Calculation of Natural Flow at the New Lengkong Dam (1 / 2)

Unit : m 3/s

YEAR : 1977

		Brantas Atas Irrigation	Net	Brantas Bawah Irrigation	Net	Return Flow from Brantas Atas Irrigation	Return Flow from Brantas Bawah Irrigation	Net Return Flow	Molek Irrigation	Molek Irrigation (Net)	Net	Return Flow from Molek Irrigation	Lodagung Irrigation	Lodagung Irrigation (Net)	Net	Return Flow from Lodagung Irrigation	Warujayeng -Kertosono Irrigation (Mrican Kiri)	Warujayeng -Kertosono Irrigation (Mrican Kiri) (Net)	Net	Turi-Tunggorono Irrigation (Mrican Kanan)	Net	Brantas Kiri Kediri Irrigation	Net	Return Flow from Warujayeng -Kertosono Irrigation
Jan.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.90	7.28	9.32	2.37	0.00	-2.37	6.95	0.00	11.79	11.79	18.74	7.45	26.17	0.86	27.03	3.54
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.33	6.71	8.75	2.20	0.00	-2.20	6.55	0.00	13.52	13.52	20.07	8.20	28.27	0.95	29.22	4.05
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.98	7.36	9.40	2.39	0.00	-2.39	7.01	0.00	13.00	13.00	20.01	8.79	28.80	0.56	29.36	3.90
Feb.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.97	7.36	9.40	2.39	0.00	-2.39	7.01	0.00	12.62	12.62	19.63	8.12	27.75	0.56	28.31	3.79
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.85	7.24	9.28	2.35	0.00	-2.35	6.92	0.00	12.87	12.87	19.79	7.24	27.03	0.54	27.57	3.86
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.81	7.20	9.24	2.34	0.00	-2.34	6.90	0.00	13.66	13.66	20.56	7.47	28.02	0.54	28.56	4.10
Mar.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.96	7.35	9.39	2.39	0.00	-2.39	7.00	0.00	12.79	12.79	19.79	7.35	27.14	0.58	27.72	3.84
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.65	7.04	9.08	2.29	0.00	-2.29	6.78	0.00	12.02	12.02	18.80	7.71	26.50	0.58	27.08	3.60
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.82	7.21	9.25	2.35	0.00	-2.35	6.90	0.00	12.52	12.52	19.42	7.67	27.09	0.58	27.67	3.76
Apr.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.02	6.41	8.45	2.11	0.00	-2.11	6.34	0.00	11.30	11.30	17.64	7.12	24.76	0.53	25.29	3.39
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.83	6.22	8.26	2.05	0.00	-2.05	6.21	0.00	11.77	11.77	17.98	6.73	24.70	0.53	25.23	3.53
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.59	5.98	8.02	1.98	0.00	-1.98	6.04	0.00	12.59	12.59	18.63	6.75	25.38	0.49	25.87	3.78
May	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.33	5.72	7.76	1.90	0.00	-1.90	5.86	0.00	12.44	12.44	18.30	6.91	25.21	0.41	25.62	3.73
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.59	5.97	8.01	1.98	0.00	-1.98	6.04	0.00	11.20	11.20	17.23	6.86	24.10	0.15	24.25	3.36
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.15	6.54	8.57	2.14	0.00	-2.14	6.43	0.00	10.50	10.50	16.93	6.69	23.62	0.15	23.77	3.15
June	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.59	5.97	8.01	1.98	0.00	-1.98	6.04	0.00	11.01	11.01	17.05	7.14	24.19	0.15	24.34	3.30
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.19	6.58	8.62	2.16	0.00	-2.16	6.46	0.00	10.76	10.76	17.22	6.95	24.17	0.15	24.32	3.23
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.84	6.23	8.27	2.05	0.00	-2.05	6.22	0.00	9.95	9.95	16.16	6.77	22.94	0.15	23.09	2.98
July	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.57	4.96	7.00	1.67	0.00	-1.67	5.32	0.00	8.93	8.93	14.26	5.62	19.88	0.15	20.03	2.68
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.93	4.32	6.36	1.48	0.00	-1.48	4.88	0.00	8.81	8.81	13.68	4.94	18.62	0.15	18.77	2.64
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.94	4.33	6.37	1.48	0.00	-1.48	4.88	0.00	8.57	8.57	13.46	4.79	18.24	0.15	18.39	2.57
Aug.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.77	4.16	6.20	1.43	0.00	-1.43	4.77	0.00	9.14	9.14	13.91	4.70	18.61	0.15	18.76	2.74
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.40	3.79	5.83	1.32	0.00	-1.32	4.51	0.00	9.94	9.94	14.45	4.31	18.76	0.15	18.91	2.98
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.36	3.75	5.79	1.31	0.00	-1.31	4.48	0.00	8.76	8.76	13.24	4.49	17.73	0.15	17.88	2.63
Sept.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.30	3.69	5.73	1.29	0.00	-1.29	4.44	0.00	9.00	9.00	13.44	5.00	18.44	0.15	18.59	2.70
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.12	3.51	5.55	1.24	0.00	-1.24	4.31	0.00	8.98	8.98	13.29	4.08	17.37	0.15	17.52	2.69
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.72	3.10	5.14	1.11	0.00	-1.11	4.03	0.00	7.70	7.70	11.73	3.98	15.71	0.15	15.86	2.31
Oct.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.54	2.93	4.97	1.06	0.00	-1.06	3.91	0.00	6.95	6.95	10.86	2.75	13.61	0.15	13.76	2.09
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.58	2.97	5.01	1.08	0.00	-1.08	3.94	0.00	7.83	7.83	11.77	1.52	13.28	0.15	13.43	2.35
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	2.49	1.88	3.92	0.75	0.00	-0.75	3.17	0.00	6.86	6.86	10.02	2.96	12.99	0.15	13.14	2.06
Nov.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	2.44	1.83	3.87	0.73	0.00	-0.73	3.14	0.00	6.83	6.83	9.97	3.20	13.17	0.15	13.32	2.05
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	2.51	1.90	3.94	0.75	0.00	-0.75	3.18	0.00	7.03	7.03	10.21	3.97	14.18	0.15	14.33	2.11
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.48	2.87	4.91	1.04	0.00	-1.04	3.86	0.00	7.71	7.71	11.57	4.54	16.11	0.15	16.26	2.31
Dec.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.23	3.62	5.66	1.27	0.00	-1.27	4.39	0.00	10.62	10.62	15.01	5.25	20.25	0.27	20.52	3.18
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.83	4.21	6.25	1.45	0.00	-1.45	4.80	0.00	11.95	11.95	16.76	5.98	22.73	0.66	23.39	3.59
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.65	5.03	7.07	1.69	0.00	-1.69	5.38	0.00	12.15	12.15	17.53	6.63	24.16	0.73	24.89	3.65
Total (million m³)		45.47	45.47	18.83	64.30	13.64	5.65	19.29	179.46	160.17	224.47	53.84	0.00	-53.84	170.63	0.00	327.07	327.07	497.70	184.30	682.00	10.81	692.80	98.12
Total in the dry season (million m³)		22.80	22.80	9.44	32.24	6.84	2.83	9.67	69.94	60.26	92.50	20.98	0.00	-20.98	71.52	0.00	135.79	135.79	207.32	71.66	278.98	2.37	281.35	40.74

Source : Calculated by the Study Team

MH-27

Calculation of Natural Flow at the New Lengkong Dam (2 / 2)

YEAR : 1977

Unit : m³/s

		Return Flow from Brantas Kiri Kediri Irrigation	Return Flow from Turi-Tunggorono Irrigation	Jatimlerek Irrigation	Jatimlerek Irrigation (Net)	Net	Mentrus Irrigation	Net	Industrial Water	Net	Return Flow from Jatimlerek Irrigation	Return Flow from Mentrus Irrigation	Return Flow from Turi-Tunggorono Irrigation	Net Return Flow from Jati.and Ment.and Turi-Tun.	Mrilip Gate	Mrilip Gate (Net)	Net	Brantas Delta Irrigation	Storage of Sutami and Lahor Reservoirs	New Lengkong Dam Observed Discharge	Net Total Taken Water	Natural Flow at New Lengkong Dam
Jan.	1st	0.26	0.52	1.40	-2.91	24.12	2.56	26.68	2.35	29.03	0.42	0.77	1.71	2.90	33.60	30.70	59.73	57.73	4.91	136.57	121.77	258.34
	2nd	0.29	0.58	1.43	-3.48	25.74	2.53	28.27	2.35	30.62	0.43	0.76	1.89	3.07	18.32	15.25	45.87	56.96	11.66	133.56	114.48	248.04
	3rd	0.17	0.62	1.42	-3.27	26.10	3.10	29.20	2.35	31.55	0.43	0.93	2.02	3.38	40.80	37.42	68.97	58.37	22.63	308.09	149.98	458.07
Feb.	1st	0.17	0.57	1.11	-3.41	24.90	3.35	28.25	2.35	30.60	0.33	1.01	1.87	3.21	34.79	31.58	62.18	53.36	17.06	265.20	132.60	397.80
	2nd	0.16	0.51	0.81	-3.72	23.85	3.24	27.09	2.35	29.44	0.24	0.97	1.66	2.88	53.19	50.31	79.75	54.02	19.88	234.58	153.65	388.23
	3rd	0.16	0.52	0.81	-3.98	24.59	3.67	28.26	2.35	30.61	0.24	1.10	1.72	3.06	35.74	32.68	63.29	57.85	44.64	238.88	165.77	404.65
Mar.	1st	0.17	0.52	1.36	-3.16	24.56	3.76	28.32	2.35	30.67	0.41	1.13	1.69	3.23	37.09	33.86	64.53	58.25	80.74	257.89	203.52	461.41
	2nd	0.17	0.54	1.00	-3.32	23.77	3.08	26.85	2.35	29.20	0.30	0.93	1.77	3.00	76.62	73.62	102.82	56.75	35.18	356.20	194.76	550.96
	3rd	0.17	0.54	1.04	-3.42	24.24	2.17	26.42	2.35	28.77	0.31	0.65	1.76	2.73	84.25	81.53	110.29	54.49	44.42	383.09	209.21	592.30
Apr.	1st	0.16	0.50	0.86	-3.19	22.10	1.81	23.91	2.35	26.26	0.26	0.54	1.64	2.44	64.68	62.24	88.50	52.48	14.85	321.20	155.83	477.03
	2nd	0.16	0.47	0.62	-3.55	21.69	1.49	23.18	2.35	25.53	0.18	0.45	1.55	2.18	40.38	38.20	63.73	50.86	-19.97	212.37	94.61	306.98
	3rd	0.15	0.47	0.09	-4.31	21.56	0.59	22.15	2.35	24.50	0.03	0.18	1.55	1.75	30.25	28.50	53.00	50.78	3.34	152.60	107.12	259.72
May	1st	0.12	0.49	0.41	-3.93	21.69	0.42	22.11	2.35	24.46	0.12	0.13	1.59	1.84	35.77	33.93	58.40	49.95	-11.30	40.32	97.04	137.36
	2nd	0.05	0.48	0.54	-3.35	20.90	0.43	21.33	2.35	23.68	0.16	0.13	1.58	1.87	28.44	26.57	50.25	50.88	-12.00	12.12	89.14	101.26
	3rd	0.05	0.47	0.75	-2.92	20.85	1.07	21.93	2.35	24.28	0.23	0.32	1.54	2.08	20.52	18.43	42.71	46.47	-13.42	9.04	75.77	84.81
June	1st	0.05	0.50	0.64	-3.21	21.13	0.75	21.88	2.35	24.23	0.19	0.22	1.64	2.06	30.62	28.56	52.79	49.96	-11.43	37.23	91.33	128.55
	2nd	0.05	0.49	0.88	-2.88	21.44	0.74	22.18	2.35	24.53	0.26	0.22	1.60	2.08	39.60	37.52	62.05	50.07	-4.67	31.83	107.45	139.28
	3rd	0.05	0.48	0.86	-2.64	20.45	0.76	21.21	2.35	23.56	0.26	0.23	1.56	2.04	23.50	21.46	45.01	47.18	0.80	37.59	92.99	130.58
July	1st	0.05	0.39	0.75	-2.37	17.66	0.56	18.22	2.35	20.57	0.23	0.17	1.29	1.69	12.85	11.16	31.74	38.04	-8.80	0.00	60.98	60.98
	2nd	0.05	0.35	0.63	-2.40	16.37	0.54	16.91	2.35	19.26	0.19	0.16	1.13	1.49	5.10	3.61	22.88	38.41	-19.19	0.00	42.10	42.10
	3rd	0.05	0.34	0.69	-2.27	16.13	0.51	16.63	2.35	18.98	0.21	0.15	1.10	1.46	14.78	13.32	32.31	33.96	-16.21	0.00	50.06	50.06
Aug.	1st	0.05	0.33	0.62	-2.49	16.26	0.53	16.79	2.35	19.14	0.19	0.16	1.08	1.43	13.02	11.59	30.74	27.70	-17.52	0.00	40.92	40.92
	2nd	0.05	0.30	0.58	-2.75	16.16	0.49	16.65	2.35	19.00	0.17	0.15	0.99	1.31	5.26	3.95	22.95	25.78	-13.20	0.00	35.53	35.53
	3rd	0.05	0.32	0.52	-2.47	15.41	0.49	15.90	2.35	18.25	0.16	0.15	1.03	1.33	7.44	6.10	24.35	24.32	-14.59	0.00	34.08	34.08
Sept.	1st	0.05	0.35	0.54	-2.56	16.03	0.47	16.49	2.35	18.84	0.16	0.14	1.15	1.45	10.69	9.24	28.09	26.27	-20.28	0.00	34.08	34.08
	2nd	0.05	0.29	0.27	-2.76	14.77	0.98	15.75	2.35	18.10	0.08	0.29	0.94	1.31	7.80	6.49	24.58	23.48	-17.23	0.00	30.84	30.84
	3rd	0.05	0.28	0.08	-2.55	13.31	0.44	13.75	2.35	16.10	0.03	0.13	0.91	1.07	6.76	5.69	21.79	24.21	-22.29	0.00	23.71	23.71
Oct.	1st	0.05	0.19	0.03	-2.29	11.46	0.53	11.99	2.35	14.34	0.01	0.16	0.63	0.80	5.86	5.06	19.40	21.07	-19.44	0.00	21.03	21.03
	2nd	0.05	0.11	0.34	-2.16	11.27	0.40	11.66	2.35	14.01	0.10	0.12	0.35	0.57	5.18	4.61	18.63	19.36	-20.32	0.00	17.67	17.67
	3rd	0.05	0.21	0.32	-1.99	11.15	0.33	11.48	2.35	13.83	0.10	0.10	0.68	0.88	4.35	3.48	17.31	20.04	-12.11	0.00	25.24	25.24
Nov.	1st	0.05	0.22	0.37	-1.95	11.37	0.33	11.70	2.35	14.05	0.11	0.10	0.74	0.95	4.15	3.20	17.26	13.34	-7.23	0.00	23.37	23.37
	2nd	0.05	0.28	0.36	-2.07	12.26	0.32	12.58	2.35	14.93	0.11	0.09	0.91	1.12	4.63	3.51	18.44	22.19	-4.63	0.00	36.00	36.00
	3rd	0.05	0.32	0.39	-2.28	13.98	0.33	14.31	2.35	16.66	0.12	0.10	1.04	1.26	8.56	7.30	23.96	31.04	7.88	0.00	62.87	62.87
Dec.	1st	0.08	0.37	0.51	-3.12	17.40	0.52	17.92	2.35	20.27	0.15	0.16	1.21	1.51	21.41	19.90	40.16	34.44	40.65	5.10	115.25	120.35
	2nd	0.20	0.42	0.75	-3.45	19.94	0.59	20.54	2.35	22.89	0.23	0.18	1.37	1.78	34.14	32.36	55.25	37.21	10.12	34.36	102.58	136.94
	3rd	0.22	0.47	0.88	-3.45	21.44	0.87	22.31	2.35	24.66	0.26	0.26	1.52	2.05	19.00	16.95	41.61	51.32	44.71	151.15	137.64	288.78
Total (million m³)		3.24	12.94	21.67	-92.63	600.17	38.77	638.94	74.11	713.05	6.50	11.63	42.35	60.48	804.48	744.00	1457.05	1283.32	98.73	2934.39	2839.10	5773.48
Total in the dry season (million m³)		0.71	5.03	7.81	-38.67	242.68	8.31	250.99	37.16	288.14	2.34	2.49	16.47	21.30	183.87	162.57	450.71	470.23	-194.18	92.13	726.76	818.90

Source : Calculated by the Study Team

MH-28

Calculation of Natural Flow at the New Lengkong Dam (1 / 2)

YEAR : 1978

Unit : m 3/s

		Brantas Atas Irrigation	Net	Brantas Bawah Irrigation	Net	Return Flow from Brantas Atas Irrigation	Return Flow from Brantas Bawah Irrigation	Net Return Flow	Molek Irrigation	Molek Irrigation (Net)	Net	Return Flow from Molek Irrigation	Lodagung Irrigation	Lodagung Irrigation (Net)	Net	Return Flow from Lodagung Irrigation	Warujayeng -Kertosono Irrigation (Mrican Kiri)	Warujayeng -Kertosono Irrigation (Mrican Kiri) (Net)	Net	Turi-Tunggorono Irrigation (Mrican Kanan)	Net	Brantas Kiri Kediri Irrigation	Net	Return Flow from Warujayen -Kertosono Irrigation
Jan.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.26	5.65	7.69	1.88	0.00	-1.88	5.81	0.00	11.63	11.63	17.44	7.00	24.44	0.86	25.29	3.49
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.55	5.94	7.98	1.97	0.00	-1.97	6.02	0.00	12.15	12.15	18.16	8.17	26.33	0.95	27.28	3.64
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.66	6.05	8.09	2.00	0.00	-2.00	6.09	0.00	12.46	12.46	18.54	8.86	27.40	0.56	27.96	3.74
Feb.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.58	5.97	8.01	1.97	0.00	-1.97	6.03	0.00	11.40	11.40	17.44	9.31	26.75	0.56	27.31	3.42
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.62	6.01	8.05	1.99	0.00	-1.99	6.06	0.00	11.03	11.03	17.09	9.15	26.24	0.54	26.78	3.31
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.53	5.91	7.95	1.96	0.00	-1.96	5.99	0.00	11.58	11.58	17.58	8.91	26.48	0.54	27.02	3.47
Mar.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.64	6.03	8.06	1.99	0.00	-1.99	6.07	0.00	10.74	10.74	16.82	8.74	25.55	0.58	26.13	3.22
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.61	6.00	8.04	1.98	0.00	-1.98	6.06	0.00	12.20	12.20	18.26	9.35	27.61	0.58	28.19	3.66
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.62	6.01	8.05	1.99	0.00	-1.99	6.06	0.00	11.40	11.40	17.46	9.60	27.07	0.58	27.65	3.42
Apr.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.51	5.90	7.94	1.95	0.00	-1.95	5.99	0.00	11.33	11.33	17.31	8.62	25.93	0.53	26.46	3.40
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.43	5.82	7.86	1.93	0.00	-1.93	5.93	0.00	11.54	11.54	17.47	8.72	26.18	0.53	26.71	3.46
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.63	5.01	7.05	1.69	0.00	-1.69	5.37	0.00	10.39	10.39	15.76	8.44	24.20	0.49	24.69	3.12
May	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.43	4.81	6.85	1.63	0.00	-1.63	5.23	0.00	12.01	12.01	17.24	8.30	25.53	0.41	25.94	3.60
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.47	4.85	6.89	1.64	0.00	-1.64	5.25	0.00	10.99	10.99	16.24	8.84	25.08	0.15	25.23	3.30
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.26	4.64	6.68	1.58	0.00	-1.58	5.11	0.00	10.13	10.13	15.23	9.73	24.96	0.15	25.11	3.04
June	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.19	4.58	6.62	1.56	0.00	-1.56	5.06	0.00	9.93	9.93	14.98	10.67	25.66	0.15	25.81	2.98
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.75	4.14	6.17	1.42	0.00	-1.42	4.75	0.00	10.30	10.30	15.05	10.19	25.23	0.15	25.38	3.09
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.58	3.97	6.01	1.37	0.00	-1.37	4.63	0.00	9.93	9.93	14.56	10.46	25.02	0.15	25.17	2.98
July	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.66	4.04	6.08	1.40	0.00	-1.40	4.69	0.00	10.02	10.02	14.70	10.48	25.18	0.15	25.33	3.00
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.57	3.96	6.00	1.37	0.00	-1.37	4.63	0.00	8.07	8.07	12.70	10.38	23.08	0.15	23.23	2.42
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.03	3.42	5.46	1.21	0.00	-1.21	4.25	0.00	8.41	8.41	12.65	10.52	23.17	0.15	23.32	2.52
Aug.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.31	3.70	5.74	1.29	0.00	-1.29	4.44	0.00	7.45	7.45	11.89	10.44	22.33	0.15	22.48	2.23
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.39	3.78	5.81	1.32	0.00	-1.32	4.50	0.00	8.19	8.19	12.68	9.97	22.66	0.15	22.81	2.46
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.25	3.64	5.68	1.28	0.00	-1.28	4.41	0.00	8.90	8.90	13.31	8.76	22.07	0.15	22.22	2.67
Sept.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.20	2.59	4.63	0.96	0.00	-0.96	3.67	0.00	7.72	7.72	11.39	9.20	20.59	0.15	20.74	2.32
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.14	3.53	5.57	1.24	0.00	-1.24	4.33	0.00	8.40	8.40	12.73	9.18	21.91	0.15	22.06	2.52
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.41	3.80	5.84	1.32	0.00	-1.32	4.51	0.00	7.73	7.73	12.24	7.88	20.13	0.15	20.28	2.32
Oct.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.37	3.76	5.80	1.31	0.00	-1.31	4.49	0.00	6.68	6.68	11.16	7.49	18.65	0.15	18.80	2.00
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.43	3.81	5.85	1.33	0.00	-1.33	4.53	0.00	8.54	8.54	13.07	5.39	18.46	0.15	18.61	2.56
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.28	3.67	5.71	1.28	0.00	-1.28	4.42	0.00	8.01	8.01	12.43	3.29	15.72	0.15	15.87	2.40
Nov.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.36	3.75	5.79	1.31	0.00	-1.31	4.48	0.00	8.61	8.61	13.09	8.05	21.14	0.15	21.29	2.58
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.64	4.03	6.07	1.39	0.00	-1.39	4.68	0.00	6.11	6.11	10.79	9.08	19.87	0.15	20.02	1.83
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.48	3.87	5.91	1.35	0.00	-1.35	4.57	0.00	9.10	9.10	13.67	9.65	23.31	0.15	23.46	2.73
Dec.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.60	3.99	6.03	1.38	0.00	-1.38	4.65	0.00	8.15	8.15	12.80	9.75	22.55	0.27	22.82	2.45
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.10	4.48	6.52	1.53	0.00	-1.53	4.99	0.00	10.63	10.63	15.62	9.09	24.72	0.66	25.38	3.19
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.58	4.97	7.01	1.68	0.00	-1.68	5.34	0.00	10.09	10.09	15.42	11.17	26.59	0.73	27.32	3.03
Total (million m³)		45.47	45.47	18.83	64.30	13.64	5.65	19.29	164.58	145.28	209.59	49.37	0.00	-49.37	160.21	0.00	308.04	308.04	468.25	282.71	750.96	10.81	761.77	92.41
Total in the dry season (million m³)		22.80	22.80	9.44	32.24	6.84	2.83	9.67	69.38	59.71	91.95	20.81	0.00	-20.81	71.13	0.00	133.58	133.58	204.71	141.11	345.82	2.37	348.19	40.07

Source : Calculated by the Study Team

MH-29

Calculation of Natural Flow at the New Lengkong Dam (2 / 2)

YEAR : 1978

Unit : m³/s

		Return Flow from Brantas Kiri Kediri Irrigation	Return Flow from Turi-Tunggorono Irrigation	Jatimlerek Irrigation	Jatimlerek Irrigation (Net)	Net	Mentrus Irrigation	Net	Industrial Water	Net	Return Flow from Jatimlerek Irrigation	Return Flow from Mentrus Irrigation	Return Flow from Turi-Tunggorono Irrigation	Net Return Flow from Jati.and Ment.and Turi-Tun.	Mrilip Gate	Mrilip Gate (Net)	Net	Brantas Delta Irrigation	Storage of Sutami and Lahor Reservoirs	New Lengkong Dam Observed Discharge	Net Total Taken Water	Natural Flow at New Lengkong Dam
Jan.	1st	0.26	0.49	0.77	-3.47	21.83	1.12	22.95	2.35	25.30	0.23	0.34	1.61	2.17	33.07	30.90	56.19	58.11	70.94	304.98	185.24	490.22
	2nd	0.29	0.57	0.88	-3.62	23.66	1.75	25.41	2.35	27.76	0.26	0.52	1.88	2.67	30.90	28.23	55.99	57.52	2.38	263.14	115.89	379.03
	3rd	0.17	0.62	0.92	-3.60	24.36	1.80	26.16	2.35	28.51	0.28	0.54	2.04	2.85	11.73	8.88	37.38	61.95	9.58	302.10	108.91	411.02
Feb.	1st	0.17	0.65	1.00	-3.24	24.07	1.87	25.94	2.35	28.29	0.30	0.56	2.14	3.00	1.00	-2.00	26.29	55.84	7.03	326.16	89.16	415.32
	2nd	0.16	0.64	1.04	-3.08	23.70	1.87	25.57	2.35	27.92	0.31	0.56	2.10	2.97	0.00	-2.97	24.95	53.35	30.34	381.14	108.64	489.78
	3rd	0.16	0.63	1.01	-3.25	23.77	1.81	25.58	2.35	27.93	0.30	0.54	2.05	2.89	0.00	-2.89	25.04	55.80	32.03	428.47	112.86	541.33
Mar.	1st	0.17	0.61	0.70	-3.31	22.83	1.73	24.56	2.35	26.91	0.21	0.52	2.01	2.74	0.00	-2.74	24.17	58.25	37.82	258.31	120.24	378.55
	2nd	0.17	0.66	0.74	-3.75	24.44	2.11	26.55	2.35	28.90	0.22	0.63	2.15	3.00	0.00	-3.00	25.89	72.53	33.27	412.36	131.69	544.05
	3rd	0.17	0.67	0.66	-3.61	24.04	2.33	26.37	2.35	28.72	0.20	0.70	2.21	3.10	0.00	-3.10	25.61	66.07	14.17	427.74	105.86	533.60
Apr.	1st	0.16	0.61	0.89	-3.27	23.19	1.17	24.36	2.35	26.71	0.27	0.35	1.98	2.60	0.00	-2.60	24.11	60.12	-2.46	212.99	81.77	294.76
	2nd	0.16	0.61	1.08	-3.16	23.56	1.47	25.03	2.35	27.38	0.32	0.44	2.00	2.77	0.00	-2.77	24.61	59.84	-1.73	261.78	82.72	344.50
	3rd	0.15	0.59	1.34	-2.52	22.17	0.93	23.10	2.35	25.45	0.40	0.28	1.94	2.62	0.00	-2.62	22.83	56.03	8.04	88.34	86.90	175.24
May	1st	0.12	0.58	1.35	-2.95	22.99	1.47	24.46	2.35	26.81	0.41	0.44	1.91	2.75	0.00	-2.75	24.05	60.02	32.13	202.94	116.20	319.14
	2nd	0.05	0.62	1.57	-2.39	22.84	1.37	24.21	2.35	26.56	0.47	0.41	2.03	2.91	0.00	-2.91	23.65	61.05	-0.16	368.08	84.53	452.60
	3rd	0.05	0.68	1.39	-2.37	22.74	0.87	23.61	2.35	25.96	0.42	0.26	2.24	2.92	0.00	-2.92	23.04	66.30	16.37	314.07	105.71	419.78
June	1st	0.05	0.75	1.33	-2.44	23.36	0.78	24.14	2.35	26.49	0.40	0.23	2.45	3.08	0.00	-3.08	23.41	62.76	-35.99	477.55	50.18	527.73
	2nd	0.05	0.72	1.29	-2.56	22.83	0.49	23.32	2.35	25.67	0.39	0.15	2.34	2.88	0.00	-2.88	22.79	62.51	30.77	440.28	116.07	556.34
	3rd	0.05	0.73	1.33	-2.43	22.74	0.48	23.22	2.35	25.57	0.40	0.14	2.40	2.95	0.00	-2.95	22.62	60.59	-2.16	299.02	81.05	380.07
July	1st	0.05	0.74	1.35	-2.43	22.90	0.60	23.50	2.35	25.85	0.41	0.18	2.41	2.99	0.00	-2.99	22.85	63.79	-17.03	540.91	69.61	610.52
	2nd	0.05	0.73	1.37	-1.83	21.40	0.47	21.87	2.35	24.22	0.41	0.14	2.39	2.94	0.00	-2.94	21.28	54.53	-6.34	251.14	69.47	320.61
	3rd	0.05	0.74	1.33	-1.98	21.34	0.50	21.84	2.35	24.19	0.40	0.15	2.42	2.97	0.00	-2.97	21.23	60.36	-5.66	163.07	75.93	239.00
Aug.	1st	0.05	0.73	1.13	-1.88	20.60	0.49	21.09	2.35	23.44	0.34	0.15	2.40	2.89	0.00	-2.89	20.55	58.62	15.47	106.97	94.64	201.62
	2nd	0.05	0.70	0.93	-2.27	20.54	0.54	21.07	2.35	23.42	0.28	0.16	2.29	2.73	0.00	-2.73	20.69	61.49	1.20	80.35	83.38	163.73
	3rd	0.05	0.61	0.69	-2.64	19.57	0.51	20.08	2.35	22.43	0.21	0.15	2.01	2.37	0.00	-2.37	20.06	54.65	-14.09	37.06	60.61	97.68
Sept.	1st	0.05	0.65	0.53	-2.47	18.26	0.50	18.76	2.35	21.11	0.16	0.15	2.11	2.42	0.00	-2.42	18.69	53.61	15.75	91.19	88.03	179.22
	2nd	0.05	0.64	0.57	-2.64	19.42	0.52	19.94	2.35	22.29	0.17	0.16	2.11	2.44	0.13	-2.31	19.98	52.66	-16.02	55.79	56.63	112.42
	3rd	0.05	0.55	0.57	-2.35	17.93	0.52	18.45	2.35	20.80	0.17	0.16	1.81	2.14	1.70	-0.44	20.36	52.90	-19.91	72.62	53.35	125.98
Oct.	1st	0.05	0.53	0.57	-2.00	16.80	0.54	17.34	2.35	19.69	0.17	0.16	1.72	2.06	1.27	-0.79	18.91	51.98	-15.98	61.07	54.90	115.97
	2nd	0.05	0.38	0.10	-2.89	15.72	0.57	16.29	2.35	18.64	0.03	0.17	1.24	1.44	2.87	1.43	20.07	50.67	-11.02	34.31	59.72	94.03
	3rd	0.05	0.23	0.27	-2.40	13.47	0.55	14.02	2.35	16.37	0.08	0.16	0.76	1.00	11.99	10.99	27.36	53.15	-1.15	75.64	79.36	155.00
Nov.	1st	0.05	0.56	0.48	-2.71	18.58	0.45	19.03	2.35	21.38	0.14	0.14	1.85	2.13	9.57	7.44	28.82	58.04	0.02	73.17	86.88	160.05
	2nd	0.05	0.64	0.77	-1.74	18.27	0.47	18.74	2.35	21.09	0.23	0.14	2.09	2.46	11.66	9.20	30.29	55.90	32.67	172.91	118.86	291.77
	3rd	0.05	0.68	0.48	-2.97	20.49	0.61	21.11	2.35	23.46	0.14	0.18	2.22	2.55	7.16	4.61	28.07	55.39	-33.25	115.18	50.21	165.39
Dec.	1st	0.08	0.68	1.16	-2.05	20.77	0.52	21.29	2.35	23.64	0.35	0.16	2.24	2.74	7.60	4.86	28.50	54.60	44.59	141.41	127.69	269.10
	2nd	0.20	0.64	1.30	-2.72	22.66	0.64	23.29	2.35	25.64	0.39	0.19	2.09	2.67	12.13	9.46	35.10	56.21	10.62	302.38	101.93	404.32
	3rd	0.22	0.78	1.27	-2.75	24.57	0.97	25.54	2.35	27.89	0.38	0.29	2.57	3.24	10.92	7.68	35.56	61.95	15.02	414.97	112.53	527.50
Total (million m³)		3.24	19.85	29.93	-85.57	676.20	30.91	707.11	74.11	781.21	8.98	9.27	64.97	83.22	135.79	52.57	833.78	1840.68	236.95	7471.33	2911.41	10382.74
Total in the dry season (million m³)		0.71	9.91	13.24	-37.45	310.75	8.42	319.16	37.16	356.32	3.97	2.52	32.43	38.93	41.08	2.16	358.48	898.92	-73.31	2743.90	1184.09	3927.99

