

表 8.4 浸水被害調査 (北部)の結果 (1/4)

Area	Name of Road	Length (m)	Sangkat Name	No. of Sample	No.	I. General Questions								II. Questions on Inundation Situation				III. Questions on Sanitary Condition				IV. Others			
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
						Type of interviewee	Address	Employment of the master	Number of persons staying in the house	Number of dwelling years at this place	What type of your dwelling	If 'Question No.6 answer 2. Rental', how much is your house rent? (US\$ /month)	Total expenditure of your house per month (US\$ /month)	Have you ever had experience in flooding in front of your house?	If 'Question No.9 answer Yes', how often do you have the flooding?	If 'Question No.9 answer Yes', how deep was the flooding?	If 'Question No.9 answer Yes', how long was the flooding?	Do you have any trouble after flooding?	If 'Question No.13 answer Yes', what kind of trouble did you have due to the flooding?	How do you dispose of your nightsoil?	Have you and your family ever had the following disease after flooding?	Do you agree that the road in front of your house and drainage condition will be improved?	If 'Question No.17 answer Yes', do you still agree that the improvement requires construction work in front of your house?	If 'Question No.17 answer Yes', what kind of benefits do you expect the road and drainage improvement in front of your house?	If 'Question No.17 answer No', why do not you agree the improvement in front of your house?
Answers								Answers				Answers				Answers									
						1. Housewife 2. The master 3. Children 4. Other house member 5. Housekeeper (servant) 6. Others	1. Primary industry 2. Secondary industry 3. Tertiary industry 4. Pensioner (retired) 5. Unemployed 6. Others	1. Less than 5 2. 5-9 3. 10-19 4. 20 or more 5. I don't know	1. Own house 2. Rental 3. I don't know	1. Less than 100 2. 101-200 3. 201-500 4. 501-1000 5. 1001-2000 6. More than 2001 7. I don't know	1. Yes 2. No 3. I don't know	1. Once a year 2. 2-3 times a year 3. More than 4 times a year 4. Once in 2-3 years 5. Others 6. I don't know	1. Up to ankle 2. Up to shin 3. Up to knee 4. Up to thigh 5. Up to waist 6. Higher than waist 7. I don't know	1. Less than 30 min. 2. 30 min. to 1 hour 3. 2-3 hours 4. Around 4-6 hours 5. Almost half day 6. 1 day 7. More than 1 day 8. I don't know	1. Yes 2. No	1. Cannot go out for business or shopping 2. Cannot open for business 3. Soil the furniture, merchandize or inside the house 4. Smell the house 5. Others 6. I don't know	1. No treatment (defecate in your backyard) 2. Septic tank 3. Flowing to a drainage pipe 4. Others 5. I don't know	1. Skin disease 2. Flu 3. Food poisoning 4. Diarrhea 5. Typhoid 6. Dysentery 7. I don't know	1. Yes 2. No 3. I don't know	1. Yes 2. No 3. I don't know	1. Better sanitary condition (including outbreak of insects, water-borne disease, etc.) 2. Better environmental condition (air, dust, odor, etc.) 3. Better traffic condition 4. Better business condition 5. Others 6. I don't know	1. Do not feel the necessity 2. Do not like noise, vibration, dust and so on resulting from the construction work 3. Do not want to interfere with my business 4. Others 5. I don't know			
Block A	86	370	Srah Chak	5	1	1	R86-61	3	4	1	2	150	3	1	3	1	2	1	4	3	1,2	1	1	1,2,3	-
					2	1	R86-65	3	6	2	1	-	3	1	3	2	3	1	4	2	1,2,4	1	1	1,2,3	-
					3	2	R86-65	3	6	1	2	250	4	1	3	2	2	1	2,3,4	3	1,2,4,6	1	1	1,2,3,4	-
					4	3	R86-5E0	4	6	3	1	-	3	1	3	1	2	1	4	3	1,2	1	1	1,2,3	-
					5	2	R86-44E0	6(Gov Staff)	6	3	1	-	4	1	3	1	2	1	4	2	1,2	1	1	1,2,3	-
	Monivong	320	Srah Chak	5	1	2	Monivong-27	3	7	2	1	-	3	1	3	1	1	1	4	3	1,2	1	1	1,2,3	-
					2	2	Monivong-54	3	4	3	2	400	4	1	3	1	2	1	4	3	1,2	1	1	1,2	-
					3	2	Monivong-48B	3	6	3	1	-	3	1	3	1	2	1	4	3	1,2	1	1	1,2	-
					4	5	Monivong-62	3	5	3	1	-	3	1	3	1	2	1	4	2	1	1	1	1,2	-
					5	6	Monivong-58	3	25	3	3	-	6	1	3	1	2	1	4	2	1	1	1	1,2,3	-
	80 (47A)	330	Srah Chak	5	1	2	R47A-21	4	7	3	1	-	3	1	3	2	2	1	2,4	3	1,2	1	1	1,2,3	-
					2	2	R80-1 Sisowath	6(Gov Staff)	6	4	1	-	3	1	3	1	3	1	4	2	1	1	1	1,2	-
					3	2	R80-2A	3	4	4	1	-	3	1	3	1	1	1	4	3	1	1	1	1,2	-
					4	2	R80-6E0	3	3	4	1	-	2	1	3	1	2	1	4	2	1,2	1	1	1,2	-
					5	2	R80-6C	3	4	4	1	-	2	1	3	1	2	2	-	3	None	1	1	1	1,2
	84	180	Srah Chak	2	1	3	R84-109E0	3	6	4	1	-	3	1	3	2	2	1	3,4	3	1,2	1	1	1,2,3	-
					2	5	R84-75	6(Gov Staff)	7	3	1	-	3	1	3	2	2	1	4	2	1,2,4	1	1	1,2,3	-
	47B	200	Srah Chak	3	1	5	R47B-1.84-32	6(Gov Staff)	7	3	1	-	4	1	3	2	2	1	4	2	1	1	1	1,2,3	-
					2	1	R47B-27	3	5	4	1	-	3	1	3	2	3	1	2,4	3	1,2	1	1	1,2,3,4	-
					3	6	R47B-1.86-24	3	10	2	3	-	6	1	3	2	2	1	4	2	1,2	1	1	1,2,3	-
102	260	Wat Phnom	3	1	3	R102-13	3	5	4	1	-	3	1	3	1	2	1	4	2	1,2	1	1	1,2	-	
				2	6	R102-19AB	3	120	4	1	-	7	1	3	1	3	2	-	2	None	1	1	1,2	-	
				3	6	R102-25	6(Gov Staff)	10	4	1	-	7	1	3	2	3	1	4	2	1,2	1	1	1,2	-	
19	310	Wat Phnom	7	1	6	R19	3	779	4	1	-	7	1	3	1	2	1	4	2	1	1	1	1,2,3	-	
				2	2	R19-4	3	4	2	2	200	3	1	3	2	2	1	2,3,4	3	1,2	1	1	1,2,3,4	-	
				3	1	R19-1A	3	4	1	2	150	3	1	3	2	2	1	4	3	1,2,4	1	1	1,2,3	-	
				4	2	R19-1.206	3	3	3	2	50	2	1	3	2	2	1	2,3,4	3	1,2	1	1	1,2,3,4	-	
				5	2	R19-1.102-17	3	4	1	2	50	2	1	3	2	2	1	2,3,4	3	1,2,4	1	1	1,2,3,4	-	
				6	3	R19-1.102-10A	3	9	2	2	200	3	1	3	2	2	1	2,3,4	3	1,2,4	1	1	1,2,3,4	-	
				7	3	R19-1.102-13	6(Gov Staff)	3	1	2	50	2	1	3	1	2	1	4	3	1,2	1	1	1,2	-	
90	180	Wat Phnom	3	1	3	R90-17	6(Gov Staff)	5	3	1	-	3	1	3	1	2	1	4	2	1	1	1	1,2,3	-	
				2	3	R90-1.75-15	6(Gov Staff)	7	3	1	-	4	1	3	2	3	2	-	2	1,2	1	1	1,2	-	
				3	3	R90-13	6(Gov Staff)	6	3	1	-	3	1	3	3	3	1	1,4	2	1,2,4	1	1	1,2,3	-	
92	150	Wat Phnom	2	1	6	R92-1 Monivong	3	120	3	3	-	7	1	3	1	2	2	-	2	None	1	1	1,2	-	
				2	6	R92-1 Monivong	3	120	3	3	-	7	1	3	1	1	1	4	2	1	1	1	1,2	-	
94	1,040	Srah Chak	10	1	6	R94-1 Sisowath-15	3	15	1	1	-	6	1	3	2	3	1	2,4	2	1,2	1	1	1,2,3	-	
				2	6	R94	6(Gov Staff)	45	4	1	-	7	1	3	3	3	1	2,4	2	1,2	1	1	1,2,3	-	
				3	6	R94	3	779	4	1	-	7	1	3	1	2	1	4	2	1	1	1	1,2,3	-	
				4	6	R94	6(Gov Staff)	75	5	1	-	7	1	3	2	1	1	4	2	1,2	1	1	1,2,3	-	
				5	2	R94-22E0	6(Gov Staff)	6	4	1	-	3	1	3	4	4	1	1,2,3,4	2	1,2	1	1	1,2,3,4	-	
				6	3	R94-6E0	3	8	2	2	350	5	1	3	3	3	1	2,3,4	3	1,2	1	1	1,2,3,4	-	
				7	3	R47-1.90-10E0	3	5	4	1	-	2	1	3	2	3	1	4	3	1,2	1	1	1,2,3	-	
				8	2	R47-1.90-17E0	3	6	3	1	-	3	1	3	2	3	1	4	3	1,2,4	1	1	1,2	-	
				9	6	Handicraft Center	3	3	1	2	50	2	1	3	4	5	1	2,3,4	2	1,2,4	1	1	1,2,3	-	
				10	6	Sunway Hotel	3	70	3	3	-	7	1	3	1	2	1	4	2	None	1	1	1,2	-	
Block B	53 (A)	170	Phsar Thmei I	5	1	1	R53-2D1	6(Gov Staff)	3	1	2	400	3	1	2	2	1	1,2,4	3	1,2	1	1	1,3,4	-	
					2	1	R53-5E0	3	10	4	1	-	3	1	3	3	5	1	1,2,4	2	1,2,4	1	1	1,2,3	-
					3	1	R53-14E0	3	7	1	2	350	3	1	3	3	4	1	1,4	2	1,2	1	1	1,3,4	-
					4	2	R53-20E0	3	7	4	1	-	2	1	3	3	4	1	1,2,4	2	1,2,5	1	1	1,3,4	-
					5	2	R53-26E0	3	5	1	2	250	2	1	3	3	4	1	1,2,4	2	1,2,5	1	1	2,3,4	-
	114	360	Phsar Thmei I / II	2	1	6(Security Guard)	R114-23(Cambodia Public Bank)	3	6	1	2	-	2	1	2	2	2	1	5	2	1,2	1	1	2,3	-
					2	2	R114-1.90-14	3	5	1	2	400	3	1	3	2	2	1	1,4	2	1,2	1	1	1,3	-
	Monivong	460	Phsar Thmei II	3	1	1	Monivong-64	3	4	4	1	-	3	1	3	1	1	2	2	2	1	1	1	1,2	-
					2	1	Monivong-112F	3	3	1	2	5	1	1	3	2	2	1	1,4	2	1,2	1	1	1	-
					3	1	Monivong-194E1	3	6	3	1	-	3	1	3	2	2	1	1,4	2	2	1	1	1,2,4	-
	Norodom	510	Phsar Thmey I / III	5	1	6	Norodom	3	6	1	1	-	1	1	2	2	3	1	1	2	1,2	1	1	2,3	-
					2	1	Norodom-31.33	6	3	1	2	440	4	1	3	2	2	1	1,2	2	1,2	1	1	3,4	-
					3	4	Norodom-25E0	2	22	1	2	-	6	1	3	2	2	1	5	2	1,2	1	1	3,4	-
					4	6	Norodom-Custom Office	3	6	3	1	-	2	1	2	2	3	1	5	2	1,2	1	1	2,3	-
					5	6	Norodom-166	3	15	1	-	-	2	1	3	2	2	1	5	2	1,2	1	1	3,4	-

