DATA 3

Data and Survey Form of the Industrial Waste Management Survey

Survey Sheet for Industrial Wastes

Please select the municipality Chinandega, Leon, Granada

1. General Data

Date:.....

Name of Interviewer:.....

Interviewee:

Name:.....

Section:.....

Position.....

2. Company Details

a) Name :.....

b) Address :.....

Phone number :.....

Facsimile :.....

c) Year of Establishment :.....

d) Number of Personnel.

i) Administration : .....

ii) Production : .....

e) Capital

Current Capital : .....

f) Principal Products : .....

g) Sale of commodities by year(ton/year)

i .....

ii .....

iii .....

3. Wastes

Please select the type of waste generated in your factory shown in the list below, then tick the suitable column of **"Generation" of sheet 1**.

a) Type of Waste :

1.Ash, combustion residue 2. Dust 3. Slag from melting 4. Sludge 5. Asbestos 6. Acid 7. Alkalis 8.Oily Waste 9. Chemical residue 10. Waste from food production 11. Waste similar to domestic waste 12. Animal manure 13. carcasses 14. glass and ceramics 15. Scrap Metal 16. Paper and cardboard 17. Plastics 18. Scrap rubber 19. Textile 20. Leather 21. Wood 22. construction and demolition waste 23. Waste water 24. Others (specify)

b) Generation amount of waste

Using the **sheet 1**, please fill the generation of waste in ton/year in the column of **"Generation amount"**.

c) Nature of Waste

Using the **sheet 1 and given code below , please tick "Nature "** of waste generated in your factory shown in the list below:

S. Solid
L. Liquid
A. Semi-dry
G. Gas

d) Characteristic

Using the **Sheet 1 and given code, please tick the "Characteristic "** of waste in your factory shown in the list below:

O.	Organic,	I.	Inorganic,	C.	Corrosive
E.	Explosive,	R.	Reactive,	T.	Toxic
P.	Putresicble,	N.	Non-biodegradable		

e) Temporary Storage Method

Using the **sheet 1 and given code, please tick the "Temporary Storage Method"** of waste in your factory shown in the list below:

G.	Garbage bag,	B.	Dustbin,	T.	Tank
D.	Drum,	P.	Pit,	L.	Lagoon
X.	Others				

f) Emptied Frequency

Using the **sheet 1 and given code, please tick the "Emptied Frequency"** of temporary storage in your factory shown in the list below:

D.	Daily,	W.	Weekly,	M.	Monthly
A.	Annually				

g) Treatment Method

Using **sheet 2 and given code, please tick the "Treatment Method "** of waste in your factory shown in the list below.

B.	Burn (inc. Incineration),	C.	Crushing,
M.	Compaction,	E.	Dehydration,
N.	Neutrlization,	D.	Bio-decompostion
O.	Others		

h) Disposal Method

Using **sheet 2 and given code, please tick the "Disposal Method "** of the waste in your factory shown in the list below:

L.	Landfill (including within the factory premises)		
R.	Recycle (within your factory premise or affiliated companies)		
U.	Unknown,	S.	Sold to others
T.	Discharge to sewer,	M.	Municipal landfill
D.	Discharge into environment,	O.	Others

i) Disposal amount

Using the **sheet 2**, please state the disposal amount /year generated in your factory.

j) Transportation

Using the **sheet 2** and given code, please tick the **"Transportation"** method of waste from your factory shown the list below:

M. Municipality, C. Contractor

O. Own means

4. Opinion of future ISWM

a) Present condition

Are you satisfied with the actual collection service.

.....

.....

.....

.....

b) Future ISWM

Please given your opinion on future improvement on industrial waste management.

.....

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.....

.....

Sheet 1

	Item / Type of Waste	Generation	Generation amount (ton/year)	Nature				Characteristic								Temporary storage method								Emptied Frequency			
				Solid	Liquid	Semi-dry	Gas	Organic	Inorganic	Corrosive	Explosive	Reactive	Toxic	Putrescible	Non-biodegradable	Garbage bag	Dustbin	Tank	Drum	Pit	Lagoon	Open air	Others	Daily	Weekly	Monthly	Annually
				S	L	A	G	O	I	C	E	R	T	P	N	G	B	T	D	P	L	O	X	D	W	M	A
1	Ash, combustion residue																										
2	Dust																										
3	Slag from melting																										
4	Sludge																										
5	Asbestos																										
6	Acid																										
7	Alkalis																										
8	Oily waste																										
9	Chemical residue																										
10	Waste from food production																										
11	Waste similar to domestic waste																										
12	Animal manure																										
13	Carcasses																										
14	Glass and ceramics																										
15	Metal and scrap																										
16	Paper and cardboard																										
17	Plastics																										
18	Rubber																										
19	Textile																										
20	Leather																										
21	Wood																										
22	Construction and demolition waste																										
23	Water																										
24	Others (specify)																										

Sheet 2

Item / Type of Waste		Generation	Treatment method							Disposal methods								Disposal Amount	Transportation method			Remarks
			Burn	Crushing	Compaction	Dehydration	Neutrlization	Bio-decompostion	Others	Landfill	Recycle	Unknown	Sold to the others	Discharge to sewer	Municipality landfill	Discharge into Environment	Others		Municipality	Contractor	Own means	
			B	C	M	E	N	D	O	L	R	U	S	T	M	D	O	(ton/year)	M	C	O	
1	Ash, combustion residue																					
2	Dust																					
3	Slag from melting																					
4	Sludge																					
5	Asbestos																					
6	Acid																					
7	Alkalis																					
8	Oily waste																					
9	Chemical residue																					
10	Waste from food production																					
11	Waste similar to domestic waste																					
12	Animal manure																					
13	Carcasses																					
14	Glass and ceramics																					
15	Metal and scrap																					
16	Paper and cardboard																					
17	Plastics																					
18	Rubber																					
19	Textile																					
20	Leather																					
21	Wood																					
22	Construction and demolition waste																					
23	Water																					
24	Others (specify)																					

Generation

Results of Survey

	Waste Generation Amount (to	Leon								
	Type of Waste	3115	3116	3231	3232	3412	3512	3551	3839	Leon Total
1	Ash, combustion residue	-	-	-	-	-	-	-	-	-
2	Dust	1.5	-	1.8	-	-	-	-	10.0	13.3
3	Slag from melting									
4	Sludge	60.0	-	-	-	-	-	-	-	60.0
5	Asbestos									
6	Acide	-	-	-	-	-	-	-	0.3	0.3
7	Alkalies	-	-	-	-	-	-	-	-	-
8	Oily waste	40.0	-	-	-	-	-	-	-	40.0
9	Chemical residue	-	-	-	-	-	2.2	-	10.0	12.2
10	Waste from food production	8.0	1,090.0	-	-	-	-	-	-	1,098.0
11	Waste similar to domestic w	8.5	-	-	-	-	-	-	-	8.5
12	Animal manure	-	-	130.0	-	-	-	-	-	130.0
13	Carcasses	-	-	-	-	-	-	-	-	-
14	Glass and cermics									
15	Metal and scrup	1.0	-	-	-	-	-	-	96.0	97.0
16	Paper and cardboad	5.0	-	-	-	300.0	5.0	1.3	6.6	317.9
17	Plastics	7.0	-	-	-	-	2.0	-	-	9.0
18	Rubber	-	-	-	-	-	-	21.0	3.3	24.3
19	Texitile	-	-	-	-	-	-	-	-	-
20	Leather	-	-	96.0	10.5	-	-	-	-	106.5
21	Wood	-	-	-	-	-	-	-	-	-
22	Construction and demolition waste									
23	Water	8,000.0	-	30,000.0	-	27,630.0	-	-	-	65,630.0
24	Others									
	Grand Total	8,131.0	1,090.0	30,227.8	10.5	27,930.0	9.2	22.3	126.2	67,547.0

Results of Survey

	Waste Generation Amount (to	Chinandega						
	Type of Waste	3111	3114	3115	3116	3122	3512	China. Total
1	Ash, combustion residue	-	-	180.0	-	-	-	180.0
2	Dust	-	-	-	-	-	-	-
3	Slag from melting							
4	Sludge	-	-	-	-	-	-	-
5	Asbestos							
6	Acide	-	-	0.3	-	-	-	0.3
7	Alkalies	-	-	0.3	-	-	-	0.3
8	Oily waste	-	-	-	-	-	-	-
9	Chemical residue	-	-	-	-	-	-	-
10	Waste from food production	-	108.0	162.5	3,054.0	1.2	-	3,325.7
11	Waste similar to domestic w	-	-	-	-	-	-	-
12	Animal manure	4.0	-	-	-	-	-	4.0
13	Carcasses	1.5	-	-	-	-	-	1.5
14	Glass and cermics							
15	Metal and scrup	-	-	20.0	-	-	-	20.0
16	Paper and cardboad	-	0.1	80.0	-	-	6.0	86.1
17	Plastics	-	-	6.0	-	-	4.0	10.0
18	Rubber	-	-	-	-	-	-	-
19	Texitile	-	-	-	-	-	-	-
20	Leather	-	-	-	-	-	-	-
21	Wood	-	-	-	-	-	-	-
22	Construction and demolition							
23	Water	-	2,725.0	2,763.0	-	-	37.9	5,525.9
24	Others							
	Grand Total	5.5	2,833.1	3,212.0	3,054.0	1.2	47.9	9,153.7

Generation

Results of Survey

	Waste Generation Amount (to Granada									
	Type of Waste	3111	3211	3219	3231	3411	3412	3522	3523	Grana. Total	Grand Total
1	Ash, combustion residue	-	-	-	-	-	-	-	-	-	180.0
2	Dust	-	-	-	-	-	-	7.3	-	7.3	20.6
3	Slag from melting										
4	Sludge	-	-	-	-	-	-	-	-	-	60.0
5	Asbestos										
6	Acide	-	-	-	-	-	-	1.8	-	1.8	2.4
7	Alkalies	-	-	-	-	-	-	-	-	-	0.3
8	Oily waste	-	-	-	-	-	-	-	-	-	40.0
9	Chemical residue	-	-	-	1.5	-	-	-	-	1.5	13.7
10	Waste from food production	-	-	-	-	-	-	10.0	-	10.0	4,433.7
11	Waste similar to domestic w	-	0.9	-	-	-	-	-	6.0	6.9	15.4
12	Animal manure	232.0	-	-	-	-	-	-	-	232.0	366.0
13	Carcasses	265.0	-	-	-	-	-	-	-	265.0	266.5
14	Glass and cermics										
15	Metal and scrup	-	-	-	-	-	0.2	-	-	0.2	117.2
16	Paper and cardboad	-	-	-	-	192.0	-	110.0	-	302.0	706.0
17	Plastics	-	-	-	-	-	0.2	-	-	0.2	19.2
18	Rubber	-	-	-	-	-	-	-	-	-	24.3
19	Texitile	-	-	0.3	-	-	-	-	-	0.3	0.3
20	Leather	-	-	-	109.0	-	-	-	-	109.0	215.5
21	Wood	-	-	-	-	-	0.2	-	-	0.2	0.2
22	Construction and demolition										
23	Water	69,076.0	-	-	54,677.0	-	-	182.0	438,000.0	561,935.0	633,090.9
24	Others										
	Grand Total	69,573.0	0.9	0.3	54,787.5	192.0	0.5	311.1	438,006.0	562,871.2	639,571.9

All Waste
Generation Amount (ton/year)

	Disposal Method	Corrosive	Reactiv	Toxic	Hazardous Tot	Non biodegradab	Putrescib	#N/A	All Total	Total
Leon	Discharge into Env	0.3	0	57652	57652.3	0	8	1.5	9.5	57661.8
	Discharge to sewer	8000	0	0	8000	0	0	0	0	8000
	Landfill	0	0	131.8	131.8	0	0	96	96	227.8
	Municipality landf	0	0	16.9	16.9	81	1090	63.96	1234.96	1251.86
	Others	0	0	0.18	0.18	0	0	0	0	0.18
	Recycle	0	0	96	96	0	0	0	0	96
	Sold to the others	0	0	0	0	8	0	301.32	309.32	309.32
Total		8000.3	0	57896.88	65897.18	89	1098	462.78	1649.78	67546.96
					97.56%					
Chinandega	Discharge into Env	0	0.25	0.25	0.5	0	2725	2925.5	5650.5	5651
	Discharge to sewer	0	0	0	0	0	2.4	0	2.4	2.4
	Landfill	0	0	0	0	0	4.32	3000.1	3004.42	3004.42
	Municipality landf	200	0	10	210	6	188	0	194	404
	Others	0	0	37.85	37.85	0	0	0	0	37.85
	Sold to the others	0	0	0	0	0	0	54	54	54
Total		200	0.25	48.1	248.35	6	2919.72	5979.6	8905.32	9153.67
					2.71%					
Granada	Discharge into Env	0	0	492678.5	492678.5	0	69076	0	69076	561754.5
	Discharge to sewer	0	0	0	0	182	0	0	182	182
	Municipality landf	1.8	0	0	1.8	0	242	123.2	365.2	367
	Others	0	0	0	0	0.3	0	192.15	192.45	192.45
	Sold to the others	0	0	0	0	0	265	110.27	375.27	375.27
Total		1.8	0	492678.5	492680.3	182.3	69583	425.62	70190.92	562871.2
					87.53%					
Grand Total		8202.1	0.25	550623.5	558825.83	277.3	73600.72	6868	80746.02	639571.9
					87.38%					

Waste Water
Generation Amount (ton/year) CHARACT_2

	Disposal Method	Corrosive	Reactiv	Toxic	Hazardous Tot	Non biodegradab	Putrescib	#N/A	Grand Total	
Leon	Discharge into Env	0		57630	57630	0	0	0	0	57630
	Discharge to sewer	8000		0	8000	0	0	0	0	8000
Total		8000		57630	65630	0	0	0	0	65630
					100.00%					
Chinandega	Discharge into Env	0		0	0	0	2725	2763	5488	5488
	Others	0		37.85	37.85	0	0	0	0	37.85
Total		0		37.85	37.85	0	2725	2763	5488	5525.85
					0.69%					
Granada	Discharge into Env	0		492677	492677	0	69076	0	69076	561753
	Discharge to sewer	0		0	0	182	0	0	182	182
Total		0		492677	492677	182	69076	0	69258	561935
					87.68%					
Grand Total		8000		550344.9	558344.85	182	71801	2763	74746	633090.9
					88.19%					

Solid Waste
Generation Amount (ton/year) CHARACT_2

	Disposal Method	Corrosive	Reactiv	Toxic	Hazardous Tot	Non biodegradab	Putrescib	#N/A	Grand Total	
Leon	Discharge into Env	0.3	0	22	22.3	0	8	1.5	9.5	31.8
	Landfill	0	0	131.8	131.8	0	0	96	96	227.8
	Municipality landf	0	0	16.9	16.9	81	1090	63.96	1234.96	1251.86
	Others	0	0	0.18	0.18	0	0	0	0	0.18
	Recycle	0	0	96	96	0	0	0	0	96
	Sold to the others	0	0	0	0	8	0	301.32	309.32	309.32
Total		0.3	0	266.88	267.18	89	1098	462.78	1649.78	1916.96
					13.51%					
Chinandga	Discharge into Env	0	0.25	0.25	0.5	0	0	162.5	162.5	163
	Discharge to sewer	0	0	0	0	0	2.4	0	2.4	2.4
	Landfill	0	0	0	0	0	4.32	3000.1	3004.42	3004.42
	Municipality landf	200	0	10	210	6	188	0	194	404
	Sold to the others	0	0	0	0	0	0	54	54	54
Total		200	0.25	10.25	210.5	6	194.72	3216.6	3417.32	3627.82
					5.80%					
Granada	Discharge into Env	0	0	1.5	1.5	0	0	0	0	1.5
	Municipality landf	1.8	0	0	1.8	0	242	123.2	365.2	367
	Others	0	0	0	0	0.3	0	192.15	192.45	192.45
	Sold to the others	0	0	0	0	0	265	110.27	375.27	375.27
Total		1.8	0	1.5	3.3	0.3	507	425.62	932.92	936.22
					0.35%					
Grand Total		202.1	0.25	278.63	480.98	95.3	1799.72	4105	6000.02	6481
					7.42%					

Result of Survey (Waste Treatment Method)

	Treatment Amount (ton/year)	Leon							Cinandega					Granada				
	Type of waste	Bio-decompo	Burn	Compaction	Neutrljzati	No	Others	Leon Toatl	Bio-decompo	Burn	Dehydration	No	China. Toat	Bio-decompo	Burn	No	Grana. Toat	Total
1	Ash, combustion residue	-	-	-	-	-	-	-	-	-	-	180.0	180.0	-	-	-	-	180.0
2	Dust	-	-	10.0	-	3.3	-	13.3	-	-	-	-	-	-	-	7.3	7.3	20.6
3	Slag from melting	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	Sludge	-	-	-	-	60.0	-	60.0	-	-	-	-	-	-	-	-	-	60.0
5	Asbestos	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	Acide	-	-	-	-	-	0.3	0.3	-	-	-	0.3	0.3	-	-	1.8	1.8	2.4
7	Alkalies	-	-	-	-	-	-	-	-	-	-	0.3	0.3	-	-	-	-	0.3
8	Oily waste	-	-	-	-	40.0	-	40.0	-	-	-	-	-	-	-	-	-	40.0
9	Chemical residue	2.0	-	-	0.2	10.0	-	12.2	-	3,001.2	-	324.5	3,325.7	-	-	10.0	10.0	4,433.7
10	Waste from food production	-	-	-	-	1,098.0	-	1,098.0	-	-	-	-	-	0.9	-	6.0	6.9	15.4
11	Waste similar to dogestic wa	-	-	-	-	8.5	-	8.5	-	-	-	1.6	4.0	-	-	232.0	232.0	366.0
12	Animal manure	-	-	-	-	130.0	-	130.0	2.4	-	-	-	1.5	-	-	265.0	265.0	266.5
13	Carcasses	-	-	-	-	-	-	-	-	1.5	-	-	-	-	-	-	-	-
14	Glass and cermics	-	-	-	-	-	-	-	-	-	-	20.0	20.0	-	-	0.2	0.2	117.2
15	Metal and scrup	-	-	-	-	97.0	-	97.0	-	0.1	-	86.0	86.1	-	192.0	110.0	302.0	706.0
16	Paper and cardboad	-	5.0	-	-	312.9	-	317.9	-	-	-	10.0	10.0	-	-	0.2	0.2	19.2
17	Plastics	-	2.0	-	-	7.0	-	9.0	-	-	-	-	-	-	-	-	-	24.3
18	Rubber	-	-	-	-	24.3	-	24.3	-	-	-	-	-	-	-	0.3	0.3	0.3
19	Texitile	-	-	-	-	-	-	-	-	-	-	-	-	109.0	-	-	109.0	215.5
20	Leather	-	-	-	-	106.5	-	106.5	-	-	-	-	-	-	-	0.2	0.2	0.2
21	Wood	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	Construction and demolition	-	-	-	-	65,630.0	-	65,630.0	-	-	2,725.0	2,800.9	5,525.9	-	-	561,935.0	561,935.0	633,090.9
23	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Grand Total	2.0	7.0	10.0	0.2	67,527.5	0.3	67,547.0	2.4	3,002.8	2,725.0	3,423.5	9,153.7	109.9	192.0	562,569.3	562,871.2	639,571.9
	Exc. Water Total	2.0	7.0	10.0	0.2	1,897.5	0.3	1,917.0	2.4	3,002.8	-	622.6	3,627.8	109.9	192.0	634.3	936.2	6,481.0

	Treatment Amount (Ratio)	Leon							Cinandega					Granada				
	Type of waste	Bio-decompo	Burn	Compaction	Neutrljzati	No	Others	Leon Toatl	Bio-decompo	Burn	Dehydration	No	China. Toat	Bio-decompo	Burn	No	Grana. Toat	G. Total
1	Ash, combustion residue	-	-	-	-	-	-	-	-	-	-	100.00%	1.97%	-	-	-	-	0.03%
2	Dust	-	-	75.19%	-	24.81%	-	0.02%	-	-	-	-	-	-	-	100.00%	0.00%	0.00%
3	Slag from melting	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	Sludge	-	-	-	-	100.00%	-	0.09%	-	-	-	-	-	-	-	-	-	0.01%
5	Asbestos	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	Acide	-	-	-	-	-	100.00%	0.00%	-	-	-	100.00%	0.00%	-	-	100.00%	0.00%	0.00%
7	Alkalies	-	-	-	-	-	-	-	-	-	-	100.00%	0.00%	-	-	-	-	0.00%
8	Oily waste	-	-	-	-	100.00%	-	0.06%	-	-	-	-	-	-	-	-	-	0.01%
9	Chemical residue	16.42%	-	-	1.48%	82.10%	-	0.02%	-	-	-	-	-	-	-	100.00%	0.00%	0.00%
10	Waste from food production	-	-	-	-	100.00%	-	1.69%	-	90.24%	-	9.76%	36.33%	-	-	100.00%	0.00%	0.03%
11	Waste similar to dogestic wa	-	-	-	-	100.00%	-	0.01%	-	-	-	-	-	13.04%	-	86.96%	0.00%	0.00%
12	Animal manure	-	-	-	-	100.00%	-	0.19%	59.70%	-	-	40.30%	0.04%	-	-	100.00%	0.04%	0.06%
13	Carcasses	-	-	-	-	-	-	-	-	100.00%	-	-	0.02%	-	-	100.00%	0.05%	0.04%
14	Glass and cermics	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	Metal and scrup	-	-	-	-	100.00%	-	0.14%	-	-	-	100.00%	0.22%	-	-	100.00%	0.00%	0.02%
16	Paper and cardboad	-	1.57%	-	-	98.43%	-	0.47%	-	0.12%	-	99.88%	0.94%	-	63.58%	36.42%	0.05%	0.11%
17	Plastics	-	22.22%	-	-	77.78%	-	0.01%	-	-	-	100.00%	0.11%	-	-	100.00%	0.00%	0.00%
18	Rubber	-	-	-	-	100.00%	-	0.04%	-	-	-	-	-	-	-	-	-	0.00%
19	Texitile	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.00%	0.00%	0.00%
20	Leather	-	-	-	-	100.00%	-	0.16%	-	-	-	-	-	100.00%	-	-	0.02%	0.05%
21	Wood	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.00%	0.00%	0.00%
22	Construction and demolition	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	Water	-	-	-	-	100.00%	-	97.16%	-	-	49.31%	50.68%	60.37%	-	-	100.00%	99.83%	98.99%
24	Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Grand Total	0.00%	0.01%	0.02%	0.00%	99.97%	0.00%	100.00%	0.03%	32.80%	29.77%	37.40%	100.00%	0.02%	0.03%	99.95%	100.00%	100.00%
	Exc. Water Total	0.10%	0.37%	0.52%	0.01%	98.98%	0.02%	100.00%	0.07%	82.77%	-	17.16%	100.00%	11.74%	20.51%	67.75%	100.00%	100.00%