Source : Calculated by the Study Team

MH-30

Calculation of Natural Flow at the New Lengkong Dam (1 / 2)

YEAR : 1979

Unit : m 3/s

		Brantas Atas Irrigation	Net	Brantas Bawah Irrigation	Net	Return Flow from Brantas Atas Irrigation	Return Flow from Brantas Bawah Irrigation	Net Return Flow	Molek Irrigation	Molek Irrigation (Net)	Net	Return Flow from Molek Irrigation	Lodagung Irrigation	Lodagung Irrigation (Net)	Net	Return Flow from Lodagung Irrigation	Warujayeng -Kertosono Irrigation (Mrican Kiri)	Warujayeng -Kertosono Irrigation (Mrican Kiri) (Net)	Net	Turi-Tunggorono Irrigation (Mrican Kanan)	Net	Brantas Kiri Kediri Irrigation	Net	Return Flow from Warujayeng -Kertosono Irrigation
Jan.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.25	5.63	7.67	1.87	2.00	0.13	7.80	0.08	9.35	9.27	17.07	10.50	27.57	0.86	28.43	2.80
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.61	6.00	8.04	1.98	1.94	-0.04	7.99	0.08	10.19	10.11	18.10	10.42	28.52	0.95	29.47	3.06
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.51	5.90	7.94	1.95	1.00	-0.95	6.99	0.04	9.92	9.88	16.87	10.50	27.37	0.56	27.93	2.98
Feb.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.40	5.79	7.83	1.92	1.67	-0.25	7.58	0.07	9.84	9.78	17.36	11.09	28.45	0.56	29.01	2.95
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.61	6.00	8.04	1.98	1.00	-0.98	7.05	0.04	10.10	10.06	17.11	11.18	28.29	0.54	28.83	3.03
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.66	6.05	8.09	2.00	1.00	-1.00	7.09	0.04	10.48	10.45	17.54	11.38	28.92	0.54	29.46	3.15
Mar.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.44	5.83	7.87	1.93	1.00	-0.93	6.94	0.04	10.53	10.49	17.42	11.03	28.45	0.58	29.03	3.16
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.40	5.78	7.82	1.92	1.00	-0.92	6.90	0.04	10.32	10.28	17.19	10.71	27.90	0.58	28.48	3.10
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.56	5.95	7.99	1.97	1.00	-0.97	7.02	0.04	10.20	10.16	17.18	8.57	25.75	0.58	26.33	3.06
Apr.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.10	5.49	7.53	1.83	1.00	-0.83	6.70	0.04	10.53	10.49	17.19	10.64	27.83	0.53	28.36	3.16
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.96	5.35	7.38	1.79	1.00	-0.79	6.60	0.04	9.89	9.85	16.45	10.79	27.24	0.53	27.77	2.97
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.78	5.17	7.21	1.73	1.00	-0.73	6.47	0.04	9.73	9.69	16.16	10.63	26.79	0.49	27.28	2.92
May	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.73	5.12	7.16	1.72	1.00	-0.72	6.44	0.04	9.53	9.49	15.93	10.63	26.56	0.41	26.97	2.86
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.53	4.91	6.95	1.66	1.00	-0.66	6.30	0.04	8.61	8.57	14.86	10.41	25.27	0.15	25.42	2.58
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.52	4.91	6.95	1.66	1.00	-0.66	6.29	0.04	9.60	9.56	15.86	10.59	26.44	0.15	26.59	2.88
June	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.20	4.59	6.63	1.56	1.00	-0.56	6.07	0.04	9.94	9.90	15.97	10.76	26.73	0.15	26.88	2.98
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.80	4.19	6.23	1.44	1.00	-0.44	5.79	0.04	9.57	9.53	15.32	10.12	25.44	0.15	25.59	2.87
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.70	4.09	6.13	1.41	1.55	0.14	6.27	0.06	9.30	9.24	15.51	9.79	25.29	0.15	25.44	2.79
July	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.79	4.18	6.22	1.44	2.40	0.96	7.18	0.09	8.65	8.55	15.73	10.18	25.92	0.15	26.07	2.59
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.84	4.23	6.27	1.45	2.40	0.95	7.22	0.09	9.27	9.17	16.39	10.42	26.82	0.15	26.97	2.78
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.79	4.18	6.22	1.44	2.40	0.96	7.18	0.09	8.86	8.77	15.95	10.01	25.96	0.15	26.11	2.66
Aug.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.52	3.91	5.95	1.36	2.40	1.04	6.99	0.09	8.96	8.87	15.86	10.40	26.26	0.15	26.41	2.69
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.48	3.86	5.90	1.34	2.40	1.06	6.96	0.09	9.61	9.51	16.47	9.12	25.59	0.15	25.74	2.88
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.61	3.99	6.03	1.38	2.40	1.02	7.05	0.09	8.58	8.49	15.54	6.72	22.26	0.15	22.41	2.58
Sept.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.75	4.13	6.17	1.42	2.49	1.07	7.24	0.10	8.87	8.77	16.01	6.47	22.48	0.15	22.63	2.66
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.30	3.69	5.73	1.29	2.48	1.19	6.92	0.10	9.79	9.69	16.61	6.76	23.37	0.15	23.52	2.94
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.37	3.76	5.80	1.31	2.40	1.09	6.89	0.09	10.09	10.00	16.89	6.95	23.84	0.15	23.99	3.03
Oct.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.17	3.55	5.59	1.25	2.40	1.15	6.74	0.09	9.90	9.80	16.55	3.08	19.63	0.15	19.78	2.97
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.17	3.56	5.60	1.25	2.40	1.15	6.75	0.09	8.10	8.01	14.75	4.21	18.96	0.15	19.11	2.43
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.20	3.59	5.63	1.26	2.40	1.14	6.77	0.09	6.94	6.84	13.61	5.34	18.95	0.15	19.10	2.08
Nov.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.08	4.46	6.50	1.52	2.40	0.88	7.38	0.09	7.86	7.76	15.14	7.03	22.17	0.15	22.32	2.36
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.18	4.56	6.60	1.55	2.40	0.85	7.45	0.09	7.34	7.25	14.70	7.32	22.01	0.15	22.16	2.20
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.65	5.04	7.08	1.70	2.35	0.66	7.73	0.09	7.79	7.70	15.43	7.33	22.76	0.15	22.91	2.34
Dec.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.07	4.46	6.50	1.52	3.00	1.48	7.98	0.12	8.55	8.43	16.41	8.99	25.40	0.27	25.67	2.57
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.06	5.45	7.49	1.82	3.00	1.18	8.67	0.12	13.44	13.32	21.99	9.10	31.09	0.66	31.75	4.03
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.29	5.68	7.71	1.89	2.97	1.08	8.80	0.12	10.66	10.54	19.34	9.60	28.93	0.73	29.66	3.20
Total (million m³)		45.47	45.47	18.83	64.30	13.64	5.65	19.29	170.72	151.43	215.73	51.21	58.21	6.99	222.72	2.27	298.29	296.02	518.74	287.37	806.11	10.81	816.92	89.49
Total in the dry season (million m³)		22.80	22.80	9.44	32.24	6.84	2.83	9.67	74.27	64.60	96.84	22.28	34.90	12.62	109.45	1.36	139.83	138.47	247.93	124.59	372.51	2.37	374.89	41.95

Source : Calculated by the Study Team

MH-31

Calculation of Natural Flow at the New Lengkong Dam (2 / 2)

YEAR : 1979

Unit : m³/s

		Return Flow from Brantas Kiri Kediri Irrigation	Return Flow from Turi-Tunggorono Irrigation	Jatimlerek Irrigation	Jatimlerek Irrigation (Net)	Net	Mentrus Irrigation	Net	Industrial Water	Net	Return Flow from Jatimlerek Irrigation	Return Flow from Mentrus Irrigation	Return Flow from Turi-Tunggorono Irrigation	Net Return Flow from Jati.and Ment.and Turi-Tun.	Mrilip Gate	Mrilip Gate (Net)	Net	Brantas Delta Irrigation	Storage of Sutami and Lahor Reservoirs	New Lengkong Dam Observed Discharge	Net Total Taken Water	Natural Flow at New Lengkong Dam
Jan.	1st	0.26	0.74	1.26	-2.54	25.88	2.69	28.57	2.35	30.92	0.38	0.81	2.41	3.60	11.63	8.03	38.96	58.11	-4.74	594.58	92.32	686.90
	2nd	0.29	0.73	1.24	-2.84	26.63	2.84	29.47	2.35	31.82	0.37	0.85	2.39	3.61	8.99	5.38	37.19	57.52	37.62	560.58	132.33	692.91
	3rd	0.17	0.74	1.20	-2.68	25.25	2.96	28.21	2.35	30.56	0.36	0.89	2.41	3.66	0.00	-3.66	26.90	61.96	33.65	645.92	122.51	768.43
Feb.	1st	0.17	0.78	1.05	-2.85	26.16	2.47	28.63	2.35	30.98	0.32	0.74	2.55	3.61	0.00	-3.61	27.37	56.50	18.34	549.60	102.22	651.81
	2nd	0.16	0.78	1.04	-2.93	25.90	2.35	28.25	2.35	30.60	0.31	0.70	2.57	3.59	0.00	-3.59	27.01	58.63	3.03	535.00	88.67	623.67
	3rd	0.16	0.80	1.39	-2.71	26.74	2.16	28.90	2.35	31.25	0.42	0.65	2.61	3.68	0.00	-3.68	27.57	60.20	-12.34	579.75	75.43	655.18
Mar.	1st	0.17	0.77	1.09	-3.02	26.02	2.07	28.08	2.35	30.43	0.33	0.62	2.54	3.48	0.00	-3.48	26.95	88.07	7.07	425.80	122.09	547.89
	2nd	0.17	0.75	1.45	-2.57	25.91	2.16	28.06	2.35	30.41	0.44	0.65	2.46	3.54	0.00	-3.54	26.87	64.01	23.73	293.65	114.61	408.26
	3rd	0.17	0.60	1.66	-2.18	24.15	2.23	26.38	2.35	28.73	0.50	0.67	1.97	3.14	0.00	-3.14	25.60	66.92	57.50	318.91	150.02	468.93
Apr.	1st	0.16	0.75	0.53	-3.53	24.83	1.56	26.39	2.35	28.74	0.16	0.47	2.45	3.07	1.03	-2.04	26.69	62.41	38.51	293.35	127.61	420.96
	2nd	0.16	0.76	0.58	-3.31	24.46	1.23	25.70	2.35	28.05	0.17	0.37	2.48	3.02	10.81	7.79	35.83	64.57	44.10	426.00	144.50	570.50
	3rd	0.15	0.75	0.77	-3.04	24.24	0.76	25.00	2.35	27.35	0.23	0.23	2.44	2.90	7.69	4.79	32.14	57.25	17.89	386.40	107.28	493.68
May	1st	0.12	0.75	0.25	-3.48	23.49	0.69	24.18	2.35	26.53	0.08	0.21	2.44	2.72	3.01	0.29	26.81	80.76	15.58	542.40	123.16	665.56
	2nd	0.05	0.73	1.45	-1.91	23.51	0.39	23.91	2.35	26.26	0.43	0.12	2.39	2.94	0.00	-2.94	23.31	65.00	13.28	384.60	101.59	486.19
	3rd	0.05	0.74	1.38	-2.29	24.30	0.30	24.61	2.35	26.96	0.41	0.09	2.43	2.94	10.39	7.45	34.41	65.36	10.98	413.18	110.75	523.93
June	1st	0.05	0.76	1.07	-2.71	24.17	0.39	24.56	2.35	26.91	0.32	0.12	2.47	2.91	8.98	6.07	32.98	64.24	-4.64	373.60	92.58	466.17
	2nd	0.05	0.71	1.20	-2.43	23.16	0.44	23.60	2.35	25.95	0.36	0.13	2.32	2.82	13.89	11.07	37.02	63.11	-17.80	257.00	82.33	339.33
	3rd	0.05	0.69	1.39	-2.13	23.32	0.38	23.70	2.35	26.05	0.42	0.12	2.25	2.78	20.45	17.67	43.72	61.98	5.02	31.06	110.73	141.79
July	1st	0.05	0.71	0.93	-2.43	23.64	0.38	24.03	2.35	26.38	0.28	0.12	2.34	2.73	15.87	13.14	39.51	60.86	-4.83	12.98	95.54	108.52
	2nd	0.05	0.73	0.89	-2.67	24.29	0.41	24.71	2.35	27.06	0.27	0.12	2.40	2.78	4.32	1.54	28.59	59.73	-8.08	21.95	80.25	102.20
	3rd	0.05	0.70	0.92	-2.48	23.63	0.41	24.04	2.35	26.39	0.28	0.12	2.30	2.70	9.66	6.96	33.36	58.61	-18.54	1.88	73.42	75.30
Aug.	1st	0.05	0.73	0.86	-2.60	23.81	0.41	24.22	2.35	26.57	0.26	0.12	2.39	2.77	8.45	5.68	32.25	57.48	-13.66	21.70	76.07	97.77
	2nd	0.05	0.64	0.72	-2.85	22.89	0.38	23.28	2.35	25.63	0.22	0.12	2.10	2.43	7.52	5.09	30.72	59.96	-15.94	4.48	74.74	79.21
	3rd	0.05	0.47	0.56	-2.53	19.88	0.44	20.32	2.35	22.67	0.17	0.13	1.54	1.84	6.57	4.73	27.40	42.81	-6.15	0.00	64.06	64.06
Sept.	1st	0.05	0.45	0.44	-2.72	19.90	0.31	20.21	2.35	22.56	0.13	0.09	1.49	1.71	7.11	5.40	27.96	33.88	-15.31	0.00	46.53	46.53
	2nd	0.05	0.47	0.27	-3.19	20.33	0.44	20.77	2.35	23.12	0.08	0.13	1.55	1.77	7.14	5.37	28.50	40.95	-23.01	0.00	46.44	46.44
	3rd	0.05	0.49	0.27	-3.30	20.69	0.50	21.20	2.35	23.55	0.08	0.15	1.60	1.83	5.20	3.37	26.92	41.48	-28.27	0.00	40.12	40.12
Oct.	1st	0.05	0.22	0.23	-2.98	16.80	0.44	17.23	2.35	19.58	0.07	0.13	0.71	0.91	6.32	5.41	24.99	42.00	-23.41	0.00	43.58	43.58
	2nd	0.05	0.30	0.07	-2.70	16.41	0.44	16.85	2.35	19.20	0.02	0.13	0.97	1.12	8.57	7.45	26.65	28.19	-10.16	0.00	44.68	44.68
	3rd	0.05	0.37	0.22	-2.28	16.82	0.36	17.17	2.35	19.52	0.07	0.11	1.23	1.40	5.85	4.46	23.98	32.11	5.26	0.00	61.34	61.34
Nov.	1st	0.05	0.49	0.44	-2.45	19.87	0.39	20.25	2.35	22.60	0.13	0.12	1.61	1.86	6.72	4.86	27.46	46.76	-0.06	0.76	74.16	74.92
	2nd	0.05	0.51	0.70	-2.06	20.10	0.39	20.49	2.35	22.84	0.21	0.12	1.68	2.01	4.95	2.94	25.78	50.62	-6.53	1.53	69.88	71.40
	3rd	0.05	0.51	0.93	-1.97	20.94	0.44	21.39	2.35	23.74	0.28	0.13	1.68	2.10	9.18	7.08	30.82	56.78	-3.64	2.69	83.97	86.65
Dec.	1st	0.08	0.63	0.97	-2.31	23.37	1.04	24.41	2.35	26.76	0.29	0.31	2.07	2.67	3.31	0.64	27.40	62.94	15.62	58.67	105.96	164.63
	2nd	0.20	0.64	1.15	-3.72	28.03	1.46	29.48	2.35	31.83	0.34	0.44	2.09	2.87	3.05	0.18	32.01	64.98	-7.06	72.64	89.93	162.57
	3rd	0.22	0.67	2.16	-1.93	27.74	2.59	30.33	2.35	32.68	0.65	0.78	2.20	3.63	0.00	-3.63	29.05	65.16	32.69	231.19	126.90	358.09
Total (million m³)		3.24	20.17	28.73	-84.17	732.75	34.40	767.15	74.11	841.26	8.62	10.32	66.04	84.98	190.01	105.03	946.29	1805.04	146.61	6987.16	2897.93	9885.10
Total in the dry season (million m³)		0.71	8.75	10.62	-40.79	334.10	6.47	340.57	37.16	377.72	3.19	1.94	28.63	33.76	137.35	103.59	481.32	790.48	-165.63	630.55	1106.16	1736.72

Source : Calculated by the Study Team

MH-32

Calculation of Natural Flow at the New Lengkong Dam (1 / 2)

YEAR : 1980

Unit : m ³/s

		Brantas Atas Irrigation	Net	Brantas Bawah Irrigation	Net	Return Flow from Brantas Atas Irrigation	Return Flow from Brantas Bawah Irrigation	Net Return Flow	Molek Irrigation	Molek Irrigation (Net)	Net	Return Flow from Molek Irrigation	Lodagung Irrigation	Lodagung Irrigation (Net)	Net	Return Flow from Lodagung Irrigation	Warujayeng -Kertosono Irrigation (Mrican Kiri)	Warujayeng -Kertosono Irrigation (Mrican Kiri) (Net)	Net	Turi-Tunggorono Irrigation (Mrican Kanan)	Net	Brantas Kiri Kediri Irrigation	Net	Return Flow from Warujayen -Kertosono Irrigation
Jan.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.81	6.19	8.23	2.04	3.00	0.96	9.19	0.12	12.51	12.39	21.58	11.20	32.78	0.86	33.64	3.75
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.79	6.18	8.22	2.04	3.00	0.96	9.18	0.12	12.50	12.38	21.56	11.20	32.76	0.95	33.71	3.75
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.91	6.30	8.34	2.07	3.00	0.93	9.26	0.12	11.85	11.73	21.00	11.20	32.20	0.56	32.76	3.56
Feb.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.80	6.19	8.23	2.04	3.00	0.96	9.19	0.12	12.51	12.39	21.58	11.20	32.78	0.56	33.34	3.75
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.02	6.41	8.45	2.11	3.00	0.89	9.34	0.12	11.56	11.44	20.78	11.20	31.98	0.54	32.52	3.47
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.17	6.56	8.59	2.15	3.00	0.85	9.44	0.12	7.01	6.89	16.33	11.20	27.53	0.54	28.07	2.10
Mar.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.05	6.44	8.48	2.12	3.00	0.88	9.36	0.12	8.92	8.80	18.16	7.90	26.06	0.58	26.64	2.68
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.07	6.46	8.50	2.12	3.30	1.18	9.68	0.13	9.22	9.09	18.77	5.80	24.57	0.58	25.15	2.77
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.76	6.15	8.19	2.03	3.00	0.97	9.16	0.12	9.36	9.25	18.40	7.00	25.40	0.58	25.98	2.81
Apr.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.56	4.94	6.98	1.67	3.00	1.33	8.32	0.12	9.53	9.41	17.73	8.00	25.73	0.53	26.26	2.86
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.67	5.05	7.09	1.70	2.96	1.26	8.35	0.12	11.27	11.15	19.51	7.00	26.51	0.53	27.04	3.38
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.62	5.00	7.04	1.68	5.72	4.04	11.08	0.22	10.88	10.65	21.73	5.90	27.63	0.49	28.12	3.26
May	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.40	4.79	6.82	1.62	5.75	4.13	10.96	0.22	9.38	9.16	20.11	8.40	28.51	0.41	28.92	2.87
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.04	4.43	6.46	1.51	5.75	4.24	10.70	0.22	6.92	6.69	17.40	8.30	25.70	0.15	25.85	2.08
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.04	5.43	7.47	1.81	5.75	3.94	11.40	0.22	8.13	7.91	19.31	8.10	27.41	0.15	27.56	2.44
June	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.60	3.99	6.03	1.38	5.75	4.37	10.40	0.22	8.20	7.98	18.38	7.60	25.98	0.15	26.13	2.46
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.46	3.85	5.89	1.34	5.75	4.41	10.30	0.22	8.97	8.75	19.05	6.00	25.05	0.15	25.20	2.69
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.44	3.83	5.87	1.33	5.75	4.42	10.29	0.22	8.91	8.68	18.97	6.00	24.97	0.15	25.12	2.67
July	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.31	3.70	5.74	1.29	5.75	4.46	10.20	0.22	9.21	8.99	19.18	5.10	24.28	0.15	24.43	2.76
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.30	3.69	5.73	1.29	4.64	3.35	9.08	0.18	9.31	9.13	18.20	6.50	24.70	0.15	24.85	2.79
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.18	3.57	5.61	1.25	4.00	2.75	8.35	0.16	9.96	9.81	18.16	6.00	24.16	0.15	24.31	2.99
Aug.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.31	3.69	5.73	1.29	4.00	2.71	8.44	0.16	9.88	9.72	18.16	6.90	25.06	0.15	25.21	2.96
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.11	3.50	5.54	1.23	4.00	2.77	8.31	0.16	7.55	7.39	15.70	5.30	21.00	0.15	21.15	2.26
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.54	2.93	4.97	1.06	4.00	2.94	7.91	0.16	7.34	7.19	15.09	5.60	20.69	0.15	20.84	2.20
Sept.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.46	2.85	4.88	1.04	4.00	2.96	7.85	0.16	11.03	10.87	18.72	4.70	23.42	0.15	23.57	3.31
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.16	2.55	4.58	0.95	4.00	3.05	7.64	0.16	9.29	9.14	16.77	4.50	21.27	0.15	21.42	2.79
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	2.98	2.36	4.40	0.89	4.00	3.11	7.51	0.16	7.46	7.30	14.81	4.40	19.21	0.15	19.36	2.24
Oct.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.05	2.44	4.48	0.92	4.00	3.09	7.56	0.16	6.50	6.34	13.90	4.40	18.30	0.15	18.45	1.95
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.91	3.30	5.34	1.17	2.10	0.93	6.26	0.08	7.52	7.44	13.71	3.90	17.61	0.15	17.76	2.26
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.77	3.15	5.19	1.13	2.00	0.87	6.06	0.08	4.58	4.50	10.56	3.40	13.96	0.15	14.11	1.37
Nov.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.74	3.13	5.17	1.12	2.00	0.88	6.04	0.08	4.11	4.03	10.07	3.40	13.47	0.15	13.62	1.23
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.83	3.21	5.25	1.15	2.00	0.85	6.10	0.08	4.39	4.31	10.42	5.30	15.72	0.15	15.87	1.32
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.00	3.39	5.43	1.20	3.32	2.12	7.55	0.13	10.98	10.85	18.40	7.30	25.70	0.15	25.85	3.29
Dec.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.35	3.74	5.77	1.30	4.00	2.70	8.47	0.16	10.50	10.35	18.82	9.40	28.22	0.27	28.49	3.15
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.56	5.95	7.99	1.97	4.00	2.03	10.02	0.16	10.64	10.49	20.51	9.90	30.41	0.66	31.07	3.19
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.23	6.61	8.65	2.17	4.00	1.83	10.48	0.16	11.62	11.46	21.94	6.90	28.84	0.73	29.57	3.48
Total (million m³)		45.60	45.60	18.88	64.48	13.68	5.66	19.34	161.02	141.73	206.03	48.31	122.05	73.75	279.78	4.76	288.88	284.12	563.89	224.47	789.77	10.85	800.63	86.84
Total in the dry season (million m³)		22.80	22.80	9.44	32.24	6.84	2.83	9.67	61.59	51.91	84.15	18.48	62.26	43.78	127.94	2.43	127.32	124.90	252.83	84.50	337.33	2.37	339.70	38.20

Source : Calculated by the Study Team

MH-33

Calculation of Natural Flow at the New Lengkong Dam (2 / 2)

