan Evaporation	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==														
	Wind Velocity	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==														
	Sunshine Hours	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==														
Cloudiness	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==	==															

Source: CRM







Table B.1.4

Correlation of Monthly Rainfall  
between Chamotete and Zapote

Month	A	B	Correlation Coefficient	Equation
Jan.	1.221	-102.326	0.9257309	$MRc = A \times MRz + B$
Feb.	0.833	- 0.231	0.8061507	-do-
Mar.	0.659	+ 50.499	0.8367529	-do-
Apr.	0.278	+122.812	0.5711916	-do-
May	0.331	+ 42.789	0.7072776	-do-
June	0.614	+ 14.898	0.9780564	-do-
July	0.128	+ 7.195	0.4626409	-do-
Aug.	0.571	+ 1.301	0.9872332	-do-
Sep.	1.244	- 3.877	0.9588876	-do-
Oct.	0.557	+ 0.523	0.6756162	-do-
Nov.	0.492	+ 0.830	0.9672359	-do-
Dec.	0.657	+ 4.590	0.7918608	-do-

Note: MRc means monthly rainfall at Chamotete station  
MRz means monthly rainfall at Zapote station

Table B.1.5

Correlation of Monthly Rainfall  
between Dos Bocas and Chamotete

Month	A	B	Correlation Coefficient	Equation
Jan.	0.846	+ 99.667	0.9194039	MRb = A x MRc + B
Feb.	0.907	+132.394	0.7662299	-do-
Mar.	0.988	+ 81.659	0.7463731	-do-
Apr.	0.966	+ 60.018	0.7884887	-do-
May	1.198	+ 8.960	0.8874130	-do-
June	1.229	+ 3.147	0.9471810	-do-
July	1.336	+ 7.798	0.9521219	-do-
Aug.	1.430	- 0.560	0.9968758	-do-
Sep.	0.744	+ 11.579	0.8520116	-do-
Oct.	1.116	+ 6.295	0.9574764	-do-
Nov.	2.263	- 2.593	0.9926600	-do-
Dec.	1.128	+ 28.396	0.9428565	-do-

Note: MRb means monthly rainfall at Dos Bocas station

MRc means monthly rainfall at Chamotete station

Table B.1.6 Correlation of Monthly Rainfall  
between Poza Honda and Chamotete

Month	A	B	Correlation Coefficient	Equation
Jan.	0.713	+ 68.325	0.8887884	MRp = A x MRc + B
Feb.	0.955	+ 33.044	0.8515689	-do-
Mar.	0.718	+ 71.381	0.6700331	-do-
Apr.	1.099	+ 12.931	0.8629314	-do-
May	0.881	+ 6.420	0.9359559	-do-
June	1.428	+ 0.225	0.9869399	-do-
July	0.992	- 0.159	0.9994143	-do-
Aug.	0.460	+ 5.831	0.7827715	-do-
Sep.	1.012	+ 0.899	0.9904862	-do-
Oct.	0.973	+ 1.808	0.9963284	-do-
Nov.	1.397	- 1.015	0.9956578	-do-
Dec.	0.830	+ 9.066	0.9804869	-do-

Note: MRp means monthly rainfall at Poza Honda station

MRc means monthly rainfall at Chamotete station

**Table B.1.7** Correlation of Monthly Rainfall  
between El Carmen and Dos Bocas

Month	A	B	Correlation Coefficient	Equation
Jan.	1.183	+152.848	0.8071148	$MRc = A \times MRb + B$
Feb.	0.695	+254.115	0.7640312	-do-
Mar.	0.649	+325.728	0.5973226	-do-
Apr.	0.815	+240.560	0.6505598	-do-
May	1.399	+112.449	0.8334677	-do-
June	1.428	+ 64.781	0.8747770	-do-
July	1.394	+ 4.927	0.9935570	-do-
Aug.	0.680	+ 31.236	0.8637201	-do-
Sep.	2.445	+ 15.038	0.9638721	-do-
Oct.	3.312	+ 9.648	0.9827773	-do-
Nov.	1.467	+ 13.765	0.9882461	-do-
Dec.	1.423	+ 61.575	0.9359899	-do-

Note: MRc means monthly rainfall at El Carmen station

MRb means monthly rainfall at Dos Bocas station

Table B.1.8

Correlation of Monthly Rainfall  
between Santa Ana and Poza Honda

Month	A	B	Correlation Coefficient	Equation
Jan.	0.830	+ 6.545	0.7166466	$MR_s = A \times MR_p + B$
Feb.	0.351	+ 67.105	0.5330476	-do-
Mar.	0.432	+ 88.906	0.6747541	-do-
Apr.	0.287	+ 81.788	0.4337642	-do-
May	0.928	- 1.331	0.7164699	-do-
June	0.755	+ 2.581	0.7541117	-do-
July	0.690	- 2.934	0.9798644	-do-
Aug.	1.180	- 1.086	0.9523757	-do-
Sep.	0.390	+ 3.087	0.9611838	-do-
Oct.	0.396	- 1.731	0.9827154	-do-
Nov.	0.422	+ 4.543	0.8432806	-do-
Dec.	0.899	- 10.029	0.9453020	-do-

Note: MRs means monthly rainfall at Santa Ana station

MRp means monthly rainfall at Poza Honda station

Table B.1.9 Observed and Estimated Monthly Rainfall at Chamotete Station

Year	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Annual
1970/71	18.7	96.6	243.0	518.2	72.6	6.7	39.3	4.0	0.7	3.6	6.2	6.7	1016.3
1971/72	13.9	99.4	192.3	424.4	130.5	115.8	283.1	18.6	44.6	59.8	8.8	29.0	1420.2
1972/73	166.8	520.9	357.5	353.6	210.8	235.9	47.7	15.9	2.4	6.1	1.1	0.8	1919.5
1973/74	30.3	40.7	419.8	112.7	72.6	6.7	38.3	1.1	0.0	7.3	3.0	9.6	742.1
1974/75	57.2	519.6	455.7	355.6	191.1	34.1	33.1	9.2	2.4	5.6	31.6	3.1	1698.3
1975/76	45.7	529.7	375.3	411.0	324.4	194.2	124.5	32.8	5.3	3.7	0.0	1.4	2048.0
1976/77	45.4	278.0	318.4	343.7	180.0	11.7	16.4	0.0	0.6	5.6	2.2	0.0	1202.0
1977/78	60.7	175.4	232.6	203.1	79.8	80.7	3.0	0.4	0.0	0.4	0.3	0.0	836.4
1978/79	4.8	124.7	192.4	189.8	109.6	38.9	27.6	7.1	0.0	3.6	4.4	0.0	702.9
1979/80	3.1	53.8	108.0	203.7	251.3	92.5	3.8	0.0	1.3	0.0	0.0	5.4	722.9
1980/81	3.8	82.3	354.4	114.5	161.2	0.0	1.8	8.0	1.3	0.8	0.0	0.0	728.1
1981/82	19.6	85.6	166.7	123.7	35.2	34.5	2.8	22.8	0.0	9.1	173.8	147.7	821.5
1982/83	362.1	340.5	346.5	351.7	436.1	291.1	196.6	311.7	156.0	199.7	0.9	3.1	2996.0
1983/84	44.7	19.9	489.4	436.0	222.7	66.8	11.7	2.4	1.1	1.3	2.6	0.0	1298.6
1984/85	99.4	80.0	150.0	218.2	196.9	46.9	46.3	1.2	0.3	1.1	0.3	0.0	840.6
1985/86	54.1	496.2	98.2	60.8	164.9	13.4	4.9	10.8	0.6	0.7	17.2	1.6	923.4
1986/87	24.0	227.2	481.4	215.9	380.7	128.0	4.6	6.6	43.6	3.5	7.4	11.3	1534.2
1987/88	41.0	125.8	320.7	77.9	236.9	94.6	4.1	4.5	3.6	8.5	0.0	19.0	936.6
1988/89	33.5	577.1	326.2	217.3	208.8	25.3	11.3	3.1	0.7	26.6	10.3	0.5	1440.7
1989/90	20.9	71.9	81.6	209.8	199.1	1.7	28.4	4.3	0.0	0.2	0.2	0.0	618.1
1990/91	47.8												
Mean	57.0	227.3	285.5	257.1	193.3	76.0	46.5	23.2	13.2	17.4	13.5	12.0	1222.3
Max.	362.1	577.1	489.4	518.2	436.1	291.1	283.1	311.7	156.0	199.7	173.8	147.7	2996.0
Min.	3.1	19.9	81.6	60.8	35.2	0.0	1.8	0.0	0.0	0.0	0.0	0.0	618.1
Year	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Annual

Table B.1.10 Observed and Estimated Monthly Rainfall at Dos Bocas Station

(Unit : mm)

Year	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Annual
1970/71	59.4	163.3	296.2	604.1	146.2	45.6	27.0	6.0	2.8	83.4	3.0	3.0	1440.0
1971/72	97.0	162.7	478.8	458.2	200.2	102.4	298.3	142.6	57.0	35.3	10.2	83.8	2126.5
1972/73	175.2	541.7	455.7	440.2	303.1	252.9	52.0	9.2	11.2	47.2	3.4	0.0	2291.8
1973/74	47.3	135.4	312.8	161.7	85.2	12.0	68.6	0.0	0.0	12.5	11.2	17.2	863.9
1974/75	102.5	539.4	545.6	433.1	244.6	49.8	43.9	28.2	2.7	15.9	41.6	4.4	2051.7
1975/76	79.8	548.0	472.9	487.8	373.5	241.5	156.3	51.6	7.1	14.2	0.0	0.6	2433.3
1976/77	44.0	405.0	370.0	501.5	88.3	38.5	57.9	23.6	3.2	38.2	14.8	0.0	1585.0
1977/78	48.5	224.0	263.0	334.5	104.5	195.0	6.8	0.9	0.0	9.0	6.6	0.0	1192.8
1978/79	14.3	325.8	209.1	169.4	219.4	119.9	30.5	10.0	0.0	9.7	4.0	0.0	1112.1
1979/80	2.8	164.8	280.8	201.3	297.5	36.9	4.7	0.0	1.3	0.0	0.3	8.3	998.7
1980/81	37.0	135.6	538.8	288.4	270.5	0.0	11.5	53.0	5.1	8.8	5.0	5.9	1359.6
1981/82	88.9	136.4	219.0	202.8	160.3	33.5	21.5	11.0	0.0	12.0	197.8	332.1	1415.3
1982/83	457.0	493.7	381.6	659.1	477.5	375.2	334.0	421.6	227.4	166.4	13.4	10.2	4017.1
1983/84	87.5	22.4	554.1	512.4	295.3	65.9	4.0	3.0	1.0	13.9	9.2	1.4	1570.1
1984/85	128.0	127.1	214.6	291.9	176.9	12.4	33.8	9.4	0.0	12.4	6.6	0.0	1013.1
1985/86	155.2	426.9	215.1	192.0	348.6	25.0	9.2	22.2	0.3	12.1	70.5	1.0	1478.1
1986/87	67.4	341.3	727.8	555.8	497.9	203.4	8.8	16.6	50.4	14.2	14.6	23.0	2521.2
1987/88	79.4	299.9	584.7	101.0	206.8	227.2	30.8	24.1	4.6	17.9	24.0	22.4	1622.8
1988/89	65.6	542.8	423.3	144.9	365.5	34.9	30.4	11.9	0.0	23.0	10.6	0.0	1652.9
1989/90	71.2	112.8	227.4	144.6	106.5	11.0	38.1	13.6	0.0	0.5	11.6	0.1	737.4
1990/91	195.1												
Mean	100.1	292.5	388.6	344.2	248.4	104.2	63.4	42.9	18.7	27.3	22.9	25.7	1674.2
Max.	457.0	548.0	727.8	659.1	497.9	375.2	334.0	421.6	227.4	166.4	197.8	332.1	4017.1
Min.	2.8	22.4	209.1	101.0	85.2	0.0	4.0	0.0	0.0	0.0	0.0	0.0	737.4
Year	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Annual



Table B.1.11 Observed and Estimated Monthly Rainfall at Poza Honda Station

(Unit : mm)

Year	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Annual
1970/71	24.6	137.2	265.2	443.4	92.7	12.3	35.4	3.8	6.2	10.5	7.8	8.3	1047.4
1971/72	20.6	139.2	216.7	376.9	156.3	108.4	253.3	18.3	26.4	67.4	10.4	39.5	1433.4
1972/73	147.5	439.5	374.6	325.9	244.6	214.2	42.9	15.6	6.9	13.1	2.9	0.1	1827.8
1973/74	34.2	97.3	434.1	152.5	92.7	12.3	34.5	0.9	5.8	14.3	4.7	12.4	895.7
1974/75	56.6	438.6	468.4	326.7	222.9	36.5	29.8	9.0	6.9	12.6	32.6	3.3	1643.9
1975/76	47.0	445.8	391.6	366.4	369.4	177.5	111.5	32.4	8.3	10.6	0.0	0.9	1961.4
1976/77	46.8	110.6	269.3	360.1	200.3	16.7	14.9	0.0	0.0	12.6	3.9	0.0	1035.2
1977/78	66.5	124.8	125.2	188.6	100.6	77.5	2.9	0.2	0.0	1.3	0.7	0.0	688.3
1978/79	5.9	157.7	308.1	150.2	119.1	34.6	24.9	6.9	0.0	10.5	6.1	0.0	824.0
1979/80	11.6	109.5	100.7	173.4	240.7	69.8	9.8	0.3	2.0	0.0	1.2	1.0	720.0
1980/81	34.7	87.0	551.3	276.4	292.2	5.1	5.5	7.0	11.5	8.1	4.1	0.4	1283.3
1981/82	31.7	187.5	111.8	153.1	70.3	36.6	7.2	20.5	0.0	12.7	170.5	205.6	1007.5
1982/83	311.0	371.5	386.2	531.8	521.5	262.3	180.8	309.4	63.8	207.4	9.1	6.3	3161.1
1983/84	49.6	12.2	450.8	301.6	250.4	6.2	21.4	3.5	0.0	22.6	3.8	0.2	1122.3
1984/85	85.8	101.1	157.2	150.6	99.2	30.8	22.8	1.1	5.0	0.4	0.3	0.1	654.4
1985/86	77.1	377.3	142.8	150.8	164.1	57.7	1.2	8.6	0.2	0.8	28.1	0.0	1008.7
1986/87	12.0	276.3	478.5	238.5	442.4	163.5	0.7	0.9	76.2	19.9	3.1	0.0	1712.0
1987/88	30.3	165.3	377.6	133.6	215.9	93.9	5.0	4.3	1.4	11.0	1.4	33.5	1073.2
1988/89	54.5	551.3	317.6	204.2	245.6	36.2	14.7	3.5	0.0	46.8	7.7	2.2	1484.3
1989/90	16.2	166.1	171.4	115.9	365.0	14.6	16.1	11.7	0.0	0.0	0.0	0.0	877.0
1990/91	20.3												
Mean	56.4	224.8	305.0	256.0	225.3	73.3	41.8	22.9	11.0	24.1	14.9	15.7	1273.0
Max.	311.0	551.3	551.3	531.8	521.5	262.3	253.3	309.4	76.2	207.4	170.5	205.6	3161.1
Min.	5.9	12.2	100.7	115.9	70.3	5.1	0.7	0.0	0.0	0.0	0.0	0.0	654.4
Year	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Annual

