

REPUBLIC OF INDONESIA
MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
LOWER JENEBERANG RIVER FLOOD CONTROL PROJECT
DATA

OCTOBER 1980

JAPAN INTERNATIONAL COOPERATION AGENCY

SDS

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マイクロ
フィッシュ作成

REPUBLIC OF INDONESIA
MINISTRY OF PUBLIC WORKS
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DATA

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OCTOBER 1980

JAPAN INTERNATIONAL COOPERATION AGENCY

国際協力事業団	
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Year	Meteorology Data (Temp. Max.)												Remark
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	
1971	30.1	30.0	29.8	31.1	31.5	30.8		31.6	32.1	31.8	30.2	30.1	
1972	29.1	30.1	30.0	31.8	32.5	32.0	33.2	34.0	34.8	34.5	34.2	32.2	
1973	30.7	31.3	31.0	31.5	31.2	31.6	31.3	32.2	31.9	32.5	29.7	29.3	
1974	29.5	28.7	29.5	31.2	31.8	31.5	31.0	31.9	32.0	31.6	30.5	29.0	
1975	29.4	29.9	29.5	30.5	30.8	30.8	30.8	31.3	31.6	31.2	30.4	29.1	
1976	28.9	29.4	29.8	31.2	31.6	31.5	31.6	32.8	33.5	33.1	31.1	29.4	
1977	28.7	28.5	30.5	30.8	31.3	30.9	31.7	32.1	33.5	33.9	32.9	30.2	
1978	30.0	29.5	30.6	31.2	31.2	31.2	30.5	31.8	31.7	31.4	32.3	29.6	
1979	29.1	29.7	30.4	31.6									
Average	29.5	29.7	30.1	31.2	31.5	31.3	31.4	32.2	32.6	32.5	31.4	29.9	

Table
 Meteorology Data (Temp. Max.)
 Makassar (°C)

Table Meteorology Data (Temp. Average) Makassar (°C)

Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Remark
1971	25.6	24.9	25.4	26.1	26.1	25.7		25.6	26.0	26.1	25.8	25.4	
1972	24.8	25.4	25.5	26.0	26.2	26.3	25.7	26.2	27.8	27.7	28.3	26.9	
1973	26.2	26.6	26.1	26.4	25.9	26.7	26.0	26.3	26.5	26.9	25.9	25.4	
1974	25.6	24.9	25.4	25.8	26.2	25.7	25.6	25.9	26.3	26.2	25.9	25.2	
1975	25.5	25.5	25.4	25.9	26.1	25.7	25.3	26.1	26.2	26.1	25.7	25.5	
1976	25.4	25.2	25.5	26.1	26.2	25.6	25.3	26.2	26.8	27.3	26.5	25.8	
1977	25.3	25.3	26.1	26.1	26.4	25.5	25.2	25.7	26.8	27.2	27.1	26.1	
1978	25.9	26.0	26.2	26.4	26.6	26.2	25.7	26.2	26.1	26.3	26.5	25.7	
1979	25.7	25.9	26.0	26.5									
Average	25.6	25.5	25.7	26.1	26.2	25.9	25.5	26.0	26.6	26.7	26.5	25.8	

Year	Meteorology Data (Temp. Min.)												Makassar (°C)	
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Remark	
1971	21.8	21.5	21.8	21.5	21.8	21.1		20.4	21.2	21.6	21.8	21.7		
1972	21.3	21.7	21.7	21.1	20.9	20.2	19.1	19.7	20.5	20.6	22.2	22.7		
1973	22.7	22.7	22.4	22.8	23.0	23.1	22.1	21.9	22.5	22.3	22.9	22.8		
1974	22.7	22.6	22.8	22.2	22.2	21.2	21.7	20.7	22.6	22.3	22.8	22.7		
1975	22.6	22.7	22.7	23.0	23.1	22.9	21.5	21.8	21.9	22.4	22.4	22.8		
1976	22.5	22.5	22.6	21.8	21.7	21.4	19.9	20.5	20.4	22.9	22.8	22.8		
1977	22.7	22.8	23.0	22.1	23.0	21.8	20.2	20.6	21.0	20.4	22.6	23.4		
1978	23.6	23.5	23.3	23.0	23.4	22.9	22.3	22.0	22.0	22.6	22.0	23.3		
1979	23.3	23.1	23.2	23.0										
Average	22.6	22.6	22.6	22.3	22.4	21.8	21.0	21.0	21.5	21.9	22.4	22.8		

Panakukkang (°C)

Meteorology Data (Temp. Max.)

Table

Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Remark
1971						31.5	31.4		32.9				
1972	28.7	30.0	29.9	31.4	32.1	32.5	32.8	33.3	34.7	34.7	33.8	31.7	
1973	30.4	32.5	30.6	32.5	30.7	31.3	30.9	31.6	31.3	32.7	29.8	29.4	
1974	29.4	28.6	29.2	31.4	31.9	31.6	31.0	32.3	32.0	31.7	30.6	28.9	
1975	29.4	29.7	39.3	30.5	30.9	30.8	30.4	31.4	31.7	31.2	30.4	28.9	
1976	29.6	29.1	29.5	31.3	31.8	31.4	31.9	32.7	33.9	32.8	31.1	29.1	
1977	28.8	28.5	30.1	31.2	31.8	32.1	32.1	32.6	34.5	34.8	33.3	30.4	
1978				31.6	31.3	31.5			32.2		31.8		
1979													
Average	29.4	29.7	29.8	31.4	31.5	31.4	31.5	32.3	32.9	33.0	31.5	29.7	

Table Meteorology Data (Temp. Average) Panakukkang (°C)

Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Remark
1971						25.4	24.8		26.3				
1972	24.9	25.4	25.5	25.9	-	25.9	-	25.9	26.8	27.9	28.0	26.7	
1973	26.1		26.1	26.8	26.0	26.3	25.5	26.0	26.2	27.2	25.6		
1974	25.6	24.7	25.3	25.8	26.1	25.4	25.2	25.6	26.4	26.2	25.8	25.0	
1975	25.2	25.4	25.2	25.8	25.9	25.4	24.9	25.6	25.9	26.1	25.8	25.2	
1976	25.3	25.1	25.4	26.0	25.8	25.3	25.0	25.7	26.4	27.1	26.4	25.4	
1977	25.1	25.6	26.0	26.4	26.4	25.4	25.0	25.3	26.5	27.5	27.4		
1978				26.4	26.5	26.0			26.2		26.5		
1979													
Average	25.4	25.2	25.6	26.2	26.1	25.6	25.1	25.7	26.3	27.0	26.5	25.6	

Year	Meteorology Data (Temp. Min.)												Panakukang (°C)		
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Remark		
1971						21.1	19.9		21.1						
1972	21.9	22.2	22.2	21.8	21.8	20.9	19.1	19.0	19.2	22.0	23.8	23.8			
1973	23.8	23.1	23.6	23.1	23.1	23.0	21.8	21.9	22.5	22.3	23.1	23.7			
1974	22.9	22.6	23.1	22.4	22.4	21.2	21.5	20.0	22.5	22.5	22.9	22.6			
1975	22.9	22.8	22.7	23.0	22.6	22.3	21.4	21.4	22.1	22.8	22.7	22.9			
1976	22.5	22.5	22.5	21.8	21.7	21.1	19.8	20.4	19.7	22.9	22.9	23.1			
1977	23.2	23.1	23.4	-	22.9	21.4	19.6	19.5	19.5	19.4	22.8	23.0			
1978				22.9	22.9	23.0			21.9		22.9				
1979															
Average	22.9	22.7	22.9	22.5	22.5	21.8	20.4	20.4	21.1	22.0	23.0	23.2			

Year	Meteorology Data (Temp. Max.)												Remark		
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.			
1971															
1972															
1973															
1974															
1975	-	-	-	29.5	29.9	29.2	28.9	29.5	29.6	29.4	29.2	27.6			
1976	27.7	27.9	28.2	30.0	30.4	29.9	30.1	31.1	31.6	31.2	29.6	28.0			
1977	27.5	27.7	29.8	30.2	30.4	29.9	31.1	38.9	31.2	33.5	32.4	30.2			
1978	29.7	29.8	31.0	31.5	31.4	31.3	30.9								
1979															
Average	28.3	28.5	29.7	30.3	30.5	30.1	30.2	30.3	30.8	31.4	30.4	28.6			

Table Meteorology Data (Temp. Average) Maros (°C)

Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Remark
1971													
1972													
1973													
1974													
1975	-	-	-	-	27.6	27.3	26.6	27.7	27.0	26.7	26.5	26.2	
1976	26.0	26.0	26.1	26.8	27.1	26.6	26.7	27.1	27.5	27.9	27.2	26.3	
1977	26.0	25.8	27.1	27.3	27.7	27.1	27.2	27.4	28.8	28.5	28.2	27.2	
1978	27.0	27.1	27.2	27.6	27.7	27.7	27.3						
1979													
Average	26.3	26.3	26.8	27.2	27.5	27.2	27.0	27.4	27.8	27.7	27.3	26.7	

Year	Meteorology Data (Temp. Min.)												Remark		
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.			
1971															
1972															
1973															
1974															
1975	-	-	-	21.7	21.5	21.5	21.3	21.3	21.2	21.6	21.9	22.1			
1976	22.0	22.0	21.8	20.9	20.9	20.4	19.6	19.5	19.2	21.6	22.3	22.2			
1977	22.3	21.9	22.2	21.9	21.7	20.9	19.5	19.8	19.5	19.7	21.5	23.5			
1978	23.6	23.2	22.8	21.1	24.1	26.5	23.7								
1979															
Average	22.6	22.4	22.3	21.4	22.1	22.3	21.0	20.2	20.0	21.0	21.9	22.6			

Table Meteorology Data (Temp. Min.) Maros (°C)

Year	Meteorology Data (Temp. Max.)												Remark		
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.			
1971															
1972															
1973															
1974															
1975	29.2	29.5	29.9	30.4	30.4	30.2	30.5	31.5	31.3	30.8	30.3	28.9			
1976	28.6	28.2	29.5	31.6	31.8	31.6	31.7	32.5	34.2	32.1	30.8	29.5			
1977	28.6	28.3	30.0	30.9	32.0	31.4	32.1	32.4	34.7	35.6	34.2	30.1			
1978	29.8	29.6	30.8	31.4	31.0	31.2	30.6	31.9	31.5						
1979															
Average	29.1	28.9	30.1	31.1	31.3	31.1	31.2	32.1	32.9	32.8	31.8	29.5			

Year	Meteorology Data (Temp. Min.)												Bontobili (°C)													
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Remark	
1971																										
1972																										
1973																										
1974																										
1975	21.5	21.6	21.5	21.4	21.5	20.8	20.3	22.0	20.6	21.2	21.2	21.5	21.2	21.2	21.2	21.5	21.6	21.8	21.7	21.9	21.6	21.4	21.4	21.4	21.4	
1976	21.2	21.4	21.5	20.6	20.7	20.1	18.7	18.4	18.3	21.5	21.5	21.6	21.5	21.6	21.8	21.7	21.8	21.8	21.7	21.9	21.6	21.4	21.4	21.4	21.4	
1977	21.7	21.7	21.8	21.4	21.8	20.6	18.7	18.5	18.7	19.3	21.3	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	
1978	22.1	21.9	21.6	21.4	21.8	21.4	20.6	20.5	20.5																	
1979																										
Average	21.6	21.6	21.6	21.2	21.4	20.7	19.6	19.8	19.5	20.7	21.4	21.8	20.7	21.4	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	

Year	Meteorology Data (Temp. Max.)												Remark		
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.			
1971															
1972															
1973															
1974															
1975															
1976															
1977					32.8	31.7	32.2	32.4	24.2	35.4	33.7	30.6			
1978	29.9	29.2	30.4	31.2	31.6	30.2	30.3	31.5	32.0	32.8	31.1	29.7			
1979	29.3	29.3	30.3	31.7	32.1										
Average	29.6	29.2	30.4	31.4	32.2	31.0	31.2	32.0	33.1	34.1	32.4	30.2			

Year	Meteorology Data (Temp. Average)												Remark		
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.			
1971															
1972															
1973															
1974															
1975															
1976															
1977					27.8	26.6	26.2	26.0	26.7	27.0	27.9	26.9			
1978	26.7	26.2	26.7	26.9	27.5	26.5	26.6	26.7	26.9	27.3	27.0	26.5			
1979	26.0	26.1	26.7	27.4	26.7										
Average	26.4	26.2	26.7	27.2	27.3	26.6	26.4	26.4	26.8	27.2	27.4	26.7			

Year	Meteorology Data (Temp. Min.)												Bontosunggu (°C)		Remark		
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.					
1971																	
1972																	
1973																	
1974																	
1975																	
1976																	
1977					22.7	21.4	20.1	19.9	19.1	18.5	22.0	23.2					
1978	23.5	23.2	23.0	22.6	23.4	22.7	22.8	21.8	21.7	21.8	22.8	23.3					
1979	22.7	22.8	23.1	23.0	21.2												
Average	23.1	23.0	23.0	22.8	22.4	22.2	21.4	20.8	20.8	20.2	22.4	23.2					

Year	Meteorology Data (Sunshine (%))												Remark
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	
1971	-	-	-	87	74	-			65	62	54	53	
1972	30	48	49	77	87	86	92	98	100	99	81	66	
1973	41	57	51	68	65	74	72	77	67	83	44	46	
1974	46	31	40	78	79	86	68	89	78	73	61	37	
1975	46	40	44	61	56	64	74	77	75	67	60	40	
1976	54	52	47	82	77	91	89	95	95	78	67	43	
1977	-	-	60	81	84	67	95	94	98	99	84	59	
1978	48	52	63	81	70	75	70	85	79	71	88	46	
1979	-	46	53	79									
Average	44.0	46.6	50.9	77.1	74.0	77.6	80.0	87.9	82.1	79.0	67.4	48.8	

Table Meteorology Data (Sunshine (%)) Makassar

Year	Meteorology Data Sunshine (%)												Remark		
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.			
1971						72	76		66						
1972	40	44	40	80	81	85	88	95	98	93	68	35			
1973	34	48	42	64	58	64	63	75	65	78	34				
1974	44	15	29	69	74	70	59	89	67	68	53	24			
1975	47	36	27	42	41	43	53	66	54	49	46	23			
1976	38	34	31	58	55	56	70	80	76	55	43	28			
1977	21	10	40	62	64	50	80	78	81	86	66	37			
1978				64	52	53			61		52				
1979															
Average	37.3	31.2	24.8	62.7	60.7	61.6	69.9	80.5	71.0	71.5	51.7	29.4			

Panakuk kang

Meteorology Data Sunshine (%)

Table

Meteorology Data (Sunshine Radiation) Maros

Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Remark
1971													
1972													
1973													
1974													
1975						410	464	453	461	491	465		
1976									329	335	303		
1977	249	252	388	350	346	300	367	379	481	416	365	315	
1978	316	325	367	367	321	359	332						
1979													
Average	282.5	288.5	377.5	358.5	333.5	329.5	369.7	421.5	467.0	402.0	397.0	361.0	

Meteorology Data (Sunshine Radiation) Bontosunggu

Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Remark
1971													
1972													
1973													
1974													
1975													
1976													
1977					400	348	449	431	451	475	391	328	
1978	350	317	368	402	332	328	314	375	466	511	441	362	
1979				445	433								
Average	350.0	317.0	368.0	423.5	388.3	338.0	381.5	403.0	458.5	493.0	416.0	345.0	

Year	Meteorology Data (Humidity (%))												Remark
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	
1971	86	88	87	79	83	82		75	78	82	82	84	
1972	86	84	84	79	77	69	68	64	54	61	68	80	
1973	83	80	82	86	86	72	70	64	72	71	86	84	
1974	83	87	86	81	79	76	79	72	78	79	84	86	
1975	85	84	85	85	83	80	80	75	78	82	83	86	
1976	85	86	85	78	77	77	72	63	61	74	82	80	
1977	87	88	83	83	86	79	72	70	62	61	75	85	
1978	85	85	84	81	84	81	81	77	78	81	76	87	
1979	87	86	84	81									
Average	85.2	85.3	84.4	81.4	81.9	77.0	74.6	70.0	70.1	73.9	79.5	84.0	

Makassar

Meteorology Data (Humidity (%))