Results of survey (Storage period)

Storage Period (ton/year)	Leon					Chinandega			Granada				Grand Total
WASTE TYPE	Annually	Daily	Monthly	Weekly	Total	Daily	Weekly	Total	Daily	Monthly	Weekly	Total	
Acide	-	0.3	-	-	0.3	0.3	-	0.3	-	-	1.8	1.8	2.4
Alkalies	-	-	-	-	-	0.3	-	0.3	-	-	-	-	0.3
Animal manure	-	130.0	-	-	130.0	4.0	-	4.0	232.0	-	-	232.0	366.0
Ash, combustion residue	-	-	-	-	-	-	180.0	180.0	-	-	-	-	180.0
Carcasses	-	-	-	-	-	1.5	-	1.5	265.0	-	-	265.0	266.5
Chemical residue	2.0	10.2	-	-	12.2	-	-	-	1.5	-	-	1.5	13.7
Dust	-	11.5	-	1.8	13.3	-	-	-	-	-	7.3	7.3	20.6
Leather	-	96.0	-	10.5	106.5	-	-	-	109.0	-	-	109.0	215.5
Metal and scrup	1.0	-	96.0	-	97.0	20.0	-	20.0	-	-	0.2	0.2	117.2
Oily waste	-	-	-	40.0	40.0	-	-	-	-	-	-	-	40.0
Paper and cardboad	-	301.3	-	16.6	317.9	0.1	86.0	86.1	-	192.0	110.0	302.0	706.0
Plastics	-	-	7.0	2.0	9.0	-	10.0	10.0	-	-	0.2	0.2	19.2
Rubber	-	-	-	24.3	24.3	-	-	-	-	-	-	-	24.3
Sludge	-	-	-	60.0	60.0	-	-	-	-	-	-	-	60.0
Texitile	-	-	-	-	-	-	-	-	-	0.3	-	0.3	0.3
Waste from food production	-	8.0	-	1,090.0	1,098.0	270.5	3,055.2	3,325.7	10.0	-	-	10.0	4,433.7
Waste similar to domestic waste	-	8.5	-	-	8.5	-	-	-	-	0.9	6.0	6.9	15.4
Water	-	65,630.0	-	-	65,630.0	5,525.9	-	5,525.9	561,935.0	-	-	561,935.0	633,090.9
Wood	-	-	-	-	-	-	-	-	-	-	0.2	0.2	0.2
Grand Total	3.0	66,195.8	103.0	1,245.2	67,547.0	5,822.5	3,331.2	9,153.7	562,552.5	193.2	125.6	562,871.2	639,571.9

Storage Period (Ratio)	Leon					Chinandega			Granada				Grand Total
WASTE TYPE	Annually	Daily	Monthly	Weekly	Total	Daily	Weekly	Total	Daily	Monthly	Weekly	Total	
Acide	-	0.001%	-	-	0.000%	0.004%	-	0.003%	-	-	1.434%	0.000%	0.000%
Alkalies	-	-	-	-	-	0.004%	-	0.003%	-	-	-	-	0.000%
Animal manure	-	0.196%	-	-	0.193%	0.069%	-	0.044%	0.041%	-	-	0.041%	0.057%
Ash, combustion residue	-	-	-	-	-	-	5.404%	1.966%	-	-	-	-	0.028%
Carcasses	-	-	-	-	-	0.026%	-	0.016%	0.047%	-	-	0.047%	0.042%
Chemical residue	66.667%	0.015%	-	-	0.018%	-	-	-	0.000%	-	-	0.000%	0.002%
Dust	-	0.017%	-	0.145%	0.020%	-	-	-	-	-	5.814%	0.001%	0.003%
Leather	-	0.145%	-	0.840%	0.158%	-	-	-	0.019%	-	-	0.019%	0.034%
Metal and scrup	33.333%	-	93.204%	-	0.144%	0.344%	-	0.219%	-	-	0.120%	0.000%	0.018%
Oily waste	-	-	-	3.212%	0.059%	-	-	-	-	-	-	-	0.006%
Paper and cardboad	-	0.455%	-	1.333%	0.471%	0.002%	2.582%	0.941%	-	99.394%	87.615%	0.054%	0.110%
Plastics	-	-	6.796%	0.161%	0.013%	-	0.300%	0.109%	-	-	0.120%	0.000%	0.003%
Rubber	-	-	-	1.952%	0.036%	-	-	-	-	-	-	-	0.004%
Sludge	-	-	-	4.819%	0.089%	-	-	-	-	-	-	-	0.009%
Texitile	-	-	-	-	-	-	-	-	-	0.140%	-	0.000%	0.000%
Waste from food production	-	0.012%	-	87.539%	1.626%	4.646%	91.715%	36.332%	0.002%	-	-	0.002%	0.693%
Waste similar to domestic waste	-	0.013%	-	-	0.013%	-	-	-	-	0.466%	4.779%	0.001%	0.002%
Water	-	99.145%	-	-	97.162%	94.906%	-	60.368%	99.890%	-	-	99.834%	98.987%
Wood	-	-	-	-	-	-	-	-	-	-	0.120%	0.000%	0.000%
Grand Total	0.004%	98.000%	0.153%	1.843%	100.000%	63.608%	36.392%	100.000%	99.943%	0.034%	0.022%	100.000%	100.000%

Storage

Storage Method (ton/Year)	Leon							Chinandega							Granada						Grand Total
WASTE TYPE	Drum	Garbage bag	Open air	Others	Pit	Tank	Total	Drum	Garbage bag	Lagoon	Open air	Others	Pit	Total	Drum	Garbage bag	Open air	Others	Tank	Total	
Acids	-	-	-	-	-	0.3	0.3	-	-	-	0.3	-	-	0.3	1.8	-	-	-	-	1.8	2.4
Alkalines	-	-	-	-	-	-	-	-	-	-	0.3	-	-	0.3	-	-	-	-	-	-	0.3
Animal manure	-	-	-	-	130.0	-	130.0	-	-	2.4	1.6	-	-	4.0	-	232.0	-	-	-	232.0	366.0
Ash, combustion residue	-	-	-	-	-	-	-	-	-	-	180.0	-	-	180.0	-	-	-	-	-	-	180.0
Carcasses	-	-	-	-	-	-	-	-	-	-	1.5	-	-	1.5	-	-	-	265.0	-	265.0	266.5
Chemical residue	2.0	-	-	-	0.2	10.0	12.2	-	-	-	-	-	-	-	-	-	1.5	-	-	1.5	13.7
Dust	-	1.8	-	-	-	11.5	13.3	-	-	-	-	-	-	-	7.3	-	-	-	-	7.3	20.6
Leather	10.5	-	-	-	96.0	-	106.5	-	-	-	-	-	-	-	-	-	109.0	-	-	109.0	215.5
Metal and scrap	-	-	1.0	96.0	-	-	97.0	-	-	-	20.0	-	-	20.0	-	-	0.2	-	-	0.2	117.2
Oily waste	40.0	-	-	-	-	-	40.0	-	-	-	-	-	-	-	-	-	-	-	-	-	40.0
Paper and cardboad	305.0	-	11.6	1.3	-	-	317.9	6.1	-	-	80.0	-	-	86.1	-	-	110.0	-	192.0	302.0	706.0
Plastics	-	-	9.0	-	-	-	9.0	4.0	-	-	6.0	-	-	10.0	-	-	0.2	-	-	0.2	19.2
Rubber	-	-	3.3	-	21.0	-	24.3	-	-	-	-	-	-	-	-	-	-	-	-	-	24.3
Sludge	60.0	-	-	-	-	-	60.0	-	-	-	-	-	-	-	-	-	-	-	-	-	60.0
Textile	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	0.3	0.3
Waste from food production	-	-	1,098.0	-	-	-	1,098.0	-	1.2	-	3,162.5	162.0	-	3,325.7	10.0	-	-	-	-	10.0	4,433.7
Waste sumilar to domestic waste	8.5	-	-	-	-	-	8.5	-	-	-	-	-	-	-	6.0	-	0.9	-	-	6.9	15.4
Water	-	-	-	38,000.0	27,650.0	-	65,650.0	2,725.0	-	-	2,764.0	-	37.9	5,525.9	-	-	-	561,935.0	-	561,935.0	633,060.9
Wood	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	0.2	0.2
Grand Total	426.0	1.8	1,122.9	38,097.3	27,877.2	21.8	67,547.0	2,735.1	1.2	2.4	6,215.1	162.0	37.9	9,153.7	25.1	232.3	221.9	562,200.0	192.0	562,871.2	639,571.9
Solid (Exc. Water)	426.0	1.8	1,122.9	97.3	247.2	21.8	1,917.0	10.1	1.2	2.4	3,452.1	162.0	-	3,627.8	25.1	232.3	221.9	265.0	192.0	936.2	6,481.0

Storage Method (Ratio)	Leon							Chinandega							Granada						Grand Total
WASTE TYPE	Drum	Garbage bag	Open air	Others	Pit	Tank	Total	Drum	Garbage bag	Lagoon	Open air	Others	Pit	Total	Drum	Garbage bag	Open air	Others	Tank	Total	
Acids	-	-	-	-	-	1.376%	0.000%	-	-	-	0.004%	-	-	0.003%	7.171%	-	-	-	-	0.000%	0.000%
Alkalines	-	-	-	-	-	-	-	-	-	-	0.004%	-	-	0.003%	-	-	-	-	-	-	0.000%
Animal manure	-	-	-	-	0.466%	-	0.193%	-	-	100.000%	0.026%	-	-	0.044%	-	99.884%	-	-	-	0.041%	0.057%
Ash, combustion residue	-	-	-	-	-	-	-	-	-	-	2.896%	-	-	1.969%	-	-	-	-	-	-	0.028%
Carcasses	-	-	-	-	-	-	-	-	-	-	0.024%	-	-	0.016%	-	-	-	0.047%	-	0.042%	0.042%
Chemical residue	0.470%	-	-	-	0.001%	45.872%	0.018%	-	-	-	-	-	-	-	-	-	0.676%	-	-	0.000%	0.002%
Dust	-	100.000%	-	-	-	52.752%	0.020%	-	-	-	-	-	-	-	29.084%	-	-	-	-	0.001%	0.003%
Leather	2.456%	-	-	-	0.344%	-	0.158%	-	-	-	-	-	-	-	-	-	49.132%	-	-	0.039%	0.016%
Metal and scrap	-	-	0.089%	0.252%	-	-	0.144%	-	-	-	0.322%	-	-	0.219%	-	-	0.068%	-	-	0.000%	0.018%
Oily waste	9.391%	-	-	-	-	-	0.059%	-	-	-	-	-	-	-	-	-	-	-	-	-	0.006%
Paper and cardboad	71.603%	-	1.033%	0.004%	-	-	0.471%	0.223%	-	-	1.287%	-	-	0.943%	-	-	49.583%	-	100.000%	0.054%	0.110%
Plastics	-	-	0.802%	-	-	-	0.013%	0.146%	-	-	0.097%	-	-	0.109%	-	-	0.068%	-	-	0.000%	0.003%
Rubber	-	-	0.294%	-	0.075%	-	0.036%	-	-	-	-	-	-	-	-	-	-	-	-	-	0.004%
Sludge	14.086%	-	-	-	-	-	0.089%	-	-	-	-	-	-	-	-	-	-	-	-	-	0.009%
Textile	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.116%	-	-	-	0.000%	0.000%
Waste from food production	-	-	97.783%	-	-	-	1.626%	-	100.000%	-	50.884%	100.000%	-	36.332%	39.841%	-	-	-	-	0.002%	0.693%
Waste sumilar to domestic waste	1.996%	-	-	-	-	-	0.013%	-	-	-	-	-	-	-	23.904%	-	0.406%	-	-	0.001%	0.002%
Water	-	-	-	99.745%	99.113%	-	97.162%	99.631%	-	-	44.456%	-	100.000%	69.365%	-	-	-	99.953%	-	99.834%	98.987%
Wood	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.068%	-	-	0.000%	0.000%
Grand Total	0.631%	0.003%	1.662%	56.401%	41.271%	0.032%	100.000%	29.880%	0.013%	0.026%	67.898%	1.770%	0.414%	100.000%	0.005%	0.041%	0.039%	99.881%	0.034%	100.000%	100.000%
Solid (Exc. Water)	22.221%	0.094%	58.577%	5.077%	12.894%	1.137%	100.000%	0.278%	0.033%	0.066%	95.157%	4.466%	-	100.000%	2.681%	24.809%	23.696%	28.305%	20.508%	100.000%	100.000%

Reslut of Survey (Waste Transportation Method)

Transportation (ton/year)	Leon			Chinandega		Granada			
WASTE_TYPE	Municipality	Own means	Total	Own means	Total	Municipality	Own means	Total	Total
Acide	-	0.3	0.3	0.3	0.3	-	1.8	1.8	2.4
Alkalies	-	-	-	0.3	0.3	-	-	-	0.3
Animal manure	-	130.0	130.0	2.8	2.8	232.0	-	232.0	364.8
Ash, combustion residue	-	-	-	180.0	180.0	-	-	-	180.0
Carcasses	-	-	-	0.8	0.8	-	-	-	0.8
Chemical residue	-	11.2	11.2	-	-	-	1.5	1.5	12.7
Dust	-	13.3	13.3	-	-	-	7.3	7.3	20.6
Leather	10.5	96.0	106.5	-	-	-	54.5	54.5	161.0
Metal and scrap	-	-	-	20.0	20.0	-	0.2	0.2	20.2
Oily waste	-	40.0	40.0	-	-	-	-	-	40.0
Paper and cardboad	-	24.1	24.1	86.1	86.1	-	96.0	96.0	206.2
Plastics	-	1.0	1.0	10.0	10.0	-	0.2	0.2	11.2
Rubber	-	24.3	24.3	-	-	-	-	-	24.3
Sludge	-	60.0	60.0	-	-	-	-	-	60.0
Texitile	-	-	-	-	-	-	-	-	-
Waste from food production	-	1,098.0	1,098.0	1,816.1	1,816.1	-	10.0	10.0	2,924.1
Waste similar to domestic waste	-	8.5	8.5	-	-	-	6.5	6.5	15.0
Water	-	65,630.0	65,630.0	5,525.9	5,525.9	-	561,935.0	561,935.0	633,090.9
Wood	-	-	-	-	-	-	0.2	0.2	0.2
Grand Total	10.5	67,136.7	67,147.1	7,642.2	7,642.2	232.0	562,113.1	562,345.1	637,134.4
Exc. water	10.5	1,506.7	1,517.1	2,116.3	2,116.3	232.0	178.1	410.1	4,043.5

Transportation (Ratio)	Leon			Chinandega		Granada			
WASTE_TYPE	Municipality	Own means	Total	Own means	Total	Municipality	Own means	Total	Total
Acide	-	0.000	0.000	0.003	0.003	-	0.000	0.000	0.000
Alkalies	-	-	-	0.003	0.003	-	-	-	0.000
Animal manure	-	0.194	0.194	0.037	0.037	100.000	-	0.041	0.057
Ash, combustion residue	-	-	-	2.355	2.355	-	-	-	0.028
Carcasses	-	-	-	0.010	0.010	-	-	-	0.000
Chemical residue	-	0.017	0.017	-	-	-	0.000	0.000	0.002
Dust	-	0.020	0.020	-	-	-	0.001	0.001	0.003
Leather	100.000	0.143	0.159	-	-	-	0.010	0.010	0.025
Metal and scrap	-	-	-	0.262	0.262	-	0.000	0.000	0.003
Oily waste	-	0.060	0.060	-	-	-	-	-	0.006
Paper and cardboad	-	0.036	0.036	1.127	1.127	-	0.017	0.017	0.032
Plastics	-	0.001	0.001	0.131	0.131	-	0.000	0.000	0.002
Rubber	-	0.036	0.036	-	-	-	-	-	0.004
Sludge	-	0.089	0.089	-	-	-	-	-	0.009
Texitile	-	-	-	-	-	-	-	-	-
Waste from food production	-	1.635	1.635	23.764	23.764	-	0.002	0.002	0.459
Waste similar to domestic waste	-	0.013	0.013	-	-	-	0.001	0.001	0.002
Water	-	97.756	97.741	72.307	72.307	-	99.968	99.927	99.365
Wood	-	-	-	-	-	-	0.000	0.000	0.000
Grand Total	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000
	0.016	99.984	100.000	100.000	100.000	0.041	99.959	100.000	100.000
Exc. water	0.689	99.311	100.000	100.000	100.000	56.578	43.422	100.000	100.000

Results of Survey (Generation amount (ton/year))

	Leon								Chinandega							Granada						
Type of waste	Discharge into	Discharge to	Landfill	Municipality la	Others	Recycle	Sold to t	Leon Total	Discharge into	Discharge to s	Landfill	Municipality la	Others	Sold to t	China Tot	Discharge into	Discharge to	Municipality la	Others	Sold to the oth	Grana Total	G. Total
1 Ash, combustion residue	-	-	-	-	-	-	-	-	-	-	-	180.0	-	-	180.0	-	-	-	-	-	-	180.0
2 Dust	11.5	-	1.8	-	-	-	-	13.3	-	-	-	-	-	-	-	-	-	7.3	-	-	7.3	20.6
3 Slag from melting	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4 Sludge	-	-	-	60.0	-	-	-	60.0	-	-	-	-	-	-	-	-	-	-	-	-	-	60.0
5 Asbestos	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6 Acids	0.3	-	-	-	-	-	-	0.3	0.3	-	-	-	-	-	0.3	-	-	1.8	-	-	1.8	2.4
7 Alkalies	-	-	-	-	-	-	-	-	0.3	-	-	-	-	-	0.3	-	-	-	-	-	-	0.3
8 Oily waste	-	-	-	40.0	-	-	-	40.0	-	-	-	-	-	-	-	-	-	-	-	-	-	40.0
9 Chemical residue	12.0	-	-	-	0.2	-	-	12.2	-	-	-	-	-	-	-	1.5	-	-	-	-	1.5	13.7
10 Waste from food production	8.0	-	-	1,090.0	-	-	-	1,098.0	262.9	-	3,001.2	108.0	-	54.0	3,426.1	-	-	10.0	-	-	10.0	4,435.1
11 Waste similar to domestic wa	-	-	-	8.5	-	-	-	8.5	-	-	-	-	-	-	-	-	-	6.4	-	-	6.4	14.9
12 Animal manure	-	-	130.0	-	-	-	-	130.0	-	2.4	1.6	-	-	-	4.0	-	-	232.0	-	-	232.0	366.0
13 Carcasses	-	-	-	-	-	-	-	-	-	-	1.5	-	-	-	1.5	-	-	-	-	266.0	266.0	266.5
14 Glass and ceramics	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15 Metal and scrap	-	-	-	-	-	96.6	1.0	97.6	-	-	-	20.0	-	-	20.0	-	-	-	0.2	-	0.2	117.8
16 Paper and cardboad	-	-	-	16.6	-	-	301.3	317.9	-	-	0.1	86.0	-	-	86.1	-	-	-	192.0	110.0	302.0	706.0
17 Plastics	-	-	-	0.0	-	-	7.0	8.0	-	-	-	10.0	-	-	10.0	-	-	-	0.2	-	0.2	18.2
18 Rubber	-	-	-	24.3	-	-	-	24.3	-	-	-	-	-	-	-	-	-	-	-	-	-	24.3
19 Textile	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	0.3	0.3
20 Leather	-	-	96.0	10.5	-	-	-	106.5	-	-	-	-	-	-	-	-	-	109.0	-	-	109.0	215.5
21 Wood	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	0.2	0.2
22 Construction and demolition	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23 Water	57,650.0	8,000.0	-	-	-	-	-	65,650.0	5,488.0	-	-	-	37.0	-	5,525.0	561,753.0	182.0	-	-	-	561,935.0	633,060.0
24 Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	57,661.8	8,000.0	227.8	1,251.0	0.2	96.0	309.3	67,547.0	5,651.6	2.4	3,004.4	404.0	37.0	54.0	9,153.7	561,754.5	182.0	367.0	192.5	376.3	562,871.2	639,571.9
Exc. water	31.8	-	227.8	1,251.0	0.2	96.0	309.3	1,917.0	163.0	2.4	3,004.4	404.0	-	54.0	3,627.8	1.5	-	367.0	192.5	376.3	936.2	6,481.0

	Leon								Chinandega							Granada						
Type of waste	Discharge into	Discharge to	Landfill	Municipality la	Others	Recycle	Sold to t	Leon Total	Discharge into	Discharge to s	Landfill	Municipality la	Others	Sold to t	China. Tot	Discharge into	Discharge to	Municipality la	Others	Sold to the oth	Grana. Total	G. Total
1 Ash, combustion residue	-	-	-	-	-	-	-	-	-	-	-	100.00%	-	-	1.97%	-	-	-	-	-	-	0.03%
2 Dust	86.47%	-	13.53%	-	-	-	-	0.02%	-	-	-	-	-	-	-	-	-	100.00%	-	-	0.00%	0.00%
3 Slag from melting	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4 Sludge	-	-	-	100.00%	-	-	-	0.09%	-	-	-	-	-	-	-	-	-	-	-	-	-	0.01%
5 Asbestos	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6 Acids	100.00%	-	-	-	-	-	-	0.00%	100.00%	-	-	-	-	-	0.00%	-	-	100.00%	-	-	0.00%	0.00%
7 Alkalies	-	-	-	-	-	-	-	-	100.00%	-	-	-	-	-	0.00%	-	-	-	-	-	-	0.00%
8 Oily waste	-	-	-	100.00%	-	-	-	0.06%	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00%
9 Chemical residue	98.50%	-	-	-	1.48%	-	-	0.02%	-	-	-	-	-	-	-	100.00%	-	-	-	-	0.00%	0.00%
10 Waste from food production	0.73%	-	-	99.27%	-	-	-	1.63%	4.89%	-	56.24%	5.25%	-	1.62%	36.33%	-	-	100.00%	-	-	0.00%	0.06%
11 Waste similar to domestic wa	-	-	-	100.00%	-	-	-	0.01%	-	-	-	-	-	-	-	-	-	100.00%	-	-	0.00%	0.00%
12 Animal manure	-	-	100.00%	-	-	-	-	0.10%	-	58.70%	40.30%	-	-	-	0.07%	-	-	-	-	100.00%	0.05%	0.06%
13 Carcasses	-	-	-	-	-	-	-	-	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-
14 Glass and ceramics	-	-	-	-	-	-	-	-	-	-	-	100.00%	-	-	0.22%	-	-	-	100.00%	-	0.00%	0.00%
15 Metal and scrap	-	-	-	-	-	98.97%	1.03%	0.14%	-	-	0.12%	99.88%	-	-	0.94%	-	-	-	63.54%	36.42%	0.06%	0.02%
16 Paper and cardboad	-	-	-	5.22%	-	-	94.78%	0.47%	-	-	-	100.00%	-	-	0.11%	-	-	-	100.00%	-	0.00%	0.00%
17 Plastics	-	-	-	99.70%	-	-	77.78%	0.01%	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00%
18 Rubber	-	-	-	100.00%	-	-	-	0.04%	-	-	-	-	-	-	-	-	-	-	-	100.00%	0.00%	0.00%
19 Textile	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.00%	-	-	0.00%	0.00%
20 Leather	-	-	90.15%	9.83%	-	-	-	0.16%	-	-	-	-	-	-	-	-	-	-	100.00%	-	0.00%	0.00%
21 Wood	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22 Construction and demolition	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23 Water	87.81%	12.19%	-	-	-	-	-	97.19%	99.32%	-	-	-	0.68%	-	65.37%	99.97%	0.03%	-	-	-	99.85%	98.98%
24 Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Grand Total	85.37%	11.84%	0.34%	1.85%	0.00%	0.14%	0.46%	100.00%	61.74%	0.03%	32.82%	4.41%	0.41%	0.59%	100.00%	99.89%	0.03%	0.07%	0.03%	0.07%	100.00%	100.00%
Exc. Water	1.66%	-	11.88%	65.30%	0.01%	5.01%	16.14%	100.00%	4.43%	0.97%	81.82%	11.14%	-	1.62%	100.00%	0.16%	-	39.20%	20.56%	40.06%	100.00%	100.00%