表 8.4 浸水被害調査 (北部)の結果 (2/4)

Area	Name of Road	Length (m)	Sangkat Name	No. of Sample	I. General Questions										II. Questions on Intention Situation				III. Questions on Sanitary Condition				IV. Others					
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20				
					Type of interviewee	Address	Employment of the master	Number of persons staying in the house	Number of dwelling years at this place	What type of your dwelling	If Question No.5 answer 2 Rental, how much is your house rent? (US\$ /month)	Total expenditure of your house per month (US\$ /month)	Have you ever had experience in flooding in front of your house?	If Question No.9 answer Yes - how often do you have the flooding?	If Question No.9 answer Yes - how deep was the flooding?	If Question No.9 answer Yes - how long was the flooding?	Do you have any trouble after flooding?	If Question No.13 answer Yes - what kind of trouble did you have due to the flooding?	How do you dispose of your nightsoil?	Have you and your family ever had the following disease after flooding?	Do you agree that the road in front of your house and drainage condition will be improved?	If Question No.17 answer Yes - do you still agree that the improvement requires construction work in front of your house?	If Question No.17 answer Yes - what kind of benefits do you expect the road and drainage improvement in front of your house?	If Question No.17 answer No - why do not you agree the improvement in front of your house?				
Answers										Answers				Answers				Answers										
					1. Housewife 2. The master 3. Children 4. Other house member 5. Housekeeper (servant) 6. Others	1. Primary industry 2. Secondary industry 3. Tertiary industry 4. Pensioner (retired) 5. Unemployed 6. Others	1. Less than 5 2. 5-9 3. 10-19 4. 20 or more 5. I don't know	1. Own house 2. Rental 3. I don't know	1. Less than 100 2. 101-200 3. 201-500 4. 501-1000 5. 1001-2000 6. More than 2001 7. I don't know	1. Yes 2. No 3. I don't know	1. Once a year 2. 2-3 times a year 3. More than 4 times a year 4. Once in 2-3 years 5. Others 6. I don't know	1. Up to ankle 2. Up to shin 3. Up to knee 4. Up to thigh 5. Up to waist 6. Higher than waist 7. I don't know	1. Less than 30 min. 2. 30 min. to 1 hour 3. 1-2 hours 4. Around 4-6 hours 5. Almost half day 6. 1 day 7. More than 1 day 8. I don't know	1. Yes 2. No	1. Cannot go out for business or shopping 2. Cannot open for business 3. Soil the furniture, merchandise or inside the house 4. Smell the house 5. Others 6. I don't know	1. No treatment (defecate in your backyard) 2. Septic tank 3. Flowing to a drainage pipe 4. Others 5. I don't know	1. Skin disease 2. Flu 3. Food poisoning 4. Diarrhea 5. Typhoid 6. Dysentery 7. I don't know	1. Yes 2. No 3. I don't know	1. Yes 2. No 3. I don't know	1. Better sanitary condition (including outbreak of insects, water-borne disease, etc.) 2. Better environmental condition (air, dust, odor, etc.) 3. Better traffic condition 4. Better business condition 5. Others 6. I don't know	1. Do not feel the necessity 2. Do not like noise, vibration, dust and so on resulting from the construction work 3. Do not want to interfere with my business 4. Others 5. I don't know							
Block B	130	250	Phsa Thmey I / III	5	1	3	R130-200E0	2	4	4	1	-	2	1	2	2	2	1	1	2	2	1	1	3.4	-			
					2	3	R130-234E0	3	8	2	2	2,000	6	1	2	2	2	2	1	1.2	2	2	1	1	3.4	-		
					3	3	R130-190E0	3	4	4	1	-	2	1	3	2	3	1	1.2	2	1.2	1	1	1.3.4	-	-		
					4	2	R130-14E0	3	10	4	1	-	3	1	3	2	3	1	1.2	2	1.2	1	1	3.4	-	-		
					5	2	R130-184E0	6	5	4	1	-	-	-	1	2	1	1	1	1	2	2	1	1	1.3	-	-	
	118	420	Phsa Thmey I	5	1	3	R118-6E0	6	5	4	1	-	2	1	2	2	2	1	1	2	1.2	1	1	2.3	-			
					2	2	R118-75E0	3	10	4	2	400	3	1	3	2	2	1	1.2	2	1.2.4	1	1	1.2.4	-	-		
					3	2	R118-50E0	2	4	4	1	-	2	1	3	2	3	1	1.2	3	1.2	1	1	3.4	-	-		
					4	3	R118-66E0	3	3	3	1	-	2	1	3	2	2	1	1	2	1.2	1	1	2.3	-	-		
					5	2	R118-53E0	3	5	4	1	-	2	1	3	3	3	1	1.2.4	2	1.2	1	1	3.4	-	-		
	126 (A)	240	Phsar Thmey I / II	5	1	2	R126-4E0	3	10	1	1	-	3	1	3	2	3	1	2	3	1.2	1	1	1.3.4	-			
					2	2	R126-3E0	3	5	4	1	-	2	1	2	2	3	1	2.4	2	1.2.5	1	1	2.3.4	-	-		
					3	3	R126-11E0	6	4	4	1	-	2	1	2	2	3	1	4	2	1.2	1	1	2.3	-	-		
					4	2	R126-27E2	3	4	4	1	-	1	1	3	3	2	1	1	3	1.2	1	1	1.3.4	-	-		
					5	2	R126-48E0	3	4	4	1	-	2	1	3	2	2	1	2	2	1.2	1	1	2.4	-	-		
53 (B)	160	Phsar Thmey I / II	2	1	1	R53-34	3	5	3	1	-	3	1	3	2	2	1	1.4	2	1.2	1	1	1.3	-				
				2	1	R53-58-60	4	7	2	1	-	2	1	3	3	3	1	2.4	2	1.2.5	1	1	1.3	-	-			
126 (B)	190	Phsa Thmey I	2	1	6	R126-47E0	3	7	3	2	-	3	1	3	3	3	1	1.2	2	1.2	3	-	1.2.3	-				
				2	1	R126-73E0	3	6	1	2	200	3	1	3	3	3	1	1.4	2	1.2	1	1	1.2.3	-	-			
142	200	Phsa Thmey II	1	1	3	R142-11E0	3	4	1	2	200	2	1	2	1	2	2	-	3	-	2	-	3.4	1.3				
136	100	Phsar Thmey I / II	2	1	1	R136-92E0	3	10	4	1	-	3	1	3	2	3	1	1.4	2	2	1	1	1.2.3	-				
				2	2	1	R136-124	3	5	3	1	-	3	1	3	3	3	1	1.4	2	1.2	1	1	1.3	-			
126/67	130	Phsa Thmey II	1	1	6	R126/67-10	6	3	1	1	-	-	1	3	2	2	1	1.4	2	1.2	1	1	2.3	-				
142/217	130	Phsa Thmey II	1	1	2	R142/217-	3	5	4	1	-	3	1	3	2	2	1	1.2	2	1.2	1	1	2.3	-				
67	80	Phsa Thmey II	1	1	1	R67-30A	3	5	4	1	-	2	1	3	2	3	1	1.4	3	1.2	1	1	2.3.4	-				
Block C	13	520	Wat Phnom / Phsar Kandal I / Phsar Chas	10	1	1	R13-65	6	5	2	1	-	4	1	3	3	4	1	1.4	3	1.2	1	1	1.2.3	-			
					2	6	R13-159	3	5	4	1	-	2	1	3	5	5	1	1.2.3.4	3	1.2	1	1	1.2.3.4	-	-		
					3	2	R13-107	3	7	1	1	-	3	1	3	4	4	1	1.4	3	1.2	1	1	1.2.3	-	-		
					4	1	R13-58	6	6	3	1	-	3	2	-	-	-	-	-	-	-	-	-	1	1	2	-	
					5	2	R13-25	6	7	3	1	-	3	2	-	-	-	2	-	-	-	-	-	1	1	1.2	-	-
					6	2	R13-106	2	5	2	1	-	3	1	3	4	4	1	2.4	3	2	1	1	1.2.3.4	-	-	-	-
					7	2	R13-594	3	5	1	1	-	2	1	3	4	5	1	1.2.4	3	2	1	1	1.2.3.4	-	-	-	-
					8	2	R13-191	3	10	4	1	-	3	1	3	4	5	1	1.2.4	3	1.2	1	1	1.2.3	-	-	-	-
					9	1	R13-130	3	3	1	2	350	3	1	3	4	4	1	2.4	3	2	1	1	1.2.3.4	-	-	-	-
					10	1	R13-47	3	4	1	1	-	2	1	3	2	3	1	4	3	2	1	1	1.2.4	-	-	-	-
	154	610	Phsar Kandal I / II / Chey Chummeah	10	1	1	R154-29E0	6	5	4	1	-	3	1	3	4	6	1	1.2.3	3	1.2	1	1	1.2.4	-			
					2	2	R154-40	3	7	2	1	-	3	1	3	3	2	1	1.2	3	2.3.4.5	1	1	1.2.4	-	-		
					3	2	R154-109	4	5	4	1	-	3	1	3	2	2	1	1	3	2.4	1	1	1.2	-	-	-	
					4	2	R154-46	4	6	2	1	-	3	1	3	1	2	1	1	3	1.2.4.5	1	1	1.2.3.4	-	-	-	
					5	2	R154-461	3	4	3	1	-	2	1	3	3	3	1	1.2.3	-	2.4	1	1	1.2.4	-	-	-	
6					1	R154-16	6	10	4	1	-	4	1	3	1	2	1	1.4	3	2.5	1	1	1.2.3	-	-	-		
7					1	R154-19	3	7	4	1	-	3	1	3	3	3	1	1.2	3	1.2	1	1	1.2.4	-	-	-		
8					2	R154-200E0	3	4	1	2	20	2	1	3	3	3	1	1.2	-	1.2.4	1	1	1.2.4	-	-	-		
144 & 148	810	Phsar Kandal I	10	1	6	R148-273	3	10	2	2	1,200	4	2	-	-	-	-	-	-	-	-	-	-	-				
				2	2	R144-121E0	3	6	4	1	-	3	1	3	4	4	1	2.4	2	2	1	1	1.2.4	-	-			
				3	1	R144-52E0	6	5	2	1	-	3	1	3	3	3	1	2.4	3	2	1	1	1.2.4	-	-			
				4	1	R144-91	6	6	1	1	-	3	1	2	1	1	1	1.4	3	2	1	1	1.2.3	-	-			
				5	6	R144-59B	6	11	1	1	-	3	1	3	4	5	1	2.4	3	2	1	1	1.2	-	-	-		
				6	3	R144-33	3	5	1	2	400	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-		
				7	2	R148-60	2	5	4	1	-	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-		
				8	3	R148-121	3	4	1	1	-	3	2	-	-	-	-	-	3	-	-	-	-	-	-	-		
				9	2	R148-73	3	7	1	1	-	3	1	3	2	3	1	4	3	2	1	1	1.4	-	-	-		
				10	6	R148-32	3	2	1	2	250	2	1	3	4	4	1	3.4	3	2	3	-	-	-	-	5		
15	530	Phsar Kandal I / Phsar Chas	10	1	6	R15-133	3	4	3	1	-	2	1	3	2	2	1	2.4	3	2	1	1	1.3	-				
				2	1	R15-115	2	4	3	1	-	3	1	3	2	2	1	4	3	2	1	1	1.2	-	-			
				3	1	R15-52c	3	3	2	1	-	2	1	3	2	2	1	4	3	2	1	1	1.2	-	-			
				4	2	R15-85E0	4	3	4	1	-	2	1	3	2	2	1	4	3	2	1	1	1.2.3	-	-			
				5	6	R15-02E0	3	8	2	1	-	3	2	-	-	-	-	-	3	-	-	-	-	-	-			
				6	2	R15-53E0	3	4	2	1	-	3	1	2	2	2	1	4	3	2	1	1	1.2.3	-	-			
				7	3	R15-90E0	6	6	3	1	-	3	1	3	2	2	1	1.4	3	2	1	1	1.3	-	-			
				8	2	R15-73E02	2	4	3	1	-	2	1	3	2	3	1	2.4	3	2	1	1	1.3	-	-			
				9	2	R15-169B	2	2	1	1	-	2	1	3	3	3	1	4	3	2	1	1	1.3	-	-			
				10	2	R15-159	3	2	4	1	-	2	1	3	2	3	1	4	3	2	1	1	1.3	-	-			

