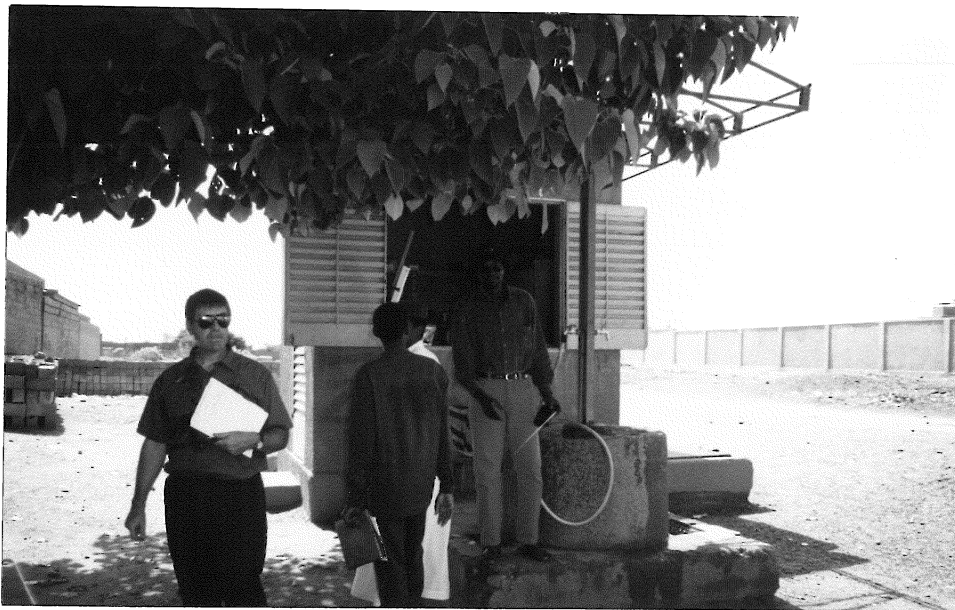




Waste container for pre-collection



Public tap for water supply



Developing residential area



Developing residential area



Cart for pre-collection



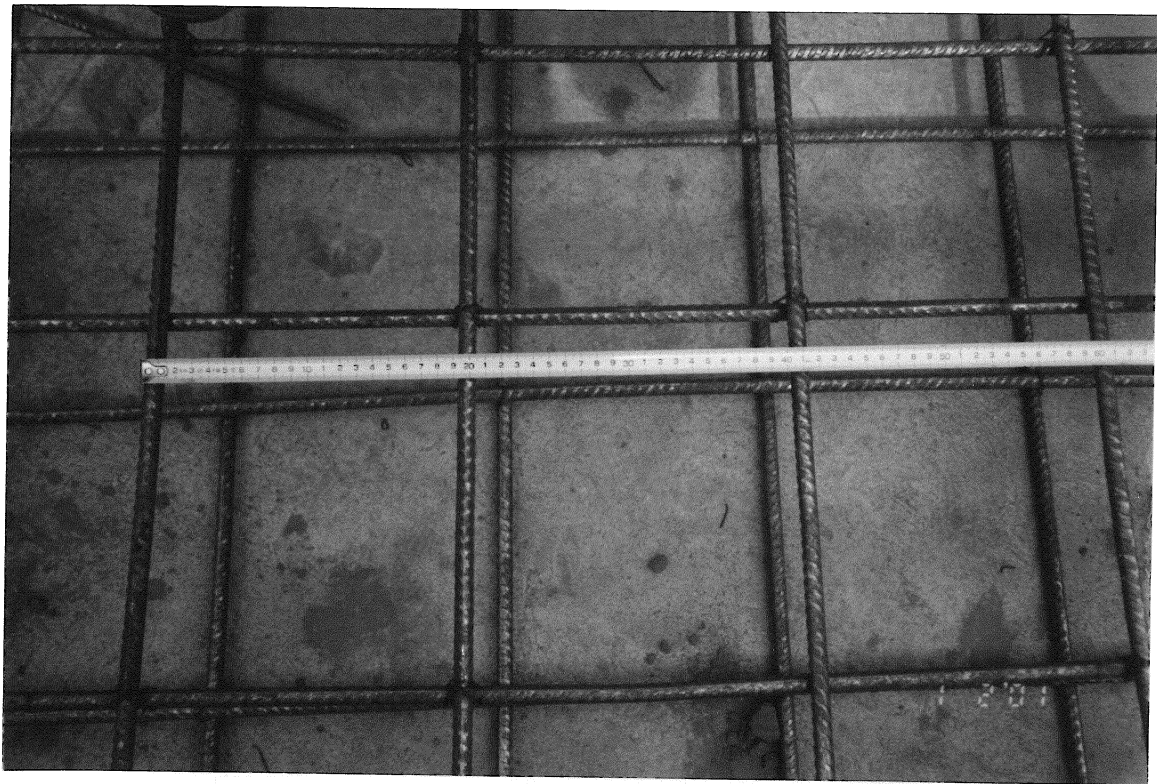
Taking out the garbage



Foundation work of toilet



Inland transportation of Jyokaso from Cotonou



Inspection of bar arrangement of Jyokaso



Earth work for Jyokaso



Diversion work of inlet work of UASB



Earth work of main building of UASB



Foundation work of boundary of UASB



Earth work of boundary wall of UASB

# APPENDIX E: PROJECT IDENTIFICATION OF WATER SUPPLY OF SNE





THE STUDY  
ON  
SANITATION IMPROVEMENT  
FOR  
THE NIAMEY CITY  
IN  
REPUBLIC OF NIGER

**WATER SUPPLY IN NIAMEY CITY  
PROJECT IDENTIFICATION**

**AUGUST 2000**

**Japan International Corporation Agency Study Team**



## 1. PRESENT SITUATION OF WATER SUPPLY IN NIAMEY

SNE( Société Nationale des Eaux ) has 2 water treatment plants (WTPs), in Yantala and in Goudel. The production capacity in Yantala started in 1950 was 20,000 m<sup>3</sup>/day. In 1994 this plant was expanded to produce 30,000 m<sup>3</sup>/day. The Goudel plant was started in 1979 to produce 20,000 m<sup>3</sup>/day, expanded in 1993, and has the present capacity of 30,000 m<sup>3</sup>/day. The water supply system of this city was connected systematically with these two WTPs and several tanks for resavoir. The total intake water quantity of these two WTPs is 80,000 m<sup>3</sup>/day and they supplies 11,127,000m<sup>3</sup>/year tap water on 1997.

## 2. PRODUCTION SITUATION

WTPs operates 24 hours per day. But the population of the city is going to increase and the water supply has a tendency of shortage. When electricity is cut, they can switch to their own generator, but the production volume is reduced.

## 3. CONSUMER EXPANSION SITUATION

At present, water production is not so much short for the consumers, but the capacity of water supply is insufficient in certain area. The population is highly increasing especially in periphery extended areas. For example, in 1998 the WTP was able to produce water 16,613,000m<sup>3</sup>/year for 442,000 people, but at present (in 1997) 31,695,000m<sup>3</sup>/year for about 700,000 people.

## 4. EXISTING WATER SUPPLY FACILITIES

### 4.1 Reservoirs

LOCATION	TYPE OF TANK	CAPACITY (m <sup>3</sup> )	REMARKS
R1	Reinforced Concrete	600	
R2	Reinforced Concrete	1,000	
R3	Reinforced Concrete	1,000	