Table B.1.1.12 Observed and Estimated Monthly Rainfall at El Carmen Station

(Unit : mm)

Year	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Annual
1970/71	146.1	346.0	367.6	518.0	732.9	317.0	129.9	42.6	35.3	21.9	285.9	18.2	2961.4
1971/72	65.8	345.3	367.2	636.5	614.0	392.5	211.0	420.8	128.2	154.4	126.6	28.7	3491.0
1972/73	180.8	793.7	630.6	621.5	599.3	536.5	425.9	77.4	37.5	42.4	166.0	18.8	4130.4
1973/74	61.6	313.0	348.2	528.7	372.3	231.6	81.9	100.6	31.2	15.0	51.0	30.2	2165.3
1974/75	86.1	791.0	629.0	679.8	593.5	454.6	135.9	66.1	50.4	21.6	62.3	74.8	3645.1
1975/76	67.8	801.1	635.0	632.6	638.1	635.0	409.6	222.8	66.3	32.4	56.7	13.8	4211.2
1976/77	62.4	459.7	403.3	750.1	290.3	64.2	170.8	16.0	60.9	70.7	37.5	23.0	2408.9
1977/78	159.0	319.0	630.9	497.6	497.6	389.3	25.6	35.0	14.1	30.9	23.2	24.9	2647.1
1978/79	88.8	424.7	441.4	443.1	360.0	227.0	165.7	12.4	21.9	110.8	51.7	6.1	2353.6
1979/80	31.5	300.4	405.8	486.0	570.3	222.6	63.6	4.2	30.5	3.0	77.2	21.6	2216.7
1980/81	93.2	206.4	652.3	725.5	341.5	17.5	9.4	48.5	22.4	45.0	14.5	11.0	2187.2
1981/82	191.3	529.7	449.1	259.2	322.5	371.3	11.0	43.2	14.9	62.0	672.1	503.6	3429.9
1982/83	684.0	815.5	566.6	692.2	694.0	612.4	533.6	597.1	171.7	429.7	100.1	81.8	5978.7
1983/84	123.9	113.2	748.1	792.5	622.5	97.6	28.7	21.5	0.0	77.0	11.6	22.7	2659.3
1984/85	421.0	356.8	350.9	360.0	140.0	146.9	220.5	17.0	20.1	22.5	9.4	12.0	2077.1
1985/86	271.2	614.0	280.5	731.8	453.2	147.4	77.9	35.9	31.4	44.6	243.1	15.2	2946.2
1986/87	63.0	702.7	806.0	533.0	597.9	570.0	221.5	3.3	127.2	25.3	57.9	15.1	3722.9
1987/88	191.2	662.5	482.5	238.5	557.6	348.1	39.3	55.0	59.1	28.1	32.3	21.3	2715.5
1988/89	78.8	795.0	631.4	600.4	358.7	623.8	114.6	47.3	39.3	15.0	85.8	29.3	3419.4
1989/90	61.6	286.3	332.5	473.3	358.4	261.4	80.5	58.0	40.5	15.0	11.3	30.8	2009.6
1990/91	339.2												
Mean	156.5	498.8	507.9	560.0	485.7	333.3	157.8	96.2	50.1	63.4	108.8	50.1	3068.8
Max.	684.0	815.5	806.0	792.5	732.9	635.0	533.6	597.1	171.7	429.7	672.1	503.6	5978.7
Min.	31.5	113.2	280.5	238.5	140.0	17.5	9.4	3.3	0.0	3.0	9.4	6.1	2009.6

Table B.1.13 Estimated Monthly Rainfall for Basin of Portoviejo River (Santa Ana)

(Unit : mm)

Year	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Annual
1970/71	18.2	118.0	242.9	411.6	73.4	9.2	34.9	2.5	4.2	10.6	6.2	9.0	940.7
1971/72	18.6	132.7	213.9	323.8	136.6	84.4	239.1	33.5	28.3	44.9	9.7	27.2	1292.7
1972/73	115.9	350.7	304.4	303.8	228.6	178.3	59.8	11.6	4.6	10.4	1.9	0.1	1570.1
1973/74	27.3	73.7	352.5	138.9	83.6	17.6	29.6	0.6	3.8	9.5	4.3	8.2	749.6
1974/75	55.3	398.3	422.0	328.6	203.0	26.1	33.4	7.9	4.6	15.3	25.4	4.2	1524.1
1975/76	44.6	403.4	362.1	313.9	299.9	142.1	131.4	33.6	8.9	7.6	0.0	0.6	1748.1
1976/77	56.0	113.9	250.3	315.4	167.8	16.5	32.4	0.0	0.0	26.6	2.6	0.0	981.5
1977/78	55.4	127.5	129.2	191.8	76.4	78.8	1.9	4.5	0.0	2.1	0.5	0.0	668.1
1978/79	3.9	127.7	259.8	133.8	117.0	40.5	22.7	4.6	0.0	7.0	4.0	0.0	721.0
1979/80	7.7	103.4	88.3	162.3	200.6	87.3	7.4	0.2	1.3	0.0	0.8	3.7	663.0
1980/81	23.6	72.8	432.3	262.9	240.9	5.6	3.6	6.3	7.6	5.4	2.7	3.3	1067.0
1981/82	22.0	143.4	82.9	128.8	61.2	42.8	4.8	14.1	0.0	9.9	135.8	164.6	810.3
1982/83	293.0	360.2	364.0	468.0	440.1	330.1	201.9	280.0	68.9	165.9	6.0	4.2	2982.3
1983/84	42.3	11.9	373.7	298.4	180.7	6.9	18.3	2.3	0.0	15.0	2.5	0.1	952.1
1984/85	102.9	93.1	145.4	151.7	102.9	29.6	21.8	0.7	4.9	1.3	0.2	1.6	656.1
1985/86	71.1	353.5	134.2	151.9	152.2	55.8	2.0	6.7	0.1	1.7	21.8	1.5	952.5
1986/87	8.2	258.3	396.5	222.8	363.7	159.1	1.5	0.6	80.4	16.8	2.1	1.5	1511.5
1987/88	25.9	153.6	317.6	138.0	191.6	91.2	5.5	2.9	1.1	9.8	0.9	28.5	966.6
1988/89	49.3	517.5	270.8	195.1	214.2	34.9	14.4	2.3	0.0	38.2	5.5	3.3	1345.5
1989/90	12.3	154.3	156.5	123.7	304.8	13.8	15.6	9.5	0.0	1.0	0.0	1.5	793.0
1990/91	16.2												
Mean	50.9	203.4	265.0	238.3	192.0	72.5	44.1	21.2	10.9	20.0	11.6	13.2	1144.8
Max.	293.0	517.5	432.3	468.0	440.1	330.1	239.1	280.0	80.4	165.9	135.8	164.6	2982.3
Min.	3.9	11.9	82.9	123.7	61.2	5.6	1.5	0.0	0.0	0.0	0.0	0.0	656.1
Year	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Annual

Table B.1.14 Estimated Monthly Rainfall for Basin of Chico River

(Unit: mm)

Year	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Annual
1970/71	14.4	73.3	196.0	416.4	50.8	4.4	28.3	2.6	0.5	3.3	4.3	5.0	799.3
1971/72	9.7	82.5	187.5	345.1	118.7	76.4	212.8	17.1	31.0	38.8	6.1	18.7	1144.4
1972/73	114.7	392.6	280.7	252.5	158.3	162.0	34.4	10.4	1.8	4.5	0.7	0.6	1413.2
1973/74	20.4	35.0	306.7	98.0	61.8	8.9	25.9	0.8	0.0	4.9	2.7	7.0	572.1
1974/75	47.3	406.6	385.7	286.5	145.4	23.3	24.4	6.2	1.9	7.1	25.0	2.5	1361.9
1975/76	35.1	410.6	304.1	319.8	236.9	139.0	89.9	23.2	3.7	4.8	0.0	1.2	1568.3
1976/77	34.9	204.1	258.2	281.5	148.8	8.1	14.6	0.0	0.4	6.6	1.4	0.0	958.6
1977/78	42.5	132.6	181.0	155.7	54.1	56.2	1.9	1.4	0.0	0.4	0.2	0.0	626.0
1978/79	3.2	96.6	173.1	131.8	78.8	28.9	18.9	4.7	0.1	3.9	2.8	0.0	542.8
1979/80	2.0	50.5	91.3	165.9	180.2	67.2	3.4	0.0	0.8	0.0	0.1	28.3	589.7
1980/81	2.6	73.1	273.8	92.4	112.4	0.2	1.2	5.3	0.9	0.6	0.6	0.4	563.5
1981/82	14.3	64.2	109.2	89.0	26.8	26.6	3.3	14.8	0.0	6.2	123.3	120.5	598.2
1982/83	267.9	318.0	287.1	306.1	359.5	317.6	218.9	282.9	108.1	146.9	0.9	2.5	2616.4
1983/84	39.2	13.3	408.9	323.1	154.9	44.6	9.3	1.6	0.7	0.8	1.7	1.4	999.5
1984/85	108.0	67.1	121.9	161.8	136.0	48.7	30.5	0.8	0.3	0.8	0.2	0.1	676.2
1985/86	47.0	401.2	73.9	58.1	138.5	11.1	3.2	7.1	0.4	0.6	12.5	1.2	754.8
1986/87	15.9	162.6	410.8	186.7	273.0	97.1	3.0	4.5	34.8	2.8	4.7	8.3	1204.2
1987/88	28.7	98.0	236.4	65.8	171.5	71.2	2.8	3.0	2.3	7.7	0.0	12.9	700.3
1988/89	24.3	440.9	279.6	195.2	152.9	17.5	7.8	2.0	0.4	18.6	6.8	0.5	1146.5
1989/90	13.8	56.7	81.3	150.9	141.2	1.7	18.6	2.9	0.0	0.2	0.1	1.4	468.8
1990/91	34.1												
Mean	43.8	179.0	232.4	204.1	145.0	60.5	37.7	19.6	9.4	13.0	9.7	10.6	965.2
Max.	267.9	440.9	410.8	416.4	359.5	317.6	218.9	282.9	108.1	146.9	123.3	120.5	2616.4
Min.	2.0	13.3	73.9	58.1	26.8	0.2	1.2	0.0	0.0	0.0	0.0	0.0	468.8
Year	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Annual

Table B.1.15 Estimated Monthly Rainfall for the Basin of Portoviejo River  
(Confluent with Chico River)

(Unit : mm)

Year	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Annual
1970/71	12.3	83.3	199.6	341.8	44.6	4.9	27.1	1.1	1.9	8.7	4.0	7.8	737.1
1971/72	12.8	112.9	207.8	270.2	110.6	48.4	189.3	38.8	23.5	20.4	7.0	12.9	1054.6
1972/73	71.2	252.7	227.8	224.5	176.1	117.3	55.1	6.5	2.4	6.8	0.8	0.2	1141.4
1973/74	16.9	46.5	240.2	108.8	69.0	19.5	20.2	0.4	1.7	4.5	4.0	5.0	536.7
1974/75	46.4	324.8	348.1	286.1	153.9	13.8	27.8	5.2	2.1	16.6	19.3	3.8	1247.9
1975/76	37.6	324.4	282.8	233.1	196.1	95.0	113.3	27.3	6.9	4.7	0.1	0.8	1322.1
1976/77	48.9	96.1	206.6	243.8	132.2	12.0	35.8	0.0	0.0	30.0	1.2	0.0	806.6
1977/78	37.9	109.1	117.1	158.4	44.7	61.6	0.8	7.0	0.0	2.1	0.2	0.0	538.9
1978/79	2.0	86.1	200.3	93.9	90.0	35.8	16.3	2.2	0.3	3.4	1.7	0.0	532.0
1979/80	3.3	82.7	67.0	147.5	137.7	77.9	4.7	0.1	0.6	0.0	0.4	44.1	566.0
1980/81	10.8	58.6	272.8	195.6	151.0	4.5	1.6	4.2	3.3	2.5	1.8	4.2	710.9
1981/82	12.5	84.4	45.5	88.0	41.6	37.7	2.8	6.5	0.0	5.8	88.3	121.7	534.8
1982/83	234.8	329.8	293.8	375.7	341.6	382.4	248.8	249.2	59.6	109.9	2.8	2.2	2630.6
1983/84	33.7	9.0	284.7	245.1	99.5	5.8	12.4	1.0	0.0	6.5	1.1	2.2	701.0
1984/85	117.7	74.3	120.2	137.8	87.2	32.7	15.8	0.3	3.6	1.5	0.2	2.1	593.4
1985/86	57.6	319.2	104.5	131.4	126.2	40.8	1.9	4.0	0.1	1.8	13.2	2.0	802.7
1986/87	4.7	196.6	329.7	190.7	244.8	120.6	1.6	0.5	65.9	10.9	0.9	2.7	1169.6
1987/88	17.2	119.1	222.4	112.0	143.3	71.6	4.3	1.4	0.7	9.5	0.4	18.3	720.2
1988/89	34.8	423.1	215.0	187.1	154.1	25.2	10.7	1.0	0.0	24.5	3.0	3.1	1081.6
1989/90	7.0	111.8	126.4	110.6	197.9	9.9	11.6	5.6	0.0	1.4	0.0	2.0	584.2
1990/91	12.0												
Mean	39.6	162.2	205.6	194.1	137.1	60.9	40.1	18.1	8.6	13.6	7.5	11.8	900.6
Max.	234.8	423.1	348.1	375.7	341.6	382.4	248.8	249.2	65.9	109.9	88.3	121.7	2630.6
Min.	2.0	9.0	45.5	88.0	41.6	4.5	0.8	0.0	0.0	0.0	0.0	0.0	532.0
Year	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Annual

Table B.1.16 Estimated Monthly Rainfall for Basin of Portoviejo River (Estuary)

(Unit : mm)

Year	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Annual
1970/71	10.6	65.2	177.6	357.1	37.9	3.1	25	1.4	0.4	5	3.2	5.7	692.2
1971/72	9.1	85.1	191.1	282.6	108.3	50.3	183	27.8	25.5	20.8	5.5	10.7	999.8
1972/73	78.1	286.9	221.7	211.5	145.8	117.9	42.8	6.6	1.1	4	0.4	0.4	1117.2
1973/74	14.6	30.8	231.8	94.8	58.4	14.4	19.3	0.5	0	2.8	2.8	4.3	474.5
1974/75	44.3	338.6	342.6	268.7	130.8	14.4	24.5	4.8	1.2	11.1	19.1	3.1	1203.2
1975/76	32	339	272.8	254.4	182	99.9	94.7	22.3	4.6	4.4	0	0.8	1306.9
1976/77	39.8	152	221.4	241.7	125.3	8.4	26.3	0	0.2	18.5	0.8	0	834.4
1977/78	32.8	114.6	148.3	145.7	37.3	52.1	1	4.7	0	1.2	0.1	0	537.8
1978/79	1.8	77.8	163.2	99.9	74	30.2	15.1	2.6	0.2	3	1.5	0	469.3
1979/80	1	58.9	76.9	144.9	136.3	69.6	3	0	0.4	0	0.1	35.5	526.6
1980/81	1.9	62.3	220.9	117.6	98.4	1.9	0.6	4	0.5	0.4	0.7	2.7	511.9
1981/82	9.4	53.3	65	72.6	27.1	30.2	2.7	8.2	0	4.6	88.8	100.9	462.8
1982/83	226.4	313.2	269.4	297	309.1	364.3	236.3	256.1	81	109.6	0.7	1.7	2464.8
1983/84	34.1	10.1	328.4	267.8	99.5	26.4	8.9	0.8	0.4	0.4	0.9	1.8	779.5
1984/85	118.5	64.1	110.4	137.3	104.6	44.1	21.3	0.4	1.4	1.3	0.2	1.3	604.9
1985/86	46.9	340	74.5	80.7	124.8	20	2.6	4.6	0.2	1.2	9.8	1.8	707.1
1986/87	8.9	150.7	340.1	175.9	212.8	96.5	2.4	2.6	44.1	4.4	2.5	6.1	1047.0
1987/88	20.6	94.3	192.4	79.9	137.7	64.7	3.1	1.7	1.4	7.4	0	11.8	615.0
1988/89	24	387.6	234.8	182.4	129.5	17.7	7.8	1.1	0.2	15.9	4	1.7	1006.7
1989/90	8.5	68.4	92.2	123.7	128	4.1	13.9	2.8	0	0.9	0.1	1.3	443.9
1990/91	23.5												
Mean	37.5	154.6	198.8	181.8	120.4	56.5	36.7	17.7	8.1	10.8	7.1	9.6	840.3
Max.	226.4	387.6	342.6	357.1	309.1	364.3	236.3	256.1	81.0	109.6	88.8	100.9	2464.8
Min.	1.0	10.1	65.0	72.6	27.1	1.9	0.6	0.0	0.0	0.0	0.0	0.0	443.9
Year	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Annual