Table

Table Meteorology Data (Humidity (%)) Panakukkang

Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Remark
1971						82	81		77				
1972	89	86	85	82	78	74	68	61	51	55	68	79	
1973	87	84	85	85	85	82	81	77	79	75	68		
1974	83	89	87	82	81	78	81	74	78	80	84	89	
1975	86	85	88	86	84	83	82	78	80	84	83	87	
1976	86	87	86	79	79	80	74	65	61	74	84	88	
1977	89	89	86	83	79	81	73	70	62	57	70	85	
1978				81	85	83			79		82		
1979													
Average	87.0	87.0	86.2	82.6	81.6	80.4	77.1	70.8	70.9	70.8	77.0	85.6	

Year	Meteorology Data (Humidity (%))												Remark		
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.			
1971															
1972															
1973															
1974															
1975	-	-	-	-	85	81	81	77	82	85	86	85			
1976	86	87	88	83	79	79	75	70	70	79	84	86			
1977	88	89	87	86	83	81	73	60	78	72	79	88			
1978	86	86	86	83	85	82	82								
1979															
Average	86.7	87.3	87.0	84.0	83.0	80.8	77.8	69.0	76.7	78.7	83.0	83.3			

Year	Meteorology Data (Humidity (%))												Remark		
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.			
1971															
1972															
1973															
1974															
1975															
1976															
1977					97	95	96	93	89	86	92	96			
1978	95	97	95	96	96	96	95	96	91	89	92	93			
1979	94	94			90										
Average	94.5	95.5	95.0	96.0	94.3	95.5	95.5	94.5	90.0	87.5	92.0	94.5			

Bontosunggu

Table Meteorology Data (Wind Velocity Max.) m/sec. Makassar

Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Remark
1971	26	20	28	15	12	20		17	18	18	14	18	
1972	15	14	25	14	15	16	16	18	18	18	18	18	
1973	18	18	20	20	18	16	25	15	18	15	20	20	
1974	45	35	30	13	12	12	11	17	14	15	15	16	
1975	12	18	20	15	13	14	12	16	14	18	20	30	
1976	18	25	20	15	30	12	12	20	16	30	17	20	
1977	30	30	34	20	17	15	16	15	20	27	27	22	
1978	35	35	28	30	20	30	24	35	25	30	35	22	
1979	30	29	31	19									
Average	25.4	24.9	26.2	17.9	17.1	16.9	16.6	19.1	17.9	21.4	20.8	20.8	

Meteorology Data (Wind Velocity Average m/sec.) Makassar

Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Remark
1971	04	04	04	04	04	04		04	05	04	04	04	
1972	04	04	04	04	04	05	05	07	08	07	06	05	
1973													
1974	07	06	06	04	04	04	04	05	04	04	04	04	
1975	04	04	04	04	03	04	04	04	04	03	04	04	
1976	04	04	04	03	03	03	03	04	04	03	03	03	
1977	03	04	03	03	02	02	03	04	04	05	05	03	
1978	03	03	03	03	03	04	04	05	04	05	05	04	
1979	04	04	03	03									
Average	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.5	0.5	0.4	0.4	0.4	

Table Meteorology Data (Wind Velocity Average) m/sec. Bontosunggu

Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Remark
1971													
1972													
1973													
1974													
1975													
1976													
1977					0.7	0.5	0.7	0.9	1.2	1.4	1.2	1.0	
1978	1.4	0.8	0.6	0.6	0.6	0.7	0.6	0.7	0.9	1.1	1.0	1.2	
1979	1.3	0.9	0.7	0.6	0.8								
Average	1.4	0.9	0.7	0.6	0.7	0.6	0.7	0.8	1.1	1.3	1.1	1.1	

Meteorology Data (Wind Direction) Makassar

Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Remark
1971	NW	NW	NW	NW	NW	W		W	W	NW	NW	NW	
1972	NW	E	NW	SE	NW	NE	NW	NW	NW	W	W	W	
1973	W	W	W	W	W	W	W	W	W	W	NW	E	
1974	E	E	W	SE	SE	W	W	W	NW	E	NW	E	
1975	NW	NW	NW	NW	SE	SE	W	W	W	SE	E	SE	
1976	E	E	E	SE	SE	E	NW	E	NW	W	NW	E	
1977	E	E	NW	NW	E	E	S	NW	NW	NW	SE	E	
1978	E	E	E	E	E	SE	SW	NW	E	E	NW	E	
1979	E	E	SE	SE									
Average													

MONTHLY MEAN RAINFALL
Bontobilli
Unit: mm

Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Remark
1952	-	-	-	-	255	14	68	52	9	104	620	-	
1953	543	864	325	260	206	45	28	4	10	64	361	831	
1954	610	392	527	226	283	81	39	253	186	143	746	507	
1955	329	669	149	516	308	219	227	237	52	334	953	425	
1956	773	-	151	300	390	275	57	164	67	489	671	1051	
1957	637	950	575	205	257	102	88	126	-	10	351	891	
1958	507	533	251	232	398	281	18	49	47	137	279	689	
1959	902	322	745	284	383	216	37	0	52	14	341	912	
1960	719	847	326	13	-	-	-	-	-	-	-	-	
1971	-	-	-	-	-	-	63	219	246	233	232	-	
1972	1187	619	199	75	89	1	0	6	-	4	105	347	
1973	619	173	275	779	278	71	67	16	173	96	526	837	
1974	238	660	837	229	174	62	170	17	193	334	397	539	
1975	433	381	375	542	214	82	100	37	157	-	-	-	
1976	735	479	390	46	66	91	42	1	0	158	329	-	
1977	1063	1482	351	452	52	101	-	-	-	-	-	-	
1978	537	509	339	146	-	-	-	13	-	-	-	-	

MONTHLY MEAN RAINFALL

Malino

Unit: mm

Month Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Remark
1951	7	547	554	-	-	-	-	-	-	-	129	596	
1952	550	547	554	-	-	-	-	-	-	-	-	-	
1953	399	1129	713	509	83	22	50	47	29	8	189	-	
1956	1254	597	-	313	-	-	-	-	130	126	380	629	
1957	436	-	-	236	143	-	-	-	-	-	130	561	
1958	464	611	646	380	289	158	111	83	-	-	-	-	
1959	946	405	712	339	475	153	165	0	31	8	113	562	
1960	839	929	-	426	458	102	97	81	32	0	340	541	
1961	1033	831	243	467	135	155	28	8	0	118	295	453	
1962	898	581	387	316	171	163	67	38	61	145	320	793	
1963	761	510	489	242	186	11	34	22	7	-	85	423	
1964	745	567	551	431	185	75	128	92	110	-	-	1196	
1965	1113	947	676	85	93	58	2	7	0	0	84	439	
1966	718	840	424	241	48	48	24	8	0	44	258	355	
1967	899	716	356	265	105	24	23	45	35	1	231	523	
1968	1532	698	304	430	396	278	211	189	11	15	195	710	
1969	651	674	637	401	193	142	77	12	55	135	72	505	
1970	571	593	606	338	355	158	97	15	30	181	-	762	
1971	676	889	886	284	274	383	182	7	110	281	841	478	
1972	1624	566	273	221	63	0	0	0	0	0	352	338	
1973	532	317	491	440	292	88	243	110	241	16	730	-	
1975	621	621	558	570	275	205	63	64	23	194	472	615	
1976	861	685	867	228	207	-	5	-	-	-	187	508	
1977	-	1427	653	475	197	326	0	17	0	0	-	674	
1978	673	670	416	284	160	272	277	128	65	134	274	889	
1979	746	282	-	-	-	-	-	-	-	-	-	-	

Sungguminasa

MONTHLY MEAN RAINFALL

Unit: mm

Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
1912	532	292	192	37	73	54	33	20	0	80	121	349
1913	736	505	547	167	40	102	57	0	0	113	145	1002
1914	517	443	277	129	258	3	0	0	0	0	76	516
1915	420	539	29	152	78	8	0	0	42	47	283	308
1916	772	364	227	57	126	48	57	24	33	122	568	253
1917	733	560	482	200	38	67	10	17	116	146	176	960
1918	704	533	61	195	40	8	0	0	0	5	73	444
1919	294	280	341	331	103	0	0	0	12	0	60	225
1920	1122	307	480	132	37	163	102	0	0	0	465	646
1921	631	-	-	-	-	164	11	8	2	121	-	-
1922	724	323	482	130	121	64	12	0	0	37	83	250
1923	931	377	269	47	111	0	48	0	0	15	6	451
1924	487	566	286	199	135	68	36	0	29	107	340	349
1925	683	1102	430	136	25	16	21	0	-	-	-	-
1927	-	-	-	171	86	0	0	0	0	10	54	151
1928	296	408	652	233	59	0	0	0	0	6	288	648
1929	1175	471	505	105	0	0	0	0	0	2	83	28
1930	39	66	139	70	15	0	0	0	0	0	85	1379
1931	426	196	149	320	62	-	-	-	-	0	98	276
1932	954	365	544	113	179	-	-	-	-	35	181	779
1933	279	910	450	54	159	-	-	-	-	176	327	472
1934	842	492	422	86	74	-	-	-	-	88	260	327
1935	989	442	548	326	160	-	-	-	-	102	201	425
1936	809	188	453	457	75	-	-	-	-	56	80	550
1937	805	465	484	343	144	-	-	-	-	17	142	578
1938	1124	538	241	98	215	-	-	-	-	60	422	785
1939	1251	718	532	296	64	-	-	-	-	67	118	276
1940	1246	795	247	115	139	-	-	-	-	0	132	569
1941	551	345	291	86	87	-	-	-	-	10	173	526
1948	286	311	260	223	18	-	-	-	-	-	40	314
1949	749	397	259	75	64	-	-	-	-	17	100	292
1950	727	690	332	265	15	-	-	-	-	142	364	837
1951	302	0	216	8	106	19	19	35	0	32	21	265
1952	351	425	335	-	-	-	-	-	-	-	-	-
1953	292	622	293	355	2	-	-	-	1	82	179	553
1954	897	512	634	167	22	45	0	95	5	51	256	899
1955	389	561	157	169	230	138	190	53	13	17	732	299
1956	735	400	315	68	483	81	131	73	-	135	149	937
1957	452	717	217	23	33	-	16	31	0	26	173	563
1958	330	330	230	0	-	-	11	0	22	65	181	575
1959	660	144	642	201	59	236	129	0	0	7	125	603
1960	720	640	267	148	314	42	30	7	51	0	479	210
1961	966	-	-	164	-	-	0	0	0	23	140	348
1962	-	582	-	522	-	-	7	4	-	30	198	-
1965	-	-	-	75	136	0	0	0	0	0	72	338
1966	520	450	439	80	9	37	0	67	1	53	21	218
1967	764	365	-	113	61	0	0	0	6	44	61	383
1968	760	556	340	398	91	10	149	-	-	26	70	1105
1969	252	265	152	-	-	-	-	-	-	-	-	-
1971	615	663	1261	-	-	11	12	2	85	-	-	-
1973	581	40	272	146	80	4	28	1	78	21	573	-
1974	218	-	551	42	68	27	172	25	98	147	199	547
1975	513	306	403	168	72	31	76	32	95	252	382	517
1977	1247	1286	178	267	24	95	-	5	-	1	81	299
1978	546	518	284	221	350	166	95	34	-	39	164	661
1979	897	713	-	-	-	-	-	-	-	-	-	-

Unit: mm

Ujung Pandang

MONTHLY MEAN RAINFALL

Month	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Remark
Year													
1928	266	-	543	207	38	29	3	-	0	44	146	689	
1929	832	425	650	175	0	2	17	0	0	1	135	289	
1930	529	527	189	197	105	0	-	-	0	19	40	998	
1931	326	194	141	317	41	13	91	1	11	12	159	237	
1932	755	300	635	276	195	104	0	25	0	40	103	808	
1933	394	1087	387	94	67	77	8	5	4	51	160	541	
1934	553	544	318	101	190	78	85	22	12	15	264	234	
1935	753	237	569	295	55	27	4	0	0	46	196	226	
1936	754	164	428	284	47	23	22	34	48	44	65	385	
1937	585	424	330	212	59	115	-	-	9	-	185	465	
1938	1350	272	211	40	36	72	44	23	0	8	123	646	
1939	817	716	511	162	76	94	120	0	0	18	24	343	
1940	1251	711	264	212	101	18	-	-	-	-	-	-	
1941	576	406	368	239	197	13	0	0	0	2	39	382	
1948	315	327	327	330	19	63	21	0	0	0	138	252	
1949	894	469	331	81	67	21	3	0	16	12	74	618	
1950	907	739	363	346	24	84	86	57	15	215	246	973	
1951	479	441	219	13	20	19	1	1	4	62	15	210	
1952	516	321	296	28	111	3	0	0	5	14	374	562	
1953	460	645	310	179	72	8	5	0	3	38	164	476	
1954	936	360	800	368	81	59	26	46	11	52	291	1086	
1955	539	531	284	75	367	117	84	87	36	86	593	241	
1956	871	618	132	53	293	213	88	54	-	160	129	963	
1957	417	764	207	28	93	3	7	-	0	-	-	-	
1958	-	-	-	-	-	-	-	-	-	-	-	521	
1959	335	-	-	-	-	-	-	-	-	-	-	-	
1962	-	-	-	185	89	-	0	-	-	-	-	-	

TABLE : Hourly rainfall (Malino)

		1975											
DATE	TIME	12/7	12/10	12/10	12/11	12/11	1/8	1/8	1/9	1/9	1/9	1/9	1/9
1		-		5.8			0.1						-
2		-		0.6			0.2						-
3		-		-			10.5						1.2
4		-		0.4			0.6						-
5		-		0.4			0.6						-
6		-		4.0			-						3.8
7		2.8		2.5			-						-
8		-		-			4.5	0.2					-
9		-	1.2	-			2.0	0.6					-
10		-	2.8	-			9.0	15.2					3.5
11		-	-	-			2.8	35.0					12.0
12		-	14.2	-			0.2	-					-
13		18.7	4.5	-			0.5	-					4.0
14		14.5	1.5	-			9.5	0.8					1.0
15		6.5	5.0	-			3.0	0.3					26.0
16		-	0.4	-			8.0	-					-
17		-	17.7	-			1.0	-					-
18		-	7.0	-			0.3	0.1					-
19		11.3	1.0	-			0.5	-					-
20		-	0.2	-			-	0.1					-
21		-	-	-			-	0.1					-
22		-	-	-			2.8	0.1					-
23		-	-	-			0.4	0.5					-
24		-	-	-			1.2	0.4					-
		53.8	62.8	52.3			65.3						51.5

TABLE Hourly rainfall (Malino)

DATE TIME	1976																								
	1/10	1/11	1/12	1/13	1/14	1/15	1/16	1/17	1/18	1/19	1/20	1/21	1/22	1/23	1/24	1/25	1/26	1/27	1/28	1/29	1/30	1/31	2/1	2/2	
1	-				0.6					4.7					0.2										
2	-				11.0					0.5					-										
3	3.3				8.0					10.5					-										
4	-				2.0					0.5					-										
5	0.8				0.4					0.1					-										
6	1.2				2.6					0.2					-										
7	2.0				0.3					-					-										
8	-				-					-					-									0.3	
9	-				-					4.9					-									2.0	
10	-				-					0.8					-									-	
11	-				13.5					7.8					-									-	
12	-				18.5					1.2					-									-	
13	-				1.2					1.2					-									1.4	
14	1.0				-					-					-									4.4	
15	-				-					0.7					-									7.6	
16	4.5				-					1.3					-									7.0	
17	16.5				-					1.8					-									6.0	
18	28.0				-					-					-									11.0	
19	-				-					-					-									13.5	
20	-				-					-					-									0.5	
21	0.7				-					-					-									0.8	
22	-				-					19.0					-									0.1	
23	-				0.4					0.7					-									0.2	
24	-				38.4					0.5					-									-	
																								58.1	
																								97.4	
																								58.1	

TABLE Hourly Rainfall (Malino)

DATE TIME	1976																							
	10/23	11/10	1/6	1/7	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/10	1/10
1			0.2		0.4																			0.2
2			9.8		2.6																			-
3			2.8		0.5																			1.0
4			4.0		1.0																			-
5			1.2		0.2																			5.5
6			5.0		0.9																			2.4
7			4.0		5.3																			-
8	-				25.5																			-
9	0.1				1.5																			2.2
10	0.1		10.0		7.0																			1.0
11	-		-		3.0																			2.0
12	-		-		23.5																			1.0
13	-		1.4		0.5																			12.0
14	-		3.3		0.2																			5.0
15	-		-		-																			3.8
16	-		-		0.8																			4.2
17	4.2		38.0		0.9																			26.0
18	20.0		11.5		-																			2.0
19	20.0		0.1		0.1																			0.7
20	8.0		4.8		1.3																			0.1
21	2.2		3.6		0.2																			-
22	-		8.0		0.7																			-
23	-		11.0		0.2																			2.4
24	-		15.0		7.6																			-
	54.6		133.7		83.9																			71.5
			52.5																					