Disposal

	Disposal Amount (ton/year)	Leon								Chinandega							Granada						
	Type of waste	Discharge into	Discharge to	Landfil	Municipality la	Others	Recycle	Sold to t	Leon Total	Discharge into	Discharge to s	Landfil	Municipality la	Others	Sold to t	China. Tot	Discharge into	Discharge to	Municipality la	Others	Sold to the oth	Grana. Total	G. Total
1	Ash, combustion residue	-	-	-	-	-	-	-	-	-	-	-	180.0	-	-	180.0	-	-	-	-	-	-	180.0
2	Dust	6.5	-	1.8	-	-	-	-	8.3	-	-	-	-	-	-	-	-	-	7.3	-	-	7.3	15.6
3	Slag from melting	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	Sludge	-	-	-	60.0	-	-	-	60.0	-	-	-	-	-	-	-	-	-	-	-	-	-	60.0
5	Asbestos	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	Acide	0.3	-	-	-	-	-	-	0.3	0.3	-	-	-	-	-	0.3	-	-	1.8	-	-	1.8	2.4
7	Alkalies	-	-	-	-	-	-	-	-	0.3	-	-	-	-	-	0.3	-	-	-	-	-	-	0.3
8	Oily waste	-	-	-	40.0	-	-	-	40.0	-	-	-	-	-	-	-	-	-	-	-	-	-	40.0
9	Chemical residue	11.0	-	-	-	0.2	-	-	11.2	-	-	-	-	-	-	-	1.5	-	-	-	-	1.5	12.7
10	Waste from food production	8.0	-	-	1,090.0	-	-	-	1,098.0	162.5	-	1,500.6	108.0	-	45.0	1,816.1	-	-	10.0	-	-	10.0	2,924.1
11	Waste similar to domestic wa	-	-	-	8.5	-	-	-	8.5	-	-	-	-	-	-	-	-	-	6.5	-	-	6.5	15.0
12	Animal manure	-	-	130.0	-	-	-	-	130.0	-	1.2	1.6	-	-	-	2.8	-	-	232.0	-	-	232.0	364.8
13	Carcasses	-	-	-	-	-	-	-	-	-	-	0.8	-	-	-	0.8	-	-	-	-	-	-	0.8
14	Glass and cermics	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	Metal and scrup	-	-	-	-	-	-	-	-	-	-	-	20.0	-	-	20.0	-	-	-	0.2	-	0.2	20.2
16	Paper and cardboad	-	-	-	14.1	-	-	10.0	24.1	-	-	0.1	86.0	-	-	86.1	-	-	-	96.0	-	96.0	206.2
17	Plastics	-	-	-	1.0	-	-	-	1.0	-	-	-	10.0	-	-	10.0	-	-	-	0.2	-	0.2	11.2
18	Rubber	-	-	-	24.3	-	-	-	24.3	-	-	-	-	-	-	-	-	-	-	-	-	-	24.3
19	Textile	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	Leather	-	-	96.0	10.5	-	-	-	106.5	-	-	-	-	-	-	-	-	-	54.5	-	-	54.5	161.0
21	Wood	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	0.2	0.2
22	Construction and demolition	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	Water	57,650.0	8,000.0	-	-	-	-	-	65,650.0	5,488.0	-	-	-	37.9	-	5,525.9	561,758.0	182.0	-	-	-	561,935.0	636,090.9
24	Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Grand Total	57,655.8	8,000.0	227.8	1,248.4	0.2	-	10.0	67,142.1	5,651.0	1.2	1,503.1	404.0	37.9	45.0	7,642.2	561,759.5	182.0	312.1	96.5	-	562,345.1	697,129.5
	Exc. water	25.8	-	227.8	1,248.4	0.2	-	10.0	1,512.1	163.0	1.2	1,505.1	404.0	-	45.0	2,116.3	1.5	-	312.1	96.5	-	410.1	4,038.5

		Leon								Chinandega							Granada						
	Type of waste	Discharge into	Discharge to	Landfil	Municipality la	Others	Recycle	Sold to t	Leon Total	Discharge into	Discharge to s	Landfil	Municipality la	Others	Sold to t	China. Tot	Discharge into	Discharge to	Municipality la	Others	Sold to the oth	Grana. Total	G. Total
1	Ash, combustion residue	-	-	-	-	-	-	-	-	-	-	-	100.00%	-	-	1.97%	-	-	-	-	-	-	0.05%
2	Dust	78.31%	-	21.69%	-	-	-	-	0.01%	-	-	-	-	-	-	-	-	-	100.00%	-	-	0.00%	0.00%
3	Slag from melting	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	Sludge	-	-	-	100.00%	-	-	-	0.09%	-	-	-	-	-	-	-	-	-	-	-	-	-	0.01%
5	Asbestos	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	Acide	100.00%	-	-	-	-	-	-	0.00%	100.00%	-	-	-	-	-	0.00%	-	-	100.00%	-	-	0.00%	0.00%
7	Alkalies	-	-	-	-	-	-	-	-	100.00%	-	-	-	-	-	0.00%	-	-	-	-	-	-	0.00%
8	Oily waste	-	-	-	100.00%	-	-	-	0.06%	-	-	-	-	-	-	-	-	-	-	-	-	-	0.01%
9	Chemical residue	98.39%	-	-	-	1.61%	-	-	0.02%	-	-	-	-	-	-	-	100.00%	-	-	-	-	0.00%	0.00%
10	Waste from food production	0.73%	-	-	99.27%	-	-	-	1.63%	6.95%	-	82.63%	5.95%	-	2.48%	19.84%	-	-	100.00%	-	-	0.00%	0.46%
11	Waste similar to domestic wa	-	-	-	100.00%	-	-	-	0.01%	-	-	-	-	-	-	-	-	-	100.00%	-	-	0.00%	0.00%
12	Animal manure	-	-	100.00%	-	-	-	-	0.19%	-	42.55%	57.45%	-	-	-	0.03%	-	-	100.00%	-	-	0.04%	0.06%
13	Carcasses	-	-	-	-	-	-	-	-	-	-	100.00%	-	-	-	0.01%	-	-	-	-	-	-	0.00%
14	Glass and cermics	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	Metal and scrup	-	-	-	-	-	-	-	-	-	-	-	100.00%	-	-	0.22%	-	-	-	100.00%	-	0.00%	0.00%
16	Paper and cardboad	-	-	-	58.51%	-	-	41.49%	0.04%	-	-	0.12%	99.88%	-	-	0.94%	-	-	-	100.00%	-	0.02%	0.03%
17	Plastics	-	-	-	100.00%	-	-	-	0.00%	-	-	-	100.00%	-	-	0.13%	-	-	-	100.00%	-	0.00%	0.00%
18	Rubber	-	-	-	100.00%	-	-	-	0.04%	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00%
19	Textile	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	Leather	-	-	90.18%	9.83%	-	-	-	0.16%	-	-	-	-	-	-	-	-	-	100.00%	-	-	0.01%	0.03%
21	Wood	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.00%	-	0.00%	0.00%
22	Construction and demolition	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	Water	87.81%	12.19%	-	-	-	-	-	97.16%	99.32%	-	-	-	0.69%	-	60.37%	99.97%	0.03%	-	-	-	99.85%	96.99%
24	Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(a)	Grand Total	85.87%	11.92%	0.34%	1.86%	0.00%	-	0.02%	100.00%	73.95%	0.02%	19.67%	5.29%	0.50%	0.59%	100.00%	99.96%	0.03%	0.06%	0.02%	-	100.00%	99.62%
	Exc. Water	1.71%	-	15.07%	82.55%	0.01%	-	0.66%	100.00%	7.70%	0.06%	71.03%	19.09%	-	2.13%	100.00%	0.37%	-	76.11%	23.52%	-	100.00%	0.59%

Recycle Amount (ton/year) DPTO DISP METH

		Leon								Chinandega							Granada						
COD	Type of waste	Discharge into	Discharge to	Landfil	Municipality la	Others	Recycle	Sold to the others		Discharge into	Discharge to s	Landfil	Municipality la	Others	Sold to the others		Discharge into	Discharge to	Municipality la	Others	Sold to the others		
1	Ash, combustion residue	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	Dust	5.0	-	-	-	-	-	-	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	5.0
	Slag from melting	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	Sludge	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Asbeston	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	Acide	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	Alkalies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	Oily waste	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	Chemical residue	1.0	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0
10	Waste from food production	-	-	-	-	-	-	-	-	-	-	1,500.6	-	-	9.0	1,509.6	-	-	-	-	-	-	1,509.6
11	Waste similar to domestic wa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	0.4	0.4
12	Animal manure	-	-	-	-	-	-	-	-	-	1.2	-	-	-	-	1.2	-	-	-	-	-	-	1.2
13	Carcasses	-	-	-	-	-	-	-	-	-	-	0.7	-	-	-	0.7	-	-	-	-	265.0	265.0	265.7
	Glass and cermics	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	Metal and scrup	-	-	-	-	-	96.0	1.0	97.0	-	-	-	-	-	-	-	-	-	-	-	-	-	97.0
16	Paper and cardboad	-	-	-	2.5	-	-	291.3	293.8	-	-	-	-	-	-	-	-	-	-	96.0	110.0	206.0	499.8
17	Plastics	-	-	-	1.0	-	-	7.0	8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	8.0
18	Rubber	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	0.3	0.3
19	Textile	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54.5	-	-	54.5	54.5
20	Leather	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	Wood	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Construction and demolition	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(a)	Grand Total	6.0	-	-	3.5	-	96.0	299.3	404.8	-	1.2	1,501.3	-	-	9.0	1,511.5	-	-	54.9	96.0	375.3	526.2	2,442.5
	Exc water	6.0	-	-	3.5	-	96.0	299.3	404.8	-	1.2	1,501.3	-	-	9.0	1,511.5	-	-	54.9	96.0	375.3	526.2	2,442.5

hazardous_Disp

Disposal Method (all waste)

	Disposal Method	Corrosive	Reactive	Toxic	Hazardous Total	Non-biodegradable	Putrescible	=N/A	NH Total	Total
Leon	Discharge into Enviro.	0.3	0	57646	57646.3	0	8	1.5	9.5	57655.8
	Discharge to sewer	8000	0	0	8000	0	0	0	0	8000
	Landfill	0	0	131.8	131.8	0	0	96	96	227.8
	Municipality landfill	0	0	13.4	13.4	81	1090	63.96	1234.96	1248.36
	Others	0	0	0.18	0.18	0	0	0	0	0.18
	Recycle	0	0	0	0	0	0	0	0	0
	Sold to the others	0	0	0	0	0	0	10	10	10
Total		8000.3	0	57791.38	65791.68	81	1098	171.46	1350.46	67142.14
Chinendega	Discharge into Enviro.	0	0.25	0.25	0.5	0	2725	2925.5	5650.5	5651
	Discharge to sewer	0	0	0	0	0	1.2	0	1.2	1.2
	Landfill	0	0	0	0	0	3.02	1500.1	1503.12	1503.12
	Municipality landfill	200	0	10	210	6	188	0	194	404
	Others	0	0	37.85	37.85	0	0	0	0	37.85
	Sold to the others	0	0	0	0	0	0	45	45	45
Total		200	0.25	48.1	248.35	6	2917.22	4470.6	7393.82	7642.17
Granada	Discharge into Enviro.	0	0	492678.5	492678.5	0	69076	0	69076	561754.5
	Discharge to sewer	0	0	0	0	182	0	0	182	182
	Municipality landfill	1.8	0	0	1.8	0	242	68.3	310.3	312.1
	Others	0	0	0	0	0.3	0	96.15	96.45	96.45
	Sold to the others	0	0	0	0	0	0	0	0	0
Total		1.8	0	492678.5	492680.3	182.3	69318	164.45	69664.75	562345.05
Grand Total		8202.1	0.25	550517.98	558720.33	269.3	73333.22	4806.51	78409.03	637129.36

Disposal Method (waste water)

	Disposal Method	Corrosive	Reactive	Toxic	Hazardous Total	Non-biodegradable	Putrescible	=N/A	Grand Total	
Leon	Discharge into Enviro.	0		57630	57630	0	0	0	0	57630
	Discharge to sewer	8000		0	8000	0	0	0	0	8000
Total		8000		57630	65630	0	0	0	0	65630
Chinandega	Discharge into Enviro.	0		0	0	0	2725	2763	5488	5488
	Others	0		37.85	37.85	0	0	0	0	37.85
Total		0		37.85	37.85	0	2725	2763	5488	5525.85
Granda	Discharge into Enviro.	0		492677	492677	0	69076	0	69076	561753
	Discharge to sewer	0		0	0	182	0	0	182	182
Total		0		492677	492677	182	69076	0	69258	561935
Grand Total		8000		550344.85	558344.85	182	71801	2763	74746	633090.85
					88.19%					

Disposal Method (waste water)

	Disposal Method	Corrosive	Reactive	Toxic	Hazardous Total	Non-biodegradable	Putrescible	=N/A	Grand Total	
Leon	Discharge into Enviro.	0.3	0	16	16.3	0	8	1.5	9.5	25.8
	Landfill	0	0	131.8	131.8	0	0	96	96	227.8
	Municipality landfill	0	0	13.4	13.4	81	1090	63.96	1234.96	1248.36
	Others	0	0	0.18	0.18	0	0	0	0	0.18
	Recycle	0	0	0	0	0	0	0	0	0
	Sold to the others	0	0	0	0	0	0	10	10	10
Total		0.3	0	161.38	161.68	81	1098	171.46	1350.46	1512.14
					10.69%					
Chinandega	Discharge into Enviro.	0	0.25	0.25	0.5	0	0	162.5	162.5	163
	Discharge to sewer	0	0	0	0	0	1.2	0	1.2	1.2
	Landfill	0	0	0	0	0	3.02	1500.1	1503.12	1503.12
	Municipality landfill	200	0	10	210	6	188	0	194	404
	Sold to the others	0	0	0	0	0	0	45	45	45
Total		200	0.25	10.25	210.5	6	192.22	1707.6	1905.82	2116.32
					9.95%					
Granada	Discharge into Enviro.	0	0	1.5	1.5	0	0	0	0	1.5
	Municipality landfill	1.8	0	0	1.8	0	242	68.3	310.3	312.1
	Others	0	0	0	0	0.3	0	96.15	96.45	96.45
	Sold to the others	0	0	0	0	0	0	0	0	0
Total		1.8	0	1.5	3.3	0.3	242	164.45	406.75	410.05
Grand Total		202.1	0.25	173.13	375.48	87.3	1532.22	2043.51	3663.03	4038.51
					9.30%					

DATA 4

Data and Survey Form of the Medical Waste Management Survey

Table 4-1: Details of Medical Institutions in Leon

Medical institution	(1)San Vicente de Paul	(2)Oscar Danilo Rosales	(3)Rosario Lacayo	(4)Asistencia Medica del Occidente	(5)Perla Maria
1.category	Hospital	hospital	Sanitarium	Clinic	C/S
2.foundation	1957	1965		1994	
3.ownership	private	public	public	public	public
4.treatment rooms	2	20	5	0	11
5.Surgery .rooms	0	27	0	0	1
6.Smaller Surgery operation/y	0	3,331	0	374	approx.150
7.Greater Surgery Operation/y	0	4,911	0	150	0
8.Beds for inpatients	32	328	129	15	0
9.Beds occupancy(%)	60	80	60	n.a.	0
10.out- patients/y	26,000	56,605	4,496		73,300
11.doctor	8	107	4	28	13
12.medical assistant	20	46	0	0	8
13.nurse	5	67	34	14	3
14.Adminis-taration.	2	450	9	8	11
15.Others		407	0	0	42

Table 4-2: Details of Medical Institutions in Chinandega

Medical Institution	(1)Espana	(2)Mauli-cio Abda-lah	(3)Robeto Cortez Monte Alegre	(4)Villa 15 de Julio	(5)Clinica de Asistencia Medica del occidental	(6) Mauricio	(7)Centro Medico flor de Sacuan-joche
1.Type	Hospital	Hospital	C/S	C/S	Hospital	PM	Clinic
2.Foun-dation	1995			1980		1983	1991
3.Owner-ship	public	public	public	public	private	public	private
4.treat-ment room	6 spaces				8	3	7
5.Surgery room			10		2		1
6.Smaller surgery operation /y	430	211	1	60	288	72	50
7.Greater surgery operation/y	672	1,427	0	0	132	0	60
8.Beds for inpatients.	120	167	0	0	16	0	10
9.Bed occupancy(%)	78	na	0	0	100	0	na
10.out- patient/y	9,092	8,844	14,403	5,040	16,380	28,000	10,000
11.doctor	53	66	15	6	15	8	18
12.medical Assistants	0	38	7	8	6	9	5
13.Nurse	128		14	2	1	2	3
14.administration	118	172	10	6	3	4	14
15.Others	79	87	19	1	4	1	

Table 4-3: Details of Medical Institutions in Granada

institution	Centro Epi-deniouslo-gico Inter-silais	San Juan de Dios	Cocibolca	Pedro Juaquin Chamorro	Hermes Y Martin	Jorge Simproso Bravo
1.Type	Hospital	Hospital	Hospital	C/S	C/S	C/S
2.foundation		1891	1976			
3.Ownership	parastatal	public	private	public	public	public
4.Treatment rooms	6 spaces	na	12	11	1	9
5.Surgery rooms	0	na	2	1	0	2
6.Smaller surgery Operation/y	0	1,126	170	0	0	720
7.Greater surgery operation/y	0	1,765	220	0	0	0
8.Beds for inpatients	0	144	25	0	0	0
9.Beds occupancy(%)	0	93	0	na	0	0
10.Out-patient/y	0	40,939	6,000	27,130	na	na
11.Doctor	0	68	15	16	3	21
12.Medical Assistant.	13	0	2	0	0	33
13.Nurse	0	165	5	24	6	6
14.Adminis-tration	15	55	8	8	3	na
15.Others	0	153	0	17	3	16

DATA 5

Data and Survey Form of the Inundation Damage Survey

5.1. Questionnaire for Inundation Damage Survey

Questionnaire for Inundation Damage Survey

The purpose of this questionnaire is to collect information about damage caused by inundation.

(In this questionnaire, inundation means what had you or your family damaged.)

Date. No. of Location

Name of Interviewer Name of Interviewee

1.Have you suffered from damage caused by inundation?

No.

Yes.

If "Yes", please answer the questions below.

2.How often did it occur?

a. more than two times a year

If "yes", please describe more precisely.

---

b. once a year

c. once every two to five years

d. once every six to ten years

e. once every 11 years or more

3.How deep was the highest inundation which you have ever had?

4.How many days/hours did the highest inundation continue?

Please answer the damage caused by the highest inundation.

5.Was your house damaged by the inundation?

No.

Yes. Which part of your house was damaged?

6.Were your household goods been damaged?

No.

Yes. What were your household goods damaged?

7.Did your family suffered from disease caused by the inundation?

No.

Yes.

8.Did your business suffered from the inundation? (ex. You had to shut your shop down for some days, or you were not able to go to your office.)

No.

Yes.

9.How much was the amount of the damage?

a. 0-500C$

b. 500-1,000C$

c. 1,000-5,000C$

d. 5,000-10,000C$

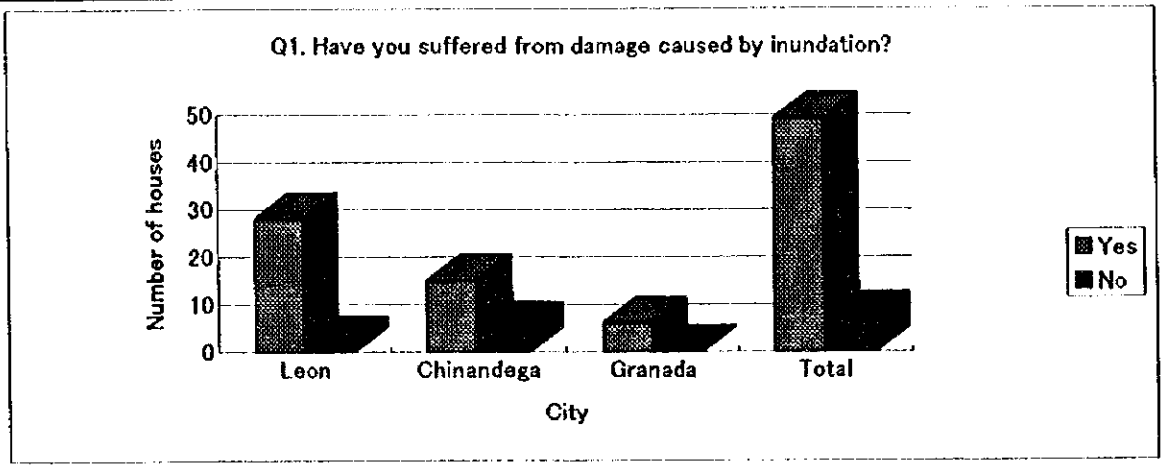
e. more than 10,000C$

Results of Inundation Damage Survey

1.Have you suffered from damage caused by inundation?