R4	Steel	300	
R5	Reinforced Concrete	2,000	
R6	Reinforced Concrete	600	
R7	Reinforced Concrete	700	On the ground
R8	Reinforced Concrete	1,000	
R9	Reinforced Concrete	3,000	
R10			Scheduled
R11			Scheduled
R12			Scheduled
	Total	10,200	

## 4.2 Distribution Main and Branch Pipelines

### (1) Distribution Main

D 200mm to D1,100mm : 50,000 m

### (2) Distribution Branch

About 70,000 m

## 4.3 Booster Pumping Station

Yantala:

8 pumps 110kwatt

Goudel:

8 pumps 132kwatt (4 with generator)

## 5. FRAMEWORK AT PLANNING HORIZON

### 5.1 Planned Service Population

FACTORS		1987	1988	1995	2015	2020
1. Population		233,414	399,846	475,000	750,000	1,120,000
	in Municipality					
2. Growth Rate	%	5.0	5.0	2.5	2.5	2.5
	in Municipality					
3. Planning Population		233,414	399,846	475,000	750,000	1,000,000
	in Service Area					
4. Number of House	Household	15,000	20,000	23,000	45,000	70,000
	Connection					
5. Service Ratio	%	100	100	100	100	89

According to the calculation, the growth rate of population is assumed 2.5%/year during the past (1988-1995) and in the future(1997). The growth rate of population in the city and suburbs has increased steadily, because people come to the city from the countrysides. Therefore, people's demand at present and the future is high. Since the plant has a weak condition such as raw water pumps, distribution pumps, treatment facilities and chemical facilities, some of them have been abandoned to operate. WTP has no longer sufficient spare parts and technical information and enough budget. It has already past several years without any required action to be taken due to above situation.

## 5.2 Water Production and Planning Water Demand

Demand	Unit	1995	1996	1997	1998	2015
Daily Average Supply	m3/day	44,297	45,191	47,490	48,485	70,875
Daily Maximum Supply	m3/day	53,562	61,558	59,322	61,787	90,000
Capacity of WTP	person	475,000				750,000
Ratio of Accounted Water	%	83.0			87.5	87.5

Regarding the actual water production situation, the Yantala WTP constructed in 1952 had a present capacity for water production of 30,000m<sup>3</sup>/day and the Goudel in 1979 had 30,000m<sup>3</sup>/day. The electricity supply depends on imported power from Nigeria and is lack of stability.

At present, the number of population rapidly has been increased in Niamey city and the peripheral area. So, the water demand is biased locally. According to the required water demand, the improvement of the water supply system is to be necessary.