TABLE Hourly Rainfall (Malino)

1977		2/27	3/6	3/13	4/10	6/12
DATE	TIME					
1		0.8	6.0		10.0	9.4
2		0.4	1.4		20.0	4.0
3		0.3	0.2		12.0	16.0
4		-	-		6.0	1.0
5		-	10.4		1.0	19.0
6		-	9.0		0.9	1.0
7		-	14.0		2.0	2.4
8		-	-	-	-	0.2
9	0.2	-	-	-	-	0.1
10	-	0.1	0.4	0.4	-	0.1
11	-	0.1	-	-	-	-
12	0.5	-	-	-	-	0.1
13	0.3	-	-	-	-	0.3
14	4.2	-	-	-	-	0.5
15	13.5	-	-	-	-	4.5
16	2.5	-	-	0.4	3.2	0.2
17	3.5	-	-	17.0	14.0	-
18	4.2	-	-	19.0	2.0	-
19	1.5	-	-	7.2	22.0	-
20	5.7	1.2	8.8	8.8	2.0	-
21	3.0	11.0	0.7	0.7	2.0	-
22	7.0	3.0	20.0	20.0	20.0	4.6
23	2.5	14.0	9.0	9.0	11.0	11.2
24	2.5	8.0	11.0	11.0	10.6	10.6
		52.6	78.4	53.5	137.1	85.2

TABLE Hourly Rainfall (Malino)

DATE TIME	1977																							
	6/13				6/17			11/29		12/1		12/18												
1		3.0				10.0							0.1											
2		0.5				11.0							-											
3		0.5				11.0																		
4		2.0				5.0																		
5		0.8				1.0																		
6		0.2				3.5																		
7		-				2.5																		
8	0.2	-						-																
9	0.1	-						-																
10	20.2	-						-																
11	16.0	-						-																
12	6.0	-						-																
13	7.0	-						-																
14	2.0	-				1.0		-																
15	5.0	-				-		34.5																
16	1.0	-				-		21.8																
17	1.3	-				-		-																
18	0.3	-				-		-																
19	0.4	-				-		-																
20	3.8	-				-		-																
21	-	-				1.3		-																
22	-	-				0.2		-																
23	-	-				-		-																
24	-	-				14.8		-																
		70.3				61.3		56.3					61.2											
										56.9														

TABLE Hourly Rainfall (Malino)

DATE TIME	1977		12/22	12/26	1/10	1/11	1/11	1/11
	12/21	12/21						
1		11.0			15.0			-
2		0.3			11.0			-
3		5.7			5.8			4.8
4		1.0			0.2			4.7
5					-			-
6					-			-
7					-			-
8	-			0.5	-			-
9	-		0.2	0.1	0.1		2.0	
10	-		-	0.1	0.1		1.0	
11	-		-	3.4	3.4		1.0	
12	-		-	5.0	5.0		3.0	
13	0.3		-	3.7	3.7		0.1	
14	-		-	1.3	1.3		8.9	
15	0.5		12.4	1.9	1.9		10.0	
16	-		11.0	10.0	10.0		10.0	
17	-		8.0	4.0	4.0		7.0	
18	6.5		8.0	16.0	16.0		1.8	
19	7.6		5.0	40.0	40.0		0.4	
20	0		7.0	11.0	11.0		-	
21	2.4		7.0	6.0	6.0		-	
22	5.4		2.0	13.0	13.0		-	
23	2.6		-	14.0	14.0		-	
24	12.0		-	3.0	3.0		-	
		55.3	51.4	60.6	165.0		51.7	

TABLE Hourly Rainfall (Malino)

1978		1/16		1/21		2/2		4/7		5/15	
DATE	TIME										
1			22.0			0.5					0.7
2			8.0			1.5					0.5
3			1.8			6.0					0.4
4			1.0			3.0					-
5			2.2			1.0					1.9
6			1.3			2.0					-
7			-			-					0.1
8	-			-			-		-		
9	0.2			-			-		-		
10	-			-		9.0			-		
11	0.4			1.3		11.0			-		
12	-			0.2		3.0		4.0	-		
13	-			0.8		6.0		7.0	1.4		
14	-			-		20.0		27.0	2.2		
15	-			2.0		17.0		20.0	1.8		
16	5.2			0.3		1.5		20.0	34.0		
17	-			1.0		-		20.8	20.0		
18	-			0.9		0.6		-	1.0		
19	-			-		0.3		-	1.0		
20	-			1.5		0.5		-	0.2		
21	33.7			-		1.8		-	2.8		
22	20.0			1.3		-		-	-		
23	16.4			4.0		-		-	-		
24	0.6			14.0		0.3		-	0.7		
	76.5		63.6		85.0			98.8		68.7	

TABLE Hourly Rainfall (Malino)

DATE TIME	1978																							
	6/9	7/6	11/22	11/24	12/13	12/16																		
1																								
2																								
3																								
4																								
5																								
6																								
7				0.2																				
8	-																							
9	-																							
10																								
11																								
12																								
13																								
14																								
15																								
16	2.2	1.8	14.8	9.0	15.6	10.0	39.2	10.0	15.6	5.8	0.2	0.2	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
17	2.3	2.2	2.8	3.3	5.8	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
18	8.1	0.6	0.6	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
19	7.0		0.1																					
20	32.0																							
21	6.3																							
22	0.7																							
23																								
24																								
	58.6	60.4	52.8	57.8	60.1	57.3	60.1	57.8	60.1	57.3	60.1	57.8	60.1	57.3	60.1	57.8	60.1	57.3	60.1	57.8	60.1	57.3	60.1	57.8

TABLE Hourly Rainfall (Malino)

DATE TIME	1978																							
	12/22		12/23		12/24		12/27																	
1	0.4						1.4																	
2	20.0						2.4																	
3	6.6						2.9																	
4	-						0.8																	
5	-						4.8																	
6	-						14.0																	
7							4.8																	
8	0.1		0.2		0.5																			
9	-		-		-																			
10	-		-		8.7																			
11	-		0.2		4.0																			
12	0.1		0.6		5.0																			
13	7.4		7.4		0.6																			
14	29.5		16.0		7.2																			
15	2.0		25.4		8.2																			
16	0.6		18.0		4.8																			
17	-		8.2		1.3																			
18	-		0.2		1.7																			
19	-		0.7		2.4																			
20	-		0.1		3.6																			
21	-		-		12.0																			
22	-		-		8.8																			
23	-		0.2		1.5																			
24	-		1.4		-																			
		66.7			89.7					70.3														96.9

TABLE Hourly Rainfall (Malino)

DATE TIME	1979																								
	1/6	1/7	1/7	1/8	1/8	1/10	1/10	1/11	1/11																
1			1.0		1.0																				
2	1.9		5.6		1.2																				
3	0.2		4.0		-																				
4	0.2		0.6		-																				
5	0.7		1.9		0.5																				
6	-		1.0		1.8																				
7	0.1		2.5		4.2																				
8	-																								
8	2.2	0.1		3.5		26.0																			
9	0.2	-		0.5		22.0																			
10	5.8	0.3		0.1		3.6																			
11	9.0	0.1		-		0.1																			
12	0.2	-		3.9		-																			
13	10.8	0.5		6.0		-																			
14	10.0	0.3		11.0		1.0																			
15	2.0	17.6		11.0		7.3																			
16	4.7	10.0		16.0		1.4																			
17	0.1	7.0		3.0		1.1																			
18	-	7.0		2.6		1.0																			
19	1.2	2.0		1.0		2.5																			
20	2.8	2.9		10.4		4.6																			
21	12.2	2.1		3.0		1.4																			
22	5.0	1.4		-		0.3																			
23	9.0	0.1		0.6		0.2																			
24	3.0	1.4		1.4		-																			
	81.3		69.5		82.7		115.0																		73.5

TABLE Hourly Rainfall (Malino)

DATE TIME	1979																							
	2/1		2/12		2/27		3/7		3/8		3/8		3/8		3/8		3/8		3/8		3/8		3/8	
1	0.1											1.5												-
2	10.8									0.1		0.3												-
3	14.2									-		6.4												-
4	6.3									0.2		1.0												8.5
5	19.5									-		4.3												1.5
6	11.0									-		2.5												0.6
7	9.0									0.7		1.5												0.1
8	3.0				-					5.0		-												0.5
9	0.5				0.1					10.0		9.8												-
10	-				-					15.0		5.0												5.5
11	-				0.1					14.0		1.0												0.5
12	-				4.7					13.0		-												2.5
13	-				4.0					23.0		-												13.0
14	-				11.0					1.5		9.0												2.0
15	0.1				21.0					-		5.0												0.7
16	-				9.0					22.5		1.3												-
17	-				2.6					4.0		0.1												-
18	-				0.8					6.0		-												-
19	-				0.1					3.6		-												20.3
20	0.3				-					6.4		-												3.5
21	-				-					3.6		-												6.3
22	-				-					0.4		-												0.2
23	1.1				-					0.9		0.1												-
24	0.1				-					-		-												-
					53.4					129.9		-												65.7
					76.0					48.8		-												-

TABLE Hourly Rainfall (Panakkukang)

DATE TIME	1973																							
	1/22	1/24	11/18	11/19	11/21	11/26	11/28																	
1			13.6																					
2			20.4																					
3			12.0																					
4			18.0																					
5			50.0																					
6			7.0																					
7			0.4																					
8				20.0																				
9				10.0																				
10				30.0																				
11		10.0		35.0																				
12		7.8		10.0																				
13		2.2																						
14	7.5	20.0																						
15	2.5	10.0																						
16	4.0	10.0														30.0								
17	5.0	1.0														-								
18	40.0	0.2														-								
19	20.0															10.0								
20	20.0															-								
21	0.4		0.5	1.5	30.0	20.0																		
22	-		-	2.7	34.0	-																		
23					16.0	-																		
24			5.5		-	10.0																		
	99.4	61.2		127.4	80.0	70.0	123.2																	65.0

TABLE Hourly Rainfall (Panakkukang)

DATE TIME	1973				1974				2/26	2/27	2/28	2/29	3/1
	12/25	12/30	1/2	2/5	2/17	2/20	2/26	2/27					
1													2.2
2													13.2
3													
4													
5													
6													
7													
8		16.0	6.0										
9		24.0	4.0										
10		6.5	3.5										
11		14.5	1.5										
12		0.8							10.0				
13				5.0	10.0				10.0				
14				9.0	4.5				5.0				
15	45.0		3.0	15.5					7.0				
16	15.0		-	10.0					2.0				
17	15.0		-	16.0					5.0				
18	6.5		-					26.0	10.0				
19	3.5		13.0					14.0					
20	4.7		1.0					17.0					
21	5.3		0.5					13.0				10.0	
22	5.3		0.5									4.5	
23			8.0									15.5	
24			0.4									7.8	
	100.3	61.8	55.4	56.0	70.0	79.0							53.2

TABLE Hourly Rainfall (Panakkukong)

DATE TIME	1974																							
	2/27	3/1	3/2	10/6	10/14	10/19	11/16																	
1																								
2																								
3																								
4																								
5																								
6																								
7																								
8	10.0	20.0																						
9	16.5	4.5																						
10	14.5	15.5																						
11	11.4	17.0																						
12		13.0		10.0																				
13		5.5		12.5																				
14		14.5	30.0	7.5	14.5																			
15		0.5	20.0	10.0	15.5																			
16		0.4	15.0	9.0	10.0																			
17			0.4	3.4	12.0																			
18					1.3																			
19																								
20																								
21																								
22																								
23																								
24																								
	82.4	90.9	65.4	52.4	53.3	56.4	72.4																	

TABLE Hourly Rainfall (Panakkukang)

1974		11/22	12/11	12/12	12/13	12/25	12/27
DATE	TIME						
1		1.5			12.0		4.0
2		3.5		8.4	4.0		6.0
3		10.0			16.0		1.0
4		4.0			0.1		0.4
5		1.0					0.2
6		10.0					0.7
7		5.8					0.1
8							-
9							-
10							-
11							-
12							-
13							-
14							-
15						25.0	-
16						5.0	-
17			16.0			10.0	-
18			4.0			10.0	-
19			11.0			1.3	-
20			9.0	7.0			10.0
21			11.3	13.0			4.5
22				19.0	20.0		16.5
23	14.5			11.0	10.0		8.0
24	15.5			30.0	8.0		-
		65.8	51.3	88.4	70.1	51.3	51.4

TABLE Hourly Rainfall (Panakkukang)

1975		2/16	3/16	1/18	4/21	1/21	1/25	
DATE	TIME							
1	-						14.0	
2	-						6.0	
3	-	20.0					7.0	
4	-	18.5					3.0	
5	-	1.5					8.0	
6	10.0	7.6					12.4	
7	8.4	9.2						
8	-			-		-		
9	-			-		-		
10	10.0			15.5		8.5		
11	5.0			4.0		11.5		
12	7.5			7.5		9.0		
13	2.5			6.5		11.0		
14	5.5			7.6		20.0		
15	1.5			0.4		15.0		
16	-			6.5		10.0		
17	-			5.0		-		
18	-			4.8		-		
19	-					-		
20	-					-		
21	-				30.0	-		
22	-				45.0	-		
23	-				7.0		17.0	
24	-				5.0		13.0	
		56.8		57.8	87.0	85.0	80.4	
		50.4						

TABLE Hourly Rainfall (Panakkukang)

DATE TIME	1975																							
	5/11	10/24		10/27	10/29	11/23	11/30	12/5																
1			3.0																					
2			6.0																					
3			3.0																					
4			2.0																					
5																								
6																								
7																								
8												4.8												
9												7.2												
10												10.7												
11												10.3												
12												18.0												
13								10.0																
14								-		4.0				10.0										7.0
15	28.5		0.5		6.0					6.0				15.0										13.0
16	20.0		6.0		40.0					40.0				24.0										16.5
17	0.5		3.0		15.0					15.0				7.2										3.5
18	1.0		1.0											10.0										9.0
19	0.5		10.0				40.0																	10.4
20	3.3		10.0																					10.0
21			1.0																					
22			5.0																					
23			5.0																					
24			4.0																					
	53.8		59.5				50.0		65.0		66.3		61.0											69.4

TABLE Hourly Rainfall (Panakultang)

DATE TIME	1975																									
	12/23																									
1																										
2			10.0																							
3			30.0																							
4			8.0																							
5			7.0																							
6			4.0																							
7			3.0																							
8																										
9																										
10																										
11																										
12																										
13																										
14																										
15																										
16																										
17																										
18																										
19																										
20																										
21																										
22																										
23																										
24																										
																										92.0

TABLE Hourly Rainfall (Hasanuddin)

		1963																							
DATE TIME	1/2	1/14	1/15	1/16	1/29	1/29	1/15	1/16	1/29	1/15	1/16	1/29	1/15	1/16	1/29	1/15	1/16	1/29	1/15	1/16	1/29	1/15	1/16	1/29	
1			2.9	-	0.3	-																			
2	0.2		3.4	-	4.7	-																			0.3
3			0.2	-	1.2	-																			-
4			0.7		7.0																				0.6
5			0.2	0.8	-	0.6																			0.6
6			0.3	4.8	0.1																				0.1
7			0.7	0.4	-	0.1																			0.1
8		-	-	12.6	5.1	-																			
9		0.8		9.2	-																				
10		0.7		5.2	2.4																				
11		-		1.7	2.2																				
12	8.4	-		0.4	0.1																				
13	16.7	-		-	7.4																				
14	2.3			2.2	0.8																				
15	-			5.2	-																				
16	5.8		14.5	16.8	-																				1.2
17	17.8		11.1	4.0	0.9																				44.5
18	0.6		4.5	4.0	0.2																				2.2
19	3.6		3.9	5.1	6.5																				-
20	6.3		0.3	5.2	4.4																				-
21	2.1		0.8	0.1	15.0																				1.6
22	4.6		-	-	10.0																				3.2
23	1.7		-	-	5.6																				0.1
24	-		5.0	-	4.6																				-
		70.1	50.0		77.7																				54.5

TABLE Hourly Rainfall (Hasanuddin)

