

**APPENDIX 7**

**RELEVANT DATA**

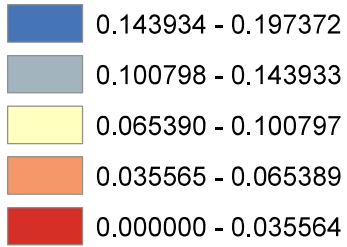
**7-1. DEVELOPMENT RATIO MAP ON RELEVANT  
INFRASTRUCTURE**

# 1. Chin State

## Chin State

### Legend

#### Road Density Rate (%)

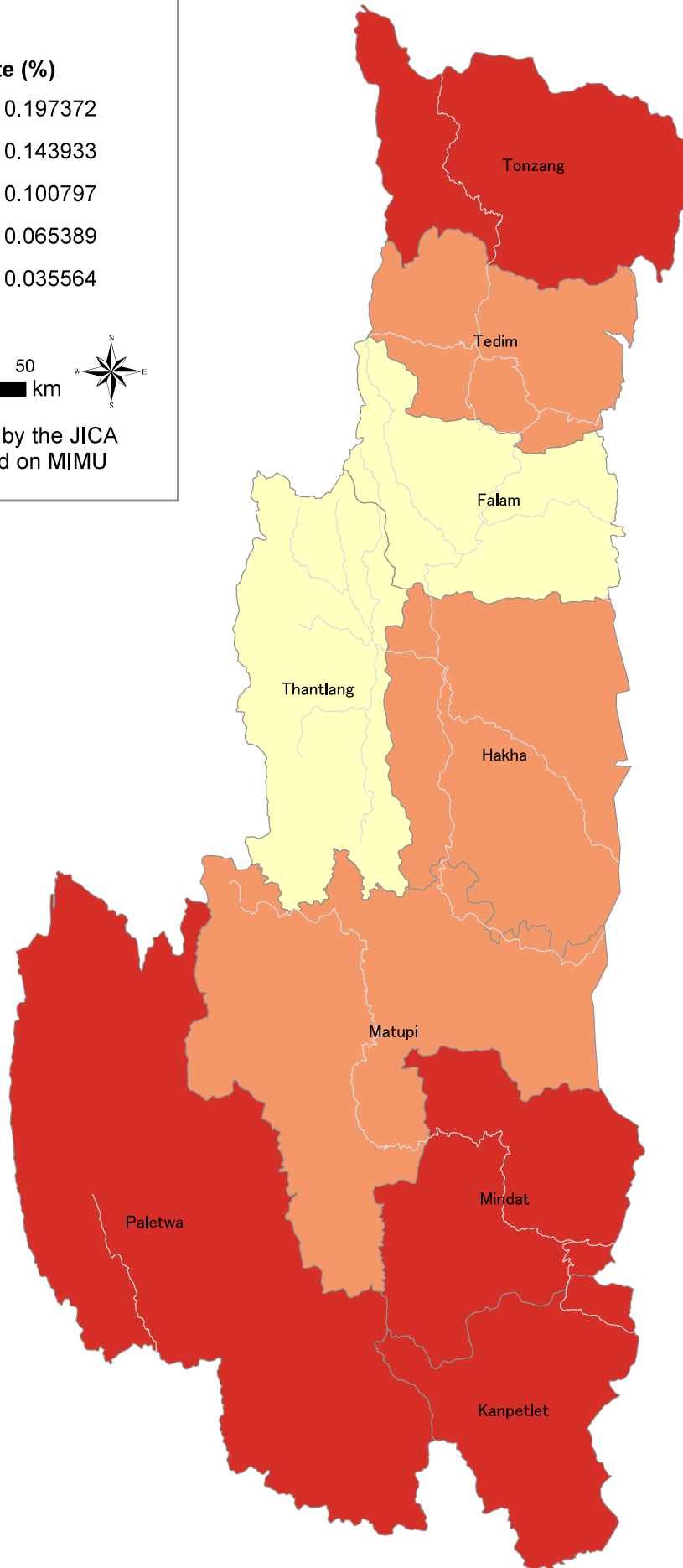


— Road

0 5 10 20 30 40 50 km