Unit : m³/s

YEAR : 1980

		Return Flow from Brantas Kiri Kediri Irrigation	Return Flow from Turi-Tunggorono Irrigation	Jatimlerek Irrigation	Jatimlerek Irrigation (Net)	Net	Mentrus Irrigation	Net	Industrial Water	Net	Return Flow from Jatimlerek Irrigation	Return Flow from Mentrus Irrigation	Return Flow from Turi-Tunggorono Irrigation	Net Return Flow from Jati.and Ment.and Turi-Tun.	Mrilip Gate	Mrilip Gate (Net)	Net	Brantas Delta Irrigation	Storage of Sutami and Lahor Reservoirs	New Lengkong Dam Observed Discharge	Net Total Taken Water	Natural Flow at New Lengkong Dam
Jan.	1st	0.26	0.79	1.90	-2.90	30.74	2.56	33.30	2.35	35.65	0.57	0.77	2.57	3.91	5.52	1.61	37.26	66.59	31.92	199.62	135.77	335.39
	2nd	0.29	0.79	1.50	-3.32	30.39	1.85	32.24	2.35	34.59	0.45	0.55	2.57	3.58	11.77	8.19	42.78	64.17	31.16	316.86	138.11	454.96
	3rd	0.17	0.79	1.50	-3.01	29.75	2.37	32.12	2.35	34.47	0.45	0.71	2.57	3.73	14.05	10.32	44.79	66.29	30.39	392.81	141.47	534.28
Feb.	1st	0.17	0.79	1.50	-3.21	30.14	2.47	32.61	2.35	34.96	0.45	0.74	2.57	3.77	9.49	5.72	40.68	62.50	23.00	252.91	126.19	379.10
	2nd	0.16	0.79	1.50	-2.91	29.60	2.29	31.89	2.35	34.24	0.45	0.69	2.57	3.71	6.51	2.80	37.04	62.44	14.44	349.76	113.92	463.69
	3rd	0.16	0.79	1.60	-1.45	26.62	2.51	29.13	2.35	31.48	0.48	0.75	2.57	3.81	1.38	-2.43	29.05	71.67	22.33	456.93	123.04	579.98
Mar.	1st	0.17	0.55	1.40	-2.00	24.64	1.92	26.56	2.35	28.91	0.42	0.58	1.82	2.81	14.89	12.08	40.99	63.70	9.78	274.68	114.47	389.14
	2nd	0.17	0.41	1.00	-2.35	22.80	1.92	24.73	2.35	27.08	0.30	0.58	1.33	2.21	15.53	13.32	40.40	62.50	19.07	209.60	121.96	331.57
	3rd	0.17	0.49	1.10	-2.37	23.61	2.63	26.24	2.35	28.59	0.33	0.79	1.61	2.73	16.01	13.28	41.87	65.07	19.83	144.82	126.78	271.59
Apr.	1st	0.16	0.56	0.70	-2.88	23.38	2.49	25.87	2.35	28.22	0.21	0.75	1.84	2.79	22.05	19.26	47.47	80.98	9.23	129.54	137.68	267.22
	2nd	0.16	0.49	0.60	-3.43	23.61	2.11	25.71	2.35	28.06	0.18	0.63	1.61	2.42	20.04	17.62	45.68	87.97	-3.31	291.98	130.34	422.32
	3rd	0.15	0.41	1.00	-2.82	25.30	1.91	27.21	2.35	29.56	0.30	0.57	1.36	2.23	10.55	8.32	37.88	74.43	1.05	269.80	113.36	383.16
May	1st	0.12	0.59	1.20	-2.33	26.60	1.69	28.29	2.35	30.64	0.36	0.51	1.93	2.80	8.53	5.73	36.37	62.42	-1.94	165.48	100.73	266.21
	2nd	0.05	0.58	1.20	-1.50	24.34	1.34	25.69	2.35	28.04	0.36	0.40	1.91	2.67	8.13	5.46	33.50	61.39	-4.89	17.61	89.99	107.61
	3rd	0.05	0.57	1.00	-2.05	25.51	0.97	26.48	2.35	28.83	0.30	0.29	1.86	2.45	8.23	5.77	34.61	53.85	3.13	1.26	91.58	92.85
June	1st	0.05	0.53	0.70	-2.34	23.79	0.56	24.35	2.35	26.70	0.21	0.17	1.75	2.13	9.99	7.86	34.56	51.90	-0.90	0.00	85.56	85.56
	2nd	0.05	0.42	0.30	-2.86	22.34	0.38	22.71	2.35	25.06	0.09	0.11	1.38	1.58	6.88	5.30	30.36	35.84	-3.58	0.00	62.63	62.63
	3rd	0.05	0.42	0.40	-2.74	22.38	0.39	22.77	2.35	25.12	0.12	0.12	1.38	1.62	8.25	6.63	31.76	34.57	-4.43	0.00	61.90	61.90
July	1st	0.05	0.36	0.40	-2.77	21.67	0.39	22.06	2.35	24.41	0.12	0.12	1.17	1.41	6.87	5.46	29.87	32.42	-13.44	0.00	48.85	48.85
	2nd	0.05	0.46	0.30	-2.99	21.86	0.41	22.27	2.35	24.62	0.09	0.12	1.49	1.71	10.58	8.87	33.49	33.98	-22.45	0.00	45.02	45.02
	3rd	0.05	0.42	0.30	-3.16	21.16	0.40	21.56	2.35	23.91	0.09	0.12	1.38	1.59	8.78	7.19	31.10	34.29	-31.46	1.23	33.94	35.17
Aug.	1st	0.05	0.48	0.30	-3.19	22.02	0.37	22.39	2.35	24.74	0.09	0.11	1.59	1.79	17.36	15.57	40.32	49.62	-22.95	2.72	66.99	69.71
	2nd	0.05	0.37	0.20	-2.48	18.67	0.32	18.99	2.35	21.34	0.06	0.10	1.22	1.37	14.65	13.28	34.61	39.06	-26.44	0.00	47.23	47.23
	3rd	0.05	0.39	0.10	-2.54	18.30	0.32	18.62	2.35	20.97	0.03	0.09	1.29	1.41	10.35	8.94	29.91	30.57	-29.93	0.00	30.55	30.55
Sept.	1st	0.05	0.33	0.00	-3.68	19.88	0.30	20.19	2.35	22.54	0.00	0.09	1.08	1.17	8.99	7.82	30.36	27.59	-23.20	0.00	34.75	34.75
	2nd	0.05	0.32	0.10	-3.05	18.38	0.29	18.66	2.35	21.01	0.03	0.09	1.03	1.15	7.30	6.15	27.16	26.78	-25.68	0.00	28.27	28.27
	3rd	0.05	0.31	0.00	-2.59	16.77	0.30	17.07	2.35	19.42	0.00	0.09	1.01	1.10	9.33	8.23	27.65	28.54	-30.57	0.00	25.62	25.62
Oct.	1st	0.05	0.31	0.00	-2.30	16.15	0.31	16.46	2.35	18.81	0.00	0.09	1.01	1.10	9.98	8.88	27.68	26.76	-23.67	0.00	30.77	30.77
	2nd	0.05	0.27	0.00	-2.58	15.18	0.28	15.46	2.35	17.81	0.00	0.09	0.90	0.98	9.93	8.95	26.76	26.10	-3.95	0.00	48.91	48.91
	3rd	0.05	0.24	0.00	-1.66	12.45	0.29	12.75	2.35	15.10	0.00	0.09	0.78	0.87	10.10	9.23	24.33	26.39	-6.87	0.18	43.85	44.03
Nov.	1st	0.05	0.24	0.00	-1.52	12.11	0.29	12.40	2.35	14.75	0.00	0.09	0.78	0.87	10.44	9.57	24.32	27.36	-8.87	1.49	42.81	44.30
	2nd	0.05	0.37	0.30	-1.43	14.43	0.29	14.72	2.35	17.07	0.09	0.09	1.22	1.39	13.08	11.69	28.75	44.07	-14.82	23.37	58.00	81.37
	3rd	0.05	0.51	0.90	-2.95	22.90	0.28	23.18	2.35	25.53	0.27	0.08	1.68	2.03	14.32	12.29	37.82	49.66	56.65	168.64	144.13	312.77
Dec.	1st	0.08	0.66	1.40	-2.49	25.99	0.25	26.25	2.35	28.60	0.42	0.08	2.16	2.66	12.87	10.21	38.81	49.70	53.29	380.55	141.81	522.36
	2nd	0.20	0.69	1.80	-2.29	28.78	0.39	29.17	2.35	31.52	0.54	0.12	2.28	2.93	9.63	6.70	38.22	49.73	49.94	142.21	137.89	280.10
	3rd	0.22	0.48	1.90	-2.29	27.29	0.54	27.83	2.35	30.18	0.57	0.16	1.59	2.32	5.71	3.39	33.57	59.26	46.58	245.55	139.42	384.97
Total (million m³)		3.26	15.76	24.65	-81.21	719.42	33.60	753.02	74.31	827.33	7.39	10.08	51.58	69.06	341.50	272.45	1099.78	1569.52	106.53	3864.24	2775.82	6640.06
Total in the dry season (million m³)		0.71	5.93	3.75	-41.09	298.61	5.42	304.03	37.16	341.19	1.12	1.63	19.42	22.17	164.26	142.09	483.28	548.32	-210.25	170.87	821.34	992.21

Source : Calculated by the Study Team

MH-34

Calculation of Natural Flow at the New Lengkong Dam (1 / 2)

Unit : m ³/s

YEAR : 1981

		Brantas Atas Irrigation	Net	Brantas Bawah Irrigation	Net	Return Flow from Brantas Atas Irrigation	Return Flow from Brantas Bawah Irrigation	Net Return Flow	Molek Irrigation	Molek Irrigation (Net)	Net	Return Flow from Molek Irrigation	Lodagung Irrigation	Lodagung Irrigation (Net)	Net	Return Flow from Lodagung Irrigation	Warujayeng -Kertosono Irrigation (Mrican Kiri)	Warujayeng -Kertosono Irrigation (Mrican Kiri) (Net)	Net	Turi-Tunggorono Irrigation (Mrican Kanan)	Net	Brantas Kiri Kediri Irrigation	Net	Return Flow from Warujayeng -Kertosono Irrigation
Jan.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.47	5.85	7.89	1.94	4.00	2.06	9.95	0.16	11.70	11.54	21.50	10.50	32.00	0.86	32.86	3.51
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.77	7.16	9.20	2.33	4.00	1.67	10.87	0.16	11.80	11.64	22.51	9.70	32.21	0.95	33.16	3.54
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.52	6.90	8.94	2.25	4.00	1.75	10.69	0.16	11.70	11.54	22.23	7.90	30.13	0.56	30.69	3.51
Feb.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.57	6.95	8.99	2.27	4.00	1.73	10.72	0.16	12.20	12.04	22.77	8.90	31.67	0.56	32.23	3.66
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.48	6.86	8.90	2.24	4.00	1.76	10.66	0.16	11.40	11.24	21.90	9.00	30.90	0.54	31.44	3.42
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.70	7.08	9.12	2.31	4.00	1.69	10.81	0.16	11.80	11.64	22.46	9.40	31.86	0.54	32.40	3.54
Mar.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.59	6.97	9.01	2.28	4.00	1.72	10.74	0.16	8.90	8.74	19.48	9.30	28.78	0.58	29.36	2.67
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.45	6.83	8.87	2.23	4.00	1.77	10.64	0.16	10.40	10.24	20.88	8.90	29.78	0.58	30.36	3.12
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.43	6.82	8.86	2.23	5.21	2.98	11.84	0.20	10.40	10.20	22.04	8.60	30.64	0.58	31.22	3.12
Apr.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.20	5.58	7.62	1.86	6.00	4.14	11.76	0.23	10.10	9.87	21.63	7.50	29.13	0.53	29.66	3.03
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.60	5.98	8.02	1.98	6.00	4.02	12.04	0.23	10.20	9.97	22.01	7.50	29.51	0.53	30.04	3.06
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.70	6.09	8.13	2.01	5.96	3.95	12.08	0.23	9.50	9.27	21.35	7.30	28.65	0.49	29.14	2.85
May	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.99	5.38	7.42	1.80	6.00	4.20	11.62	0.23	10.00	9.77	21.39	8.50	29.89	0.41	30.30	3.00
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.05	4.44	6.48	1.51	6.00	4.49	10.96	0.23	10.50	10.27	21.23	10.10	31.33	0.15	31.48	3.15
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.97	5.36	7.39	1.79	6.00	4.21	11.60	0.23	10.40	10.17	21.77	9.00	30.77	0.15	30.92	3.12
June	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.14	4.53	6.57	1.54	6.00	4.46	11.03	0.23	9.60	9.37	20.39	8.80	29.19	0.15	29.34	2.88
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.27	4.66	6.70	1.58	6.38	4.80	11.50	0.25	8.60	8.35	19.85	8.30	28.15	0.15	28.30	2.58
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.81	5.20	7.24	1.74	6.50	4.76	11.99	0.25	9.70	9.45	21.44	8.60	30.04	0.15	30.19	2.91
July	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.77	5.16	7.20	1.73	6.50	4.77	11.97	0.25	10.40	10.15	22.11	8.60	30.71	0.15	30.86	3.12
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.79	5.18	7.21	1.74	6.50	4.76	11.98	0.25	9.10	8.85	20.82	8.60	29.42	0.15	29.57	2.73
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.42	5.81	7.84	1.93	6.50	4.57	12.42	0.25	9.10	8.85	21.27	8.70	29.97	0.15	30.12	2.73
Aug.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.09	4.48	6.52	1.53	6.50	4.97	11.49	0.25	9.50	9.25	20.74	9.20	29.94	0.15	30.09	2.85
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.72	3.11	5.14	1.12	6.50	5.38	10.53	0.25	9.30	9.05	19.58	8.70	28.28	0.15	28.43	2.79
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.73	4.11	6.15	1.42	6.50	5.08	11.24	0.25	9.60	9.35	20.58	6.70	27.28	0.15	27.43	2.88
Sept.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.54	3.93	5.97	1.36	6.50	5.14	11.11	0.25	8.90	8.65	19.75	6.60	26.35	0.15	26.50	2.67
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.62	4.01	6.05	1.39	6.50	5.11	11.16	0.25	9.20	8.95	20.11	5.60	25.71	0.15	25.86	2.76
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.58	3.97	6.01	1.37	6.50	5.13	11.13	0.25	8.90	8.65	19.78	6.20	25.98	0.15	26.13	2.67
Oct.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.19	4.58	6.62	1.56	6.50	4.94	11.56	0.25	7.60	7.35	18.91	4.10	23.01	0.15	23.16	2.28
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.29	4.67	6.71	1.59	6.50	4.91	11.63	0.25	8.60	8.35	19.97	2.00	21.97	0.15	22.12	2.58
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.89	4.28	6.32	1.47	6.50	5.03	11.35	0.25	7.60	7.35	18.70	5.80	24.50	0.15	24.65	2.28
Nov.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.01	4.40	6.44	1.50	6.50	5.00	11.44	0.25	8.60	8.35	19.78	5.80	25.58	0.15	25.73	2.58
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.40	4.79	6.83	1.62	6.50	4.88	11.71	0.25	8.80	8.55	20.26	6.20	26.46	0.15	26.61	2.64
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.06	4.45	6.49	1.52	6.50	4.98	11.47	0.25	8.40	8.15	19.62	6.80	26.42	0.15	26.57	2.52
Dec.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.69	5.07	7.11	1.71	6.50	4.79	11.91	0.25	9.70	9.45	21.35	8.00	29.35	0.27	29.62	2.91
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.79	5.18	7.22	1.74	6.50	4.76	11.98	0.25	10.70	10.45	22.43	8.50	30.93	0.66	31.59	3.21
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.58	6.97	9.01	2.27	7.70	5.43	14.44	0.30	10.90	10.60	25.04	8.60	33.64	0.73	34.37	3.27
Total (million m³)		45.47	45.47	18.83	64.30	13.64	5.65	19.29	188.13	168.84	233.14	56.44	184.63	128.19	361.33	7.20	309.67	302.47	663.80	247.23	911.03	10.81	921.84	92.90
Total in the dry season (million m³)		22.80	22.80	9.44	32.24	6.84	2.83	9.67	81.15	71.48	103.71	24.34	102.24	77.89	181.61	3.99	141.81	137.82	319.43	110.09	429.52	2.37	431.89	42.54

Source : Calculated by the Study Team

MH-35

Calculation of Natural Flow at the New Lengkong Dam (2 / 2)

YEAR : 1981

Unit : m 3/s

		Return Flow from Brantas Kiri Kediri Irrigation	Return Flow from Turi-Tunggorono Irrigation	Jatimlerek Irrigation	Jatimlerek Irrigation (Net)	Net	Mentrus Irrigation	Net	Industrial Water	Net	Return Flow from Jatimlerek Irrigation	Return Flow from Mentrus Irrigation	Return Flow from Turi-Tunggorono Irrigation	Net Return Flow from Jati.and Ment.and Turi-Tun.	Mrilip Gate	Mrilip Gate (Net)	Net	Brantas Delta Irrigation	Storage of Sutami and Lahor Reservoirs	New Lengkong Dam Observed Discharge	Net Total Taken Water	Natural Flow at New Lengkong Dam
Jan.	1st	0.26	0.74	1.30	-3.21	29.65	2.32	31.97	2.35	34.32	0.39	0.70	2.41	3.50	6.74	3.24	37.56	61.53	45.23	317.54	142.32	459.86
	2nd	0.29	0.68	1.30	-3.21	29.96	1.12	31.08	2.35	33.43	0.39	0.34	2.23	2.96	18.26	15.30	48.73	57.92	39.87	329.50	146.52	476.03
	3rd	0.17	0.55	1.10	-3.13	27.56	1.98	29.54	2.35	31.89	0.33	0.59	1.82	2.74	14.21	11.47	43.36	61.88	36.52	373.80	141.75	515.55
Feb.	1st	0.17	0.62	1.00	-3.45	28.77	2.24	31.01	2.35	33.36	0.30	0.67	2.05	3.02	16.97	13.95	47.32	64.41	33.16	348.49	144.89	493.38
	2nd	0.16	0.63	1.00	-3.21	28.23	2.03	30.26	2.35	32.61	0.30	0.61	2.07	2.98	19.96	16.98	49.59	61.51	29.80	256.90	140.91	397.81
	3rd	0.16	0.66	1.00	-3.36	29.04	1.89	30.93	2.35	33.28	0.30	0.57	2.16	3.03	3.84	0.81	34.09	64.36	26.45	421.51	124.90	546.41
Mar.	1st	0.17	0.65	0.90	-2.60	26.76	1.88	28.64	2.35	30.99	0.27	0.56	2.14	2.97	5.61	2.64	33.63	59.78	20.41	375.95	113.82	489.77
	2nd	0.17	0.62	0.80	-3.12	27.24	1.82	29.07	2.35	31.42	0.24	0.55	2.05	2.83	16.11	13.28	44.70	60.97	14.37	266.44	120.04	386.48
	3rd	0.17	0.60	0.70	-3.20	28.02	1.80	29.82	2.35	32.17	0.21	0.54	1.98	2.73	27.15	24.43	56.60	49.17	12.90	218.16	118.67	336.83
Apr.	1st	0.16	0.53	0.80	-2.92	26.75	1.49	28.24	2.35	30.59	0.24	0.45	1.72	2.41	32.79	30.38	60.96	57.66	12.90	215.50	131.53	347.03
	2nd	0.16	0.53	0.60	-3.15	26.89	1.78	28.67	2.35	31.02	0.18	0.53	1.72	2.44	28.98	26.54	57.57	53.33	0.25	92.87	111.15	204.02
	3rd	0.15	0.51	0.50	-3.01	26.13	1.49	27.62	2.35	29.97	0.15	0.45	1.68	2.27	20.79	18.52	48.48	57.71	26.27	166.55	132.46	299.01
May	1st	0.12	0.60	0.80	-2.92	27.38	0.81	28.19	2.35	30.54	0.24	0.24	1.95	2.44	22.46	20.02	50.56	63.42	1.09	299.00	115.07	414.07
	2nd	0.05	0.71	0.90	-3.00	28.47	0.69	29.16	2.35	31.51	0.27	0.21	2.32	2.80	21.14	18.34	49.85	63.07	11.20	293.18	124.12	417.30
	3rd	0.05	0.63	0.80	-3.00	27.92	0.48	28.41	2.35	30.76	0.24	0.14	2.07	2.45	15.65	13.20	43.96	60.85	-11.95	69.09	92.87	161.96
June	1st	0.05	0.62	0.80	-2.74	26.60	0.49	27.09	2.35	29.44	0.24	0.15	2.02	2.41	8.12	5.71	35.15	60.22	-20.78	27.16	74.59	101.75
	2nd	0.05	0.58	0.90	-2.31	25.99	0.40	26.39	2.35	28.74	0.27	0.12	1.91	2.30	8.04	5.74	34.48	52.04	-1.86	17.26	84.66	101.92
	3rd	0.05	0.60	0.90	-2.66	27.53	0.46	27.99	2.35	30.34	0.27	0.14	1.98	2.38	26.06	23.68	54.02	63.73	2.14	174.54	119.88	294.42
July	1st	0.05	0.60	0.90	-2.87	27.99	0.46	28.45	2.35	30.80	0.27	0.14	1.98	2.38	32.30	29.92	60.72	53.88	18.25	83.06	132.84	215.90
	2nd	0.05	0.60	1.00	-2.38	27.20	0.49	27.68	2.35	30.03	0.30	0.15	1.98	2.42	35.40	32.98	63.01	50.01	23.84	193.68	136.86	330.54
	3rd	0.05	0.61	0.70	-2.69	27.43	0.50	27.92	2.35	30.27	0.21	0.15	2.00	2.36	31.97	29.61	59.89	52.10	-19.55	56.91	92.44	149.35
Aug.	1st	0.05	0.65	0.60	-2.94	27.15	0.50	27.64	2.35	29.99	0.18	0.15	2.11	2.44	20.88	18.44	48.43	41.91	-22.65	7.38	67.70	75.07
	2nd	0.05	0.61	0.40	-3.05	25.38	0.52	25.90	2.35	28.25	0.12	0.16	2.00	2.28	14.05	11.77	40.03	38.26	-19.36	1.37	58.92	60.29
	3rd	0.05	0.47	0.40	-3.00	24.44	0.50	24.93	2.35	27.28	0.12	0.15	1.54	1.81	13.49	11.68	38.97	49.23	-36.73	20.38	51.46	71.84
Sept.	1st	0.05	0.46	0.20	-2.98	23.53	0.52	24.05	2.35	26.40	0.06	0.16	1.52	1.73	14.56	12.83	39.23	33.44	-28.77	6.99	43.90	50.89
	2nd	0.05	0.39	0.50	-2.70	23.16	0.51	23.67	2.35	26.02	0.15	0.15	1.29	1.59	13.16	11.57	37.59	32.70	-37.85	2.71	32.44	35.15
	3rd	0.05	0.44	0.40	-2.75	23.38	0.57	23.94	2.35	26.29	0.12	0.17	1.42	1.71	17.28	15.57	41.86	36.41	7.83	50.04	86.10	136.15
Oct.	1st	0.05	0.29	0.20	-2.41	20.74	0.56	21.30	2.35	23.65	0.06	0.17	0.94	1.17	21.79	20.62	44.27	30.52	-8.31	97.88	66.48	164.36
	2nd	0.05	0.14	0.70	-2.07	20.06	0.56	20.61	2.35	22.96	0.21	0.17	0.46	0.84	26.35	25.51	48.48	29.00	-11.31	32.27	66.17	98.44
	3rd	0.05	0.41	0.60	-2.13	22.52	0.59	23.10	2.35	25.45	0.18	0.18	1.33	1.69	16.71	15.02	40.47	33.03	-14.30	27.50	59.20	86.69
Nov.	1st	0.05	0.41	0.60	-2.43	23.30	0.62	23.91	2.35	26.26	0.18	0.18	1.33	1.70	14.08	12.38	38.65	38.22	-17.30	11.66	59.57	71.23
	2nd	0.05	0.44	0.60	-2.52	24.09	0.54	24.62	2.35	26.97	0.18	0.16	1.42	1.77	17.10	15.33	42.31	48.92	17.03	111.44	108.26	219.70
	3rd	0.05	0.48	0.70	-2.34	24.22	0.65	24.88	2.35	27.23	0.21	0.20	1.56	1.97	14.04	12.07	39.30	52.52	66.61	228.62	158.43	387.05
Dec.	1st	0.08	0.56	0.70	-2.85	26.77	1.16	27.93	2.35	30.28	0.21	0.35	1.84	2.40	14.32	11.92	42.20	54.51	31.15	274.73	127.86	402.59
	2nd	0.20	0.60	0.80	-3.20	28.38	1.82	30.20	2.35	32.55	0.24	0.55	1.95	2.74	9.40	6.66	39.21	54.80	1.61	374.54	95.62	470.16
	3rd	0.22	0.60	1.40	-2.69	31.67	2.40	34.07	2.35	36.42	0.42	0.72	1.98	3.12	9.77	6.66	43.08	54.51	-34.02	253.35	63.57	316.93
Total (million m³)		3.24	17.36	24.08	-89.42	832.42	33.74	866.17	74.11	940.28	7.22	10.12	56.81	74.16	571.68	497.52	1437.80	1624.96	155.64	5283.85	3218.40	8502.25
Total in the dry season (million m³)		0.71	7.73	9.74	-41.25	390.65	8.26	398.91	37.16	436.07	2.92	2.48	25.30	30.70	303.78	273.08	709.15	699.47	-95.15	1003.38	1313.47	2316.85

Source : Calculated by the Study Team

MH-36

Calculation of Natural Flow at the New Lengkong Dam (1 / 2)

YEAR : 1982

Unit : m 3/s

		Brantas Atas Irrigation	Net	Brantas Bawah Irrigation	Net	Return Flow from Brantas Atas Irrigation	Return Flow from Brantas Bawah Irrigation	Net Return Flow	Molek Irrigation	Molek Irrigation (Net)	Net	Return Flow from Molek Irrigation	Lodagung Irrigation	Lodagung Irrigation (Net)	Net	Return Flow from Lodagung Irrigation	Warujayeng -Kertosono Irrigation (Mrican Kiri)	Warujayeng -Kertosono Irrigation (Mrican Kiri) (Net)	Net	Turi-Tunggorono Irrigation (Mrican Kanan)	Net	Brantas Kiri Kediri Irrigation	Net	Return Flow from Warujayen -Kertosono Irrigation
Jan.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.89	6.28	8.32	2.07	9.00	6.93	15.25	0.35	11.50	11.15	26.40	9.00	35.40	0.86	36.26	3.45
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.63	6.02	8.06	1.99	9.00	7.01	15.07	0.35	11.90	11.55	26.62	9.30	35.92	0.95	36.87	3.57
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.53	5.92	7.96	1.96	9.00	7.04	15.00	0.35	11.30	10.95	25.95	9.50	35.45	0.56	36.01	3.39
Feb.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.51	5.90	7.94	1.95	9.00	7.05	14.99	0.35	10.50	10.15	25.13	9.80	34.93	0.56	35.49	3.15
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.54	5.93	7.96	1.96	9.00	7.04	15.00	0.35	9.50	9.15	24.15	9.60	33.75	0.54	34.29	2.85
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.46	5.85	7.89	1.94	9.00	7.06	14.95	0.35	9.30	8.95	23.90	9.70	33.60	0.54	34.14	2.79
Mar.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.47	5.86	7.90	1.94	9.00	7.06	14.96	0.35	8.80	8.45	23.41	10.10	33.51	0.58	34.09	2.64
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.58	4.97	7.01	1.67	9.00	7.33	14.33	0.35	9.20	8.85	23.18	8.00	31.18	0.58	31.76	2.76
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.64	5.03	7.06	1.69	9.00	7.31	14.37	0.35	6.70	6.35	20.72	7.70	28.42	0.58	29.00	2.01
Apr.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.73	5.11	7.15	1.72	9.00	7.28	14.43	0.35	8.30	7.95	22.48	8.10	30.48	0.53	31.01	2.49
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	2.11	1.49	3.53	0.63	9.00	8.37	11.90	0.35	10.20	9.85	21.75	6.10	27.85	0.53	28.38	3.06
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.62	5.01	7.05	1.69	9.00	7.31	14.36	0.35	10.90	10.55	24.91	4.70	29.61	0.49	30.10	3.27
May	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.50	4.89	6.93	1.65	9.00	7.35	14.28	0.35	8.40	8.05	22.33	0.60	22.93	0.41	23.34	2.52
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.27	4.66	6.70	1.58	9.00	7.42	14.11	0.35	7.80	7.45	21.56	8.40	29.96	0.15	30.11	2.34
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.33	4.71	6.75	1.60	9.00	7.40	14.16	0.35	6.90	6.55	20.70	7.90	28.60	0.15	28.75	2.07
June	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.40	4.79	6.82	1.62	9.00	7.38	14.21	0.35	8.60	8.25	22.45	6.70	29.15	0.15	29.30	2.58
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.32	4.71	6.75	1.60	9.00	7.40	14.15	0.35	8.90	8.55	22.70	6.00	28.70	0.15	28.85	2.67
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.26	4.65	6.69	1.58	9.00	7.42	14.11	0.35	8.10	7.75	21.86	5.70	27.56	0.15	27.71	2.43
July	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.00	4.39	6.43	1.50	9.00	7.50	13.93	0.35	6.70	6.35	20.28	6.00	26.28	0.15	26.43	2.01
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.50	4.88	6.92	1.65	7.61	5.96	12.88	0.30	6.90	6.60	19.49	5.30	24.79	0.15	24.94	2.07
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.64	5.03	7.07	1.69	6.00	4.31	11.38	0.23	7.50	7.27	18.64	8.40	27.04	0.15	27.19	2.25
Aug.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.24	4.63	6.67	1.57	6.00	4.43	11.10	0.23	7.00	6.77	17.86	5.80	23.66	0.15	23.81	2.10
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.64	4.03	6.07	1.39	6.00	4.61	10.68	0.23	6.80	6.57	17.24	5.70	22.94	0.15	23.09	2.04
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.23	3.62	5.66	1.27	6.00	4.73	10.39	0.23	6.90	6.67	17.06	5.20	22.26	0.15	22.41	2.07
Sept.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.92	3.31	5.34	1.18	6.00	4.82	10.17	0.23	6.90	6.67	16.84	4.30	21.14	0.15	21.29	2.07
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.29	3.68	5.72	1.29	6.00	4.71	10.43	0.23	6.80	6.57	16.99	5.40	22.39	0.15	22.54	2.04
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.19	3.58	5.62	1.26	6.00	4.74	10.36	0.23	6.80	6.57	16.92	3.70	20.62	0.15	20.77	2.04
Oct.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.71	3.10	5.14	1.11	6.00	4.89	10.03	0.23	6.90	6.67	16.69	2.65	19.34	0.15	19.49	2.07
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.40	2.79	4.83	1.02	6.00	4.98	9.81	0.23	7.00	6.77	16.57	1.60	18.17	0.15	18.32	2.10
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.33	2.72	4.76	1.00	6.00	5.00	9.76	0.23	6.60	6.37	16.13	2.70	18.83	0.15	18.98	1.98
Nov.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.64	3.02	5.06	1.09	6.00	4.91	9.97	0.23	6.40	6.17	16.14	4.10	20.24	0.15	20.39	1.92
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.97	3.36	5.40	1.19	6.00	4.81	10.21	0.23	6.60	6.37	16.57	3.50	20.07	0.15	20.22	1.98
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.82	3.21	5.25	1.15	6.00	4.85	10.10	0.23	6.10	5.87	15.97	3.70	19.67	0.15	19.82	1.83
Dec.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.02	4.41	6.45	1.51	6.00	4.49	10.94	0.23	5.20	4.97	15.91	3.40	19.31	0.27	19.58	1.56
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.09	4.48	6.52	1.53	6.00	4.47	10.99	0.23	10.00	9.77	20.75	3.60	24.35	0.66	25.01	3.00
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.56	5.95	7.99	1.97	6.00	4.03	12.02	0.23	12.90	12.67	24.69	5.30	29.99	0.73	30.72	3.87
Total (million m³)		45.47	45.47	18.83	64.30	13.64	5.65	19.29	161.05	141.76	206.06	48.32	240.11	191.80	397.86	9.36	259.91	250.54	648.41	190.06	838.47	10.81	849.28	77.97
Total in the dry season (million m³)		22.80	22.80	9.44	32.24	6.84	2.83	9.67	70.69	61.02	93.26	21.21	106.63	85.42	178.68	4.16	111.97	107.82	286.49	76.10	362.60	2.37	364.97	33.59