Answer	
Yes	No

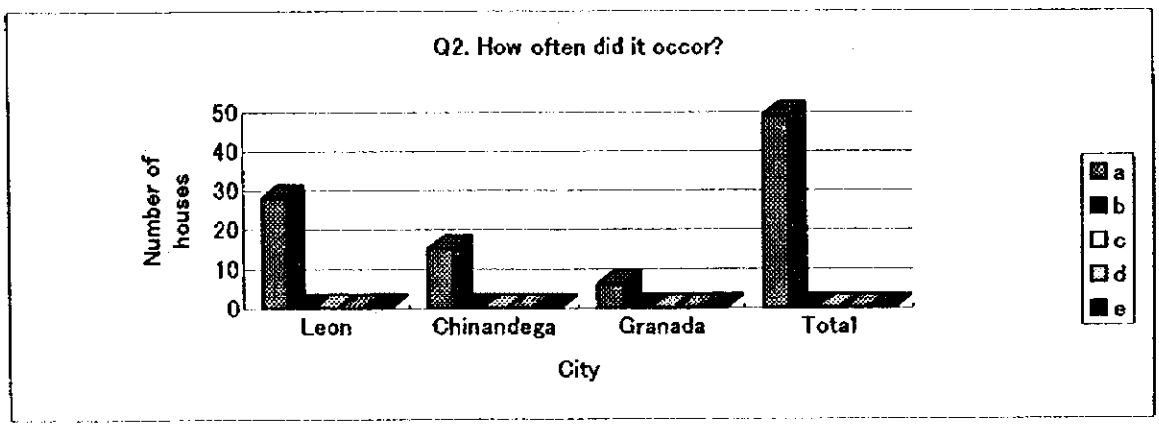
Q1	Yes	No	Total
Leon	28	2	30
Chinandega	15	5	20
Granada	6	0	6
Total	49	7	56



2.How often did it occur?

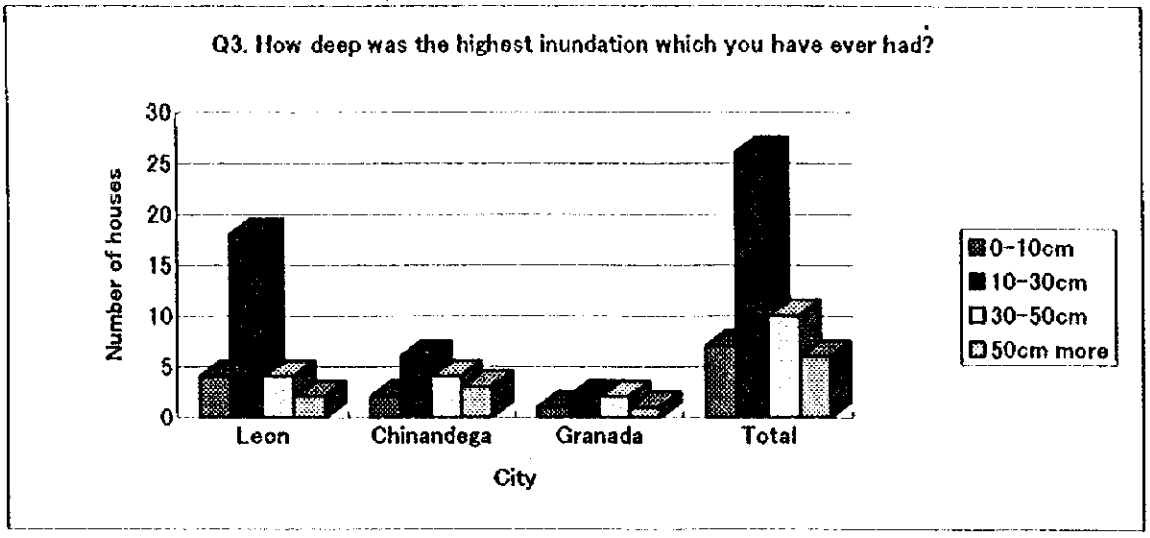
Answer		
a. more than two times a year	b. once a year	c. once every two to five years
d. once every six to ten years	e. once every 11 years or more	

Q2	a	b	c	d	e	Total
Leon	28	0	0	0	0	28
Chinandega	15	0	0	0	0	15
Granada	6	0	0	0	0	6
Total	49	0	0	0	0	49



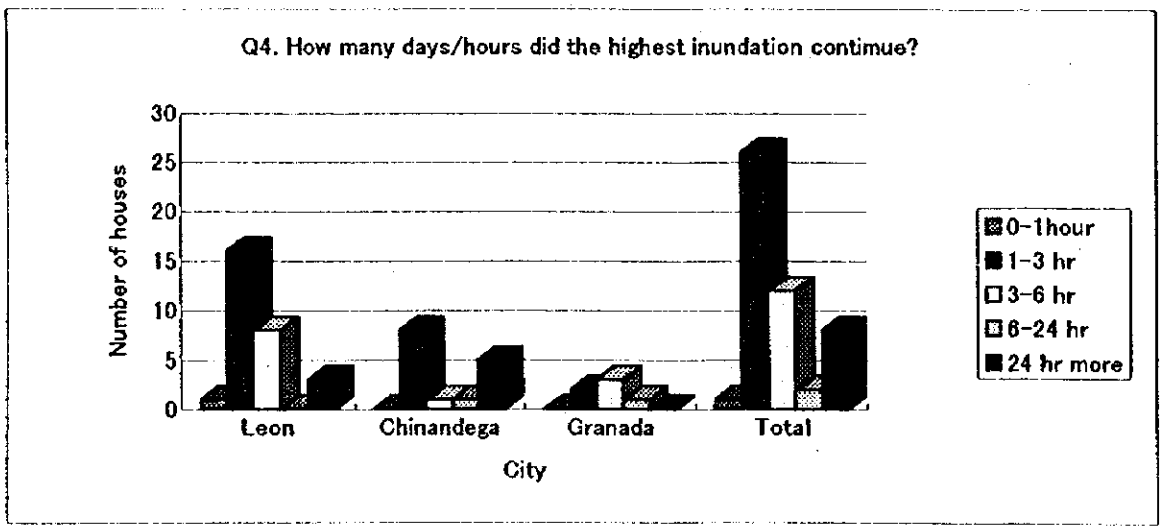
3. How deep was the highest inundation which you have ever had?

Q3	0-10cm	10-30cm	30-50cm	50cm mor	Total
Leon	4	18	4	2	28
Chinandega	2	6	4	3	15
Granada	1	2	2	1	6
Total	7	26	10	6	49



4.How many days/hours did the highest inundation continue?

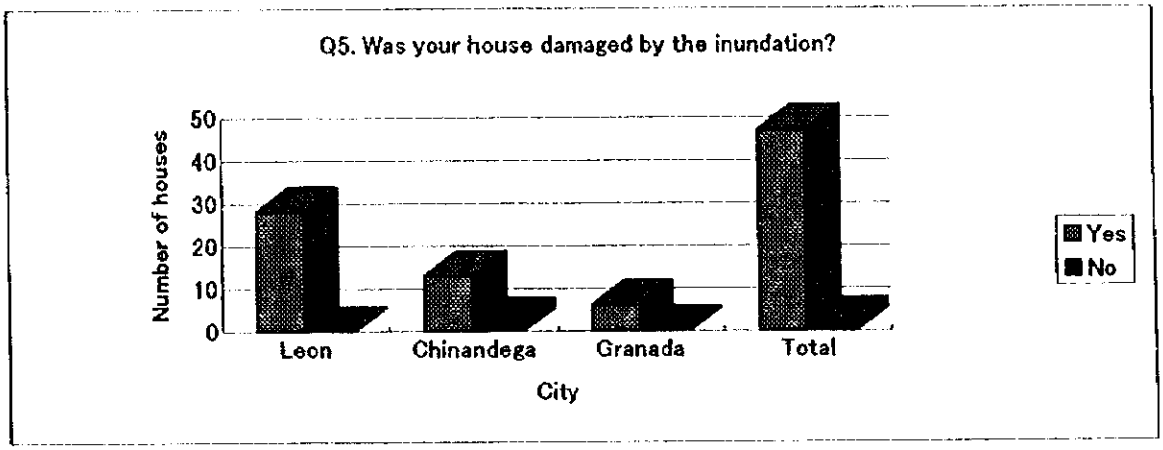
Q4	0-1hour	1-3 hr	3-6 hr	6-24 hr	24 hr more	Total
Leon	1	16	8	0	3	28
Chinandega	0	8	1	1	5	15
Granada	0	2	3	1	0	6
Total	1	26	12	2	8	49



5.Was your house damaged by the inundation?

Answer	
Yes	No

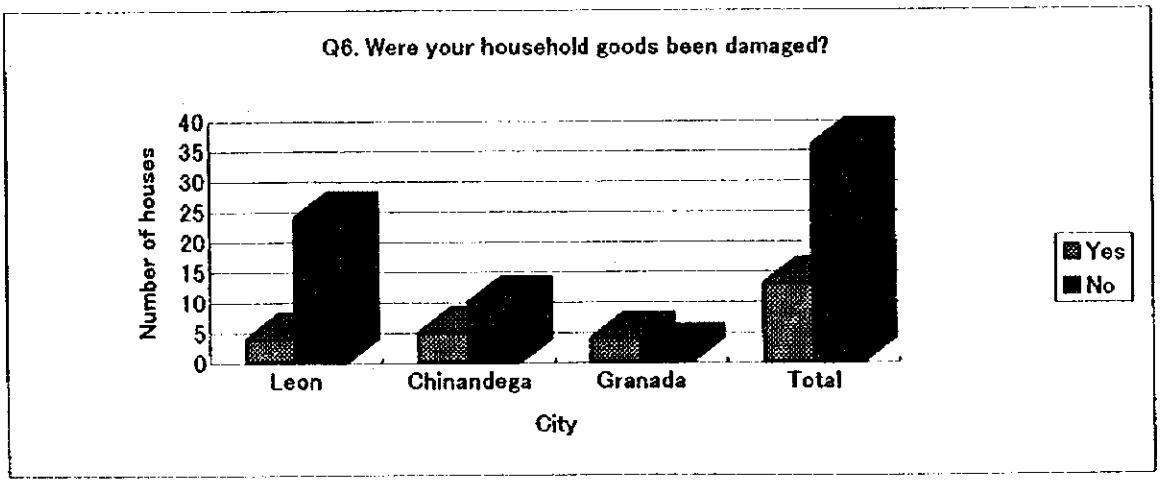
Q5	Yes	No	Total
Leon	28	0	28
Chinandega	13	2	15
Granada	6	0	6
Total	47	2	49



6.Were your household goods been damaged?

Answer	
Yes	No

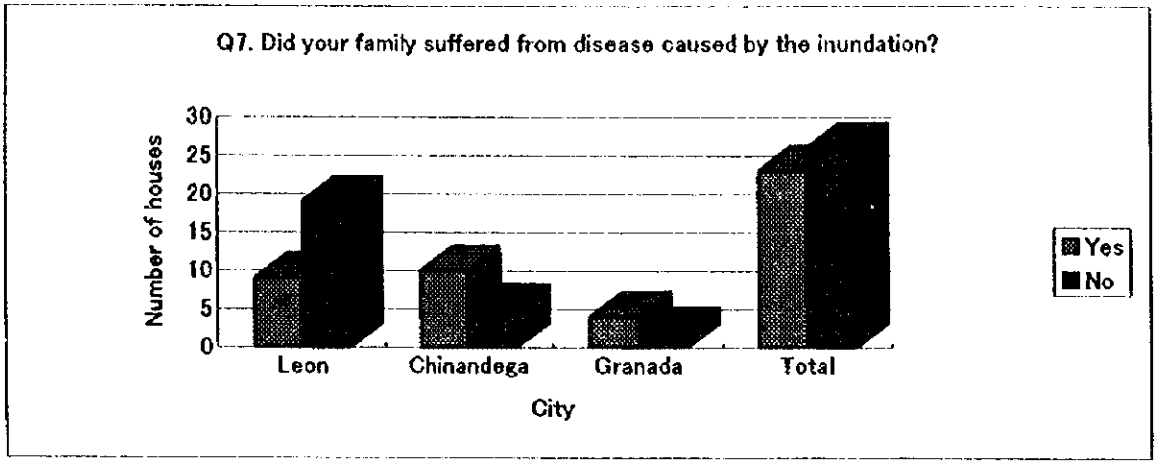
Q6	Yes	No	Total
Leon	4	24	28
Chinandega	5	10	15
Granada	4	2	6
Total	13	36	49



7.Did your family suffered from disease caused by the inundation?

Answer	
Yes	No

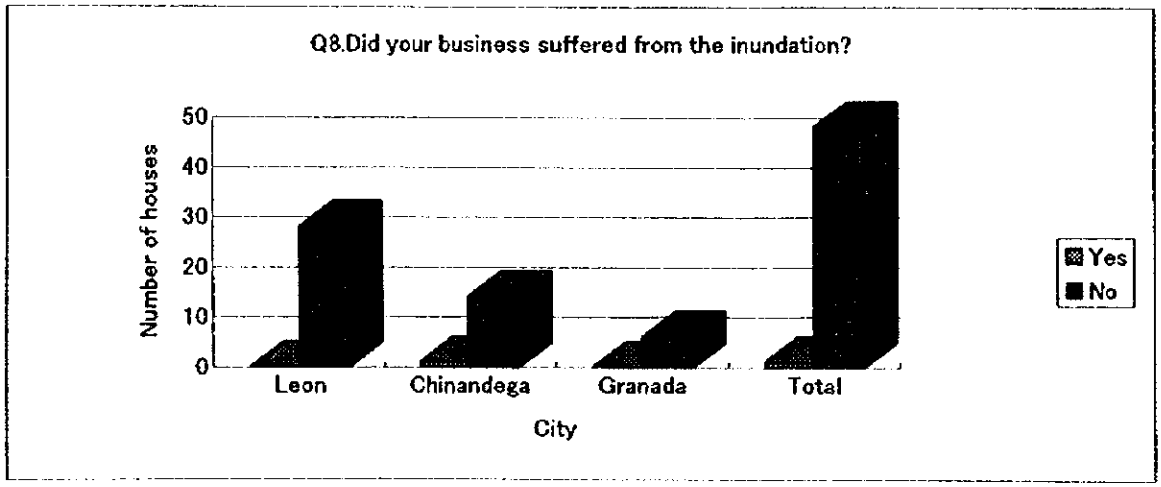
Q7	Yes	No	Total
Leon	9	19	28
Chinandega	10	5	15
Granada	4	2	6
Total	23	26	49



8.Did your business suffered from the inundation?

Answer	
Yes	No

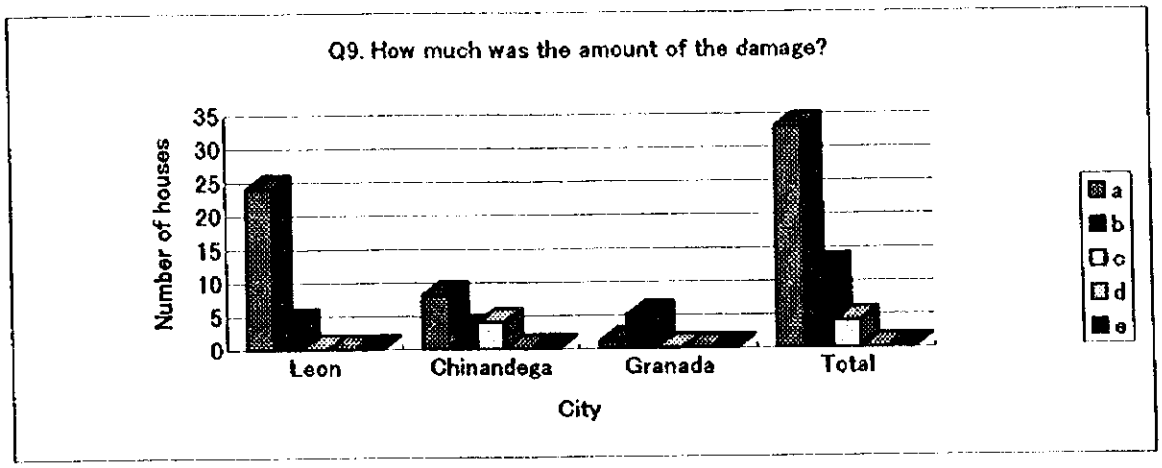
Q8	Yes	No	Total
Leon	0	28	28
Chinandega	1	14	15
Granada	0	6	6
Total	1	48	49



9. How much was the amount of the damage?

Answer		
a. 0-500C$	b. 500-1,000C$	c. 1,000-5,000C$
d. 5,000-10,000C$	e. more than 10,000C$	

Q9	a	b	c	d	e	Total
Leon	24	4	0	0	0	28
Chinandega	8	3	4	0	0	15
Granada	1	5	0	0	0	6
Total	33	12	4	0	0	49



5.2. Precipitation Data and Rain Intensity Curve for Leon

INSTITUTO NICARAGUENSE DE ESTUDIOS TERRITORIALES
DIRECCION DE METEOROLOGIA
DEPARTAMENTO DE DATOS Y ESTADISTICAS

CURVAS DE INTENSIDAD - DURACION - FRECUENCIA (IDF)
ESTACION : LEON
PERIODO 1974 - 1995

ELABORADO POR : *ING. ROGER VIDAL HERNANDEZ PEREZ*
MET. JOSE FRANCISCO MERCADO JIMENEZ

MANAGUA, SEPTIEMBRE 1996

INTENSIDADES MAXIMAS ANUALES
ESTACION :LEON
PERIODO: 1974-1995

	MAXIMAS DURACION EN MINUTOS						
AÑOS	5	10	15	30	60	120	360
1974	162.0	153.0	144.0	120.6	80.2	47.0	32.9
1975	154.8	148.8	133.6	78.8	63.2	37.5	12.7
1976	136.8	109.2	97.2	72.8	61.7	23.7	12.4
1977	183.6	170.4	117.2	65.0	37.1	25.7	2.2
1978	186.0	171.6	156.8	130.2	54.8	33.4	11.7
1979	122.4	120.0	99.6	81.2	51.9	35.3	23.0
1980	237.6	176.4	130.4	88.4	61.9	36.7	9.2
1981	153.6	136.8	121.6	116.2	82.6	42.6	12.0
1982	201.6	147.6	117.6	85.6	64.6	53.2	33.5
1983	240.0	168.0	124.0	91.0	48.0	25.5	9.2
1984	168.0	132.0	96.0	77.4	42.7	19.8	17.3
1985	118.8	114.0	111.6	88.0	64.2	34.2	12.0
1986	122.4	77.4	71.6	54.0	34.0	23.3	3.0
1987	121.2	121.2	102.0	80.8	67.7	36.5	13.0
1988	129.6	124.2	110.4	75.0	57.0	47.6	20.6
1989	141.6	117.6	91.2	73.8	41.7	16.1	6.0
1990	159.6	135.0	113.6	92.2	58.5	31.1	11.0
1991	206.4	138.0	119.2	76.0	52.6	31.3	13.9
1992	116.4	94.8	79.2	76.0	60.0	33.5	16.4
1993	160.8	145.8	125.2	89.2	62.8	36.9	25.9
1994	222.0	135.0	108.0	88.0	56.6	32.0	20.2
1995	120.0	120.0	100.0	94.0	80.0	56.0	28.8
MAX	240.0	176.4	156.8	130.2	82.6	56.0	33.5

CALCULO DEL PERIODO DE RETORNO Y LA PROBABILIDAD DE OCURRENCIA PARA LAS INTENSIDADES DE PRECIPITACION EN LA ESTACION DE LEON

	MAXIMAS DURACION EN MINUTOS							
m	5	10	15	30	60	120	360	P. R.
1	240.0	176.4	156.8	130.2	82.6	56.0	33.5	23.0
2	237.6	171.6	144.0	120.6	80.2	53.2	32.9	11.5
3	222.0	170.4	133.6	116.2	80.0	47.6	28.8	7.7
4	206.4	168.0	130.4	94.0	67.7	47.0	25.9	5.8
5	201.6	153.0	125.2	92.2	64.6	42.6	23.0	4.6
6	186.0	148.8	124.0	91.0	64.2	37.5	20.6	3.8
7	183.6	147.6	121.6	89.2	63.2	36.9	20.2	3.3
8	168.0	145.8	119.2	88.4	62.8	36.7	17.3	2.9
9	162.0	138.0	117.6	88.0	61.9	36.5	16.4	2.6
10	160.8	136.8	117.2	88.0	61.7	35.3	13.9	2.3
11	159.6	135.0	113.6	85.6	60.0	34.2	13.0	2.1
12	154.8	135.0	111.6	81.2	58.5	33.5	12.7	1.9
13	153.6	132.0	110.4	80.8	57.0	33.4	12.4	1.8
14	141.6	124.2	108.0	78.8	56.6	32.0	12.0	1.6
15	136.8	121.2	102.0	77.4	54.8	31.3	12.0	1.5
16	129.6	120.0	100.0	76.0	52.6	31.1	11.7	1.4
17	122.4	120.0	99.6	76.0	51.9	25.7	11.0	1.4
18	122.4	117.6	97.2	75.0	48.0	25.5	9.2	1.3
19	121.2	114.0	96.0	73.8	42.7	23.7	9.2	1.2
20	120.0	109.2	91.2	72.8	41.7	23.3	6.0	1.2
21	118.8	94.8	79.2	65.0	37.1	19.8	3.0	1.1
22	116.4	77.4	71.6	54.0	34.0	16.1	2.2	1.0

P.R. : PERIODO DE RETORNO

ECUACION DE AJUSTE
I=A/(T+B)^N

P. RET.	R	A	B	N
2	1.000	2511.89	20	0.872
5	0.999	1142.88	10	0.671
10	0.998	1137.63	10	0.640
25	0.997	540.75	1	0.428
50	0.998	570.16	0	0.458
100	0.998	595.66	0	0.448