Source: Prepared by the JICA Project Team based on MIMU



Chin State

**Legend**

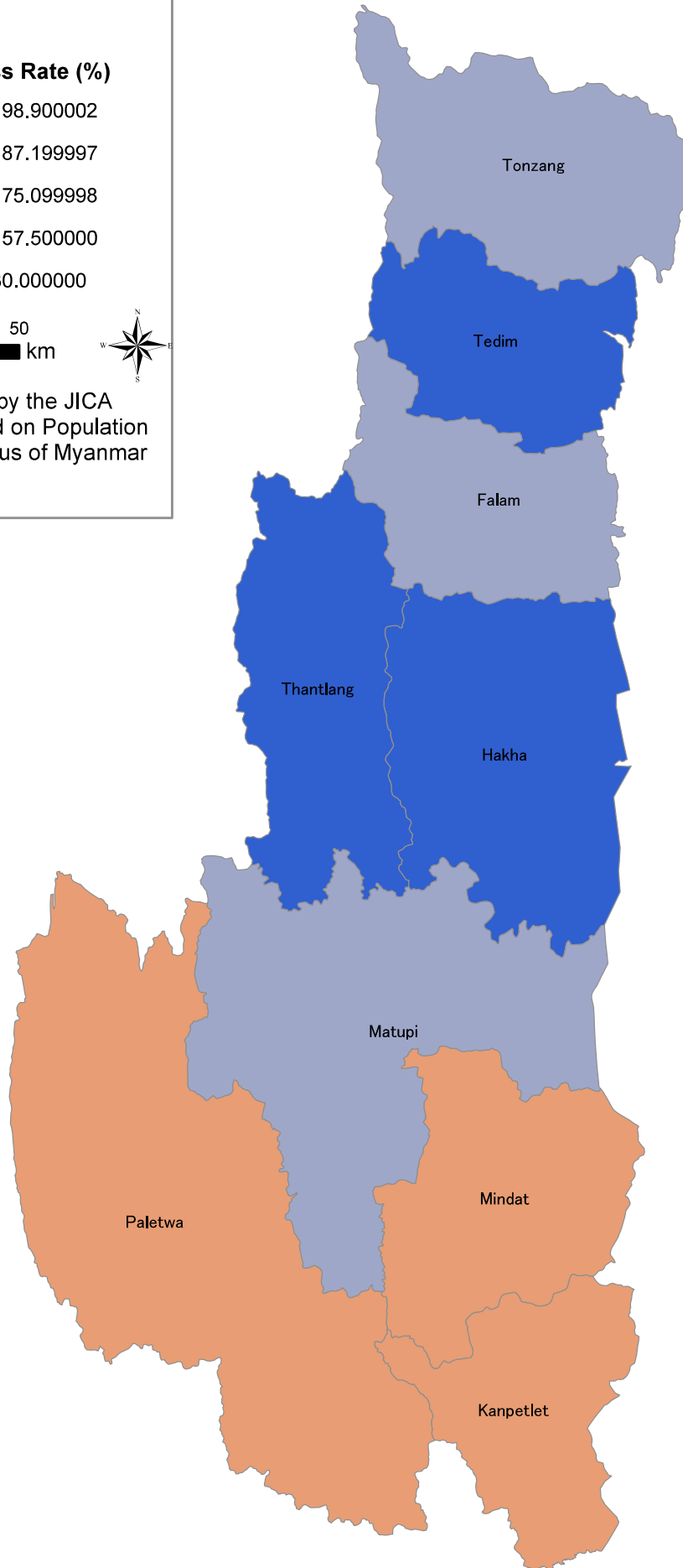
**Safe Water Access Rate (%)**

- 87.199998 - 98.900002
- 75.099999 - 87.199997
- 57.500001 - 75.099998
- 30.000001 - 57.500000
- 0.000000 - 30.000000