Source : Calculated by the Study Team

MH-37

Calculation of Natural Flow at the New Lengkong Dam (2 / 2)

YEAR : 1982

Unit : m³/s

		Return Flow from Brantas Kiri Kediri Irrigation	Return Flow from Turi-Tunggorono Irrigation	Jatimlerek Irrigation	Jatimlerek Irrigation (Net)	Net	Mentrus Irrigation	Net	Industrial Water	Net	Return Flow from Jatimlerek Irrigation	Return Flow from Mentrus Irrigation	Return Flow from Turi-Tunggorono Irrigation	Net Return Flow from Jati.and Ment.and Turi-Tun.	Mrilip Gate	Mrilip Gate (Net)	Net	Brantas Delta Irrigation	Storage of Sutami and Lahor Reservoirs	New Lengkong Dam Observed Discharge	Net Total Taken Water	Natural Flow at New Lengkong Dam
Jan.	1st	0.26	0.63	1.44	-2.90	33.36	3.08	36.44	2.35	38.79	0.43	0.92	2.07	3.42	3.67	0.25	39.05	54.22	-11.74	395.29	81.51	476.80
	2nd	0.29	0.65	1.61	-2.90	33.97	2.54	36.51	2.35	38.86	0.48	0.76	2.14	3.38	2.11	-1.27	37.59	56.28	10.54	480.08	104.40	584.48
	3rd	0.17	0.67	1.40	-2.83	33.18	2.45	35.63	2.35	37.98	0.42	0.74	2.18	3.34	8.36	5.03	43.00	61.34	32.81	431.08	137.15	568.24
Feb.	1st	0.17	0.69	1.26	-2.74	32.75	2.45	35.20	2.35	37.55	0.38	0.73	2.25	3.36	11.01	7.65	45.19	68.83	55.09	495.84	169.11	664.95
	2nd	0.16	0.67	1.26	-2.42	31.87	2.33	34.20	2.35	36.55	0.38	0.70	2.21	3.28	11.08	7.80	44.34	64.58	44.74	421.72	153.66	575.38
	3rd	0.16	0.68	1.26	-2.37	31.76	2.31	34.07	2.35	36.42	0.38	0.69	2.23	3.30	10.51	7.21	43.64	53.90	17.06	358.34	114.59	472.93
Mar.	1st	0.17	0.71	1.50	-2.03	32.06	2.24	34.30	2.35	36.65	0.45	0.67	2.32	3.44	10.58	7.14	43.79	52.00	4.94	455.44	100.73	556.17
	2nd	0.17	0.56	1.44	-2.05	29.71	2.23	31.94	2.35	34.29	0.43	0.67	1.84	2.94	12.41	9.47	43.76	46.74	-15.87	495.22	74.63	569.85
	3rd	0.17	0.54	1.03	-1.69	27.31	2.05	29.36	2.35	31.71	0.31	0.62	1.77	2.69	14.50	11.81	43.52	48.15	6.69	237.10	98.36	335.46
Apr.	1st	0.16	0.57	0.80	-2.42	28.60	1.84	30.44	2.35	32.79	0.24	0.55	1.86	2.65	10.76	8.11	40.89	51.64	8.80	244.32	101.33	345.65
	2nd	0.16	0.43	0.44	-3.21	25.17	1.58	26.75	2.35	29.10	0.13	0.47	1.40	2.01	8.28	6.27	35.38	36.55	-7.10	229.64	64.83	294.46
	3rd	0.15	0.33	0.60	-3.15	26.95	0.89	27.84	2.35	30.19	0.18	0.27	1.08	1.53	4.06	2.53	32.72	54.17	2.78	210.86	89.68	300.54
May	1st	0.12	0.04	0.81	-1.88	21.46	0.33	21.79	2.35	24.14	0.24	0.10	0.14	0.48	3.32	2.84	26.98	54.46	-0.12	77.08	81.32	158.40
	2nd	0.05	0.59	1.26	-1.72	28.40	0.22	28.61	2.35	30.96	0.38	0.07	1.93	2.37	7.61	5.24	36.20	53.16	1.67	7.91	91.03	98.94
	3rd	0.05	0.55	1.29	-1.38	27.37	0.22	27.60	2.35	29.95	0.39	0.07	1.82	2.27	10.70	8.43	38.38	49.11	-0.37	0.27	87.12	87.39
June	1st	0.05	0.47	1.08	-2.02	27.29	0.27	27.56	2.35	29.91	0.32	0.08	1.54	1.95	8.72	6.77	36.69	48.80	-4.37	0.00	81.12	81.12
	2nd	0.05	0.42	0.84	-2.30	26.55	0.32	26.87	2.35	29.22	0.25	0.10	1.38	1.73	9.29	7.56	36.79	41.23	-6.04	0.00	71.98	71.98
	3rd	0.05	0.40	0.90	-1.98	25.73	0.31	26.04	2.35	28.39	0.27	0.09	1.31	1.67	6.34	4.67	33.06	37.34	-6.66	0.00	63.74	63.74
July	1st	0.05	0.42	0.74	-1.74	24.69	0.27	24.96	2.35	27.31	0.22	0.08	1.38	1.68	8.51	6.83	34.14	32.63	-7.75	0.00	59.02	59.02
	2nd	0.05	0.37	1.18	-1.31	23.63	0.25	23.88	2.35	26.23	0.35	0.07	1.22	1.65	9.00	7.35	33.58	29.82	-8.84	0.00	54.56	54.56
	3rd	0.05	0.59	0.85	-2.03	25.16	0.16	25.32	2.35	27.67	0.26	0.05	1.93	2.23	15.78	13.55	41.22	44.89	-41.09	5.26	45.02	50.28
Aug.	1st	0.05	0.41	0.71	-1.84	21.97	0.23	22.20	2.35	24.55	0.21	0.07	1.33	1.62	13.71	12.09	36.65	29.23	-12.96	0.00	52.92	52.92
	2nd	0.05	0.40	0.16	-2.33	20.77	0.24	21.01	2.35	23.36	0.05	0.07	1.31	1.43	11.20	9.77	33.13	29.41	-21.72	0.00	40.82	40.82
	3rd	0.05	0.37	0.20	-2.28	20.12	0.23	20.36	2.35	22.71	0.06	0.07	1.19	1.32	16.36	15.04	37.75	28.96	-23.23	0.00	43.48	43.48
Sept.	1st	0.05	0.30	0.36	-2.06	19.22	0.24	19.46	2.35	21.81	0.11	0.07	0.99	1.17	14.36	13.19	35.00	21.82	-16.56	0.00	40.27	40.27
	2nd	0.05	0.38	0.25	-2.21	20.33	0.25	20.58	2.35	22.93	0.08	0.08	1.24	1.39	14.76	13.37	36.30	20.62	-17.97	0.00	38.96	38.96
	3rd	0.05	0.26	0.22	-2.13	18.65	0.21	18.86	2.35	21.21	0.07	0.06	0.85	0.98	13.05	12.07	33.28	21.67	-20.34	0.00	34.61	34.61
Oct.	1st	0.05	0.19	0.04	-2.26	17.23	0.21	17.44	2.35	19.79	0.01	0.06	0.61	0.69	13.20	12.51	32.31	21.98	-16.21	0.00	38.08	38.08
	2nd	0.05	0.11	0.20	-2.06	16.26	0.21	16.47	2.35	18.82	0.06	0.06	0.37	0.49	10.23	9.74	28.56	23.29	-18.82	0.00	33.03	33.03
	3rd	0.05	0.19	0.20	-2.01	16.97	0.21	17.18	2.35	19.53	0.06	0.06	0.62	0.75	10.55	9.80	29.33	21.09	-14.98	0.00	35.44	35.44
Nov.	1st	0.05	0.29	0.14	-2.11	18.28	0.20	18.48	2.35	20.83	0.04	0.06	0.94	1.04	9.63	8.59	29.41	19.12	-18.69	0.00	29.84	29.84
	2nd	0.05	0.25	0.19	-2.08	18.14	0.19	18.33	2.35	20.68	0.06	0.06	0.80	0.92	11.06	10.14	30.83	20.49	-13.89	0.00	37.43	37.43
	3rd	0.05	0.26	0.18	-1.96	17.86	0.20	18.06	2.35	20.41	0.05	0.06	0.85	0.96	23.22	22.26	42.66	12.64	-16.09	0.00	39.22	39.22
Dec.	1st	0.08	0.24	0.30	-1.58	18.00	0.20	18.20	2.35	20.55	0.09	0.06	0.78	0.93	22.74	21.81	42.36	15.44	18.63	0.00	76.43	76.43
	2nd	0.20	0.25	0.81	-2.64	22.38	0.47	22.84	2.35	25.19	0.24	0.14	0.83	1.21	28.57	27.36	52.55	46.83	30.25	47.90	129.63	177.53
	3rd	0.22	0.37	1.14	-3.32	27.39	0.81	28.21	2.35	30.56	0.34	0.24	1.22	1.80	24.65	22.85	53.41	55.53	57.79	123.78	166.72	290.50
Total (million m³)		3.24	13.34	24.56	-70.00	779.28	28.16	807.44	74.11	881.55	7.37	8.45	43.68	59.49	373.15	313.66	1195.21	1251.14	-27.01	4082.58	2419.34	6501.92
Total in the dry season (million m³)		0.71	5.34	7.40	-32.25	332.72	3.69	336.40	37.16	373.56	2.22	1.11	17.49	20.81	192.88	172.07	545.63	444.55	-254.13	5.00	736.05	741.05

Source : Calculated by the Study Team

MH-38

Calculation of Natural Flow at the New Lengkong Dam (1 / 2)

YEAR : 1983

Unit : m 3/s

		Brantas Atas Irrigation	Net	Brantas Bawah Irrigation	Net	Return Flow from Brantas Atas Irrigation	Return Flow from Brantas Bawah Irrigation	Net Return Flow	Molek Irrigation	Molek Irrigation (Net)	Net	Return Flow from Molek Irrigation	Lodagung Irrigation	Lodagung Irrigation (Net)	Net	Return Flow from Lodagung Irrigation	Warujayeng -Kertosono Irrigation (Mrican Kiri)	Warujayeng -Kertosono Irrigation (Mrican Kiri) (Net)	Net	Turi-Tunggorono Irrigation (Mrican Kanan)	Net	Brantas Kiri Kediri Irrigation	Net	Return Flow from Warujayen -Kertosono Irrigation
Jan.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.78	6.17	8.21	2.04	8.60	6.56	14.78	0.34	13.20	12.86	27.64	7.30	34.94	0.86	35.80	3.96
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.06	6.45	8.49	2.12	9.00	6.88	15.37	0.35	13.20	12.85	28.22	8.40	36.62	0.95	37.57	3.96
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.38	5.77	7.81	1.91	9.00	7.09	14.89	0.35	13.00	12.65	27.54	8.30	35.84	0.56	36.40	3.90
Feb.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.73	7.12	9.16	2.32	7.10	4.78	13.94	0.28	13.40	13.12	27.06	9.20	36.26	0.56	36.82	4.02
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.15	6.54	8.58	2.14	6.00	3.86	12.43	0.23	13.40	13.17	25.60	9.80	35.40	0.54	35.94	4.02
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	8.75	8.14	10.18	2.63	6.00	3.37	13.55	0.23	13.40	13.17	26.72	10.10	36.82	0.54	37.36	4.02
Mar.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.59	6.98	9.02	2.28	6.00	3.72	12.74	0.23	13.30	13.07	25.81	9.50	35.31	0.58	35.89	3.99
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.42	6.81	8.85	2.23	6.00	3.77	12.62	0.23	25.20	24.97	37.59	8.90	46.49	0.58	47.07	7.56
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	8.08	7.47	9.51	2.43	6.65	4.22	13.74	0.26	12.60	12.34	26.08	8.80	34.88	0.58	35.46	3.78
Apr.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.19	4.58	6.62	1.56	8.00	6.44	13.06	0.31	10.60	10.29	23.35	7.30	30.65	0.53	31.18	3.18
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.85	7.24	9.28	2.36	8.00	5.64	14.92	0.31	11.10	10.79	25.71	6.90	32.61	0.53	33.14	3.33
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.59	6.98	9.02	2.28	8.00	5.72	14.74	0.31	9.60	9.29	24.03	6.80	30.83	0.49	31.32	2.88
May	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.40	4.79	6.83	1.62	8.00	6.38	13.21	0.31	9.80	9.49	22.70	8.30	31.00	0.41	31.41	2.94
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.07	5.46	7.50	1.82	8.00	6.18	13.68	0.31	9.70	9.39	23.07	8.10	31.17	0.15	31.32	2.91
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.38	5.77	7.81	1.91	8.00	6.09	13.89	0.31	9.60	9.29	23.18	8.00	31.18	0.15	31.33	2.88
June	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.14	5.53	7.57	1.84	8.96	7.12	14.68	0.35	9.90	9.55	24.23	8.30	32.53	0.15	32.68	2.97
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.92	5.31	7.35	1.78	9.00	7.22	14.57	0.35	10.80	10.45	25.02	8.30	33.32	0.15	33.47	3.24
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.39	4.78	6.82	1.62	9.00	7.38	14.20	0.35	10.50	10.15	24.35	8.60	32.95	0.15	33.10	3.15
July	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.41	4.80	6.84	1.62	9.00	7.38	14.22	0.35	10.30	9.95	24.17	9.70	33.87	0.15	34.02	3.09
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.50	4.89	6.93	1.65	9.00	7.35	14.28	0.35	8.20	7.85	22.13	7.90	30.03	0.15	30.18	2.46
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.41	4.80	6.84	1.62	9.00	7.38	14.22	0.35	7.00	6.65	20.87	4.90	25.77	0.15	25.92	2.10
Aug.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.78	3.17	5.21	1.13	8.46	7.33	12.53	0.33	9.60	9.27	21.80	3.80	25.60	0.15	25.75	2.88
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.92	3.31	5.35	1.18	8.00	6.82	12.17	0.31	9.30	8.99	21.16	4.00	25.16	0.15	25.31	2.79
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.65	3.03	5.07	1.09	8.00	6.91	11.98	0.31	7.40	7.09	19.07	4.30	23.37	0.15	23.52	2.22
Sept.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.21	2.60	4.63	0.96	8.00	7.04	11.67	0.31	7.30	6.99	18.66	2.30	20.96	0.15	21.11	2.19
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.27	2.66	4.69	0.98	8.00	7.02	11.71	0.31	7.20	6.89	18.60	1.20	19.80	0.15	19.95	2.16
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.27	2.66	4.69	0.98	8.00	7.02	11.71	0.31	7.30	6.99	18.70	2.60	21.30	0.15	21.45	2.19
Oct.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.49	2.88	4.92	1.05	8.00	6.95	11.87	0.31	7.50	7.19	19.06	2.30	21.36	0.15	21.51	2.25
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.04	4.42	6.46	1.51	6.35	4.84	11.30	0.25	7.50	7.25	18.55	1.10	19.65	0.15	19.80	2.25
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.08	3.47	5.51	1.22	6.50	5.28	10.78	0.25	7.60	7.35	18.13	0.30	18.43	0.15	18.58	2.28
Nov.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.76	5.15	7.18	1.73	6.50	4.77	11.96	0.25	8.90	8.65	20.60	2.80	23.40	0.15	23.55	2.67
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.62	6.01	8.05	1.99	6.50	4.51	12.56	0.25	10.60	10.35	22.91	3.40	26.31	0.15	26.46	3.18
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.13	5.52	7.56	1.84	6.50	4.66	12.22	0.25	10.90	10.65	22.87	5.50	28.37	0.15	28.52	3.27
Dec.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.91	6.30	8.34	2.07	6.50	4.43	12.76	0.25	10.90	10.65	23.41	5.70	29.11	0.27	29.38	3.27
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.46	5.84	7.88	1.94	7.50	5.56	13.45	0.29	11.30	11.01	24.45	7.20	31.65	0.66	32.31	3.39
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.08	5.47	7.51	1.82	8.00	6.18	13.68	0.31	11.90	11.59	25.27	8.50	33.77	0.73	34.50	3.57
Total (million m³)		45.47	45.47	18.83	64.30	13.64	5.65	19.29	184.15	164.86	229.16	55.25	243.16	187.91	417.08	9.48	334.57	325.08	742.16	199.32	941.48	10.81	952.29	100.37
Total in the dry season (million m³)		22.80	22.80	9.44	32.24	6.84	2.83	9.67	75.43	65.76	98.00	22.63	125.38	102.75	200.75	4.89	138.24	133.35	334.10	71.06	405.17	2.37	407.54	41.47

Source : Calculated by the Study Team

Calculation of Natural Flow at the New Lengkong Dam (2 / 2)

Unit : m 3/s

YEAR : 1983

		Return Flow from Brantas Kiri Kediri Irrigation	Return Flow from Turi-Tunggorono Irrigation	Jatimlerek Irrigation	Jatimlerek Irrigation (Net)	Net	Mentrus Irrigation	Net	Industrial Water	Net	Return Flow from Jatimlerek Irrigation	Return Flow from Mentrus Irrigation	Return Flow from Turi-Tunggorono Irrigation	Net Return Flow from Jati.and Ment.and Turi-Tun.	Mrilip Gate	Mrilip Gate (Net)	Net	Brantas Delta Irrigation	Storage of Sutami and Lahor Reservoirs	New Lengkong Dam Observed Discharge	Net Total Taken Water	Natural Flow at New Lengkong Dam
Jan.	1st	0.26	0.51	1.58	-3.15	32.65	0.76	33.41	2.35	35.76	0.47	0.23	1.68	2.38	24.88	22.50	58.26	55.66	52.08	309.64	146.00	455.65
	2nd	0.29	0.59	1.98	-2.85	34.72	1.50	36.22	2.35	38.57	0.59	0.45	1.93	2.98	23.87	20.89	59.46	52.86	53.31	265.70	165.63	431.33
	3rd	0.17	0.58	3.10	-1.55	34.85	1.34	36.19	2.35	38.54	0.93	0.40	1.91	3.24	8.00	4.76	43.30	48.31	7.08	137.94	98.69	236.64
Feb.	1st	0.17	0.65	1.18	-3.65	33.17	1.78	34.95	2.35	37.30	0.35	0.53	2.11	3.00	6.70	3.70	41.00	52.96	54.91	327.81	148.86	476.67
	2nd	0.16	0.69	1.65	-3.22	32.72	1.60	34.32	2.35	36.67	0.50	0.48	2.25	3.23	11.40	8.17	44.84	48.49	-1.25	296.68	92.08	388.76
	3rd	0.16	0.71	1.70	-3.20	34.17	1.56	35.73	2.35	38.08	0.51	0.47	2.32	3.30	9.95	6.65	44.73	54.85	-4.47	314.91	95.11	410.02
Mar.	1st	0.17	0.67	1.69	-3.14	32.75	1.46	34.21	2.35	36.56	0.51	0.44	2.18	3.13	10.41	7.28	43.84	57.18	17.05	299.65	118.07	417.72
	2nd	0.17	0.62	1.69	-6.67	40.40	1.49	41.89	2.35	44.24	0.51	0.45	2.05	3.00	13.32	10.32	54.56	48.71	15.00	329.39	118.27	447.66
	3rd	0.17	0.62	1.66	-2.91	32.54	1.55	34.09	2.35	36.44	0.50	0.46	2.02	2.98	15.57	12.59	49.03	54.97	10.61	352.52	114.61	467.13
Apr.	1st	0.16	0.51	1.30	-2.55	28.62	1.54	30.17	2.35	32.52	0.39	0.46	1.68	2.53	16.90	14.37	46.89	50.84	10.57	244.65	108.29	352.94
	2nd	0.16	0.48	0.89	-3.08	30.06	1.14	31.19	2.35	33.54	0.27	0.34	1.59	2.19	15.22	13.03	46.57	85.22	-11.96	207.71	119.83	327.54
	3rd	0.15	0.48	0.49	-3.01	28.31	1.32	29.63	2.35	31.98	0.15	0.40	1.56	2.11	12.98	10.87	42.85	43.20	10.04	276.11	96.09	372.20
May	1st	0.12	0.58	1.12	-2.53	28.88	1.16	30.04	2.35	32.39	0.34	0.35	1.91	2.59	11.00	8.41	40.80	44.48	-1.43	457.24	83.85	541.08
	2nd	0.05	0.57	1.67	-1.85	29.46	0.80	30.26	2.35	32.61	0.50	0.24	1.86	2.60	17.32	14.72	47.33	41.16	8.44	358.33	96.93	455.26
	3rd	0.05	0.56	1.63	-1.86	29.47	0.58	30.05	2.35	32.40	0.49	0.17	1.84	2.50	18.48	15.98	48.38	39.72	0.31	354.68	88.42	443.10
June	1st	0.05	0.58	1.26	-2.34	30.34	0.47	30.82	2.35	33.17	0.38	0.14	1.91	2.43	16.34	13.91	47.08	42.11	5.50	159.08	94.69	253.77
	2nd	0.05	0.58	1.41	-2.46	31.01	0.48	31.49	2.35	33.84	0.42	0.14	1.91	2.47	16.39	13.92	47.76	45.84	-6.07	103.57	87.52	191.09
	3rd	0.05	0.60	1.31	-2.49	30.61	0.38	30.99	2.35	33.34	0.39	0.11	1.98	2.48	23.78	21.30	54.64	47.39	-30.53	29.70	71.50	101.20
July	1st	0.05	0.68	0.66	-3.15	30.86	0.20	31.06	2.35	33.41	0.20	0.06	2.23	2.49	24.28	21.79	55.20	47.77	-45.08	36.35	57.90	94.25
	2nd	0.05	0.55	0.63	-2.43	27.75	0.47	28.22	2.35	30.57	0.19	0.14	1.82	2.14	22.49	20.35	50.91	44.10	-26.12	31.97	68.89	100.86
	3rd	0.05	0.34	0.73	-1.76	24.15	0.16	24.32	2.35	26.67	0.22	0.05	1.13	1.39	19.16	17.77	44.44	33.76	-0.09	0.00	78.11	78.11
Aug.	1st	0.05	0.27	0.71	-2.48	23.28	0.05	23.33	2.35	25.68	0.21	0.02	0.87	1.10	15.08	13.98	39.66	27.75	-14.03	0.55	53.38	53.93
	2nd	0.05	0.28	0.75	-2.37	22.94	0.00	22.94	2.35	25.29	0.23	0.00	0.92	1.14	17.06	15.92	41.21	28.52	-16.58	0.00	53.15	53.15
	3rd	0.05	0.30	0.63	-1.93	21.58	0.00	21.58	2.35	23.93	0.19	0.00	0.99	1.18	16.18	15.00	38.94	25.80	-17.94	0.00	46.80	46.80
Sept.	1st	0.05	0.16	0.53	-1.87	19.24	0.09	19.34	2.35	21.69	0.16	0.03	0.53	0.72	14.76	14.04	35.73	25.63	-15.46	0.00	45.90	45.90
	2nd	0.05	0.08	0.25	-2.04	17.91	0.11	18.02	2.35	20.37	0.07	0.03	0.28	0.38	14.23	13.85	34.22	22.13	-15.15	0.00	41.20	41.20
	3rd	0.05	0.18	0.44	-1.98	19.47	0.10	19.58	2.35	21.93	0.13	0.03	0.60	0.76	13.22	12.46	34.39	20.90	-18.98	0.00	36.30	36.30
Oct.	1st	0.05	0.16	0.40	-2.06	19.45	0.11	19.56	2.35	21.91	0.12	0.03	0.53	0.68	14.33	13.65	35.56	23.32	-20.92	0.00	37.96	37.96
	2nd	0.05	0.08	0.19	-2.19	17.62	0.08	17.70	2.35	20.05	0.06	0.02	0.25	0.33	16.58	16.25	36.29	29.19	8.38	11.90	73.87	85.77
	3rd	0.05	0.02	0.13	-2.22	16.36	0.12	16.48	2.35	18.83	0.04	0.04	0.07	0.14	16.53	16.38	35.21	37.51	24.95	66.91	97.67	164.58
Nov.	1st	0.05	0.20	0.21	-2.71	20.85	0.17	21.02	2.35	23.37	0.06	0.05	0.64	0.76	12.18	11.42	34.79	41.15	-0.11	105.40	75.83	181.23
	2nd	0.05	0.24	0.98	-2.49	23.97	0.19	24.16	2.35	26.51	0.29	0.06	0.78	1.13	9.17	8.04	34.55	44.94	-11.62	174.48	67.87	242.35
	3rd	0.05	0.39	2.20	-1.50	27.01	0.27	27.29	2.35	29.64	0.66	0.08	1.26	2.00	5.90	3.90	33.53	44.78	-16.03	237.49	62.28	299.77
Dec.	1st	0.08	0.40	2.64	-1.11	28.27	0.38	28.66	2.35	31.01	0.79	0.11	1.31	2.22	8.90	6.68	37.69	58.46	7.74	85.12	103.89	189.01
	2nd	0.20	0.51	2.94	-1.15	31.16	0.39	31.55	2.35	33.90	0.88	0.12	1.65	2.65	5.62	2.97	36.87	63.10	5.43	64.08	105.40	169.48
	3rd	0.22	0.60	2.10	-2.28	32.22	0.69	32.91	2.35	35.26	0.63	0.21	1.95	2.79	3.77	0.98	36.24	66.36	40.75	229.96	143.35	373.32
Total (million m³)		3.24	13.99	38.94	-78.67	873.62	21.27	894.89	74.11	969.00	11.68	6.38	45.80	63.87	457.70	393.83	1362.83	1398.64	39.60	5115.51	2801.07	7916.58
Total in the dry season (million m³)		0.71	4.99	11.70	-35.47	372.07	3.00	375.07	37.16	412.23	3.51	0.90	16.33	20.74	253.02	232.28	644.51	554.95	-185.90	832.97	1013.55	1846.52