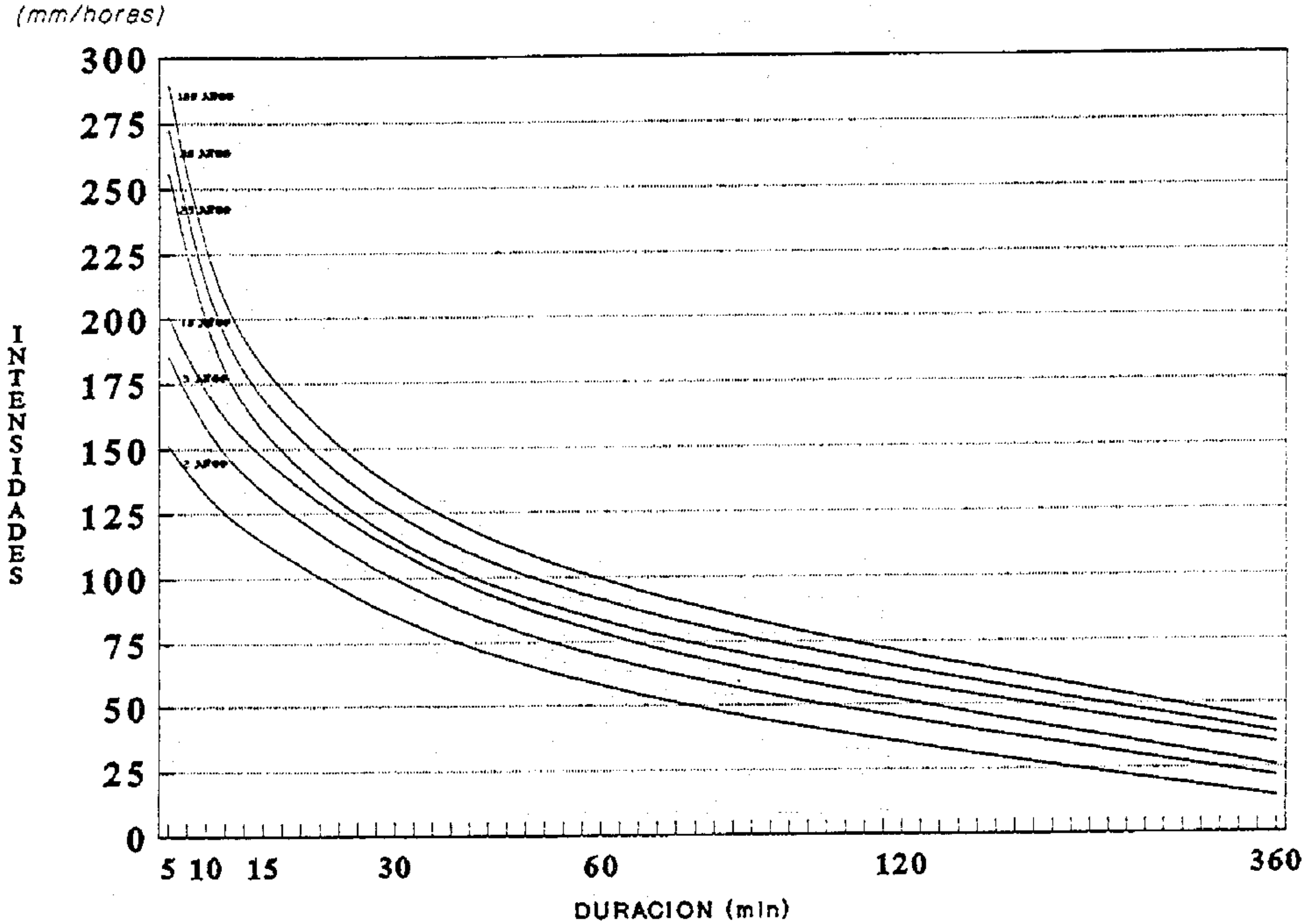
R: COEFICIENTE DE CORRELACION

INTENSIDADES DE PRECIPITACION EVALUADA EN LA ECUACION DE AJUSTE PARA LOS DIFERENTES PERIODOS DE RETORNO Y DURACION

P.R.	5	10	15	30	60	120	360
2	151.7	129.4	113.1	82.9	55.0	33.8	14.1
5	185.7	153.1	131.8	96.2	66.1	43.6	21.6
10	201.0	167.2	145.0	107.3	75.0	50.5	25.8
25	256.0	184.9	152.9	110.5	79.8	57.7	34.4
50	272.8	198.6	164.9	120.1	87.4	63.6	38.5
100	289.6	212.3	177.1	129.8	95.1	69.7	42.6

CURVAS DE INTENSIDAD-DURACION-FRECUENCIA PARA LA ESTACION DE LEON

PERIODO:1974-1995



5.3. Precipitation Data and Rain Intensity Curve for Chinandega

INSTITUTO NICARAGUENSE DE ESTUDIOS TERRITORIALES
DIRECCION DE METEOROLOGIA
DEPARTAMENTO DE DATOS Y ESTADISTICAS

CURVAS DE INTENSIDAD - DURACION - FRECUENCIA (IDF)
ESTACION : CHINANDEGA
PERIODO 1972 - 1995

ELABORADO POR : *ING. ROGER VIDAL HERNANDEZ PEREZ*
MET. JOSE FRANCISCO MERCADO JIMENEZ

MANAGUA, SEPTIEMBRE 1996

INTENSIDADES MAXIMAS ANUALES
ESTACION :CHINANDEGA
PERIODO: 1972-1995

	MAXIMAS DURACION EN MINUTOS						
AÑOS	5	10	15	30	60	120	360
1972	145.0	112.4	99.4	62.4	44.2	31.6	12.6
1973	145.2	114.4	99.7	82.6	54.0	31.7	7.3
1974	152.0	120.3	103.4	78.4	55.6	39.2	24.6
1975	161.8	126.2	106.6	76.8	58.2	33.7	17.1
1976	123.6	91.8	88.8	73.6	73.2	16.2	13.2
1977	146.4	123.0	100.8	69.4	53.6	37.4	16.7
1978	182.4	147.0	120.0	72.0	48.3	30.2	12.2
1979	207.6	153.0	120.0	86.8	71.8	52.6	21.2
1980	170.4	132.0	116.8	100.0	69.4	24.9	8.6
1981	199.2	178.8	158.8	133.0	87.8	27.7	12.8
1982	262.8	223.2	199.2	162.8	158.1	141.6	81.0
1983	240.0	180.0	160.0	120.0	76.4	41.5	6.5
1984	164.4	132.0	120.0	100.0	80.0	49.2	16.8
1985	242.4	181.2	148.8	105.4	74.0	62.3	34.9
1986	172.8	114.0	108.4	66.4	42.7	26.5	11.0
1987	206.4	134.4	117.6	78.2	45.0	24.8	8.0
1988	194.4	115.2	103.2	76.6	54.0	25.9	10.4
1989	232.8	189.2	148.0	99.6	85.9	48.6	14.5
1990	159.6	133.8	118.4	78.6	40.7	34.9	7.4
1991	156.0	156.0	156.0	121.6	92.0	56.8	21.1
1992	169.4	138.0	94.0	62.8	41.5	31.7	12.3
1993	192.0	120.0	96.0	96.0	68.5	36.8	8.9
1994	204.0	162.0	110.0	66.0	45.5	29.5	8.6
1995	240.0	163.2	152.8	85.0	75.3	34.1	11.4
MAX	262.8	223.2	199.2	162.8	158.1	141.6	81.0

CALCULO DEL PERIODO DE RETORNO Y LA PROBABILIDAD DE OCURRENCIA PARA LAS INTENSIDADES DE PRECIPITACION EN LA ESTACION DE CHINANDEGA

	MAXIMAS DURACION EN MINUTOS							
m	5	10	15	30	60	120	360	P. R.
1	262.8	223.2	199.2	162.8	158.1	141.6	81.0	25.0
2	242.4	189.2	160.0	133.0	92.0	62.3	34.9	12.5
3	240.0	181.2	158.8	121.6	87.8	56.8	24.6	8.3
4	240.0	180.0	156.0	120.0	85.9	52.6	21.2	6.3
5	232.8	178.8	152.8	105.4	80.0	49.2	21.1	5.0
6	207.6	163.2	148.8	100.0	76.4	48.6	17.1	4.2
7	206.4	162.0	148.0	100.0	75.3	41.5	16.8	3.6
8	204.0	156.0	120.0	99.6	74.0	39.2	16.7	3.1
9	199.2	153.0	120.0	96.0	73.2	37.4	14.5	2.8
10	194.4	147.0	120.0	86.8	71.8	36.8	13.2	2.5
11	192.0	138.0	118.4	85.0	69.4	34.9	12.8	2.3
12	182.4	134.4	117.6	82.6	68.5	34.1	12.6	2.1
13	172.8	133.8	116.8	78.6	58.2	33.7	12.3	1.9
14	170.4	132.0	110.0	78.4	55.6	31.7	12.2	1.8
15	169.4	132.0	108.4	78.2	54.0	31.7	11.4	1.7
16	164.4	126.2	106.6	76.8	54.0	31.6	11.0	1.6
17	161.8	123.0	103.4	76.6	53.6	30.2	10.4	1.5
18	159.6	120.3	103.2	73.6	48.3	29.5	8.9	1.4
19	156.0	120.0	100.8	72.0	45.5	27.7	8.6	1.3
20	152.0	115.2	99.7	69.4	45.0	26.5	8.6	1.3
21	146.4	114.4	99.4	66.4	44.2	25.9	8.0	1.2
22	145.2	114.0	96.0	66.0	42.7	24.9	7.4	1.1
23	145.0	112.4	94.0	62.8	41.5	24.8	7.3	1.1
24	123.6	91.8	88.8	62.4	40.7	16.2	6.5	1.0

P.R. : PERIODO DE RETORNO

ECUACION DE AJUSTE

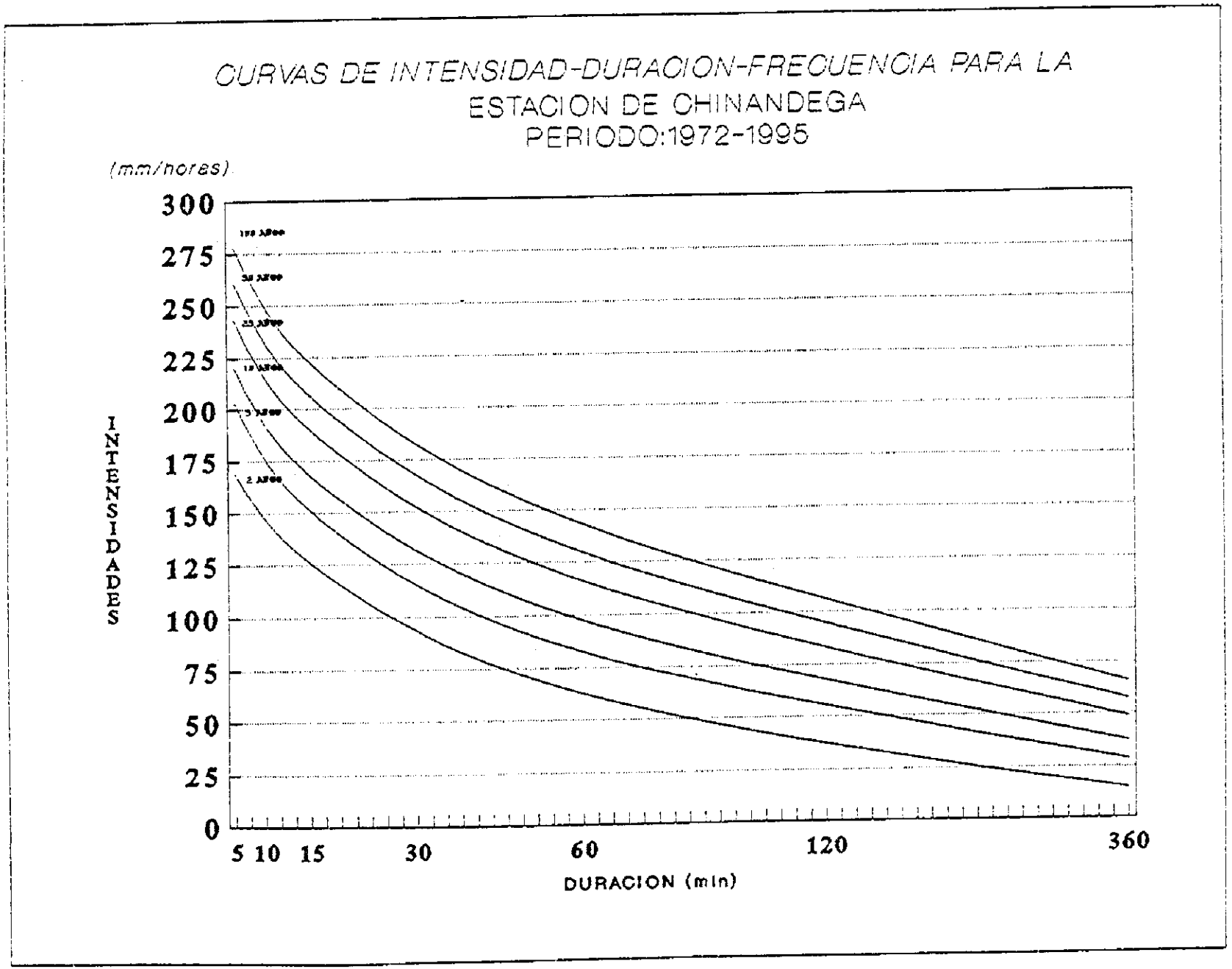
I=A/(T+B)^N

P. RET.	R	A	B	N
2	0.998	3076.10	20	0.902
5	0.997	1066.60	10	0.612
10	0.996	984.01	10	0.553
25	0.995	944.06	10	0.501
50	0.993	935.41	10	0.472
100	0.992	937.56	10	0.449

R: COEFICIENTE DE CORRELACION

INTENSIDADES DE PRECIPITACION EVALUADA EN LA ECUACION DE AJUSTE PARA LOS DIFERENTES PERIODOS DE RETORNO Y DURACION.

P.R.	5	10	15	30	60	120	360
2	168.7	143.1	124.5	90.3	59.1	35.7	14.5
5	203.3	170.5	148.8	111.6	79.2	54.2	28.6
10	220.1	187.7	165.9	128.0	93.9	66.7	37.4
25	243.1	210.5	188.2	148.7	112.4	82.4	48.8
50	260.5	227.5	204.7	164.0	125.9	94.0	57.4
100	277.9	244.3	221.0	178.9	139.2	105.4	65.9


CURVAS DE INTENSIDAD-DURACION-FRECUENCIA PARA LA
ESTACION DE CHINANDEGA
PERIODO:1972-1995
(mm/horas)
INTENSIDADES
300
275
250
225
200
175
150
125
100
75
50
25
0
5 10 15 30 60 120 360
DURACION (min)

5.4. Precipitation Data and Rain Intensity Curve for Granada

INSTITUTO NICARAGUENSE DE ESTUDIOS TERRITORIALES
DIRECCION DE METEOROLOGIA
DEPARTAMENTO DE DATOS Y ESTADISTICAS

CURVAS DE INTENSIDAD - DURACION - FRECUENCIA (IDF)
ESTACION : GRANADA
PERIODO 1969 - 1987

ELABORADO POR : *ING. ROGER VIDAL HERNANDEZ PEREZ*
MET. JOSE FRANCISCO MERCADO JIMENEZ

MANAGUA, SEPTIEMBRE 1996

INTENSIDADES MAXIMAS ANUALES
ESTACION :GRANADA
PERIODO: 1969-1987

	MAXIMAS DURACION EN MINUTOS						
AÑOS	5	10	15	30	60	120	360
1969	113.4	95.0	77.6	49.0	30.0	25.0	16.6
1970	108.0	102.2	87.0	68.6	60.0	10.2	9.0
1971	140.4	109.4	96.4	77.6	54.0	29.1	17.7
1972	86.4	81.0	58.8	38.4	20.6	10.3	6.7
1973	128.4	113.4	95.2	70.4	62.2	59.2	39.5
1974	135.6	115.8	102.8	53.8	32.2	18.5	12.3
1976	116.8	99.6	64.4	54.0	45.4	29.2	19.5
1977	123.6	112.8	112.8	81.2	53.2	29.9	19.9
1978	120.0	118.8	111.2	73.6	50.0	42.3	28.2
1979	192.0	156.0	124.0	92.0	74.8	42.5	26.7
1980	181.2	120.0	118.0	89.4	78.4	56.6	37.7
1981	168.0	147.0	128.0	76.0	63.0	38.0	25.3
1982	214.8	164.4	118.0	97.8	55.5	28.0	19.8
1983	218.4	129.0	92.8	64.2	52.9	31.0	23.0
1984	118.8	118.2	85.0	59.2	44.3	26.0	18.6
1985	196.8	106.8	79.2	73.2	56.0	42.3	16.9
1987	190.8	138.6	103.2	95.8	58.2	37.9	26.1
MAX	218.4	164.4	128.0	97.8	78.4	59.2	39.5

CALCULO DEL PERIODO DE RETORNO Y LA PROBABILIDAD DE OCURRENCIA PARA LAS INTENSIDADES DI
EN LA ESTACION DE GRANADA

	MAXIMAS DURACION EN MINUTOS							
m	5	10	15	30	60	120	360	P. R.
1	218.4	164.4	128.0	97.8	78.4	59.2	39.5	18.0
2	214.8	156.0	124.0	95.8	74.8	56.6	37.7	9.0
3	196.8	147.0	118.0	92.0	63.0	42.5	28.2	6.0
4	192.0	138.6	118.0	89.4	62.2	42.3	26.7	4.5
5	190.8	129.0	112.8	81.2	60.0	42.3	26.1	3.6
6	181.2	120.0	111.2	77.6	58.2	38.0	25.3	3.0
7	168.0	118.8	103.2	76.0	56.0	37.9	23.0	2.6
8	140.4	118.2	102.8	73.6	55.5	31.0	19.9	2.3
9	135.6	115.8	96.4	73.2	54.0	29.9	19.8	2.0
10	128.4	113.4	95.2	70.4	53.2	29.2	19.5	1.8
11	123.6	112.8	92.8	68.6	52.9	29.1	18.6	1.6
12	120.0	109.4	87.0	64.2	50.0	28.0	17.7	1.5
13	118.8	106.8	85.0	59.2	45.4	26.0	16.9	1.4
14	116.8	102.2	79.2	54.0	44.3	25.0	16.6	1.3
15	113.4	99.6	77.6	53.8	32.2	18.5	12.3	1.2
16	108.0	95.0	64.4	49.0	30.0	10.3	9.0	1.1
17	86.4	81.0	58.8	38.4	20.6	10.2	6.7	1.1

P.R. : PERIODO DE RETORNO

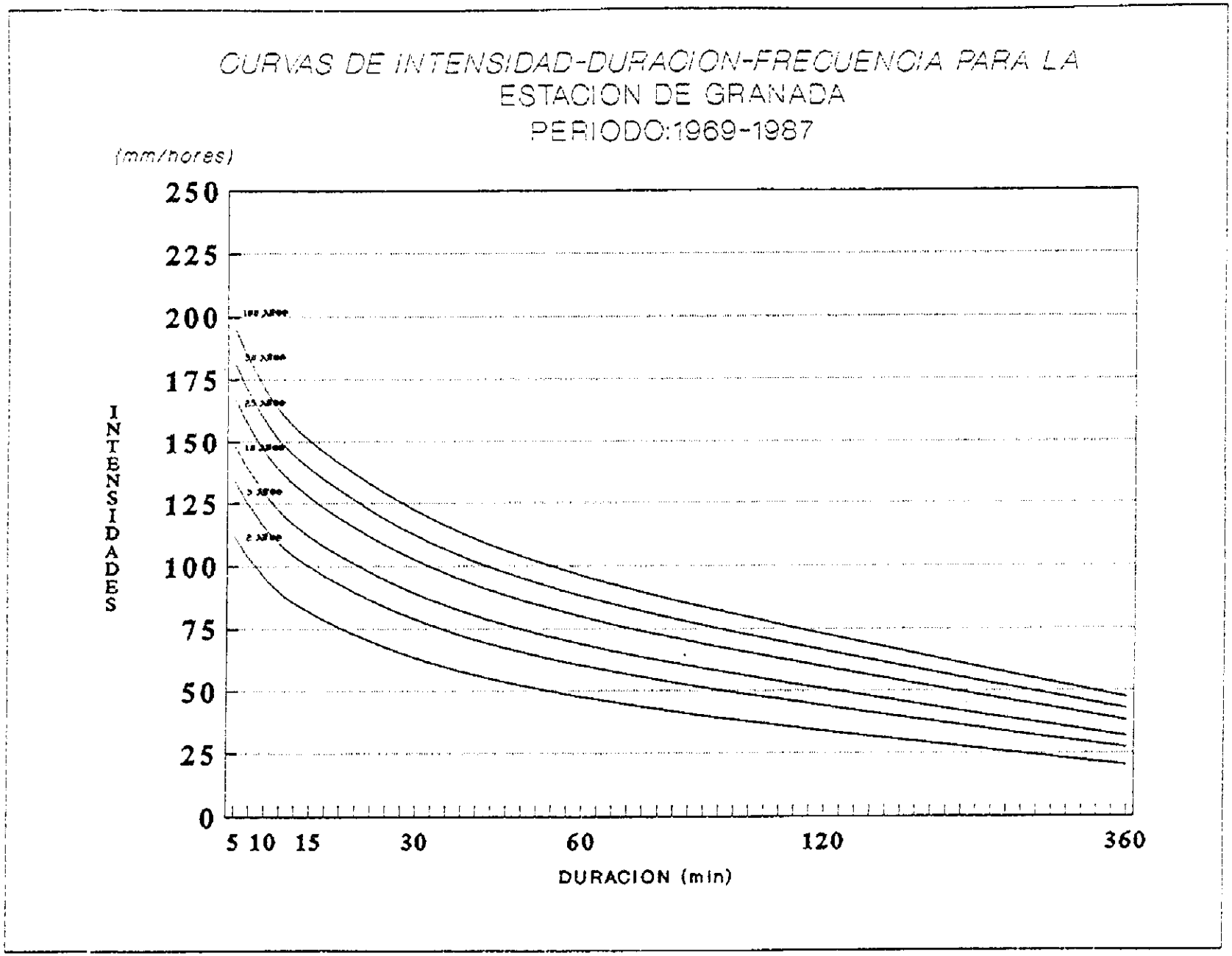
ECUACION DE AJUSTE
I=A/(T+B)^N

P. RET.	R	A	B	N
2	0.997	333.43	5	0.475
5	0.999	370.68	5	0.443
10	1.000	396.28	5	0.427
25	0.999	430.53	5	0.411
50	0.998	456.04	5	0.401
100	0.997	481.95	5	0.393

R: COEFICIENTE DE CORRELACION

INTENSIDADES DE PRECIPITACION EVALUADA EN LA
ECUACION DE AJUSTE PARA LOS DIFERENTES PERIODOS
DE RETORNO Y DURACION

P.R.	5	10	15	30	60	120	360
2	111.7	92.1	80.4	61.6	45.9	33.6	20.2
5	133.7	111.7	98.3	76.7	58.3	43.7	27.2
10	148.3	124.7	110.3	86.8	66.7	50.4	31.9
25	167.1	141.5	125.7	99.9	77.4	59.2	38.1
50	181.1	154.0	137.2	109.6	85.5	65.8	42.8
100	195.0	166.3	148.5	119.2	93.4	72.3	47.4


CURVAS DE INTENSIDAD-DURACION-FRECUENCIA PARA LA
ESTACION DE GRANADA
PERIODO:1969-1987
(mm/hores)
INTENSIDADES
250
225
200
175
150
125
100
75
50
25
0
5 10 15 30 60 120 360
DURACION (min)

DATA 6

Data and Survey Form of the Pilot Projects Questionnaire Surveys

6.1. Questionnaire Survey for Beautify Granada Campaign

Questionnaire

This questionnaire is for planning of 'Sanitary Environment Improvement in Granada' by the Granada Municipality and the JICA Study Team.
Your privacy will definitely be keep in secret, and also your data will never be used in other purposes in any term.
We would appreciate if you would answer the following questions.