0 5 10 20 30 40 50  
km



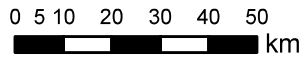
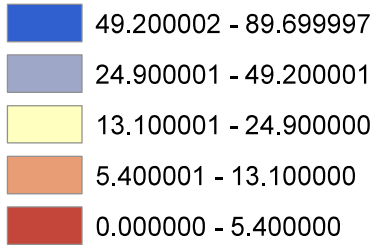
Source: Prepared by the JICA  
Project Team based on Population  
and Housing Census of Myanmar  
2014



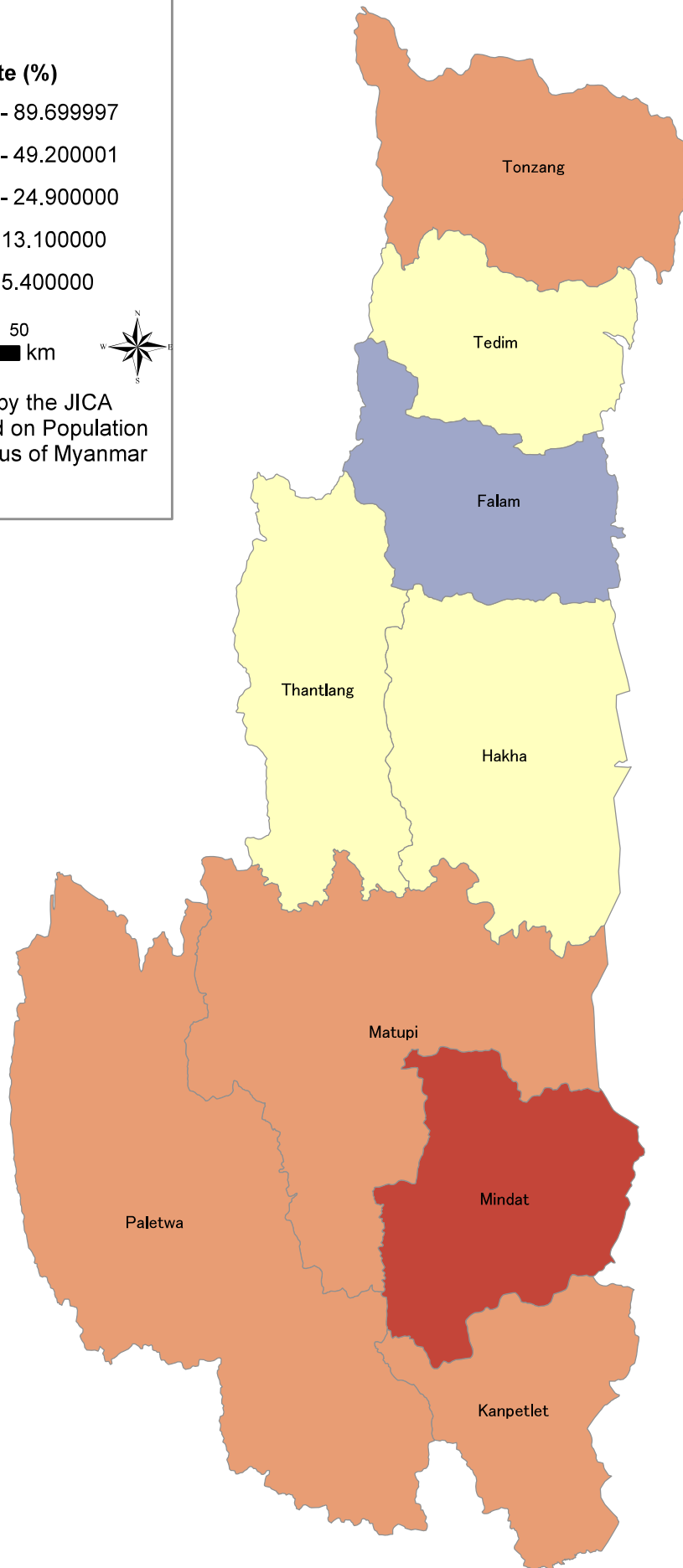
# Chin State

## Legend

### Electrification Rate (%)



Source: Prepared by the JICA Project Team based on Population and Housing Census of Myanmar 2014