Table B.1.17 Estimated Monthly Rainfall for Basin of Carrizal River

Year	(Unit : mm)												
	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Annual
1970/71	31.5	98.1	242.5	526.5	93.6	21.8	18.2	3.7	1.4	38.4	5.5	2.3	1083.5
1971/72	45.9	132.6	320.6	316.0	178.7	82.0	219.1	74.8	38.2	21.1	6.8	48.3	1484.1
1972/73	142.2	374.1	297.2	287.7	215.7	169.7	31.1	12.2	5.5	22.5	1.9	0.5	1560.3
1973/74	27.6	83.7	312.9	126.5	84.6	17.9	35.3	0.4	0.0	9.5	5.4	13.9	717.7
1974/75	85.5	464.5	439.6	321.9	222.7	25.0	28.1	13.7	1.7	16.2	27.3	3.3	1649.5
1975/76	52.5	404.9	342.6	341.6	248.6	181.1	112.5	48.2	6.6	8.6	0.1	0.5	1747.8
1976/77	33.1	304.8	278.8	345.7	115.9	17.3	35.4	10.0	2.0	17.7	6.7	0.0	1167.4
1977/78	31.2	173.9	269.0	282.2	62.4	113.6	4.2	1.3	0.2	3.9	4.2	0.0	946.1
1978/79	7.0	188.7	188.2	225.9	151.9	60.8	24.2	4.8	0.0	5.6	2.3	0.0	859.4
1979/80	1.5	112.4	200.7	194.2	214.5	46.3	9.2	0.0	0.8	0.0	0.9	4.3	784.8
1980/81	19.1	126.6	414.9	185.2	173.3	1.4	5.3	26.4	2.6	5.3	2.6	3.9	966.6
1981/82	40.9	88.9	143.6	127.3	172.8	32.9	13.7	7.1	0.0	8.0	151.9	236.9	1024.0
1982/83	340.1	510.3	334.7	521.5	359.3	353.1	279.8	386.0	161.0	163.9	6.2	6.7	3422.6
1983/84	67.0	19.5	441.2	373.3	178.6	34.6	7.7	1.7	1.0	6.4	4.4	0.7	1136.1
1984/85	107.3	90.2	146.2	189.3	129.2	20.6	20.8	4.4	0.4	5.6	3.0	0.2	717.2
1985/86	81.5	388.5	144.7	142.3	253.1	48.3	8.0	11.9	0.7	5.4	37.2	4.8	1126.4
1986/87	40.2	240.1	615.2	312.2	402.1	132.6	5.1	9.0	33.5	7.3	8.2	12.5	1818.0
1987/88	68.0	177.2	388.0	78.5	158.9	136.3	14.8	11.3	3.5	9.2	10.3	13.6	1069.6
1988/89	36.0	447.8	327.4	127.0	231.3	21.0	16.0	7.2	0.3	17.6	8.2	0.0	1239.8
1989/90	35.8	93.7	166.9	127.2	140.3	8.1	22.3	8.4	0.1	0.3	5.1	0.1	608.3
1990/91	110.1												
Mean	66.9	226.0	300.7	257.6	189.4	76.2	45.5	32.1	13.0	18.6	14.9	17.6	1256.5
Max.	340.1	510.3	615.2	526.5	402.1	353.1	279.8	386.0	161.0	163.9	151.9	236.9	3422.6
Min.	1.5	19.5	143.6	78.5	62.4	1.4	4.2	0.0	0.0	0.0	0.1	0.0	608.3
Year	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Annual

Table B.1.18 Estimated Monthly Rainfall for Basin of Chone River (Confluent with Carrizal River)

(Unit : mm)

Year	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Annual
1970/71	24.9	67.0	233.0	548.4	52.1	15.2	24.1	2.0	4.4	13.0	25.8	1.5	1011.4
1971/72	21.3	48.2	314.0	268.4	127.0	47.7	285.0	55.0	87.4	6.1	1.5	1.8	1263.4
1972/73	172.8	282.3	129.8	313.4	178.8	138.2	24.2	29.6	8.1	16.2	8.0	3.8	1305.2
1973/74	27.1	85.4	438.1	53.2	169.4	26.0	22.1	3.4	0.9	11.3	4.8	11.1	852.8
1974/75	77.5	403.0	420.6	481.2	199.1	7.9	44.7	20.8	5.9	7.4	9.5	5.0	1682.6
1975/76	63.7	417.5	266.4	282.1	228.2	141.0	176.7	12.6	3.6	8.4	1.4	2.6	1604.2
1976/77	56.0	356.0	432.6	320.8	139.8	0.5	45.4	6.4	4.3	17.6	15.2	0.2	1394.8
1977/78	28.3	219.4	260.2	204.8	54.4	64.3	6.8	7.3	4.5	6.1	31.2	1.7	889.0
1978/79	16.9	153.6	249.7	113.5	78.7	19.2	58.0	0.3	3.0	15.7	5.2	1.1	714.9
1979/80	8.5	144.3	223.6	311.6	176.9	73.5	12.2	0.4	2.8	0.4	6.2	4.4	964.8
1980/81	26.3	175.6	515.1	227.9	193.9	1.2	5.0	16.0	10.1	25.1	4.7	1.9	1202.8
1981/82	26.3	139.0	73.7	160.6	82.6	47.6	13.5	2.7	0.0	7.3	200.7	196.4	950.4
1982/83	325.0	481.0	501.8	513.9	307.4	622.0	340.6	297.0	119.9	109.0	9.7	10.6	3637.9
1983/84	54.6	20.7	317.0	344.1	209.7	18.8	34.3	6.8	2.8	9.3	6.7	41.9	1066.7
1984/85	109.8	122.1	215.9	139.5	90.7	39.3	8.6	5.8	7.7	3.3	2.3	2.7	747.7
1985/86	73.9	391.3	134.6	77.2	144.1	1.7	4.1	13.8	4.7	3.7	20.4	1.6	871.1
1986/87	31.9	198.7	476.6	239.8	256.1	141.8	3.9	9.7	46.0	6.2	11.7	11.4	1433.8
1987/88	47.3	165.7	314.4	80.2	177.8	91.8	3.5	11.8	6.9	11.7	0.6	20.9	932.6
1988/89	42.1	455.0	309.6	205.2	154.7	0.2	10.7	5.1	4.6	13.8	13.3	1.4	1213.7
1989/90	30.0	110.9	135.2	199.1	165.5	1.2	33.6	21.5	0.8	1.4	3.7	0.8	703.7
1990/91	20.8												
Mean	61.2	221.8	298.1	254.1	159.3	75.0	57.8	26.4	16.4	14.7	19.1	16.1	1222.2
Max.	325.0	481.0	515.1	548.4	307.4	622.0	340.6	297.0	119.9	109.0	200.7	196.4	3637.9
Min.	8.5	20.7	73.7	53.2	52.1	0.2	3.5	0.3	0.0	0.4	0.6	0.2	703.7
Year	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Annual



Table B.1.19 Estimated Monthly Rainfall for Basin of Chone River (Estuary)

(Unit : mm)

Year	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Annual
1970/71	28.5	85.4	238.3	522.4	76.0	18.8	21.7	3.4	2.7	28.4	13.5	1.9	1041.0
1971/72	35.9	99.9	314.3	295.5	158.0	67.4	240.2	65.9	54.2	16.2	5.0	30.2	1382.7
1972/73	149.5	337.6	234.1	292.8	199.0	156.1	28.1	18.6	6.8	19.8	4.5	1.8	1448.7
1973/74	26.5	85.3	354.8	98.8	114.6	20.9	29.6	1.8	0.4	10.2	5.3	12.5	760.7
1974/75	80.9	439.2	432.3	379.0	209.6	18.4	33.1	16.8	3.4	12.5	20.0	4.1	1649.3
1975/76	55.3	405.8	306.4	311.6	236.3	163.0	131.7	33.9	5.7	8.4	0.5	1.4	1660.0
1976/77	40.6	317.4	332.1	331.4	124.4	10.8	43.2	9.7	3.2	18.5	11.7	0.1	1243.1
1977/78	29.3	191.0	261.0	247.5	58.2	91.9	5.0	3.8	1.9	5.6	15.4	1.0	911.6
1978/79	11.8	173.1	213.3	178.5	121.9	44.1	36.0	3.1	1.6	9.8	3.6	0.5	797.3
1979/80	5.6	121.2	207.0	236.0	194.5	56.9	10.2	0.2	1.7	0.2	2.6	4.6	840.7
1980/81	21.2	148.3	447.9	202.7	178.3	1.3	5.1	22.5	6.2	15.7	3.5	3.3	1056.0
1981/82	35.7	106.6	114.7	143.0	135.7	37.6	13.5	5.4	0.0	7.6	165.1	218.1	983.0
1982/83	323.9	486.7	386.7	514.6	343.5	450.9	295.3	348.3	142.7	141.0	7.8	8.6	3450.0
1983/84	60.8	19.2	382.5	348.7	187.1	28.3	18.8	4.0	1.8	7.7	5.4	23.8	1088.1
1984/85	103.2	102.9	171.6	167.9	111.4	28.2	16.0	4.9	3.4	4.5	2.6	1.1	717.7
1985/86	75.9	374.7	136.8	116.1	207.2	29.7	6.3	12.0	2.1	4.6	30.0	3.5	998.9
1986/87	35.5	214.4	552.8	285.3	337.4	131.6	4.5	9.0	38.7	6.9	9.3	11.5	1636.9
1987/88	57.8	172.3	350.7	76.5	162.1	115.2	10.3	12.1	4.6	11.6	6.5	15.8	995.5
1988/89	37.2	435.5	310.1	151.7	196.0	12.8	13.5	6.1	1.8	15.4	9.6	0.8	1190.5
1989/90	32.5	97.9	153.0	150.7	147.3	5.6	26.3	12.7	0.3	0.8	4.6	0.3	632.0
1990/91	74.4												
Mean	63.0	220.7	295.0	252.5	174.9	74.5	49.4	29.7	14.2	17.3	16.3	17.2	1224.2
Max.	323.9	486.7	552.8	522.4	343.5	450.9	295.3	348.3	142.7	141.0	165.1	218.1	3450.0
Min.	5.6	19.2	114.7	76.5	58.2	1.3	4.5	0.2	0.0	0.2	0.5	0.1	632.0
Year	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Annual

Table B.1.20 5-year Probable Non-excessive Rainfall

(Unit: mm)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Period
Alajuela	58.0	102.8	106.7	69.9	4.8	3.5	0.1	0.0	0.8	0.1	0.0	1.8	1968-85
Calceta	58.8	137.5	114.7	59.2	7.5	3.2	0.7	0.0	1.0	0.3	0.0	6.1	1963-85
Estancilla	59.7	106.0	86.6	74.0	5.0	1.2	0.1	0.0	0.1	0.0	0.1	2.7	1964-90
Pechiche	25.0	76.7	56.0	8.4	2.4	0.0	0.0	0.0	0.0	0.1	0.0	3.6	1972-85
Portoviejo	18.9	48.0	49.9	21.5	1.9	0.2	0.0	0.0	0.1	0.0	0.0	1.6	1963-90
Rocafuerte	21.5	28.9	36.0	11.9	0.7	0.1	0.0	0.0	0.0	0.0	0.0	0.2	-do-
Santa Ana	51.8	87.7	121.0	44.4	5.7	0.8	0.0	0.0	0.0	0.0	0.0	1.8	1963-86

Table B.2.1 Estimated Long-term Runoff at Proposed La Esperanza Damsite

Year	Catchment Area : 445 sq.km												Annual
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	
1971	3.16	15.05	38.16	36.21	10.20	3.08	0.50	0.10	0.08	0.06	0.10	0.05	106.75
1972	4.37	20.89	40.65	32.44	14.43	20.85	17.41	5.82	2.23	0.66	0.10	3.83	163.68
1973	13.17	35.88	40.98	36.33	25.48	17.47	2.27	0.21	0.12	0.05	0.10	0.04	172.10
1974	2.44	14.52	20.16	11.54	3.51	1.80	1.33	0.09	0.08	0.04	0.10	0.04	55.66
1975	11.72	38.60	44.84	33.88	14.28	4.80	1.57	0.29	0.10	0.24	0.10	0.05	150.45
1976	11.26	35.03	43.75	41.92	28.56	22.79	8.49	1.16	0.20	0.05	0.10	0.04	193.34
1977	3.44	29.21	38.98	29.20	6.74	3.82	1.83	0.24	0.09	0.05	0.10	0.04	113.74
1978	4.17	16.24	25.59	20.79	13.00	10.19	0.34	0.10	0.08	0.04	0.10	0.04	90.69
1979	0.04	21.04	17.05	17.51	14.29	7.69	0.80	0.10	0.08	0.05	0.10	0.04	78.80
1980	0.04	14.73	20.58	22.83	14.67	2.06	0.18	0.09	0.08	0.04	0.10	0.04	75.43
1981	1.17	22.86	36.19	27.45	12.53	0.90	0.85	0.56	0.09	0.05	0.10	0.04	102.80
1982	3.60	11.55	17.53	16.40	8.08	1.78	0.41	0.09	0.08	10.36	10.20	13.77	93.83
1983	18.87	32.92	46.71	54.59	39.90	40.76	31.55	19.60	13.14	0.31	0.10	0.61	299.07
1984	1.44	8.39	49.62	40.20	17.75	4.06	0.23	0.10	0.08	0.05	0.10	0.04	122.06
1985	4.44	11.26	21.06	21.55	8.46	1.37	0.59	0.09	0.08	0.04	0.10	0.04	69.07
1986	10.80	23.04	18.57	24.48	16.50	1.95	0.43	0.10	0.08	0.63	0.88	0.05	97.50
1987	7.07	37.05	57.43	52.18	33.31	13.82	0.88	0.69	0.72	0.12	0.21	0.59	204.08
1988	6.50	29.48	31.34	15.69	18.09	13.88	1.68	0.27	0.10	0.19	0.31	0.50	118.02
1989	10.76	34.27	26.93	24.20	17.61	3.75	0.70	0.10	0.08	0.05	0.10	0.04	118.60
1990	2.64	10.82	15.32	11.13	4.30	1.12	0.67	0.08	0.08	0.04	0.10	0.04	46.35
Mean	6.06 (16.22)	23.14 (56.45)	32.57 (87.24)	28.53 (73.94)	16.08 (43.08)	8.90 (23.06)	3.64 (9.74)	1.49 (4.00)	0.88 (2.29)	0.66 (1.76)	0.66 (1.71)	1.00 (2.67)	123.60 (322.16)
Max.	18.87	38.60	57.43	54.59	39.90	40.76	31.55	19.60	13.14	10.36	10.20	13.77	299.07
Min.	0.04	8.39	15.32	11.13	3.51	0.90	0.18	0.08	0.08	0.04	0.10	0.04	46.35
Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Annual

Note: The figure in the parentheses means MCM.

