Appendix-5   Cost Estimation Borne by the PA

Appendix -5　　Cost Estimation Born by the PA

Group No.	Implementation Agency Municipality/Village	Items	Contents	Quantity	Unit	Unit price (NIS)	Amount (NIS)
A. Construction of Garage							
1	1 Baka Al-Shrqeah						
	2 Nazlet Essa	Garage	Colum, Roof	1	set	6,800.00	6,800.00
2	3 Der Al-Ghosoun						
	4 Al-Jarousheah	Garage	Colum, Roof	1	set	6,800.00	6,800.00
3	5 Sida						
	6 Ellar	Garage	Colum, Roof	1	set	6,800.00	6,800.00
4	7 Ateel						
	8 Zita	Garage	Colum, Roof	1	set	6,800.00	6,800.00
5	9 Kofur Zebaad						
	10 Kofur Jammal						
	11 Kofur Abbous	Garage	Colum, Roof	1	set	6,800.00	6,800.00
6	12 Shofeh						
	13 Faroun						
	14 Safareen	Garage	Colum, Roof	1	set	6,800.00	6,800.00
7	15 Roujeeb						
	16 Der Al-Hatab	Garage	Colum, Roof	1	set	6,800.00	6,800.00
8	17 Bait Dajan						
	18 Azmout						
	19 Salim	Garage	Colum, Roof	1	set	6,800.00	6,800.00
9	20 Yaseed						
	21 Bait Emmreen						
	22 Nusf Jbail						
	23 Sabastea	Garage	Colum, Roof	1	set	6,800.00	6,800.00
10	24 Borqa						
	25 Bezareah	Garage	Colum, Roof	1	set	6,800.00	6,800.00
11,12,13 14,15	26 Fasayel						
	27 Al-Jiflek						
	28 Marge Ghazal						
	29 Marge Najeh						
	30 Al-Zobaidat	Garage	Colum, Roof	1	set	6,800.00	6,800.00
16	31 Eain Al-Duke						
	32 Al-Ouja	Garage	Colum, Roof	1	set	6,800.00	6,800.00
17	33 Al-Obaydya	Garage	Colum, Roof	1	set	6,800.00	6,800.00
18	34 Dar Salah						
	35 Al-Shawawreh						
	36 Ras Al-Wad	Garage	Colum, Roof	1	set	6,800.00	6,800.00
19,22	37 Hosan						
	38 Batier						
	47,48 Al-Walajeh/Eain Al-Jowaiza	Garage	Colum, Roof	1	set	6,800.00	6,800.00
20	39 Al-Masara						
	40 Marah Rabah						
	41 Om Salmouneh						
	42 Jouret Al-Shamma						
	43 Waid Rahal						
	160 Wade Al-Neas						
	161 Marah Maalah						
	162 Khalet Al-Hadadh	Garage	Colum, Roof	1	set	6,800.00	6,800.00
21,22	44 Bait Tamer						
	45,46 Braidaah/Hindaza	Garage	Colum, Roof	1	set	6,800.00	6,800.00
23	49 Tekoa	Garage	Colum, Roof	1	set	6,800.00	6,800.00
24	50 Bait Fajar	Garage	Colum, Roof	1	set	6,800.00	6,800.00
25	51 Wadi Fokeen						
	52 Nahaleen	Garage	Colum, Roof	1	set	6,800.00	6,800.00