1964																									
DATE	TIME	2/6	3/4	3/10	3/19	3/23																			
1		6.0	-	-	7.8																				
2		3.3	0.4		8.9																				
3		13.9	-		3.4																				
4		3.8	-		0.7																				
5		0.5	-		-																				
6		3.6	2.8		-																				
7		0.9	-		-																				
8				3.7	1.3	-																			
9				-	-	7.7																			
10			3.8	18.3	-	63.3																			
11			21.0	5.5	7.3	4.0																			
12			7.5	1.7	15.7	1.7																			
13			14.4	2.2	15.2	0.3																			
14			0.9	9.7	3.5	-																			
15			-	15.4	0.4																				
16			-	4.8	-																				
17				0.6	-																				
18		2.0	-	0.3	-																				
19		0.5	0.3	0.2	-																				
20		5.1	1.3	1.6	-																				
21		0.9	-	-	-																				
22		8.4	-	-	-																				
23		3.3	-	-	-																				
24		2.7	-	-	1.3																				
		54.9	52.0	64.4	65.5	77.0																			

TABLE Hourly Rainfall (Hasanuddin)

DATE TIME	1964																							
	11/27		11/28	11/29	12/6		1/9	1/10																
1	6.7					-																		1.0
2	13.3					4.1																		0.8
3	6.7					1.4																		1.4
4	1.6					5.4																		-
5	1.7					3.2																		6.8
6	4.2					2.2																		1.8
7	6.8					14.3																		-
8			10.0									8.0												
9			38.0			10.0						0.3												
10			3.6			1.6						32.7												
11			1.7			11.5						6.6												1.9
12			-			13.9						4.7												3.9
13			-			4.6						10.7												4.4
14	3.5		-			20.6						6.7												-
15	9.7		-			5.8						5.3												12.3
16	4.0		-			19.0						3.9												13.8
17	2.7		-			2.8						0.1												3.7
18	0.5		-			0.6						0.1												-
19	-		-			5.3						0.1												1.4
20	-		-			-			51.0			-												7.5
21	-		1.6			-						-												3.9
22	-		5.0			-						-												12.8
23	-		-			-						-												3.3
24	-		-			-						-												1.2
			61.4		59.9			51.0			126.3		79.2											117.0

TABLE Hourly Rainfall (Hasanuddin)

1965																								
DATE	TIME	1/13	1/16	1/20	2/21	2/22	2/22	2/22	2/22	2/22	2/22	2/22	2/22	2/22	2/22	2/22	2/22	2/22	2/22	2/22	2/22	2/22	2/22	
1	-	-	-	-	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2	5.3	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3	4.7	1.2	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4	3.1	0.1	2.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5	1.8	0.9	4.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6	0.4	1.7	7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7	14.5	3.6	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
8	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9	3.4	14.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10	4.0	2.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
11	8.6	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
12	5.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
13	6.3	-	-	0.4	5.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
14	4.7	1.4	5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15	0.6	0.5	4.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
16	1.8	0.4	2.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
17	7.7	21.7	0.2	27.5	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
18	3.5	2.3	0.3	9.8	3.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
19	1.7	0.1	1.0	3.3	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
20	-	-	-	2.8	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
21	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
22	1.1	-	28.7	-	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
23	-	-	11.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
24	-	-	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			62.0	73.6	69.4	69.4																		
		80.1																					69.4	

TABLE Hourly Rainfall (Hasanuddin)

1965		2/23		3/17		12/12		12/31		1/17		1/21	
DATE	TIME												
1			14.9			35.3					9.0		-
2			5.0			0.5				0.2			-
3			0.8			1.0				0.9			0.2
4			-			0.2				0.8			0.3
5			-			0.1				0.1			1.1
6			35.1			-				0.4			2.5
7			-			-				-			3.0
8	10.7		-							0.8			-
9			0.4							-			1.0
10			-							-			13.7
11			-					30.3		16.0			10.0
12	3.8		-					3.5		24.0			6.3
13	2.9		-					2.0		4.0			2.2
14	3.6		0.2					3.4		1.7			0.9
15	0.3		32.5					2.8		5.1			-
16	0.4		0.8					0.8		-			-
17	0.3		0.9					2.5		0.1			-
18	-		0.1					6.2		-			-
19	4.2		1.2				12.9	-		-			-
20	10.1		2.7				1.3	-		-			10.4
21	4.3		0.4				-	-		-			-
22	4.3		-				-	-		-			-
23	0.3		-				-	-		-			-
24	-		-				-	-		-			-
	67.0		95.0			51.3				56.9			60.7
													51.6

TABLE Hourly Rainfall (Hasanuddin)

DATE TIME	1966																							
	1/29	2/23	2/27	3/27	3/28	2/28	3/1	3/1	3/1	3/1	3/1	3/1	3/1	3/1	3/1	3/1	3/1	3/1	3/1	3/1	3/1	3/1	3/1	3/1
1	-	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.3
2	-	19.5	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19.4
3	10.5	30.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3
4	11.0	4.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	12.0	1.8	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1
6	6.0	1.4	22.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2
7	14.8	1.8	15.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	14.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	1.0	-	4.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	4.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	15.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	70.6	65.2	71.0	68.9	60.4	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2

TABLE Hourly Rainfall (Hasanuddin)

1969																											
DATE TIME	3/19	3/14	3/15	3/16	3/17	3/20	3/17	3/16	3/15	3/14	3/19	3/14	3/15	3/16	3/17	3/20	3/17	3/16	3/15	3/14	3/19	3/14	3/15	3/16	3/17	3/20	
1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3
2		18.9	-	-	1.4	-	-	1.4	-	-	-	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.9
3		1.0	8.5	-	1.2	2.3	-	1.2	8.5	-	-	1.2	8.5	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4
4		2.1	0.9	-	-	0.1	-	-	0.9	-	-	0.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.2
5		1.5	0.6	-	1.4	-	-	1.4	0.6	-	-	1.4	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2
6		6.5	-	-	0.1	-	-	0.1	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2
7		3.8	9.5	-	0.1	-	-	0.1	9.5	-	-	0.1	9.5	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1
8	6.5	8.7	5.2	0.9	-	1.4	-	0.9	5.2	8.7	-	5.2	0.9	-	-	-	-	-	-	-	-	-	-	-	-	-	
9	-	5.9	7.0	-	-	-	-	-	7.0	5.9	-	7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10	8.4	-	12.5	-	-	-	-	-	12.5	-	-	12.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
11	9.3	-	3.0	-	-	-	-	-	3.0	-	-	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
12	22.3	4.1	3.6	-	-	-	-	-	3.6	4.1	-	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
13	58.0	0.8	2.4	-	-	-	-	-	2.4	0.8	-	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
14	5.5	8.2	7.5	-	-	-	-	-	7.5	8.2	-	7.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15	-	1.4	1.2	11.3	-	-	-	11.3	1.2	1.4	-	1.2	11.3	-	-	-	-	-	-	-	-	-	-	-	-	-	
16	-	-	0.2	3.7	-	-	-	3.7	0.2	-	-	0.2	3.7	-	-	-	-	-	-	-	-	-	-	-	-	-	
17	-	0.2	0.1	1.3	-	-	-	1.3	0.1	0.2	-	0.1	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	
18	1.1	0.1	-	10.5	-	-	-	10.5	-	0.1	-	-	10.5	-	-	-	-	-	-	-	-	-	-	-	-	-	
19	-	-	0.9	0.3	-	-	-	0.3	0.9	-	-	0.9	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	
20	-	4.1	0.2	-	-	-	-	-	0.2	4.1	-	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
21	7.1	3.0	-	2.0	-	-	-	2.0	-	3.0	-	-	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	
22	1.1	3.2	-	2.4	-	-	-	2.4	-	3.2	-	-	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-	
23	-	1.0	-	20.5	-	-	-	20.5	-	1.0	-	-	20.5	-	-	-	-	-	-	-	-	-	-	-	-	-	
24	-	-	-	2.5	-	-	-	2.5	-	-	-	-	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	
	119.6	74.5	63.3	62.6	68.7			62.6	63.3	74.5		63.3	62.6	68.7			62.6	63.3	62.6	68.7			62.6	68.7		69.4	

TABLE Hourly Rainfall (Hasanuddin)

DATE TIME	1971			1972				1973					
	6/7	2/15	2/16	2/19	2/12	3/12	4/10	6/7	2/15	2/16	2/19	3/12	4/10
1		2.2				8.0						-	
2		-				1.5						-	
3		0.2				-						-	
4		2.0				1.0						0.5	
5		2.1				-						0.3	
6		18.5				0.5						2.0	
7		21.5				1.0						-	
8	54.3	-				-						-	
9	80.0	-			14.7						40.0		-
10	29.0	6.5			17.3						20.2		-
11	4.3	0.7			29.0			2.1			2.8		
12	26.7	-			5.5			-			1.0		
13	6.8	-			2.6			-			-		-
14	0.1	-			0.9			-			0.3		
15	-	1.8			-			-			-		
16	0.9	-			-			-			2.5		
17	0.1	-			-			-			0.7		40.0
18	-	-			-			-			-		23.7
19	-	-			-			-			-		3.5
20	-	-			-			-			-		1.0
21		-			-			-			-		-
22		0.2			-			16.4			-		-
23		3.5			-			1.2			-		-
24		9.4			-			30.0			-		-
	202.2		68.6		70.0	61.7					70.3		68.2

TABLE Hourly Rainfall (Hasanuddin)

1973		9/11	9/24	11/4	11/20	11/23	11/30
DATE	TIME						
1	-	-	-	-	31.5	39.3	-
2	0.3	-	-	-	62.0	29.0	-
3	-	-	-	-	41.5	4.5	-
4	-	1.6	-	-	4.5	5.0	-
5	-	1.6	-	-	18.0	0.5	-
6	-	3.5	-	-	27.0	-	-
7	-	4.0	-	-	30.2	-	1.5
8	-	-	-	-	-	-	-
9	0.8	-	-	-	-	-	2.0
10	0.2	-	-	-	-	3.3	3.0
11	-	-	-	-	-	-	5.0
12	-	-	-	-	-	12.5	0.8
13	0.4	-	-	-	-	-	9.2
14	18.8	20.0	-	-	-	0.2	0.7
15	27.0	32.8	-	-	-	-	2.6
16	13.0	1.2	76.0	-	-	-	6.7
17	-	0.2	0.3	-	-	-	13.0
18	-	-	-	-	-	11.0	5.0
19	-	-	-	-	-	9.0	2.5
20	0.2	-	-	-	-	-	1.0
21	-	-	-	-	-	0.7	1.5
22	-	-	-	-	-	17.7	0.5
23	-	-	-	14.0	-	12.0	-
24	-	-	-	3.3	-	5.5	-
	60.7	64.9	76.3	24.0	150.2	55.0	

TABLE Hourly Rainfall (Hasanuddin)

1973		12/6	12/8	12/20	12/25	12/26	12/27
DATE	TIME						
1				0.2		5.0	
2				0.2		-	
3				1.1		-	
4				2.5		1.8	
5				2.8		0.5	
6				2.0		6.4	
7				1.1		-	
8		-		-		-	4.0
9		-		-	10.0	1.4	22.0
10		-		-	2.0	2.6	7.0
11		-		-	4.8	16.0	9.0
12		-		-	12.5	8.5	2.9
13		-		-	9.5	9.5	-
14		-		-	2.0	2.2	-
15		1.2	4.0	0.9	1.0	1.0	-
16		-	49.0	-	-	4.7	4.0
17		25.0		12.5	-	6.9	0.2
18		1.3		-	-	0.8	-
19		-		6.2	-	6.4	-
20		21.0		20.5	-	21.5	1.0
21		24.8		3.5	1.8	2.5	
22		6.0		0.6	3.2	1.5	
23		0.7		0.4	-	0.3	
24		-		2.5	1.5	16.8	-
		80.0	53.0	57.0	62.0	129.5	50.1

TABLE Hourly Rainfall (Hasamuddin)

DATE TIME	1974												
	12/31	1/3	1/5	1/6	1/11	1/11	1/6	1/5	1/5	1/3	1/3	12/31	
1	-	4.5		-	15.5		-						
2	-	1.0			3.0								
3	-	0.7	1.0		0.1								
4	-	-	-		-								
5	3.7	1.0			-								
6	16.3	5.8			1.0								
7	14.3	0.2			0.8								
8	-		1.8										
9	1.0		-										
10	-		2.0										
11	-		1.3										
12	4.6		0.7										
13	-		0.2										
14	-		-										
15	-		-										
16	12.0												
17	8.2		18.8										
18	7.4		8.5										
19	3.5		1.8										
20	0.7		0.2										
21	-		-										
22	0.1		-										
23	1.2		-										
24	1.0		-										
		74.0			56.4							59.4	50.0

TABLE Hourly Rainfall (Hasanuddin)

1974																									
DATE	TIME	2/13	2/14			2/21		2/27		2/28															
1		13.0		0.8			8.2		25.5																
2		1.8		0.3			17.0		0.8																
3		3.9		-			5.7		0.4																
4		2.0		1.3			1.0		0.6																
5		4.2		0.3			-		0.4																
6		3.0		0.4			0.1		0.5																
7		0.8		-			2.2		1.0																
8	-						-																		
9	3.2						-		0.5																
10	-						-																		
11	-						0.5																		
12	1.8						5.3		2.8																
13	3.3						4.0																		
14	3.3						2.0																		
15	2.6						22.4																		
16	0.7						3.6		1.0																
17	0.3						2.0																		
18	-						0.8																		
19	-						10.7																		
20	4.8						1.6																		
21	-						3.8		5.2																
22	-						0.9		1.5																
23	-						1.6																		
24	6.3						2.3		17.2																
		55.0		67.8			65.1		60.4																72.0

TABLE Hourly Rainfall (Hasaruddin)

1974		3/2	3/15	5/31	9/7	11/24
DATE	TIME					
1		0.4	11.9			1.2
2		-	2.8			24.5
3		0.6	-			6.8
4		4.4	0.2			13.2
5		2.6	-			7.0
6		2.4	-			5.1
7		0.2	0.8			6.6
8	-		4.4			-
9	0.4		0.4			-
10	-		2.3			-
11	6.6		3.3			-
12	3.7		-			-
13	9.3		2.3		27.0	-
14	12.6		1.0		13.0	-
15	16.0		10.5	50.0	13.0	1.5
16	9.1		13.0		5.4	-
17	4.9		2.8			-
18	4.1		0.1			0.2
19	5.4		0.8			-
20	2.8		0.6			-
21	0.1		1.8			1.2
22	-		-	47.0		15.7
23	-		-	3.7		5.9
24	-		-			-
		85.6	59.0	50.0	58.4	88.9

TABLE Hourly Rainfall (Hasanuddin)

DATE TIME	1974																								
	12/13	12/14	12/14	12/28	12/30	12/31	1/11	1/11	12/31	12/30	12/28	12/14	12/14	12/14	12/28	12/30	12/31	1/11	1/11	12/31	12/30	12/28	12/14	12/14	
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	0.2	-	-	2.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	2.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	0.5	-	1.2	2.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	7.4	11.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	20.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	2.4	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	7.6	-	1.6	3.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	22.4	-	8.3	0.2	39.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	20.0	-	15.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	3.0	-	9.6	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	9.1	-	0.7	2.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	4.9	-	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	1.7	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	1.3	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	4.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			67.7	73.5	58.3	51.0	59.6	86.0																	

TABLE Hourly Rainfall (Hasamuddin)

DATE TIME	1975																							
	4/21	4/21	4/24	4/24	4/29	4/29	7/25	7/25	9/29	9/29														
1		3.8	-	-		0.1															-			
2		3.7	-	-																	-			
3		4.4	0.4	-																	-			
4		7.1	-	-																	0.1			
5		0.4	-	-																	0.4			
6		1.0	-	-																	0.2			
7		10.4	-	-																	-			
8	-		-	-																	-			
9	1.4		-	-																	-			
10	-		-	-																	-			
11	6.5		-	-																	-			
12	6.8		-	-																	-			
13	2.4		-	-																	3.5			
14	1.1		-	-								0.1									3.0			
15	8.0		62.7	-								-									32.5			
16	17.2		-	-					1.9			-									8.2			
17	7.0		-	-				7.3			13.5										4.2			
18	1.8							15.0			25.5										0.2			
19	1.0							14.2			13.5										-			
20	-							6.4			9.6										0.2			
21	0.1							5.3			-										-			
22	-		3.8					0.7			-										0.5			
23	0.4		1.1					1.7			-										-			
24	5.7		-					0.9			-										-			
		90.2	68.0			53.5				62.2													53.0	

TABLE Hourly Rainfall (Hasanuddin)