WATER SUPPLY PLAN (PRESENT)

(1/2)

ITEMS	UNIT	1995	1996	1997	1998	1999
1. Population in Municipality	Person	475,000	557,869	580,215	603,386	627,431
2. Population Growth Rate	%	3.96	4.03	4.01	3.99	3.99
3. Service Population	Person	380,000	400,000	420,000	459,000	475,000
4. Number of House Connection	Household	23,000	23,500	23,500	24,000	24,000
5. Service Ratio in Service Area	%	80.0	71.7	72.4	76.1	75.7
(5) = (3) / (4)						
6. Average Daily Supply	m3/day	44,297	45,191	47,490	48,485	52,652
7. Maximum Daily Supply	m3/day	53,562	61,558	59,322	61,787	67,800
8. Loading Rate (8) = (7) / (6)	-	1.21	1.36	1.25	1.27	1.29
9. Unit Average Water Supply	lpcd	117	113	113	106	111
(9) = (6) / (3)						
10. Unit Maximum Water Supply	lpcd	142	154	141	135	143
(10) = (9) * (8)						

Notes 1. lpcd : litter per capita per day

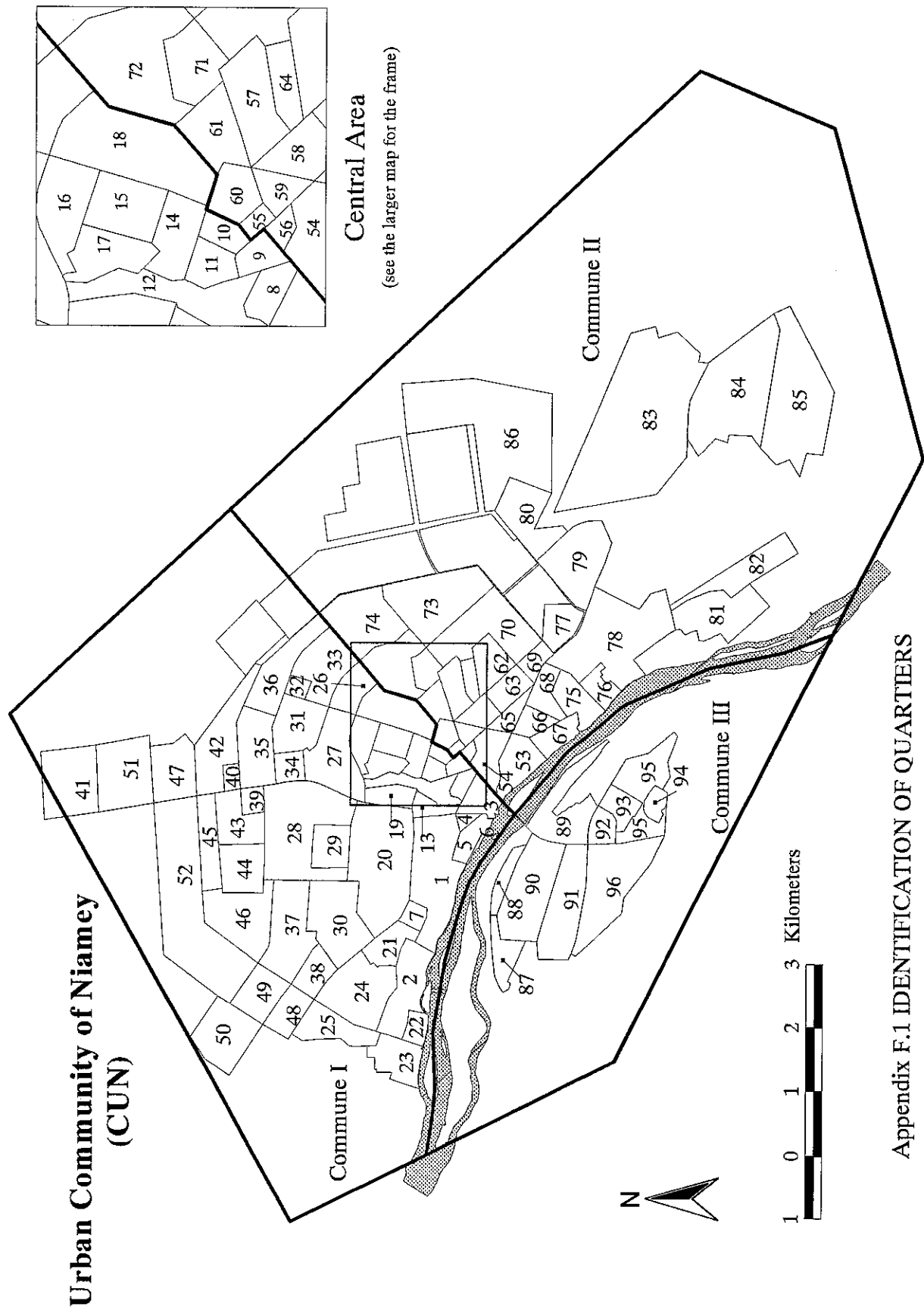
WATER SUPPLY PLAN (FUTURE)

(2/2)