Table B.2.2 Estimated Long-term Runoff at Poza Honda Damsite

(Unit : cu.m/sec)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
1971	0.00	5.98	12.94	10.59	2.29	0.70	0.32	0.06	0.01	0.00	0.00	0.00	32.90
1972	0.50	4.92	10.75	10.27	4.80	8.71	5.59	0.80	0.82	0.72	0.17	1.39	49.44
1973	5.84	12.31	13.81	11.42	8.11	6.86	1.23	0.21	0.06	0.02	0.00	0.00	59.89
1974	0.39	7.52	10.97	5.11	1.71	0.56	0.24	0.04	0.00	0.00	0.00	0.00	26.54
1975	4.68	13.46	15.66	11.26	4.90	1.75	0.41	0.10	0.03	0.01	0.04	0.00	52.30
1976	4.70	12.01	14.84	14.52	9.86	7.96	3.07	0.49	0.09	0.04	0.00	0.00	67.58
1977	1.11	5.15	11.40	10.84	4.10	0.73	0.16	0.05	0.01	0.00	0.00	0.00	33.56
1978	1.54	3.33	5.45	5.21	2.83	1.57	0.12	0.03	0.00	0.00	0.00	0.00	20.08
1979	0.00	6.86	8.56	5.25	2.48	1.03	0.22	0.04	0.00	0.00	0.00	0.00	24.47
1980	0.00	2.78	4.65	7.36	5.18	1.98	0.16	0.05	0.00	0.00	0.00	0.00	22.17
1981	0.34	9.01	15.53	11.51	5.51	0.67	0.19	0.07	0.01	0.00	0.00	0.00	42.84
1982	0.74	4.55	4.75	3.95	1.56	0.42	0.13	0.03	0.00	0.00	3.97	4.83	24.94
1983	7.32	11.80	17.72	20.64	14.34	12.51	10.48	7.30	3.68	3.23	0.18	0.06	109.27
1984	0.32	2.61	15.42	11.19	4.81	0.79	0.23	0.07	0.01	0.00	0.00	0.00	35.45
1985	1.63	3.47	5.35	4.49	1.99	0.78	0.13	0.03	0.00	0.00	0.00	0.00	17.86
1986	4.24	7.73	5.77	5.78	3.63	1.22	0.13	0.04	0.00	0.00	0.00	0.00	28.55
1987	0.00	12.06	14.02	13.41	10.67	5.10	0.36	0.17	0.95	0.11	0.02	0.00	56.87
1988	0.65	7.73	9.70	6.86	5.17	2.48	0.19	0.07	0.01	0.00	0.00	0.19	33.05
1989	5.93	13.10	10.70	8.87	4.98	1.35	0.19	0.07	0.02	0.16	0.00	0.00	45.37
1990	0.00	5.24	5.25	8.68	6.44	1.06	0.25	0.07	0.01	0.00	0.00	0.00	27.00
Mean	2.00 (5.35)	7.58 (18.47)	10.66 (28.56)	9.36 (24.26)	5.27 (14.11)	2.91 (7.55)	1.19 (3.19)	0.49 (1.31)	0.29 (0.70)	0.22 (0.58)	0.22 (0.57)	0.32 (.87)	40.51 (105.55)
Max.	7.32	13.46	17.72	20.64	14.34	12.51	10.48	7.30	3.68	3.23	3.97	4.83	109.27
Min.	0.00	2.61	4.65	3.95	1.56	0.42	0.12	0.03	0.00	0.00	0.00	0.00	17.86
Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Annual

Note: The figure in the parentheses means MCM.

Table B.2.3 Estimated Long-term Runoff at Proposed Chirijos Damsite

Year	Catchment Area : 80 sq.km												Annual	
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.		
1971	0.00	1.96	5.57	4.88	0.87	0.25	0.13	0.02	0.00	0.00	0.00	0.00	0.00	13.68
1972	0.00	1.62	4.48	4.48	1.98	3.59	2.30	0.39	0.35	0.27	0.05	0.59	0.00	20.10
1973	2.39	5.58	5.77	4.77	3.45	2.81	0.51	0.06	0.02	0.00	0.00	0.00	0.00	25.37
1974	0.04	2.53	3.98	1.62	0.50	0.17	0.09	0.01	0.00	0.00	0.00	0.00	0.00	8.94
1975	1.90	6.07	6.56	4.73	1.90	0.63	0.16	0.03	0.01	0.00	0.00	0.00	0.00	22.00
1976	1.92	5.44	6.31	6.13	4.11	3.24	1.25	0.16	0.03	0.01	0.00	0.00	0.00	28.60
1977	0.97	3.58	5.09	4.34	1.60	0.24	0.06	0.01	0.00	0.00	0.00	0.00	0.00	15.90
1978	0.68	2.37	3.26	2.28	1.14	0.61	0.04	0.01	0.00	0.00	0.00	0.00	0.00	10.38
1979	0.00	1.85	2.78	2.33	1.05	0.44	0.09	0.01	0.00	0.00	0.00	0.00	0.00	8.55
1980	0.00	0.67	2.09	3.41	2.52	0.94	0.07	0.02	0.00	0.00	0.00	0.00	0.00	9.73
1981	0.00	2.42	3.50	2.25	1.14	0.09	0.03	0.00	0.00	0.00	0.00	0.00	0.00	9.42
1982	0.00	1.41	2.04	1.17	0.36	0.12	0.02	0.00	0.00	0.00	1.56	1.92	0.00	8.60
1983	2.61	4.49	5.54	6.43	5.60	4.98	3.98	2.92	1.73	1.40	0.07	0.03	0.00	39.76
1984	0.10	1.19	7.66	5.68	2.45	0.82	0.09	0.03	0.00	0.00	0.00	0.00	0.00	18.02
1985	0.54	1.26	2.60	3.19	1.81	0.80	0.17	0.02	0.00	0.00	0.00	0.00	0.00	10.40
1986	1.77	3.72	1.44	1.64	1.19	0.13	0.03	0.01	0.00	0.00	0.00	0.00	0.00	9.93
1987	0.30	4.44	5.47	4.95	3.89	1.51	0.12	0.04	0.07	0.00	0.00	0.00	0.00	20.81
1988	0.44	2.47	3.01	2.49	2.36	0.93	0.07	0.02	0.00	0.00	0.00	0.00	0.00	11.79
1989	2.00	5.65	4.54	3.56	1.82	0.32	0.06	0.02	0.00	0.00	0.00	0.00	0.00	17.98
1990	0.00	0.79	1.96	3.05	1.48	0.20	0.07	0.01	0.00	0.00	0.00	0.00	0.00	7.57
Mean	0.78 (2.10)	2.98 (7.25)	4.18 (11.20)	3.67 (9.51)	2.06 (5.52)	1.14 (2.96)	0.47 (1.25)	0.19 (0.51)	0.11 (0.29)	0.08 (0.23)	0.08 (0.22)	0.13 (0.34)	0.00	15.88 (41.37)
Max.	2.61	6.07	7.66	6.43	5.60	4.98	3.98	2.92	1.73	1.40	1.56	1.92	0.00	39.76
Min.	0.00	0.67	1.44	1.17	0.36	0.09	0.02	0.00	0.00	0.00	0.00	0.00	0.00	7.57
Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Annual	

Note: The figure in the parentheses means MCM.

Table B.2.4 Estimated Long-term Runoff at Daule-Peripa Damsite

Year	(Unit : cu.m/sec)												
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
1971	66.06	254.77	417.81	524.38	326.81	141.17	43.43	10.97	6.22	3.18	26.64	10.38	1831.82
1972	57.55	246.24	473.23	531.86	316.54	177.85	134.79	92.67	48.50	27.10	11.51	11.82	2129.65
1973	155.64	549.11	645.64	551.23	359.18	272.02	122.88	27.74	10.84	7.33	13.83	6.20	2721.64
1974	50.53	233.06	410.65	385.03	190.72	89.81	36.69	16.27	5.07	2.11	1.57	4.06	1425.58
1975	131.06	536.49	666.03	572.98	337.19	180.19	54.91	18.83	8.00	3.02	5.76	13.00	2527.48
1976	130.68	524.31	648.94	570.09	398.20	296.87	150.85	57.78	17.95	5.86	3.07	3.57	2808.17
1977	72.29	302.42	551.54	460.07	132.73	65.57	34.70	8.00	11.15	4.92	1.76	2.90	1648.05
1978	71.76	345.38	546.45	442.45	276.51	127.13	19.87	8.19	4.75	1.89	1.10	1.71	1847.18
1979	71.04	313.26	428.86	350.62	183.58	107.89	37.82	7.36	4.78	10.89	2.04	2.43	1520.56
1980	2.16	258.18	422.53	448.14	248.98	91.68	16.36	7.03	3.99	1.67	1.62	4.03	1506.38
1981	37.90	299.92	649.10	481.77	136.93	21.80	10.29	5.23	3.09	1.40	0.91	1.59	1649.93
1982	110.44	368.20	361.42	257.06	203.29	106.75	14.23	6.75	4.07	63.33	97.15	207.91	1800.58
1983	266.19	582.90	669.25	626.56	415.92	325.28	249.51	142.10	105.59	58.11	18.84	31.09	3491.36
1984	33.90	293.49	726.13	629.86	251.64	57.82	15.42	6.99	3.91	2.15	1.04	2.00	2024.34
1985	137.14	280.27	349.79	222.82	88.36	87.75	44.64	6.43	3.84	1.60	0.95	1.62	1225.22
1986	141.97	348.29	498.14	513.19	205.62	73.38	23.08	7.83	5.05	6.90	21.08	6.58	1851.11
1987	114.40	565.08	684.98	519.72	364.91	231.50	65.35	15.91	20.96	4.59	2.54	3.67	2593.61
1988	134.73	423.15	381.96	346.72	271.30	118.29	24.48	13.04	6.49	2.54	1.32	2.01	1726.04
1989	129.29	537.98	631.01	444.39	305.81	209.84	49.55	13.61	6.96	2.90	4.22	4.30	2339.86
1990	45.09	214.72	374.10	352.26	191.04	95.96	28.78	10.32	4.85	1.86	1.10	1.74	1321.82
Mean	97.99 (262.46)	373.86 (913.29)	526.88 (1411.19)	461.56 (1196.37)	260.26 (697.09)	143.93 (373.06)	58.88 (157.71)	24.15 (64.69)	14.30 (37.07)	10.67 (28.57)	10.90 (28.26)	16.13 (43.21)	1999.52 (5212.96)
Max.	266.19	582.90	726.13	629.86	415.92	325.28	249.51	142.10	105.59	63.33	97.15	207.91	3491.36
Min.	2.16	214.72	349.79	222.82	88.36	21.80	10.29	5.23	3.09	1.40	0.91	1.59	1225.22
Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Annual

Note: The figure in the parentheses means MCM.

Table B.2.5 Estimated Long-term Runoff at Santa Ana Station (New Diversion Damsite)

Year	(Unit : cu.m/sec)												
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
1971	0.00	14.66	33.20	26.75	5.14	1.53	0.67	0.13	0.02	0.01	0.00	0.00	82.11
1972	0.00	14.11	27.33	24.82	11.24	19.54	13.67	2.77	1.65	1.18	0.33	1.54	118.18
1973	13.30	27.79	32.97	29.37	20.38	15.89	3.49	0.42	0.14	0.04	0.01	0.00	143.80
1974	0.70	16.47	25.22	12.48	4.42	1.35	0.44	0.08	0.01	0.00	0.00	0.00	61.18
1975	11.82	34.35	41.06	30.33	12.41	3.78	0.99	0.24	0.06	0.02	0.03	0.00	135.08
1976	11.84	30.95	36.97	34.00	22.52	18.46	8.42	1.37	0.24	0.12	0.02	0.01	164.90
1977	3.58	14.04	28.67	26.13	9.71	2.55	0.65	0.15	0.02	0.01	0.00	0.00	85.50
1978	3.99	9.66	15.67	13.61	6.93	3.85	0.27	0.07	0.01	0.00	0.00	0.00	54.07
1979	0.00	15.56	20.14	13.30	7.05	2.83	0.46	0.10	0.01	0.01	0.00	0.00	59.46
1980	0.00	6.88	11.69	17.91	13.41	5.74	0.38	0.12	0.01	0.01	0.00	0.00	56.16
1981	0.00	19.96	36.01	28.09	12.84	1.33	0.39	0.12	0.02	0.01	0.00	0.00	98.78
1982	0.00	9.83	10.16	8.98	4.04	1.31	0.16	0.04	0.01	0.00	10.09	13.97	58.61
1983	19.42	31.85	45.05	50.03	39.37	37.13	26.12	17.63	9.07	8.61	0.42	0.17	284.87
1984	0.49	6.07	37.81	27.04	10.04	1.50	0.38	0.13	0.02	0.01	0.00	0.00	83.48
1985	5.02	9.09	14.40	12.78	5.79	1.87	0.28	0.07	0.01	0.00	0.00	0.00	49.32
1986	11.00	20.43	15.57	15.58	9.62	2.94	0.31	0.09	0.01	0.01	0.00	0.00	75.56
1987	0.00	29.55	33.66	32.16	25.97	12.06	0.79	0.38	2.77	0.29	0.04	0.01	137.70
1988	1.63	18.82	23.90	17.82	13.33	5.95	0.43	0.15	0.02	0.01	0.00	0.49	82.54
1989	15.39	33.60	26.62	22.41	12.38	3.02	0.43	0.15	0.02	0.24	0.00	0.00	114.26
1990	0.00	13.37	14.14	21.61	15.27	2.12	0.49	0.15	0.02	0.01	0.00	0.00	67.18
Mean	4.91 (13.15)	18.85 (46.94)	26.51 (71.01)	23.26 (60.29)	13.09 (35.07)	7.24 (18.76)	2.96 (7.93)	1.22 (3.26)	0.71 (1.83)	0.53 (1.42)	0.55 (1.42)	0.81 (2.17)	100.64 (262.24)
Max.	19.42	34.35	45.05	50.03	39.37	37.13	26.12	17.63	9.07	8.61	10.09	13.97	284.87
Min.	0.00	6.07	10.16	8.98	4.04	1.31	0.16	0.04	0.01	0.00	0.00	0.00	49.32
Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Annual

Note: The figures in the parentheses means MCM.