DATE TIME	1975																							
	12/5			12/9			12/11			12/12			12/23											
1		26.6		-			-					4.6												-
2		2.9		-			-					2.7												18.2
3		0.2		4.7			-					1.5												19.2
4		-		2.4			-					-												20.0
5		-		-			0.7					-												12.7
6		5.0		8.0			-					-												12.0
7		4.6		8.0			11.8					-												2.3
8	-			-			-					-												
9	-			-			3.0					3.5												
10	-			-			6.5					3.9												
11	21.3			-			1.5					6.0												
12	-			17.0			2.0					2.8												
13	-			-			1.9					0.4												
14	-			-			-					-												
15	0.2			-			-					24.5												
16	0.1			-			-					2.8												
17	-			22.7			15.0					0.2												
18	0.2			-			11.0					0.1												
19	0.2			-			1.6					-												
20	-			-			0.2					-												
21	-			-			0.4					-												
22	-			-			0.1					-												3.8
23	-			2.6			0.2					-												
24	2.7			0.7			-					-												
		64.0		66.1			55.9					53.0												88.2

TABLE Hourly Rainfall (Hasanuddin)

DATE TIME	1976																							
	1/6	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/7
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	0.5	3.4	0.5	3.4	0.5	3.4	0.5	3.4	0.5	3.4	0.5	3.4	0.5	3.4	0.5	3.4	0.5	3.4	0.5	3.4	0.5	3.4	0.5	3.4
3	11.8	0.3	11.8	0.3	11.8	0.3	11.8	0.3	11.8	0.3	11.8	0.3	11.8	0.3	11.8	0.3	11.8	0.3	11.8	0.3	11.8	0.3	11.8	0.3
4	28.0	-	28.0	-	28.0	-	28.0	-	28.0	-	28.0	-	28.0	-	28.0	-	28.0	-	28.0	-	28.0	-	28.0	-
5	3.8	-	3.8	-	3.8	-	3.8	-	3.8	-	3.8	-	3.8	-	3.8	-	3.8	-	3.8	-	3.8	-	3.8	-
6	0.7	-	0.7	-	0.7	-	0.7	-	0.7	-	0.7	-	0.7	-	0.7	-	0.7	-	0.7	-	0.7	-	0.7	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	0.8	-	0.8	-	0.8	-	0.8	-	0.8	-	0.8	-	0.8	-	0.8	-	0.8	-	0.8	-	0.8	-	0.8	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	13.6	-	13.6	-	13.6	-	13.6	-	13.6	-	13.6	-	13.6	-	13.6	-	13.6	-	13.6	-	13.6	-	13.6	-
11	1.0	-	1.0	-	1.0	-	1.0	-	1.0	-	1.0	-	1.0	-	1.0	-	1.0	-	1.0	-	1.0	-	1.0	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	5.9	-	5.9	-	5.9	-	5.9	-	5.9	-	5.9	-	5.9	-	5.9	-	5.9	-	5.9	-	5.9	-	5.9
14	-	1.0	-	1.0	-	1.0	-	1.0	-	1.0	-	1.0	-	1.0	-	1.0	-	1.0	-	1.0	-	1.0	-	1.0
15	-	16.8	-	16.8	-	16.8	-	16.8	-	16.8	-	16.8	-	16.8	-	16.8	-	16.8	-	16.8	-	16.8	-	16.8
16	-	3.4	-	3.4	-	3.4	-	3.4	-	3.4	-	3.4	-	3.4	-	3.4	-	3.4	-	3.4	-	3.4	-	3.4
17	-	3.0	-	3.0	-	3.0	-	3.0	-	3.0	-	3.0	-	3.0	-	3.0	-	3.0	-	3.0	-	3.0	-	3.0
18	-	21.0	-	21.0	-	21.0	-	21.0	-	21.0	-	21.0	-	21.0	-	21.0	-	21.0	-	21.0	-	21.0	-	21.0
19	-	8.2	-	8.2	-	8.2	-	8.2	-	8.2	-	8.2	-	8.2	-	8.2	-	8.2	-	8.2	-	8.2	-	8.2
20	-	1.0	-	1.0	-	1.0	-	1.0	-	1.0	-	1.0	-	1.0	-	1.0	-	1.0	-	1.0	-	1.0	-	1.0
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	0.3	-	0.3	-	0.3	-	0.3	-	0.3	-	0.3	-	0.3	-	0.3	-	0.3	-	0.3	-	0.3	-	0.3
23	0.3	-	0.3	-	0.3	-	0.3	-	0.3	-	0.3	-	0.3	-	0.3	-	0.3	-	0.3	-	0.3	-	0.3	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	60.5	64.3	103.0	182.7	52.4																			

TABLE AUTOMATICAL WATER STAGE OF JENEBERANG.

DATE TIME	1977.												1978.											
	1/6	1/7	1/8	1/9	1/10	1/23	1/24	1/14	1/15	1/16	1/17	1/18	1/9	1/10	1/11									
1	1.12	1.94	1.76	1.81	1.65	1.67	-	1.35	2.55	2.32	-	2.18	0.40	0.38	2.43									
2	1.11	1.96	1.75	1.79	1.62	1.65	-	1.35	2.39	2.24	-	2.20	0.39	0.38	2.41									
3	1.10	1.98	1.75	1.77	1.60	1.65	-	1.34	2.26	2.57	-	2.21	0.39	0.37	2.32									
4	1.09	2.02	1.74	1.76	1.57	1.69	2.96	1.33	2.17	2.18	2.05	2.18	0.39	0.37	2.25									
5	1.08	2.04	1.73	1.81	1.56	1.69	3.07	1.32	2.13	2.01	2.02	2.15	0.38	0.40	2.22									
6	1.08	2.04	1.70	1.83	1.55	1.69	3.87	1.30	2.08	2.06	2.06	2.23	0.38	0.42	2.13									
7	1.07	2.00	1.67	1.80	1.53	1.66	2.75	1.29	2.13	2.06	2.15	2.26	0.38	0.44	2.07									
8	1.06	1.94	1.68	1.77	1.53	1.64	2.65	1.29	2.24	2.04	2.27	2.30	0.38	0.48	1.88									
9	1.06	1.91	1.75	1.73	1.53	1.62	2.56	1.29	-	2.23	2.33	2.34	0.39	0.69	1.73									
10	1.05	1.91	1.85	1.71	1.51	1.64	2.47	1.28	-	2.22	2.46	2.39	0.39	0.75	1.62									
11	1.05	1.99	2.00	1.68	1.50	1.77	2.41	1.30	-	2.21	2.60	2.40	0.39	0.77	1.54									
12	1.06	2.10	2.10	1.66	1.50	1.73	2.36	1.34	-	2.18	2.64	1.50	0.40	0.77	1.44									
13	1.07	2.14	2.18	1.66	1.61	1.66	2.34	1.50	-	2.12	2.62	1.47	0.40	0.76	1.39									
14	1.08	2.18	2.18	1.71	1.69	1.63	2.31	1.75	-	2.65	2.65	1.47	0.41	0.74	1.35									
15	1.13	2.32	2.10	1.87	1.72	1.61	2.25	2.00	-	2.63	2.69	1.48	0.42	0.73	1.35									
16	1.16	2.32	2.05	1.93	1.84	1.58	2.22	2.59	-	-	2.76	1.48	0.41	0.73	1.43									
17	1.21	2.29	2.00	1.94	1.94	1.55	2.18	3.00	-	-	2.78	1.45	0.41	0.74	1.51									
18	1.25	2.15	1.95	1.88	2.07	1.52	2.15	3.02	-	-	2.74	1.42	0.46	0.75	1.65									
19	1.45	2.05	1.90	1.85	2.16	1.50	2.10	3.01	2.22	-	2.68	1.40	0.40	0.84	1.70									
20	1.82	2.00	1.87	1.82	2.21	1.50	2.06	3.00	2.16	-	2.63	1.39	0.40	0.93	1.73									
21	2.07	1.92	1.85	1.79	2.15	1.49	2.11	2.97	2.14	-	2.55	1.37	0.39	1.21	1.70									
22	2.14	1.86	1.84	1.75	2.03	1.45	2.17	2.72	2.18	-	2.42	1.35	0.39	1.66	1.62									
23	2.02	1.82	1.84	1.72	1.93	1.45	2.18	2.67	2.26	-	2.33	1.33	0.40	2.06	1.53									
24	1.96	1.79	1.83	1.68	1.87	1.48	2.18	2.60	2.32	-	2.27	1.31	0.39	2.35	1.43									

Table 1-2 SPECIFIC GRAVITY

Name of River	Sampling Section	Specific Gravity	Mean Grain Size D=50 (mm)	Remarks
Jeneberang	0.0 (R)	2.748	0.26	Sand
	0.8 (R)	2.677	0.52	"
	1.6 (R)	2.737	0.32	"
	2.4 (R)	2.727	0.26	"
	3.2 (R)	2.677	0.45	"
	4.0 (R)	2.724	0.37	"
	0.0' (L)	2.691	0.40	"
	0.8' (L)	2.755	0.33	"
	1.6' (L)	2.769	0.48	"
	2.4' (C)	2.645	0.46	"
	4.8 (L)	2.654	0.45	"
	5.6 (R)	2.711	0.54	"
	6.4 (L)	2.675	0.46	"
	7.2 (C)	2.684	0.60	"
	8.0 (R)	2.711	0.58	"
	8.8 (R)	2.740	0.54	"
	9.6 (L)	2.675	0.58	"
	10.4 (L)	2.715	0.56	"
	11.2 (C)	2.725	0.58	"
	12.0 (C)	2.684	0.56	"
	12.8 (R)	2.699	0.64	"
	13.6 (R)	2.726	0.74	"
	14.4 (L)	2.757	0.50	
	15.2 (R)	2.679	0.62	
	16.0 (R)	2.695	0.66	
	16.8 (R)	2.664	0.68	Sand
	17.6 (R)	2.743	0.70	"
	17.6 (L)	2.689	0.54	"
18.4 (L)	2.723	0.44	"	
19.2 (L)	2.725	0.65	Sand Kerikil	
19.2 (R)	2.723			
20.0 (R)	2.713	0.70		
20.8	2.648			
Intake Bili2	2.785			
Dam I (R)	2.712		Gravel Sand	
Graded Area	2.703			
Tallo	TL. River Mouth	2.692		
	TL. Upstream	2.754		

Note: River Channel Cross Section

(R) Right Side
(C) Center
(L) Left Side

Fig. 1-11(1) GRAIN-SIZE ACCUMULATION CURVE ALONG JENEBERANG RIVER

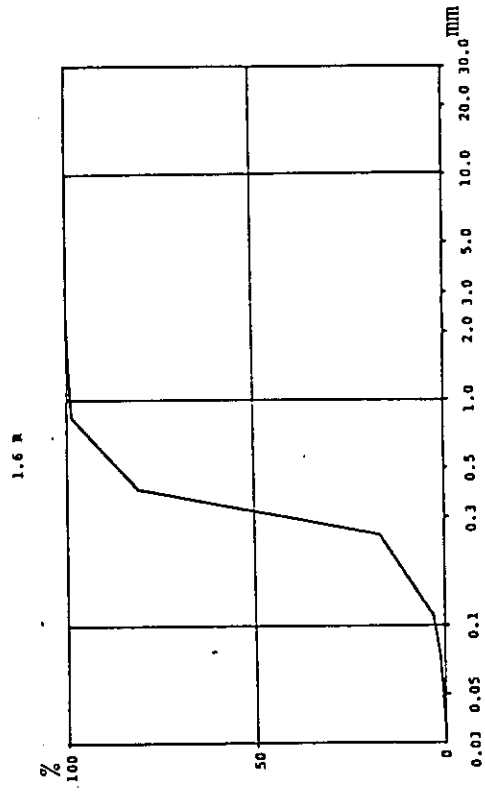
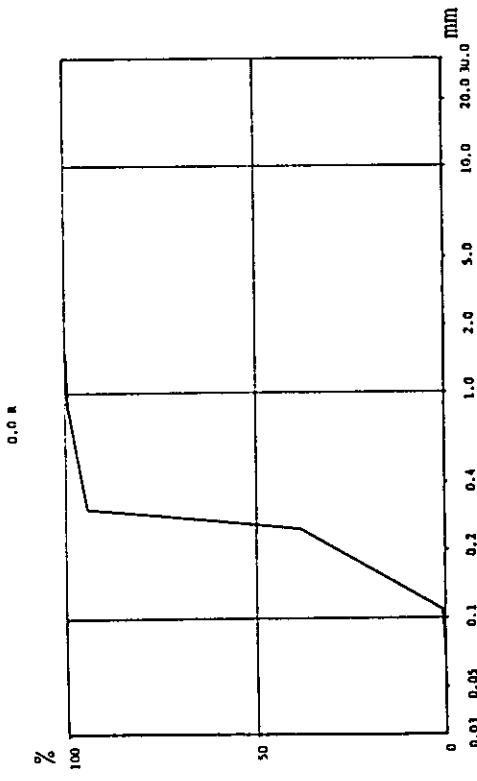
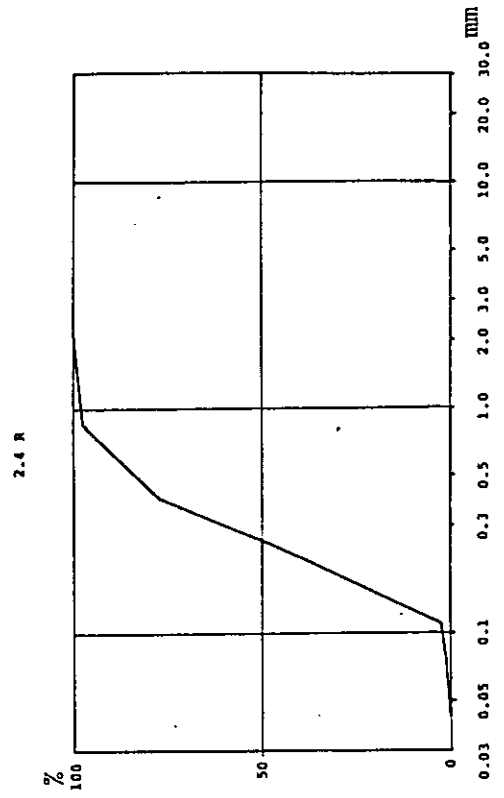
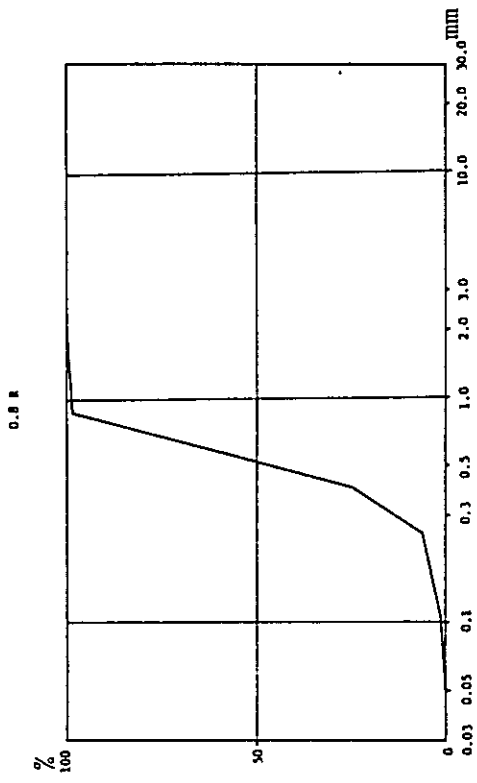