ITEMS	UNIT	2000	2005	2010	2015	
1. Population in Municipality	Person	652,401	757,192	871,346	993,724	
2. Population Growth Rate	%	2.5	2.5	2.5	2.5	
3. Service Population	Person	544,000	614,000	695,000	750,000	
7. Service Ratio in Service Area	-	0.83	0.81	0.80	0.75	
9. Average Daily Supply	m3/day	60,384	68,154	77,145	83,250	
10. Maximum Daily Supply	m3/day	77,792	87,802	99,385	107,250	
11. Loading Rate (11) = (9) / (10)	-					
12. Unit Average Water Supply	lpcd	111	111	111	111	
(12) = (9) / (6)						
13. Unit Maximum Water Supply	lpcd	143	143	143	143	
(13) = (12) * (11)						

# APPENDIX F: EXISTING URBAN CONDITIONS







Appendix F.2 LIST OF QUARTIERS (the numbers correspond to Appendix F.1)

	Commune I	Commune II	Commune III
Residential Quarters	1. Plateau I 2. Ambassades 6. Kombo 8. Zongo 9. Maourey 10. Gandacthe 11. Deizebon 15. Boukoki I 16. Boukoki II 17. Boukoki III 18. Boukoki IV 20. Plateau II 21. Yantala 23. Goudel 24. Kouara Kano 25. Ext. Kouara Kano 26. Courronne Nord 27. Kouara Me 28. Dar Es Salam 30. Yantala Haut 31. Bani Fandou I 32. Cite CNSS 33. Bani Fandou II 35. Lazaret 36. Banizoumbou II 37. Baghdad 41. Kouara Tegui 42. Nord Lazaret 43. Taiwan 44. Bobiel 45. Ouest Faisceau 1 46. Ouest Faisceau 2 47. Nord Faisceau 48. SONUCI 49. Koura Kano Nord 50. Ext. Kouara Kano Nord 51. Ext. Kouara Tegui 52. ZAC	53. Terminus 54. Niamey Bas 56. Kalley Centre 57. Kalley Est 58. Kalley Sud 59. Lacouroussou 60. Banizoumbou I 61. Abidjan 62. Sabongari 63. Nouveau Marche 69. Cite Faycal 70. Poudriere 72. Madina 73. Route de Filingue 74. Ext. Route de Flingue 75. Gamkalle Sabanguye 76. Gamkalle Golleye 79. Talladje 80. Ext. Talladje 81. Saga 82. Ext. Saga 84. Aviation 1 85. Aviation 2 86. Sari-Koubou	87. Lamorde 88. Nogare 91. Karadje 92. Pont Kennedy 93. Gawaye 94. Kirkissoye 95. Ext. Kirkissoye 96. Banga Bana
Non-Residential Quarters	3. IFAN 4. Poste 5. National Hospital 7. Casernes 12. Gounrty Yena 13. Ecole Aviation Civile 14. Lycee Kasai 19. Stadium 22. SNE 29. ORTN 34. Hopital Lazaret 38. Cimetiere 39. OPVN 40. Faisceau	55. Grand Marche 64. Cimetiere Musulman 65. SMB 66. Caserne Bagagiya 67. Ecole de Police 68. Caserne Garba Hassane 71. Mosquee 77. Hippodrome 78. Zone Industriel 83. Airport	89. Agrhymet 90. University

### Appendix F.3 BASIC DATA ON THE QUARTIERS

ID	Quaritiers	Commune	Population	Area (ha)	Density	Type
1	Plateau I	1	6,164	221.5	27.83	MDQ
2	Ambassades	1	1,480	121.0	12.23	MDQ
3	IFAN	1	0	47.3	0.00	ZDS
4	Poste	1	0	10.4	0.00	ZDS
5	National Hospital	1	0	39.1	0.00	ZDS
6	Kombo	1	1,579	4.0	397.30	TRD
7	Casernes	1	0	23.2	0.00	ZDS
8	Zongo	1	3,549	19.9	178.20	TRD
9	Maourey	1	3,511	15.2	231.29	TRD
10	Gandacthe	1	5,364	13.2	405.12	TRD
11	Deizebon	1	7,504	19.1	393.56	TRD
12	Gounrty Yena	1	0	60.5	0.00	ZDS
13	Ecole Aviation Civile	1	0	30.3	0.00	ZDS
14	Lycee Kasai	1	0	33.9	0.00	ZDS
15	Boukoki I	1	6,757	40.9	165.21	PRP1
16	Boukoki II	1	9,606	46.7	205.90	PRP1
17	Boukoki III	1	6,661	34.5	192.92	PRP1
18	Boukoki IV	1	16,781	98.9	169.59	PRP1
19	Stadium	1	0	41.3	0.00	ZDS
20	Plateau II	1	26,639	302.7	88.01	MDQ
21	Yantala	1	22,841	59.0	387.29	UVL
22	SNE	1	0	28.7	0.00	ZDS
23	Goudel	1	13,815	83.5	165.49	UVL
24	Kouara Kano	1	3,053	167.5	18.23	MDQ
25	Ext. Kouara Kano	1	4,756	89.1	53.35	MDQ
26	Courronne Nord	1	6,796	58.4	116.46	PRP2
27	Kouara Me	1	14,107	147.2	95.85	PRP2
28	Dar Es Salam	1	19,132	286.0	66.90	PRP2
29	ORTN	1	0	68.4	0.00	ZDS
30	Yantala Haut	1	21,288	170.0	125.26	MDQ
31	Bani Fandou I	1	15,737	104.4	150.73	PRP2
32	Cite CNSS	1	1,932	18.5	104.47	PRP2
33	Bani Fandou II	1	15,940	121.2	131.54	PRP2
34	Hopital Lazaret	1	0	37.5	0.00	ZDS
35	Lazaret	1	29,742	153.3	193.96	PRP1
36	Banizoumbou II	1	4,781	119.6	39.99	PRP2
37	Baghdad	1	5,817	164.0	35.47	PRP2
38	Cimetiere	1	0	55.2	0.00	ZDS
39	OPVN	1	0	25.5	0.00	ZDS
40	Faisceau	1	0	17.4	0.00	ZDS
41	Kouara Tegui	1	19,947	155.2	128.54	SPT
42	Nord Lazaret	1	1,401	140.0	10.01	NWQ
43	Taiwan	1	0	87.2	0.00	NWQ
44	Bobiel	1	0	90.5	0.00	NWQ
45	Ouest Faisceau 1	1	0	76.6	0.00	NWQ
46	Ouest Faisceau 2	1	0	156.4	0.00	NWQ
47	Nord Faisceau	1	0	104.6	0.00	NWQ
48	SONUCI	1	0	60.6	0.00	NWQ
49	Koura Kano Nord	1	0	81.9	0.00	NWQ
50	Ext. Kouara Kano Nord	1	0	132.8	0.00	NWQ
51	Ext. Kouara Tegui	1	0	153.7	0.00	NWQ