表 8.4 浸水被害調査 (北部)の結果 (3/4)

Area	Name of Road	Length (m)	Sangkat Name	No. of Sample	I. General Questions								II. Questions on Inundation Situation				III. Questions on Sanitary Condition				IV. Others																																																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20																																															
					Type of interviewees	Address	Employment of the master	Number of persons staying in the house	Number of dwelling years at this place	What type of your dwelling	If "Question No. 6 answer 1. how much is your house rent? (US\$ /month)	Total expenditure of your house per month (US\$/month)	Have you ever had experience in flooding in front of your house?	If "Question No. 9 answer Yes", how often do you have the flooding?	If "Question No. 9 answer Yes", how deep was the flooding?	If "Question No. 9 answer Yes", how long was the flooding?	Do you have any trouble after flooding?	If "Question No. 13 answer Yes", what kind of trouble did you have due to the flooding?	How do you dispose of your nightsoil?	Have you and your family ever had the following disease after flooding?	Do you agree that the road in front of your house and drainage condition will be improved?	If "Question No. 17 answer Yes", do you still agree that the improvement requires construction work in front of your house?	If "Question No. 17 answer Yes", what kind of benefits do you expect the road and drainage improvement in front of your house?	If "Question No. 17 answer No", why do not you agree the improvement in front of your house?																																															
Answers								Answers				Answers				Answers																																																							
1. Housewife 2. The master 3. Children 4. Other house member 5. Housekeeper (servant) 6. Others								1. Primary industry 2. Secondary industry 3. Tertiary industry 4. Pensioner (retired) 5. Unemployed 6. Others				1. Less than 5 2. 5 - 9 3. 10 - 19 4. 20 or more 5. I don't know				1. Own house 2. Rental 3. I don't know				1. Less than 100 2. 101 - 200 3. 201 - 500 4. 501 - 1000 5. 1001 - 2000 6. More than 2001 7. I don't know				1. Yes 2. No 3. I don't know				1. Once a year 2. 2-3 times a year 3. More than 4 times a year 4. Once in 2-3 years 5. Others 6. I don't know				1. Up to ankle 2. Up to shin 3. Up to knee 4. Up to thigh 5. Up to waist 6. Higher than waist 7. I don't know				1. Less than 30 min. 2. 30 min. to 1 hour 3. 2-3 hours 4. Around 4-6 hours 5. Almost half day 6. 1 day 7. More than 1 day 8. I don't know				1. Yes 2. No				1. Cannot go out for business or shopping 2. Cannot open for business 3. Soil the furniture, merchandize or inside the house 4. Smell the house 5. Others 6. I don't know				1. No treatment (defecate in your backyard) 2. Septic tank 3. Flowing to a drainage pipe 4. Others 5. I don't know				1. Skin disease 2. Flu 3. Food poisoning 4. Diarrhea 5. Typhoid 6. Dysentery 7. I don't know				1. Yes 2. No 3. I don't know				1. Yes 2. No 3. I don't know				1. Better sanitary condition (including outbreak of insects, water-borne disease, etc.) 2. Better environmental condition (air, dust, odor, etc.) 3. Better traffic condition 4. Better business condition 5. Others 6. I don't know				1. Do not feel the necessity 2. Do not like noise, vibration, dust and so on resulting from the construction work 3. Do not want to interfere with my business 4. Others 5. I don't know			
Block D	81	150	Phsar Thmei II	1	1	2	R81-28	3	5	3	1	-	3	1	3	2	3	1	5(Dirty)	3	None	1	1	2	-																																														
	63	1,050	Boeng Reang / Phsar Thmei I	10	1	2	R63-118	3	6	1	1	-	2	1	3	1	1	2	-	3	None	1	1	2	-																																														
					2	3	R63-110	3	5	1	1	-	2	1	3	1	1	2	-	3	None	1	1	2	-																																														
					3	1	R63-107	3	5	1	2	130	1	1	3	1	1	2	-	3	None	1	1	2	-																																														
					4	5	R63-93	3	6	1	2	350	3	1	3	1	1	2	-	3	None	1	1	2,3	-																																														
					5	1	R63-86	2	6	1	1	-	1	1	3	3	4	1	2,3,4	3	4,6	1	1	1,2,3	-																																														
					6	2	R63-93	3	5	1	1	-	2	1	3	3	3	1	3,4	3	4,6	1	1	1,2,3	-																																														
					7	3	R63-78	3	4	3	1	-	2	1	3	3	3	1	3,4	3	1,6	1	1	2,3	-																																														
					8	5	R63-62	3	5	1	2	100	1	1	3	3	4	1	3,4	3	1,6	3	-	-	-	-																																													
					9	1	R63-56	3	7	3	1	-	2	1	3	3	3	1	3,4	3	None	1	1	2,3,4	-																																														
					10	4	R63-40	3	3	3	1	-	3	1	3	3	4	1	2,3,4	3	None	1	1	2,3,4	-																																														
51	680	Phsar Thmei III / Boeng Reang	10	1	3	R51-63	6(Gov Staff)	5	3	1	-	2	1	3	2	3	2	-	3	None	1	1	2,3	-																																															
				2	1	R51-	3	7	1	1	-	1	1	3	2	3	2	-	3	None	1	1	2,3,4	-																																															
				3	1	R51-31	3	4	2	1	-	1	1	3	2	2	2	-	3	None	1	1	2,3	-																																															
				4	3	R51-30	3	6	2	1	-	2	1	3	2	3	2	-	3	None	1	1	2,3	-																																															
				5	1	R51-92B0	2	6	3	1	-	2	1	3	2	3	2	5(Difficult to drive)	3	None	1	1	2,3,4	-																																															
				6	3	R51-17	3	5	2	1	-	2	1	2	1	1	2	-	3	None	1	1	2,3	-																																															
				7	1	R51-35	6(Gov Staff)	7	3	1	-	3	1	3	2	3	1	-	3	None	1	1	2,3	-																																															
				8	1	R51-129	3	4	3	1	-	2	1	3	1	1	2	-	3	None	1	1	2,3	-																																															
				9	1	R51-131	3	10	3	1	-	3	1	3	3	3	1	2,3	3	1	1	1	2,3	-																																															
				10	1	R51-100	3	14	1	2	500	2	1	3	2	3	1	1,2	3	None	1	1	2,3	-																																															
172	410	Phsar Thmei III	5	1	1	R172-2	2	8	3	1	-	1	1	2	1	1	2	-	3	None	1	1	2	-																																															
				2	2	R172-28	3	6	3	1	-	2	1	2	1	1	2	-	3	None	1	1	2	-																																															
				3	3	R172-38	2	5	2	1	-	2	1	2	2	3	1	5(Difficult to drive)	-	1	1	1	2,3	-																																															
				4	1	R172-74	6(Gov Staff)	-	3	1	-	2	1	3	2	3	2	-	3	None	1	1	2	-																																															
				5	3	R172-80	6(Gov Staff)	-	3	1	-	2	1	3	2	3	2	-	3	None	1	1	2	-																																															
174	570	Phsar Thmei III / Boeng Reang	6	1	1	R174-11	6(Gov Staff)	5	2	1	-	1	1	1	1	1	2	-	3	None	1	1	2,3	-																																															
				2	1	R174-28	3	7	3	1	-	2	1	1	1	1	2	-	3	None	1	1	2,3	-																																															
				3	2	R174-48	3	6	2	1	-	1	1	3	2	2	2	-	3	None	1	1	2,3	-																																															
				4	1	R174-70	3	4	1	1	-	2	1	3	1	1	2	-	3	None	1	1	2,3	-																																															
				5	1	R174	3	2	1	2	30	1	1	3	3	2	1	4, 5(Difficult to drive)	-	1	1	1	2,3	-																																															
				6	1	R174-31	3	6	3	1	-	2	1	3	2	3	1	5(No people come to eat)	3	1	1	1	1,2,3,4	-																																															
178	680	Phsar Thmei III / Boeng Reang	8	1	2	R178-9B	3	5	2	1	-	2	1	3	2	3	2	-	3	None	1	1	2,3	-																																															
				2	2	R178-8E0	2	4	1	2	250	2	1	1	1	1	2	-	3	None	1	1	2	-																																															
				3	1	R178-39E0	6(Gov Staff)	5	3	1	-	2	1	3	2	2	2	-	3	1,2	1	1	1,2,3	-																																															
				4	2	R178-19	3	12	1	2	300	2	1	2	1	2	2	-	3	None	1	1	2,3	-																																															
				5	2	R178-20	3	8	3	1	-	2	1	3	1	1	2	-	3	None	1	1	2,3	-																																															
				6	1	R178-12	3	6	1	2	120	1	1	3	2	2	1	5(difficult to sell food)	3	1,2,4	1	1	1,2,3,4	-																																															
				7	1	R178-93	3	8	3	1	-	2	1	1	1	1	2	-	3	None	1	1	2,3	-																																															
				8	4	R178-24EE0	2	7	1	2	280	2	1	1	1	1	2	-	3	None	1	1	2,3	-																																															
184	700	Phsar Thmei III	10	1	3	R184-8E0	3	5	2	1	-	2	1	3	2	2	1	4	3	2	1	1	2	-																																															
				2	6	R184-21CE0	3	7	1	2	280	7	1	3	2	2	1	2	2	3	None	1	1	2,3,4	-																																														
				3	3	R184-231CE0	3	5	4	1	-	3	1	2	1	1	2	-	3	1	1	1	1	-																																															
				4	5	R184-37	3	9	2	1	-	3	1	3	2	1	2	1	1	2	1	1	1	2	-																																														
				5	2	R184-36E0	3	4	4	1	-	7	1	3	3	3	1	1	2	1,2	1	1	2,3	-																																															
				6	1	R184-30E0	6(Gov Staff)	5	1	1	-	7	1	3	3	3	1	2	2	1	1	1	1,2	-																																															
				7	2	R184-44E0	6(Gov Staff)	4	1	1	-	2	1	3	2	2	1	2	3	2	1	1	1	2,3	-																																														
				8	2	R184-163-56AE0	3	7	4	1	-	3	1	2	1	1	2	-	5	2	1	1	2	-																																															
				9	1	R184-12E0	3	7	2	1	-	7	1	2	1	1	2	-	3	2	1	1	2	-																																															
				10	1	R184-129E0	6(Gov Staff)	5	2	1	-	2	1	3	2	2	1	5(difficult to go out)	2	1	1	1	2	-																																															
				154	510	Phsar Thmei I / III / Boeng Reang	11	1	2	R154-28E0	3	-	2	1	-	7	1	3	2	2	1	1	3	2	1	1	2	-																																											
2	2	R154-12AE0	3					5	2	1	-	2	1	3	2	2	1	1	2	2	1	1	2	-																																															
3	2	R154-18E0	3					6	2	1	-	2	1	3	2	3	1	2	5	1	1	1	2,3	-																																															
4	3	R154-129DE0	3					6	4	1	-	7	1	3	2	2	1	1	2	1	1	1	2,3	-																																															
5	1	R154-151-70E0	3					5	1	1	-	2	1	2	2	2	2	-	3	1	1	1	4	-																																															
6	2	R154-133AE0	3					6	2	1	-	2	1	3	1	1	1	1	1	3	1	1	1	1	-																																														
7	2	R154-111E0	2					5	3	1	-	1	1	2	3	2	1	1	1	3	2	1	1	2	-																																														
8	3	R154-23E0	3					4	2	1	-	7	1	2	1	1	1	1	1	3	2	1	1	1	-																																														
9	2	R154-163-73E0	3					5	1	1	-	7	1	3	2	3	1	2	3	1	1	1	1	1	-																																														
10	3	R154-68E0	3					6	1	1	-	7	1	3	3	3	1	1	2	1	1	1	1	1	-																																														
11	1	R154-98E0	3					7	1	1	-	7	1	3	2	3	1	1	3	1	1	1	1	1	-																																														