Fig. 1-11(2) GRAIN-SIZE ACCUMULATION CURVE ALONG JENEBERANG RIVER

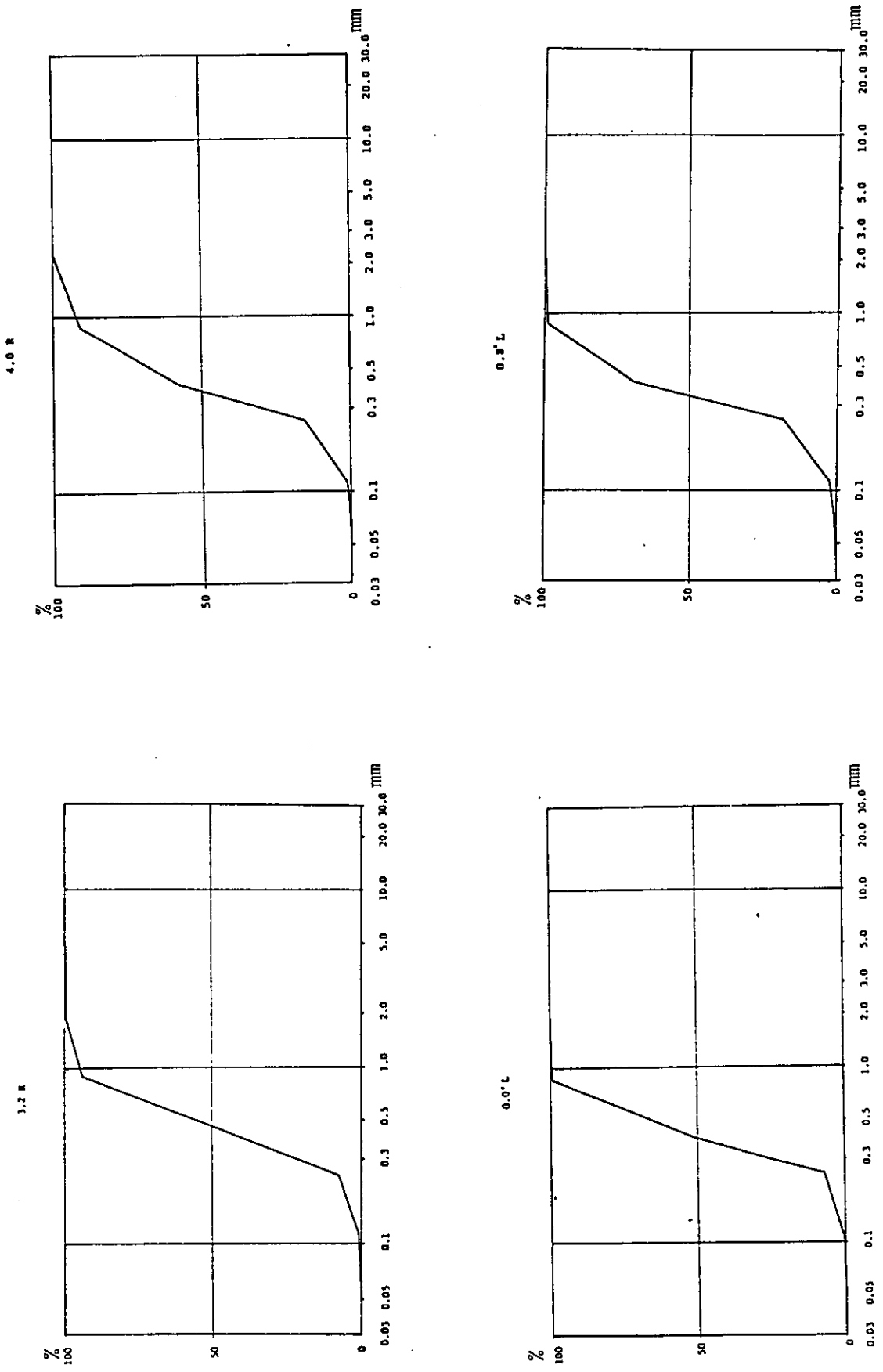


Fig. 1-11(3) GRAIN-SIZE ACCUMULATION CURVE ALONG JENEBERANG RIVER

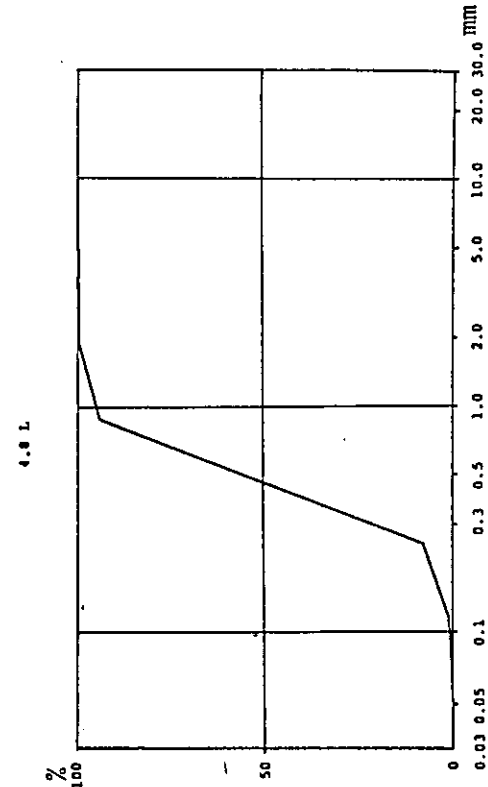
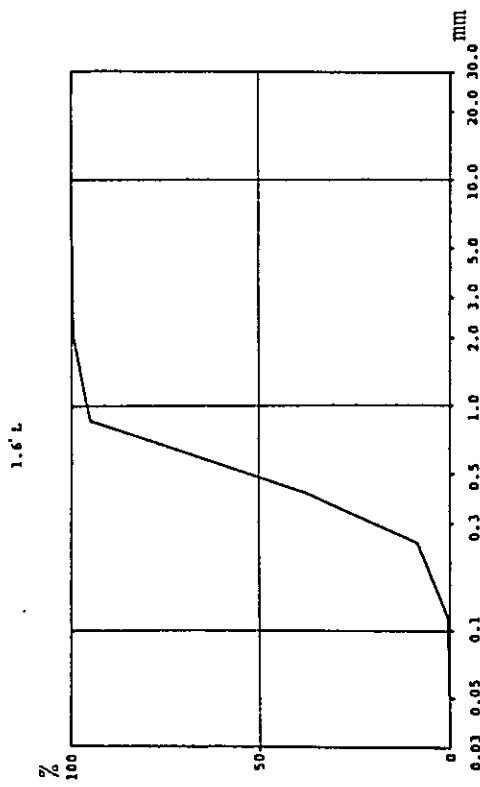
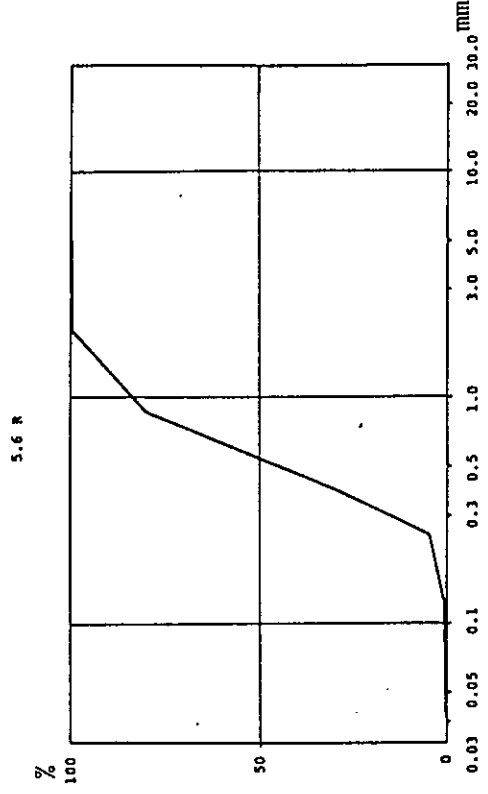
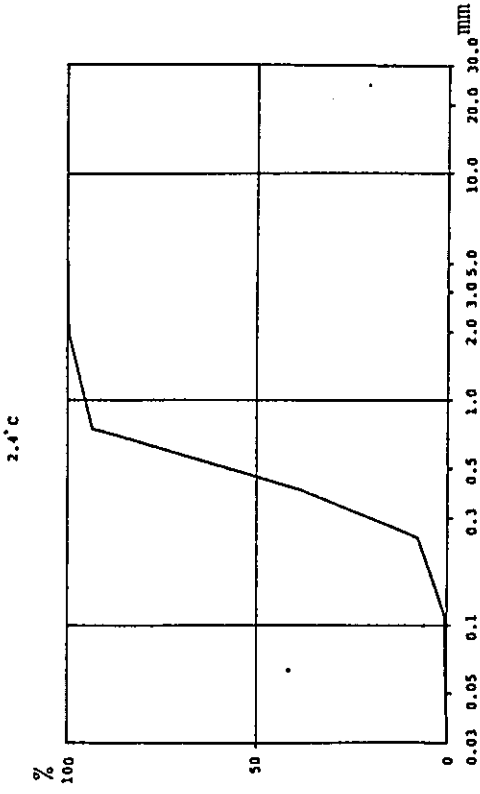


Fig. 1-11(4) GRAIN-SIZE ACCUMULATION CURVE ALONG JENEBERANG RIVER

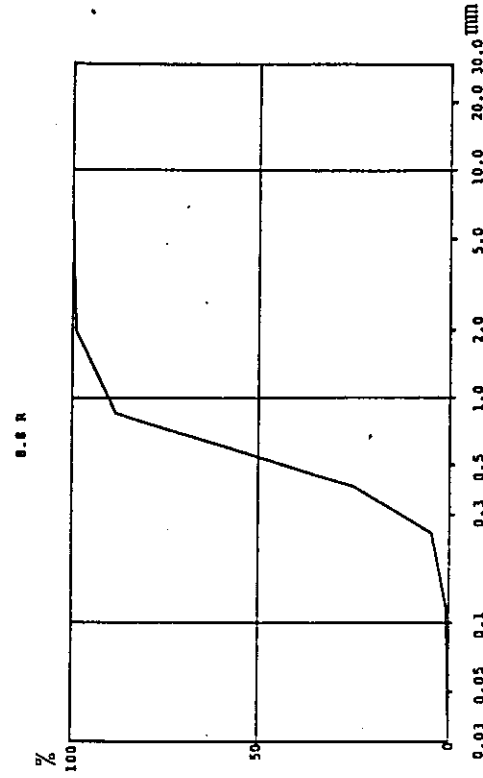
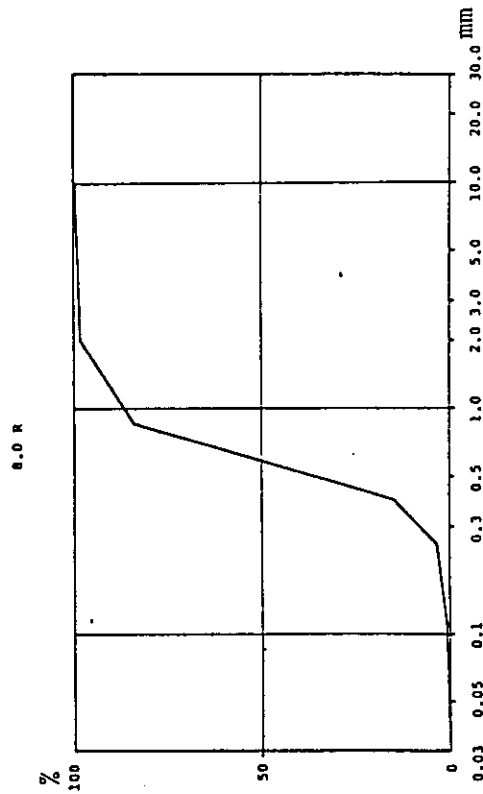
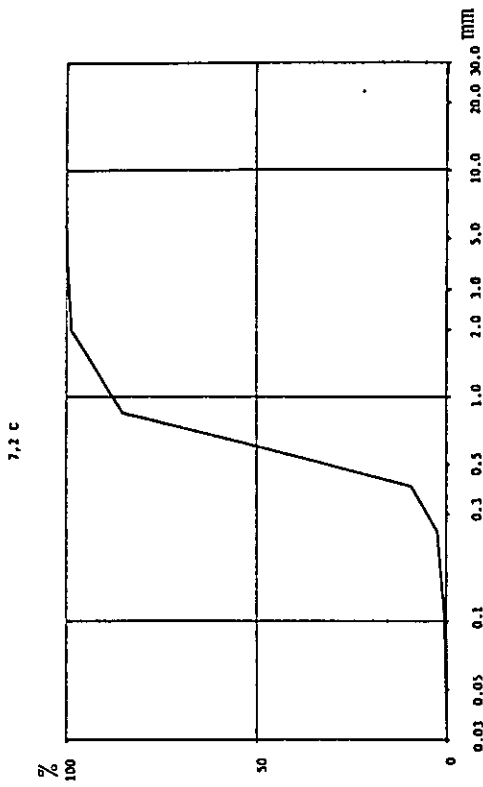
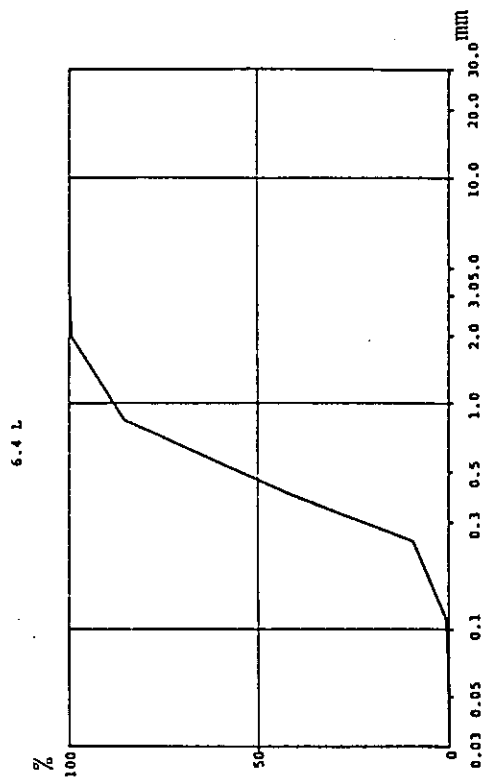