Appecdix -5   Cost Estimation Born by the PA

Group No.	Municipality/Village	Items	Contents	Quantity	Unit	Unit price (NIS)	Amount (NIS)
	Implementation Agency						
26	53 Kofur Laquef						
	54 Baquet Al-Hatab						
	55 Hajeh						
	56 Jeet						
	57 Emmateen						
	58 Farata	Garage	Colum, Roof	1	set	6,800.00	6,800.00
27	59 Kofur Thuluth	Garage	Colum, Roof	1	set	6,800.00	6,800.00
28,30	60 Jensafout						
	61 Al-Fondok						
	68 Kofur Qudoom	Garage	Colum, Roof	1	set	6,800.00	6,800.00
29,31	62 Ras Ateah						
	63 Ras Al-Tiereh						
	64 Al-Kheameh						
	65 Ezbet Jaloud						
	66 Al-Ashquer						
	67 Al-Mdawer						
	69 Habla	Garage	Colum, Roof	1	set	6,800.00	6,800.00
32	70 Ezbet Al-Tabeeb						
	71 Asaleh						
	72 Al-Nabee Eleas						
	73 Jayos						
	74 Falamea						
	75 Seer	Garage	Colum, Roof	1	set	6,800.00	6,800.00
33	76 Bait Laqeah						
	77 Bait Sira	Garage	Colum, Roof	1	set	6,800.00	6,800.00
34	78 Naleen						
	79 Al-Media						
	80 Der Qudees	Garage	Colum, Roof	1	set	6,800.00	6,800.00
35	81 Qubeah						
	82 Bodrus						
	83 Shoqba	Garage	Colum, Roof	1	set	6,800.00	6,800.00
36	84 Banizaid Al-Gharbiah	Garage	Colum, Roof	1	set	6,800.00	6,800.00
37	85 Ranties						
	86 Alleban						
	87 Aboud	Garage	Colum, Roof	1	set	6,800.00	6,800.00
38	88 Bait Aour Al-Foka						
	89 Al-Tahta						
	90 Safa	Garage	Colum, Roof	1	set	6,800.00	6,800.00
39	91 Baleen						
	92 Der Bazeea						
	93 Kofur Neamah	Garage	Colum, Roof	1	set	6,800.00	6,800.00
40	94 Kober						
	95 Al-Mazraa Al-Kebleah						
	96 Abu Shkhaidem	Garage	Colum, Roof	1	set	6,800.00	6,800.00
41	97 Anata	Garage	Colum, Roof	1	set	6,800.00	6,800.00
42	98 Bait Doquo						
	99 Bait Ejza	Garage	Colum, Roof	1	set	6,800.00	6,800.00
43	100 Bait Souriek						
	101 Bait Exa						
	102 Al-Nabi Samweel	Garage	Colum, Roof	1	set	6,800.00	6,800.00
44	103 Beir Nabala	Garage	Colum, Roof	1	set	6,800.00	6,800.00
45	104 Al-Ram	Garage	Colum, Roof	2	set	6,800.00	13,600.00
46,47	105 Al-Sawahreh Al-Sharqeah						
	106 Al-Shaikh Saed						
	107 Al-Zuayem	Garage	Colum, Roof	1	set	6,800.00	6,800.00
48	108 Bait Anan						
	109 Al-Jeeb	Garage	Colum, Roof	1	set	6,800.00	6,800.00
49	110 Katanh						
	111 Al-Kpaba	Garage	Colum, Roof	1	set	6,800.00	6,800.00

Appendix -5 Cost Estimation Born by the PA

Group No.	Implementation Agency Municipality/Village	Items	Contents	Quantity	Unit	Unit price (NIS)	Amount (NIS)
50	112 Bani Nooim	Garage	Colum, Roof	1	set	6,800.00	6,800.00
51	113 Al-Samoua	Garage	Colum, Roof	1	set	6,800.00	6,800.00
52	114 Saeer						
	115 Al-Sheukh	Garage	Colum, Roof	1	set	6,800.00	6,800.00
53	116 Al-Dahreyah	Garage	Colum, Roof	3	set	6,800.00	20,400.00
54	117 Yatta	Garage	Colum, Roof	3	set	6,800.00	20,400.00
55	118 Doura	Garage	Colum, Roof	2	set	6,800.00	13,600.00
56	119 Eznna	Garage	Colum, Roof	2	set	6,800.00	13,600.00
57	120 Tarkoumeah	Garage	Colum, Roof	1	set	6,800.00	6,800.00
58	121 Sureif	Garage	Colum, Roof	1	set	6,800.00	6,800.00
59	122 Bait Awla	Garage	Colum, Roof	1	set	6,800.00	6,800.00
60	123 Tammoun						
	124 Al-Farah	Garage	Colum, Roof	1	set	6,800.00	6,800.00
61,63	125 Bardala						
	126 Ean Al-Baida						
	128 Tayaseer	Garage	Colum, Roof	1	set	6,800.00	6,800.00
62	127 Aquaba	Garage	Colum, Roof	1	set	6,800.00	6,800.00
64	129 Toubas	Garage	Colum, Roof	1	set	6,800.00	6,800.00
65	130 Qurawet Bani Hassan						
	131 Al Zaweah	Garage	Colum, Roof	1	set	6,800.00	6,800.00
66	132 Der Balout						
	133 Kofur Al-Deek	Garage	Colum, Roof	1	set	6,800.00	6,800.00
67	134 Dier Estia						
	135 Kefel Hares	Garage	Colum, Roof	1	set	6,800.00	6,800.00
68,69	136 Jalboun						
	137 Der Ghazaleh						
	138 Arabbouneh	Garage	Colum, Roof	1	set	6,800.00	6,800.00
70,71	139 Serees						
	140 Al-Jdaydeh	Garage	Colum, Roof	1	set	6,800.00	6,800.00
72	141 Arrabeh	Garage	Colum, Roof	1	set	6,800.00	6,800.00
73	142 Yaabad	Garage	Colum, Roof	1	set	6,800.00	6,800.00
74	143 Kofur Raae						
	144 Fahmeh						
	145 Al-Rameh	Garage	Colum, Roof	1	set	6,800.00	6,800.00
75	146 Al-Moghayer						
	147 Jalkamous						
	148 Om Al-Tout						
	149 Al-Matalleh	Garage	Colum, Roof	1	set	6,800.00	6,800.00
76	150 Etenek						
	151 Aneen						
	152 Zbouba	Garage	Colum, Roof	1	set	6,800.00	6,800.00
77	153 Jabaa						
78	154 Al-Jalameh						
	155 Araneh						
	156 Al-Dahea	Garage	Colum, Roof	1	set	6,800.00	6,800.00
79	157 Anzeh						
	158 Ajjeh						
	159 Al-Zaweah	Garage	Colum, Roof	1	set	6,800.00	6,800.00
	Total of A						503,200.00