表 8.4 浸水被害調査 (北部)の結果 (4/4)

Area	Name of Road	Length (m)	Sangkar Name	No. of Sample	I. General Questions							II. Questions on Inundation Situation				III. Questions on Sanitary Condition				IV. Others						
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
					Type of interviewee	Address	Employment of the master	Number of persons staying in the house	Number of dwelling years at this place	What type of your dwelling	If Question No.5 answer 2 Rental how much is your house rent? (US\$ /month)	Total expenditure of your house per month (US\$ /month)	Have you ever had experience in flooding in front of your house?	If Question No.9 answer Yes, how often do you have the flooding?	If Question No.9 answer Yes, how deep was the flooding?	If Question No.9 answer Yes, how long was the flooding?	Do you have any trouble after flooding?	If Question No.13 answer Yes, what kind of trouble did you have due to the flooding?	How do you dispose of your nightsoil?	Have you and your family ever had the following disease after flooding?	Do you agree that the road in front of your house and drainage condition will be improved?	If Question No.17 answer Yes, do you still agree that the improvement requires construction work in front of your house?	If Question No.17 answer Yes, what kind of benefits do you expect the road and drainage improvement in front of your house?	If Question No.17 answer No, why do not you agree the improvement in front of your house?		
Answers							Answers				Answers				Answers											
					1. Housewife 2. The master 3. Children 4. Other house member 5. Housekeeper (servant) 6. Others	1. Primary industry 2. Secondary industry 3. Tertiary industry 4. Pensioner (retired) 5. Unemployed 6. Others	1. Less than 5 2. 5-9 3. 10-19 4. 20 or more 5. I don't know	1. Own house 2. Rental 3. I don't know	1. Less than 100 2. 101-200 3. 201-500 4. 501-1000 5. 1001-2000 6. More than 2001 7. I don't know	1. Yes 2. No 3. I don't know	1. Once a year 2. 2-3 times a year 3. More than 4 times a year 4. Once in 2-3 years 5. Others 6. I don't know	1. Up to ankle 2. Up to shin 3. Up to knee 4. Up to thigh 5. Up to waist 6. Higher than waist 7. I don't know	1. Less than 30 min. 2. 30 min to 1 hour 3. 2-3 hours 4. Around 4-6 hours 5. Almost half day 6. 1 day 7. More than 1 day 8. I don't know	1. Yes 2. No	1. Cannot go out for business or shopping 2. Cannot open for business 3. Soil the furniture, merchandize or inside the house 4. Smell the house 5. Others 6. I don't know	1. No treatment (defecate in your backyard) 2. Septic tank 3. Flowing to a drainage pipe 4. Others 5. I don't know	1. Skin disease 2. Flu 3. Food poisoning 4. Diarrhea 5. Typhoid 6. Dysentery 7. I don't know	1. Yes 2. No 3. I don't know	1. Yes 2. No 3. I don't know	1. Better sanitary condition (including outbreak of insects, water-borne disease, etc.) 2. Better environmental condition (air, dust, odor, etc.) 3. Better traffic condition 4. Better business condition 5. Others 6. I don't know	1. Do not feel the necessary 2. Do not like noise, vibration, dust and so on resulting from the construction work with my business 3. Do not want to interfere with my business 4. Others 5. I don't know					
Block E	178	640	Chey Chumneah	5	1	2	R178-25E0	4	7	4	1	-	3	1	3	4	4	1	1,4	3	1,2,4	1	1	1,2,4	-	
					2	1	R178-61	6(Gov Staff)	5	4	1	-	2	1	3	2	5	1	1,2,4	3	1,2,4	1	1	1,2,4	-	
					3	2	R178-71B	6(Gov Staff)	4	4	1	-	2	1	3	2	5	1	1,2	3	1,2,4	1	1	1,2,4	-	
					4	1	R178-30E0	2	7	1	2	120	3	1	2	2	2	1	4	3	2,4,5	1	1	1,2,4	-	
					5	1	R178-42A3	3	5	2	1	-	2	1	2	1	1	1	4	3	2,4,5	1	1	2,4	-	
	184	600	Chey Chumneah	5	1	6(Guard of Royal Palace)	R184, Royal Palace	6(Royal Palace)	-	1	-	-	-	-	1	3	3	2	1	1,4	-	1,2	1	1	2,3	-
					2	6(Centra Co.'s Staff)	R184	6(Centra)	-	1	-	-	-	1	3	2	2	1	1,4	-	1,2	1	1	1,2,3	-	
					3	2	R184-12E0	4	7	3	1	-	3	1	3	3	3	1	1,4	3	1,2	2	-	-	1(Existing system shall be rehabilitated.)	
					4	2	R184-9EOB	6(Gov Staff)	4	2	1	-	2	1	3	3	3	1	1,2	3	1,2	1	1	2,3,4	-	
					5	2	R184	4	14	4	1	-	4	1	3	3	3	1	1,2,3,4	3	1,2	1	1	2,4	-	
	Sothearuos (A)	300	Chey Chumneah	5	1	2	Sothearuos-5E0	3	4	1	2	200	2	1	3	1	1	1	1	4	3	1,2	1	1	1,2	-
					2	1	Sothearuos-6H	6(Gov Staff)	4	2	1	-	2	1	3	1	1	1	1,4	3	1,2	1	1	2,3,4	-	
					3	2	Sothearuos-22E0	4	3	3	1	-	1	1	3	2	3	1	1,2,4	3	2	1	1	1,2,3,4	-	
					4	2	Sothearuos-25E0	4	5	3	1	-	2	1	3	2	3	1	1,4	3	2,3,4,5	1	1	1,2	-	
					5	2	Sothearuos-14E0	3	6	3	1	-	3	1	3	3	4	1	1,2,3,4	3	1,2,4	1	1	1,2,4	-	
	240	860	Chey Chumneah / Chakto Mukh	5	1	6(Guard of Royal Palace)	R240, Royal Palace	6(Royal Palace)	-	1	-	-	-	-	1	3	4	3	1	1,4	-	1	1	1	3	-
					2	2	R240-22E0	6(Gov Staff)	4	2	1	-	2	1	3	2	2	1	4	3	1,2,4	1	1	2,3,4	-	
					3	2	R240-154E0	3	4	1	2	20	2	1	3	2	2	1	1,4	-	1,2	1	1	2,3	-	
					4	2	R240-45AE0	6(Gov Staff)	4	3	1	-	2	1	3	2	2	1	1	3	2,4	1	1	2,3	-	
					5	2	R240-52	3	10	1	2	240	4	1	3	2	2	1	1,4, Toilet sticks during heavy rain	3	1,2	1	1	2,3	-	
Sothearuos (B)	550	Chey Chumneah	3	1	6(Guard of UNESCO)	Sothearuos-38 (UNESCO)	6(UNESCO)	20	1	2	-	6	1	3	2	3	1	2,4	2	2	1	1	1,2	-		
				2	2	Sothearuos-Royal Palace	3	5	1	2	7	1	1	3	4	3	1	1,2	-	1,2,4	1	1	1,2,3,4	-		
				3	3	Sothearuos-44	3	6	1	2	5	2	1	3	4	3	1	1,4	-	2,4	1	1	1,2,3,4	-		
214	220	Chey Chumneah	2	1	2	R214-6E0	3	11	4	1	-	4	1	3	3	5	1	1,2	3	1,2	1	1	1,2,4	-		
				2	4	R214-8E0	6(Gov Staff)	5	1	2	150	1	1	3	3	5	1	1,2,3	-	1,2,4	1	1	1,2,4	-		
19	740	Chey Chumneah	10	1	4	R19-142BE0	4	5	4	1	-	2	1	3	3	3	1	1,4	3	2,4,5	1	1	1,2,4	-		
				2	2	R19-142E0	6(Gov Staff)	3	1	1	-	1	1	3	2	3	1	1,4	3	2	1	1	1,2,4	-		
				3	2	R19-169E0	6(Gov Staff)	5	4	1	-	2	1	2	1	1	2	-	3	2	1	1	1,2	-		
				4	2	R19-181B	4	3	4	1	-	1	1	3	3	5	1	1,2,4	3	2,4,5	1	1	1,2,4	-		
				5	2	R19-07BE0	6(Gov Staff)	5	1	2	220	2	1	3	3	5	1	1,2,3,4	3	2	1	1	1,2,4	-		
				6	2	R19-195	6(Gov Staff)	8	4	1	-	3	1	3	3	5	1	1,2,4	3	1,2,4	1	1	1,2,4	-		
				7	2	R19-198B	3	4	3	1	-	2	1	3	3	5	1	1,2,4	3	1,2	1	1	1,2,4	-		
				8	2	R19-203	2	6	4	1	-	3	1	3	3	5	1	1,2,4	3	2,4	1	1	1,2	-		
				9	1	R19-217	3	5	3	1	-	2	1	3	2	4	1	1,2,3,4	3	2,4	1	1	1,2,3,4	-		
				10	2	R19-13E2	3	7	4	1	-	3	1	3	2	5	1	1,2,4	3	1,2	1	1	1,3,4	-		
Total				221																						