Date:
Name of interviewee:
Address of interviewee:
Number of your house hold: Adult/s (___person/s), Child/ren (___person/s)
Role in her/his family (husband, wife, son, etc.):

Questions:

Q.1. Kindly inform us sanitary condition in your area. You may circle your answer and fill blanks below.

a. Waste collection is available in your area (Yes, No);
if Yes, how many times do you receive the service per week (Once, Twice, Three times, More, Others_____)
b. You are now receiving Water Supply service: (Yes, No);
1) if Yes, (INNA, Common Well, Individual Well, Others_____)
2) if No, what is your sources to get drinking water? (_____)
c. Waste water service is available in your house: (Yes, No);
if No:
1) What is your house sullage(waste water) ? Please chose an answer and circle on it:
(Soak Pit, River/Stream, Road, Others_____)
2) How do you treat night soil at your house? Please chose an answer and circle:
(Latrine, Septic Tank, Others_____)
d. Your house have Inundation Damage: (Yes, No);
if Yes, how often? (___time/s per year)

Q.2. We noted four major environmental sanitation problems to be solved in your area below. Please put them in priority order according to your idea on the issues and fill blanks following a sample.

SAMPLE

- Solid Waste (1)
- Waste Water (2)
- Water supply (4)
- Rain Water (3)

e.g. 1= first priority
2= second priority
3= third priority
4= fourth priority

Now please answer.

- Solid Waste ( )
- Waste Water ( )
- Water supply ( )
- Rain Water ( )

Q.3. If you and/or your community are facing another problems that should be relieved but not including within four issues above, please tell us about it/them.

1.

2.

Thank you for your kind cooperation.

Table 6-1: Results of the Questionnaire (Q-1)

Q1																							
Total Interviewees	a							b					c						d			e	
Per Area	Yes	No	1	2	3	4	5	Yes	No	1	2	3	Yes	No	1	2	3	4	1	2	3	Yes	No
C1																							
45 Interviewees	35	10	6	21	8	0	0	41	4	41	0	0	0	45	2	7	27	9	42	0	3	18	27
C2																							
35 Interviewees	28	7	22	5	0	0	1	30	5	30	0	0	0	35	5	9	19	2	32	0	3	12	23
C3																							
65 Interviewees	64	1	18	32	14	0	0	63	2	63	0	0	3	62	4	10	46	2	65	0	0	53	12
C7																							
10 Interviewees	0	10	0	0	0	0	0	9	1	9	0	0	0	10	0	0	5	5	10	0	0	6	4
Grand Total:																							
155 Interviewees	127	28	46	58	22	0	1	143	12	143	0	0	3	15	11	26	97	18	149	0	6	89	66

Table 6-2: Results of the Questionnaire (Q-2)

Q2				
Classification	Solid Waste	Waste Water	Water Supply	Rain Water
C1				
Priority 1	14 Persons	19 Persons	4 Persons	8 Persons
Priority 2	23 Persons	14 Persons	4 Persons	4 Persons
Priority 3	7 Persons	8 Persons	10 Persons	20 Persons
Priority 4	1 Persons	4 Persons	27 Persons	13 Persons
C2				
Priority 1	6 Persons	17 Persons	4 Persons	8 Persons
Priority 2	11 Persons	13 Persons	6 Persons	5 Persons
Priority 3	12 Persons	4 Persons	13 Persons	6 Persons
Priority 4	6 Persons	1 Persons	12 Persons	16 Persons
C3				
Priority 1	13 Persons	34 Persons	8 Persons	9 Persons
Priority 2	24 Persons	19 Persons	12 Persons	10 Persons
Priority 3	15 Persons	11 Persons	24 Persons	15 Persons
Priority 4	13 Persons	1 Persons	21 Persons	31 Persons
C7				
Priority 1	3 Persons	2 Persons	3 Persons	2 Persons
Priority 2	5 Persons	3 Persons	1 Persons	1 Persons
Priority 3	2 Persons	1 Persons	3 Persons	4 Persons
Priority 4	0	4 Persons	3 Persons	3 Persons
Grand Total				
Priority 1	36 Persons	72 Persons	19 Persons	27 Persons
Priority 2	63 Persons	49 Persons	23 Persons	20 Persons
Priority 3	36 Persons	24 Persons	50 Persons	45 Persons
Priority 4	20 Persons	10 Persons	63 Persons	63 Persons
155 Interviewees				

Table 6-3: Names and Addresses of Interviewees

Name:	Address	Family Members:		Q1																							Q2
				a							b					c					d			e		Priority Selected
		Adults	Kids	Yes	No	1	2	3	4	5	Yes	No	1	2	3	Yes	No	1	2	3	4	1	2	3	Yes	No	
											C1																
Angela Davila	Frente Hacienda de Silvio Urbina	4	8	o			o				o		o				o		o			o			o		2, 1, 4, 3
Mary Gutierrez	Calle San Juan del Sur	5	3	o			o				o		o				o				o	o				o	1, 3, 4, 2
Clorinda Jimenez	Reparto La Talpujera	5	6	o			o				o		o				o			o		o			o		2, 1, 4, 3
Marta Pineda	Entrada La Talpujera 5c abajo	2	3	o			o				o		o				o				o	o				o	2, 1, 3, 4
Maria Quiroz	Reparto La Talpujera	4	2	o			o					o					o			o		o				o	2, 1, 4, 3
Mercedes Barberena	Entrada La Talpujera 75m Sur	2	2	o			o				o		o				o			o		o			o		2, 1, 4, 3
Angela Ramos	Entrada La Talpujera 2do anden	2	2	o			o				o		o				o				o	o			o		1, 2, 4, 3
Sara Tercero	Reparto La Talpujera	2	3	o			o				o		o				o			o		o			o		3, 1, 4, 2
Maria Gutierrez	Calle San Juan del Sur	2	1	o			o				o		o				o				o	o				o	2, 4, 1, 3
Vilma Pena	Final Calle Loma del Mico	4	7		o							o					o		o			o			o		2, 3, 4, 1
Fausto Gonzales	Final Calle Loma del Mico	4	2		o						o		o				o				o	o				o	1, 2, 4, 3
Francisco Mojarrett	Esquina de las Barberenas 1c Lago	6	9		o						o		o				o			o		o			o		1, 2, 3, 4
Zaira Avalos	Final Calle Loma del Mico	4	3	o		o					o		o				o				o	o			o		2, 1, 4, 3
Maria Sandino	Iglesia Cuadrangular 20vrs Lago	4	1		o						o		o				o	o				o			o		2, 1, 4, 3
Guadalupe Hernandez	Hda. Palbeo 10vrs Oeste	3	5		o						o		o				o		o			o				o	1, 2, 3, 4
Marta Pena	Sabaneta III etapa	2	1		o						o		o				o			o		o				o	1, 2, 4, 3
Angelina Lazos	Molino 2c Norte 2c Este	3	2		o						o		o				o			o		o				o	2, 1, 4, 3
Liliam Jaimes	Clinas 2c Lago, 1c Norte	2	3		o						o		o				o			o		o			o		1, 2, 4, 3
Rosa Prado	Sabaneta III etpa	2	5		o						o		o				o			o		o				o	2, 3, 1, 4
Norma Brenez	Molino 1/2c Norte	5	2		o						o		o				o		o			o			o		4, 2, 3, 1
Ivania Mayorgum	Sabaneta III etapa	2	4	o			o				o		o				o		o			o			o		3, 2, 4, 1
William Urbina	Rest. Colinas 3c Norte	2	6	o			o				o		o				o				o	o			o		2, 1, 3, 4
Blanca Martinez	Rest. Colinas 2c Norte	3	2	o				o			o		o				o			o		o			o		2, 1, 4, 3
Manuel Amador	Rest. Colinas 2c Norte	2	1	o			o				o		o				o			o		o			o		2, 3, 4, 1
Carlos Oporta	Rest. Colinas 3c Norte 1/2c Lago	4	5	o		o					o		o				o			o		o			o		1, 2, 4, 3
Karina Cruz	Molino 4c Norte	3	1	o			o				o		o				o			o		o				o	2, 1, 4, 3
Paula Morales	Rest. Colinas 1c Lago 4c Norte	4	3	o				o			o		o				o				o	o				o	1, 2, 4, 3
Nohelia Garay	Molino 4c Norte 15vrs Lago	4	1	o			o				o		o				o	o				o				o	2, 3, 4, 1
Francisco Guevara	Molino 3c Norte 1/2c Lago	2	4	o				o			o		o				o			o		o				o	1, 2, 3, 4
Mario Kugama	Molino 3c Norte 2c Lago	2	4	o		o					o		o				o		o			o				o	1, 3, 2, 4
Jesenia Martinez	Sabaneta III etapa	4	6	o			o					o					o				o	o				o	3, 1, 2, 4
Maria Oporta	Rest. Colinas 3c Lago 3c Norte	3	3	o			o				o		o				o			o		o			o		1, 2, 3, 4
Paula Hernandez	Rest. Colinas 2c Norte 1c Lago	2	4	o			o				o		o				o			o		o				o	2, 1, 4, 3
Jesica Tenorio	Molino 2c Norte 1 1/2c Lago	2	4	o			o				o		o				o			o		o				o	3, 1, 4, 2
Elba Arteaga	Molino 3c Norte	2	4	o			o				o		o				o			o		o				o	2, 3, 1, 4
Maruna Bermudez	Molino 1c Norte	3	3	o			o					o					o			o		o				o	2, 1, 3, 4
Maria Lana	Molino 2c Norte	2	3	o				o			o		o				o			o		o				o	2, 4, 3, 1
Guiselle Bermudez	Rest. Colinas 1 1/2c Lago 1 1/2c Sur	2	2	o				o			o		o				o			o		o				o	1, 2, 4, 3
Xiomara Ruiz	Colinas 1c Lago 1/2c Sur	4	4	o				o			o		o				o			o		o				o	1, 3, 2, 4
Reyna Artola	Sabaneta III etapa	3	3	o				o			o		o				o			o		o				o	3, 4, 2, 1
Petrona Mercado	Rest. Colinas 2c Lago 1/2c Norte	2	4	o			o				o		o				o				o			o		o	3, 2, 4, 1
Hamilton Carcache	Rest. Colinas 2c Lago 25vrs Norte	7		o		o					o		o				o			o		o				o	2, 1, 4, 3
Marta Duarte	Molino 1c Sur 1/2c Lago	3	6	o				o			o		o				o			o		o				o	3, 4, 1, 2
Maria Hernandez	Rest. Colinas 1/2c Lago 1/2c Norte	2	3	o		o					o		o				o			o				o		o	2, 1, 3, 4
Jose Gomez	Molino 1c Norte	2	3	o			o																				
C1 Totals				35	10	6	21	8	0	0	41	4	41	0	0	0	45	2	7	27	9	42	0	3	18	27	
45 Interviewees																											

Name:	Address	Family Members:		Q1																								Q2. Priority Selected
				a							b						c					d			e		
		Adults	Kids	Yes	No	1	2	3	4	5	Yes	No	1	2	3	Yes	No	1	2	3	4	1	2	3	Yes	No	
										C2																	
Auxiliadora Sotelo	Del Rastro Viejo 100vrs Sur	8	7	o		o					o		o				o		o			o				o	1,2,4,3
Esperanza Lanuza	Del Rastro Viejo 150vrs Sur	2		o		o					o		o				o			o		o				o	2,1,3,4
Jose Zuniga	De donde Wilson 75vrs Este	1	3		o						o		o				o	o				o			o		1,2,3,4
Maria Mojarrett	Donde fue el Comando 1/2c Este	2	4	o		o					o		o				o				o	o				o	2,1,4,3
Gloria Navas	No answer	2	3	o		o					o		o				o	o				o				o	2,1,3,4
Manuel Jimenez	Del Rastro 1 1/2c Sur 1c Oeste	2		o		o					o		o				o	o				o				o	3,2,4,1
Jose Miranda	Detras de la Escuela Hnos. Salinas	3	4	o		o					o		o				o			o		o			o		4,3,2,1
Blanca Alvarez	Detras de la Escuela Hnos. Salinas	6	1	o			o				o		o				o			o		o				o	4,2,3,1
Antonia Aguirre	Colegio Hnos. Salinas 1 1/2c Sur	5	7	o			o				o		o				o			o		o			o		3,2,1,4
Andres Solis	Colegio Hnos. Salinas 1c abajo	1		o		o					o		o				o			o		o			o		2,1,3,4
Fatima Aguirre	Colegio 1c Lago 1/2 c Sur	2	2	o		o						o					o			o		o				o	3,2,1,4
Dona Quirez	Colegio 11/2 c Sur	5	6	o							o		o				o			o		o			o		3,2,4,1
Juana Baltodano	Colegio 2c Sur	5	2	o		o					o		o				o			o		o				o	3,4,2,1
Paula Baltodano	Detras del colegio 2c Sur	1	4	o		o						o					o		o			o				o	3,1,2,4
Albertina Baltodano	Escuela 200m Sureste	2	2	o		o						o					o			o		o				o	3,2,4,1
Alba Cruz	Addita I camino al charco	5	3	o		o					o		o				o		o			o				o	2,1,4,3
Vicenta Martinez	Escuela 1c Este 1c Sur	7		o		o					o		o				o		o			o				o	2,1,3,4
Sara Rivas	Escuela 1 1/2c Este	4			o						o		o				o			o		o				o	1,2,4,3
Wilbert Morales	Tres Cruces 25vrs Lago 1c Sur	2			o						o		o				o			o		o				o	2,1,3,4
Ines Barberena	Costado Oeste del Colegio 75vrs Lago	3	6		o						o		o				o			o		o				o	2,1,3,4
Argentina Victor	Contiguo a pulperia "Los Managua"	2	2		o						o		o				o	o				o				o	1,2,3,4
Maria Bonilla	Colegio 75vrs Sur	7	3		o						o		o				o				o	o				o	3,1,2,4
Maria Marenco	Detras de "Las Tres Cruces"	2	3		o						o		o				o			o		o				o	1,2,3,4
Maria Arana	Costado Este del Colegio	9	3	o			o				o		o				o			o		o			o		3,1,2,4
Telma Fernandez	Detras de la escuela	4	5	o		o					o		o				o			o		o			o		3,1,4,2
Esperanza Arana	Detras del Colegio	1	3	o		o					o		o				o			o		o				o	1,2,4,3
Maria Obando	Detras del Colegio	3	3	o		o					o		o				o			o		o				o	2,1,4,3
Carlos Gonzales	Costado Este de la escuela	2	2	o		o						o					o			o		o				o	4,1,3,2
Consuelo Quino	Fte. Costado Norte de la escuela	x	2	o		o					o		o				o	o				o				o	3,1,4,2
Marvelly Ruedas	Costado Norte de la escuela	3		o		o					o		o				o			o		o			o		2,1,3,4
Reyna Urbina	Rastro viejo 200vrs Sur	7	7	o		o					o		o				o		o			o				o	4,3,2,1
Concepcion Silva	Rastro viejo 150vrs Sur	5	5	o		o					o		o				o		o			o				o	4,1,3,2
Blanca	Rastro viejo 300vrs Sur	2		o		o					o		o				o		o			o			o		3,2,4,1
Scarlett Rocha	Rastro viejo 250vrs Lago	2	3	o			o					o					o		o			o			o		2,3,1,4
Rosa Castillo	Rastro viejo 100vrs Sur	7	6	o			o				o		o				o		o			o			o		4,3,1,2
C2 Total																											
	35 Interviewees			28	7	22	5	0	0	1	30	5	30	0	0	0	35	5	9	19	2	32	0	3	12	25	

Name:	Address	Family Members:		Q1																								Q2 Priority Selected
				a							b						c					d			e		
		Adults	Kids	Yes	No	1	2	3	4	5	Yes	No	1	2	3	Yes	No	1	2	3	4	1	2	3	Yes	No	
Nubia Molina	Polvora 2c Sur	8	4	o				o			o		o				o			o		o				o	2,1,3,4
Maria Alvarez	Polvora 2c Sur	3	4	o				o			o		o				o		o			o				o	1,2,3,4
Gloria Rodriguez	Polvora 2c Sur 1/2 Oeste	3		o				o			o		o				o			o		o				o	2,1,4,3
Auxiliadora Portobanco	Polvora 3c sur 1c Este	3	1	o				o			o		o			o						o				o	2,1,3,4
Josefa Hernandez	Polvora 2c Sur	6	3	o				o			o		o			o				o		o				o	2,1,4,3
Manela Ortega	Polvora 2c Sur 1/2c Lago	5	3	o				o			o		o			o						o				o	4,2,1,3
Rosa Bermudez	Polvora 1 1/2c Sur	6	1	o				o			o		o			o						o				o	1,3,2,4
Angelina Rodriguez	Polvora 1 1/2c Sur	2	3	o				o			o		o			o						o				o	2,3,1,4
Auxiliadora Ortega	Pozo de Oro	6	1	o			o				o		o				o			o		o				o	1,2,4,3
Not mentioned	Pozo de Oro	2	1	o				o			o		o				o			o		o				o	3,1,2,4
Yolanda Ruiz	Escuela El Escudo 75vrs Sur	7	8	o		o					o		o				o			o		o				o	1,2,3,4
Josefa Barreros	Escuela El Escudo 50vrs Sur	4	4	o		o					o		o				o			o		o				o	2,1,4,3
Lucrecia Alonso	Escuela El Escudo 1c Sur	1	2	o				o			o		o				o			o		o				o	1,2,3,4
Jesenia Solis	Escuela El Escudo 1/2c Norte	6	2	o			o				o		o				o			o		o				o	2,1,3,4
Luis Rocha	3rs entrada Rpto. El Escudo	7		o			o				o		o				o			o		o				o	3,1,4,2
Karla Hernandez	Escuela El Escudo 1c Lago	2	2	o			o				o		o				o			o		o			o		3,1,2,4
Isabel Morales	Escuela El Escudo 1 1/2c Lago	2	3	o			o				o		o				o			o		o				o	2,1,3,4
Josefa Miranda	3rs entrada 2c Lago	2	4	o			o					o					o			o		o				o	2,1,3,4
Auxiliadora Gutierrez	Escuela El Escudo 1c Lago	6	3	o		o					o		o				o			o		o				o	2,1,3,4
Juana Lara	Escuela El Escudo 1 1/2c Lago	3	3		o						o		o				o			o		o				o	1,2,3,4
Fatima Lara	Escuela El Escudo 1 1/2c Este	4	2	o		o					o		o				o				o	o				o	1,3,4,2
Ricardo Castillo	Fte. pila de agua	2	1	o		o					o		o				o			o		o			o		3,2,4,1
Guillermo Barrera	Fte. costado Oeste de la pila de agua	4	2	o			o				o						o			o		o				o	3,2,1,4
Angela Trana	Contiguo a la pila de agua	5	4	o			o				o		o				o			o		o				o	3,1,4,2
Fabiola Brenez	Fte. a la pila de agua	2	4	o				o			o		o				o			o		o			o		4,2,1,3
Miriam Mendoza	Contiguo a la pila de agua	6	6	o			o					o					o			o		o				o	2,1,3,4
Jose Gabriel	Costado Oeste de pila de agua 1 1/2 Norte	4	3	o		o					o		o				o			o		o				o	3,1,2,4
Marcos Martinez	Pila de agua 2c Oeste	4	6	o		o					o		o				o			o		o				o	3,2,1,4
Silvio Mendez	Porton pila de agua 1 1/2c abajo	3	6	o		o					o		o				o			o		o			o		4,1,3,2
Maria Bolanos	Segundo puente de tabla 2c Sur	4	5	o			o				o		o				o		o			o				o	1,2,4,3
Violeta Caballero	Puente de tabla 1c Sur	3	2	o			o				o		o				o		o			o			o		4,1,2,3
Candida Juron	Puente de tabla 2 1/2c Sur	6	12	o				o			o		o				o			o		o				o	4,1,3,2
Ana Arguello	Del puente de madera 1/2c Sur	4	4	o			o				o		o				o		o			o				o	1,2,4,3
Carlos Torrez	Rpto. Rosario, puente de tabla 1/2c Sur	6	4	o			o				o		o				o			o		o				o	1,2,3,4
Maria Sandino	Contiguo a Escuela El Escudo	6	4	o		o					o		o				o			o		o				o	3,1,2,4
Antonia Dias	Rpto. El Escudo, 2da entrada 1c Lago	2	2	o			o				o		o				o			o		o				o	3,1,2,4
Moises Perez	Rpto. El Escudo, 2da entrada 75vrs Lago	3		o			o				o		o				o			o		o				o	3,1,2,4
Oscar Rodriguez	1rs entrada El Escudo	4	3	o			o				o		o				o			o		o				o	3,1,2,4
Alberto Duarte	1rs entrada El Escudo 1/2c Sur	8		o			o				o		o				o			o		o				o	2,1,4,3
Omar Trujillo	1rs entrada El Escudo 1/2c Sur	5		o			o				o		o				o			o		o				o	1,3,2,4
Pablo Gutierrez	1rs entrada El Escudo 25vrs Sur	5	10	o		o					o		o				o	o			o	o				o	4,2,3,1
Elias Garcia	1rs entrada El Escudo 75vrs Sur	3		o			o				o		o				o				o	o				o	2,1,3,4
Alfredo Morales	Cementerio 1c Sur	2		o		o					o		o				o		o			o				o	2,1,3,4
Ana Cores	1rs entrada El Escudo 2c Sur	2	4	o			o				o		o				o			o		o				o	2,3,1,4
Blanca Alvarez	Del puente de tabla 1 1/2c Sur	10	11	o		o					o		o				o			o		o				o	1,2,3,4
Karla Lopez	1rs entrada Rpto. El Escudo 2c Sur	3		o			o				o		o				o				o	o			o		4,1,2,3
Juan Campos	Puente de madera 1 1/2c Sur	2	5	o		o					o		o				o		o			o				o	2,3,4,1
Marianela Ulloa	Puente de madera 175vrs Sur	8	2	o				o			o		o				o		o			o			o		4,3,2,1
Indiana Perez	Puente de madera 100vrs Sur	1		o		o					o		o				o			o		o				o	4,1,3,2
Marta Sanchez	Puente de madera 150vrs Sur	2	2	o			o				o		o				o			o		o				o	2,1,3,4
Nelly Arguello	Puente de madera 100vrs Sur	7		o			o				o		o				o			o		o				o	3,1,4,2
Marina Bustos	Pila de agua 2c Oeste	1	2	o		o					o		o				o			o		o				o	2,1,4,3
Karla Chavez	Pila de agua 1c Oeste	6	1	o			o				o		o				o			o		o			o		3,2,4,1
Nora Centeno	Donde fue la PV 2c Oeste 1/2c Sur	5	2	o			o				o		o				o			o		o				o	

Rosa Gonzalez	Donde fue el comando 2c Oeste 1/2c Sur	4	1	o	...	...	o	...	...	...	o	...	o	...	...	...	o	...	...	o	...	o	...	...	o	...	3, 2, 4, 1
Ramon Montana	Pila de agua 1c Oeste 1c Sur	4	2	o	...	o	...	...	...	...	o	...	o	...	...	...	o	...	...	o	...	o	...	...	...	o	2, 1, 3, 4
Marta Calderon	Pila de agua 1 1/2 Oeste 2c Sur	2	4	o	...	o	...	...	...	...	o	...	o	...	...	...	o	...	...	o	...	o	...	...	o	...	2, 3, 4, 1
Marta Arcia	Pte. costado oeste de pila de agua	3	3	o	...	...	o	...	...	...	o	...	o	...	...	...	o	o	...	...	...	o	...	...	...	o	1, 2, 4, 3
Ana Lopez	Rpto. El Escudo 3ra entrada	2	2	o	...	o	...	...	...	...	o	...	o	...	...	...	o	...	...	o	...	o	...	...	o	...	2, 3, 4, 1
Julia Prado	3ra entrada Rpto. El Escudo	3	2	o	...	...	o	...	...	...	o	...	o	...	...	...	o	...	...	o	...	o	...	...	...	o	1, 2, 4, 3
Janette Duarte	3ra entrada Rpto. El Escudo 35vrs Lago	4	8	o	...	...	o	...	...	...	o	...	o	...	...	...	o	...	...	o	...	o	...	...	...	o	2, 4, 3, 1
Salvadora Baltodano	3ra entrada Rpto. El Escudo 35vrs Lago 15 vrs est	6	10	o	...	...	o	...	...	...	o	...	o	...	...	...	o	o	...	...	...	o	...	...	...	o	2, 1, 3, 4
Hazell Duarte	3ra entrada Rpto. El Escudo 1c Este 1/2c Sur	4	1	o	...	...	o	...	...	...	o	...	o	...	...	...	o	...	...	o	...	o	...	...	...	o	4, 1, 3, 2
Juan Gutierrez	3ra entrada Rpto. El Escudo 1c Lago 1c Sur	4	4	o	...	...	...	o	...	...	o	...	o	...	...	...	o	o	...	...	...	o	...	...	...	o	4, 3, 1, 2
Claudia Espinoza	3ra entrada Rpto. El Escudo 1c Lago	3	3	o	...	...	o	...	...	...	o	...	o	...	...	...	o	...	...	o	...	o	...	...	o	...	2, 1, 4, 3
C3 Total																											
	63 Interviewees	...	...	*64*	*1*	*18*	*32*	*14*	*0*	*0*	*63*	*2*	*63*	*0*	*0*	*3*	*62*	*4*	*10*	*46*	*2*	*65*	*0*	*0*	*55*	*12*	...