Group No.	Implementation Agency / Municipality/Village	Items	Contents	Quantity	Unit	Unit price (NIS)	Amount (NIS)
B. Improvement of disposal site							
Jenin Disposal Site (Jenin Municipality)		Fence	Fence H=1.5m	720	M	40.00	28,800.00
		Garage	Bulldozer	1	set	6,800.00	6,800.00
		Garage	Backhoe	1	set	6,800.00	6,800.00
		Garage	Dump truck	1	set	6,800.00	6,800.00
		Sub total					49,200.00
Tulkarem Disposal Site (Tulkarem Municipality)		Fence	Fence H=1.5m	490	M	40.00	19,600.00
		Garage	Tract loader	1	set	6,800.00	6,800.00
		Sub total					26,400.00
Toubas Disposal Site (Toubas Municipality)		Fence	Fence H=1.5m	540	M	40.00	21,600.00
		Access road	3,500m x 7m	24,500	M²	35.00	857,500.00
		Garage	Tract loader	1	set	6,800.00	6,800.00
		Sub total					885,900.00
Nablus Disposal Site (Nablus Municipality)		Fence	Fence H=1.5m	490	M	40.00	19,600.00
		Sub total					19,600.00
Salfit Disposal Site (Salfit Municipality)		Fence	Fence H=1.5m	260	M	40.00	10,400.00
		Sub total					10,400.00
Jericho Disposal Site (Jericho Municipality)		Fence	Fence H=1.5m	570	M	40.00	22,800.00
		Garage	Tract loader	1	set	6,800.00	6,800.00
		Sub total					29,600.00
Ramallah Disposal Site (Ramallah Municipality)		Fence	Fence H=1.5m	800	M	40.00	32,000.00
		Garage	Bulldozer	1	set	6,800.00	6,800.00
		Garage	Backhoe	1	set	6,800.00	6,800.00
		Garage	Dump truck	1	set	6,800.00	6,800.00
		Sub total					52,400.00
Hebron Disposal Site (Hebron Municipality)		Fence	Fence H=1.5m	1,300	M	40.00	52,000.00
		Sub total					52,000.00
Total of B							1,125,500.00
C. Construction of Warehouse							
Ramallah workshop		Warehouse		300	M²	800	240,000.00
Total of C							240,000.00
Grand Total							1,868,700.00

Appendix-6   Survey on Solid Waste Amount and Composition

Data Evaluation of Yatta

(1) Unit Generation Rate in town

	High/Middle Income class	Low Income class	shops & Market	office	Total
Surveyed Unit generation Rate (kg/capita)	1.67	0.39			
No. of House	300	5,000			
Population	3,700	33,300			
Surveyed Unit generation Rate (kg/shop)			18.06	1.54	
No. of shop			450	1	
Generated Amount per day (kg)	6,179	12,987	8,127	2	27,295
Result: Unit Generation Rate in town (kg/capita/day)					0.74

(2) Bulk Density of Solid Waste of town

	High/Middle Income class	Low Income class	shops & Market	office	Total
Surveyed Density	0.31	0.34	0.39	0.30	
Generated Amount per day (ton)	6.179	12.987	8.127	0.002	27.295
Calculated Amount per day (m3)	20.3	38.2	20.8	0.005	79.3
Result: Bulk Density of Solid Waste of town (t/m3)					0.34