Fig. 1-11(5) GRAIN-SIZE ACCUMULATION CURVE ALONG JENERBERANG RIVER

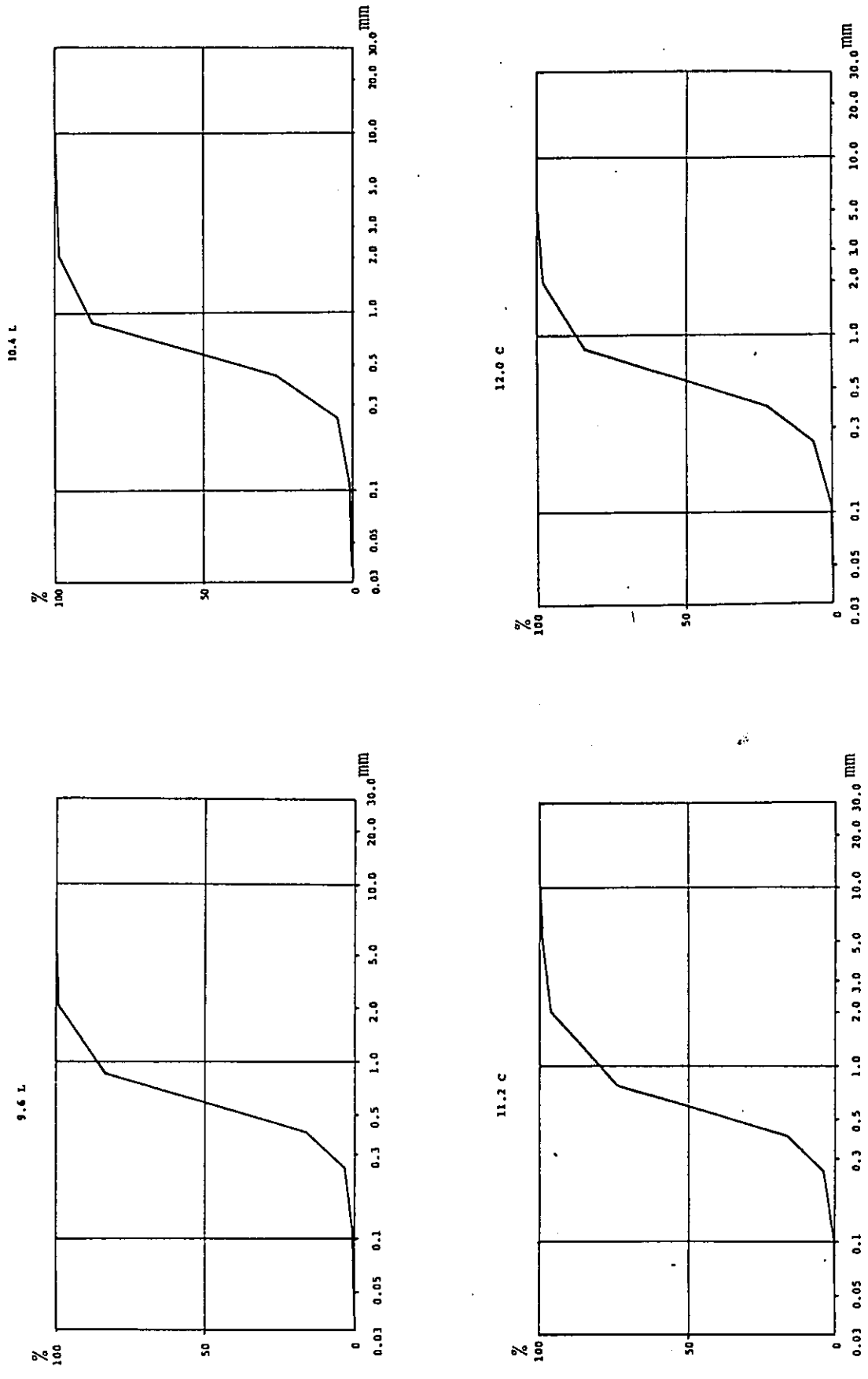


Fig. 1-11(6) GRAIN-SIZE ACCUMULATION CURVE ALONG JENEBERANG RIVER

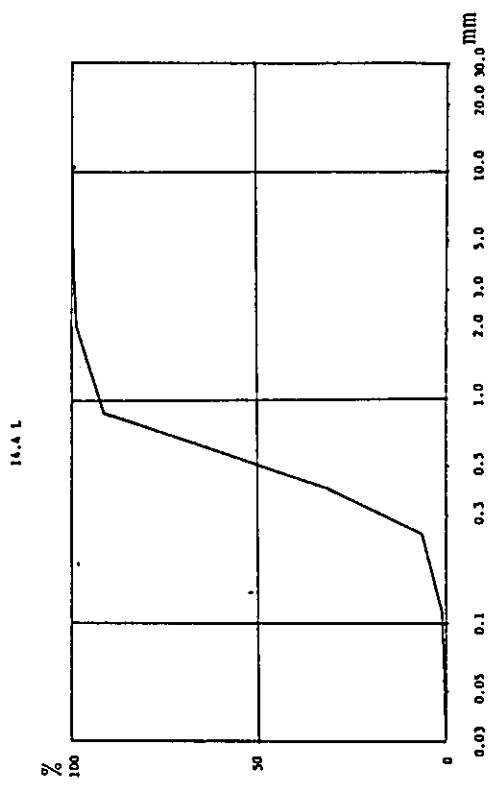
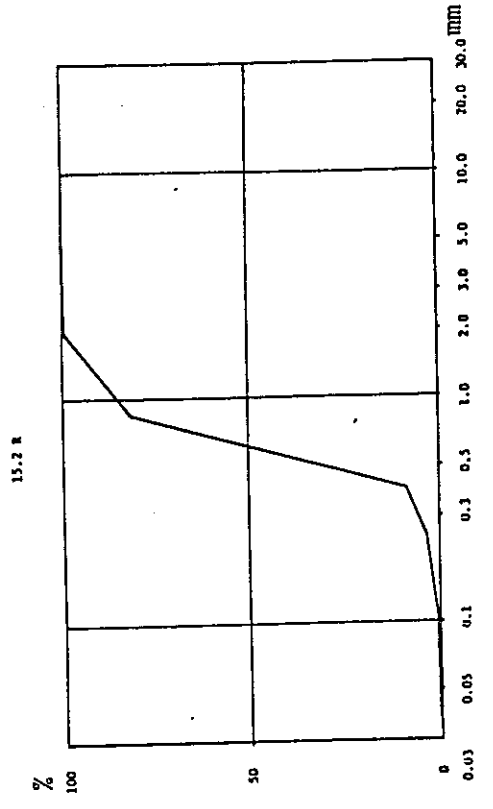
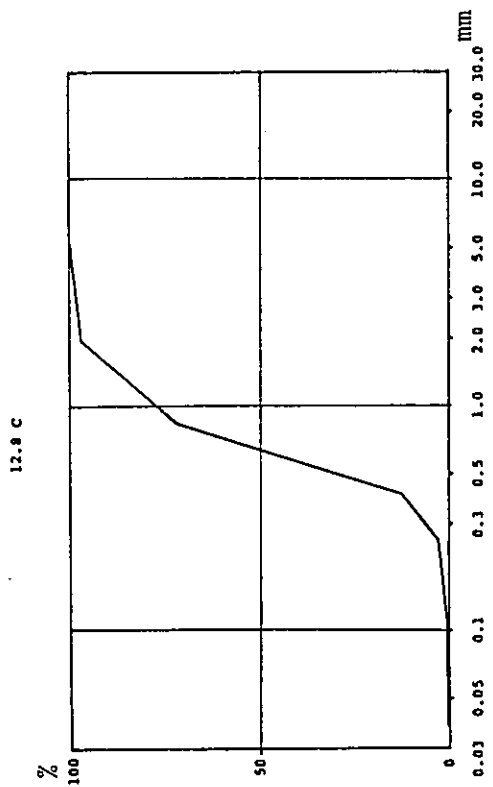
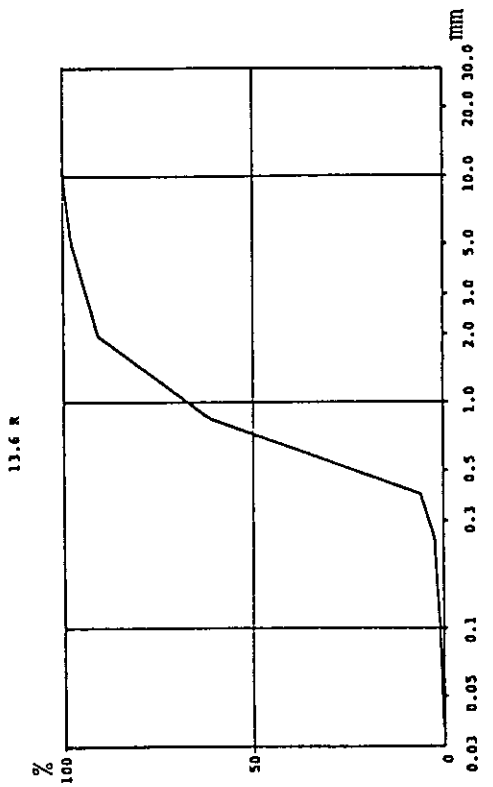


Fig. 1-11(7) GRAIN-SIZE ACCUMULATION CURVE ALONG JENEBERANG RIVER

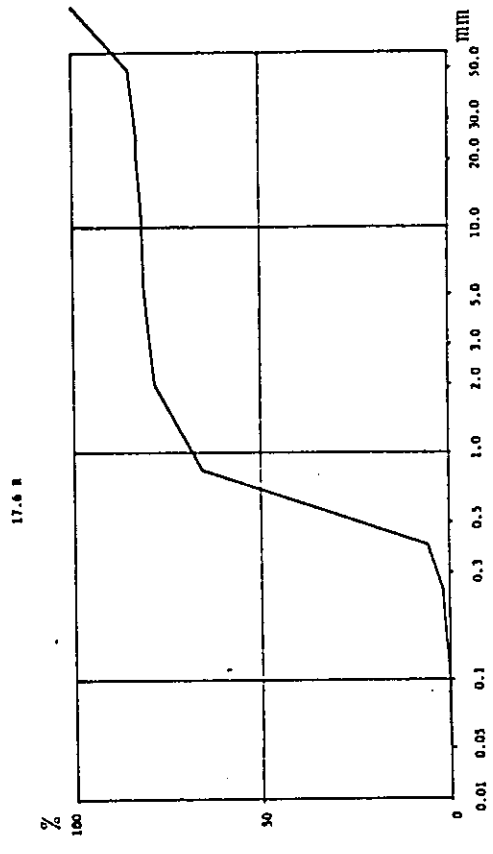
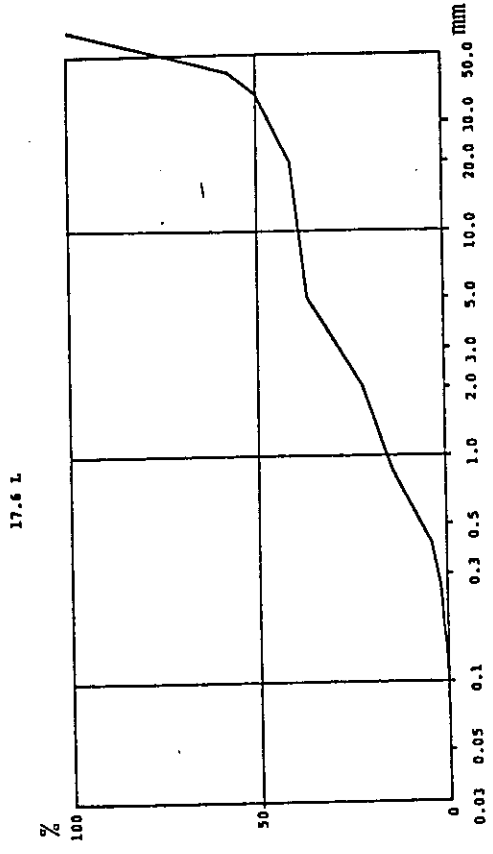
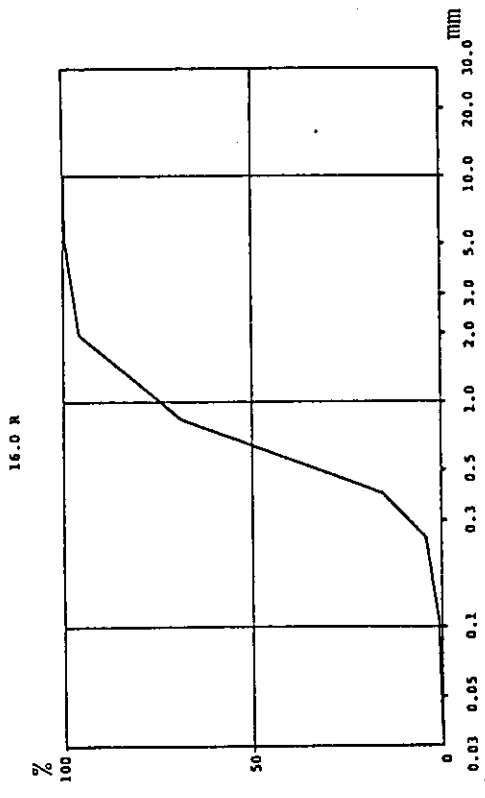
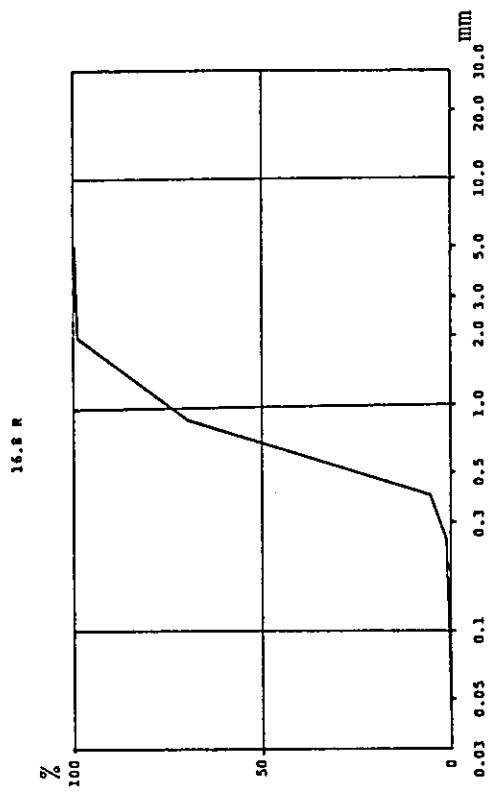


Fig. 1-11(8) GRAIN-SIZE ACCUMULATION CURVE ALONG JENEBERANG RIVER

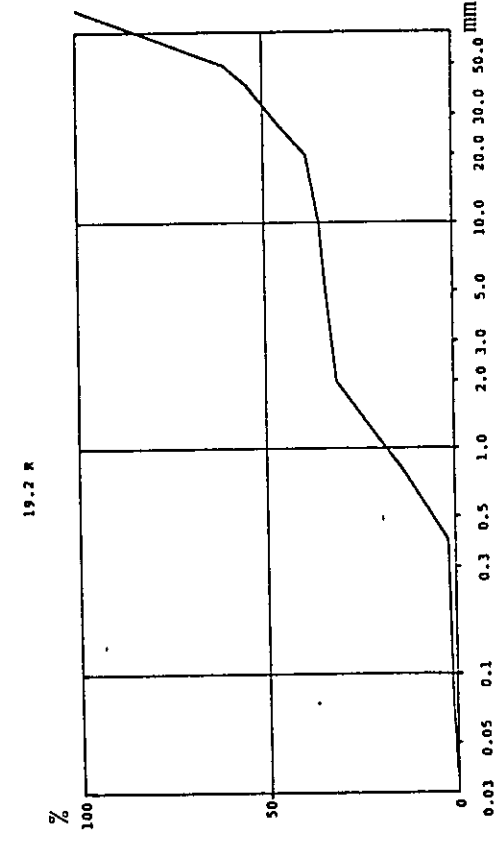
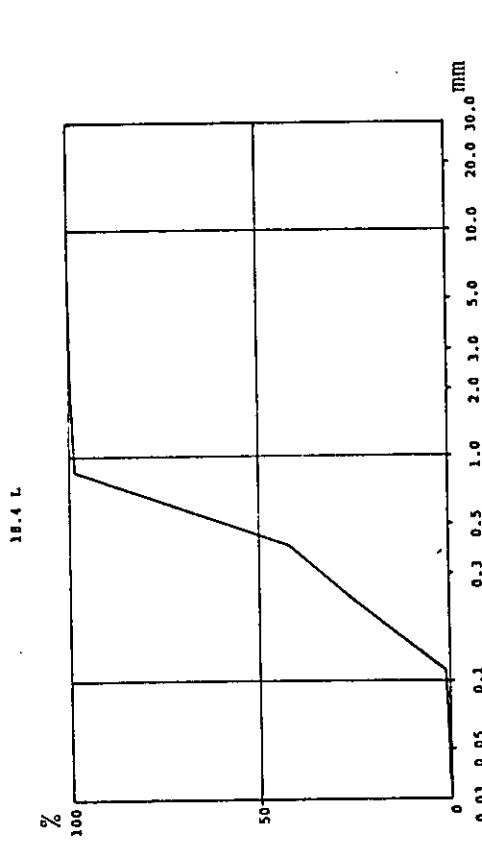
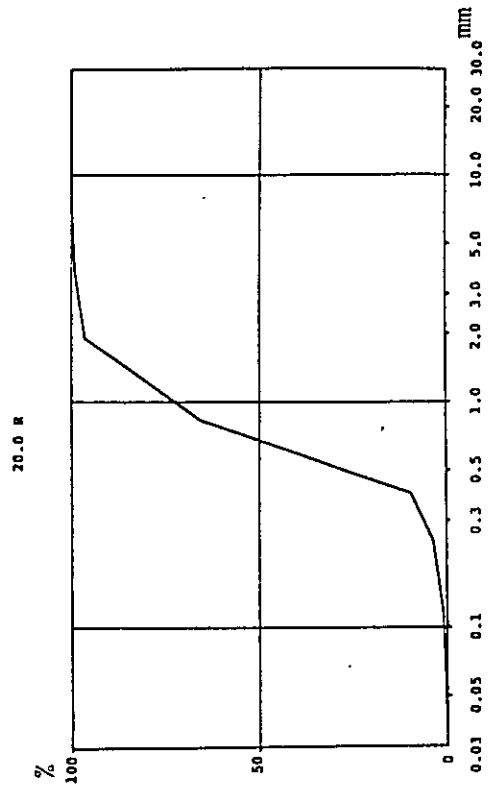
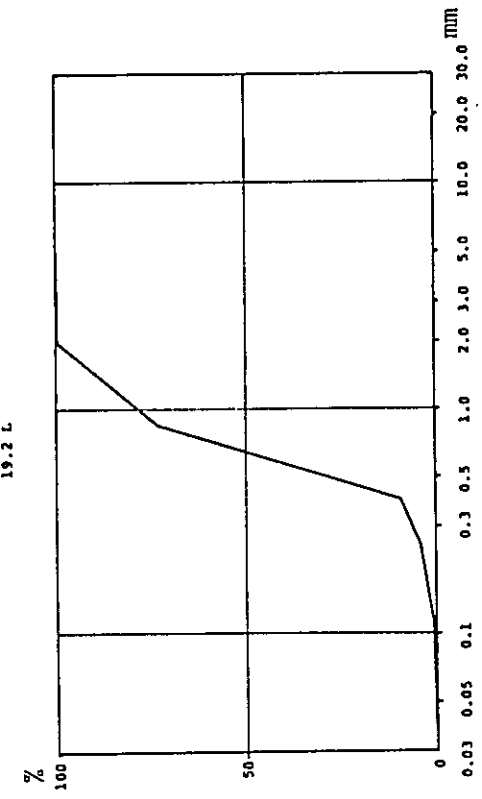


Table I-1 RECONNAISSANCE SURVEY OF INUNDATION AREA

(Based on Information Based on Personal Inquiries)

Spot No.	Description	Remarks
1.	Tidal range, about 0.6 m. (based on tide marks). Revetment by cobble-concrete. No overflow observed along the channel. Bottleneck is too small cross section of flow channel below the bridge.	Panampu No.1 Bridge Site
2.	A large slum along the channel (most of houses are with elevated floors, 1.5 - 2.0 m. above ground surface). All the neighboring areas are low, flood inundation, about 1.0 m. in depth, is observed during wet seasons.*	Panampu No.2 Bridge Site
3.	Heavily concentrated slums. Flood inundation, about 1.0 m. in depth, is observed along the channel.**	Panampu No.3 Bridge Site
	Note: * and ** Residential areas along the left bank of the channel are relatively well maintained.	
4.	Heavy deposits of soil and sand. Cross sectional area of the river is 3.0 x 1.5 = 4 - 5 sq.m.	
	Heavy concentration of various wastes, offensive odor. Flood inundation, about 0.5 m. in depth, is observed around the areas of the confluence.	
5.	Channels with cross section, 1.5 x 1.0 m., run along either side of the road, however, maintenance is poor. During rainy seasons, the road surface is barely covered with flood water.	
6.	No flood inundation.	Entrance of Navy Facilities
7.	Poor drainage. All the year around, inundation is observed (0.3 - 0.5 m. in depth).	