Table B.2.6 Estimated Long-term Runoff for Chico River (Confluent with Portoviejo River)

Catchment Area : 585 sq km		(Unit : cu.m/sec)											
Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1971	0.00	11.45	35.46	31.81	4.92	1.35	0.46	0.09	0.02	0.01	0.00	0.00	85.57
1972	0.00	11.26	30.81	31.01	13.33	21.60	13.30	1.89	1.69	0.99	0.10	1.66	127.64
1973	17.36	33.77	34.27	28.46	20.86	15.71	2.09	0.32	0.10	0.03	0.01	0.00	152.97
1974	0.00	14.33	23.62	10.80	3.40	1.00	0.22	0.03	0.01	0.00	0.00	0.00	53.41
1975	14.12	38.99	43.14	30.95	11.98	3.07	0.75	0.17	0.02	0.02	0.00	0.00	143.22
1976	13.79	33.96	39.74	38.40	25.41	18.99	6.44	0.74	0.19	0.06	0.01	0.00	177.75
1977	2.80	23.46	32.99	29.34	10.90	1.51	0.36	0.09	0.02	0.01	0.00	0.00	101.47
1978	4.24	14.01	19.60	13.49	6.09	2.62	0.23	0.02	0.01	0.00	0.00	0.00	60.31
1979	0.00	11.64	17.35	13.21	5.86	1.76	0.30	0.05	0.01	0.00	0.00	0.00	50.18
1980	0.00	4.34	13.45	21.23	15.21	4.93	0.36	0.08	0.01	0.00	0.00	0.00	59.62
1981	0.00	15.46	21.51	13.41	6.24	0.54	0.13	0.01	0.00	0.00	0.00	0.00	57.30
1982	0.00	6.67	10.31	6.23	1.67	0.56	0.07	0.01	0.00	0.00	9.96	14.27	49.75
1983	20.81	31.17	37.57	45.11	44.53	45.46	31.59	19.97	11.83	9.91	0.46	0.19	298.61
1984	0.47	7.81	48.41	34.29	14.17	3.86	0.50	0.15	0.02	0.01	0.00	0.00	109.70
1985	5.37	8.16	15.67	18.54	11.11	5.00	0.70	0.12	0.02	0.01	0.00	0.00	64.68
1986	13.72	23.46	9.01	11.47	8.24	0.72	0.18	0.02	0.01	0.00	0.00	0.00	66.83
1987	0.00	28.71	37.12	31.77	24.22	8.83	0.66	0.25	0.29	0.05	0.01	0.00	131.92
1988	1.30	14.93	17.76	15.02	14.33	5.07	0.36	0.09	0.01	0.01	0.00	0.00	68.88
1989	5.94	39.81	31.64	24.18	11.23	1.63	0.37	0.08	0.02	0.01	0.00	0.00	114.92
1990	0.00	4.89	12.07	17.64	8.43	0.92	0.20	0.03	0.01	0.00	0.00	0.00	44.19
Mean	5.00	18.91	26.58	23.32	13.11	7.26	2.96	1.21	0.71	0.56	0.53	0.81	100.95
	(13.38)	(46.07)	(71.18)	(60.44)	(35.11)	(18.81)	(7.94)	(3.24)	(1.85)	(1.49)	(1.37)	(2.16)	(263.03)
Max.	20.81	39.81	48.41	45.11	44.53	45.46	31.59	19.97	11.83	9.91	9.96	14.27	298.61
Min.	0.00	4.34	9.01	6.23	1.67	0.54	0.07	0.01	0.00	0.00	0.00	0.00	44.19
Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual

Note: The figure in the parentheses means MCM.



Table B.2.7 Estimated Long-term Runoff for Portoviejo River (Confluent with Chico River)

(Unit : cu.m/sec)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
1971	0.00	26.12	64.42	52.00	7.67	2.20	0.59	0.14	0.03	0.01	0.00	0.00	153.19
1972	0.00	31.29	57.64	50.55	20.59	32.40	23.10	5.32	1.74	0.99	0.13	0.09	223.83
1973	21.17	49.50	57.17	53.30	37.10	25.43	5.12	0.64	0.21	0.06	0.02	0.00	249.73
1974	0.00	25.22	40.98	22.76	8.86	2.30	0.33	0.06	0.02	0.01	0.00	0.00	100.53
1975	22.57	69.66	81.96	61.52	23.27	4.80	1.39	0.35	0.06	0.04	0.01	0.00	265.63
1976	22.05	60.64	66.70	58.21	37.50	30.79	13.94	1.91	0.46	0.18	0.03	0.01	292.41
1977	6.73	28.45	53.78	49.45	18.65	3.89	1.41	0.25	0.04	0.03	0.01	0.00	162.69
1978	6.67	20.49	31.49	24.79	11.14	5.35	0.38	0.07	0.02	0.01	0.00	0.00	100.41
1979	0.00	25.95	34.44	22.73	13.27	4.16	0.40	0.09	0.02	0.01	0.00	0.00	101.08
1980	0.00	11.53	22.81	33.94	25.10	10.27	0.60	0.15	0.03	0.01	0.00	0.71	105.16
1981	1.27	30.95	56.25	46.04	19.64	1.54	0.45	0.06	0.03	0.01	0.00	0.00	156.24
1982	0.00	10.93	12.87	13.07	6.39	1.88	0.17	0.02	0.00	0.00	19.28	28.94	93.55
1983	40.00	67.96	86.47	97.30	93.93	100.45	58.17	35.00	18.67	18.16	0.91	0.32	617.34
1984	0.50	0.62	74.09	48.03	14.02	1.89	0.49	0.09	0.03	0.01	0.00	0.00	139.79
1985	12.41	18.25	29.17	27.30	13.04	3.64	0.40	0.09	0.02	0.01	0.00	0.00	104.33
1986	23.08	43.88	30.16	31.85	19.33	3.82	0.49	0.10	0.03	0.01	0.00	0.00	152.75
1987	0.00	57.22	66.29	58.81	46.39	19.60	1.19	0.57	4.83	0.45	0.03	0.01	255.39
1988	0.00	33.96	40.66	32.66	25.15	9.46	0.65	0.18	0.03	0.02	0.00	0.00	142.75
1989	28.80	67.18	53.60	45.57	22.65	3.62	0.66	0.19	0.03	0.03	0.00	0.00	222.34
1990	0.00	23.29	27.17	37.57	24.68	2.50	0.49	0.12	0.03	0.01	0.00	0.00	115.86
Mean	9.26 (24.81)	35.15 (85.64)	49.41 (132.33)	43.37 (112.42)	24.42 (65.40)	13.50 (34.99)	5.52 (14.79)	2.27 (6.08)	1.31 (3.41)	1.00 (2.69)	1.02 (2.65)	1.50 (4.03)	187.75 (489.24)
Max.	40.00	69.66	86.47	97.30	93.93	100.45	58.17	35.00	18.67	18.16	19.28	28.94	617.34
Min.	0.00	0.62	12.87	13.07	6.39	1.54	0.17	0.02	0.00	0.00	0.00	0.00	93.55
Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Annual

Note: The figure in the parentheses means MCM.

Table B.2.8 Estimated Long-term Runoff for Estuary of Portoviejo River

Year	Catchment Area : 2,060 sq.km												Annual
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	
1971	0.00	39.09	99.91	80.57	10.79	2.50	0.81	0.21	0.05	0.01	0.01	0.00	233.95
1972	0.00	48.22	89.30	78.64	33.17	42.34	38.79	7.98	3.25	0.98	0.20	0.04	342.90
1973	65.94	98.23	88.03	72.71	53.02	30.80	6.56	1.06	0.29	0.06	0.02	0.01	416.73
1974	0.00	17.56	68.55	30.36	10.75	2.35	0.50	0.06	0.03	0.01	0.00	0.00	130.16
1975	63.38	131.03	126.10	85.56	32.13	5.17	2.07	0.57	0.09	0.04	0.01	0.01	446.17
1976	25.77	130.62	109.97	90.80	58.97	38.32	20.65	2.74	0.73	0.09	0.05	0.01	478.71
1977	26.39	67.30	89.72	74.33	27.99	4.07	1.40	0.36	0.06	0.03	0.01	0.00	291.66
1978	8.37	48.33	54.84	34.59	14.38	4.93	0.61	0.06	0.03	0.01	0.00	0.00	166.16
1979	0.00	38.78	47.58	31.81	16.76	3.62	0.60	0.10	0.03	0.01	0.00	0.00	139.31
1980	0.00	17.17	37.00	51.01	38.44	11.52	1.00	0.23	0.04	0.01	0.00	0.00	156.42
1981	0.00	48.24	63.28	41.88	17.38	1.25	0.38	0.06	0.02	0.01	0.00	0.00	172.49
1982	0.00	14.51	20.50	14.09	5.31	1.51	0.16	0.02	0.01	0.00	31.30	59.12	146.53
1983	103.57	117.46	116.52	124.41	138.46	126.25	104.15	71.61	39.36	19.73	1.70	0.72	963.94
1984	1.45	1.36	134.78	79.74	27.50	4.34	1.15	0.31	0.07	0.02	0.01	0.00	250.72
1985	31.87	29.77	43.89	44.56	26.85	8.80	1.19	0.28	0.05	0.01	0.00	0.00	187.27
1986	63.83	79.71	32.19	36.66	25.31	2.40	0.61	0.07	0.03	0.01	0.00	0.00	240.83
1987	0.00	95.49	103.18	80.30	62.71	20.12	1.85	0.85	2.33	0.19	0.04	0.01	367.08
1988	0.01	52.98	51.19	40.84	36.86	10.47	1.00	0.24	0.05	0.01	0.01	0.00	193.66
1989	28.51	134.93	89.33	64.44	29.77	3.55	1.03	0.24	0.06	0.02	0.01	0.00	351.89
1990	0.00	23.93	36.77	45.41	23.61	1.86	0.55	0.06	0.03	0.01	0.00	0.00	132.22
Mean	20.95 (38.43)	61.74 (152.91)	75.13 (204.93)	60.14 (174.10)	34.51 (101.27)	16.31 (54.18)	9.25 (22.90)	4.36 (9.42)	2.33 (5.28)	1.06 (4.16)	1.67 (4.10)	3.00 (6.23)	290.44 (777.91)
Max.	103.57	134.93	134.78	124.41	138.46	126.25	104.15	71.61	39.36	19.73	31.30	59.12	963.94
Min.	0.00	1.36	20.50	14.09	5.31	1.25	0.16	0.02	0.01	0.00	0.00	0.00	130.16
Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Annual

Note: The figure in the parentheses means MCM.

Table B.2.9 Estimated Long-term Runoff for Carrizal River (Confluent with Chone River)

Catchment Area : 1,166 sq.km		(Unit : cu.m/sec)											
Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
1971	2.18	26.64	80.72	75.92	16.30	2.96	0.29	0.12	0.09	0.69	0.06	0.05	206.01
1972	6.99	35.11	68.06	60.01	30.47	43.21	30.72	7.67	2.15	0.80	0.09	7.36	292.63
1973	27.50	58.87	65.88	60.83	44.31	30.44	2.58	0.20	0.13	0.14	0.06	0.05	290.99
1974	1.80	31.08	46.30	24.79	9.11	3.10	0.95	0.09	0.08	0.12	0.06	0.05	117.53
1975	29.17	79.22	87.57	68.32	30.08	6.17	1.55	0.16	0.10	0.13	0.07	0.05	302.58
1976	23.16	62.41	77.24	72.20	50.46	45.32	16.50	2.12	0.20	0.18	0.07	0.05	349.89
1977	7.37	53.03	69.19	56.42	16.09	3.73	1.58	0.13	0.09	0.13	0.06	0.05	207.88
1978	4.14	37.51	59.14	41.71	19.11	13.96	0.30	0.11	0.09	0.12	0.06	0.05	176.31
1979	0.05	32.97	43.90	43.58	23.31	9.71	1.00	0.12	0.09	0.12	0.06	0.05	154.97
1980	0.05	23.46	40.59	46.67	28.92	6.18	0.28	0.10	0.08	0.12	0.06	0.05	146.58
1981	0.05	45.54	65.48	44.10	19.25	0.90	0.24	0.11	0.08	0.12	0.06	0.05	175.98
1982	2.40	17.54	26.44	32.46	21.25	3.58	0.34	0.10	0.08	0.12	23.09	29.26	156.67
1983	49.22	77.81	97.59	108.13	85.63	101.73	76.22	44.37	28.78	21.10	0.52	0.13	691.25
1984	2.78	16.38	94.60	69.90	26.42	3.95	0.33	0.12	0.09	0.12	0.06	0.05	214.81
1985	9.31	18.08	33.42	35.45	15.46	2.80	0.39	0.09	0.08	0.12	0.06	0.05	115.32
1986	23.93	46.30	32.36	44.22	33.13	6.98	0.49	0.12	0.09	0.12	0.28	0.05	188.07
1987	12.91	72.12	104.14	89.77	64.02	24.25	1.04	0.22	0.68	0.16	0.06	0.05	369.40
1988	11.62	45.24	51.49	28.51	30.73	20.74	1.31	0.15	0.09	0.13	0.06	0.05	190.11
1989	11.22	73.59	54.10	42.77	27.65	3.52	0.48	0.12	0.09	0.12	0.06	0.05	213.77
1990	2.34	19.91	29.25	29.08	14.58	1.99	0.47	0.09	0.08	0.12	0.06	0.05	98.02
Mean	11.41	43.64	61.37	53.74	30.31	16.76	6.85	2.82	1.66	1.24	1.25	1.88	232.94
	(30.56)	(106.36)	(164.38)	(139.30)	(81.19)	(43.45)	(18.36)	(7.54)	(4.31)	(3.32)	(3.23)	(5.03)	(607.04)
Max.	49.22	79.22	104.14	108.13	85.63	101.73	76.22	44.37	28.78	21.10	23.09	29.26	691.25
Min.	0.05	16.38	26.44	24.79	9.11	0.90	0.24	0.09	0.08	0.12	0.06	0.05	98.02
Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Annual

Note: The figure in the parentheses means MCM.