Source : Calculated by the Study Team

Calculation of Natural Flow at the New Lengkong Dam (1 / 2)

YEAR : 1984

Unit : m 3/s

		Brantas Atas Irrigation	Net	Brantas Bawah Irrigation	Net	Return Flow from Brantas Atas Irrigation	Return Flow from Brantas Bawah Irrigation	Net Return Flow	Molek Irrigation	Molek Irrigation (Net)	Net	Return Flow from Molek Irrigation	Lodagung Irrigation	Lodagung Irrigation (Net)	Net	Return Flow from Lodagung Irrigation	Warujayeng -Kertosono Irrigation (Mrican Kiri)	Warujayeng -Kertosono Irrigation (Mrican Kiri) (Net)	Net	Turi-Tunggorono Irrigation (Mrican Kanan)	Net	Brantas Kiri Kediri Irrigation	Net	Return Flow from Warujayen -Kertosono Irrigation
Jan.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.30	5.69	7.72	1.89	8.60	6.71	14.44	0.34	11.90	11.56	26.00	2.39	28.39	0.86	29.25	3.57
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.87	6.25	8.29	2.06	9.00	6.94	15.23	0.35	12.30	11.95	27.18	2.48	29.66	0.95	30.61	3.69
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.92	6.30	8.34	2.07	9.00	6.93	15.27	0.35	12.00	11.65	26.92	2.13	29.04	0.56	29.60	3.60
Feb.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.16	5.55	7.59	1.85	7.10	5.25	12.84	0.28	11.70	11.42	24.26	2.29	26.56	0.56	27.12	3.51
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.69	5.07	7.11	1.71	6.00	4.29	11.41	0.23	10.40	10.17	21.57	2.21	23.78	0.54	24.32	3.12
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.28	6.67	8.71	2.18	6.00	3.82	12.52	0.23	10.30	10.07	22.59	2.23	24.82	0.54	25.36	3.09
Mar.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.77	6.16	8.20	2.03	6.00	3.97	12.17	0.23	11.30	11.07	23.23	1.73	24.97	0.58	25.55	3.39
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.18	5.57	7.61	1.85	6.00	4.15	11.75	0.23	10.30	10.07	21.82	1.75	23.57	0.58	24.15	3.09
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.18	5.57	7.60	1.85	6.65	4.80	12.40	0.26	11.50	11.24	23.64	1.43	25.07	0.58	25.65	3.45
Apr.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.64	6.03	8.07	1.99	8.00	6.01	14.07	0.31	13.30	12.99	27.06	1.22	28.28	0.53	28.81	3.99
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.32	4.71	6.75	1.60	8.00	6.40	13.15	0.31	12.80	12.49	25.64	0.82	26.46	0.53	26.99	3.84
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.32	4.71	6.75	1.60	8.00	6.40	13.15	0.31	10.00	9.69	22.84	1.01	23.85	0.49	24.34	3.00
May	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.07	5.46	7.50	1.82	8.00	6.18	13.68	0.31	10.00	9.69	23.36	1.66	25.03	0.41	25.44	3.00
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.70	3.09	5.13	1.11	8.00	6.89	12.02	0.31	10.10	9.79	21.80	1.60	23.40	0.15	23.55	3.03
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.73	5.12	7.16	1.72	8.00	6.28	13.44	0.31	10.10	9.79	23.23	1.37	24.60	0.15	24.75	3.03
June	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.86	5.25	7.29	1.76	8.96	7.20	14.49	0.35	10.70	10.35	24.84	1.54	26.38	0.15	26.53	3.21
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.97	5.36	7.40	1.79	9.00	7.21	14.61	0.35	10.30	9.95	24.55	1.05	25.60	0.15	25.75	3.09
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.62	5.01	7.05	1.69	9.00	7.31	14.36	0.35	9.70	9.35	23.71	1.56	25.27	0.15	25.42	2.91
July	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.64	5.03	7.07	1.69	9.00	7.31	14.38	0.35	10.10	9.75	24.13	1.55	25.67	0.15	25.82	3.03
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.52	4.91	6.95	1.66	9.00	7.34	14.29	0.35	10.40	10.05	24.34	1.54	25.88	0.15	26.03	3.12
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.97	4.36	6.39	1.49	9.00	7.51	13.90	0.35	10.40	10.05	23.95	1.51	25.47	0.15	25.62	3.12
Aug.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.35	2.74	4.78	1.01	9.00	7.99	12.77	0.35	10.10	9.75	22.52	1.29	23.81	0.15	23.96	3.03
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.11	4.50	6.54	1.53	9.00	7.47	14.01	0.35	10.30	9.95	23.96	1.15	25.11	0.15	25.26	3.09
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.63	5.01	7.05	1.69	9.00	7.31	14.37	0.35	9.60	9.25	23.61	0.96	24.57	0.15	24.72	2.88
Sept.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.37	4.76	6.80	1.61	9.00	7.39	14.19	0.35	8.90	8.55	22.74	0.69	23.43	0.15	23.58	2.67
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.99	5.37	7.41	1.80	9.00	7.20	14.62	0.35	7.80	7.45	22.07	0.50	22.56	0.15	22.71	2.34
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.54	4.93	6.97	1.66	9.00	7.34	14.30	0.35	8.90	8.55	22.85	0.46	23.31	0.15	23.46	2.67
Oct.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.16	4.55	6.59	1.55	9.00	7.45	14.04	0.35	8.60	8.25	22.29	0.36	22.65	0.15	22.80	2.58
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.63	5.02	7.06	1.69	9.00	7.31	14.37	0.35	8.00	7.65	22.02	0.40	22.41	0.15	22.56	2.40
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.69	5.08	7.12	1.71	9.00	7.29	14.41	0.35	8.00	7.65	22.06	0.43	22.49	0.15	22.64	2.40
Nov.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.07	3.46	5.50	1.22	9.00	7.78	13.28	0.35	8.80	8.45	21.73	0.47	22.20	0.15	22.35	2.64
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.49	4.88	6.92	1.65	9.00	7.35	14.27	0.35	8.60	8.25	22.52	0.49	23.01	0.15	23.16	2.58
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.93	5.31	7.35	1.78	9.00	7.22	14.57	0.35	8.70	8.35	22.92	0.46	23.38	0.15	23.53	2.61
Dec.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.73	5.12	7.16	1.72	8.34	6.62	13.78	0.33	9.80	9.47	23.25	1.78	25.03	0.27	25.30	2.94
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.33	5.72	7.76	1.90	8.65	6.75	14.51	0.34	9.90	9.56	24.07	1.84	25.92	0.66	26.58	2.97
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.33	5.72	7.75	1.90	10.92	9.02	16.78	0.43	10.10	9.67	26.45	1.62	28.07	0.73	28.80	3.03
Total (million m³)		45.60	45.60	18.88	64.48	13.68	5.66	19.34	180.34	161.05	225.35	54.10	265.40	211.30	436.65	10.35	320.38	310.03	746.68	42.07	790.70	10.85	801.56	96.38
Total in the dry season (million m³)		22.80	22.80	9.44	32.24	6.84	2.83	9.67	84.82	75.15	107.39	25.45	142.27	116.82	224.21	5.55	147.48	141.94	366.14	14.42	380.56	2.37	382.93	44.25

Source : Calculated by the Study Team

MH-41

Calculation of Natural Flow at the New Lengkong Dam (2 / 2)

Unit : m³/s

YEAR : 1984

		Return Flow from Brantas Kiri Kediri Irrigation	Return Flow from Turi-Tunggorono Irrigation	Jatimlerek Irrigation	Jatimlerek Irrigation (Net)	Net	Mentrus Irrigation	Net	Industrial Water	Net	Return Flow from Jatimlerek Irrigation	Return Flow from Mentrus Irrigation	Return Flow from Turi-Tunggorono Irrigation	Net Return Flow from Jati.and Ment.and Turi-Tun.	Mrilip Gate	Mrilip Gate (Net)	Net	Brantas Delta Irrigation	Storage of Sutami and Lahor Reservoirs	New Lengkong Dam Observed Discharge	Net Total Taken Water	Natural Flow at New Lengkong Dam
Jan.	1st	0.26	0.17	2.58	-1.42	27.83	0.84	28.67	2.35	31.02	0.77	0.25	0.55	1.57	2.56	0.99	3.00	59.24	-6.22	218.22	85.05	303.25
	2nd	0.29	0.17	2.52	-1.62	28.99	0.70	29.68	2.35	32.03	0.76	0.21	0.57	1.54	5.00	3.46	8.46	58.28	11.74	334.36	105.52	439.87
	3rd	0.17	0.15	2.11	-1.81	27.79	1.42	29.21	2.35	31.56	0.63	0.42	0.49	1.54	2.18	0.64	2.82	60.31	61.23	447.71	153.73	601.44
Feb.	1st	0.17	0.16	1.48	-2.36	24.75	1.79	26.54	2.35	28.89	0.44	0.54	0.53	1.51	29.66	28.15	57.05	59.19	102.36	602.71	218.60	821.31
	2nd	0.16	0.16	2.06	-1.38	22.94	2.18	25.12	2.35	27.47	0.62	0.65	0.51	1.78	1.68	-0.10	27.37	60.91	4.74	568.78	93.02	661.80
	3rd	0.16	0.16	2.06	-1.35	24.01	2.14	26.15	2.35	28.50	0.62	0.64	0.51	1.77	1.40	-0.37	28.13	60.87	-17.66	354.07	71.33	425.40
Mar.	1st	0.17	0.12	1.92	-1.76	23.78	1.94	25.72	2.35	28.07	0.58	0.58	0.40	1.56	2.71	1.15	29.23	57.06	23.02	570.08	109.31	679.39
	2nd	0.17	0.12	1.73	-1.66	22.49	1.78	24.27	2.35	26.62	0.52	0.53	0.40	1.45	2.34	0.89	27.51	43.36	-19.02	404.30	51.85	456.15
	3rd	0.17	0.10	1.16	-2.57	23.09	1.80	24.89	2.35	27.24	0.35	0.54	0.33	1.22	1.50	0.28	27.52	63.08	-11.86	330.95	78.74	409.70
Apr.	1st	0.16	0.09	0.87	-3.36	25.45	1.60	27.05	2.35	29.40	0.26	0.48	0.28	1.02	1.50	0.48	29.88	98.03	16.43	365.17	144.34	509.51
	2nd	0.16	0.06	0.95	-3.11	23.88	1.48	25.36	2.35	27.71	0.29	0.44	0.19	0.92	28.67	27.75	55.46	54.84	-9.85	574.42	100.45	674.87
	3rd	0.15	0.07	1.48	-1.74	22.60	1.32	23.92	2.35	26.27	0.44	0.40	0.23	1.07	1.93	0.86	27.13	94.77	-14.49	231.06	107.41	338.47
May	1st	0.12	0.12	2.00	-1.24	24.19	1.20	25.39	2.35	27.74	0.60	0.36	0.38	1.34	17.99	16.65	44.39	47.19	4.64	196.51	96.22	292.73
	2nd	0.05	0.11	1.89	-1.30	22.25	0.92	23.17	2.35	25.52	0.57	0.28	0.37	1.21	29.97	28.76	54.28	46.87	9.52	163.10	110.68	273.78
	3rd	0.05	0.10	0.40	-2.77	21.98	0.56	22.54	2.35	24.89	0.12	0.17	0.32	0.60	29.58	28.98	53.87	45.94	3.36	90.30	103.16	193.46
June	1st	0.05	0.11	1.10	-2.26	24.27	0.15	24.42	2.35	26.77	0.33	0.05	0.35	0.73	29.10	28.37	55.14	48.13	0.58	27.89	103.85	131.74
	2nd	0.05	0.07	1.24	-1.96	23.79	0.29	24.08	2.35	26.43	0.37	0.09	0.24	0.70	28.56	27.86	54.29	49.05	-4.46	54.78	98.88	153.66
	3rd	0.05	0.11	1.07	-1.99	23.42	0.00	23.42	2.35	25.77	0.32	0.00	0.36	0.68	25.14	24.46	50.24	47.23	-0.67	11.33	96.80	108.13
July	1st	0.05	0.11	1.26	-1.92	23.90	0.07	23.97	2.35	26.32	0.38	0.02	0.36	0.75	25.93	25.18	51.49	49.66	-2.73	40.13	98.42	138.55
	2nd	0.05	0.11	1.23	-2.04	23.99	0.16	24.15	2.35	26.50	0.37	0.05	0.35	0.77	22.28	21.51	48.01	45.16	-8.70	1.26	84.47	85.73
	3rd	0.05	0.11	0.98	-2.29	23.32	0.18	23.50	2.35	25.85	0.29	0.05	0.35	0.69	16.17	15.48	41.33	40.65	-9.83	0.00	72.16	72.16
Aug.	1st	0.05	0.09	0.74	-2.43	21.53	0.18	21.71	2.35	24.06	0.22	0.05	0.30	0.57	13.78	13.21	37.27	35.53	-12.87	0.00	59.94	59.94
	2nd	0.05	0.08	0.54	-2.67	22.58	0.18	22.76	2.35	25.11	0.16	0.05	0.26	0.48	12.46	11.98	37.09	37.23	-10.02	0.00	64.31	64.31
	3rd	0.05	0.07	0.33	-2.66	22.06	0.19	22.25	2.35	24.60	0.10	0.06	0.22	0.38	17.50	17.12	41.72	46.45	-22.29	11.13	65.88	77.01
Sept.	1st	0.05	0.05	0.28	-2.48	21.10	0.60	21.70	2.35	24.05	0.09	0.18	0.16	0.43	23.83	23.40	47.46	46.77	-14.11	48.92	80.12	129.04
	2nd	0.05	0.03	0.32	-2.10	20.61	0.23	20.84	2.35	23.19	0.09	0.07	0.11	0.28	26.32	26.04	49.23	40.41	4.16	167.04	93.80	260.84
	3rd	0.05	0.03	0.32	-2.43	21.04	0.29	21.33	2.35	23.68	0.10	0.09	0.11	0.29	21.86	21.57	45.25	46.97	-32.17	63.42	60.05	123.47
Oct.	1st	0.05	0.03	0.16	-2.49	20.31	0.24	20.54	2.35	22.89	0.05	0.07	0.08	0.20	23.22	23.02	45.91	44.32	-16.94	129.10	73.29	202.39
	2nd	0.05	0.03	0.15	-2.33	20.24	0.28	20.52	2.35	22.87	0.04	0.08	0.09	0.22	23.30	23.08	45.95	49.91	-34.95	75.77	60.91	134.68
	3rd	0.05	0.03	0.00	-2.48	20.17	0.30	20.47	2.35	22.82	0.00	0.09	0.10	0.19	21.52	21.33	44.15	50.84	-19.08	15.28	75.90	91.18
Nov.	1st	0.05	0.03	0.91	-1.81	20.54	0.32	20.86	2.35	23.21	0.27	0.10	0.11	0.48	13.28	12.80	36.01	38.34	-2.55	0.00	71.81	71.81
	2nd	0.05	0.03	0.85	-1.81	21.35	0.09	21.44	2.35	23.79	0.25	0.03	0.11	0.39	13.88	13.49	37.28	35.49	4.66	4.16	77.43	81.59
	3rd	0.05	0.03	1.25	-1.43	22.09	0.07	22.16	2.35	24.51	0.38	0.02	0.10	0.50	10.91	10.41	34.92	48.69	9.78	85.94	93.39	179.33
Dec.	1st	0.08	0.13	0.55	-2.59	22.71	0.25	22.96	2.35	25.31	0.17	0.08	0.41	0.65	6.96	6.31	31.62	53.54	-7.81	301.70	77.35	379.05
	2nd	0.20	0.13	1.14	-2.16	24.42	0.58	25.00	2.35	27.35	0.34	0.17	0.42	0.94	2.23	1.29	28.64	52.85	-19.31	187.11	62.18	249.29
	3rd	0.22	0.11	2.80	-0.56	28.24	0.97	29.21	2.35	31.56	0.84	0.29	0.37	1.50	2.19	0.69	32.24	52.69	21.51	279.93	106.45	386.38
Total (million m³)		3.26	2.95	37.14	-65.45	736.11	23.84	759.95	74.31	834.27	11.14	7.15	9.67	27.96	473.48	445.52	1279.79	1641.39	-13.62	6079.75	2907.56	8987.31
Total in the dry season (million m³)		0.71	1.01	11.11	-34.86	348.08	3.36	351.43	37.16	388.59	3.33	1.01	3.31	7.65	323.62	315.96	704.56	703.84	-153.19	636.59	1255.20	1891.80

Source : Calculated by the Study Team

MH-42

Calculation of Natural Flow at the New Lengkong Dam (1 / 2)

YEAR : 1985

Unit : m 3/s

		Brantas Atas Irrigation	Net	Brantas Bawah Irrigation	Net	Return Flow from Brantas Atas Irrigation	Return Flow from Brantas Bawah Irrigation	Net Return Flow	Molek Irrigation	Molek Irrigation (Net)	Net	Return Flow from Molek Irrigation	Lodagung Irrigation	Lodagung Irrigation (Net)	Net	Return Flow from Lodagung Irrigation	Warujayeng -Kertosono Irrigation (Mrican Kiri)	Warujayeng -Kertosono Irrigation (Mrican Kiri) (Net)	Net	Turi-Tunggorono Irrigation (Mrican Kanan)	Net	Brantas Kiri Kediri Irrigation	Net	Return Flow from Warujayen -Kertosono Irrigation
Jan.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.34	5.73	7.77	1.90	9.45	7.55	15.32	0.37	10.20	9.83	25.15	1.88	27.03	0.86	27.89	3.06
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.06	5.45	7.49	1.82	9.00	7.18	14.67	0.35	10.50	10.15	24.82	2.08	26.90	0.95	27.85	3.15
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.27	5.66	7.70	1.88	9.00	7.12	14.82	0.35	10.00	9.65	24.47	2.02	26.49	0.56	27.05	3.00
Feb.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.06	5.45	7.49	1.82	9.00	7.18	14.67	0.35	11.80	11.45	26.12	1.84	27.96	0.56	28.52	3.54
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.35	5.74	7.78	1.91	8.06	6.16	13.93	0.31	11.60	11.29	25.22	1.84	27.05	0.54	27.59	3.48
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.18	6.57	8.61	2.15	9.00	6.85	15.45	0.35	11.00	10.65	26.10	1.82	27.93	0.54	28.47	3.30
Mar.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.55	4.93	6.97	1.66	9.00	7.34	14.31	0.35	12.20	11.85	26.16	1.73	27.89	0.58	28.47	3.66
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.96	6.35	8.39	2.09	9.00	6.91	15.30	0.35	8.20	7.85	23.15	1.65	24.79	0.58	25.37	2.46
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.19	6.58	8.62	2.16	9.00	6.84	15.46	0.35	10.30	9.95	25.41	1.29	26.70	0.58	27.28	3.09
Apr.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.02	6.41	8.45	2.11	8.00	5.89	14.34	0.31	11.30	10.99	25.33	1.26	26.58	0.53	27.11	3.39
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.87	6.26	8.29	2.06	8.00	5.94	14.23	0.31	10.90	10.59	24.82	0.46	25.28	0.53	25.81	3.27
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.09	6.48	8.52	2.13	8.00	5.87	14.39	0.31	11.40	11.09	25.48	0.23	25.71	0.49	26.20	3.42
May	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.97	6.36	8.40	2.09	8.76	6.67	15.07	0.34	10.30	9.96	25.03	1.10	26.12	0.41	26.53	3.09
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.38	6.77	8.81	2.21	9.00	6.79	15.60	0.35	9.20	8.85	24.44	1.39	25.83	0.15	25.98	2.76
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	8.40	7.79	9.82	2.52	9.00	6.48	16.31	0.35	9.60	9.25	25.55	1.46	27.01	0.15	27.16	2.88
June	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.13	6.51	8.55	2.14	11.85	9.71	18.27	0.46	11.90	11.44	29.70	0.73	30.43	0.15	30.58	3.57
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.17	5.56	7.60	1.85	12.00	10.15	17.75	0.47	11.50	11.03	28.78	1.10	29.88	0.15	30.03	3.45
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.84	5.23	7.27	1.75	12.00	10.25	17.51	0.47	9.60	9.13	26.65	1.08	27.73	0.15	27.88	2.88
July	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.41	4.80	6.84	1.62	8.66	7.04	13.88	0.34	8.80	8.46	22.34	1.50	23.84	0.15	23.99	2.64
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.52	4.91	6.95	1.66	7.27	5.61	12.56	0.28	9.20	8.92	21.48	1.54	23.02	0.15	23.17	2.76
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.09	5.48	7.52	1.83	9.50	7.67	15.19	0.37	8.10	7.73	22.92	1.09	24.01	0.15	24.16	2.43
Aug.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.93	5.32	7.36	1.78	9.50	7.72	15.08	0.37	8.50	8.13	23.21	1.44	24.65	0.15	24.80	2.55
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.96	3.35	5.39	1.19	9.50	8.31	13.70	0.37	8.40	8.03	21.73	1.02	22.74	0.15	22.89	2.52
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.60	5.99	8.03	1.98	9.50	7.52	15.55	0.37	8.40	8.03	23.58	0.75	24.33	0.15	24.48	2.52
Sept.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.83	5.21	7.25	1.75	9.50	7.75	15.00	0.37	8.20	7.83	22.83	0.49	23.32	0.15	23.47	2.46
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.38	4.77	6.81	1.61	9.50	7.89	14.69	0.37	7.80	7.43	22.12	0.24	22.36	0.15	22.51	2.34
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.63	4.02	6.06	1.39	9.50	8.11	14.17	0.37	8.00	7.63	21.80	0.00	21.80	0.15	21.95	2.40
Oct.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.11	3.50	5.54	1.23	9.00	7.77	13.31	0.35	7.40	7.05	20.35	0.20	20.55	0.15	20.70	2.22
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.03	3.42	5.46	1.21	2.32	1.11	6.57	0.09	7.20	7.11	13.68	0.13	13.81	0.15	13.96	2.16
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.50	2.89	4.93	1.05	8.75	7.70	12.63	0.34	6.80	6.46	19.09	0.04	19.13	0.15	19.28	2.04
Nov.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.71	5.10	7.14	1.71	8.74	7.03	14.17	0.34	6.30	5.96	20.13	0.22	20.35	0.15	20.50	1.89
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.01	5.40	7.44	1.80	9.97	8.17	15.61	0.39	6.40	6.01	21.62	0.37	21.99	0.15	22.14	1.92
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.07	5.45	7.49	1.82	10.00	8.18	15.67	0.39	7.10	6.71	22.38	1.03	23.41	0.15	23.56	2.13
Dec.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.31	6.70	8.74	2.19	10.00	7.81	16.54	0.39	7.50	7.11	23.65	1.56	25.21	0.27	25.48	2.25
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.25	6.63	8.67	2.17	10.18	8.01	16.68	0.40	10.80	10.40	27.08	1.16	28.24	0.66	28.90	3.24
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.03	6.42	8.46	2.11	13.00	10.89	19.35	0.51	17.80	17.29	36.64	1.13	37.76	0.73	38.49	5.34
Total (million m³)		45.47	45.47	18.83	64.30	13.64	5.65	19.29	193.78	174.49	238.79	58.13	290.72	232.59	471.38	11.34	301.62	290.28	761.56	33.93	795.59	10.81	806.40	90.49
Total in the dry season (million m³)		22.80	22.80	9.44	32.24	6.84	2.83	9.67	86.01	76.34	108.58	25.80	146.74	120.93	229.51	5.72	131.27	125.54	355.06	11.37	366.43	2.37	368.80	39.38

Source : Calculated by the Study Team

MH-43

Calculation of Natural Flow at the New Lengkong Dam (2 / 2)

Unit : m 3/s

YEAR : 1985

		Return Flow from Brantas Kiri Kediri Irrigation	Return Flow from Turi-Tunggorono Irrigation	Jatimlerek Irrigation	Jatimlerek Irrigation (Net)	Net	Mentrus Irrigation	Net	Industrial Water	Net	Return Flow from Jatimlerek Irrigation	Return Flow from Mentrus Irrigation	Return Flow from Turi-Tunggorono Irrigation	Net Return Flow from Jati.and Ment.and Turi-Tun.	Mrilip Gate	Mrilip Gate (Net)	Net	Brantas Delta Irrigation	Storage of Sutami and Lahor Reservoirs	New Lengkong Dam Observed Discharge	Net Total Taken Water	Natural Flow at New Lengkong Dam
Jan.	1st	0.26	0.13	2.57	-0.88	27.01	0.95	27.98	2.35	30.33	0.77	0.29	0.43	1.50	1.50	0.00	30.34	53.47	15.96	225.29	99.77	325.06
	2nd	0.29	0.15	3.06	-0.53	27.33	1.73	29.05	2.35	31.40	0.92	0.52	0.48	1.91	1.50	-0.41	30.99	51.70	37.11	337.82	119.80	457.62
	3rd	0.17	0.14	2.09	-1.22	25.83	1.36	27.19	2.35	29.54	0.63	0.41	0.46	1.50	1.40	-0.10	29.44	47.26	-15.76	355.18	60.93	416.11
Feb.	1st	0.17	0.13	2.01	-1.83	26.68	1.48	28.17	2.35	30.52	0.60	0.44	0.42	1.47	1.58	0.11	30.63	42.81	55.13	379.14	128.57	507.71
	2nd	0.16	0.13	2.21	-1.56	26.03	1.38	27.41	2.35	29.76	0.66	0.41	0.42	1.50	3.84	2.34	32.10	52.75	1.34	341.59	86.19	427.78
	3rd	0.16	0.13	1.61	-1.98	26.48	1.18	27.66	2.35	30.01	0.48	0.35	0.42	1.25	3.93	2.68	32.69	27.01	8.91	344.66	68.61	413.27
Mar.	1st	0.17	0.12	1.94	-2.01	26.45	1.40	27.85	2.35	30.20	0.58	0.42	0.40	1.40	5.46	4.06	34.26	37.59	84.19	549.90	156.04	705.94
	2nd	0.17	0.12	1.34	-1.41	23.96	1.38	25.35	2.35	27.70	0.40	0.41	0.38	1.19	5.23	4.04	31.73	31.59	-19.12	347.70	44.20	391.90
	3rd	0.17	0.09	0.91	-2.44	24.84	1.16	26.00	2.35	28.35	0.27	0.35	0.30	0.92	4.00	3.08	31.43	39.29	-7.54	349.30	63.18	412.48
Apr.	1st	0.16	0.09	0.64	-3.00	24.11	1.23	25.35	2.35	27.70	0.19	0.37	0.29	0.85	4.92	4.07	31.77	50.88	-21.28	283.02	61.37	344.39
	2nd	0.16	0.03	0.38	-3.08	22.73	1.48	24.21	2.35	26.56	0.11	0.44	0.11	0.66	5.21	4.55	31.11	61.75	28.93	256.68	121.78	378.46
	3rd	0.15	0.02	0.00	-3.58	22.61	0.83	23.44	2.35	25.79	0.00	0.25	0.05	0.30	5.59	5.29	31.08	63.87	8.21	304.89	103.16	408.05
May	1st	0.12	0.08	0.94	-2.35	24.18	0.49	24.67	2.35	27.02	0.28	0.15	0.25	0.68	4.84	4.16	31.18	44.37	6.47	121.76	82.02	203.78
	2nd	0.05	0.10	1.03	-1.87	24.11	0.14	24.26	2.35	26.61	0.31	0.04	0.32	0.67	4.65	3.98	30.59	47.35	4.10	51.86	82.04	133.90
	3rd	0.05	0.10	1.95	-1.07	26.09	0.09	26.18	2.35	28.53	0.59	0.03	0.33	0.95	5.00	4.05	32.58	46.55	3.65	49.04	82.79	131.82
June	1st	0.05	0.05	0.89	-2.78	27.80	0.15	27.95	2.35	30.30	0.27	0.04	0.17	0.48	5.70	5.22	35.52	47.28	-3.60	275.99	79.20	355.19
	2nd	0.05	0.08	1.14	-2.44	27.59	0.16	27.75	2.35	30.10	0.34	0.05	0.25	0.64	7.30	6.66	36.76	47.35	-8.61	160.45	75.50	235.95
	3rd	0.05	0.08	1.18	-1.82	26.06	0.17	26.22	2.35	28.57	0.35	0.05	0.25	0.65	7.40	6.75	35.32	47.55	1.25	65.16	84.12	149.28
July	1st	0.05	0.11	1.06	-1.73	22.26	0.09	22.35	2.35	24.70	0.32	0.03	0.34	0.69	7.40	6.71	31.41	48.32	2.42	11.37	82.15	93.52
	2nd	0.05	0.11	1.08	-1.83	21.34	0.12	21.45	2.35	23.80	0.32	0.04	0.35	0.71	7.60	6.89	30.69	44.93	-10.07	27.55	65.55	93.10
	3rd	0.05	0.08	1.19	-1.36	22.80	0.13	22.93	2.35	25.28	0.36	0.04	0.25	0.65	8.50	7.85	33.13	46.15	-8.09	11.39	71.20	82.59
Aug.	1st	0.05	0.10	1.01	-1.68	23.12	0.15	23.26	2.35	25.61	0.30	0.04	0.33	0.68	9.40	8.72	34.33	46.50	-10.60	9.76	70.24	80.00
	2nd	0.05	0.07	0.36	-2.27	20.62	0.16	20.78	2.35	23.13	0.11	0.05	0.23	0.39	9.50	9.11	32.24	43.54	-9.10	5.65	66.68	72.34
	3rd	0.05	0.05	0.25	-2.37	22.10	0.14	22.25	2.35	24.60	0.07	0.04	0.17	0.29	10.40	10.11	34.71	42.32	-23.53	2.57	53.50	56.07
Sept.	1st	0.05	0.03	0.24	-2.30	21.18	0.19	21.36	2.35	23.71	0.07	0.06	0.11	0.24	14.90	14.66	38.37	39.09	-20.56	1.22	56.90	58.12
	2nd	0.05	0.02	0.19	-2.21	20.30	0.13	20.43	2.35	22.78	0.06	0.04	0.05	0.15	6.30	6.15	28.93	53.87	-24.27	0.00	38.52	38.52
	3rd	0.05	0.00	0.22	-2.23	19.73	0.15	19.88	2.35	22.23	0.07	0.04	0.00	0.11	14.50	14.39	36.62	30.12	-25.45	0.00	41.29	41.29
Oct.	1st	0.05	0.01	0.22	-2.06	18.64	0.18	18.82	2.35	21.17	0.07	0.05	0.05	0.16	17.32	17.16	38.33	25.43	-15.95	0.00	47.81	47.81
	2nd	0.05	0.01	0.19	-2.02	11.94	0.18	12.12	2.35	14.47	0.06	0.05	0.03	0.14	17.39	17.25	31.72	25.50	-14.10	0.00	43.12	43.12
	3rd	0.05	0.00	0.17	-1.91	17.37	0.22	17.59	2.35	19.94	0.05	0.07	0.01	0.13	24.40	24.27	44.21	44.09	0.67	40.37	88.97	129.34
Nov.	1st	0.05	0.02	0.21	-1.74	18.75	0.22	18.97	2.35	21.32	0.06	0.06	0.05	0.18	23.70	23.52	44.84	46.63	-17.54	16.03	73.93	89.96
	2nd	0.05	0.03	0.18	-1.82	20.32	0.11	20.44	2.35	22.79	0.05	0.03	0.09	0.17	16.19	16.02	38.81	38.93	8.82	0.39	86.55	86.94
	3rd	0.05	0.07	0.07	-2.18	21.38	0.10	21.49	2.35	23.84	0.02	0.03	0.24	0.29	20.99	20.70	44.54	38.06	-7.19	61.77	75.41	137.18
Dec.	1st	0.08	0.11	0.55	-1.89	23.59	0.54	24.14	2.35	26.49	0.16	0.16	0.36	0.69	24.91	24.22	50.71	32.24	-7.23	203.33	75.72	279.05
	2nd	0.20	0.08	0.86	-2.66	26.25	0.15	26.40	2.35	28.75	0.26	0.05	0.27	0.57	18.92	18.35	47.10	58.26	-5.04	38.18	100.32	138.50
	3rd	0.22	0.08	0.86	-4.78	33.72	0.52	34.24	2.35	36.59	0.26	0.16	0.26	0.67	23.89	23.22	59.81	68.34	20.89	129.09	149.04	278.13
Total (million m³)		3.24	2.38	30.41	-65.70	740.70	17.61	758.30	74.11	832.41	9.12	5.28	7.80	22.20	312.97	290.77	1123.18	1400.33	7.52	4650.79	2531.02	7181.81
Total in the dry season (million m³)		0.71	0.80	8.64	-32.25	336.55	2.40	338.95	37.16	376.11	2.59	0.72	2.61	5.92	201.50	195.58	571.68	647.07	-162.93	600.56	1055.82	1656.38