Collected Data Evaluation for High/Middle Income Class Houses IN Yatta

Date	House No.	1	2	3	4	5	6	7	8	9	10	Total	Ave./capita	Density t/m3
	Floor area m2	160	160	140	140	140	140	160	500	500	300	2,340	45.9	
	persons	6	5	7	5	2	5	5	8	5	3	51	—	
30–Jun 1st day	weight (kg)	28.80	6.40	7.40	13.10	6.00	4.00	16.50	5.20	12.20	1.50	101.10	1.98	0.34
	volume (lit.)	43	25	39	40	16	21	44	39	20	12	299	5.9	—
1–Jul 2nd day	weight (kg)	8.0	4.0	12.0	13.0	10.0	3.0	7.0	6.0	8.0	10.0	81.0	1.59	0.35
	volume (lit.)	15	5	60	40	22	10	20	8	20	30	230	4.5	—
2–Jul 3rd day	weight (kg)	22.0	8.2	13.8	6.0	6.0	0.0	0.0	9.5	0.0	7.0	72.5	1.42	0.38
	volume (lit.)	50	25	55	20	5	0	0	20	0	15	190	3.7	—
3–Jul 4th day	weight (kg)	25.0	18.0	6.0	12.0	3.0	4.0	12.0	2.5	0.0	4.0	86.5	1.70	0.22
	volume (lit.)	110	60	50	50	15	20	50	25	0	20	400	7.8	—
4–Jul 5th day	weight (kg)	36.0	3.0	12.0	13.0	2.0	7.0	10.0	3.0	12.0	35.0	133.0	2.61	0.38
	volume (lit.)	80	15	70	35	15	18	20	20	60	20	353	6.9	—
5–Jul 6th day	weight (kg)	45.0	3.1	2.4	6.5	3.2	2.5	3.0	10.0	6.8	3.0	85.5	1.68	0.29
	volume (lit.)	95	29	7	35	15	20	18	35	20	20	294	5.8	—
6–Jul 7th day	weight (kg)	12.2	4.1	6.0	8.4	9.2	6.0	13.0	5.5	11.3	10.0	85.7	1.68	0.17
	volume (lit.)	70	40	70	40	45	40	70	40	44	60	519	10.2	—
7–Jul 8th day	weight (kg)	11.0	5.9	5.6	8.2	8.1	0.0	0.0	1.3	9.1	2.5	51.7	1.01	0.18
	volume (lit.)	60	30	55	55	40	0	0	10	35	8	293	5.7	—
Total for 8 days	weight (kg)											697.0	1.71	0.27
	volume (lit.)											2,578	6.3	—
Total for last 7 days	weight (kg)											595.9	1.67	0.26
	volume (lit.)											2,279	6.4	—

2

Collected Data Evaluation for Low Income Class Houses In Yatta

	House No.	1	2	3	4	5	6	7	8	9	10	Total	Ave./capita	Density t/m3
	Floor area m2	60	120	100	120	160	100	100	120	60	70	1,010	9.9	
Date	persons	7	11	10	10	14	10	13	11	7	9	102	-	
1st day	30-Jun weight (kg)	3.2	2.0	14.4	2.0	0.0	4.4	11.0	9.0	0.0	8.0	54.0	0.53	0.34
	volume (lit.)	17	22	49	9	0	10	15	20	0	18	160	1.6	-
2nd day	1-Jul weight (kg)	7.2	3.0	2.9	3.1	0.0	3.3	0.3	7.0	3.5	2.0	32.3	0.32	0.61
	volume (lit.)	8	17	3	3	0	4	2	6	6	4	53	0.5	-
3rd day	2-Jul weight (kg)	9.0	1.8	6.0	12.0	1.0	3.5	2.0	11.0	1.0	3.0	50.3	0.49	0.80
	volume (lit.)	6	3	9	11	3	3	4.5	11	5	7	62.5	0.6	-
4th day	3-Jul weight (kg)	11.0	1.0	7.0	6.0	3.0	4.0	0.2	5.0	0.5	0.0	37.7	0.37	0.30
	volume (lit.)	30	7	25	20	8	10	2	20	4	0	126	1.2	-
5th day	4-Jul weight (kg)	9.0	3.0	3.0	2.0	2.5	3.0	3.5	3.0	4.0	1.0	34.0	0.33	0.33
	volume (lit.)	40	6	10	8	6	6	7	6	8	5	102	1.0	-
6th day	5-Jul weight (kg)	7.2	1.9	3.0	3.0	0.3	5.0	1.2	4.1	3.0	0.0	28.7	0.28	0.34
	volume (lit.)	22	11	4	5	1.5	10	8	15	7	0	83.5	0.8	-
7th day	6-Jul weight (kg)	7.2	1.3	5.2	4.3	6.0	6.9	1.2	7.0	6.1	0.0	45.2	0.44	0.34
	volume (lit.)	15	5	13	5	20	29	8	35	4	0	134	1.3	-
8th day	7-Jul weight (kg)	15.0	0.5	9.8	1.0	2.0	7.0	1.0	6.0	5.3	1.2	48.8	0.48	0.21
	volume (lit.)	18	13	55	4	5	35	6	35	55	8	234	2.3	-
Total for 8 days	weight (kg)											331.0	0.41	0.35
	volume (lit.)											955	1.2	-
Total for last 7 days	weight (kg)											277.0	0.39	0.35
	volume (lit.)											795	1.1	-