Table B.2.10 Estimated Long-term Runoff for Chone River (Confluent with Carrizal River)

Year	(Unit : cu.m/sec)												
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
1971	0.05	22.17	79.98	77.03	11.71	2.25	0.34	0.12	0.10	0.19	0.05	0.06	194.04
1972	0.79	26.53	59.83	49.83	21.34	41.48	31.66	11.52	6.21	0.46	0.07	0.06	249.78
1973	23.91	35.51	46.68	59.73	39.50	21.02	2.62	0.93	0.15	0.21	0.05	0.06	230.38
1974	1.78	41.37	52.45	28.23	21.30	3.22	0.51	0.12	0.10	0.19	0.05	0.06	149.36
1975	23.29	70.23	99.54	89.35	29.96	5.17	2.46	0.51	0.14	0.21	0.05	0.06	320.96
1976	22.81	58.32	60.93	63.84	46.27	42.79	17.41	0.88	0.21	0.23	0.06	0.06	313.82
1977	18.82	66.44	83.48	60.92	18.64	3.06	1.60	0.15	0.10	0.20	0.05	0.06	253.53
1978	4.86	41.05	49.69	32.25	12.61	5.18	0.21	0.11	0.10	0.19	0.05	0.06	146.35
1979	0.05	34.17	38.05	22.66	8.97	4.13	2.07	0.13	0.10	0.19	0.05	0.06	110.63
1980	0.05	30.15	55.42	60.39	31.61	9.68	0.29	0.14	0.10	0.19	0.05	0.06	188.14
1981	3.75	57.69	81.09	55.91	24.57	1.06	0.24	0.12	0.10	0.19	0.05	0.06	224.86
1982	2.95	16.33	22.02	26.57	13.22	3.85	0.18	0.09	0.10	0.19	22.72	31.96	140.19
1983	43.28	87.58	114.07	108.28	118.56	139.04	68.46	38.77	23.04	19.96	0.45	0.14	761.62
1984	1.81	12.02	73.01	70.54	30.21	5.16	1.30	0.16	0.10	0.20	0.05	3.29	197.85
1985	11.09	26.83	36.21	26.95	13.30	2.68	0.18	0.10	0.10	0.18	0.05	0.06	117.73
1986	21.98	44.78	23.82	24.30	14.88	0.38	0.16	0.09	0.10	0.18	0.05	0.06	130.77
1987	4.52	57.25	78.26	64.40	49.79	20.17	0.76	0.21	1.49	0.26	0.06	0.06	277.23
1988	8.67	38.40	41.95	31.06	30.48	10.75	0.39	0.14	0.10	0.19	0.05	0.06	162.24
1989	23.56	65.29	58.21	45.28	18.51	0.93	0.21	0.10	0.10	0.19	0.05	0.06	212.49
1990	2.43	18.59	32.79	42.52	19.47	2.30	1.55	0.13	0.10	0.19	0.05	0.06	120.19
Mean	11.02 (29.52)	42.54 (102.90)	59.37 (159.03)	52.00 (134.79)	28.74 (76.99)	16.22 (42.03)	6.63 (17.76)	2.73 (7.30)	1.63 (4.23)	1.20 (3.21)	1.21 (3.13)	1.82 (4.87)	225.11 (585.76)
Max.	43.28	87.58	114.07	108.28	118.56	139.04	68.46	38.77	23.04	19.96	22.72	31.96	761.62
Min.	0.05	12.02	22.02	22.66	8.97	0.38	0.16	0.09	0.10	0.18	0.05	0.06	110.63
Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Annual

Note: The figure in the parentheses means MCM.

Table B.2.11 Estimated Long-term Runoff for Estuary of Chone River

(Unit : cu.m/sec)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
1971	3.50	46.74	151.65	143.14	27.36	4.94	0.57	0.09	0.02	0.69	0.00	0.00	378.71
1972	5.17	61.01	123.44	107.12	51.99	81.14	59.78	17.04	6.57	0.99	0.06	7.13	521.44
1973	54.46	94.87	111.38	114.33	81.47	51.00	4.69	0.71	0.12	0.04	0.01	0.00	513.08
1974	3.63	65.92	92.11	49.32	25.48	5.74	1.26	0.05	0.02	0.01	0.00	0.00	243.54
1975	55.60	144.02	176.19	144.45	57.08	10.44	3.41	0.19	0.06	0.04	0.01	0.00	591.49
1976	47.30	112.61	132.96	129.70	93.03	83.72	31.56	2.88	0.24	0.12	0.01	0.00	634.12
1977	16.11	112.28	141.53	110.14	32.56	6.96	3.49	0.14	0.03	0.03	0.00	0.00	423.28
1978	9.13	73.21	104.36	71.61	31.29	19.00	0.32	0.07	0.02	0.01	0.00	0.00	309.03
1979	0.00	63.54	79.25	67.16	34.22	14.69	2.42	0.09	0.02	0.01	0.00	0.00	261.41
1980	0.00	47.79	87.57	97.31	56.50	14.41	0.37	0.09	0.02	0.01	0.00	0.00	304.07
1981	0.00	96.90	136.60	92.67	40.30	1.57	0.29	0.08	0.02	0.02	0.00	0.00	368.43
1982	5.36	31.82	47.43	58.13	34.69	6.55	0.27	0.04	0.01	0.01	45.42	58.59	288.31
1983	95.21	151.12	195.75	207.48	189.29	224.65	140.86	82.75	52.97	44.06	0.91	0.17	1385.23
1984	4.60	26.75	159.85	130.26	52.52	8.40	0.86	0.12	0.03	0.02	0.00	4.13	387.55
1985	19.98	40.54	65.34	60.61	27.61	5.10	0.21	0.04	0.02	0.00	0.00	0.00	219.45
1986	46.24	83.63	54.07	69.16	50.08	5.69	0.29	0.07	0.02	0.01	0.00	0.00	309.27
1987	11.00	126.57	178.99	152.35	111.08	42.09	1.52	0.27	1.79	0.10	0.01	0.00	625.78
1988	21.30	78.57	89.05	54.65	57.38	30.81	1.61	0.13	0.03	0.02	0.00	0.00	333.55
1989	22.27	133.99	103.79	81.16	45.43	4.34	0.32	0.07	0.02	0.01	0.00	0.00	391.41
1990	4.67	36.00	57.36	63.73	30.86	3.80	1.50	0.06	0.02	0.01	0.00	0.00	198.00
Mean	21.28 (56.99)	81.39 (198.32)	114.43 (306.50)	100.22 (259.78)	56.51 (151.36)	31.25 (81.01)	12.78 (34.23)	5.25 (14.06)	3.10 (8.04)	2.31 (6.19)	2.32 (6.02)	3.50 (9.38)	434.36 (1131.87)
Max.	95.21	151.12	195.75	207.48	189.29	224.65	140.86	82.75	52.97	44.06	45.42	58.59	1385.23
Min.	0.00	26.75	47.43	49.32	25.48	1.57	0.21	0.04	0.01	0.00	0.00	0.00	198.00
Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Annual

Note: The figure in the parentheses means MCM.

Table B.3.1 Sediment Data Collected (1/3)

No.	River	Station	Period	Date	STREAMFLOW	
					Discharge (m <sup>3</sup> /s)	Sediment (kg/s)
1	Jama river	A.J. Mariano (in Jama)	78-81	25/10/78	0.220	0.0021
				21/09/81	0.338	0.0108
2	Chone river	Pte. Margarita	82-83	16/03/82	2.079	0.1495
				27/03/82	2.773	1.1397
				17/02/83	28.337	68.0626
				23/02/83	25.139	45.0038
				24/02/83	34.151	25.6372
				28/02/83	27.019	25.5221
				01/03/83	29.607	249.8535
				03/03/83	37.437	8.6068
				04/03/83	37.449	51.6347
				05/03/83	29.442	5.8619
			07/03/83	28.940	71.6554	
3	Chone river	Pte. Olimpo	82-83	23/03/82	2.284	0.1277
				25/03/82	1.863	0.1882
				27/03/82	2.948	0.3187
				28/03/82	1.534	0.2727
				17/02/83	58.309	66.7696
				23/02/83	107.489	149.3022
				24/02/83	65.040	87.739
				28/02/83	87.689	1360.9596
				01/03/83	156.198	207.8371
				03/03/83	65.088	111.8147
				04/03/83	64.792	157.1854
				05/03/83	76.251	47.4739
				07/03/83	74.572	33.5425
4	Chone river	Pte. Nuevo	82	22/03/82	0.081	0.0045
				23/03/82	2.183	0.1624
				25/03/82	1.525	0.1349
				27/03/82	8.379	1.6255
5	Garrapata river	Pte. Garrapata (A.J. Chone)	71-83	21/04/71	1.800	0.2310
				22/02/78	2.099	0.3062
				23/10/78	0.082	0.0009
				19/01/80	0.057	0.0005
				23/09/81	0.107	0.0054
				26/03/82	3.602	0.6120
				19/02/83	6.627	6.0220
				25/02/83	12.765	13.0688
				26/02/83	12.159	16.0353
				02/03/83	15.553	16.9808
			29/07/83	3.643	2.5479	
			21/11/83	0.284	0.0199	

Table B.3.1 Sediment Data Collected (2/3)

No.	River	Station	Period	Date	STREAMFLOW	
					Discharge (m <sup>3</sup> /s)	Sediment (kg/s)
6	Mosquito river	A.J. Grande (Pte. Mosquito)	71-83	22/04/71	1.000	0.1089
				29/06/78	0.291	0.0028
				24/10/78	0.067	0.0005
				19/01/80	0.099	0.0024
				22/03/82	1.340	0.3460
				24/03/82	0.937	0.2840
				26/03/82	0.607	0.0811
				25/02/83	7.664	7.9146
				26/02/83	7.490	7.4840
				05/03/83	17.570	10.6900
	07/03/83	16.820	9.7877			
7	Grande river	A.J. Mosquito	71-82	22/04/71	2.160	0.2860
				23/02/78	3.434	0.3956
				29/06/78	0.540	0.0074
				24/10/78	0.191	0.0019
				19/01/80	0.118	0.0022
				23/09/81	0.150	0.0023
				24/03/82	0.954	0.0424
				26/03/82	0.595	0.0129
				27/03/82	0.511	0.0176
				8	Barro river	A.J. Carrizal
04/03/71	37.970	15.0990				
22/09/82	0.125	0.0065				
9	Carrizal river	Calceta (H-229)	71-87	02/03/71	22.000	2.9130
				10/12/76	0.472	0.0136
				23/02/78	9.294	0.8002
				30/06/78	1.445	0.0136
				21/06/79	1.061	0.0397
				21/01/80	0.166	0.0059
				11/02/83	26.536	11.8351
				01/08/83	118.378	157.7624
				19/05/84	6.160	0.5476
				08/04/86	25.110	14.5775
	21/05/86	10.118	4.0238			
10	Junín river	D.J. Palmar	78-83	21/02/78	3.460	1.2781
				30/06/78	0.320	0.0124
				16/04/80	0.504	0.0088
				11/02/83	3.576	1.2444
				12/08/83	7.441	13.3097
11	Chico river	In Alajuela	78-83	22/01/78	1.590	0.1640
				02/07/78	0.300	0.0080
				16/02/83	9.412	11.8328
				08/08/83	2.734	0.8183

Table B.3.1 Sediment Data Collected (3/3)

No.	River	Station	Period	Date	STREAMFLOW	
					Discharge (m <sup>3</sup> /s)	Sediment (kg/s)
12	Portoviejo river	Honorato Vásquez	66-86	14/04/66	3.475	0.2536
				31/01/67	9.500	0.4560
				03/02/67	Sin aforo	
				09/02/67	68.000	24.9200
				16/02/67	23.100	3.1650
				22/02/67	8.410	0.4120
				22/02/67	12.080	14.2500
				24/02/67	139.200	84.2100
				03/03/67	11.510	1.1800
				08/03/67	16.500	2.7900
				13/03/67	5.555	0.5050
				28/03/67	1.850	0.0170
				18/09/81	2.817	0.0992
				14/02/83	12.487	2.5286
				03/08/83	24.025	3.3611
22/07/86	2.351	0.0781				
13	Portoviejo river	Santa Ana	78-81	02/07/78	2.400	0.1056
				21/02/78	4.396	0.8062
				27/10/78	0.437	0.0128
				18/06/79	3.980	0.3347
				18/09/81	1.867	0.0892



Table B.3.2 Estimation of Sediment Loads at Damsites

Name of Damsite	Target Year (Year)	Catchment Area (sq.km)	Erosion Potential (t/sq.km/yr)	Delivery Ratio	Sediment Production (t/sq.km/yr)	Total Sediment (t * 10 <sup>6</sup> )	Sediment Volume (m <sup>3</sup> * 10 <sup>6</sup> )
La Esperanza	100	445	4,645	0.2787	1,295	68.53	52.72
Poza Honda	- do -	170	4,734	0.3596	1,702	34.72	26.71
Chirijos	- do -	80	3,722	0.4280	1,379	13.21	10.16
Daule-Peripa	50	4,200	-	-	-	115.17	88.60