表 8.5 浸水被害調査 (北部)に基づく路線ごとの浸水被害状況

Area (Area : Road Name)	Question 9 Have you ever had experience in flooding in front of your house?				Question 10 If "Question No.9 answer Yes", how often do you have the flooding?							Question 11 If "Question No.9 answer Yes", how deep was the flooding?							Question 12 If "Question No.9 answer Yes", how long was the flooding?									
	1.Yes	2.No	3.I don't know	Total	1.Once a year	2.2-3 times a year	3.More than 4 times a year	4.Once in 2-3 years	5.Others	6.I don't know	Total	1.Up to ankle	2.Up to shin	3.Up to knee	4.Up to thigh	5.Up to waist	6.Higher than waist	7.I don't know	Total	1. Less than 30 min.	2. 30 min. to 1 hour	3. 2-3 hours	4.Around 4-6 hours	5.Almost half day	6. 1 day	7.More than 1 day	8.I don't know	Total
	Block A : 86	5	0	0	5	0	0	5	0	0	0	5	3	2	0	0	0	0	0	5	0	4	1	0	0	0	0	0
Block A : Monivong	5	0	0	5	0	0	5	0	0	0	5	5	0	0	0	0	0	0	5	1	4	0	0	0	0	0	0	5
Block A : 80(47A)	5	0	0	5	0	0	5	0	0	0	5	4	1	0	0	0	0	0	5	1	3	1	0	0	0	0	0	5
Block A : 84	2	0	0	2	0	0	2	0	0	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	0	0	2
Block A : 47B	3	0	0	3	0	0	3	0	0	0	3	0	3	0	0	0	0	0	3	0	2	1	0	0	0	0	0	3
Block A : 102	3	0	0	3	0	0	3	0	0	0	3	2	1	0	0	0	0	0	3	0	1	2	0	0	0	0	0	3
Block A : 19	7	0	0	7	0	0	7	0	0	0	7	2	5	0	0	0	0	0	7	0	7	0	0	0	0	0	0	7
Block A : 90	3	0	0	3	0	0	3	0	0	0	3	1	1	1	0	0	0	0	3	0	1	2	0	0	0	0	0	3
Block A : 92	2	0	0	2	0	0	2	0	0	0	2	2	0	0	0	0	0	0	2	1	1	0	0	0	0	0	0	2
Block A : 94	10	0	0	10	0	0	10	0	0	0	10	2	4	2	2	0	0	0	10	1	2	5	1	1	0	0	0	10
Block B : 53(A)	5	0	0	5	0	1	4	0	0	0	5	0	1	4	0	0	0	0	5	1	0	0	3	1	0	0	0	5
Block B : 114	2	0	0	2	0	1	1	0	0	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	0	0	2
Block B : Monivong	3	0	0	3	0	0	3	0	0	0	3	1	2	0	0	0	0	0	3	1	2	0	0	0	0	0	0	3
Block B : Norodom	5	0	0	5	0	2	3	0	0	0	5	0	5	0	0	0	0	0	5	0	3	2	0	0	0	0	0	5
Block B : 130	5	0	0	5	0	3	2	0	0	0	5	1	4	0	0	0	0	0	5	1	2	2	0	0	0	0	0	5
Block B : 118	5	0	0	5	0	1	4	0	0	0	5	0	4	1	0	0	0	0	5	0	3	2	0	0	0	0	0	5
Block B : 126(A)	5	0	0	5	0	2	3	0	0	0	5	0	4	1	0	0	0	0	5	0	2	3	0	0	0	0	0	5
Block B : 53(B)	2	0	0	2	0	0	2	0	0	0	2	0	1	1	0	0	0	0	2	0	1	1	0	0	0	0	0	2
Block B : 126(B)	2	0	0	2	0	0	2	0	0	0	2	0	0	2	0	0	0	0	2	0	0	2	0	0	0	0	0	2
Block B : 142	1	0	0	1	0	1	0	0	0	0	1	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
Block B : 136	2	0	0	2	0	0	2	0	0	0	2	0	1	1	0	0	0	0	2	0	0	2	0	0	0	0	0	2
Block B : 126/67	1	0	0	1	0	0	1	0	0	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
Block B : 142/217	1	0	0	1	0	0	1	0	0	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
Block B : 67	1	0	0	1	0	0	1	0	0	0	1	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Block C : 13	8	2	0	10	0	0	8	0	0	0	8	0	1	1	5	1	0	0	8	0	0	1	4	3	0	0	0	8
Block C : 154	10	0	0	10	0	0	10	0	0	0	10	2	2	5	1	0	0	0	10	0	5	4	0	0	1	0	0	10
Block C : 144&148	6	4	0	10	0	1	5	0	0	0	6	1	1	1	3	0	0	0	6	1	0	3	2	0	0	0	0	6
Block C : 15	9	1	0	10	0	1	8	0	0	0	9	0	8	1	0	0	0	0	9	0	6	3	0	0	0	0	0	9
Block D : 81	1	0	0	1	0	0	1	0	0	0	1	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Block D : 63	10	0	0	10	0	0	10	0	0	0	10	4	0	6	0	0	0	0	10	4	0	3	3	0	0	0	0	10
Block D : 51	10	0	0	10	0	1	9	0	0	0	10	2	7	1	0	0	0	0	10	2	1	7	0	0	0	0	0	10
Block D : 172	5	0	0	5	0	3	2	0	0	0	5	2	3	0	0	0	0	0	5	2	0	3	0	0	0	0	0	5
Block D : 174	6	0	0	6	2	0	4	0	0	0	6	3	2	1	0	0	0	0	6	3	2	1	0	0	0	0	0	6
Block D : 178	8	0	0	8	3	1	4	0	0	0	8	5	3	0	0	0	0	0	8	4	3	1	0	0	0	0	0	8
Block D : 184	10	0	0	10	0	3	7	0	0	0	10	3	5	2	0	0	0	0	10	3	5	2	0	0	0	0	0	10
Block D : 154	11	0	0	11	0	3	8	0	0	0	11	2	7	2	0	0	0	0	11	2	5	4	0	0	0	0	0	11
Block E : 178	5	0	0	5	0	2	3	0	0	0	5	1	3	0	1	0	0	0	5	1	1	0	1	2	0	0	0	5
Block E : 184	5	0	0	5	0	0	5	0	0	0	5	0	1	4	0	0	0	0	5	0	2	3	0	0	0	0	0	5
Block E : Sothearuos(A)	5	0	0	5	0	0	5	0	0	0	5	2	2	1	0	0	0	0	5	2	0	2	1	0	0	0	0	5
Block E : 240	5	0	0	5	0	0	5	0	0	0	5	0	4	0	1	0	0	0	5	0	4	1	0	0	0	0	0	5
Block E : Sothearuos(B)	3	0	0	3	0	0	3	0	0	0	3	0	1	0	2	0	0	0	3	0	0	3	0	0	0	0	0	3
Block E : 214	2	0	0	2	0	0	2	0	0	0	2	0	0	2	0	0	0	0	2	0	0	0	0	2	0	0	0	2
Block E : 19	10	0	0	10	0	1	9	0	0	0	10	1	3	6	0	0	0	0	10	1	0	2	1	6	0	0	0	10
Total	214	7	0	221	5	27	182	0	0	0	214	52	100	46	15	1	0	0	214	32	79	71	16	15	1	0	0	214

Question No.9 Have you ever had experience in flooding in front of your house?

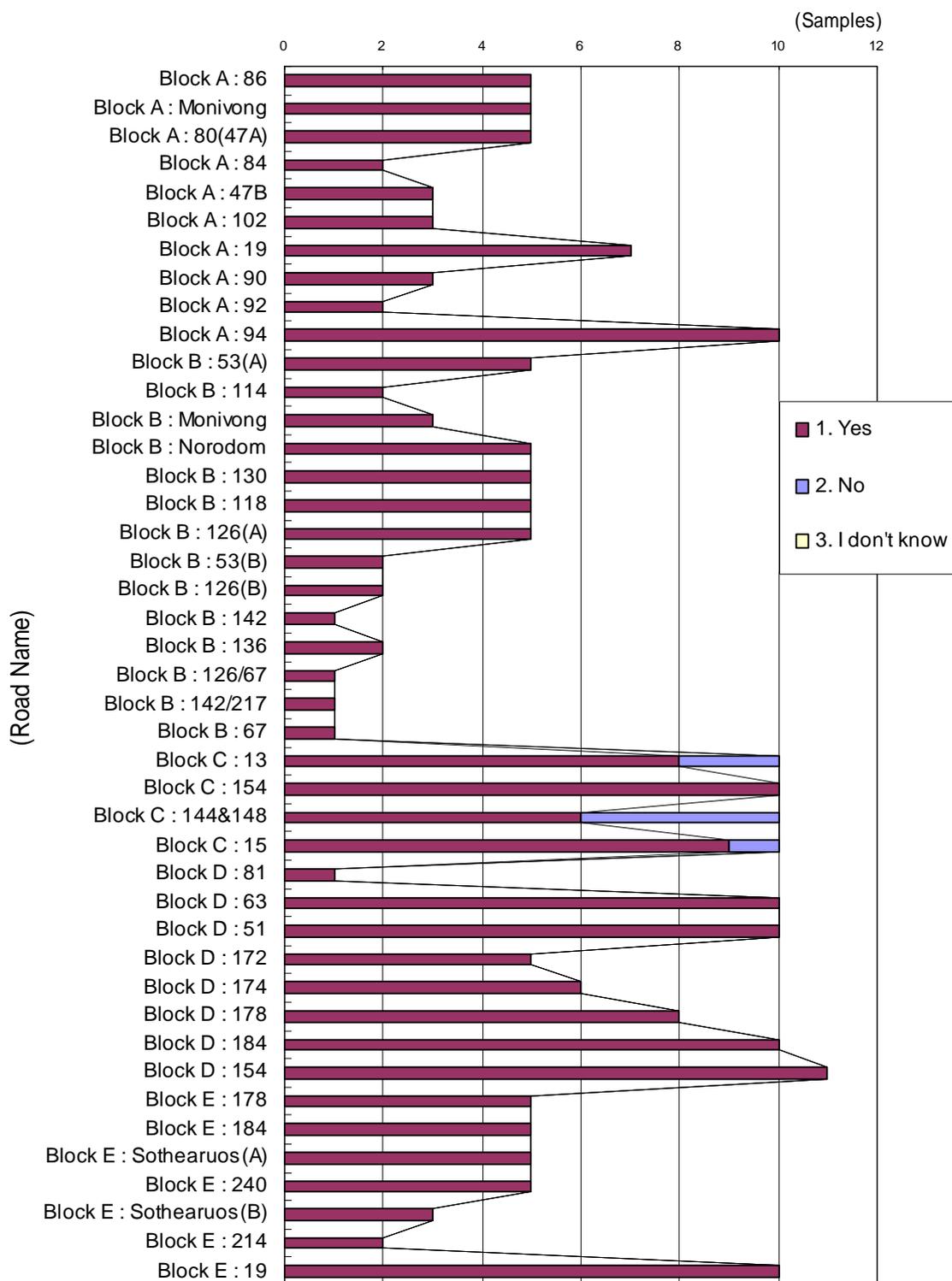


図 8.2 (1/8) 路線毎の浸水被害の有無 (北部) (サンプル数で表示)

Question No.9 Have you ever had experience in flooding in front of your house?