3

Collected Data Evaluation for Shops & Market
IN Yatta

		House No.	1	2	3	5	Market	Total	Total/shop	Density t/m3	4
		Floor area m2	50	50	24	25	50				70
	Date	persons	2	3	1	1	2 stalls	199	33.17		1
1st day	30-Jun	weight (kg)	3.2	6.0	9.0	0.6	90.8	109.6	18.27	0.50	110.0
		volume (lit.)	14	8	18	10	170	220	36.7	-	120
2nd day	1-Jul	weight (kg)	0.8	4.9	1.4	3.0	45.0	55.1	9.18	0.49	128.0
		volume (lit.)	6	4	4	23	75	112	18.7	-	190
3rd day	2-Jul	weight (kg)	0.5	2.0	0.5	1.9	80.0	84.9	14.15	0.66	95.0
		volume (lit.)	4	6	2.5	7	110	129.5	21.6	-	110
4th day	3-Jul	weight (kg)	2.0	3.6	0.0	1.0	18.0	24.6	4.10	0.37	120.0
		volume (lit.)	5	8	0	4	50	67	11.2	-	160
5th day	4-Jul	weight (kg)	3.0	5.0	2.0	1.5	300.0	311.5	51.92	0.43	170.0
		volume (lit.)	8	7	6	5	700	726	121.0	-	300
6th day	5-Jul	weight (kg)	1.9	4.3	3.4	2.3	155.0	166.9	27.82	0.53	150.0
		volume (lit.)	8	13	9	7	280	317	52.8	-	225
7th day	6-Jul	weight (kg)	1.9	6.6	3.4	2.1	34.5	48.5	8.08	0.11	60.0
		volume (lit.)	8	14	11	60	350	443	73.8	-	220
8th day	7-Jul	weight (kg)	0.40	4.00	3.20	2.40	57.0	67.0	11.17	0.25	61.00
		volume (lit.)	2	9	15	55	190	271	45.2	-	160
Total for 8 days		weight (kg)						868.1	18.09	0.38	
		volume (lit.)						2,286	47.6	-	
Total for last 7 days		weight (kg)						758.5	18.06	0.37	
		volume (lit.)						2,066	49.2	-	

Data of Shop No.4 is for reference only.

4

Collected Data Evaluation for Office & Street In Yatta

	Date		Office		Length km / Width m	Street
		Floor area m2 / persons	500 / 50		0.5 / 12	
1st day	30-Jun	weight (kg)	4.0		weight (kg)	25.0
		volume (lit.)	60		volume (lit.)	153
2nd day	1-Jul	weight (kg)	3.7		weight (kg)	37.0
		volume (lit.)	30		volume (lit.)	158
3rd day	2-Jul	weight (kg)	1.5		weight (kg)	16.5
		volume (lit.)	5		volume (lit.)	90
4th day	3-Jul	weight (kg)	0		weight (kg)	19.0
		volume (lit.)	0		volume (lit.)	140
5th day	4-Jul	weight (kg)	1.8		weight (kg)	20.0
		volume (lit.)	40		volume (lit.)	160
6th day	5-Jul	weight (kg)	2.8		weight (kg)	9.0
		volume (lit.)	7		volume (lit.)	80
7th day	6-Jul	weight (kg)	0.0		weight (kg)	13.2
		volume (lit.)	0		volume (lit.)	160
8th day	7-Jul	weight (kg)	1.0		weight (kg)	4.0
		volume (lit.)	30		volume (lit.)	60
Total for 8 days		weight (kg)	14.8		weight (kg)	143.7
		volume (lit.)	172		volume (lit.)	1,001
		kg/office/day	1.85		kg/km/day	57.48
		Density	0.09		Density	0.14
Total for last 7 days		weight (kg)	10.8		weight (kg)	118.7
		volume (lit.)	112		volume (lit.)	848
		kg/office/day	1.54		kg/km/day	59.35
		Density t/m3	0.10		Density t/m3	0.14

5

Evaluated Waste Composition & Bulk Density
Yatta (July 2)

Items			High/Middle	Low	Shops & Market	Office
Bulk Density						
		weight kg	72.5	50.3	84.9	1.5
		volume lit.	190	150	129.5	5
		density ton/m3	0.38	0.34	0.66	0.30
Composition	Combustible %		98.6%	98.5%	97.6%	40.0%
		Paper %	7.9%	13.3%	3.5%	39.3%
		Textile %	2.1%	0.4%	0.0%	0.0%
		Plastic %	6.3%	15.3%	1.5%	0.7%
		Rubber %	0.0%	0.9%	0.0%	0.0%
		Learther %	1.9%	0.0%	0.0%	0.0%
		Grass & wood %	5.0%	4.8%	0.0%	0.0%
		Kitchen Waste %	75.4%	63.8%	92.6%	0.0%
		Others over 5mm %	0.0%	0.0%	0.0%	0.0%
		Others under 5mm %	0.0%	0.0%	0.0%	0.0%
	Non-combustible %		1.4%	1.5%	2.4%	60.0%
		Metal %	0.5%	0.1%	0.2%	6.7%
		Glass %	1.0%	1.4%	2.1%	53.3%
		Ceramic %	0.0%	0.0%	0.0%	0.0%
		Sand, stone, soil %	0.0%	0.0%	0.0%	0.0%