Source : Calculated by the Study Team

MH-44

Calculation of Natural Flow at the New Lengkong Dam (1 / 2)

YEAR : 1986

Unit : m³/s

		Brantas Atas Irrigation	Net	Brantas Bawah Irrigation	Net	Return Flow from Brantas Atas Irrigation	Return Flow from Brantas Bawah Irrigation	Net Return Flow	Molek Irrigation	Molek Irrigation (Net)	Net	Return Flow from Molek Irrigation	Lodagung Irrigation	Lodagung Irrigation (Net)	Net	Return Flow from Lodagung Irrigation	Warujayeng -Kertosono Irrigation (Mrican Kiri)	Warujayeng -Kertosono Irrigation (Mrican Kiri) (Net)	Net	Turi-Tunggorono Irrigation (Mrican Kanan)	Net	Brantas Kiri Kediri Irrigation	Net	Return Flow from Warujayeng -Kertosono Irrigation
Jan.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.17	6.56	8.60	2.15	13.00	10.85	19.45	0.51	11.70	11.19	30.64	1.65	32.29	0.86	33.15	3.51
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.50	5.89	7.93	1.95	13.00	11.05	18.98	0.51	12.80	12.29	31.27	1.69	32.96	0.95	33.91	3.84
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.60	6.99	9.02	2.28	14.93	12.65	21.68	0.58	12.90	12.32	33.99	1.75	35.74	0.56	36.30	3.87
Feb.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.03	6.42	8.46	2.11	15.00	12.89	21.35	0.59	13.50	12.92	34.26	1.67	35.93	0.56	36.49	4.05
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.36	5.75	7.79	1.91	15.00	13.09	20.88	0.59	14.30	13.72	34.59	1.55	36.14	0.54	36.68	4.29
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.96	3.34	5.38	1.19	15.00	13.81	19.20	0.59	14.20	13.62	32.81	1.58	34.39	0.54	34.93	4.26
Mar.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.95	4.34	6.38	1.49	12.90	11.41	17.79	0.50	12.80	12.30	30.09	1.61	31.70	0.58	32.28	3.84
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.76	5.15	7.19	1.73	10.66	8.93	16.12	0.42	9.80	9.38	25.50	1.60	27.11	0.58	27.69	2.94
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.86	5.25	7.29	1.76	12.00	10.24	17.53	0.47	9.00	8.53	26.06	1.19	27.25	0.58	27.83	2.70
Apr.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.91	5.30	7.34	1.77	12.00	10.23	17.57	0.47	9.00	8.53	26.10	0.00	26.10	0.53	26.63	2.70
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.91	5.30	7.34	1.77	12.00	10.23	17.57	0.47	10.90	10.43	28.00	0.68	28.68	0.53	29.21	3.27
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.95	5.34	7.38	1.78	12.00	10.22	17.59	0.47	12.10	11.63	29.22	0.67	29.89	0.49	30.38	3.63
May	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.26	4.65	6.69	1.58	12.00	10.42	17.11	0.47	11.10	10.63	27.74	0.55	28.29	0.41	28.70	3.33
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.64	5.03	7.07	1.69	12.00	10.31	17.38	0.47	9.80	9.33	26.71	0.81	27.52	0.15	27.67	2.94
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.86	5.25	7.29	1.76	12.00	10.24	17.53	0.47	9.90	9.43	26.96	0.64	27.60	0.15	27.75	2.97
June	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.35	4.74	6.78	1.61	12.00	10.39	17.18	0.47	9.70	9.23	26.41	1.01	27.41	0.15	27.56	2.91
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.36	4.75	6.79	1.61	12.00	10.39	17.18	0.47	10.70	10.23	27.41	1.10	28.51	0.15	28.66	3.21
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.37	4.76	6.80	1.61	12.00	10.39	17.19	0.47	10.10	9.63	26.82	0.95	27.77	0.15	27.92	3.03
July	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.12	4.50	6.54	1.53	12.00	10.47	17.01	0.47	10.70	10.23	27.24	1.30	28.54	0.15	28.69	3.21
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.59	3.97	6.01	1.38	12.00	10.62	16.64	0.47	9.60	9.13	25.77	1.00	26.77	0.15	26.92	2.88
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.23	3.62	5.66	1.27	10.63	9.36	15.02	0.41	9.90	9.49	24.51	1.84	26.35	0.15	26.50	2.97
Aug.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.09	3.48	5.51	1.23	9.50	8.27	13.79	0.37	10.10	9.73	23.52	0.79	24.31	0.15	24.46	3.03
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.91	3.30	5.34	1.17	9.50	8.33	13.66	0.37	9.20	8.83	22.49	1.33	23.82	0.15	23.97	2.76
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.80	3.19	5.23	1.14	9.50	8.36	13.59	0.37	8.20	7.83	21.42	0.75	22.17	0.15	22.32	2.46
Sept.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.80	3.19	5.23	1.14	9.50	8.36	13.59	0.37	8.10	7.73	21.32	1.37	22.69	0.15	22.84	2.43
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.81	3.20	5.24	1.14	9.50	8.36	13.60	0.37	7.60	7.23	20.83	0.05	20.87	0.15	21.02	2.28
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.81	3.20	5.24	1.14	9.50	8.36	13.60	0.37	8.20	7.83	21.43	0.46	21.89	0.15	22.04	2.46
Oct.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.85	3.24	5.28	1.16	9.50	8.34	13.62	0.37	8.10	7.73	21.35	0.52	21.87	0.15	22.02	2.43
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.01	3.40	5.44	1.20	9.50	8.30	13.74	0.37	7.50	7.13	20.87	0.22	21.09	0.15	21.24	2.25
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.18	3.57	5.61	1.25	9.50	8.25	13.86	0.37	8.30	7.93	21.78	0.68	22.46	0.15	22.61	2.49
Nov.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.09	3.48	5.52	1.23	8.87	7.64	13.16	0.35	8.20	7.85	21.01	0.72	21.74	0.15	21.89	2.46
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.74	5.13	7.17	1.72	8.67	6.95	14.12	0.34	8.30	7.96	22.08	1.19	23.26	0.15	23.41	2.49
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.08	5.47	7.51	1.82	9.50	7.68	15.19	0.37	8.80	8.43	23.61	1.86	25.48	0.15	25.63	2.64
Dec.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.04	3.42	5.46	1.21	9.50	8.29	13.75	0.37	10.30	9.93	23.68	1.64	25.33	0.27	25.60	3.09
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.66	4.04	6.08	1.40	9.50	8.10	14.19	0.37	10.90	10.53	24.72	1.75	26.47	0.66	27.13	3.27
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.14	5.52	7.56	1.84	9.50	7.66	15.22	0.37	12.00	11.63	26.85	1.85	28.70	0.73	29.43	3.60
Total (million m³)		45.47	45.47	18.83	64.30	13.64	5.65	19.29	163.06	143.77	208.07	48.92	354.21	305.29	513.36	13.81	321.82	308.01	821.37	35.04	856.41	10.81	867.22	96.55
Total in the dry season (million m³)		22.80	22.80	9.44	32.24	6.84	2.83	9.67	71.22	61.54	93.78	21.36	160.82	139.45	233.24	6.27	141.64	135.37	368.61	15.09	383.69	2.37	386.07	42.49

Source : Calculated by the Study Team

MH-45

Calculation of Natural Flow at the New Lengkong Dam (2 / 2)

YEAR : 1986

Unit : m 3/s

		Return Flow from Brantas Kiri Kediri Irrigation	Return Flow from Turi-Tunggorono Irrigation	Jatimlerek Irrigation	Jatimlerek Irrigation (Net)	Net	Mentrus Irrigation	Net	Industrial Water	Net	Return Flow from Jatimlerek Irrigation	Return Flow from Mentrus Irrigation	Return Flow from Turi-Tunggorono Irrigation	Net Return Flow from Jati.and Ment.and Turi-Tun.	Mrilip Gate	Mrilip Gate (Net)	Net	Brantas Delta Irrigation	Storage of Sutami and Lahor Reservoirs	New Lengkong Dam Observed Discharge	Net Total Taken Water	Natural Flow at New Lengkong Dam
Jan.	1st	0.26	0.12	1.72	-2.16	30.99	0.91	31.90	2.35	34.25	0.52	0.27	0.38	1.17	24.50	23.33	37.58	51.30	9.77	377.97	118.65	496.62
	2nd	0.29	0.12	0.98	-3.26	30.64	1.21	31.86	2.35	34.21	0.29	0.36	0.39	1.05	22.80	21.75	55.96	62.20	-15.27	222.71	102.89	325.60
	3rd	0.17	0.12	1.07	-3.09	33.21	1.39	34.60	2.35	36.95	0.32	0.42	0.40	1.14	19.20	18.06	55.01	62.40	-14.16	271.49	103.24	374.73
Feb.	1st	0.17	0.12	1.22	-3.12	33.38	1.64	35.01	2.35	37.36	0.37	0.49	0.38	1.24	25.15	23.91	61.27	43.90	31.85	304.84	137.02	441.86
	2nd	0.16	0.11	1.12	-3.44	33.24	1.78	35.02	2.35	37.37	0.34	0.53	0.36	1.23	9.26	8.03	45.40	29.10	-8.67	474.45	65.84	540.29
	3rd	0.16	0.11	1.38	-3.16	31.77	1.66	33.43	2.35	35.78	0.41	0.50	0.36	1.27	6.19	4.91	40.70	37.90	2.84	254.55	81.44	335.99
Mar.	1st	0.17	0.11	1.38	-2.75	29.53	1.67	31.20	2.35	33.55	0.41	0.50	0.37	1.28	6.39	5.11	38.65	88.70	45.16	317.33	172.45	489.78
	2nd	0.17	0.11	1.38	-1.85	25.84	1.58	27.42	2.35	29.77	0.41	0.47	0.37	1.26	23.06	21.80	51.57	59.30	13.58	338.49	124.45	462.94
	3rd	0.17	0.08	1.01	-1.95	25.88	1.48	27.36	2.35	29.71	0.30	0.44	0.27	1.02	17.94	16.92	46.63	41.90	8.23	522.09	96.76	618.85
Apr.	1st	0.16	0.00	0.00	-2.86	23.77	1.42	25.19	2.35	27.54	0.00	0.43	0.00	0.43	7.76	7.33	34.87	36.90	31.67	575.88	103.44	679.32
	2nd	0.16	0.05	0.35	-3.13	26.08	1.48	27.55	2.35	29.90	0.10	0.44	0.16	0.70	17.56	16.86	46.76	55.30	-2.06	448.62	100.00	548.62
	3rd	0.15	0.05	0.32	-3.51	26.88	1.07	27.95	2.35	30.30	0.09	0.32	0.15	0.57	20.51	19.94	50.24	43.40	-14.27	262.66	79.36	342.02
May	1st	0.12	0.04	0.23	-3.26	25.43	0.84	26.27	2.35	28.62	0.07	0.25	0.13	0.45	18.73	18.28	46.91	39.50	11.01	70.47	97.42	167.89
	2nd	0.05	0.06	0.00	-3.04	24.62	0.53	25.16	2.35	27.51	0.00	0.16	0.19	0.35	18.38	18.03	45.54	43.20	1.66	37.22	90.40	127.62
	3rd	0.05	0.04	0.50	-2.56	25.19	0.33	25.52	2.35	27.87	0.15	0.10	0.15	0.40	20.83	20.43	48.30	42.60	0.36	16.02	91.26	107.28
June	1st	0.05	0.07	0.44	-2.59	24.98	0.15	25.13	2.35	27.48	0.13	0.05	0.23	0.41	26.21	25.80	53.28	43.50	-23.92	71.77	72.86	144.64
	2nd	0.05	0.08	0.57	-2.76	25.90	0.22	26.13	2.35	28.48	0.17	0.07	0.25	0.49	26.81	26.32	54.79	43.50	-12.87	160.44	85.42	245.86
	3rd	0.05	0.07	0.44	-2.71	25.21	0.08	25.29	2.35	27.64	0.13	0.02	0.22	0.37	22.98	22.61	50.25	43.50	11.26	89.64	105.01	194.65
July	1st	0.05	0.09	0.40	-2.95	25.74	0.08	25.82	2.35	28.17	0.12	0.02	0.30	0.44	22.58	22.14	50.31	43.50	-20.19	118.27	73.62	191.89
	2nd	0.05	0.07	0.29	-2.71	24.22	0.14	24.36	2.35	26.71	0.09	0.04	0.23	0.36	22.70	22.34	49.05	43.20	-7.61	29.93	84.63	114.56
	3rd	0.05	0.13	0.27	-2.88	23.62	0.15	23.77	2.35	26.12	0.08	0.05	0.42	0.55	16.46	15.91	42.04	43.20	1.57	15.15	86.81	101.95
Aug.	1st	0.05	0.06	0.19	-2.94	21.52	0.16	21.68	2.35	24.03	0.06	0.05	0.18	0.29	17.78	17.49	41.52	43.00	-20.77	13.29	63.76	77.05
	2nd	0.05	0.09	0.13	-2.77	21.20	0.17	21.37	2.35	23.72	0.04	0.05	0.30	0.39	22.33	21.94	45.66	34.60	-13.81	1.15	66.45	67.60
	3rd	0.05	0.05	0.18	-2.38	19.94	0.17	20.10	2.35	22.45	0.05	0.05	0.17	0.28	23.80	23.52	45.98	43.00	-22.62	10.30	66.36	76.67
Sept.	1st	0.05	0.10	0.18	-2.40	20.44	0.39	20.84	2.35	23.19	0.05	0.12	0.32	0.49	25.38	24.89	48.08	39.30	-27.25	20.40	60.13	80.53
	2nd	0.05	0.00	0.20	-2.13	18.90	0.18	19.07	2.35	21.42	0.06	0.05	0.01	0.12	16.06	15.94	37.36	34.30	-12.93	5.36	58.73	64.08
	3rd	0.05	0.03	0.22	-2.32	19.72	0.22	19.94	2.35	22.29	0.06	0.07	0.11	0.24	21.49	21.25	43.54	32.00	-23.58	14.12	51.96	66.08
Oct.	1st	0.05	0.04	0.12	-2.39	19.63	0.21	19.83	2.35	22.18	0.04	0.06	0.12	0.22	21.23	21.01	43.20	31.90	-12.44	8.13	62.66	70.79
	2nd	0.05	0.02	0.22	-2.09	19.14	0.23	19.37	2.35	21.72	0.06	0.07	0.05	0.18	26.75	26.57	48.29	31.60	-14.76	76.82	65.13	141.94
	3rd	0.05	0.05	0.17	-2.42	20.19	0.26	20.45	2.35	22.80	0.05	0.08	0.16	0.28	23.65	23.36	46.16	24.60	-12.09	23.21	58.67	81.88
Nov.	1st	0.05	0.05	0.38	-2.18	19.71	0.27	19.98	2.35	22.33	0.11	0.08	0.17	0.36	23.79	23.43	45.76	32.70	22.49	107.73	100.94	208.67
	2nd	0.05	0.08	0.41	-2.21	21.21	0.10	21.31	2.35	23.66	0.12	0.03	0.27	0.43	25.49	25.06	48.72	37.40	0.62	109.73	86.74	196.47
	3rd	0.05	0.13	0.58	-2.23	23.39	0.09	23.48	2.35	25.83	0.17	0.03	0.43	0.63	28.63	28.00	53.83	37.40	-25.83	171.96	65.41	237.37
Dec.	1st	0.08	0.12	0.36	-2.93	22.67	0.40	23.07	2.35	25.42	0.11	0.12	0.38	0.61	24.62	24.01	49.43	42.50	-25.05	48.63	66.89	115.52
	2nd	0.20	0.12	0.42	-3.17	23.96	0.37	24.32	2.35	26.67	0.13	0.11	0.40	0.64	21.43	20.79	47.46	40.60	12.84	120.07	100.90	220.97
	3rd	0.22	0.13	0.46	-3.49	25.95	0.74	26.69	2.35	29.04	0.14	0.22	0.43	0.79	19.51	18.72	47.76	38.20	16.36	133.55	102.32	235.87
Total (million m³)		3.24	2.46	16.71	-85.54	781.68	20.63	802.31	74.11	876.42	5.01	6.19	8.05	19.25	648.72	629.46	1505.88	1350.53	-96.54	5091.27	2759.87	7851.15
Total in the dry season (million m³)		0.71	1.06	4.69	-39.58	346.49	2.88	349.37	37.16	386.52	1.41	0.86	3.47	5.74	363.32	357.58	744.11	598.99	-188.38	909.14	1154.72	2063.86

Source : Calculated by the Study Team

MH-46

Calculation of Natural Flow at the New Lengkong Dam (1 / 2)

YEAR : 1987

Unit : m 3/s

		Brantas Atas Irrigation	Net	Brantas Bawah Irrigation	Net	Return Flow from Brantas Atas Irrigation	Return Flow from Brantas Bawah Irrigation	Net Return Flow	Molek Irrigation	Molek Irrigation (Net)	Net	Return Flow from Molek Irrigation	Lodagung Irrigation	Lodagung Irrigation (Net)	Net	Return Flow from Lodagung Irrigation	Warujayeng -Kertosono Irrigation (Mrican Kiri)	Warujayeng -Kertosono Irrigation (Mrican Kiri) (Net)	Net	Tori-Tunggorono Irrigation (Mrican Kanan)	Net	Brantas Kiri Kediri Irrigation	Net	Return Flow from Warujayeng -Kertosono Irrigation
Jan.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.72	5.11	7.15	1.72	9.50	7.78	14.93	0.57	12.70	12.33	27.26	1.93	29.19	0.86	30.05	5.81
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.84	5.23	7.27	1.75	8.63	6.88	14.14	0.34	12.40	12.06	26.21	1.90	28.10	0.95	29.05	3.72
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.43	5.82	7.86	1.93	9.50	7.57	15.43	0.37	11.60	11.23	26.66	1.79	28.44	0.56	29.00	3.48
Feb.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.86	5.25	7.29	1.76	10.17	8.41	15.70	0.40	12.50	12.10	27.80	2.16	29.96	0.56	30.52	3.75
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.18	5.57	7.60	1.85	8.21	6.35	13.96	0.32	10.20	9.88	23.84	1.77	25.61	0.54	26.15	3.06
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.49	5.88	7.92	1.95	12.11	10.16	18.08	0.47	4.20	3.73	21.81	1.70	23.51	0.54	24.05	1.26
Mar.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.24	5.63	7.67	1.87	12.11	10.24	17.90	0.47	10.90	10.43	28.33	1.65	29.98	0.58	30.56	5.27
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.06	5.45	7.48	1.82	12.20	10.39	17.87	0.48	11.10	10.62	28.49	1.62	30.11	0.58	30.69	3.33
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.51	5.90	7.94	1.95	12.15	10.20	18.13	0.47	11.60	11.13	29.26	1.41	30.67	0.58	31.25	3.48
Apr.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.49	5.88	7.92	1.95	9.75	7.80	15.72	0.38	11.40	11.02	26.74	1.08	27.82	0.53	28.35	3.42
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.45	5.84	7.88	1.93	12.25	10.32	18.19	0.48	11.00	10.52	28.71	0.60	29.32	0.53	29.85	3.30
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.64	5.03	7.07	1.69	8.45	6.76	13.83	0.33	9.90	9.57	23.40	0.34	23.74	0.49	24.23	2.97
May	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.43	5.81	7.85	1.93	12.04	10.12	17.97	0.47	11.20	10.73	28.70	0.85	29.54	0.41	29.95	3.36
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.18	5.57	7.61	1.85	12.20	10.35	17.95	0.48	10.50	10.02	27.98	0.87	28.85	0.15	29.00	3.15
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.45	3.84	5.88	1.34	12.20	10.86	16.74	0.48	8.90	8.42	25.17	1.01	26.18	0.15	26.33	2.67
June	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	2.43	1.82	3.86	0.73	12.17	11.44	15.30	0.47	9.90	9.43	24.73	1.63	26.36	0.15	26.51	2.97
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	2.76	2.15	4.18	0.83	12.31	11.48	15.67	0.48	10.00	9.52	25.19	1.14	26.33	0.15	26.48	3.00
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	2.49	1.88	3.92	0.75	12.45	11.70	15.62	0.49	9.10	8.61	24.23	1.09	25.32	0.15	25.47	2.73
July	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.53	2.92	4.96	1.06	12.47	11.41	16.37	0.49	9.10	8.61	24.98	1.20	26.18	0.15	26.33	2.73
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	2.17	1.56	3.59	0.65	13.72	13.07	16.67	0.54	9.20	8.66	25.33	1.29	26.62	0.15	26.77	2.76
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	2.51	1.90	3.94	0.75	8.00	7.25	11.19	0.31	9.20	8.89	20.07	1.06	21.14	0.15	21.29	2.76
Aug.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	0.00	-0.61	1.43	0.00	7.98	7.98	9.41	0.31	7.90	7.59	17.00	0.95	17.95	0.15	18.10	2.37
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	2.20	1.59	3.62	0.66	8.77	8.11	11.73	0.34	7.90	7.56	19.29	0.84	20.13	0.15	20.28	2.37
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	2.19	1.58	3.62	0.66	7.98	7.33	10.94	0.31	7.10	6.79	17.73	0.71	18.44	0.15	18.59	2.13
Sept.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	1.43	0.82	2.86	0.43	7.98	7.55	10.41	0.31	7.00	6.69	17.10	0.60	17.70	0.15	17.85	2.10
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	2.12	1.51	3.55	0.64	7.95	7.31	10.86	0.31	6.30	5.99	16.85	0.47	17.32	0.15	17.47	1.89
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	0.00	-0.61	1.43	0.00	9.96	9.96	11.39	0.39	6.20	5.81	17.20	0.39	17.59	0.15	17.74	1.86
Oct.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	2.31	1.69	3.73	0.69	9.98	9.29	13.02	0.39	6.10	5.71	18.73	0.06	18.79	0.15	18.94	1.83
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	0.72	0.11	2.15	0.22	9.97	9.75	11.90	0.39	6.10	5.71	17.61	0.06	17.67	0.15	17.82	1.83
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	0.88	0.27	2.31	0.26	9.99	9.73	12.03	0.39	6.10	5.71	17.75	0.00	17.75	0.15	17.90	1.83
Nov.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	2.08	1.47	3.51	0.62	7.76	7.14	10.64	0.30	6.30	6.00	16.64	0.03	16.67	0.15	16.82	1.89
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	0.00	-0.61	1.43	0.00	4.43	4.43	5.86	0.17	6.80	6.63	12.48	0.00	12.48	0.15	12.63	2.04
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	2.75	2.13	4.17	0.82	10.70	9.87	14.05	0.42	6.40	5.98	20.03	0.10	20.13	0.15	20.28	1.92
Dec.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	0.00	-0.61	1.43	0.00	10.70	10.70	12.13	0.42	12.00	11.58	23.71	1.21	24.92	0.27	25.19	3.60
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	0.00	-0.61	1.43	0.00	6.77	6.77	8.20	0.26	11.70	11.44	19.63	1.14	20.78	0.66	21.44	3.51
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	0.00	-0.61	1.43	0.00	9.78	9.78	11.21	0.38	13.10	12.72	23.93	2.49	26.42	0.73	27.15	3.93
Total (million m³)		45.47	45.47	18.83	64.30	13.64	5.65	19.29	107.58	88.29	152.59	32.28	317.81	285.53	438.13	12.39	293.35	280.95	719.08	32.53	751.61	10.81	762.42	88.00
Total in the dry season (million m³)		22.80	22.80	9.44	32.24	6.84	2.83	9.67	28.61	18.94	51.18	8.58	153.08	144.49	195.67	5.97	120.04	114.07	309.75	10.20	319.94	2.37	322.31	36.01

Source : Calculated by the Study Team

MH-47

Calculation of Natural Flow at the New Lengkong Dam (2 / 2)