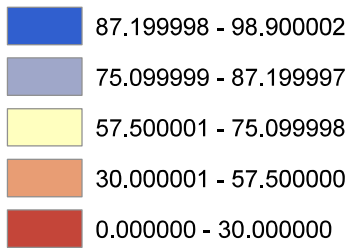




# Shan State

## Legend

### Safe Water Access Rate (%)

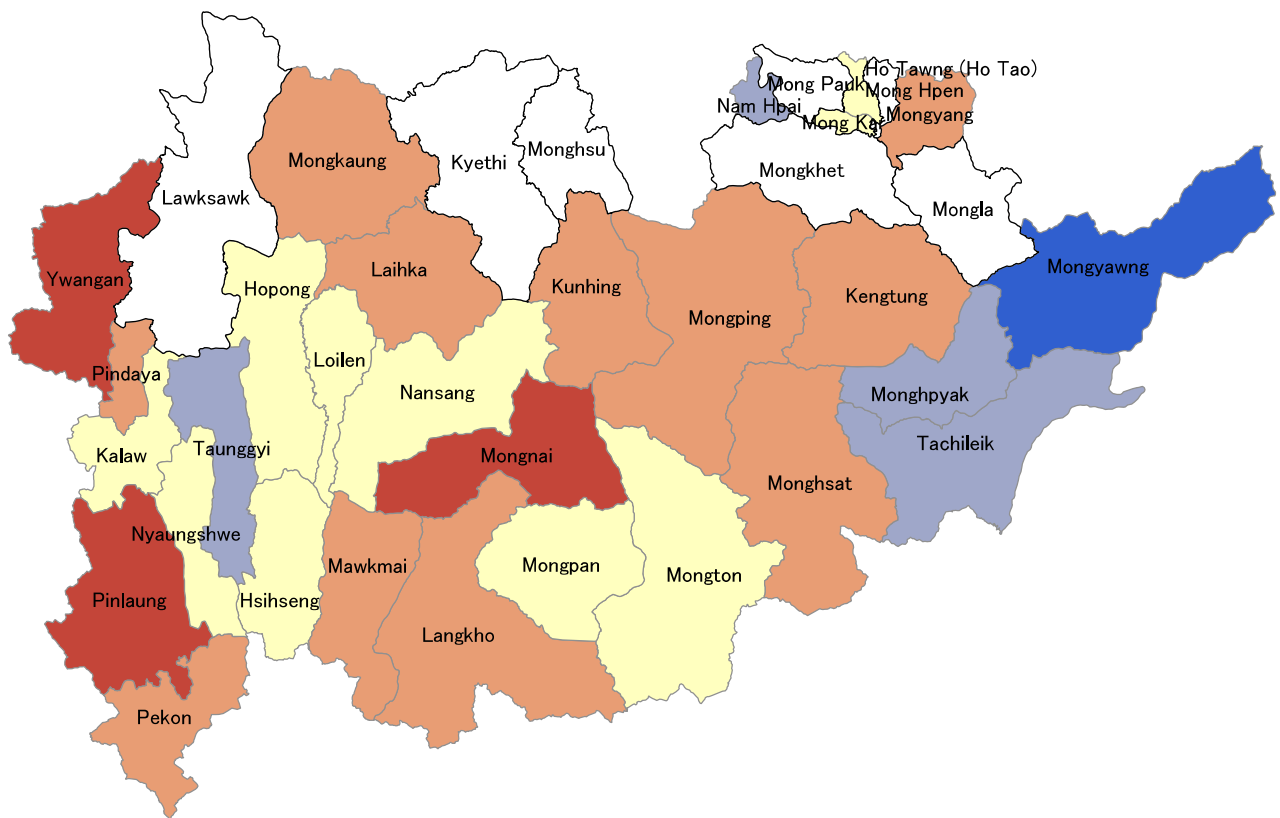


051020304050

km



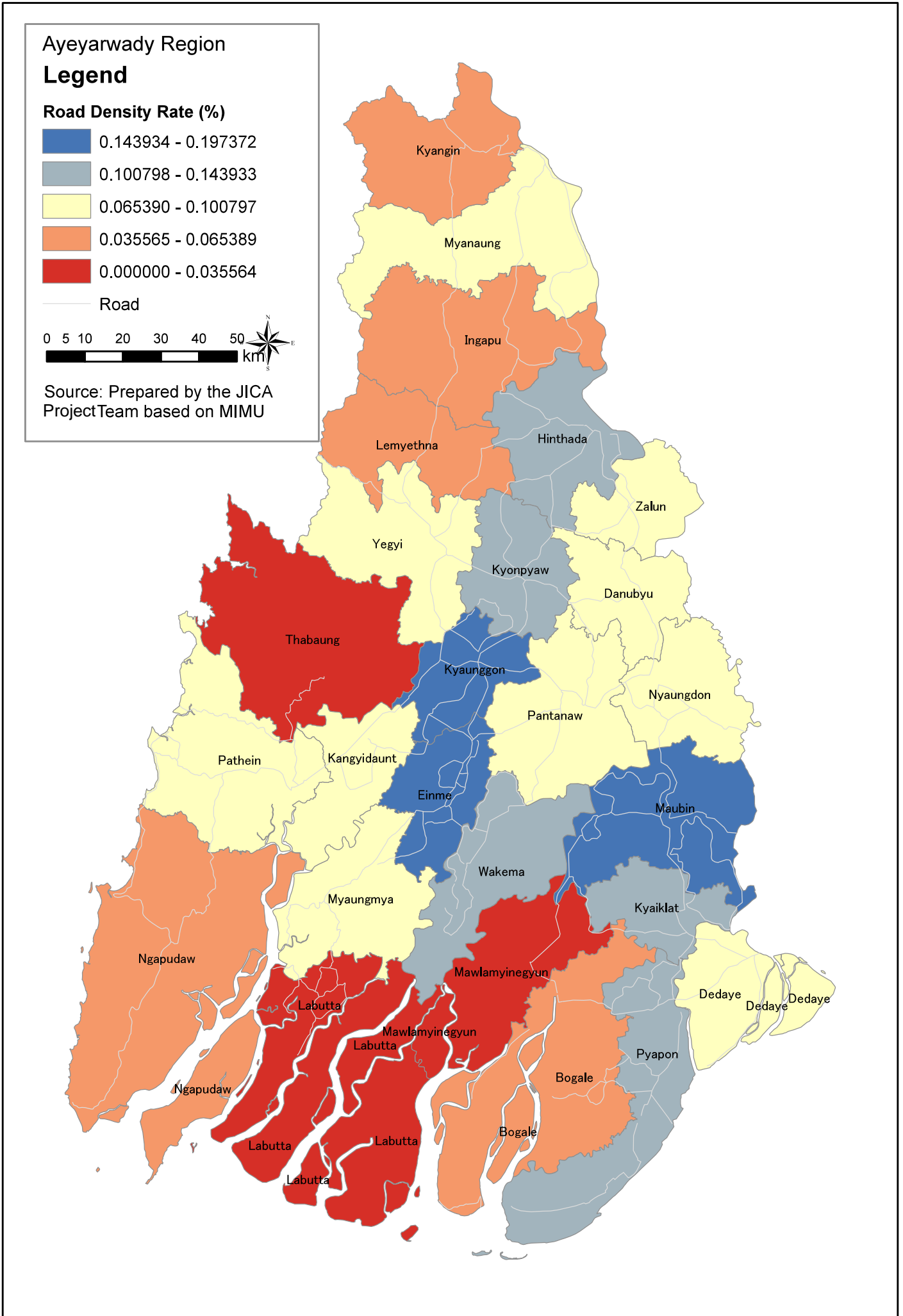
Source: Prepared by the JICA Project Team based on Population and Housing Census of Myanmar 2014







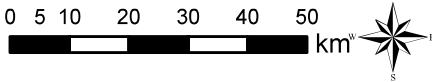
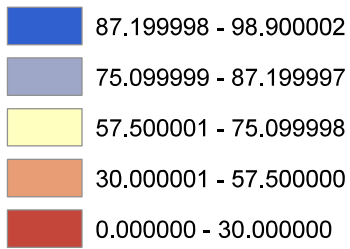
### 3. Ayeyarwady Region