Evaluated Waste Composition & Bulk Density
Yatta (July 6)

Items		High/Middle	Low	Shops & Market	
Bulk Density					
	weight kg	67.7	34	48.5	
	volume lit.	300	100	443	
	density ton/m3	0.23	0.34	0.11	
Composition	Combustible %	95.3%	98.8%	96.9%	
	Paper %	7.8%	0.9%	18.4%	
	Textile %	0.0%	0.1%	0.0%	
	Plastic %	5.5%	10.9%	13.0%	
	Rubber %	0.0%	0.0%	0.0%	
	Learther %	0.0%	0.0%	0.0%	
	Grass & wood %	9.6%	1.0%	0.3%	
	Kitchen Waste %	72.5%	85.8%	65.2%	
	Others over 5mm %	0.0%	0.0%	0.0%	
	Others under 5mm %	0.0%	0.0%	0.0%	
	Non-combustible %	4.7%	1.2%	3.1%	
	Metal %	1.9%	0.6%	0.0%	
	Glass %	1.7%	0.6%	2.9%	
	Ceramic %	1.0%	0.0%	0.0%	
	Sand, stone, soil %	0.0%	0.0%	0.2%	

Data Evaluation of Bait Fajar

(1) Unit Generation Rate in town

	High/Middle Income class	Low Income class	shops & Market	office	Total
Surveyed Unit generation Rate (kg/capita)	0.74	0.35			
No. of House	65	835			
Population	900	8,100			
Surveyed Unit generation Rate (kg/shop)			2.33	0.45	
No. of shop			153	1	
Generated Amount per day (kg)	666	2,835	356	0	3,858
Result: Unit Generation Rate in town (kg/capita/day)					0.43

(2) Bulk Density of Solid Waste of town

	High/Middle Income class	Low Income class	shops & Market	office	Total
Surveyed Density	0.41	0.23	0.16	0.06	
Generated Amount per day (ton)	0.666	2.835	0.356	0.00045	3.858
Calculated Amount per day (m3)	1.6	12.3	2.3	0.008	16.3
Result: Bulk Density of Solid Waste of town (t/m3)					0.24

Collected Data Evaluation for High/Middle Income Class Houses IN Bait Fajar

Date		House No.	1	2	3	4	5	6	7	8	9	10	Total	Ave./capita	Density t/m3
		Floor area m2	200	200	200	200	400	320	120	120	150	300	2,210	38.1	9.31
		persons	4	6	4	5	5	2	10	7	7	8	58	-	-
1st day	1-Jul	weight (kg)	6.4	3.5	13.2	7.4	22.0	5.0	8.0	0.0	7.0	11.0	83.50	1.44	1.02
		volume (lit.)	30	15	40	40	20	40	30	0	30	25	270	4.7	-
2nd day	2-Jul	weight (kg)	6.0	2.0	5.5	3.0	0.0	2.2	9.0	2.0	14.2	4.0	47.9	0.83	0.22
		volume (lit.)	5	2	4	4	0	5	6	3	14	4	47	0.8	-
3rd day	3-Jul	weight (kg)	6.0	3.0	3.0	6.0	4.0	1.0	0.0	3.5	0.0	9.0	35.5	0.61	0.27
		volume (lit.)	30	15	15	30	20	10	0	15	0	25	160	2.8	-
4th day	4-Jul	weight (kg)	13.0	4.0	4.8	11.5	4.5	2.2	9.0	2.5	5.0	9.5	66.0	1.14	0.14
		volume (lit.)	30	25	28	40	18	14	30	12	15	35	247	4.3	-
5th day	5-Jul	weight (kg)	4.1	3.4	6.2	4.0	0.0	3.2	0.0	3.0	11.0	8.5	43.4	0.75	0.20
		volume (lit.)	40	30	48	55	0	20	0	30	50	35	308	5.3	-
6th day	6-Jul	weight (kg)	11	5.3	4.5	5.4	3.1	1.3	0.0	5.0	0.0	6.2	41.8	0.72	0.20
		volume (lit.)	42	40	45	30	15	6	0	15	0	20	213	3.7	-
7th day	7-Jul	weight (kg)	5.8	5.4	6.4	6.0	1.2	2.8	9.6	3.2	0.0	0.0	40.4	0.70	0.12
		volume (lit.)	35	45	55	35	25	30	60	40	0	0	325	5.6	-
8th day	8-Jul	weight (kg)	5.5	3.2	0.0	0.0	3.5	2.5	0.0	5.5	0.0	5.5	25.7	0.44	0.22
		volume (lit.)	35	15	0	0	15	20	0	15	0	15	115	2.0	-
Total for 8 days		weight (kg)											384.2	0.83	0.23
		volume (lit.)											1,685	3.6	-
Total for last 7 days		weight (kg)											300.7	0.74	0.21
		volume (lit.)											1,415	3.5	-