YEAR : 1987

Unit : m 3/s

		Return Flow from Brantas Kiri Kediri Irrigation	Return Flow from Turi-Tunggorono Irrigation	Jatimlerek Irrigation	Jatimlerek Irrigation (Net)	Net	Mentrus Irrigation	Net	Industrial Water	Net	Return Flow from Jatimlerek Irrigation	Return Flow from Mentrus Irrigation	Return Flow from Turi-Tunggorono Irrigation	Net Return Flow from Jati.and Ment.and Turi-Tun.	Mrilip Gate	Mrilip Gate (Net)	Net	Brantas Delta Irrigation	Storage of Sutami and Lahor Reservoirs	New Lengkong Dam Observed Discharge	Net Total Taken Water	Natural Flow at New Lengkong Dam
Jan.	1st	0.26	0.14	1.01	-3.20	26.85	0.91	27.76	2.35	30.11	0.30	0.27	0.44	1.02	33.76	32.74	62.85	48.10	49.35	465.20	160.80	624.00
	2nd	0.29	0.13	0.75	-3.39	25.66	1.21	26.88	2.35	29.23	0.22	0.36	0.44	1.02	24.41	23.39	52.61	48.00	-30.37	227.90	70.24	298.14
	3rd	0.17	0.13	0.84	-2.93	26.07	1.39	27.46	2.35	29.81	0.25	0.42	0.41	1.08	27.09	26.01	55.82	62.90	13.86	362.90	132.58	495.48
Feb.	1st	0.17	0.15	0.84	-3.23	27.29	1.64	28.92	2.35	31.27	0.25	0.49	0.50	1.24	30.05	28.81	60.08	49.20	-1.54	385.10	107.74	492.84
	2nd	0.16	0.12	0.99	-2.36	23.79	1.78	25.57	2.35	27.92	0.30	0.53	0.41	1.24	30.09	28.85	56.77	48.70	18.90	650.90	124.37	775.27
	3rd	0.16	0.12	1.18	-0.37	23.69	1.66	25.35	2.35	27.70	0.35	0.50	0.39	1.24	19.60	18.36	46.05	51.50	6.19	549.90	103.75	653.65
Mar.	1st	0.17	0.12	0.78	-2.78	27.78	1.67	29.45	2.35	31.80	0.23	0.50	0.38	1.11	22.50	21.39	53.18	46.00	26.24	437.80	125.42	563.22
	2nd	0.17	0.11	0.70	-2.92	27.77	1.58	29.35	2.35	31.70	0.21	0.47	0.37	1.06	30.99	29.93	61.64	54.70	30.63	229.60	146.97	376.57
	3rd	0.17	0.10	0.05	-3.70	27.55	1.48	29.03	2.35	31.38	0.02	0.44	0.32	0.78	36.92	36.13	67.52	54.30	19.83	209.70	141.64	351.34
Apr.	1st	0.16	0.08	0.15	-3.51	24.84	1.42	26.26	2.35	28.61	0.04	0.43	0.25	0.72	35.19	34.47	63.08	44.60	4.10	91.00	111.79	202.79
	2nd	0.16	0.04	0.00	-3.50	26.34	1.48	27.82	2.35	30.17	0.00	0.44	0.14	0.58	32.45	31.87	62.04	56.50	13.08	30.50	131.62	162.12
	3rd	0.15	0.02	0.00	-3.14	21.09	1.07	22.16	2.35	24.51	0.00	0.32	0.08	0.40	28.90	28.50	53.01	61.60	8.92	39.50	123.53	163.03
May	1st	0.12	0.06	0.00	-3.54	26.41	0.84	27.25	2.35	29.60	0.00	0.25	0.19	0.45	35.48	35.03	64.64	43.70	1.94	47.00	110.28	157.28
	2nd	0.05	0.06	0.46	-2.80	26.20	0.53	26.73	2.35	29.08	0.14	0.16	0.20	0.50	34.24	33.74	62.83	42.60	-0.94	22.80	104.49	127.29
	3rd	0.05	0.07	0.27	-2.52	23.81	0.33	24.14	2.35	26.49	0.08	0.10	0.23	0.41	25.58	25.17	51.66	43.00	-11.03	4.20	83.62	87.82
June	1st	0.05	0.11	0.59	-2.54	23.97	0.15	24.12	2.35	26.47	0.18	0.05	0.37	0.60	36.53	35.93	62.40	46.10	-31.24	28.20	77.26	100.46
	2nd	0.05	0.08	0.40	-2.73	23.75	0.22	23.97	2.35	26.32	0.12	0.07	0.26	0.45	29.35	28.90	55.22	46.00	-25.01	2.80	76.21	79.01
	3rd	0.05	0.08	0.29	-2.57	22.91	0.08	22.99	2.35	25.34	0.09	0.02	0.25	0.36	15.39	15.03	40.37	45.10	-14.39	1.30	71.08	72.38
July	1st	0.05	0.08	0.25	-2.61	23.73	0.08	23.81	2.35	26.16	0.08	0.02	0.28	0.38	14.64	14.26	40.42	41.40	-21.13	0.00	60.69	60.69
	2nd	0.05	0.09	0.74	-2.15	24.62	0.14	24.76	2.35	27.11	0.22	0.04	0.30	0.56	13.56	13.00	40.11	38.90	-12.55	0.00	66.46	66.46
	3rd	0.05	0.07	0.66	-2.22	19.07	0.15	19.22	2.35	21.57	0.20	0.05	0.24	0.49	12.66	12.18	33.74	32.50	-14.38	0.00	51.86	51.86
Aug.	1st	0.05	0.07	0.25	-2.23	15.87	0.16	16.03	2.35	18.38	0.08	0.05	0.22	0.34	12.32	11.98	30.36	23.00	5.17	0.00	58.53	58.53
	2nd	0.05	0.06	0.74	-1.73	18.54	0.17	18.71	2.35	21.06	0.22	0.05	0.19	0.47	12.71	12.24	33.31	14.80	-3.53	0.00	44.58	44.58
	3rd	0.05	0.05	0.64	-1.59	17.00	0.17	17.17	2.35	19.52	0.19	0.05	0.16	0.40	23.80	23.40	42.91	13.40	-2.07	0.00	54.25	54.25
Sept.	1st	0.05	0.04	0.11	-2.07	15.77	0.39	16.17	2.35	18.52	0.03	0.12	0.14	0.29	12.66	12.37	30.89	11.40	-2.95	0.00	39.34	39.34
	2nd	0.05	0.03	0.03	-1.94	15.53	0.18	15.71	2.35	18.06	0.01	0.05	0.11	0.17	12.50	12.33	30.39	11.30	-5.56	0.00	36.13	36.13
	3rd	0.05	0.03	0.02	-1.92	15.82	0.22	16.04	2.35	18.39	0.00	0.07	0.09	0.16	11.95	11.79	30.18	11.40	-2.30	0.00	39.28	39.28
Oct.	1st	0.05	0.00	0.00	-1.88	17.07	0.21	17.27	2.35	19.62	0.00	0.06	0.01	0.08	12.27	12.19	31.82	10.70	-12.81	0.00	29.71	29.71
	2nd	0.05	0.00	0.02	-1.86	15.96	0.23	16.19	2.35	18.54	0.01	0.07	0.01	0.09	13.56	13.47	32.01	10.70	-5.97	0.00	36.74	36.74
	3rd	0.05	0.00	0.02	-1.86	16.04	0.26	16.30	2.35	18.65	0.01	0.08	0.00	0.08	12.25	12.16	30.81	11.50	-8.43	0.00	33.88	33.88
Nov.	1st	0.05	0.00	0.00	-1.94	14.89	0.27	15.16	2.35	17.51	0.00	0.08	0.01	0.09	11.87	11.78	29.29	10.20	-16.08	0.00	23.41	23.41
	2nd	0.05	0.00	0.02	-2.07	10.57	0.10	10.67	2.35	13.02	0.01	0.03	0.00	0.04	14.65	14.61	27.64	13.90	-11.47	0.00	30.07	30.07
	3rd	0.05	0.01	0.08	-1.90	18.39	0.09	18.47	2.35	20.82	0.02	0.03	0.02	0.07	36.62	36.55	57.37	21.40	62.40	19.60	141.17	160.77
Dec.	1st	0.08	0.09	0.56	-3.21	21.99	0.40	22.38	2.35	24.73	0.17	0.12	0.28	0.57	55.90	55.33	80.07	28.20	55.12	192.20	163.38	355.58
	2nd	0.20	0.08	0.35	-3.44	18.00	0.37	18.36	2.35	20.71	0.10	0.11	0.26	0.48	60.47	59.99	80.71	35.80	36.14	333.00	152.64	485.64
	3rd	0.22	0.17	0.47	-3.86	23.29	0.74	24.03	2.35	26.38	0.14	0.22	0.57	0.94	55.46	54.52	80.90	29.50	-36.26	222.00	74.14	296.14
Total (million m³)		3.24	2.28	12.33	-81.20	681.22	20.63	701.85	74.11	775.96	3.70	6.19	7.48	17.36	815.46	798.10	1574.06	1103.34	66.77	3901.82	2744.17	6645.99
Total in the dry season (million m³)		0.71	0.72	4.30	-33.14	289.17	2.88	292.05	37.16	329.20	1.29	0.86	2.34	4.50	271.43	266.94	596.14	362.40	-107.81	40.52	850.73	891.25

Source : Calculated by the Study Team

Calculation of Natural Flow at the New Lengkong Dam (1 / 2)

YEAR : 1988

Unit : m 3/s

		Brantas Atas Irrigation	Net	Brantas Bawah Irrigation	Net	Return Flow from Brantas Atas Irrigation	Return Flow from Brantas Bawah Irrigation	Net Return Flow	Molek Irrigation	Molek Irrigation (Net)	Net	Return Flow from Molek Irrigation	Lodagung Irrigation	Lodagung Irrigation (Net)	Net	Return Flow from Lodagung Irrigation	Warujayeng -Kertosono Irrigation (Mrican Kiri)	Warujayeng -Kertosono Irrigation (Mrican Kiri) (Net)	Net	Turi-Tunggorono Irrigation (Mrican Kanan)	Net	Brantas Kiri Kediri Irrigation	Net	Return Flow from Warujayeng -Kertosono Irrigation
Jan.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	2.86	2.25	4.28	0.86	10.05	9.19	13.48	0.39	10.24	9.85	23.32	1.87	25.19	0.86	26.05	3.07
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.90	4.28	6.32	1.47	13.31	11.84	18.16	0.52	9.96	9.44	27.60	2.09	29.69	0.95	30.64	2.99
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.92	5.31	7.35	1.78	12.27	10.49	17.84	0.48	9.96	9.48	27.32	1.82	29.14	0.56	29.70	2.99
Feb.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	8.54	7.93	9.97	2.56	12.23	9.67	19.64	0.48	12.50	12.02	31.66	0.95	32.61	0.56	33.17	3.75
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.08	5.47	7.51	1.82	12.04	10.22	17.73	0.47	11.70	11.23	28.96	1.06	30.02	0.54	30.56	3.51
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.84	6.23	8.26	2.05	11.18	9.13	17.40	0.44	12.30	11.86	29.26	1.55	30.81	0.54	31.35	3.69
Mar.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.79	6.18	8.22	2.04	12.40	10.36	18.58	0.48	12.50	12.02	30.59	1.27	31.86	0.58	32.44	3.75
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.07	6.46	8.50	2.12	11.76	9.64	18.14	0.46	10.00	9.54	27.68	1.30	28.98	0.58	29.56	3.00
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.57	6.96	9.00	2.27	10.90	8.63	17.63	0.43	9.90	9.47	27.10	1.38	28.48	0.58	29.06	2.97
Apr.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.67	6.06	8.10	2.00	10.28	8.27	16.37	0.40	8.40	8.00	24.38	0.75	25.13	0.53	25.66	2.52
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.57	5.95	7.99	1.97	12.50	10.53	18.52	0.49	9.30	8.81	27.34	0.85	28.19	0.53	28.72	2.79
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.15	6.54	8.58	2.14	12.42	10.28	18.85	0.48	9.35	8.86	27.72	0.75	28.47	0.49	28.96	2.80
May	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.51	5.90	7.94	1.95	12.37	10.42	18.36	0.48	9.54	9.06	27.41	0.88	28.30	0.41	28.71	2.86
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.78	6.16	8.20	2.03	10.02	7.99	16.19	0.39	8.80	8.41	24.60	1.11	25.71	0.15	25.86	2.64
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.22	5.61	7.65	1.87	11.85	9.98	17.63	0.46	9.03	8.56	26.20	1.19	27.39	0.15	27.54	2.71
June	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.43	5.82	7.86	1.93	11.16	9.23	17.09	0.44	9.16	8.73	25.82	1.05	26.87	0.15	27.02	2.75
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.15	5.54	7.57	1.84	11.91	10.06	17.64	0.46	8.88	8.41	26.05	1.09	27.14	0.15	27.29	2.66
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.87	5.26	7.30	1.76	12.10	10.34	17.64	0.47	8.34	7.87	25.50	0.80	26.30	0.15	26.45	2.50
July	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.18	4.57	6.61	1.55	10.42	8.86	15.47	0.41	7.43	7.02	22.49	1.23	23.72	0.15	23.87	2.23
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.77	5.15	7.19	1.73	9.50	7.77	14.96	0.37	7.08	6.71	21.67	0.74	22.41	0.15	22.56	2.12
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.67	5.06	7.10	1.70	9.50	7.80	14.90	0.37	4.40	4.03	18.93	1.27	20.19	0.15	20.34	1.32
Aug.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.33	4.72	6.76	1.60	9.50	7.90	14.66	0.37	4.41	4.03	18.69	0.81	19.50	0.15	19.65	1.32
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.63	5.02	7.06	1.69	9.50	7.81	14.87	0.37	5.11	4.74	19.61	1.55	21.16	0.15	21.31	1.53
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.08	5.47	7.51	1.83	9.50	7.67	15.19	0.37	4.05	3.68	18.87	0.85	19.72	0.15	19.87	1.22
Sept.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.33	4.72	6.76	1.60	8.83	7.23	13.99	0.34	4.40	4.06	18.05	0.67	18.71	0.15	18.86	1.32
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.23	4.62	6.66	1.57	8.00	6.43	13.09	0.31	4.67	4.35	17.44	0.48	17.92	0.15	18.07	1.40
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.52	4.91	6.94	1.66	5.10	3.44	10.39	0.20	5.64	5.44	15.83	0.40	16.23	0.15	16.38	1.69
Oct.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.59	3.98	6.01	1.38	4.99	3.61	9.63	0.19	3.11	2.91	12.54	0.43	12.97	0.15	13.12	0.93
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.66	4.05	6.09	1.40	4.98	3.58	9.67	0.19	3.36	3.17	12.84	0.23	13.07	0.15	13.22	1.01
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.28	2.66	4.70	0.98	3.24	2.26	6.96	0.13	2.83	2.70	9.66	0.29	9.95	0.15	10.10	0.85
Nov.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.73	3.11	5.15	1.12	3.05	1.93	7.08	0.12	4.81	4.69	11.77	0.28	12.05	0.15	12.20	1.44
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.67	3.06	5.10	1.10	4.48	3.38	8.48	0.17	4.98	4.80	13.28	0.51	13.80	0.15	13.95	1.49
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.16	3.55	5.59	1.25	7.63	6.38	11.97	0.30	8.27	7.97	19.94	0.92	20.87	0.15	21.02	2.48
Dec.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.19	3.58	5.62	1.26	8.20	6.94	12.56	0.32	10.04	9.72	22.28	1.05	23.32	0.27	23.59	3.01
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.91	4.30	6.34	1.47	9.11	7.64	13.98	0.36	11.01	10.65	24.63	0.97	25.59	0.66	26.25	3.30
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	1.66	1.05	3.09	0.50	9.11	8.61	11.70	0.36	24.37	24.01	35.71	0.82	36.53	0.73	37.26	7.31
Total (million m³)		45.60	45.60	18.88	64.48	13.68	5.66	19.34	174.33	155.04	219.34	52.30	302.22	249.92	469.26	11.79	262.47	250.68	719.94	30.95	753.42	10.85	764.28	79.06
Total in the dry season (million m³)		22.80	22.80	9.44	32.24	6.84	2.83	9.67	81.02	71.35	103.59	24.31	125.80	101.49	205.08	4.91	88.16	83.26	288.34	11.94	300.28	2.37	302.65	26.45

Source : Calculated by the Study Team

MH-49

Calculation of Natural Flow at the New Lengkong Dam (2 / 2)

YEAR : 1988

Unit : m 3/s

		Return Flow from Brantas Kiri Kediri Irrigation	Return Flow from Turi-Tunggorono Irrigation	Jatimlerek Irrigation	Jatimlerek Irrigation (Net)	Net	Mentrus Irrigation	Net	Industrial Water	Net	Return Flow from Jatimlerek Irrigation	Return Flow from Mentrus Irrigation	Return Flow from Turi-Tunggorono Irrigation	Net Return Flow from Jati.and Ment.and Turi-Tun.	Mrilip Gate	Mrilip Gate (Net)	Net	Brantas Delta Irrigation	Storage of Sutami and Lahor Reservoirs	New Lengkong Dam Observed Discharge	Net Total Taken Water	Natural Flow at New Lengkong Dam
Jan.	1st	0.26	0.13	1.01	-2.45	23.60	0.91	24.50	2.35	26.85	0.30	0.27	0.43	1.00	52.86	51.86	78.71	45.60	-9.30	56.30	115.01	171.31
	2nd	0.29	0.15	0.86	-2.56	28.08	1.21	29.29	2.35	31.64	0.26	0.36	0.48	1.10	58.40	57.30	88.94	51.90	-13.48	178.70	127.36	306.06
	3rd	0.17	0.13	1.26	-2.02	27.68	1.39	29.06	2.35	31.41	0.38	0.42	0.42	1.21	68.06	66.85	98.27	69.00	87.46	518.90	254.73	773.63
Feb.	1st	0.17	0.07	1.08	-2.90	30.27	1.64	31.90	2.35	34.25	0.32	0.49	0.22	1.03	53.61	52.58	86.83	53.00	4.42	408.00	144.25	552.25
	2nd	0.16	0.07	0.92	-2.83	27.73	1.78	29.51	2.35	31.86	0.28	0.53	0.24	1.05	45.39	44.34	76.19	76.60	-37.19	237.20	115.61	352.81
	3rd	0.16	0.11	0.75	-3.21	28.14	1.66	29.80	2.35	32.15	0.22	0.50	0.36	1.08	44.96	43.88	76.03	89.60	-22.74	109.80	142.89	252.69
Mar.	1st	0.17	0.09	0.74	-3.28	29.17	1.67	30.83	2.35	33.18	0.22	0.50	0.29	1.01	53.76	52.75	85.93	53.90	4.99	142.20	144.82	287.02
	2nd	0.17	0.09	0.78	-2.48	27.08	1.58	28.66	2.35	31.01	0.23	0.47	0.30	1.01	54.45	53.44	84.45	59.00	12.83	301.20	156.28	457.48
	3rd	0.17	0.10	0.65	-2.59	26.47	1.48	27.95	2.35	30.30	0.20	0.44	0.32	0.96	39.68	38.73	69.03	53.40	14.82	253.80	137.24	391.04
Apr.	1st	0.16	0.05	0.31	-2.42	23.24	1.42	24.65	2.35	27.00	0.09	0.43	0.17	0.69	49.45	48.76	75.76	56.00	-10.73	161.30	121.03	282.33
	2nd	0.16	0.06	0.21	-2.80	25.92	1.48	27.40	2.35	29.75	0.06	0.44	0.20	0.70	52.33	51.63	81.38	51.40	14.41	51.40	147.18	198.58
	3rd	0.15	0.05	0.26	-2.75	26.21	1.07	27.29	2.35	29.64	0.08	0.32	0.17	0.57	44.95	44.38	74.01	53.20	8.48	39.40	135.69	175.09
May	1st	0.12	0.06	0.16	-2.89	25.82	0.84	26.66	2.35	29.01	0.05	0.25	0.20	0.50	47.18	46.68	75.69	52.10	8.61	132.40	136.39	268.79
	2nd	0.05	0.08	0.15	-2.61	23.25	0.53	23.78	2.35	26.13	0.05	0.16	0.26	0.46	44.91	44.45	70.58	45.00	2.44	153.10	118.02	271.12
	3rd	0.05	0.08	0.20	-2.64	24.90	0.33	25.23	2.35	27.58	0.06	0.10	0.27	0.43	47.53	47.10	74.67	40.80	4.59	67.10	120.06	187.16
June	1st	0.05	0.07	0.15	-2.72	24.30	0.15	24.45	2.35	26.80	0.04	0.05	0.24	0.33	46.95	46.62	73.41	45.70	-11.53	31.40	107.58	138.98
	2nd	0.05	0.08	0.17	-2.62	24.67	0.22	24.89	2.35	27.24	0.05	0.07	0.25	0.37	48.40	48.03	75.28	52.80	-13.85	15.40	114.23	129.63
	3rd	0.05	0.06	0.15	-2.46	23.99	0.08	24.08	2.35	26.43	0.04	0.02	0.18	0.25	24.77	24.52	50.94	34.30	4.94	0.00	90.18	90.18
July	1st	0.05	0.09	0.18	-2.18	21.69	0.08	21.77	2.35	24.12	0.05	0.02	0.28	0.36	16.47	16.11	40.23	34.60	-5.60	0.00	69.22	69.22
	2nd	0.05	0.05	0.25	-1.97	20.59	0.14	20.73	2.35	23.08	0.08	0.04	0.17	0.29	16.14	15.85	38.93	33.00	-1.01	0.00	70.93	70.93
	3rd	0.05	0.09	0.39	-1.06	19.28	0.15	19.44	2.35	21.79	0.12	0.05	0.29	0.46	14.47	14.02	35.80	31.20	-4.23	0.00	62.77	62.77
Aug.	1st	0.05	0.06	0.20	-1.22	18.43	0.16	18.59	2.35	20.94	0.06	0.05	0.19	0.30	17.26	16.96	37.91	54.10	-5.11	0.00	86.90	86.90
	2nd	0.05	0.11	0.27	-1.42	19.89	0.17	20.05	2.35	22.40	0.08	0.05	0.36	0.49	16.10	15.61	38.02	30.20	-16.17	0.00	52.05	52.05
	3rd	0.05	0.06	0.15	-1.17	18.69	0.17	18.86	2.35	21.21	0.04	0.05	0.19	0.29	23.80	23.51	44.72	26.70	-26.29	0.00	45.13	45.13
Sept.	1st	0.05	0.05	0.08	-1.33	17.53	0.39	17.93	2.35	20.28	0.02	0.12	0.15	0.30	14.38	14.08	34.36	25.40	-17.57	0.00	42.19	42.19
	2nd	0.05	0.03	0.12	-1.36	16.71	0.18	16.89	2.35	19.24	0.03	0.05	0.11	0.20	12.98	12.78	32.02	24.10	-18.19	0.00	37.93	37.93
	3rd	0.05	0.03	0.12	-1.65	14.73	0.22	14.95	2.35	17.30	0.04	0.07	0.09	0.19	13.29	13.10	30.40	20.40	-16.60	0.00	34.20	34.20
Oct.	1st	0.05	0.03	0.00	-1.01	12.11	0.21	12.32	2.35	14.67	0.00	0.06	0.10	0.16	13.86	13.70	28.37	25.00	-20.28	0.00	33.09	33.09
	2nd	0.05	0.02	0.10	-0.97	12.25	0.23	12.48	2.35	14.83	0.03	0.07	0.05	0.15	23.94	23.79	38.62	30.70	-12.26	0.00	57.06	57.06
	3rd	0.05	0.02	0.14	-0.78	9.32	0.26	9.58	2.35	11.93	0.04	0.08	0.07	0.18	40.80	40.62	52.54	39.10	-29.58	0.00	62.06	62.06
Nov.	1st	0.05	0.02	0.14	-1.37	10.83	0.27	11.10	2.35	13.45	0.04	0.08	0.07	0.19	34.20	34.01	47.47	34.00	-9.72	0.00	71.74	71.74
	2nd	0.05	0.04	0.29	-1.28	12.66	0.10	12.76	2.35	15.11	0.09	0.03	0.12	0.24	43.42	43.18	58.30	46.50	32.63	174.68	137.43	312.11
	3rd	0.05	0.06	0.75	-1.84	19.17	0.09	19.26	2.35	21.61	0.22	0.03	0.21	0.46	40.62	40.16	61.77	51.20	15.63	58.20	128.60	186.80
Dec.	1st	0.08	0.07	0.69	-2.47	21.12	0.40	21.52	2.35	23.87	0.21	0.12	0.24	0.57	38.74	38.17	62.04	58.60	55.70	62.88	176.34	239.22
	2nd	0.20	0.07	0.30	-3.27	22.99	0.37	23.36	2.35	25.71	0.09	0.11	0.22	0.42	20.46	20.04	45.74	50.50	17.78	30.00	114.02	144.02
	3rd	0.22	0.06	0.78	-6.80	30.46	0.74	31.20	2.35	33.55	0.23	0.22	0.19	0.65	31.17	30.53	64.08	55.30	-43.69	135.53	75.68	211.21
Total (million m³)		3.26	2.17	12.98	-71.51	692.77	20.78	713.55	74.31	787.86	3.89	6.23	7.11	17.24	1150.68	1133.44	1921.30	1448.49	-45.63	2942.30	3324.15	6266.45
Total in the dry season (million m³)		0.71	0.84	3.19	-24.80	277.85	2.88	280.73	37.16	317.88	0.96	0.86	2.74	4.57	405.87	401.31	719.19	560.48	-138.93	241.64	1140.74	1382.38

Source : Calculated by the Study Team

MH-50

Calculation of Natural Flow at the New Lengkong Dam (1 / 2)

YEAR : 1989

Unit : m³/s

		Brantas Atas Irrigation	Net	Brantas Bawah Irrigation	Net	Return Flow from Brantas Atas Irrigation	Return Flow from Brantas Bawah Irrigation	Net Return Flow	Molek Irrigation	Molek Irrigation (Net)	Net	Return Flow from Molek Irrigation	Lodagung Irrigation	Lodagung Irrigation (Net)	Net	Return Flow from Lodagung Irrigation	Warujayeng -Kertosono Irrigation (Mrican Kiri)	Warujayeng -Kertosono Irrigation (Mrican Kiri) (Net)	Net	Turi-Tunggorono Irrigation (Mrican Kanan)	Net	Brantas Kiri Kediri Irrigation	Net	Return Flow from Warujayen -Kertosono Irrigation
Jan.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.32	2.70	4.74	0.99	9.05	8.05	12.80	0.35	10.61	10.26	23.05	1.16	24.21	0.86	25.07	3.18
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.33	2.72	4.75	1.00	14.21	13.21	17.97	0.55	9.92	9.37	27.33	2.20	29.53	0.95	30.48	2.98
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.36	2.75	4.79	1.01	13.23	12.23	17.01	0.52	9.32	8.80	25.82	2.27	28.09	0.56	28.65	2.80
Feb.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.47	3.85	5.89	1.34	13.19	11.85	17.74	0.51	9.25	8.74	26.48	2.07	28.55	0.56	29.11	2.78
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.05	4.44	6.48	1.52	13.22	11.70	18.18	0.52	9.33	8.81	27.00	1.88	28.87	0.54	29.41	2.80
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.82	5.20	7.24	1.74	13.19	11.44	18.68	0.51	9.32	8.80	27.49	2.11	29.60	0.54	30.14	2.80
Mar.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.68	5.07	7.11	1.70	12.86	11.15	18.26	0.50	8.61	8.11	26.37	1.84	28.20	0.58	28.78	2.58
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.45	4.84	6.87	1.63	12.75	11.12	17.99	0.50	7.79	7.30	25.29	1.55	26.84	0.58	27.42	2.34
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.49	5.88	7.92	1.95	12.78	10.83	18.75	0.50	8.20	7.70	26.45	1.38	27.83	0.58	28.41	2.46
Apr.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.15	5.54	7.58	1.84	12.45	10.61	18.18	0.49	9.06	8.58	26.76	0.84	27.60	0.53	28.13	2.72
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.99	5.38	7.42	1.80	11.85	10.05	17.47	0.46	8.39	7.93	25.40	0.44	25.84	0.53	26.37	2.52
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.44	6.82	8.86	2.23	11.93	9.69	18.56	0.47	9.44	8.97	27.53	0.38	27.90	0.49	28.39	2.83
May	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.83	6.22	8.26	2.05	11.83	9.77	18.04	0.46	7.12	6.65	24.69	0.80	25.49	0.41	25.90	2.13
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.45	5.84	7.88	1.94	11.83	9.89	17.77	0.46	8.00	7.54	25.31	0.98	26.29	0.15	26.44	2.40
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.22	6.61	8.65	2.17	11.74	9.57	18.23	0.46	9.53	9.07	27.30	1.21	28.51	0.15	28.66	2.86
June	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.68	6.07	8.11	2.00	11.75	9.75	17.85	0.46	8.02	7.56	25.42	0.83	26.24	0.15	26.39	2.41
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.44	5.83	7.87	1.93	11.63	9.70	17.57	0.45	8.94	8.48	26.05	1.22	27.27	0.15	27.42	2.68
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.72	6.11	8.14	2.02	11.78	9.77	17.91	0.46	8.55	8.09	26.00	0.79	26.79	0.15	26.94	2.57
July	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.43	5.82	7.86	1.93	11.83	9.90	17.75	0.46	6.87	6.41	24.16	0.81	24.97	0.15	25.12	2.06
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.88	5.27	7.31	1.76	11.75	9.99	17.29	0.46	5.48	5.02	22.31	0.92	23.23	0.15	23.38	1.64
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.63	5.02	7.06	1.69	11.75	10.06	17.11	0.46	5.20	4.74	21.85	0.94	22.80	0.15	22.95	1.56
Aug.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.22	4.61	6.65	1.57	9.31	7.75	14.39	0.36	5.74	5.38	19.77	0.67	20.43	0.15	20.58	1.72
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.27	4.66	6.70	1.58	9.87	8.29	14.99	0.39	1.89	1.51	16.50	0.33	16.83	0.15	16.98	0.57
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.08	3.47	5.51	1.22	10.88	9.66	15.17	0.42	4.17	3.74	18.91	0.31	19.21	0.15	19.36	1.25
Sept.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.44	3.83	5.87	1.33	6.55	5.22	11.09	0.26	5.80	5.54	16.63	0.16	16.79	0.15	16.94	1.74
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.02	3.41	5.45	1.21	9.42	8.21	13.66	0.37	4.43	4.06	17.72	0.17	17.89	0.15	18.04	1.33
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.54	2.93	4.96	1.06	9.44	8.37	13.34	0.37	4.09	3.72	17.06	0.13	17.19	0.15	17.34	1.23
Oct.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.87	4.26	6.30	1.46	8.89	7.43	13.73	0.35	3.75	3.41	17.13	0.20	17.34	0.15	17.49	1.13
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.04	4.43	6.47	1.51	0.00	-1.51	4.95	0.00	4.21	4.21	9.16	0.28	9.44	0.15	9.59	1.26
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.83	3.22	5.26	1.15	7.56	6.41	11.67	0.29	3.97	3.67	15.34	0.29	15.63	0.15	15.78	1.19
Nov.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	2.88	2.27	4.31	0.86	0.99	0.13	4.43	0.04	3.61	3.57	8.01	0.70	8.71	0.15	8.86	1.08
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.14	2.52	4.56	0.94	12.25	11.31	15.87	0.48	4.41	3.93	19.80	1.18	20.98	0.15	21.13	1.32
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.03	2.42	4.45	0.91	12.35	11.44	15.89	0.48	5.77	5.29	21.18	1.02	22.20	0.15	22.35	1.73
Dec.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.39	2.78	4.82	1.02	14.58	13.56	18.38	0.57	7.31	6.74	25.13	1.05	26.18	0.27	26.45	2.19
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.33	2.72	4.75	1.00	14.69	13.69	18.44	0.57	8.44	7.87	26.31	0.98	27.28	0.66	27.94	2.53
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	3.42	2.81	4.85	1.03	12.07	11.04	15.89	0.47	8.52	8.05	23.94	0.89	24.83	0.73	25.56	2.56
Total (million m³)		45.47	45.47	18.83	64.30	13.64	5.65	19.29	157.74	138.45	202.75	47.32	346.28	298.96	501.71	13.50	221.24	207.73	709.44	30.47	739.91	10.81	750.71	66.37
Total in the dry season (million m³)		22.80	22.80	9.44	32.24	6.84	2.83	9.67	76.46	66.79	99.03	22.94	147.76	124.82	223.85	5.76	83.13	77.37	301.21	9.58	310.80	2.37	313.17	24.94