Appendix F.3 BASIC DATA ON THE QUARTIERS (continued)

ID	Quaritiers	Commune	Population	Area (ha)	Density	Type
52	ZAC	1	0	435.0	0.00	PLN
53	Terminus	2	3,938	75.4	52.26	MDQ
54	Niamey Bas	2	1,158	61.8	18.74	MDQ
55	Grand Marche	2	0	6.9	0.00	ZDS
56	Kalley Centre	2	1,538	8.2	188.04	TRD
57	Kalley Est	2	10,756	49.2	218.62	TRD
58	Kalley Sud	2	6,667	34.7	191.91	TRD
59	Lacouroussou	2	4,091	16.4	250.05	TRD
60	Banizoumbou I	2	4,902	23.9	205.05	TRD
61	Abidjan	2	6,915	36.9	187.36	TRD
62	Sabongari	2	10,327	63.6	162.44	TRD
63	Nouveau Marche	2	7,828	48.8	160.32	TRD
64	Cimetiere Musulman	2	0	22.7	0.00	ZDS
65	SMB	2	0	30.3	0.00	ZDS
66	Caserne Bagagiya	2	0	34.6	0.00	ZDS
67	Ecole de Police	2	0	46.9	0.00	ZDS
68	Caserne Garba Hassane	2	0	51.5	0.00	ZDS
69	Cite Faycal	2	1,689	29.5	57.17	MDQ
70	Poudriere	2	13,137	185.7	70.75	MDQ
71	Mosquee	2	0	36.7	0.00	ZDS
72	Madina	2	16,032	110.4	145.21	PRP2
73	Route de Filingue	2	26,191	206.9	126.61	PRP2
74	Ext. Route de Flingue	2	17,003	161.7	105.15	PRP2
75	Gamkalle Sabanguye	2	13,495	67.2	200.80	UVL
76	Gamkalle Golleye	2	6,844	37.9	180.43	UVL
77	Hippodrome	2	0	60.0	0.00	ZDS
78	Zone Industriel	2	650	304.1	2.14	ZDS
79	Talladje	2	25,932	164.4	157.77	PRP1
80	Ext. Talladje	2	0	123.9	0.00	NWQ
81	Saga	2	13,431	145.7	92.20	UVL
82	Ext. Saga	2	1,502	103.7	14.48	PRP2
83	Airport	2	0	661.6	0.00	ZDS
84	Aviation 1	2	16,181	319.6	50.63	PRP2
85	Aviation 2	2	7,446	309.6	24.05	NWQ
86	Sari-Koubou	2	0	450.0	0.00	PLN
87	Lamorde	3	5,475	53.2	102.87	UVL
88	Nogare	3	3,975	34.9	113.81	UVL
89	Agrhymet	3	0	135.1	0.00	ZDS
90	University	3	0	186.6	0.00	ZDS
91	Karadje	3	16,742	160.4	104.41	PRP2
92	Pont Kennedy	3	5,293	37.3	142.04	PRP2
93	Gawaye	3	5,259	44.5	118.14	PRP2
94	Kirkissoye	3	4,427	25.6	172.64	UVL
95	Ext. Kirkissoye	3	14,891	135.3	110.05	PRP2
96	Banga Bana	3	12,551	208.2	60.28	PRP2

Appendix F.3 BASIC DATA ON THE QUARTIERS (continued)