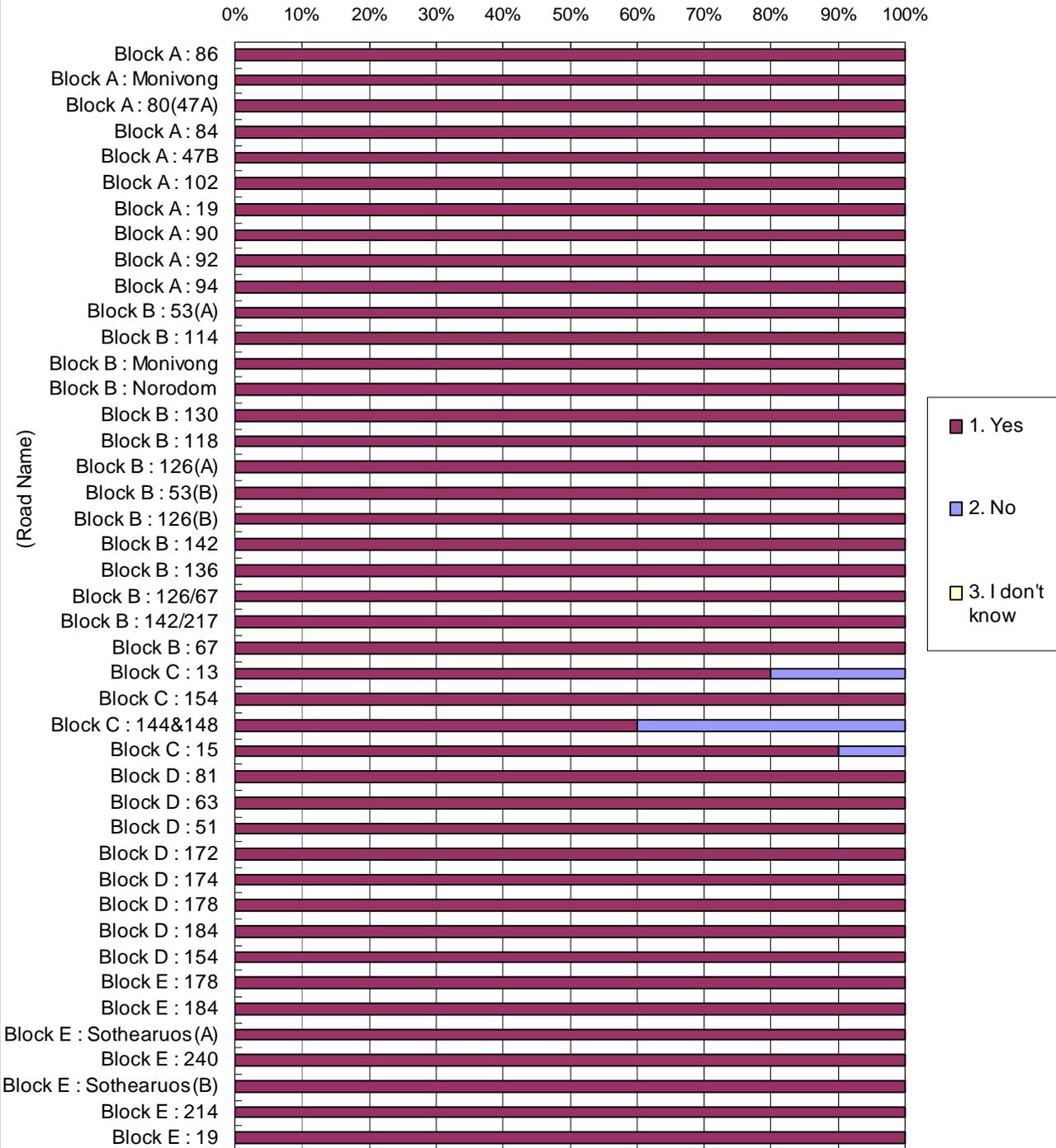


図 8.2 (2/8) 路線毎の浸水被害の有無 (北部) (% で表示)

Question No.10 If "Question No.9 answer Yes",
how often do you have the flooding?

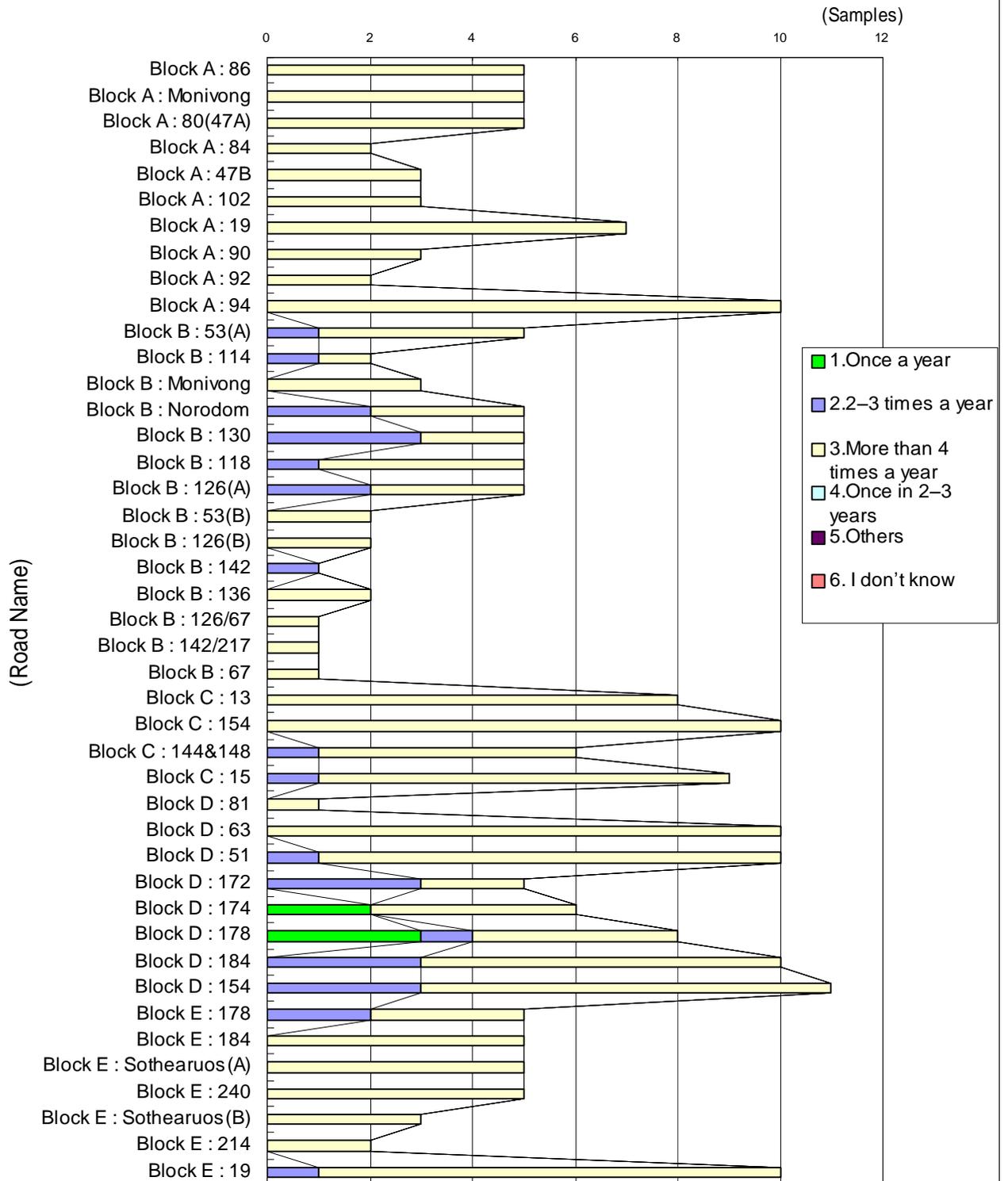


図 8.2 (3/8) 路線毎の浸水頻度分布 (北部) (サンプル数で表示)

Question No.10 If "Question No.9 answer Yes",
how often do you have the flooding?

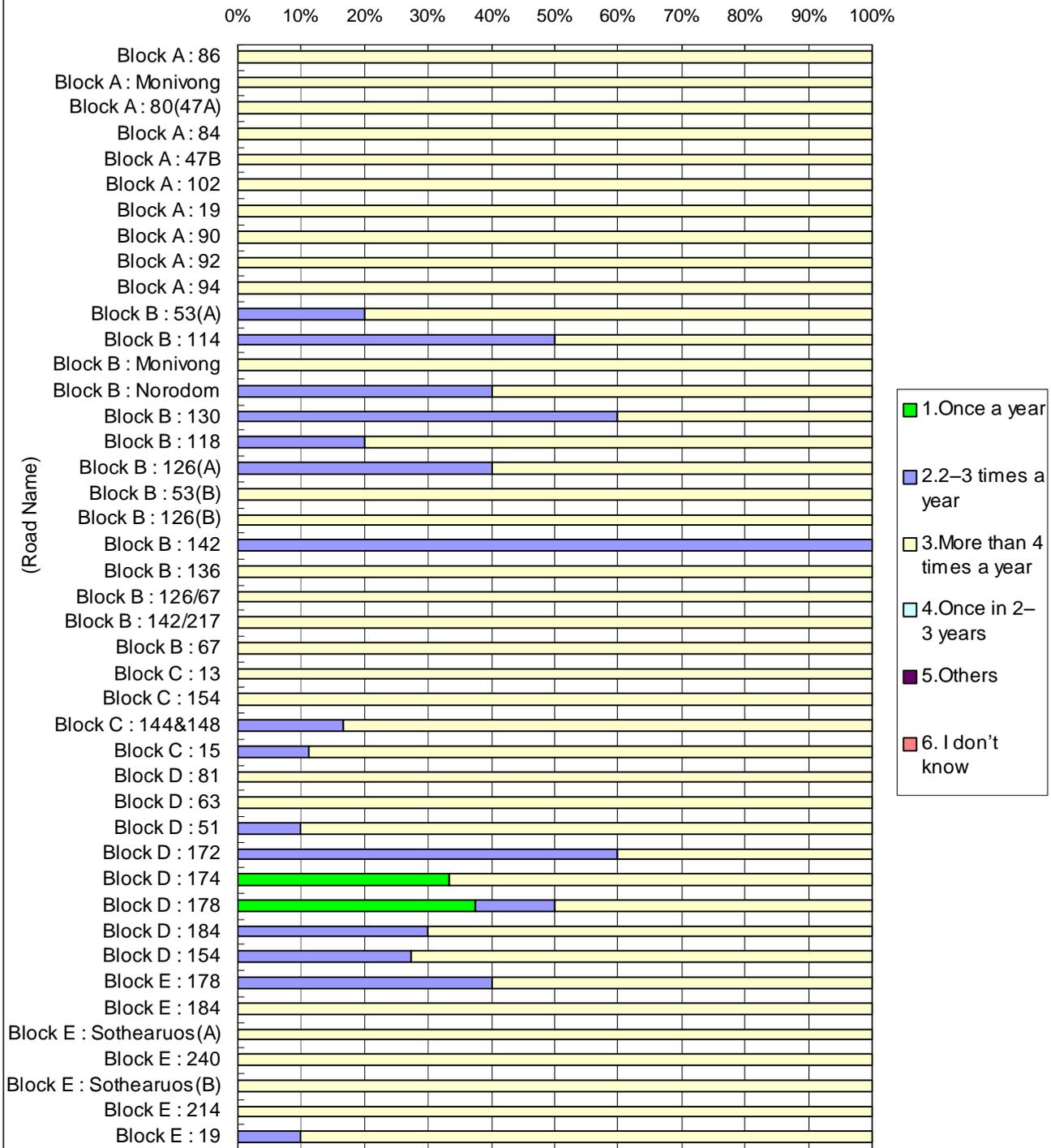


図 8.2 (4/8) 路線毎の浸水頻度分布 (北部) (%で表示)

Question No.11 If "Question No.9 answer Yes",
how deep was the flooding?