Source : Calculated by the Study Team

MH-51

Calculation of Natural Flow at the New Lengkong Dam (2 / 2)

Unit : m³/s

YEAR : 1989

		Return Flow from Brantas Kiri Kediri Irrigation	Return Flow from Turi-Tunggorono Irrigation	Jatimlerek Irrigation	Jatimlerek Irrigation (Net)	Net	Mentrus Irrigation	Net	Industrial Water	Net	Return Flow from Jatimlerek Irrigation	Return Flow from Mentrus Irrigation	Return Flow from Turi-Tunggorono Irrigation	Net Return Flow from Jati.and Ment.and Turi-Tun.	Mrilip Gate	Mrilip Gate (Net)	Net	Brantas Delta Irrigation	Storage of Sutami and Lahor Reservoirs	New Lengkong Dam Observed Discharge	Net Total Taken Water	Natural Flow at New Lengkong Dam
Jan.	1st	0.26	0.08	1.08	-2.44	22.63	0.91	23.54	2.35	25.89	0.32	0.27	0.27	0.86	28.52	27.66	53.54	65.60	5.85	320.80	122.97	443.77
	2nd	0.29	0.15	0.99	-2.42	28.06	1.21	29.27	2.35	31.62	0.30	0.36	0.50	1.17	23.42	22.25	53.87	68.30	3.19	266.20	125.36	391.56
	3rd	0.17	0.16	0.92	-2.21	26.44	1.39	27.83	2.35	30.18	0.27	0.42	0.52	1.21	31.91	30.70	60.87	79.00	25.44	199.40	165.31	364.71
Feb.	1st	0.17	0.15	1.29	-1.80	27.31	1.64	28.95	2.35	31.30	0.39	0.49	0.47	1.35	19.50	18.15	49.44	66.90	15.71	122.70	132.05	254.75
	2nd	0.16	0.13	1.12	-1.97	27.44	1.78	29.22	2.35	31.57	0.34	0.53	0.43	1.30	27.06	25.76	57.33	75.00	28.18	323.50	160.51	484.01
	3rd	0.16	0.15	0.97	-2.14	28.00	1.66	29.66	2.35	32.01	0.29	0.50	0.49	1.27	25.21	23.94	55.95	74.90	7.43	367.70	138.28	505.98
Mar.	1st	0.17	0.13	0.91	-1.97	26.81	1.67	28.48	2.35	30.83	0.27	0.50	0.42	1.20	20.95	19.75	50.58	69.70	28.78	255.30	149.07	404.37
	2nd	0.17	0.11	0.76	-1.86	25.55	1.58	27.13	2.35	29.48	0.23	0.47	0.36	1.06	19.78	18.72	48.21	84.50	-9.77	144.50	122.94	267.44
	3rd	0.17	0.10	0.62	-2.11	26.30	1.48	27.78	2.35	30.13	0.19	0.44	0.32	0.95	23.02	22.07	52.20	70.30	15.58	140.00	138.08	278.08
Apr.	1st	0.16	0.06	0.14	-2.79	25.33	1.42	26.75	2.35	29.10	0.04	0.43	0.19	0.66	26.94	26.28	55.38	79.40	15.94	333.40	150.72	484.12
	2nd	0.16	0.03	0.17	-2.53	23.84	1.48	25.32	2.35	27.67	0.05	0.44	0.10	0.60	20.49	19.89	47.56	71.40	-0.47	157.90	118.49	276.39
	3rd	0.15	0.03	0.18	-2.82	25.57	1.07	26.64	2.35	28.99	0.05	0.32	0.09	0.46	19.36	18.90	47.89	49.00	2.56	119.90	99.46	219.36
May	1st	0.12	0.06	0.21	-2.11	23.80	0.84	24.64	2.35	26.99	0.06	0.25	0.18	0.50	12.24	11.74	38.73	61.20	7.79	196.90	107.72	304.62
	2nd	0.05	0.07	0.18	-2.34	24.10	0.53	24.64	2.35	26.99	0.05	0.16	0.23	0.44	11.70	11.26	38.25	48.20	-0.52	98.30	85.93	184.23
	3rd	0.05	0.09	0.29	-2.70	25.96	0.33	26.29	2.35	28.64	0.09	0.10	0.28	0.46	12.13	11.66	40.30	43.00	2.16	162.20	85.46	247.66
June	1st	0.05	0.06	0.31	-2.20	24.20	0.15	24.35	2.35	26.70	0.09	0.05	0.19	0.33	12.66	12.33	39.03	42.10	0.01	312.50	81.14	393.64
	2nd	0.05	0.09	0.27	-2.55	24.87	0.22	25.10	2.35	27.45	0.08	0.07	0.28	0.43	12.67	12.24	39.69	41.60	-4.54	297.90	76.75	374.65
	3rd	0.05	0.06	0.26	-2.41	24.53	0.08	24.61	2.35	26.96	0.08	0.02	0.18	0.28	11.22	10.94	37.90	69.50	-1.28	144.80	106.12	250.92
July	1st	0.05	0.06	0.26	-1.90	23.22	0.08	23.30	2.35	25.65	0.08	0.02	0.19	0.29	9.89	9.60	35.25	50.40	4.37	75.20	90.02	165.22
	2nd	0.05	0.06	0.28	-1.47	21.91	0.14	22.05	2.35	24.40	0.09	0.04	0.21	0.34	9.86	9.52	33.93	53.00	-4.60	66.00	82.33	148.33
	3rd	0.05	0.07	0.14	-1.53	21.42	0.15	21.57	2.35	23.92	0.04	0.05	0.22	0.30	10.13	9.82	33.74	48.30	-17.93	135.80	64.11	199.91
Aug.	1st	0.05	0.05	0.11	-1.70	18.88	0.16	19.04	2.35	21.39	0.03	0.05	0.15	0.23	17.51	17.28	38.67	43.00	-13.01	64.40	68.66	133.06
	2nd	0.05	0.02	0.09	-0.55	16.44	0.17	16.60	2.35	18.95	0.03	0.05	0.08	0.15	18.30	18.15	37.10	40.80	-14.70	19.00	63.21	82.21
	3rd	0.05	0.02	0.11	-1.21	18.16	0.17	18.32	2.35	20.67	0.03	0.05	0.07	0.15	23.80	23.65	44.32	34.90	-12.12	0.00	67.09	67.09
Sept.	1st	0.05	0.01	0.02	-1.77	15.17	0.39	15.56	2.35	17.91	0.01	0.12	0.04	0.16	24.70	24.54	42.45	35.90	-20.79	0.00	57.56	57.56
	2nd	0.05	0.01	0.02	-1.36	16.68	0.18	16.86	2.35	19.21	0.01	0.05	0.04	0.10	27.20	27.10	46.31	29.50	-17.33	0.00	58.48	58.48
	3rd	0.05	0.01	0.11	-1.17	16.17	0.22	16.39	2.35	18.74	0.03	0.07	0.03	0.13	18.14	18.01	36.75	23.70	-17.24	0.00	43.21	43.21
Oct.	1st	0.05	0.01	0.11	-1.08	16.41	0.21	16.62	2.35	18.97	0.03	0.06	0.05	0.14	16.98	16.84	35.81	18.70	-10.88	0.00	43.63	43.63
	2nd	0.05	0.02	0.12	-1.20	8.39	0.23	8.62	2.35	10.97	0.04	0.07	0.06	0.17	19.34	19.17	30.14	19.80	-11.29	0.00	38.65	38.65
	3rd	0.05	0.02	0.08	-1.18	14.60	0.26	14.86	2.35	17.21	0.02	0.08	0.07	0.17	32.02	31.85	49.06	22.90	10.97	12.30	82.93	95.23
Nov.	1st	0.05	0.05	0.08	-1.10	7.76	0.27	8.03	2.35	10.38	0.02	0.08	0.16	0.27	67.81	67.54	77.92	28.50	-31.29	131.30	75.13	206.43
	2nd	0.05	0.08	0.08	-1.37	19.76	0.10	19.86	2.35	22.21	0.02	0.03	0.27	0.33	73.20	72.87	95.08	34.90	-15.98	32.80	114.00	146.80
	3rd	0.05	0.07	0.07	-1.77	20.58	0.09	20.67	2.35	23.02	0.02	0.03	0.23	0.28	18.49	18.21	41.22	37.00	-10.24	0.00	67.98	67.98
Dec.	1st	0.08	0.07	0.07	-2.28	24.17	0.40	24.57	2.35	26.92	0.02	0.12	0.24	0.38	46.77	46.39	73.31	42.90	30.63	2.10	146.83	148.93
	2nd	0.20	0.07	0.05	-2.75	25.20	0.37	25.56	2.35	27.91	0.01	0.11	0.22	0.35	53.54	53.19	81.10	34.80	-3.43	15.40	112.47	127.87
	3rd	0.22	0.06	0.10	-2.74	22.82	0.74	23.57	2.35	25.92	0.03	0.22	0.21	0.46	41.47	41.01	66.93	46.20	16.38	20.30	129.51	149.81
Total (million m³)		3.24	2.14	10.89	-60.86	689.86	20.63	710.49	74.11	784.60	3.27	6.19	7.00	16.46	777.88	761.43	1546.02	1576.18	3.55	3915.61	3125.75	7041.36
Total in the dry season (million m³)		0.71	0.67	2.21	-24.12	289.05	2.88	291.93	37.16	329.09	0.66	0.86	2.20	3.73	371.96	368.23	697.32	591.94	-163.96	1129.08	1125.29	2254.38

Source : Calculated by the Study Team

MII-52

Calculation of Natural Flow at the New Lengkong Dam (1 / 2)

YEAR : 1990

Unit : m 3/s

		Brantas Atas Irrigation	Net	Brantas Bawah Irrigation	Net	Return Flow from Brantas Atas Irrigation	Return Flow from Brantas Bawah Irrigation	Net Return Flow	Molek Irrigation	Molek Irrigation (Net)	Net	Return Flow from Molek Irrigation	Lodagung Irrigation	Lodagung Irrigation (Net)	Net	Return Flow from Lodagung Irrigation	Warujayeng -Kertosono Irrigation (Mrican Kiri)	Warujayeng -Kertosono Irrigation (Mrican Kiri) (Net)	Net	Turi-Tunggorono Irrigation (Mrican Kanan)	Net	Brantas Kiri Kediri Irrigation	Net	Return Flow from Warujayen -Kertosono Irrigation
Jan.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.75	5.15	7.17	1.72	14.65	12.93	20.10	0.57	9.84	9.27	29.37	2.11	31.47	0.86	32.33	2.95
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.42	5.81	7.85	1.93	14.43	12.50	20.35	0.56	12.20	11.64	31.99	1.88	33.87	0.95	34.82	3.66
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.28	6.67	8.70	2.18	12.39	10.21	18.92	0.48	12.12	11.64	30.55	1.85	32.40	0.56	32.96	3.64
Feb.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.38	5.77	7.81	1.91	13.09	11.18	18.99	0.51	13.06	12.55	31.53	1.90	33.43	0.56	33.99	3.92
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.44	5.83	7.87	1.93	13.60	11.66	19.53	0.53	12.60	12.07	31.61	2.01	33.62	0.54	34.16	3.78
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	7.44	6.82	8.86	2.23	13.94	11.71	20.57	0.54	11.39	10.85	31.42	2.11	33.53	0.54	34.07	3.42
Mar.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.61	6.00	8.04	1.98	11.57	9.59	17.63	0.45	10.34	9.89	27.52	1.03	28.55	0.58	29.13	3.10
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.42	5.81	7.85	1.93	11.81	9.89	17.74	0.46	9.10	8.64	26.38	1.32	27.70	0.58	28.28	2.73
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.98	6.37	8.41	2.09	11.94	9.84	18.25	0.47	9.05	8.59	26.84	1.35	28.19	0.58	28.77	2.72
Apr.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.12	5.51	7.55	1.84	5.90	4.06	11.61	0.23	9.53	9.30	20.91	1.29	22.20	0.53	22.73	2.86
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.99	5.38	7.42	1.80	10.41	8.61	16.03	0.41	9.48	9.07	25.10	1.15	26.25	0.53	26.78	2.84
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.75	6.14	8.17	2.02	14.59	12.56	20.74	0.57	9.98	9.42	30.15	1.43	31.58	0.49	32.07	3.00
May	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.75	5.14	7.18	1.73	14.77	13.04	20.22	0.58	8.72	8.15	28.37	0.73	29.10	0.41	29.51	2.62
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.90	5.29	7.33	1.77	14.78	13.01	20.34	0.58	9.21	8.63	28.97	0.75	29.72	0.15	29.87	2.76
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.87	6.26	8.30	2.06	14.57	12.50	20.80	0.57	8.71	8.15	28.95	0.95	29.90	0.15	30.05	2.61
June	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.64	5.03	7.07	1.69	14.75	13.05	20.12	0.58	9.28	8.70	28.82	1.27	30.09	0.15	30.24	2.78
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.98	5.37	7.41	1.80	11.68	9.89	17.30	0.46	7.61	7.16	24.46	1.20	25.66	0.15	25.81	2.28
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.05	5.44	7.48	1.81	11.94	10.13	17.60	0.47	9.80	9.33	26.94	1.15	28.09	0.15	28.24	2.94
July	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.58	3.97	6.01	1.37	9.97	8.59	14.60	0.39	8.57	8.18	22.79	1.13	23.92	0.15	24.07	2.57
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.62	4.01	6.05	1.39	9.89	8.50	14.55	0.39	8.03	7.64	22.19	0.78	22.97	0.15	23.12	2.41
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.19	3.57	5.61	1.26	9.92	8.66	14.27	0.39	5.88	5.49	19.76	0.82	20.58	0.15	20.73	1.76
Aug.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.05	4.44	6.48	1.51	8.04	6.52	13.00	0.31	6.84	6.52	19.52	0.56	20.07	0.15	20.22	2.05
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.56	4.94	6.98	1.67	7.82	6.15	13.14	0.30	5.72	5.42	18.55	0.45	19.01	0.15	19.16	1.72
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.69	5.07	7.11	1.71	7.74	6.03	13.14	0.30	6.39	6.09	19.23	0.33	19.56	0.15	19.71	1.92
Sept.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.81	4.20	6.24	1.44	6.01	4.57	10.80	0.23	5.58	5.34	16.14	0.27	16.41	0.15	16.56	1.67
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.67	4.06	6.10	1.40	7.56	6.16	12.26	0.29	7.77	7.47	19.73	0.33	20.07	0.15	20.22	2.33
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.74	4.13	6.16	1.42	2.47	1.05	7.21	0.10	6.72	6.62	13.83	0.36	14.19	0.15	14.34	2.01
Oct.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.08	3.46	5.50	1.22	6.11	4.89	10.39	0.24	5.58	5.34	15.74	0.38	16.12	0.15	16.27	1.67
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	4.54	3.93	5.97	1.36	0.56	-0.80	5.16	0.02	2.23	2.21	7.37	0.37	7.74	0.15	7.89	0.67
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.53	5.92	7.96	1.96	5.69	3.73	11.69	0.22	3.66	3.44	15.12	0.39	15.51	0.15	15.66	1.10
Nov.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.90	5.28	7.32	1.77	9.38	7.61	14.93	0.37	3.33	2.97	17.90	0.57	18.47	0.15	18.62	1.00
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.61	5.00	7.04	1.68	9.79	8.11	15.15	0.38	3.37	2.99	18.13	2.36	20.49	0.15	20.64	1.01
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.41	4.80	6.84	1.62	9.08	7.46	14.30	0.35	4.64	4.28	18.58	0.74	19.32	0.15	19.47	1.39
Dec.	1st	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.14	5.52	7.56	1.84	9.61	7.77	15.33	0.37	5.46	5.09	20.42	1.86	22.27	0.27	22.54	1.64
	2nd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	5.01	4.39	6.43	1.50	12.01	10.51	16.95	0.47	7.92	7.46	24.40	2.36	26.76	0.66	27.42	2.38
	3rd	1.44	1.44	0.60	2.04	0.43	0.18	0.61	6.42	5.81	7.85	1.93	13.45	11.53	19.37	0.52	11.63	11.11	30.48	2.74	33.22	0.73	33.95	3.49
Total (million m³)		45.47	45.47	18.83	64.30	13.64	5.65	19.29	182.47	163.18	227.48	54.74	328.90	274.16	501.65	12.83	254.71	241.89	743.53	36.87	780.40	10.81	791.21	76.41
Total in the dry season (million m³)		22.80	22.80	9.44	32.24	6.84	2.83	9.67	82.31	72.64	104.88	24.69	130.22	105.52	210.41	5.08	97.26	92.18	302.59	11.75	314.34	2.37	316.71	29.18

Source : Calculated by the Study Team

MH-53

Calculation of Natural Flow at the New Lengkong Dam (2 / 2)

YEAR : 1990

Unit : m 3/s

		Return Flow from Brantas Kiri Kediri Irrigation	Return Flow from Turi-Tunggorono Irrigation	Jatimlerek Irrigation	Jatimlerek Irrigation (Net)	Net	Mentrus Irrigation	Net	Industrial Water	Net	Return Flow from Jatimlerek Irrigation	Return Flow from Mentrus Irrigation	Return Flow from Turi-Tunggorono Irrigation	Net Return Flow from Jati.and Ment.and Turi-Tun.	Mrilip Gate	Mrilip Gate (Net)	Net	Brantas Delta Irrigation	Storage of Sutami and Lahor Reservoirs	New Lengkong Dam Observed Discharge	Net Total Taken Water	Natural Flow at New Lengkong Dam
Jan.	1st	0.26	0.15	1.62	-1.74	30.59	0.91	31.50	2.35	33.85	0.49	0.27	0.48	1.24	39.28	38.04	71.89	50.80	18.57	247.50	141.26	588.76
	2nd	0.29	0.13	1.24	-2.84	31.99	1.21	33.20	2.35	35.55	0.37	0.36	0.43	1.17	61.69	60.52	96.07	48.80	-21.64	151.90	123.23	275.13
	3rd	0.17	0.13	1.27	-2.66	30.30	1.39	31.69	2.35	34.04	0.38	0.42	0.43	1.22	74.54	73.31	107.35	47.00	8.04	262.40	162.39	424.79
Feb.	1st	0.17	0.13	1.71	-2.51	31.48	1.64	33.12	2.35	35.47	0.51	0.49	0.44	1.44	71.88	70.44	105.91	45.10	-0.40	244.60	150.61	395.21
	2nd	0.16	0.14	1.36	-2.73	31.43	1.78	33.20	2.35	35.55	0.41	0.53	0.46	1.40	66.97	65.57	101.12	73.10	15.15	172.90	189.37	362.27
	3rd	0.16	0.15	1.32	-2.41	31.66	1.66	33.32	2.35	35.67	0.40	0.50	0.48	1.38	71.48	70.10	105.77	63.00	50.94	372.90	219.71	592.61
Mar.	1st	0.17	0.07	1.30	-2.05	27.08	1.67	28.75	2.35	31.10	0.39	0.50	0.24	1.13	69.79	68.66	99.76	52.10	46.93	393.20	198.80	592.00
	2nd	0.17	0.09	1.39	-1.60	26.68	1.58	28.26	2.35	30.61	0.42	0.47	0.30	1.20	62.37	61.17	91.78	75.70	-8.57	249.20	158.91	408.11
	3rd	0.17	0.09	1.02	-1.97	26.80	1.48	28.28	2.35	30.63	0.31	0.44	0.31	1.06	64.71	63.65	94.28	36.00	14.43	138.80	144.71	283.51
Apr.	1st	0.16	0.09	0.87	-2.24	20.49	1.42	21.91	2.35	24.26	0.26	0.43	0.30	0.98	56.07	55.09	79.35	72.90	6.00	77.20	158.25	235.45
	2nd	0.16	0.08	0.46	-2.62	24.15	1.48	25.63	2.35	27.98	0.14	0.44	0.26	0.84	52.85	52.01	79.99	82.40	34.62	75.30	197.01	272.31
	3rd	0.15	0.10	0.09	-3.15	28.92	1.07	30.00	2.35	32.35	0.03	0.32	0.33	0.68	75.22	74.54	106.89	49.30	9.56	86.00	165.75	251.75
May	1st	0.12	0.05	0.01	-2.78	26.73	0.84	27.57	2.35	29.92	0.00	0.25	0.17	0.42	56.09	55.67	85.58	57.40	2.88	8.10	145.87	153.97
	2nd	0.05	0.05	0.27	-2.59	27.28	0.53	27.81	2.35	30.16	0.08	0.16	0.17	0.41	26.78	26.37	56.53	56.60	3.31	65.40	116.43	181.83
	3rd	0.05	0.07	0.10	-2.63	27.42	0.33	27.75	2.35	30.10	0.03	0.10	0.22	0.35	27.56	27.22	57.32	50.00	-0.27	191.30	107.05	298.35
June	1st	0.05	0.09	0.13	-2.78	27.45	0.15	27.60	2.35	29.95	0.04	0.05	0.29	0.38	26.68	26.30	56.26	57.50	-0.75	49.60	113.01	162.61
	2nd	0.05	0.08	0.17	-2.24	23.57	0.22	23.79	2.35	26.14	0.05	0.07	0.28	0.40	22.11	21.71	47.86	43.00	1.87	0.00	92.72	92.72
	3rd	0.05	0.08	0.18	-2.89	25.35	0.08	25.43	2.35	27.78	0.05	0.02	0.26	0.34	30.41	30.07	57.85	50.30	-4.02	38.20	104.13	142.33
July	1st	0.05	0.08	0.20	-2.50	21.57	0.08	21.65	2.35	24.00	0.06	0.02	0.26	0.34	44.16	43.82	67.82	47.50	-7.71	30.20	107.60	147.80
	2nd	0.05	0.05	0.20	-2.31	20.82	0.14	20.96	2.35	23.31	0.06	0.04	0.18	0.28	24.20	23.92	47.22	43.40	-8.57	0.00	82.06	82.06
	3rd	0.05	0.06	0.21	-1.65	19.07	0.15	19.23	2.35	21.58	0.06	0.05	0.19	0.30	17.06	16.76	38.34	35.00	-6.10	0.00	67.24	67.24
Aug.	1st	0.05	0.04	0.22	-1.91	18.31	0.16	18.47	2.35	20.82	0.07	0.05	0.13	0.24	14.48	14.24	35.06	34.00	-6.23	0.00	62.83	62.83
	2nd	0.05	0.03	0.22	-1.57	17.58	0.17	17.75	2.35	20.10	0.07	0.05	0.10	0.22	13.94	13.72	33.82	28.30	-3.95	0.00	58.17	58.17
	3rd	0.05	0.02	0.21	-1.77	17.93	0.17	18.10	2.35	20.45	0.06	0.05	0.08	0.19	23.80	23.61	44.06	29.00	-12.35	11.50	60.71	72.21
Sept.	1st	0.05	0.02	0.19	-1.55	15.01	0.39	15.41	2.35	17.76	0.06	0.12	0.06	0.24	16.90	16.66	34.42	32.10	-11.02	19.00	55.50	74.50
	2nd	0.05	0.02	0.14	-2.26	17.96	0.18	18.14	2.35	20.49	0.04	0.05	0.08	0.17	14.42	14.25	34.74	34.00	-25.82	18.60	42.92	61.52
	3rd	0.05	0.03	0.12	-1.96	12.38	0.22	12.60	2.35	14.95	0.04	0.07	0.08	0.19	14.74	14.55	29.50	32.00	-9.89	0.80	51.61	52.41
Oct.	1st	0.05	0.03	0.12	-1.62	14.64	0.21	14.85	2.35	17.20	0.04	0.06	0.09	0.19	14.20	14.01	31.22	23.50	-10.34	5.20	44.38	49.58
	2nd	0.05	0.03	0.08	-0.66	7.23	0.23	7.46	2.35	9.81	0.02	0.07	0.08	0.18	14.80	14.62	24.43	29.20	-12.70	2.20	40.93	43.13
	3rd	0.05	0.03	0.07	-1.10	14.56	0.26	14.82	2.35	17.17	0.02	0.08	0.09	0.19	15.24	15.05	32.22	29.00	-9.46	2.50	51.76	54.26
Nov.	1st	0.05	0.04	0.08	-1.00	17.62	0.27	17.88	2.35	20.23	0.03	0.08	0.13	0.24	15.25	15.01	35.24	37.50	-26.57	5.90	46.18	52.08
	2nd	0.05	0.17	0.09	-1.13	19.51	0.10	19.61	2.35	21.96	0.03	0.03	0.54	0.60	15.39	14.79	36.75	31.40	-17.25	0.00	50.90	50.90
	3rd	0.05	0.05	0.09	-1.40	18.07	0.09	18.16	2.35	20.51	0.03	0.03	0.17	0.22	15.01	14.79	35.29	34.70	-12.17	8.80	57.82	66.62
Dec.	1st	0.08	0.13	0.11	-1.74	20.80	0.40	21.20	2.35	23.55	0.03	0.12	0.43	0.58	15.52	14.94	38.49	52.90	7.70	20.60	99.09	119.69
	2nd	0.20	0.17	0.18	-2.56	24.86	0.37	25.22	2.35	27.57	0.05	0.11	0.54	0.71	15.75	15.04	42.62	49.30	22.60	107.60	114.51	222.11
	3rd	0.22	0.19	1.86	-2.04	31.91	0.74	32.65	2.35	35.00	0.56	0.22	0.63	1.41	15.06	13.65	48.66	51.00	0.31	308.60	99.96	408.56
Total (million m³)		3.24	2.59	16.52	-65.73	725.49	20.63	746.12	74.11	820.23	4.96	6.19	8.47	19.62	1111.01	1091.39	1911.62	1451.43	14.16	2922.85	3377.21	6300.06
Total in the dry season (million m³)		0.71	0.82	2.41	-28.31	288.40	2.88	291.28	37.16	328.44	0.72	0.86	2.70	4.29	309.65	305.36	633.80	570.84	-160.55	167.53	1044.09	1211.62

Source : Calculated by the Study Team

MH-54