ID	Quaritiers	Commune	Population	Area (ha)	Density	Type
101	Outlying Villages	1	6,840	0.0	0.00	OUT
102	Outlying Villages	2	7,979	0.0	0.00	OUT
103	Outlying Villages	3	4,257	0.0	0.00	OUT
104	Koubia	1	1,555	0.0	0.00	SPT
105	Pays Bas	2	3,816	0.0	0.00	SPT
106	Green Belt	2	0	341.6	0.00	ZDS
107	Green Belt	2	0	217.1	0.00	ZDS
108	Green Belt	2	0	86.9	0.00	ZDS
109	Green Belt	2	0	228.7	0.00	ZDS
110	Green Belt	2	0	244.4	0.00	ZDS
111	Green Belt	1	0	108.7	0.00	ZDS

Appendix F.4 LIST OF QUARTIERS BY RESIDENTIAL TYPE

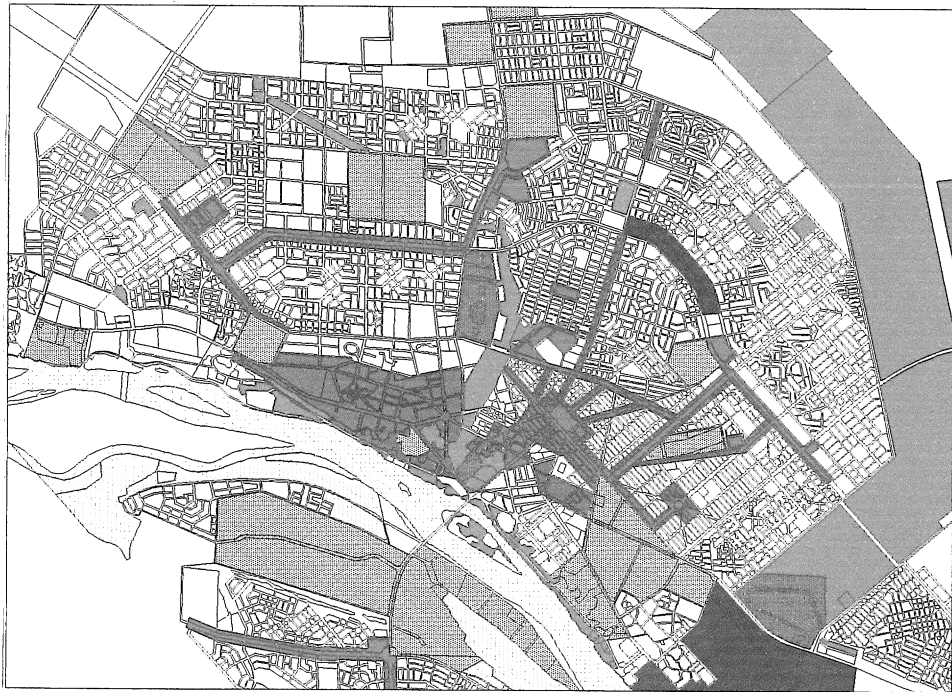
Type	Commune I	Commune II	Commune III
MDQ	1. Plateau I 2. Ambassades 20. Plateau II 24. Kouara Kano 25. Ext. Kouara Kano 30. Yantala Haut	53. Terminus 54. Niamey Bas 69. Cite Faycal 70. Poudriere	
TRD	6. Kombo 8. Zongo 9. Maourey 10. Gandacthe 11. Deizebon	56. Kalley Centre 57. Kalley Est 58. Kalley Sud 59. Lacouroussou 60. Banizoumbou I 61. Abidjan 62. Sabongari 63. Nouveau Marche	
PRP1	15. Boukoki I 16. Boukoki II 17. Boukoki III 18. Boukoki IV 35. Lazaret	79. Talladje	
PRP2	26. Courronne Nord 27. Kouara Me 28. Dar Es Salam 31. Bani Fandou I 32. Cite CNSS 33. Bani Fandou II 36. Banizoumbou II 37. Baghdad	72. Madina 73. Route de Filingue 74. Ext. Route de Flingue 82. Ext. Saga 84. Aviation 1	91. Karadje 92. Pont Kennedy 93. Gawaye 95. Ext. Kirkissoye 96. Banga Bana
UVL	21. Yantala 23. Goudel	75. Gamkalle Sabanguye 76. Gamkalle Golleye 81. Saga	87. Lamorde 88. Nogare 94. Kirkissoye
SPT	41. Kouara Tegui 104. Koubia	105. Pays Bas	
NWQ	42. Nord Lazaret 43. Taiwan 44. Bobiel 45. Ouest Faisceau 1 46. Ouest Faisceau 2 47. Nord Faisceau 48. SONUCI 49. Koura Kano Nord 50. Ext. Kouara Kano Nord 51. Ext. Kouara Tegui	80. Ext. Talladje 85. Aviation 2	
PLN	52. ZAC	86. Sari-Koubou	

Abbreviations: MDQ = Modern Quartiers. TRD = Traditional Quartiers. PRP1 = Peripheral Quartiers 1. PRP2 = Peripheral Quartiers. UVL = Urban Villages. SPT = Spontaneous Quartiers. NWQ = New Quartiers. PLN = Planned Quartiers. See Chapter \*\*\* for description.

\*The boundaries of Koubia and Pays Bas cannot be defined. Thus, they are neither included in the total urban area nor shown on Figure \*\*\* ("Administrative Boundaries").