Name:	Address	Family Members:		Q1																						Q2
				a							b					c					d			e		Priority Selected
		Adults	Kids	Yes	No	1	2	3	4	5	Yes	No	1	2	3	Yes	No	1	2	3	4	1	2	3	Yes	No	
										C7																	
Maria Castillo	Escuela El Madrono 3c Norte	2	4	...	o	...	...	...	...	...	o	...	o	...	...	...	o	...	...	...	o	o	...	...	o	...	1, 2, 4, 3
Elsa Marenco	Donde fue la hacienda 2c Lago	5	2	...	o	...	...	...	...	...	o	...	o	...	...	...	o	...	...	o	...	o	...	...	...	o	3, 4, 2, 1
Alvin Castillo	Tanque de agua 300m Lago 70m Norte	2	...	...	o	...	...	...	...	...	o	...	o	...	...	...	o	...	...	...	o	o	...	...	o	...	2, 1, 3, 4
Auxiliadora Morales	Tanque 50vrs Lago 250vrs Norte	2	1	...	o	...	...	...	...	...	o	...	o	...	...	...	o	...	...	o	...	...	...	o	o	...	2, 4, 1, 3
Juna Cabrera	Del tanque 2c Este	11	9	...	o	...	...	...	...	...	o	...	o	...	...	...	o	...	...	o	...	o	...	...	o	...	1, 2, 4, 3
Lesbia Muniz	De la casa Hda. 2c Sur	2	4	...	o	...	...	...	...	...	o	...	o	...	...	...	o	...	...	o	...	o	...	...	o	...	2, 1, 3, 4
Teresa Arias	De la casa Hda. 2 1/2c Sur 2c Este	4	6	...	o	...	...	...	...	...	o	...	o	...	...	...	o	...	...	o	...	o	...	...	...	o	1, 4, 3, 2
Jose Gonzalez	Frente al costado Sur de la pollera	3	3	...	o	...	...	...	...	...	...	o	...	...	...	...	o	...	...	...	o	...	...	o	o	...	2, 4, 1, 3
Rosa Martinez	Contiguo al centro nuevo	1	7	...	o	...	...	...	...	...	o	...	o	...	...	...	o	...	...	...	o	o	...	...	...	o	3, 2, 1, 4
Narcisa Castillo	Costado Este de la pollera 150vrs Este	2	3	...	o	...	...	...	...	...	o	...	o	...	...	...	o	...	...	...	o	o	...	...	o	...	2, 3, 4, 1
Maribel Ramirez	San Ignacio III etape	2	2	...	o	...	...	...	...	...	o	...	o	...	...	...	o	...	o	...	...	...	...	o	o	...	2, 3, 4, 1
C7 Total																											
	10 Interviewees	...	...	*0*	*10*	*0*	*0*	*0*	*0*	*0*	*9*	*1*	*9*	*0*	*0*	*0*	*10*	*0*	*0*	*5*	*5*	*10*	*0*	*0*	*6*	*4*	...
Grand Total																											
	155 Interviewees	...	...	*127*	*28*	*46*	*58*	*22*	*6*	*1*	*143*	*12*	*143*	*0*	*0*	*3*	*15*	*11*	*26*	*97*	*18*	*149*	*0*	*6*	*89*	*66*	...

Table 6-4: Questionnaire Survey for Beautify Granada Campaign (Before)

LOCATION & NAME	QUESTIONNAIRE	Q-1		Q-2						Q-3							
				Refuse		P. Water		W. Water		a		b		c		d	
	ADDRESS	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO
Barrio Bartolome																	
1. Blanca Sandino	Chico Tripa 1c Norte	1		1			1	1			1	1		1			1
2. Lillian Chavarria	Chico Tripa 2c Norte	1		1			1	1			1	1		1		1	
3. Gloria Diaz	Chico Tripa 3c Norte	1		1		1		1			1	1		1			1
4. Leotilda Reyes Lider	Chico Tripa 3c N.1/2 lago #78	1		1			1	1			1	1		1		1	
5. Reyna Aleman	Chico Tripa 2c Oeste	1		1			1		1		1	1		1		1	
6. Martha Espinoza	Chico Tripa 2 1/2c Norte	1			1		1	1		1		1		1			1
7. Miriam Gladys	Chico Tripa 5c Norte	1			1	1		1			1	1		1		1	
8. Adilia Mejia	Inta 4c N., 1/2c lago	1			1		1	1			1	1		1		1	
9. Martha Blanco	Nacional Comercio 2 1/2c N	1			1		1	1			1	1		1		1	
10. Maria Brenes	Chico Tripa 3 1/2c Norte	1		1		1		1			1	1		1		1	
Sub -Total		10	0	6	4	3	7	9	1	1	9	10	0	10	0	7	3
Villa Sultana / Reparto Pancasan		Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
1. Luisa Obando	Escuela 1c. oeste, 1/2c Sur	1		1			1	1		1		1		1		1	
2. Gloria Campo	biblioteca 75vrs lago(V.Sult)	1		1		1		1		1		1		1		1	
3. Maritza Lizamo	Centro de Salud 1c Norte	1		1		1		1			1	1		1		1	
4. Socorro de Garay	Shell Guapinol 8c Norte	1		1		1		1			1	1		1		1	
5. Sebastian Zeledon	Shell Guapinol 9c Norte 1/2 abajo	1		1		1		1			1	1		1		1	
6. Mara Garcia	Igl. Hermanita Socorro 2c Norte	1		1			1		1		1	1		1		1	
7. Mabel Lopez	Reparto Pancasan #32	1			1	1		1		1		1		1		1	
8. Alexandra Hernandez	Shell Guapinol 8c N 1 1/2 lago	1		1			1	1			1	1		1		1	
9. Rosa Gonzalez	Hermita Socorro 1/2 N (Dom)	1		1			1	1			1	1		1		1	
Sub -Total		9	0	8	1	5	4	8	1	3	6	9	0	9	0	9	0
Campo de Aterrizaje		Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
1. Cesar Chamorro Lider	Hospital Cocibolca 1 1/2 Sur	1		1			1	1			1	1		1		1	
2. Elizabeth Gonzalez	Esc. NU 2 1/2c al Oeste	1		1			1	1			1	1		1		1	

3. Eddy A. Chamorro	Frente a Escuela Nac. Unida	1		1			1	1			1	1		1		1	
4. Ana Julia Jimenez	Tanque Sn. Marta 3c. abajo	1		1			1	1			1	1		1		1	
5. Juan Bosco Martinez	Km 45 1c. Sur, 1/2c. al Oeste	1		1		1		1		1		1		1		1	
6. Francisco Lopez	De los tanques 2c. al Oeste	1			1		1	1		1		1		1		1	
7. Pabon Martinez	Esc. NU 2c. oeste, 1c. Norte	1		1			1	1		1		1		1		1	
8. Gerardo Jose Morales	Iglesia El Capullo 1c al lago	1			1		1	1			1	1		1		1	
9. Orlando Chavarria	Km 45 2c sur, 1/2 al Oeste	1			1	1		1			1	1		1		1	
10. Urania Medina	Parada Managua 4c.al Oeste	1			1		1	1			1	1		1		1	
11. Sonia Chavarria	Emergencias 7c. al Oeste	1			1		1	1			1	1		1		1	
12. Nubia Del Castillo	Emerg 3c. oeste, 11/2c Este	1		1			1	1			1	1		1		1	
13. Mariela Varela	Igl.Fatima 1c. Sur	1			1		1	1		1		1		1		1	
14. Olga Maria Flores	Frente al Campo de Aterrizaje	1		1			1	1			1	1		1		1	
15. (N.N.)	Bus Managua 5c. Oeste 1/2 Norte	1		1		1		1			1	1		1		1	
Sub -Total		**15**	**0**	**9**	**6**	**3**	**12**	**15**	**0**	**4**	**11**	**15**	**0**	**15**	**0**	**15**	**0**

Reparto El Rosario / El Escudo		**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**
1. Olivia Castro	Bar Escondido 2c. Sur	1		1			1	1			1	1		1		1	
2. Luis Manuel Ortega	Iglesia El carmen 75vr Oeste	1		1			1	1			1	1		1			1
3. Justina Caldera	Ult. calle 2c.sur,1/2c. Oeste	1		1			1	1		1		1		1		1	
4. Flor Ma. Robelo	De Escuela Mixta 1c. al lago	1		1			1	1			1	1		1		1	
5. Maria Isabel	3 entrada Escudo2 1/2 lago	1		1			1	1			1	1		1		1	
6. Alba Rosa Solis	2 entrada Es. 2c lago 1/2 Sur	1		1			1	1			1	1		1		1	
7. Eduardo Jerez	Aserrio Tiburcio 20vrs. Este	1		1		1		1		1		1		1		1	
8. Maria Ortega	3 ent Escudo 3c lago 1/2 Sur	1		1			1	1		1		1		1			1
9. Josefa Herrera	Escuela 25 vrs. Oeste	1		1		1		1			1	1		1			1
10. Pedro Rodriguez	3 entrada Escudo	1		1			1	1			1	1		1			1
11. Leonel Chamorro	3 entrada 1/2 lago 1/2 Sur	1		1		1		1			1	1		1		1	
12. Maria Ramos	3 ent Escudo 1c lago 1c Sur	1		1			1	1			1	1		1		1	
13. Jeronimo Zuniga	Pila Agua 100vrs. Oeste	1		1			1	1			1	1		1		1	
14. Laura Sandino	Contiguoa a la Escuela	1		1			1	1		1		1		1		1	
15. Josefa Espinoza	Escuela El Escudo	1		1		1		1			1	1		1		1	
16. Cesar Quezada	3 c. de Esc. Mixta 10vrs Oeste	1		1		1		1			1	1		1		1	
Sub -Total		**16**	**0**	**16**	**0**	**5**	**11**	**16**	**0**	**4**	**12**	**16**	**0**	**16**	**0**	**12**	**4**

Reparto Silvio Ruiz		Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
1. Isabel Urbina	Molino la 2 entrada	1		1			1		1	1		1		1		1	
2. Thelma Flores	Final de Sn Lucia	1		1		1		1			1	1		1		1	
3. Zoila Herrera	Frente a Jalea Callejas	1		1			1	1			1	1		1		1	
4. Victor Lopez	Frente Hielera Cristal	1		1			1	1			1	1		1		1	
5. Miguel Garay	Final calle Sn. Lucia	1		1			1	1			1	1		1		1	
6. Maria Lopez	Frente Fabrica Julia Callejas	1		1			1	1			1	1		1		1	
7. Mayela Torrez	Final Sn.Lucia 2c. Norte	1		1			1	1			1	1		1		1	
8. Carlos Gomez	Final Sn.Lucia 100mts. lago	1		1			1	1		1		1		1		1	
9. Francisco Diaz	Contiguo a Callejas	1		1			1	1		1		1		1		1	
10. Maria Meneces	Frente a la Quinta Jalea C.	1			1		1	1			1	1		1		1	
11. Julia Ruiz	Final de calle Sn.Lucia 25v L	1		1			1	1			1	1		1		1	
Sub -Total		**11**	**0**	**10**	**1**	**1**	**10**	**10**	**1**	**3**	**8**	**11**	**0**	**11**	**0**	**11**	**0**

Central Area		Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
1. Socorro Mejia	Calzado Portobanco	1		1			1		1		1	1		1		1	
2. Luis Ortiz	Teatro Karawala	1		1			1		1	1		1		1		1	
3. Julia Rodriguez	Cuerpo Bombero 1c.O.25vr S	1		1			1	1			1	1		1		1	
4. Andres Maldonado	Mercado Municipal 1/2c N.	1		1			1		1		1	1		1		1	
5. Gioconda Baltodano	Centro Comercial Portal	1		1			1		1		1	1		1		1	
6. Lucia Ruiz	BANCENTRO 1/2c lago	1		1			1		1		1	1		1		1	
7. Esther Paniagua	V.Sandino calle Principal G. A	1		1			1	1			1	1		1		1	
8. Bertha Vega	BANIC 1/2c. al Sur	1		1			1	1			1	1		1		1	
9. Jorge Cabezas	Iglesia Merced 75vrs. Este	1		1			1		1		1	1		1		1	
Sub -Total		**9**	**0**	**9**	**0**	**0**	**9**	**3**	**6**	**1**	**8**	**9**	**0**	**9**	**0**	**9**	**0**

Barrio El Bolson / Las Camelias		Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
1. Armando Ruiz	2 PortonCementerio 175vrs N	1		1			1	1			1	1		1		1	
2. Ramiro Gonzalez Lider	Bar limonsito 4 casa arroyo	1		1			1	1		1		1		1		1	
3. Ramon Garcia	Trillo Sn Alfonso 1c N 25vrs O	1		1			1	1			1	1		1		1	
4. Maricela Rivas	Bar Limonsito 25mt Sur, 25mt O	1		1		1		1			1	1		1		1	
5. Catalina Gomez	Trillo Sn Alfonso 1/2c. N	1		1			1	1		1		1		1		1	
6. Silvia Mora	Polvora 2c Sur, 1c Este	1		1		1		1			1	1		1		1	
7. Carlos Gomez	Polvora 4c Sur	1		1			1	1		1		1		1		1	

8. Luis Montiel	Trillo Sn Alfonso 1/2c N 1c O	1		1			1	1			1	1		1		1	
9. Rosa Mendez	Trillo Sn Alfonso 1/2c Norte	1		1			1	1			1	1		1		1	
10. Maria Isabel Centeno	Trillo Sn Alfonso 1c N, 1c O	1		1			1	1		1		1		1		1	
Sub -Total		**10**	**0**	**10**	**0**	**2**	**8**	**10**	**0**	**4**	**6**	**10**	**0**	**10**	**0**	**10**	**0**
Reparto Adelita I		**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**
1. Aaron Alvarez	Detras del Col. Hermanos	1		1			1	1			1	1		1		1	
2. Jose Nunez	Costado Oeste Col. 80m Sur	1		1			1	1			1	1		1		1	
3. Maria Luisa Arana	Detras del Colegio A.C.S.	1		1			1	1			1	1		1		1	
4. Antonia Ruiz	Del canal al chasco	1		1			1	1			1	1		1		1	
5. Anita Marenco	De la Escuela hacia el Sur	1		1			1	1			1	1		1		1	
6. Julieta Arana	Costado O. de 3 cruces (pul.)	1		1		1		1		1		1		1		1	
7. Tomaza Zambrano	Colegio 20mts al Sur	1		1			1	1			1	1		1		1	
8. Consuelo de Quino	Costado Norte de la Escuela	1		1			1	1			1	1		1		1	
9. Claudia Quiroz	Escuela 10vrs al Este	1		1		1		1			1	1		1		1	
10. Argentina Riveras	Escuela Lorenzo Guerrero	1		1			1	1			1	1		1		1	
11. Jesica Silva	Rastro Viejo 150vrs al Sur	1		1			1	1		1		1		1		1	
12. Juan Baltodano	Esquina Escuela 2c. Norte	1		1			1	1		1		1		1		1	
13. Rosario Nicoya	Escuela 1 1/2c. Sur	1		1			1	1			1	1		1		1	
14. Antonia Gutierrez	Colegio 1 1/2c al Sur	1		1			1	1			1	1		1		1	
15. Maritza Castillo	Rastro vj 150vrs carrt. asesas	1		1			1	1		1		1		1		1	
16. Gloria Naras	Colonia Mombacho #54	1		1			1	1			1	1		1		1	
17. Carol Flores	De la entrada 150vrs Oeste	1		1		1		1		1		1		1		1	
18. David Palacios	Frente a Testigo Jehova (pul.)	1		1			1	1			1	1		1		1	
19. Esperanza Arana	Adelita 1	1		1			1	1			1	1		1		1	
20. Juana Zuniga	Costado O.Colegio 25vrs. Sur	1		1			1	1			1	1		1		1	
21. Socorro Ramos	Costado Sur Escuela	1		1			1	1			1	1		1		1	
22. Candida Rosa	Cost. Sur escuela 1/2c. Sur	1		1			1	1		1		1		1		1	
Sub -Total		**22**	**0**	**22**	**0**	**3**	**19**	**22**	**0**	**6**	**16**	**22**	**0**	**22**	**0**	**22**	**0**
Reparto Eddy Ruiz III		**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**
1. Maria Centeno	Rest.Colina 2 1/2c.lago 20v.N	1		1			1	1		1		1		1		1	
2. Ruth Hernandez	Estacion 1c. lago. 2c. Norte	1		1			1	1		1		1		1		1	
3. Carla Jarquin	Molino 1c. Norte, 1/2c lago	1		1			1	1			1	1		1		1	

4. Carmen Sequeria lider	Molina 3c. hacia el arroyo	1		1			1	1			1	1		1		1	
5. Johana Jiron	Rest.Colina 2c. Norte	1		1			1	1			1	1		1		1	
6. Armando Gonzalez	Rest.Colina 2c al Norte	1		1			1	1			1	1		1		1	
7. Maritza Marenco	Punte 1 1/2c lago, 1/2c. N.	1		1			1	1		1		1		1		1	
8. Noel Collado	Rest.Colina 1c. Oeste	1		1			1	1			1	1		1		1	
9. Maritza Aguilas	Billar 3c. Norte, 2c. lago	1		1			1	1		1		1		1		1	
10. Esmelda Martinez	Bilbao 2c. lago	1		1			1	1		1		1		1			1
11. Arlen Padilla	Rest.Colina 4c. lago	1		1			1	1			1	1		1		1	
12. Seneila Morales	Rest.Colina 3c.L, 1c.N, 1/2cL	1		1			1	1			1	1		1		1	
13. Julia Martinez	Rest.Colina 2c. lago, 2c. N	1		1			1	1			1	1		1		1	
14. Maria Carmona	Molino 1c. Norte	1		1			1	1			1	1		1		1	
15. Mercedes Mangalo	Billares 1c. Norte	1		1			1	1			1	1		1		1	
16. Sandra Picado	Sabaneta III Etapa	1		1			1	1		1		1		1		1	
17. Deyanira Marin	Rest.Colina 3c. lago	1		1		1		1		1		1		1		1	
18. Manuel Ruiz(bloquera)	Billares 2c. Norte, 1c. Este	1		1			1	1			1	1		1		1	
19. Maria del Socorro	Contiguo a Bilbao	1		1			1	1			1	1		1		1	
20. Julio Duran	Rest.Colina 1 1/2c. lago	1		1			1	1		1		1		1		1	
Sub -Total		**20**	**0**	**20**	**0**	**1**	**19**	**20**	**0**	**8**	**12**	**20**	**0**	**20**	**0**	**19**	**1**

La Talpujera / La Sirena / El Resbalon		Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
1. Maria Garcia	Puente Palmira 1 1/2c. lago	1		1			1	1			1	1		1		1	
2. Miguel Suarez	Detras de la Policia	1		1			1	1		1		1		1		1	
3. Claudia Ayala	Autolavado Amy 2c. lago	1		1			1	1			1	1		1		1	
4. Mario Flores	Panaderia 1c. oeste, 1c. Sur	1		1			1	1			1	1		1		1	
5. Brigido Ondos	Panaderia 1/2c. lago, 1/2 Sur	1		1			1	1			1	1		1		1	
6. Dominga Bendana	Hotel Granada 1/2c.lago,1c S	1		1			1	1			1	1		1		1	
7. Evelyn Vallejos	Frente a Bilbao	1		1			1	1			1	1		1		1	
8. Juan Orozca	Sn. Juan del Sur	1		1			1	1			1	1		1		1	
9. Samuel Morales	Calle Sn. Juan del Sur	1		1			1	1			1	1		1		1	
10. Francisco Sequeria		1		1			1	1			1	1		1		1	
11. Joaquin Orozco	Reparto Sn. Ana	1		1			1	1		1		1		1		1	
12. Carmen	de la Dulce 1c. Sur	1		1			1	1			1	1		1		1	
13. Vilma Gutierrez	Final de la Loma de Mico	1		1		1		1			1	1		1		1	
14. Manuel Chavez	Detras de donde las dulces	1		1			1	1		1		1		1		1	

15. Lucia Garcia	Mercado 5c. lago,1c. Sur	1		1			1	1			1	1		1		1	
16. Mercedes Hernandez	Final de calle Quiscoma	1		1		1		1			1	1		1		1	
17. Francisco Sanchez	Mercado 5c. lago	1		1		1		1			1	1		1		1	
18. Grogania Sanchez	de donde las dulce 1 1/2c. L	1		1		1		1			1	1		1		1	
19. Mercedes Barberena	Entrada 25vrs. Sur	1		1			1	1			1	1		1		1	
20. Graciela Rocha	de donde las dulce 20vrs E	1		1			1	1			1	1		1		1	
21. Petrana Sambrano	Final Loma del Mico	1		1			1	1			1	1		1		1	
22. Alejandro Munoz	Gaviota 30vrs. Sur	1			1		1	1		1		1		1		1	
23. Emelyn Rocha	Gaviota 1c. S. 25vrs. lago	1			1		1	1			1	1		1		1	
24. Maria A. Arana	Gaviota 75vrs. Sur	1		1			1	1			1	1		1		1	
25. Marlon Sanchez	Gaviota 1/2 c. Sur	1		1			1	1		1		1		1		1	
26. Esperanza Centeno	Igles. 1c. Norte lago	1		1			1	1			1	1		1		1	
27. Maria L. Robledo	Igles. 1c. Norte	1			1		1	1			1	1		1		1	
28. Juana Gonzalez	Igles. 1c. N, 1/2c. lago	1		1			1	1			1	1		1		1	
Sub -Total		**28**	**0**	**25**	**3**	**4**	**24**	**28**	**0**	**5**	**23**	**28**	**0**	**28**	**0**	**28**	**0**
Pilot Project Areas and Surroundings		**80**	**0**	**77**	**3**	**10**	**70**	**80**	**0**	**23**	**57**	**80**	**0**	**80**	**0**	**79**	**1**
Other Areas of the City		**70**	**0**	**58**	**12**	**17**	**53**	**61**	**9**	**16**	**54**	**70**	**0**	**70**	**0**	**63**	**7**
		Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
TOTAL INTERVIEWEES		**150**	**0**	**135**	**15**	**27**	**123**	**141**	**9**	**39**	**111**	**150**	**0**	**150**	**0**	**142**	**8**
PERCENTAGE (%)		**100**	**0.0**	**90.0**	**10.0**	**18.0**	**82.0**	**94.0**	**6.0**	**26.0**	**74.0**	**100**	**0.0**	**100**	**0.0**	**94.7**	**5.3**

Note : Questionnaire survey (before) carried out on June 16th and 17th, 1997.