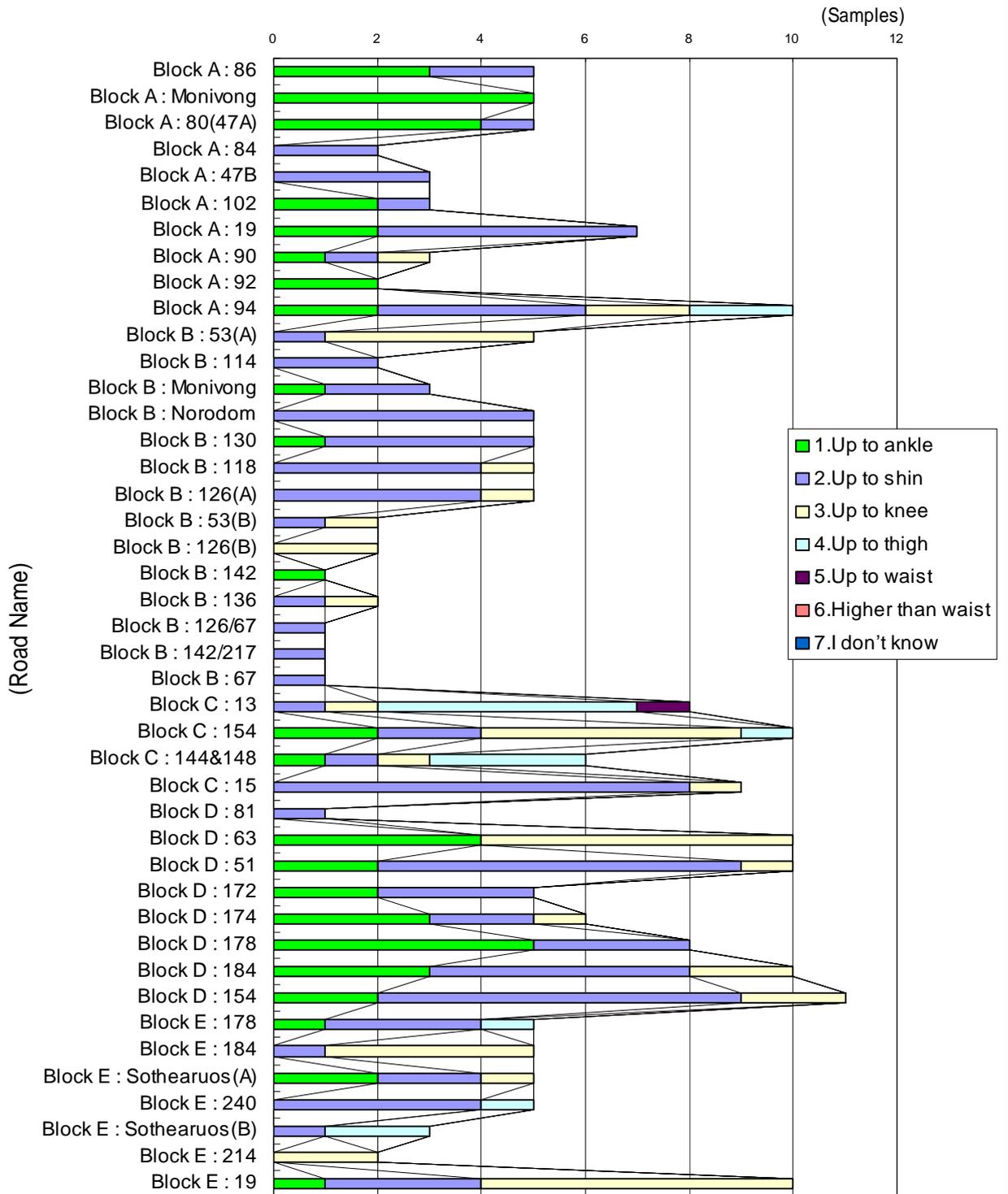


図 8.2 (5/8) 路線毎の浸水深さの分布 (北部) (サンプル数で表示)

Question No.11 If "Question No.9 answer Yes",
how deep was the flooding?

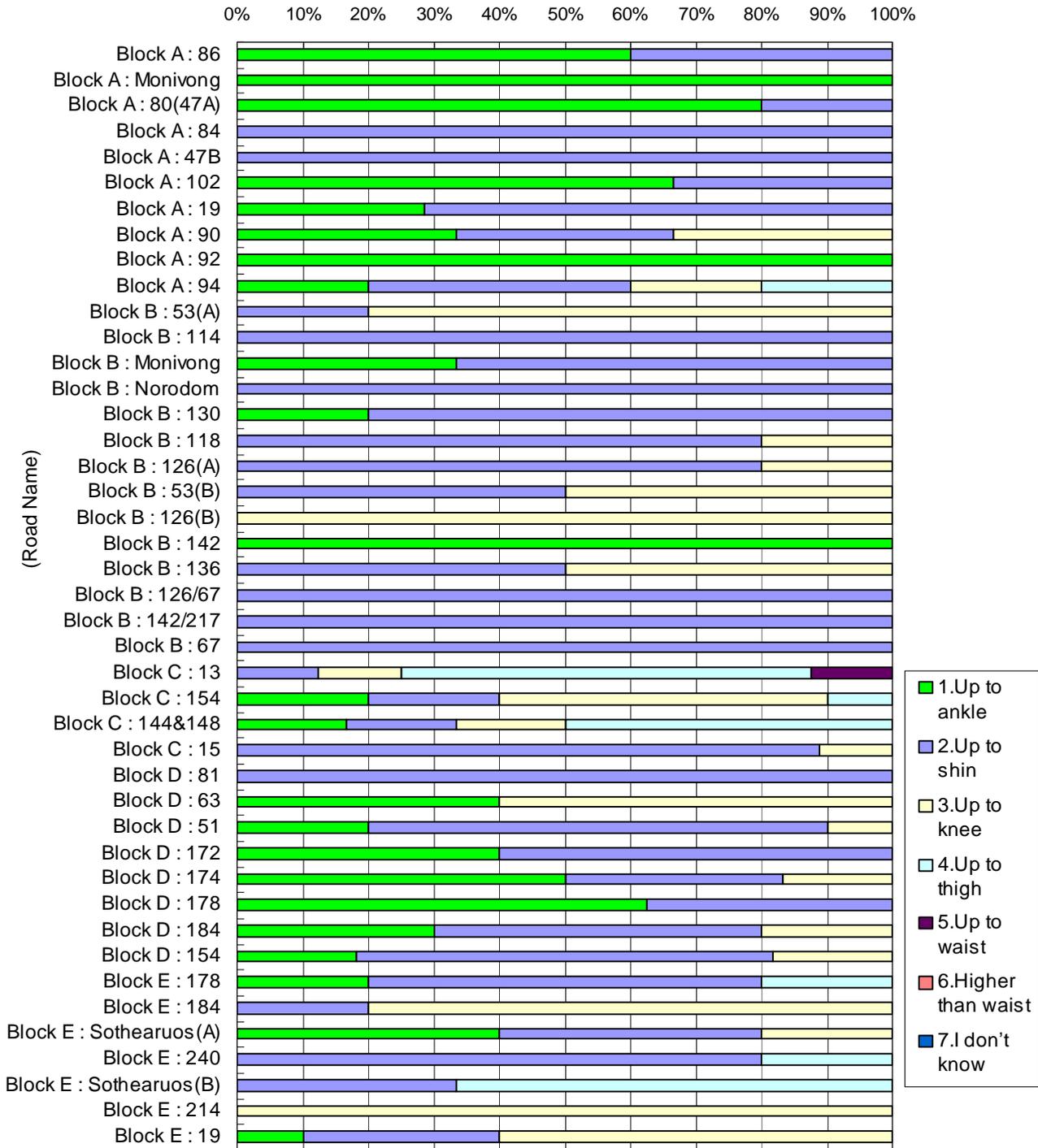


図 8.2 (6/8) 路線毎の浸水深さの分布 (北部) (%で表示)

Question No.12 If "Question No.9 answer Yes",
how long was the flooding?

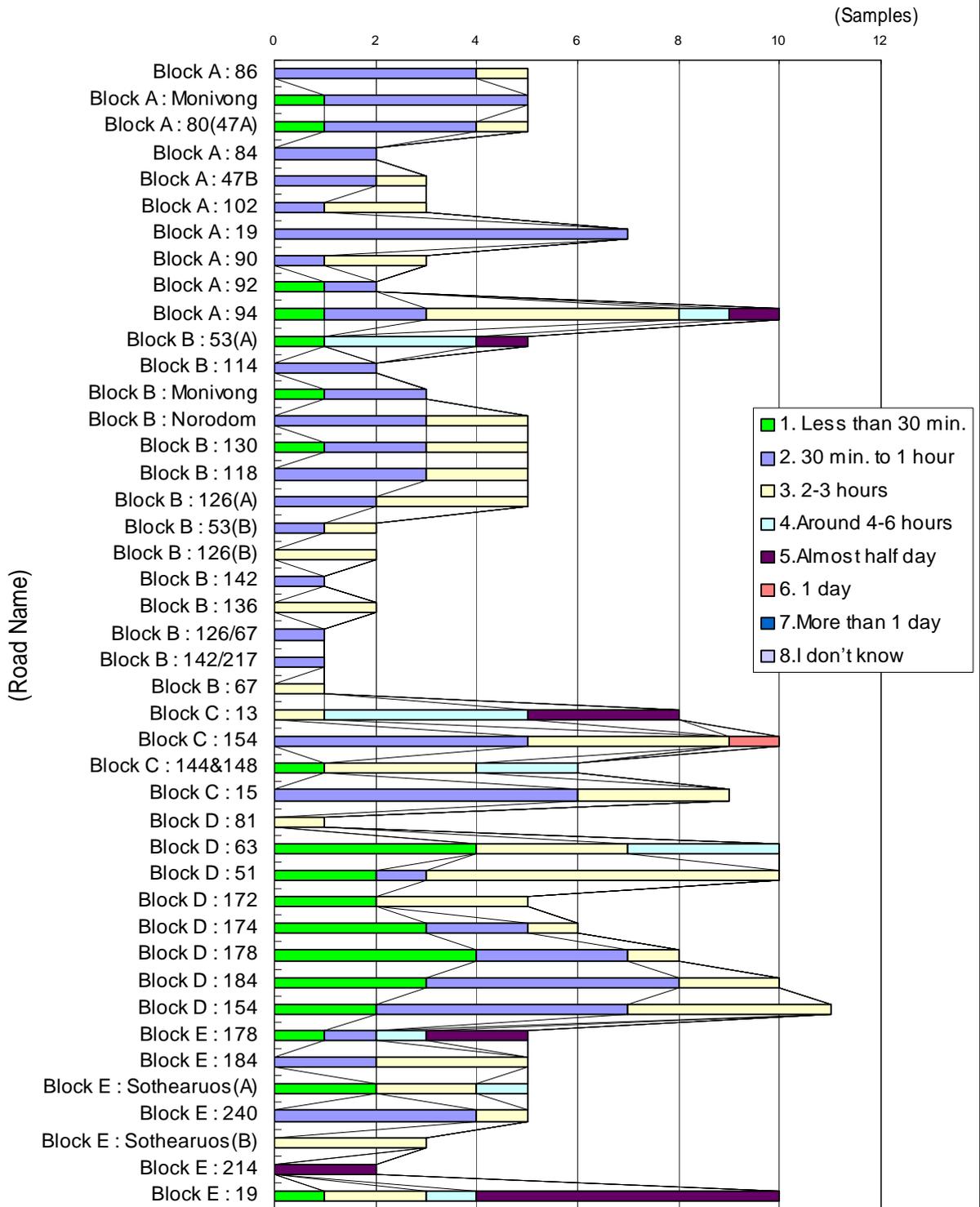


図 8.2 (7/8) 路線毎の浸水時間の分布 (北部) (サンプル数で表示)

Question No.12 If "Question No.9 answer Yes",
how long was the flooding?