\*19,076 persons reside outside Niamey. Therefore, the total population of the quarters in the table is 588,317.

# APPENDIX G: FUTURE URBAN CONDITIONS



**Appendix G.1 COMPARISON OF THE POPULATION PROJECTIONS OF RELATED STUDIES**

		1988	1989	1995	2000	2005	2010	2015	2020	Remarks
JICA Study	Population	391,876			652,401	757,192	871,346	993,724	1,120,252	M/P of Sanitation Improvement in Niamey. Officially adopted in this Study (Oct. 2000).
	Growth Rate				5.54% (‘88-2000)	3.21%	3.02%	2.81%	2.55%	
Direction of Population	Population		420,859	536,259	652,401					Official data used to project the JICA Study projection (1994).
	Growth Rate		5.69%	6.15%	6.54%					
BCEOM	Population	397,637		475,000				750,000		M/P of water (1997).
	Growth Rate			2.78%				2.89%		
SIDES (lower estimate)	Population	391,876			629,323	747,438	866,485	1,024,151	1,198,843	World Bank project on an analysis of urban conditions in Niamey (Feb. 2000).
	Growth Rate				5.05% (‘88-2000)	3.75%	3.19%	3.64%	3.41%	
SIDES (higher estimate)	Population	391,876			705,980	896,747	1,070,210	1,240,666	1,424,363	
	Growth Rate				6.68% (‘88-2000)	5.40%	3.87%	3.19%	2.96%	
SOCREGE	Population	391,876			800,000					World Bank solid waste study (June 2000).
	Growth Rate				8.68%					
MAB	Population	391,876			652,401	793,103	955,354	1,133,785	1,326,519	World Bank household survey (June 2000).
	Growth Rate				5.54% (‘88-2000)	4.31%	4.09%	3.74%	3.40%	

Appendix G.2 FUTURE POPULATION AND DENSITY OF THE QUARTIERS

ID	Quartiers	CU	Type	Area (ha)	Density			Population				
					1998	2005	2010	2015	1998	2005	2010	2015
1	Plateau I	1	MDQ	221.5	27.83	30	30	30	6,164	6,645	6,645	6,645
2	Ambassades	1	MDQ	121.0	12.23	12	12	12	1,480	1,452	1,452	1,452
6	Kombo	1	TRD	4.0	397.30	380	350	300	1,579	1,510	1,391	1,192
8	Zongo	1	TRD	19.9	178.20	200	230	250	3,549	3,983	4,581	4,979
9	Maourey	1	TRD	15.2	231.29	250	260	270	3,511	3,795	3,947	4,099
10	Gandacthe	1	TRD	13.2	405.12	380	350	300	5,364	5,031	4,634	3,972
11	Deizebon	1	TRD	19.1	393.56	380	350	300	7,504	7,245	6,673	5,720
15	Boukoki I	1	PRP1	40.9	165.21	200	200	200	6,757	8,180	8,180	8,180
16	Boukoki II	1	PRP1	46.7	205.90	200	200	200	9,606	9,331	9,331	9,331
17	Boukoki III	1	PRP1	34.5	192.92	200	200	200	6,661	6,905	6,905	6,905
18	Boukoki IV	1	PRP1	98.9	169.59	200	200	200	16,781	19,790	19,790	19,790
20	Plateau II	1	MDQ	302.7	88.01	90	90	90	26,639	27,241	27,241	27,241
21	Yantala	1	UVL	59.0	387.29	370	360	350	22,841	21,821	21,231	20,642
23	GoudeI	1	UVL	83.5	165.49	180	200	200	13,815	15,026	16,696	16,696
24	Kouara Kano	1	MDQ	167.5	18.23	20	20	20	3,053	3,349	3,349	3,349
25	Ext. Kouara Kano	1	MDQ	89.1	53.35	50	50	50	4,756	4,457	4,457	4,457
26	Courronne Nord	1	PRP2	58.4	116.46	150	180	200	6,796	8,754	10,504	11,671
27	Kouara Me	1	PRP2	147.2	95.85	140	150	180	14,107	20,604	22,076	26,491
28	Dar Es Salam	1	PRP2	286.0	66.90	120	140	180	19,132	34,316	40,035	51,474
30	Yantala Haut	1	MDQ	170.0	125.26	125	125	125	21,288	21,245	21,245	21,245
31	Bani Fandou I	1	PRP2	104.4	150.73	200	200	200	15,737	20,881	20,881	20,881
32	Cite CNSS	1	PRP2	18.5	104.47	150	150	150	1,932	2,774	2,774	2,774
33	Bani Fandou II	1	PRP2	121.2	131.54	160	180	200	15,940	19,388	21,812	24,236
35	Lazaret	1	PRP1	153.3	193.96	200	200	200	29,742	30,668	30,668	30,668
36	Banizoumbou II	1	PRP2	119.6	39.99	100	120	180	4,781	11,957	14,348	21,522
37	Baghdad	1	PRP2	164.0	35.47	100	140	180	5,817	16,398	22,958	29,517
41	Kouara Tegui	1	SPT	155.2	128.54	130	140	150	19,947	20,173	21,725	23,277
42	Nord Lazaret	1	NWQ	140.0	10.01	60	80	120	1,401	8,399	11,198	16,798
43	Taiwan	1	NWQ	87.2	0.00	50	80	100	0	4,361	6,977	8,722
44	Bobiel	1	NWQ	90.5	0.00	50	80	110	0	4,527	7,243	9,959
45	Ouest Faisceau 1	1	NWQ	76.6	0.00	50	70	110	0	3,828	5,360	8,422
46	Ouest Faisceau 2	1	NWQ	156.4	0.00	50	70	100	0	7,819	10,947	15,639
47	Nord Faisceau	1	NWQ	104.6	0.00	50	80	100	0	5,229	8,367	10,459
48	SONUCI	1	NWQ	60.6	0.00	50	80	100	0	3,032	4,851	6,064
49	Kouara Kano Nord	1	NWQ	81.9	0.00	50	80	110	0	4,095	6,552	9,010