Table 6-5: Questionnaire Survey for Beautify Granada Campaign (After)

LOCATION & NAME	QUESTIONNAIRE	Q-1		Q-2						Q-3											
				Refuse		P. Water		W. Water		a		b		c		d		e		f	
	ADDRESS	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO
Barrio Bartolome																					
1. Blanca Sandino	Chico Tripa 1c Norte	1			1		1	1			1	1		1			1		1		0
2. Lillian Chavarria	Chico Tripa 2c Norte	1		1			1		1		1	1		1		1		1		1	
3. Gloria Diaz	Chico Tripa 3c Norte	1		1			1	1			1	1		1		1		1		1	
4. Isirys Molina Reyes	Chico Tripa 3c N,1/2 lago	1		1			1	1			1	1		1		1		1		1	
5. Francisca Flores	Nacional Comercio 4c.N	1		1			1	1			1	1		1		1		1		1	
6. Jairo Cortez	Chico Tripa 2 1/2c. Norte	1		1			1	1		1		1		1		1			1		0
7. Miriam Gladys	Chico Tripa 5c Norte	1		1			1	1			1	1		1		1			1		0
8. Adilia Mejia	Inta 4c N., 1/2c lago	1		1			1	1			1	1		1		1		1		1	
9. Martha Blanco	Nacional Comercio 2 1/2c N	1		1			1	1		1		1		1		1		1		1	
10. Maria Brenes	Chico Tripa 3 1/2c Norte	1		1			1	1		1		1		1		1		1		1	
Sub - Total		10	0	9	1	0	10	9	1	3	7	10	0	10	0	9	1	7	3	7	0
Villa Sultana / Pancasan		Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
1. Luisa Obando	Escuela 1c. Oeste, 1/2c Sur	1		1			1	1		1		1		1		1		1		1	
2. Martha Mejia Perez	Fte. Farmacia Espanola	1		1			1	1			1	1		1		1			1		0
3. Nidia Yojana	Frente a Centro Salud(Panc)	1		1			1	1			1	1		1		1		1		1	
4. Emiy Garay	Shell Guapinol 8c Norte	1		1		1		1			1	1		1		1		1		1	
5. Theodora Aleman	Shell Guapinol 9c Norte	1			1		1	1			1	1		1		1		1		1	
6. Mara Garcia	Igl. Hermanita Socorro 2c N	1			1		1	1			1	1		1		1		1		1	
7. Blanca Pastran	Shell Guapinol 9 1/2c Norte	1			1		1	1			1	1		1			1	1		1	
8. Alexandra Hernandez	Shell Guapinol 8c N	1		1			1	1			1	1		1		1			1		0
9. Rosa Gonzalez	Hermita Socorro 1/2 N (Dom)	1		1			1	1		1		1		1		1		1		1	
Sub - Total		9	0	6	3	1	8	9	0	2	7	9	0	9	0	8	1	7	2	7	0
Campo de Aterrizaje		Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
1. Jannete Chamorro	Hospital Cocibolca 1 1/2 S	1		1			1	1		1		1		1		1		1		1	
2. Elizabeth Gonzalez	Esc. NU 2 1/2c al Oeste	1		1			1	1			1	1		1		1		1		1	
3. Nela Lopez	Tanque 1 1/2c. Oeste	1			1		1	1		1		1		1		1			1		0

4. Agusto Ocampo	Frente a Escuela NU.	1		1			1	1		1		1		1		1			1		0
5. Juan Bosco Martinez	Km 45 1c. sur, 1/2c. al O	1			1		1	1		1		1		1		1		1		1	
6. Mireya Cordero	Hospital Privado 1c. Sur		1		1		1		1	1		1			1		1	1		1	
7. Elton Jose Munoz	Esc. NU 2c. abajo	1		1			1	1		1		1		1		1			1		0
8. Maria Elena	Esc. NU 2c. Oeste 1c.Norte	1		1			1	1			1	1		1		1		1		1	
9. Orlando Chavarria	Km 45 2c Sur. 1/2 al Oeste	1			1		1	1		1		1		1		1		1		1	
10. Rayan Gutierrez	Km 45 1c. Sur 1/2c. Oeste	1		1			1	1		1		1		1		1		1		1	
11. Jefferson Lombi	Emergencias 7c. al Oeste	1		1			1	1			1	1		1		1		1		1	
12. Rosaibel Selva	Tanques 1 1/2c. Oeste	1			1		1	1		1		1		1		1		1		1	
13. Mariela Varela	Igl.Fatima 1c. Sur	1		1			1	1			1	1		1		1			1		0
14. Jaime Cano	Hosp. Cocibolca 2c. S 2c.O	1			1	1		1		1		1		1		1		1		1	
15. Rogelio Martinez	Bus Managua 5c. O 1/2 N	1			1		1	1			1	1		1		1		1		1	
Sub -Total		**14**	**1**	**9**	**7**	**1**	**14**	**14**	**1**	**10**	**6**	**15**	**0**	**14**	**1**	**14**	**1**	**11**	**4**	**11**	**0**
Reparto El Rosario / El Escudo		**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**
1. Maria Flores	Frente Pila de Agua	1		1			1	1			1	1		1		1			1		0
2. Luis Manuel Ortega	Iglesia El carmen 75vr O	1		1			1	1		1		1		1		1		1		1	
3. Silvia Trana	Frente a Pila de Agua	1		1			1	1			1	1		1		1		1		1	
4. Martha Marcie	Frente a Pila de Agua	1		1			1	1			1	1		1		1		1		1	
5. Ana Maritza Costa	3 entrada Escudo 2 1/2 lago	1			1		1		1	1		1		1		1		1		1	
6. Agustin Tellez	Contiguo a la Pila de Agua	1		1			1	1			1	1		1		1			1		0
7. Jerasmo Blandon	Aserrio Tiburcio 20vrs. E	1			1		1		1	1		1		1		1		1		1	
8. Maria Hernan	Cementerio 1cLago 1/2c Sur	1			1		1	1			1	1		1		1		1		1	
9. Josefa Herrera	Escuela 25 vrs Oeste	1		1			1	1		1		1		1		1		1		1	
10. Pedro Rodriguez	3 entrada Escudo	1		1			1	1			1	1		1		1		1		1	
11. Mercedes Barrera	Costado Oeste Pila de Agua	1		1			1	1		1		1		1		1		1		1	
12. Auxiliadora Ramirez	De la Pila 2c. Oeste	1		1			1	1		1		1		1		1		1		1	
13. Leticia Solis	2 entrada 2c.Lago 1/2c.Sur	1		1			1		1	1		1		1		1		1		1	
14. Elva Ocon	Escuela 1/2c. lago	1		1		1		1		1		1		1		1		1		1	
15. Violeta Caballero	Del puente 1c. Sur	1		1			1	1		1		1		1		1			1		0
16. Salvadora Baltodano	3 entrada 1c. lago	1		1			1	1		1		1		1		1			1		0
Sub -Total		**16**	**0**	**13**	**3**	**1**	**15**	**13**	**3**	**10**	**6**	**16**	**0**	**16**	**0**	**16**	**0**	**12**	**4**	**12**	**0**
Reparto Silvio Ruiz		**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**

1. Mario Fernandez	Frente Hielera Cristal	1		1			1	1			1	1		1		1			1		0
2. Amalia del Socorro	Frente Qt. Jalea Callejas	1			1		1	1			1	1		1		1		1		1	
3. Ricardo Mendoza	Final calle Sn. Lucia	1		1			1	1			1	1		1		1			1	1	
4. Yesica Martinez	Final Sn. Lucia	1		1			1	1			1	1		1		1		1		1	
5. Mario Lopez	Frente Hielera Cristal		1		1		1		1		1	1		1		1			1		0
6. Carlos Gomez	Final Sn.Lucia 100mt. lago	1			1		1	1		1		1		1		1		1		1	
7. Miguel Garay	Final calle Sn. Lucia	1		1			1	1			1	1		1		1		1		1	
8. Ramon Antonio Miranda	Final calle Santa Lucia	1		1			1	1			1	1		1		1			1		0
9. Amelia Meneces	Frente Qt. Jalea Callejas		1		1		1		1	1		1		1		1		1		1	
10. Paula Montiel	Frente Hielera Cristal	1		1			1	1		1		1		1		1		1		1	
Sub-Total		**9**	**2**	**6**	**4**	**0**	**10**	**8**	**2**	**3**	**7**	**10**	**0**	**10**	**0**	**10**	**0**	**6**	**4**	**7**	**0**
Central Area		Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
1. Ramon Lopez	Calle Atravezada	1		1			1	1			1	1		1		1		1		1	
2. Mario Palma	Teatro Karawala	1			1		1	1			1	1		1		1			1		0
3. Jose Jarquin	Billar Gaba	1		1			1	1			1	1		1		1		1		1	
4. Lucis Mena	POPS	1			1		1	1			1	1		1		1		1		1	
5. Noel Sambrano	Ferreteria Datisa	1			1		1	1			1	1		1		1		1		1	
6. Andres Maldonado	Cafetin Sagitario	1		1			1		1		1	1		1		1		1		1	
7. Maria Montiel	Cpo. bomberos 1c. O		1		1		1		1		1	1		1		1			1		0
8. Socorro Mejia	Calzado Portobanco		1		1		1		1	1		1		1			1	1		1	
9. Gerardo Ortega	La Curacao	1		1			1		1	1		1		1		1		1		1	
10. Martha Parrales	Edificio Karawala	1		1			1		1		1	1		1		1		1		1	
Sub-Total		**8**	**2**	**6**	**5**	**0**	**10**	**5**	**6**	**2**	**9**	**10**	**0**	**10**	**0**	**9**	**1**	**8**	**2**	**9**	**0**
Barrio El Bolson / Las Camelias		Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
1. Armando Ruiz	2 P. Cementerio 175vrs N	1		1			1	1			1	1		1		1		1		1	
2. Ramiro Gonzalez Lider	Bar Limonsito casa arroyo	1		1			1	1			1	1		1		1		1		1	
3. Gladys Perez	Trillo Sn Alfonso 1c N	1		1			1	1			1	1		1		1			1		0
4. Maricela Rivas	Bar Limonsito 25mt Sur	1		1			1		1	1		1		1		1		1		1	
5. Carlos Gomez	Polvorera 2c. Sur	1		1			1	1		1		1		1		1		1		1	
6. Luis Mena	Trillo 1 1/2c. Norte	1			1		1	1		1		1		1		1		1		1	
7. Luisa Robleto	Polvora 1 1/2c. Sur	1		1			1	1		1		1		1		1			1		0
8. Jose Maria Hernandez	Polvora 2c. Sur	1			1		1	1			1	1		1		1		1		1	

9. Oscar Jose Vasquez	Polvora 2c Sur frente pozo	1			1		1	1			1	1		1		1		1		1	
10. Auxiliadora Espinoza	Trillo Sn Alfonso 1/2c. N	1		1			1	1			1	1		1		1		1		1	
Sub - Total		**10**	**0**	**7**	**3**	**0**	**10**	**9**	**1**	**4**	**6**	**10**	**0**	**10**	**0**	**10**	**0**	**9**	**2**	**8**	**0**
El Resbalon		**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**
1. Jose Martinez	Contiguo a la Iglesia	1			1		1	1			1	1		1		1		1		1	
2. Evelyn Flores	Igle. 1c. Norte 10vr lago	1		1			1	1			1	1		1		1		1		1	
3. Aracely Salazar	Igles. 1c.Norte 1c.lago	1		1			1	1		1		1		1		1		1		1	
4. Esperanza Centeno	Igles. 1c.Norte 1c.lago	1		1			1	1			1	1		1		1		1		1	
5. Maria Ziezar	Frente Iglesia Nazareno	1		1			1	1			1	1		1		1		1		1	
6. Julio Bermudez	Esquina opuesta de INA		1		1		1		1	1		1		1		1		1		1	
7. Claudia Bustamante	Iglesia 1c. Norte	1		1		1		1		1		1		1		1		1		1	
8. Maria Luisa Robleto	Iglesia 1c. Norte	1			1		1	1			1	1		1		1		1		1	
9. Juana Gonzalez	Igle. 1c. N, 1/2c. lago	1		1			1	1			1	1		1		1		1		1	
10. Rony Gutierrez	Igle. 1c. N, 20vr.lago	1		1			1	1			1	1		1		1		1		1	
Sub-total		**9**	**1**	**7**	**3**	**1**	**9**	**9**	**1**	**3**	**7**	**10**	**0**	**10**	**0**	**10**	**0**	**10**	**0**	**10**	**0**
Reparto Adelita I		**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**
1. Ligia Jimenez	Final de Rpto. Sn. Carlos	1			1		1	1		1		1		1		1		1		1	
2. Martha Laguna	Entrada Sn.Carlo 1 1/2c. O	1		1			1	1			1	1		1		1		1		1	
3. Lilliam Lacayo	Entrada Sn.Carlo 2c. Sur	1			1		1	1			1	1		1		1		1		1	
4. Onelia Damuz	Esc. 1/2c. Sur, 1c. Oeste	1		1			1	1			1	1		1		1			1		0
5. Ericka Miranda	Esc. Agusto Silva 1/2c O	1		1			1	1			1	1		1		1		1		1	
6. Jorge Urbina	Esc. Lorenzo G. 1/2c. O	1		1			1	1			1	1		1		1		1		1	
7. Rene Balladares	Templo Evangelico 50v. O	1		1			1	1		1		1		1		1		1		1	
8. Lilliam Morales	Escuela 1 1/2c. Oeste	1		1			1	1			1	1		1		1		1		1	
9. Angela Mendoza	Escuela 2c. Oeste	1		1			1	1			1	1		1		1			1		0
10. Zenobia Zambrano	De las tres cruces 3c. O	1		1			1	1		1		1		1		1		1			1
11. Yolanda Zambrano	Tres cruces 175vrs. Sur	1		1			1	1			1	1		1			1	1		1	
12. Sonia Lopez	frente a las tres cruces	1			1		1	1		1		1		1			1	1		1	
13. Yanet Perez	Escuela 1/2c. Oeste	1		1			1	1			1	1		1		1		1		1	
14. Juana Cruz	Escuela 1 1/2c. Oeste	1			1		1	1			1	1		1		1		1		1	
15. Clorinda Blanco	Esc. 1 1/2c. Oeste	1		1		1		1			1	1		1		1		1		1	
16. Ema Lila Fuente	De las tres cruces 2c. O	1			1		1	1		1		1		1		1		1		1	

17. Juana Gutierrez	Tres cruces 75vrs. Oeste	1		1			1	1		1		1		1		1		1		1	
18. Mercedes Morales	Adelita 1	1		1			1	1			1	1		1		1		1		1	
19. Karla Cruz	Tres cruces 50vrs. Norte	1		1			1	1			1	1		1		1			1		0
20. Martha Leon Lopez	Esc. 1c. sur, 1/2c. Oeste	1		1			1	1		1		1		1		1		1		1	
Sub-Total		**20**	**0**	**18**	**5**	**1**	**19**	**20**	**0**	**7**	**13**	**20**	**0**	**20**	**0**	**18**	**2**	**17**	**3**	**16**	**1**

La Sirena		Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
1. Jahaira Vega	Gaviota 25vrs. sur		1		1		1		1	1		1		1		1		1		1	
2. Rosa Hernandez	Gaviota 90vrs. Sur		1		1		1		1		1	1		1		1		1		1	
3. Alexandra Castillo	Gaviota 25vrs. Sur	1		1			1	1		1		1		1		1		1		1	
4. Emelyn Rocha	Gaviota 1c. S, 25vrs. lago	1			1		1	1			1	1		1		1		1		1	
5. Guadalupe Montiel	Gaviota 1c. Sur, 1c. lago	1			1		1	1		1		1		1		1		1		1	
6. Rolando Cepeda	Gaviota 1/2c. Sur	1			1		1	1		1		1		1		1		1		1	
7. Alejandro	Gaviota 30vrs. Sur	1			1		1	1		1		1		1		1		1		1	
8. Maria A. Arana	Gaviota 75vrs. Sur	1		1			1	1			1	1		1		1		1		1	
9. Marlon Sanchez	Gaviota 1/2c. Sur	1		1			1	1		1		1		1		1		1		1	
10. Jose Martinez	Gaviota - Cuiscoma	1			1		1	1			1	1		1		1		1		1	
Sub - Total		**9**	**2**	**3**	**7**	**0**	**10**	**9**	**2**	**6**	**4**	**10**	**0**	**10**	**0**	**10**	**0**	**10**	**0**	**10**	**0**

Reparto Eddy Ruiz III		Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
1. Francisca Carmona	Rest. 1c.lago, 1c. Norte	1			1		1	1			1	1		1		1		1		1	
2. Carmen Lopez	Rest. 1c. lago, 20vrs. N	1		1			1	1			1	1		1		1		1		1	
3. Juan Aleman	Molino 1/2c. lago, 1/2c. N	1			1		1	1			1	1		1		1			1		0
4. Carmen Sequeria lider	Molina 3c. hacia el arroyo	1		1			1	1		1		1		1		1		1		1	
5. Johana Jiron	Rest.Colina 2c. Norte	1		1			1	1			1	1		1		1		1		1	
6. Juana Arauz	Rest. 2c. lago, 25vrs. N	1		1			1	1		1		1		1		1		1		1	
7. Paula del Socorro	Rest. 1c. lago, 4c. N	1			1		1	1			1	1		1		1		1		1	
8. Milagro Mena	Billar 2c. Norte, 1/2c. O	1		1			1	1			1	1		1		1		1		1	
9. Maritza Aguilas	Billar 3c. Norte, 2c. lago	1		1			1	1			1	1		1		1		1		1	
10. Armenta Mora	Rest. 3c. Norte	1		1			1	1			1	1		1		1		1		1	
11. Carmen Rocha	Rest. 1c. Norte	1		1		1		1		1		1		1		1		1		1	
12. Jenny Mendono	Rest. 1/2c. Norte	1		1			1	1		1		1		1		1		1		1	
13. Denia Urrutia	Rest. 2c. lago, 30vrs. N	1			1		1	1		1		1		1		1		1		1	
14. Loyla Aguilar	Rest. 2c. lago, 2c. Norte		1		1		1		1	1		1		1		1		1		1	

15. Marina Bermudez	Molino 1c. Norte	1		1			1	1			1	1			1	1		1		1	
16. Sandra Picado	Sabaneta III Etapa		1		1		1		1		1	1		1		1		1		1	
17. Maria Salguera	Rest. 2c. Norte	1		1			1	1			1	1		1		1		1		1	
18. Manuel Ruiz	Billares 2c. Norte, 1c. E	1		1			1	1		1		1		1		1		1		1	
19. Narciza Sequeira	Rest. 1c. lago		1		1		1		1	1		1		1		1		1		1	
20. Julio Duran	Rest.Colina 1 1/2c. lago	1		1			1	1			1	1		1		1		1		1	
Sub-Total		**17**	**3**	**13**	**7**	**1**	**19**	**17**	**3**	**6**	**12**	**20**	**0**	**19**	**1**	**20**	**0**	**19**	**1**	**19**	**0**
La Talpujera		**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**	**Y**	**N**
1. Mercedes Barberena	Entrada 25vrs. Sur	1		1			1	1			1	1		1		1		1		1	
2. Clotilde Ramirez	Bo. la Talpujera	1		1			1	1			1	1		1			1	1		1	
3. Evelyn Vallejos	Frente a Bilbao	1		1			1	1			1	1		1		1		1		1	
4. Clorinda Jimenez	Reparto la Talpujera	1		1			1	1		1		1		1		1		1		1	
5. Sara Tercero	Rpto. Talpujera 1er anden	1		1			1	1			1	1		1		1		1		1	
6. Maria Dolores	2 entrada calle talpujera	1			1		1	1			1	1		1		1		1		1	
7. Maria Gutierrez	Calle talpujera	1		1		1		1			1	1		1		1		1		1	
8. Vilma Pena Gutierrez	Final loma del Mico	1			1	1		1		1		1		1		1		1		1	
9. Petrana Sambrano	Final loma del Mico	1		1			1	1		1		1		1		1			1		0
10. Francisco Sanchez	Mercado 5 1/2c. lago	1			1		1	1			1	1		1		1		1		1	
Sub-Total		**10**	**0**	**7**	**3**	**2**	**8**	**10**	**0**	**3**	**7**	**10**	**0**	**10**	**0**	**9**	**1**	**9**	**1**	**9**	**0**
Pilot Project Areas and Surroundings		**74**	**6**	**52**	**28**	**5**	**75**	**73**	**7**	**31**	**49**	**80**	**0**	**79**	**1**	**77**	**3**	**73**	**7**	**72**	**1**
Other Areas of the City		**65**	**5**	**47**	**23**	**3**	**67**	**58**	**12**	**30**	**40**	**70**	**0**	**69**	**1**	**66**	**4**	**51**	**19**	**52**	**0**
		Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
TOTAL INTERVIEWEES		**139**	**11**	**99**	**51**	**8**	**142**	**131**	**19**	**61**	**89**	**150**	**0**	**148**	**2**	**143**	**7**	**124**	**26**	**124**	**1**
PERCENTAGE (%)		**92.7**	**7.3**	**66.0**	**34.0**	**5.3**	**94.7**	**87.3**	**12.7**	**40.7**	**59.3**	**100**	**0.0**	**98.7**	**1.3**	**95.3**	**4.7**	**82.7**	**17.3**	**82.7**	**0.7**

Note : Questionnaire survey (after) carried out on July 21st and 22 nd, 1977