Spot No.	Description	Remarks
8.	No flood inundation.	
9.	Side ditches of the road are damaged. During rain, flood water, about 0.1 m. in depth, is observed over road surface but recedes only few hours after rain stops.	
10.	Flood inundation over the road surface, 0.1 - 0.2 m. in depth, observed due to insufficient capacity of the drainage channels. Under normal condition, the channel works all right.	
11.	After rain, overflow from side ditches are observed but it flows into low areas on the sea side and settles there. Flood inundation, 0.05 - 0.1 m. in depth, is observed above the road surface.	JL. Sulawesi
12.	After rain, normally flood inundation, about 0.1 m. in depth, is observed but duration is only several hours to 1/2 day at the longest.	
13.	No flood inundation.	
14.	- ditto -	
15.	In rainy seasons, runoff water flows into Rawa along the Panampu.	
16.	Flood inundation, 0.3' - 0.5 m. in depth, is observed over the refuse disposal ground. Continuous flood inundation area.	Refuse Disposal Ground
17.	No flood inundation.*	Islam Cemetery

Spot No.	Description	Remarks
18.	<p>opened in 1978 **</p> <p>Note: * and ** No flood inundation due to higher elevation of the area.</p>	Front of Central Market
19.	No flood inundation due to higher elevation of the area. Salt farms are found all around the area.	
20.	Range of tide is between 0.7 and 1.0 m. (based on information obtained by personal inquires).	Harbor, neighborhood of Floating Dock
21.	Flood inundation, 0.3 - 0.5 m. in depth, is observed. Inundation continues all during rainy seasons.	
22.	Flood inundation all over the area. Because of poor maintenance of drainage channels, flood inundation, about 0.2 m. in depth, is observed over the road surface.	
23.	Flood inundation, about 0.3 m. in depth, is observed over the area. Inundation caused by the 1976 Flood was no special exception.	
24.	1-hour rainfall causes inundation over the road surface due to poor drainage. Flood inundation as deep as 0.2 m. above road surface is just normal.	
25.	Flood inundation, about 0.4 m. in depth, observed all over the campus.	University Campus
26.	Flood inundation, about 0.5 m. in depth, reported after 1976 Flood. Normally, flood inundation, about 0.3 m. in depth, is observed in wet seasons, even after rain of 1-hour only.	

Spot No.	Description	Remarks
27.	As the results of raising of the road in 1978, flood flow from the right side is prevented.	
28.	Normally, flood inundation, 1.0 - 1.5 m. in depth, is observed. In 1976, inundation, about 2.0 m. in depth, for 4 - 5 days was reported. Flood marks are observed on white walls of the houses in the area. Elevation of the housing lots is about 1.5 m. Lower than the top surfaces of the road.	
29.	Flood inundation, 0.3 - 0.4 m. in depth, above road surface is observed. Hinterlands are Rawa.*	
30.	Over the area between JL Bawakaraeng and the Spot #30, normally flood inundation, about 0.3 m. in depth, is observed even after rain for about 1-hour only.	
	Note: * and ** Flood flow from the neighborhood Rawa is deterred by THR.	
31.	No flood inundation.	
32.	After rain, overflow from side ditches is observed. Flood water over this area flows to Panakukan by overcrossing JL. Veteran.	
33.	Flood inundation, 0.1 m. in depth, above road surface is annually observed during rainy seasons. The 1976 Flood was not extra heavy.	
34.	No flood inundation.	
35.	- ditto - *	

Spot No.	Description	Remarks
36.	No flood inundation.** Note: * and ** Houses are constructed above the channels.	
37.	No flood inundation.	
38.	High class residential zone. No flood inundation due to topographically high in elevation.	
39.	Flood inundation, about 0.4 m. in depth, was reported in 1977 and 1978. Elevation of the neighborhood area is about 0.5 m. lower than the road surface. Normally, continued inundation is observed all during rainy seasons.	In front of Hotel
40.	No flood inundation.	
41	- ditto - (Occasional, overflow from the side ditches was observed due to too small cross section of the ditches).	
42.	All the surrounding areas are Rawa. Flood inundation, about 2.0 m. in depth, observed.	
43.	Flood inundation, about 1.5 m. in depth, reported in 1976 -- normally 1.5 m. in depth, observed -- all the year round inundation area.	
44.	- ditto -	
45.	No flood inundation reported as elevation of road surface is high. (Flood inundation, about 0.5 m. in depth, over the neighboring lowland and houses submerged are also reported). Poor drainage is noticeable.	

Spot No.	Description	Remarks
46.	Flood inundation, 0.5 - 0.7 m. in depth, was reported in 1976. Flood water of the area flows down to Sinnjala channel and also to the topographically low laying area. Normally, flood inundation, 0.2 - 0.3 m. in depth, reported in rainy seasons due mainly to the low elevation of the area with poor drainage facilities.	In front of Mr. Samusuddin's House
47.	No flood inundation reported due to a higher elevation of the area.	
48.	Normally, flood inundation, about 0.5 m. in depth, was reported as average in rainy seasons. After completion of JL. Panakukan, inundation depth increased by about 0.15 m.	School
49.	Flood inundation, 0.05 m. in depth, reported in average rainy seasons. After completion of JL. Panakukan, flood water flows across the road because the side ditches are insufficient in capacity. Inundation, 0.3 - 0.4 m. in depth, for 3 - 4 days is reported in 1976.	
50.	Elevation of the area is about 1.0 m. above the surrounding areas. No flood inundation was reported.	
51.	Village located relatively higher location in Panpang. Tidal range is about plus or minus 1.0 m. At the time of flood in 1976, no unusually high water-stage reported. Flood inundation, 0.1 - 0.2 m. in depth, during rainy seasons.	
52.	Inundation water stage normally remains below dikes protecting the fish-ponds.	

Spot No.	Description	Remarks
53.	Flood inundation, 1.0 - 1.5 m. in depth, no traffic possible during wet seasons. The area is surrounded by paddy fields.	
54.	- ditto -	
55.	Flood inundation, about 1.0 m. in depth, was reported at the time of the 1976 Flood, and about 0.5 m. in depth at the time of 1977 and 1978 Floods. Flood marks were observed on the both side of the parapets of the bridge.	
56.	Normally, flood inundation, about 0.3 m. in depth, was observed during wet seasons, and 0.5 m. or higher in 1976.	
57.	Due to a higher elevation of the area, inundation, if any, is slight. Almost no flood inundation at the time of 1976 Flood.	
58.	Flood inundation, about 1.0 m. in depth, was normally observed (about 1.5 m. in depth was observed in 1976 Flood).	
59.	No flood inundation in rainy seasons around JL. Panakukan. Flood inundation, 0.2 - 0.3 m. in depth, was observed over paddy fields behind the area.	P3SA
60.	No flood inundation around this house due to a higher elevation of the housing lot, about 0.5 m. in height, above the surroundings.	
61.	Flood inundation, 0.2 - 0.3 m. in depth, was observed along either side of the area.	
62.	No flood inundation over this village was reported due to the higher elevation, 1.0 m., higher than the surrounding areas.	

Spot No.	Description	Remarks
63.	No flooding inundation over this village.	
64.	Flooding inundation, about 0.5 m. in depth, was reported (for about 3 days after rain).	Private Houses
65.	Flood inundation, depth of about 2.0 m. above mean sea level, is usually reported in the area around the bridge. The bridge is sitting high enough to clear floods away. In 1976, flood almost reached to the surfaces of either side of the roads leading to the bridge.	
66.	Overflow observed due to a limited section of the channel (flood inundation, 0.2 - 0.3 m. in depth, for few hours to one day).	
67.	No flood inundation (because of a higher elevation of the locality	
68.	Flood inundation, 0.1 - 0.2 m. in depth, observed above the road surface (more because of poor drainage channels than topographic configurations).	
69.	No flood inundation.	
70.	- ditto -	
71.	- ditto -	
72.	- ditto -	
73.	No flood inundation reported after completion of the drainage channels (since 1976).	
74.	- ditto -	

Spot No.	Description	Remarks
75.	No flooding inundation.	
76.	- ditto -	
77.	No flood inundation.	
78.	Decrease in areas of flood inundation is reported after completion of the drainage systems, however, flood inundation, 0.3 - 0.5 m. in depth, is still observed due to poor secondary drainage facilities.	
79.	Capacity of drainage channels is not sufficient to take care of backwater, causes flood inundation over the surrounding areas.	
80.	As elevation of the surface of the road is higher above the surrounding areas, rain water of the areas is gathered into Rawa on the east side of the road, and flows down, below the bridge, into the Old Jeneberang.	Bridge
81.	No flood inundation.	
82.	Flood inundation, about 0.1 m. in depth, above the road surface is reported after rain due to poor secondary and tertiary drainage channels.	
83.	Flood inundation, about 0.2 m. in depth, above road surface is usually observed (due to poor drainage facilities).	Mission School
84.	- ditto -	
85.	Road runs a higher level but the areas of either side of the road are low lying. Flood inundation, 0.2 - 0.3 m. in depth, is reported in rainy seasons lasting about 1 - 2 days.	

Spot No.	Description	Remarks
86.	Elevation of the surface of the road is high, but of the housing lots along the road is low. Submerged houses caused by inundation, 0.2 - 0.3 m. in depth, is observed for few hours to a half day.	
87.	Normally, flood inundation, about 0.2 m. in depth, during wet seasons.	
88.	Area lays in a higher elevation, so no flood inundation reported.	
89.	No inundation on the road surface. Road performs a function of drainage channel during flood seasons.	
90.	Road changes to drainage channel during wet seasons.	
91.	- ditto - No inundation is reported over the road surface. Inundation, about 1.5 m. in depth, is reported over the areas along the road.	
92.	No flood inundation over villages.	
93.	No flood inundation over the road surface. Flood inundation, about 0.5 m. in depth, was usually observed over paddy fields On Jeneberang side of the road.	
94.	Flood inundation, about 0.12 m. in depth, was usually observed during wet seasons.	Sluice
95.	Before raising of the road in 1975, flood flow used to run across the Point #100. Flood inundation, 1.5 - 2.0 m. in depth, was observed over the area.	

Spot No.	Description	Remarks
96.	Flood inundation, 1.5 - 2.0 m. in depth, normally observed.	
97.	Flood inundation, 1.5 - 2.0 m. in depth, normally observed. Flood water reached to the girder of the bridge at the time of 1976 Flood.	
98.	Flood inundation, 1.5 - 2.0 m. in depth.	
99.	Flood inundation, about 1.5 m. in depth. Flood water flows toward Panampu Channel.	Backyard of Army Installation
100.	Raising of the road, about 1.0 m. in height, in 1976, without provisions of drainage facilities, caused inundation around the area.	JL. Gowa Raya 3-road Junction
101.	Flood inundation, about 0.5 m. in depth, observed over the campus of the school near P3SA site.	School
102.	No flood inundation observed over the residential areas. Flood inundation, 0.5 - 0.7 m. in depth, observed over the paddy fields between the spot and JL. Gowa Raya.	
103.	Road between the spot and JL. Panakukang completed in 1975. Pavement was completed in 1976 - 1977. Construction of sluices is indispensable at the spot.	
104.	Location of the area is higher in elevation. No flood inundation reported in the past.	
105.	Flood inundation, 0.3 - 0.5 m. in depth, usually was observed.	Area Behind Prison
106.	No flood inundation observed.	106-1, -2 & -3

Spot No.	Description	Remarks
107.	Area is a bit higher in elevation but still low enough to allow flood water from the up-stream. Flood inundation, about 0.2 m. in depth (rather slow flow of flood water).	
108.	No drainage problem in the new residential areas (completed in 1977). Flood inundation, about 0.4 m. in depth, usually observed after 2-day rainfall.	
109.	Flood inundation, about 0.2 m. in depth, usually observed after rain. Inundation is normally continued during rainy seasons.	
110.	Flood inundation was reported in the areas along the lower laying road by overflow from the Bill 2 channel on the right side of the road.	
111.	No flood inundation observed because of higher elevation.	
112.	Flood inundation, about 0.6 m. in depth, observed over the campus of the school during wet seasons. But no flood water from Jeneberang never reported to reach the area. Lower elevation of the area than the surface of the road, and a lack of proper drainage facilities are responsible to the problems.	SMA
113.	- ditto -	
114.	After rain, slight flood inundation observed due to lack of proper drainage facilities (about 0.05 m. in depth). An adequate drainage should eliminate the problem.	
115.	No flood inundation.	

Spot No.	Description	Remarks
116.	No flood inundation.	
117.	- ditto -	
118.	Flood inundation for 2 - 3 days, is reported, caused by overflow of the river water from collapsed dike.	
119.	Flood inundation, about 2.0 m. in depth, is reported at the time of the 1967 Flood, 1.0 - 1.5 m. in depth in 1976. Inundation is not caused by flood of overflowing water.	
120.	Because of a higher elevation of the area, inundation is only seldom, if any. Flood inundation, 0.2 - 0.3 m. in depth, along the road above several hundred meters closer to Sungguminasa. Generally, inundation is almost all eliminated upon completion of dikes.	
121.	No flood inundation.	
122.	- ditto -	
123.	- ditto -	
124.	- ditto -	
125.	- ditto -	
126.	Flood inundation, 0.3 - 0.5 m. in depth, for 1 - 2 days after rain is reported in January 1976. Normally, inundation is observed during rainy seasons caused by localized poor drainage. Longer the rain causes longer inundation.	

Spot No.	Description	Remarks
127.	No flood inundation (Inundation, during rainy seasons, is observed over the low laying areas in the west).	
128.	No flood inundation.	
129.	- ditto -	
130.	- ditto -	
131.	- ditto -	
132.	Flood inundation, 0.5 - 0.6 m. in depth, for a couple of days after rain is usually observed.	
133.	No flood inundation.	
134.	No flood water ever reported to reach the top surface of the road. Continued flood inundation, about 0.2 m. in depth is reported at the time of the 1976 Flood.	
135.	During wet seasons raised water level of the Lake Mawang almost reached to the surface level of the road running along the shore of the lake. Outlet channel of the lake is only seen during wet seasons.	Above Culvert
136.	Flood inundation, about 0.5 m. in depth, is observed during wet seasons. Inundation, 0.2 m., reported at the time of the Flood of January 1976.	
137.	No flood inundation due to a higher elevation of the area. No side ditch along the road.	

Spot No.	Description	Remarks
138.	No flood inundation.	
139.	No flood inundation due to a higher elevation of the area.	Moslem Compound
140.	No flood inundation. Irrigation channels parallel the side ditches of the road in distance of about 20.0 m. each other.	Village
141.	Normally flood water flows into low laying areas in the east without overtopping the road running through the area.	Village
142.	East and west sides of the area in the neighborhood of Antang are Rawa. Flood inundation above-mentioned road surface, about 0.5 m. in depth, for 2 weeks, was reported at the time of the 1976 Flood.	Rawa Antang
143.	Flood inundation, about 2.0 m. in depth, for about 3 days was reported at the time of the 1976 Flood. Normally, inundation, 1.0 - 1.5 m. in depth, is reported during wet seasons.	Above Road
144.	One of the outlets of inland water during wet seasons. When the water stage of the Tallo River is high occasional reverse flow is observed.	Above Culvert
145.	No flood inundation	
146.	- ditto -	PLTU
147.	- ditto -	Army Office
148.	- ditto -	Municipal Water Bureau

Spot No.	Description	Remarks
149.	Cooling water outlet channel of the thermal power station run across the area. No flood inundation because of a higher elevation of the area.	

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