Appendix G.2 FUTURE POPULATION AND DENSITY OF THE QUARTIERS (continued)

ID	Quartiers	CU	Type	Area (ha)	Density			Population				
					1998	2005	2010	2015	1998	2005	2010	2015
50	Ext. Kouara Kano Nord	1	NWQ	132.8	0.00	50	70	90	0	6,639	9,295	11,950
51	Ext. Kouara Tegui	1	NWQ	153.7	0.00	50	80	100	0	7,684	12,294	15,367
52	ZAC	1	PLN	435.0	0.00	10	20	50	0	4,350	8,700	21,750
53	Terminus	2	MDQ	75.4	52.26	53	53	53	3,938	3,994	3,994	3,994
54	Niaméy Bas	2	MDQ	61.8	18.74	20	20	20	1,158	1,236	1,236	1,236
56	Kalley Centre	2	TRD	8.2	188.04	200	200	200	1,538	1,636	1,636	1,636
57	Kalley Est	2	TRD	49.2	218.62	230	240	250	10,756	11,316	11,808	12,300
58	Kalley Sud	2	TRD	34.7	191.91	200	220	240	6,667	6,948	7,643	8,338
59	Lacouroussou	2	TRD	16.4	250.05	260	260	260	4,091	4,254	4,254	4,254
60	Banizoumbou I	2	TRD	23.9	205.05	220	230	250	4,902	5,259	5,498	5,977
61	Abidjan	2	TRD	36.9	187.36	200	220	240	6,915	7,381	8,120	8,858
62	Sabongari	2	TRD	63.6	162.44	200	230	250	10,327	12,715	14,622	15,894
63	Nouveau Marche	2	TRD	48.8	160.32	200	230	250	7,828	9,765	11,230	12,207
69	Cite Faycal	2	MDQ	29.5	57.17	60	60	60	1,689	1,773	1,773	1,773
70	Pondriere	2	MDQ	185.7	70.75	70	70	70	13,137	12,998	12,998	12,998
72	Madina	2	PRP2	110.4	145.21	180	190	200	16,032	19,873	20,977	22,081
73	Route de Filingue	2	PRP2	206.9	126.61	150	180	200	26,191	31,029	37,235	41,373
74	Ext. Route de Flingue	2	PRP2	161.7	105.15	150	180	200	17,003	24,254	29,105	32,339
75	Gamkalle Sabanguye	2	UVL	67.2	200.80	200	200	200	13,495	13,441	13,441	13,441
76	Gamkalle Golleye	2	UVL	37.9	180.43	200	200	200	6,844	7,586	7,586	7,586
79	Talladje	2	PRP1	164.4	157.77	200	200	200	25,932	32,872	32,872	32,872
80	Ext. Talladje	2	NWQ	123.9	0.00	50	80	100	0	6,193	9,910	12,387
81	Saga	2	UVL	145.7	92.20	100	110	120	13,431	14,567	16,023	17,480
82	Ext. Saga	2	PRP2	103.7	14.48	40	50	60	1,502	4,149	5,186	6,223
84	Aviation 1	2	PRP2	319.6	50.63	60	70	75	16,181	19,174	22,370	23,968
85	Aviation 2	2	NWQ	309.6	24.05	30	40	50	7,446	9,287	12,382	15,478
86	Sari-Koubou	2	PLN	450.0	0.00	10	45	60	0	4,500	20,250	27,000
87	Lamorde	3	UVL	53.2	102.87	120	140	160	5,475	6,387	7,451	8,516
88	Nogare	3	UVL	34.9	113.81	120	140	160	3,975	4,191	4,890	5,588
91	Karadje	3	PRP2	160.4	104.41	150	180	200	16,742	24,053	28,864	32,071
92	Pont Kennedy	3	PRP2	37.3	142.04	150	180	200	5,293	5,590	6,708	7,453
93	Gawaye	3	PRP2	44.5	118.14	150	180	200	5,259	6,677	8,013	8,903
94	Kirkissoye	3	UVL	25.6	172.64	200	200	200	4,427	5,129	5,129	5,129
95	Ext. Kirkissoye	3	PRP2	135.3	110.05	150	180	200	14,891	20,296	24,356	27,062
96	Banga Bana	3	PRP2	208.2	60.28	100	150	200	12,551	20,821	31,231	41,641