Collected Data Evaluation for Low Income Class Houses
In Bait Fajar

Date		House No.	1	2	3	4	5	6	7	8	9	10	Total	Ave./capita	Density t/m3
		Floor area m2	20	50	50	120	40	40	40	160	60	30	610	8.4	
		persons	8	7	8	12	6	6	5	9	5	7	73	–	
1-Jul	1st day	weight (kg.)	4.0	2.5	10.0	2.2	2.8	4.8	6.5	6.0	1.5	7.0	47.3	0.65	0.19
		volume (lit.)	10	10	40	15	30	20	45	40	25	20	255	3.5	–
2-Jul	2nd day	weight (kg.)	1.0	1.0	3.0	2.0	2.0	6.0	6.0	1.0	1.2	1.0	24.2	0.33	0.24
		volume (lit.)	4	6	10	8	30	10	10	3	10	10	101	1.4	–
3-Jul	3rd day	weight (kg.)	1.0	0.0	7.0	3.0	0.0	3.0	4.0	0.2	3.0	3.0	24.2	0.33	0.14
		volume (lit.)	10	0	30	30	0	25	30	2	25	15	167	2.3	–
4-Jul	4th day	weight (kg.)	0.3	0.0	5.5	1.3	2.5	1.0	3.0	0.5	2.5	2.0	18.6	0.25	0.23
		volume (lit.)	6	0	12	8	10	6	12	4	10	12	80	1.1	–
5-Jul	5th day	weight (kg.)	3.0	2.1	2.1	0.0	0.0	3.0	2.8	3.4	3.1	6.2	25.7	0.35	0.14
		volume (lit.)	20	25	25	0	0	25	18	18	25	30	186	2.5	–
6-Jul	6th day	weight (kg.)	0.4	1.4	4.2	3.4	4.8	1.4	8.6	2.6	0.0	4.0	30.8	0.42	0.29
		volume (lit.)	5	8	25	15	8	3	15	10	0	18	107	1.5	–
7-Jul	7th day	weight (kg.)	4.2	1.8	1.4	3.2	2.4	1.4	4	6.4	0.0	0.0	24.8	0.34	0.09
		volume (lit.)	60	25	40	14	40	15	35	45	0	0	274	3.8	–
8-Jul	8th day	weight (kg.)	0.8	1.0	3.8	3.5	6.0	3.0	2.0	5.2	2.5	3.0	30.8	0.42	0.29
		volume (lit.)	9	4	14	8	24	8	6	13	12	10	108	1.5	–
Total for 8 days		weight (kg.)											226.4	0.39	0.18
		volume (lit.)											1,278	2.2	–
Total for last 7 days		weight (kg.)											179.1	0.35	0.18
		volume (lit.)											1,023	2.0	–

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Collected Data Evaluation for Shops & Market IN Bait Fajar

Date		House No.	1	2	3	4	5	Market	Total	Total/shop	Density t/m3
		Floor area m2	16	40	20	40	50	60	226	37.67	
		persons	1	1	4	2	1	1 stalls		-	
1st day	1–Jul	weight (kg)	3.5	3.8	0.5	0.8	0.3	0.6	9.5	1.58	0.03
		volume (lit.)	100	120	30	50	20	50	370	61.7	-
2nd day	2–Jul	weight (kg)	3.0	6.5	0.5	3.0	1.0	1.4	15.4	2.57	0.25
		volume (lit.)	6	30	3	5	10	8	62	10.3	-
3rd day	3–Jul	weight (kg)	2.0	5.0	1.0	3.0	1.2	1.0	13.2	2.20	0.08
		volume (lit.)	25	45	20	40	15	20	165	27.5	-
4th day	4–Jul	weight (kg)	1.0	3.0	0.5	2.0	0.0	1.5	8.0	1.33	0.07
		volume (lit.)	30	60	10	10	0	12	122	20.3	-
5th day	5–Jul	weight (kg)	0.0	6.8	1.0	2.0	0.8	1.2	11.8	1.97	0.07
		volume (lit.)	0	80	45	30	5	20	180	30.0	-
6th day	6–Jul	weight (kg)	4.6	10.8	0.5	2.0	0.0	1.6	19.5	3.25	0.08
		volume (lit.)	75	130	4	18	0	22	249	41.5	-
7th day	7–Jul	weight (kg)	3.0	2.7	1.2	2.2	2.2	2	13.3	2.22	0.07
		volume (lit.)	35	65	20	25	25	15	185	30.8	-
8th day	8–Jul	weight (kg)	5.0	5.5	1.5	1.0	3.0	0.8	16.8	2.80	0.09
		volume (lit.)	45	80	12	13	28	13	191	31.8	-
Total for 8 days		weight (kg)							107.5	2.24	0.07
		volume (lit.)							1,524	31.8	-
Total for last 7 days		weight (kg)							98.0	2.33	0.08
		volume (lit.)							1,154	27.5	-