Source: PHIMA, Sediment Transport Report

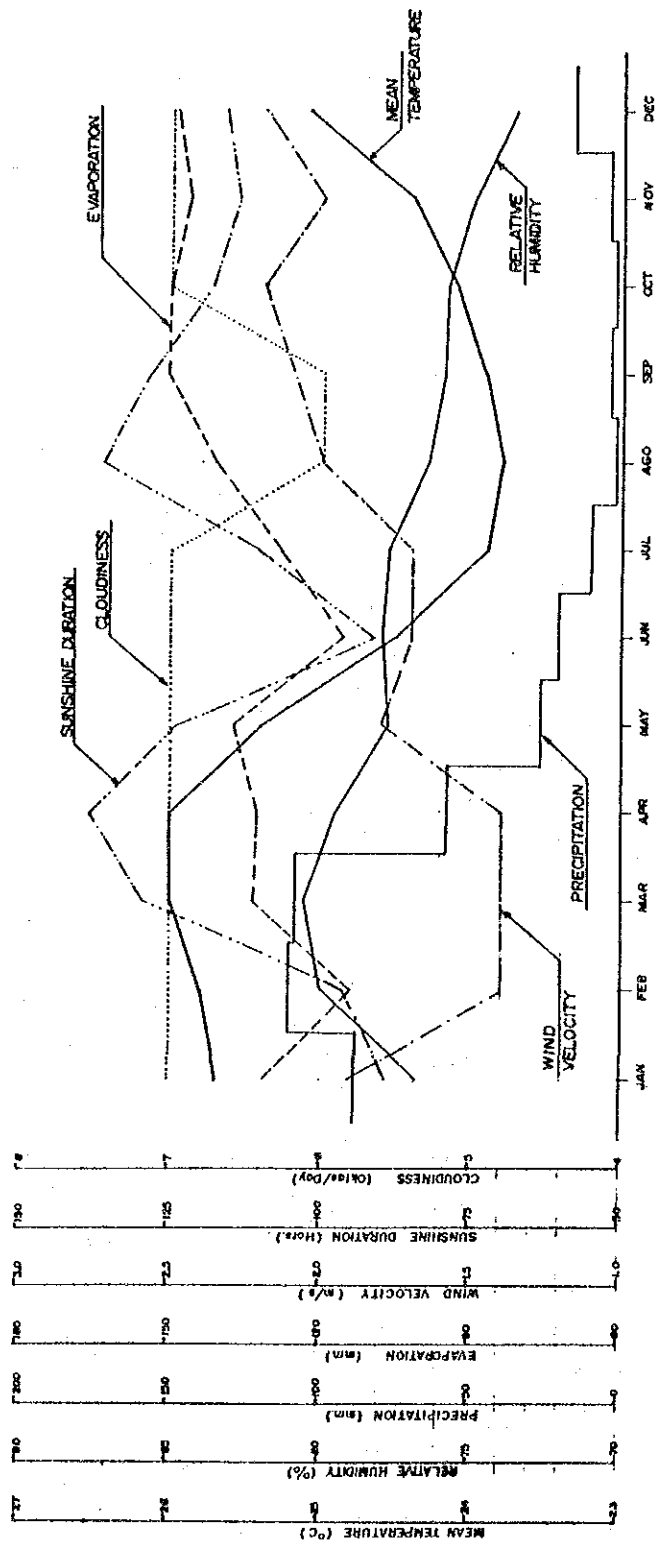
## FIGURES







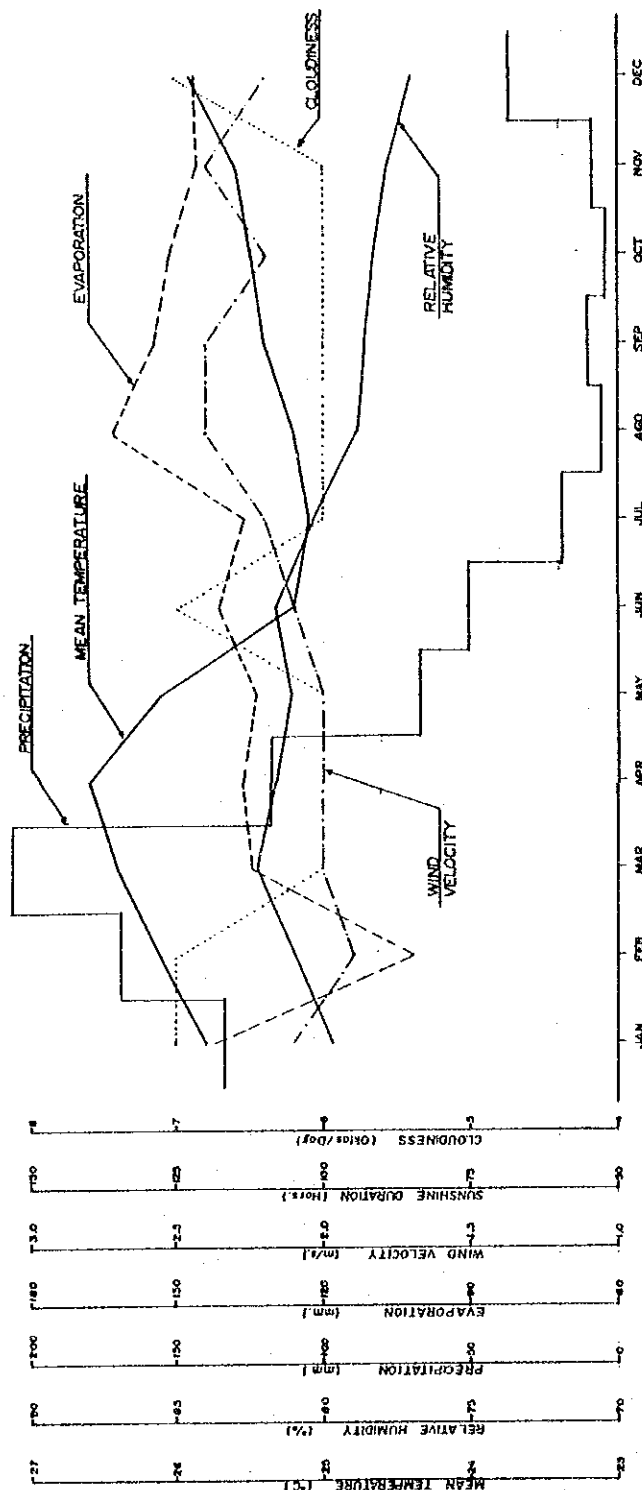




Item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Mean/Annual
Mean Temperature (°C)	25.7	25.8	26.0	26.0	25.4	24.5	23.9	23.8	23.9	24.1	24.4	25.1	24.9
Relative Humidity (%/day)	76.8	80.0	80.6	79.6	77.8	78.0	77.8	76.4	75.9	75.8	74.9	73.6	77.3
Precipitation (mm/month)	88.4	111.0	109.3	58.1	27.8	21.6	11.1	2.3	4.5	2.7	4.8	17.0	458.6
Evaporation (mm/month)	131.4	114.1	133.7	132.9	137.4	116.7	128.3	148.2	150.7	150.1	146.7	149.1	1639.3
Wind Velocity (m/sec)	1.9	1.4	1.4	1.4	1.8	1.7	1.7	2.0	2.1	2.2	2.0	2.2	1.8
Sunshine Duration (hrs/month)	89.1	93.5	129.3	138.3	123.9	91.7	110.8	136.1	128.6	118.6	114.1	116.2	1390.2
Mean Cloudiness (oktas/day)	7	7	7	7	7	7	7	6	6	6	7	7	7

Fig. B.2.1 Mean Meteorological and Hydrological Data at Portoviejo UTM

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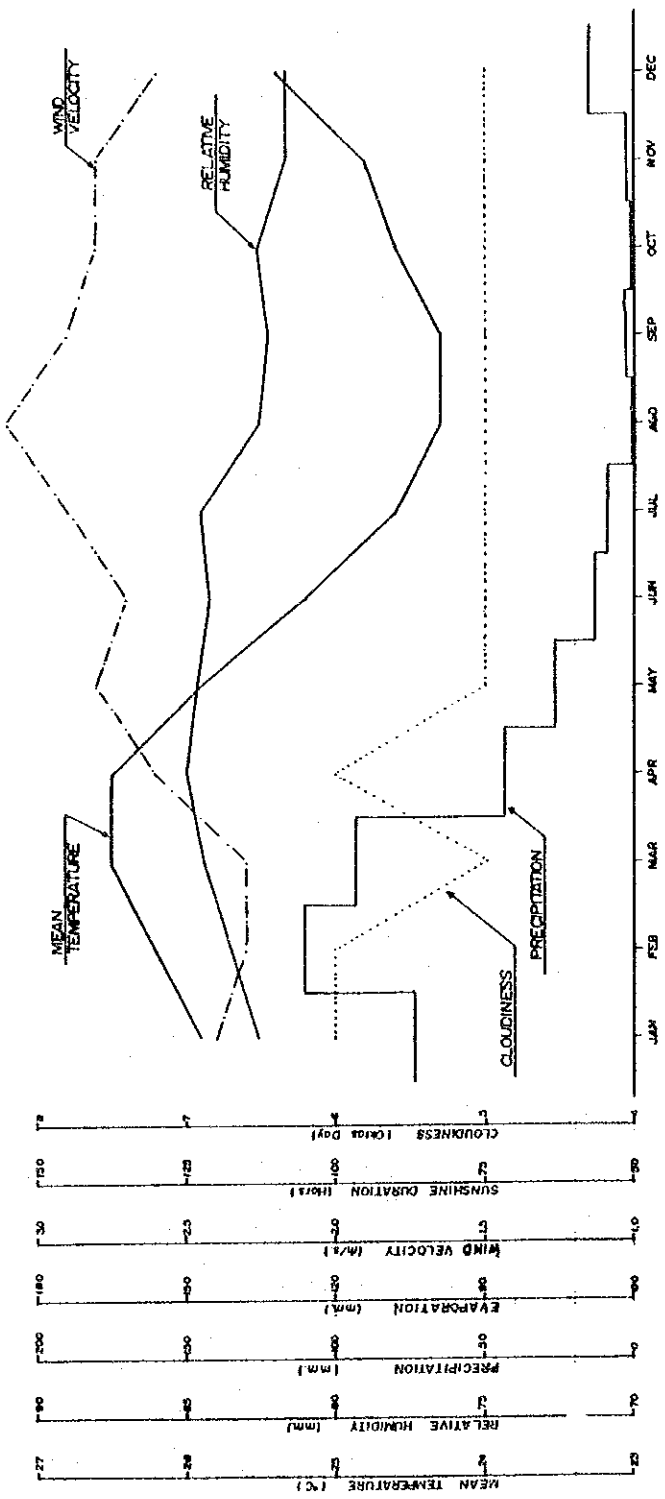
Item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Annual Mean
Mean Temperature (°C)	25.8	26.1	26.4	26.6	26.1	25.2	25.1	25.2	25.4	25.5	25.6	25.9	25.7
Relative Humidity (%/day)	79.7	81.0	82.2	81.6	81.1	81.6	80.3	78.8	78.6	78.3	77.8	77.0	79.8
Precipitation (mm/month)	133.8	168.7	206.2	117.6	67.4	50.4	18.8	5.8	10.4	4.0	8.5	36.9	828.5
Evaporation (mm/month)	142.4	101.8	134.4	137.3	133.5	141.4	135.9	162.9	154.6	151.3	145.7	146.4	1687.6
Wind Velocity (m/sec)	2.1	1.9	2.0	2.0	2.0	2.1	2.2	2.4	2.4	2.2	2.4	2.2	2.2
Sunshine Duration (hrs/month)	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Cloudiness (oktas/day)	7	7	6	6	6	6	6	6	6	6	6	7	6.3

Fig. B.2.2 Mean Meteorological and Hydrological Data at Santa Ana

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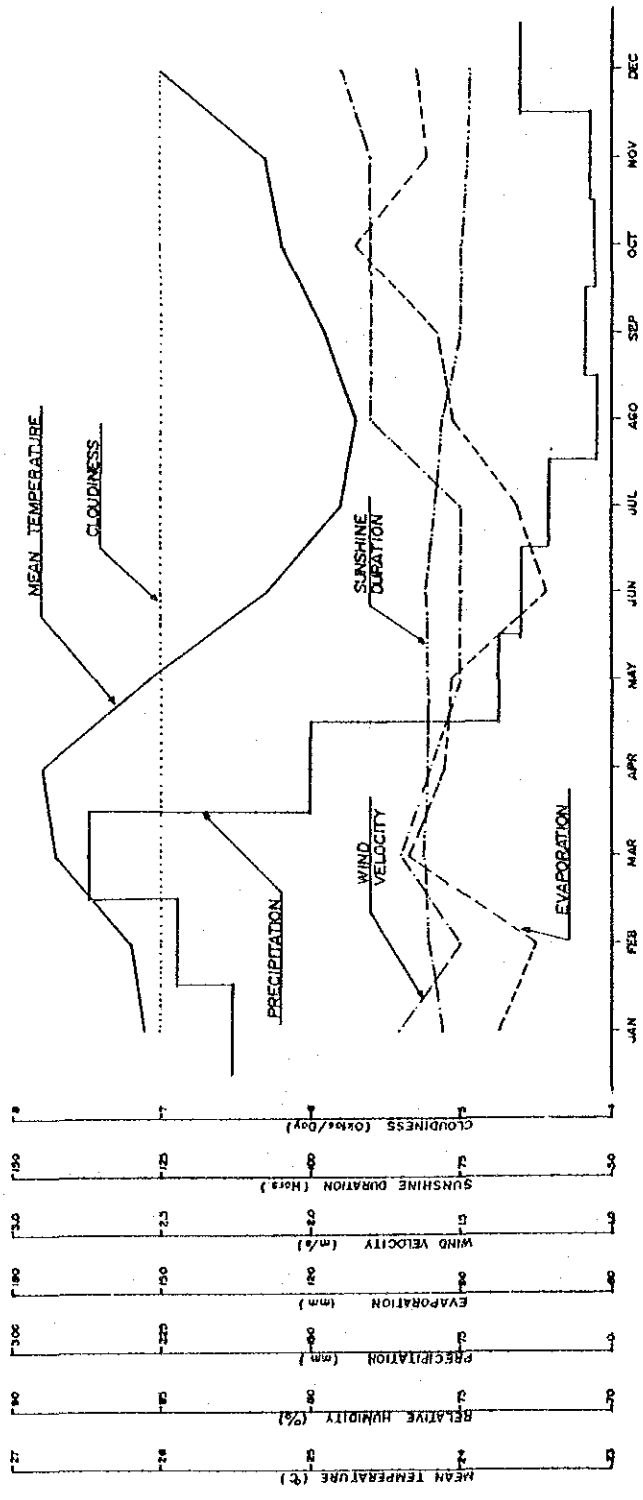




Item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Mean Temperature (°C)	25.9	26.2	26.5	26.5	25.9	26.2	24.6	24.3	24.3	24.6	24.8	25.4	25.4
Relative Humidity (%/day)	82.6	83.5	94.4	85.0	84.6	84.2	84.5	82.6	82.3	82.6	81.7	81.7	83.3
Precipitation (mm/month)	74.0	110.8	93.3	43.7	26.9	13.8	9.0	1.2	3.5	1.7	2.6	1.5	395.5
Evaporation (mm/month)	-	-	-	-	-	-	2.7	2.9	3.1	2.9	2.8	2.6	2.7
Wind Velocity (m/sec)	2.4	2.3	2.3	2.6	2.8	2.7	2.9	3.1	2.9	2.8	2.8	2.6	2.7
Sunshine Duration (hrs/month)	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean Cloudiness (oktas/day)	6	6	5	6	5	5	5	5	5	5	5	5	5

Fig. B.2.3 Mean Meteorological and Hydrological Data at Rocafuerte

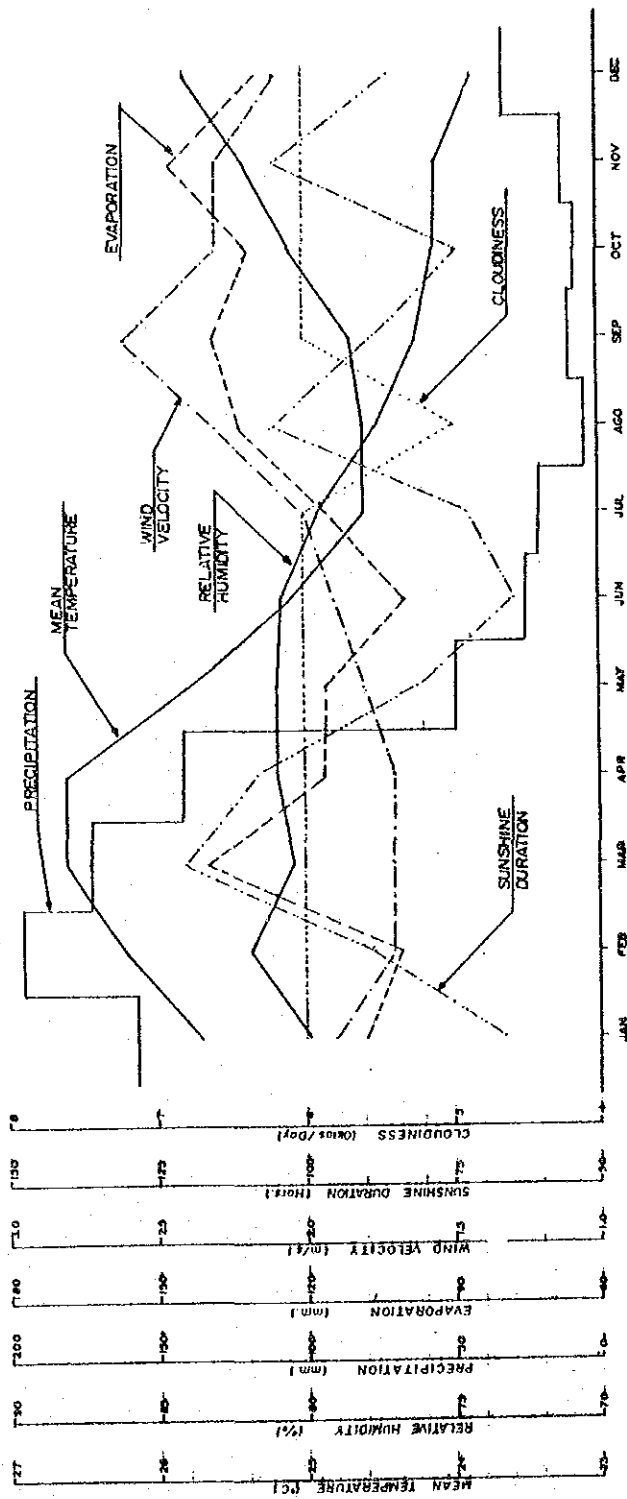
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Item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Mean/Annual
Mean Temperature (°C)	26.1	26.2	26.7	26.8	26.1	25.9	24.8	24.7	24.9	25.2	25.3	26.0	25.7
Relative Humidity (%/day)	—	—	—	—	—	—	—	—	—	—	—	—	—
Precipitation (mm/month)	189.2	216.3	261.1	151.5	56.2	45.1	31.9	8.2	13.6	8.6	11.4	46.1	1039.2
Evaporation (mm/month)	82.3	75.1	99.8	93.0	91.5	73.6	79.0	91.6	94.7	110.6	96.8	98.6	1086.6
Wind Velocity (m/sec)	1.7	1.5	1.7	1.6	1.5	1.5	1.5	1.8	1.8	1.8	1.6	1.9	1.7
Sunshine Duration (hrs/month)	77.5	80.1	81.0	80.3	80.2	80.8	79.1	78.0	75.2	74.9	73.8	73.4	77.9
Mean Cloudiness (oktas/day)	7	7	7	7	7	7	7	7	7	7	7	7	7.0