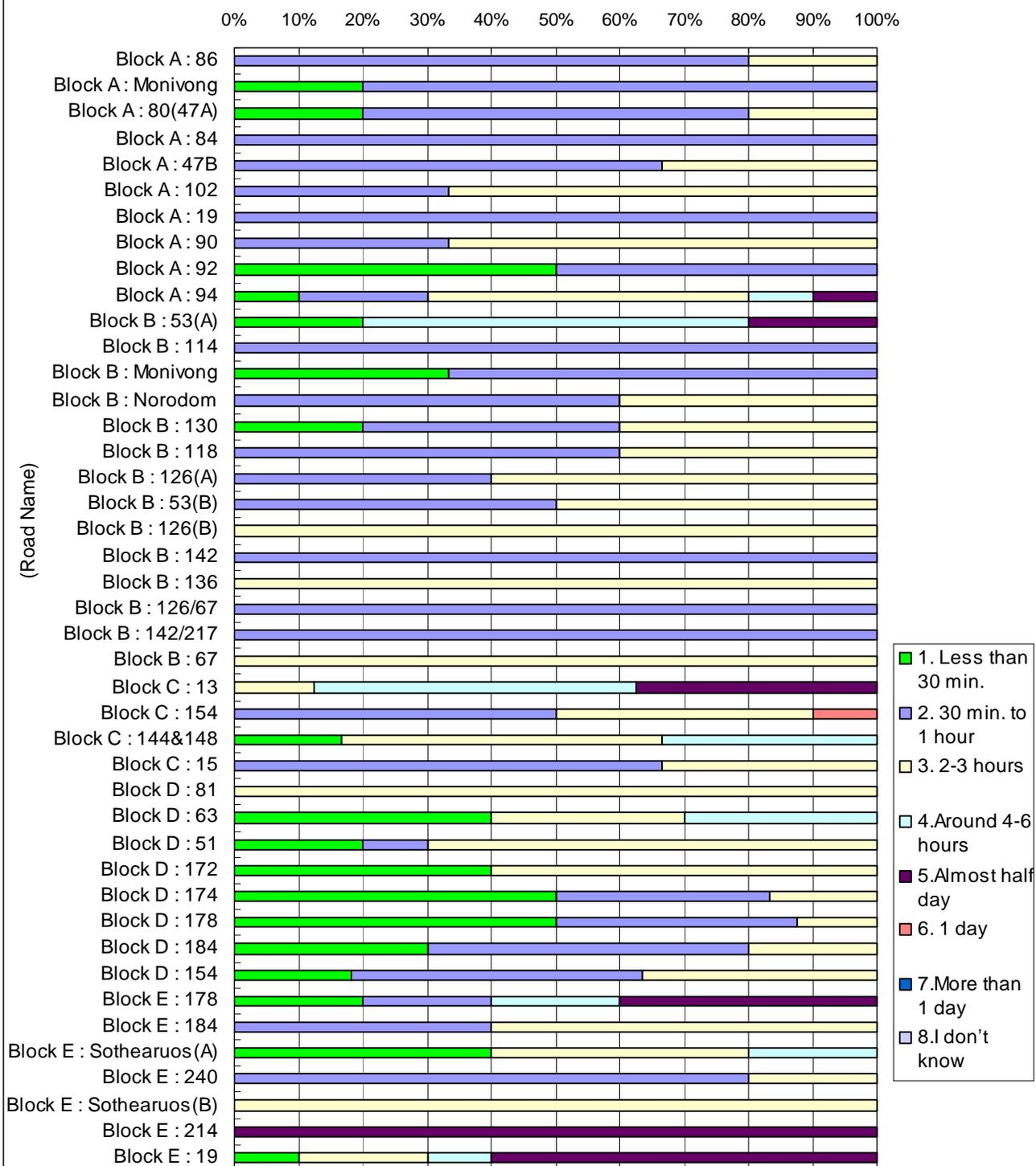


図 8.2 (8/8) 路線毎の浸水時間の分布 (北部) (%で表示)

9. プノンペン市洪水防御・排水改善計画（フェーズⅠ）」の概要

案件概要

1. 件名 平成 14 - 15 年度「カンボディア国プノンペン市洪水防御・排水改善計画」

The Project for Flood Protection and Drainage Improvement in the Municipality of Phnom Penh

2. 交換公文（E/N）調印日

(1) 詳細設計

E/N 署名日 : 平成 14 年 2 月 6 日

E/N 供与期限 : 平成 15 年 2 月 5 日

(2) 本体工事

E/N 署名日 : 平成 14 年 8 月 27 日

E/N 供与期限 Term1 : 平成 15 年 3 月 31 日

Term2 : 平成 16 年 3 月 31 日

E/N 延長期限 Term1 : 平成 16 年 3 月 31 日

Term2 : 平成 17 年 3 月 31 日

3. 交換公文（E/N）限度額

(1) 詳細設計 : 0.66 億円

(2) 本体工事 : 20.56 億円

平成 14 年度 : 7 億 3,400 万円

平成 15 年度 : 13 億 2,200 万円

4. 受注企業名

(1) コンサルタント

企業名 : 株式会社建設技研インターナショナル・日本工営株式会社共同企業体

契約日 : 詳細設計 : 平成 14 年 2 月 14 日

: 施工監理 : 平成 14 年 9 月 4 日

(2) 施工業者

企業名 : 株式会社クボタ建設

契約日 : 平成 14 年 11 月 14 日

5. 発注者名

(1) 主管官庁名 : プノンペン市（英語名：Municipality of Phnom Penh）

(2) 実施機関名 : プノンペン市公共事業運局

（英語名：Department of Public Works and Transport, Municipality of Phnom Penh）

6. 実施経緯

(1) 調査等実施段階

基本設計調査実施期間 : 平成 13 年 3 月 19 日～平成 13 年 11 月 26 日

詳細設計調査実施期間 : 平成 14 年 2 月 14 日～平成 14 年 8 月 31 日

(2) 入札・契約段階

- 1) 事前資格審査期間 : 平成 14 年 9 月 18 日～平成 14 年 9 月 26 日
- 2) 入札 : 平成 14 年 9 月 18 日公示、平成 14 年 11 月 8 日入札

(3) 施工・調達段階

- 着工日 : 平成 14 年 11 月 27 日
- 竣工日 : 平成 16 年 9 月 3 日

7. 案件要請の背景・経緯

1970 年代以降プノンペン市では、治水・排水施設の機能が維持、管理不足のため著しく低下しており、恒常的に洪水・内水被害が発生している。さらに急激な人口増加に伴う被害の増大が懸念されている。かかる状況のもと、1998～99 年（平成 10～11 年）に JICA によりプノンペン市及び周辺地域の総合的な治水・排水対策マスタープランが策定された。このマスタープランで提案された緊急プロジェクトに対する基本設計調査が JICA により 2001 年（平成 13 年）に実施され、2002 年（平成 14 年）の詳細設計及び事業実施の E/N 署名・交換を経て、事業実施に至ったものである。

8. 計画の概要

(1) 目的

プノンペン市における洪水に対する高い安全性の確保、並びに同市内の内水被害の軽減を目的として、市の外郭堤防の補強、排水路、ポンプ場の改修・整備を行なう。

(2) 本計画の内容

本計画では上記を目的として、メコン川及びトンレサップ川の既往最大洪水（約 30 年確率）に対して充分安全となるよう、同市南部からの外水の浸入を防ぐ外郭堤防の補強、排水樋管の改修を実施するとともに、同市南部の対象地域に降る 5 年確率の降雨を 24 時間で堤防外に排水できるよう、同市南部地域の幹線排水路改修、幹線排水路末端におけるポンプ場新設、排水樋管の改修を実施する。整備・建設する主な施設は具体的には以下のとおりである。（次頁に計画位置図を示す）

1. Tompun 外郭堤防補強（延長 4.34km、堤防嵩上げ、天端道路舗装）
2. Meanchey、Salang 幹線排水路下流改修（延長 4.54km、4 橋梁改修、5 年確率降雨を排水）
3. 新 Tompun ポンプ場建設（排水容量 15m³/s、水中ポンプ 5 台）
4. Svay Pak 排水樋管ゲートを鋼製ゲートに交換（3 ゲート）
5. Salang 排水樋管、Tum Nup Toek 排水樋管を新設

(3) 計画の効果

計画対象地域であるトンブン流域において、以前半日～1 日湛水していた地域が本計画の実施により、湛水時間が数時間程度に短縮するなど内水被害状況は劇的に改善され、地域住民から感謝状が届けられるなど市民の生活環境の改善に大きく寄与している。



計画位置図（写真は完成時のもの）

(4) 施設の維持管理の現状

(a) 新 Tompun ポンプ場の運営維持管理

新 Tompun ポンプ場の運営維持管理の実態は、ポンプ場に用意されている運転維持管理記録帳(Log Sheets Book)に記録されている。年間を通し、運転開始時間/終了時間、運転時間、運転中の特記事項、部品の修理・交換等について運転員がこの記録帳に毎日記録し、監督者が確認サインを行っている。本計画実施時に作成したポンプ場の維持管理マニュアル(”Operation and Maintenance Rule for New Tompun Pumping Station”)も使用され、ほぼ月1回のモニタリングが実施されており、マニュアルにあるモニタリングシートがDPWTに保管されている。関係者間で機器実態情報を共有しており、適切な管理がなされていると判断される。

また、これらの記録帳を整理することによって、年間の各ポンプ場における総運転時間、排水量、電力消費量および料金、燃料消費量および費用等がまとめられており、次年度の運営維持管理に関する予算計画のベースとなっている。

(b) 排水路の維持管理

排水路の維持管理は、本計画実施時に作成した維持管理マニュアルに基づいて、ほぼ月1回のモニタリングが実施されており、マニュアルにあるモニタリングシートがDPWTに保管されている。これまでに実施された運営維持管理作業としては、排水路内に堆積したヘドロやごみの浚渫作業が主なものである。排水路沿いの住民参加による排水路の清掃作業も実施されており、適切な管理がなされていると判断される。

(c) Tompun 外郭堤防の維持管理

Tompun 外郭堤防は、本計画実施時に作成した維持管理マニュアルに基づいて定期的に点検している。これまでのところ、堤防に損傷箇所は認められず、補修を伴う維持管理作業は発生していない。