Collected Data Evaluation for Office & Street
In Bait Fajar

	Date		Office 200, 7 (Floor area m2, persons)		Length km, Width m	Street 0.5, 7
1st day	30-Jun	weight (kg)	1.5		weight (kg)	3.5
		volume (lit.)	30		volume (lit.)	60
2nd day	1-Jul	weight (kg)	0.25		weight (kg)	4.8
		volume (lit.)	4		volume (lit.)	50
3rd day	2-Jul	weight (kg)	0		weight (kg)	5.0
		volume (lit.)	0		volume (lit.)	60
4th day	3-Jul	weight (kg)	1		weight (kg)	5.0
		volume (lit.)	18		volume (lit.)	40
5th day	4-Jul	weight (kg)	0		weight (kg)	6.4
		volume (lit.)	0		volume (lit.)	80
6th day	5-Jul	weight (kg)	0		weight (kg)	5.2
		volume (lit.)	0		volume (lit.)	30
7th day	6-Jul	weight (kg)	1		weight (kg)	4.2
		volume (lit.)	25		volume (lit.)	70
8th day	7-Jul	weight (kg)	0.9		weight (kg)	8
		volume (lit.)	10		volume (lit.)	55
Total for 8 days		weight (kg)	4.7		weight (kg)	42.1
		volume (lit.)	87		volume (lit.)	445
		kg/office/day	0.58		kg/km/day	16.84
		Density	0.05		Density	0.09
Total for last 7 days		weight (kg)	3.2		weight (kg)	38.6
		volume (lit.)	57		volume (lit.)	385
		kg/office/day	0.45		kg/km/day	19.30
		Density t/m3	0.06		Density t/m3	0.10

Evaluated Waste Composition & Bulk Density
Bait Fajar (July 2)

Items			High/Middle	Low	Shops & Market	Office
Bulk Density						
		weight kg	47.9	24.2	15.4	0.25
		volume lit.	90	101	62	4
		density ton/m3	0.53	0.24	0.25	0.06
Composition	Combustible %		98.5%	93.8%	79.2%	100.0%
		Paper %	6.1%	8.3%	46.8%	100.0%
		Textile %	0.0%	3.3%	0.0%	0.0%
		Plastic %	5.8%	36.0%	31.2%	0.0%
		Rubber %	0.0%	1.2%	0.0%	0.0%
		Learther %	0.0%	0.0%	0.0%	0.0%
		Grass & wood %	0.0%	0.2%	0.6%	0.0%
		Kitchen Waste %	86.6%	44.6%	0.6%	0.0%
		Others over 5mm %	0.0%	0.2%	0.0%	0.0%
		Others under 5mm %	0.0%	0.0%	0.0%	0.0%
	Non-combustible %		1.5%	6.2%	24.0%	0.0%
		Metal %	0.4%	5.4%	1.9%	0.0%
		Glass %	1.0%	0.0%	22.1%	0.0%
		Ceramic %	0.0%	0.0%	0.0%	0.0%
		Sand, stone, soil %	0.0%	0.8%	0.0%	0.0%

Evaluated Waste Composition & Bulk Density
Bait Fajar (July 6)

Items			High/Middle	Low	Shops & Market	
Bulk Density						
		weight kg	43.8	28.8	25.2	
		volume lit.	155	130	450	
		density ton/m3	0.28	0.22	0.06	
Composition	Combustible %		98.9%	98.1%	85.5%	
		Paper %	1.6%	6.9%	78.0%	
		Textile %	0.9%	6.6%	0.0%	
		Plastic %	2.3%	1.7%	7.1%	
		Rubber %	0.0%	0.0%	0.0%	
		Learther %	0.0%	0.0%	0.0%	
		Grass & wood %	0.0%	0.9%	0.0%	
		Kitchen Waste %	94.1%	81.9%	0.0%	
		Others over 5mm %	0.0%	0.0%	0.4%	
		Others under 5mm %	0.0%	0.0%	0.0%	
	Non-combustible %		1.1%	1.9%	14.5%	
		Metal %	0.9%	0.0%	0.6%	
		Glass %	0.2%	1.9%	13.9%	
		Ceramic %	0.0%	0.0%	0.0%	
		Sand, stone, soil %	0.0%	0.0%	0.0%	

JICA