Fig. B.2.4 Mean Meteorological and Hydrological Data at Calcuta

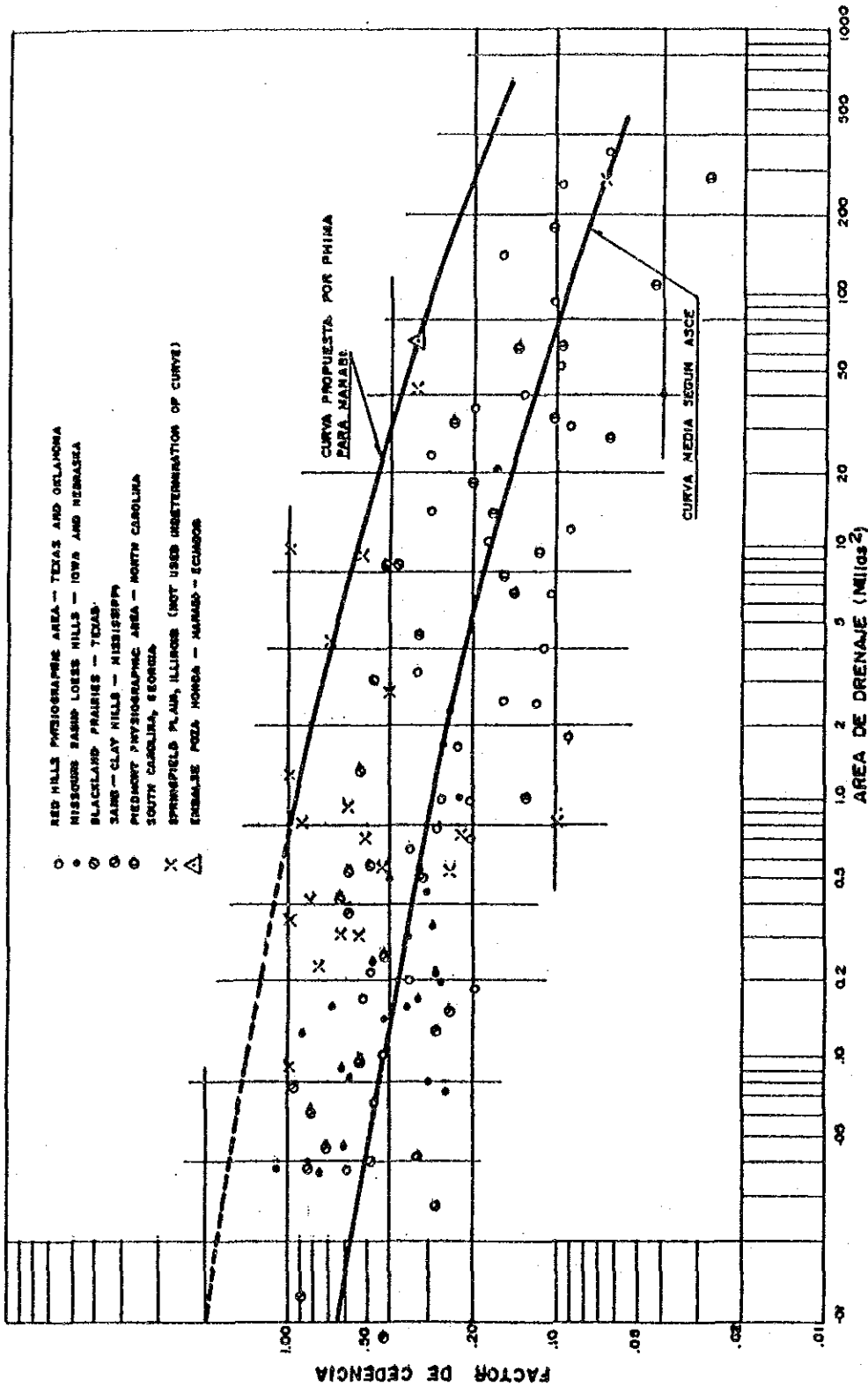
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Item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Mean/Annual
Mean Temperature (°C)	25.7	26.2	26.6	26.6	25.8	25.1	24.6	24.6	24.7	25.1	25.4	25.8	25.5
Relative Humidity (%/day)	79.9	81.9	80.4	81.0	81.0	80.8	79.6	77.6	76.2	75.6	75.6	74.3	78.7
Precipitation (mm/month)	156.6	194.6	171.6	141.2	49.4	25.6	20.4	5.7	10.0	9.0	12.4	32.1	827.6
Evaporation (mm/month)	107.9	100.4	139.6	116.1	115.8	99.9	115.2	133.1	138.6	131.1	146.8	129.5	1474.0
Wind Velocity (m/sec)	1.9	1.7	1.7	1.7	1.8	1.9	2.0	2.3	2.6	2.3	2.3	2.1	2.0
Sunshine Duration (hrs/month)	66.3	88.8	120.5	108.0	81.0	64.6	72.5	104.8	88.3	74.5	105.0	95.6	1059.9
Mean Cloudiness (oktas/day)	6	6	6	6	6	6	6	5	6	6	6	6	6

Fig. B.2.5 Mean Meteorological and Hydrological Data at Estancilla

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Fuente: Ref.No.PDS-16

Fig. B.3.1 Relationship between Size and Catchment Basin and Sediment Delivery Ratio

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List of Data Collected (1/2)

No.	Title	Source
1	Daily and monthly precipitation of different periods; from the stations seen by the project.	<ul style="list-style-type: none"> <li>• Meteorologic annuary from INAMHI (1962-1986).</li> <li>• Documents (source) in INAMHI</li> <li>• Original information, CRM</li> <li>• Information in the ownstation</li> </ul>
1	PRECIPITACIONES DIARIAS Y MENSUALES DE DIVERSOS PERIODOS, DE LAS ESTACIONES CONTEMPLADAS EN EL PROYECTO.	<ul style="list-style-type: none"> <li>• ANUARIOS METEOROLOGICOS DEL INAMHI (1962-1986).</li> <li>• DOCUMENTOS FUENTES, EN EL INAMHI</li> <li>• INFORMACION ORIGINAL, CRM</li> <li>• INFORMACION EN PROPIA ESTACION</li> </ul>
2	Average daily levels, daily average discharges; monthly average discharges from the stations taken under consideration for the project, and corresponding to different periods.	<ul style="list-style-type: none"> <li>• Hydrologic annuary from INAMHI (1963-1984).</li> <li>• Additional studies for the redesign of the "La Esperanza" dam - Multiple Project Carrizal-Chone, made by INTECSA (Hydrologic Report No. 4-A).</li> </ul>
2	NIVELES MEDIOS DIARIOS, CAUDALES MEDIOS DIARIOS Y, CAUDALES MEDIOS MENSUALES DE LAS ESTACIONES CONSIDERADAS EN EL PROYECTO, Y CORRESPONDIENTES A DIFERENTES PERIODOS.	<ul style="list-style-type: none"> <li>• ANUARIOS HIDROLOGICOS DEL INAMHI (1963-1984).</li> <li>• ESTUDIOS ADICIONALES PARA EL REDISEÑO DE LA PRESA "LA ESPERANZA" PROYECTO MULTIPLE CARRIZAL-CHONE REALIZADO POR INTECSA INFORME (HIDROLOGICO NO. 4-A).</li> </ul>
3	Meteorologic parameters (monthly average temperatures figures) of average temperatures, relative humidity, precipitations, evaporation (Tank a), wind velocity, sun duration or hours, cloudiness.	<ul style="list-style-type: none"> <li>• Meteorologic annuaries from INAMHI (1962-1986).</li> </ul>

List of Data Collected (2/2)

No.	Title	Source
3	PARAMETORS METEOROLOGICOS (VALORES MENSUALES DE TEMPERATURAS MEDIAS, DE HUMEDAD RELATIVA PRECIPITACIONES, EVAPORACION (TANQUE A), VELOCIDAD DEL VIENTO, DURACION U HORAS DE SOL, NUBOSIDAD.	<ul style="list-style-type: none"> <li>• ANUARIOS METEOROLOGICOS DEL INAMHI (1962-1986).</li> </ul>
4	Sediment data at the Hydrometric stations taken under consideration in the studies.	<ul style="list-style-type: none"> <li>• Hydrologic annuaries from INAMHI (1963-1984).</li> <li>• Goals of the Multiple Project Chone (Association ACI-1983).</li> <li>• Sediment and erosion studies by PHIMA (1988).</li> </ul>
4	DATOS DE SEDIMENTOS DE LAS ESTACIONES HIDROMETRICAS CONSIDERADAS EN EL ESTUDIO.	<ul style="list-style-type: none"> <li>• ANUARIOS HIDROLOGICOS DEL INAMHI (1963-1984).</li> <li>• PROYECTO DE PROPOSITO MULTIPLE CHONE (ASOCIACION ACI-1983).</li> <li>• ESTUDIOS DE EROSION Y SEDIMENTOS POR EL PHIMA (1988).</li> </ul>

INAMHI: INSTITUTO NACIONAL DE METEOROLOGIA E HIDROLOGIA  
 - NATIONAL INSTITUTE OF METHEOROLOGY AND HYDROLOGY

CRM: CENTRO DE REHABILITACION DE MANABI  
 - MANABI REHABILITATION CENTER

PHIMA: PLAN INTEGRAL DE DESARROLLO DE LOS RECURSOS HIDRICOS DE LA PROVINCIA DE MANABI.  
 - INTEGRATED WATER RESOURCES DEVELOPMENT OF THE PROVINCE OF MANABI.

INTECSA: INTERNACIONAL DE INGENIERIA Y ESTUDIOS TECNICOS, S.A. (ESPAÑA)  
 - INTERNATIONAL OF ENGINERRING AND TECHNICAL STUDIES, S.A. (ESPAÑA)

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HOLFELDER • RHEIN-RUHR

FREIBURG • DORTMUND

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**Annex C**  
**WATER SUPPLY PLAN**





# ANNEX C WATER SUPPLY PLAN

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## **1. SERVICE AREA**

The service area to be covered by the project for potable water supply is defined as the service area which has been currently supplied and is to be expanded for coverage by the three regional water supply systems.

Those systems are:

- (1) Poza Honda Regional Water Supply System,
- (2) La Estancilla Regional Water Supply System, and
- (3) Chone Regional Water Supply System.

Municipalities to be covered by these systems, population of which totaled 697,500 in the 1990's national census, are as follows:

- (1) Poza Honda System
  - Portoviejo (Census Code No. 01-50) and vicinity (01-50)
  - Manta (08-50) and vicinity (08-50)
  - Honorato Vasquez (13-52)
  - Ayacucho(13-51)
  - Santa Ana (13-50) and vicinity (13-50)
  - Sucre (16-50) and vicinity (16-50)
  - Jipijapa (06-50) and vicinity (06-50)
  - Rio Chico (01-55)
  - Pueblo Nuevo (01-54)
  - Abdon Calderon (01-51)
  - Alhajuela (01-52)
  - San Placido (01-56)
  - Rocafuerte (12-50) and vicinity (12-50)
  - Charapato (14-53)
  - Crucita (01-53)
  - Montecristi (09-50) and vicinity (09-50)
  - Jaramijo (09-51)

(2) Estancilla System

- Calceta (02-50) and vicinity (02-51)
- Junin (07-50) and vicinity (07-50)
- Canuto (03-52)
- La Estancilla (15-52)
- Tosagua (15-50) and vicinity (15-50)
- Bachillero (15-51)
- Bahia de Caraquez (14-50) and vicinity (14-50)
- San Vicente (14-58)

(3) Chone System

- Chone (03-50) and vicinity (03-50)
- San Antonio (03-57)

It is proposed that water supply in the above area depend on the regional water supply systems for safe and stable water supply in the future as well as present status, since the area is usually very dry due to little rainfall and no sufficient/ reliable water source is locally available. Currently, some people depend inevitably on unsafe water source such as river, stream, unprotected shallow wells etc., or on tanklorries-carriage, being insufficient in quantity and expensive in cost. The ultimate target of water supply in the area is considered to supply all peoples with public piped water through the regional water supply systems, which will have to be expanded both in capacity and service population.

## **2. REGIONAL WATER SUPPLY SYSTEMS**

### **2.1 General**

There exist three regional water supply systems. They are Poza Honda System, La Estancilla System and Chone System, all of which are operated and maintained by CRM, except Caza Lagartos Plant operated by EMAPAM. An actual water consumption from these system was surveyed in 1988 by CRM. As a result of the survey, the unit water consumption supplied by the Poza Honda System in 1988 was 130 l/person/day in spite of a unit water demand of 230 l/person/day recommended

by IEOS. This is the case with the other systems. Present capacity of water production is far from meeting the actual demand in all the existing systems.

The capacity of the regional systems is summarized below, as of the year 1991.

System	Production Capacity	Population in the Service Area	Per Person Consumption
Poza Honda	66,800 m <sup>3</sup> /d	499,800	134 l/person/day
La Estancilla	27,000m <sup>3</sup> /d(*)	124,500	217 "
Chone	10,600m <sup>3</sup> /d(*)	69,600	152 "
<b>Total</b>	<b>104,400 m<sup>3</sup>/d</b>	<b>693,900</b>	<b>150 l/person/day</b>

(Note): (\*): Including capacity of plants being under construction.

These systems are briefly described below:

## 2.2 Poza Honda System

In the Poza Honda System, water is supplied from two major water treatment plants. One is Guarumo Treatment Plant with the production capacity of 43,200 m<sup>3</sup>/day (Raw water from the Poza Honda Dam Reservoir) located at just downstream of the Poza Honda Dam, and the other is Caza Lagartos Treatment Plant of 20,000 m<sup>3</sup>/day (Raw water from the Portoviejo River) located near Santa Ana.

Additionally, Las Pulgas Treatment Plant of 3,000 m<sup>3</sup>/day (Raw water from the Portoviejo River) located in Portoviejo City and Los Bajos Treatment Plant of 600 m<sup>3</sup>/day (Taking groundwater) located in and operated by Montecristi City supplement locally potable water to the system.

Presently the system supplies to municipalities of Portoviejo/vicinity, Manta/vicinity, Honorato-Vasquez, Ayacucho, Santa-Ana/vicinity, Sucre/ vicinity, Rio-Chico, Abdon-Calderon, Rocafuerte/vicinity, Charapato, Crucita, Montecristi/vicinity and Jaramijo. On the other hand, Jipijapa/vicinity is to be supplied by the system from the year 1992. Additionally, Pueblo-Nuevo, Alhajuela and San-Placido are scheduled to be covered by the system in 1993.