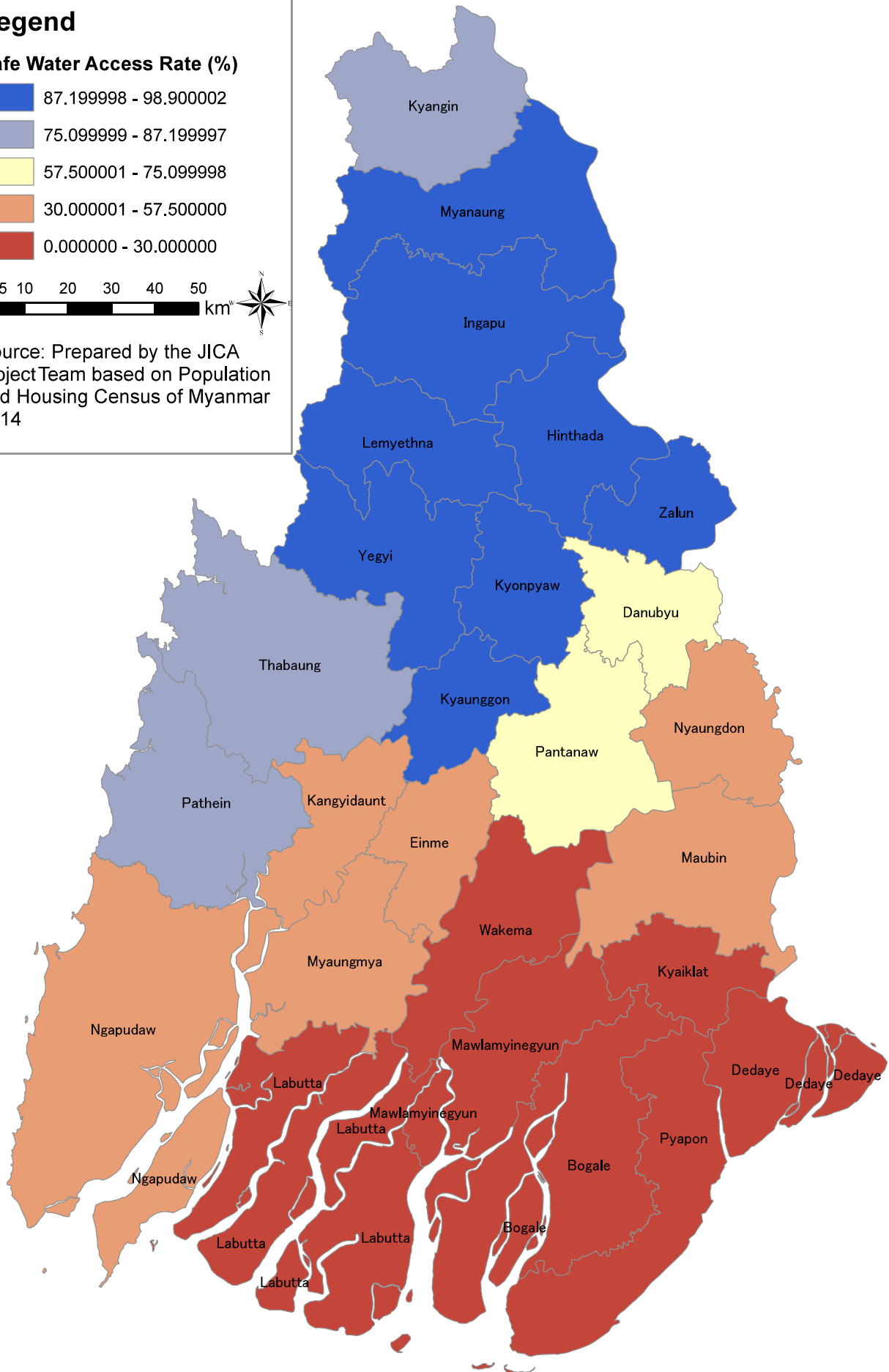
# Ayeyarwady Region

## Legend

### Safe Water Access Rate (%)



Source: Prepared by the JICA Project Team based on Population and Housing Census of Myanmar 2014

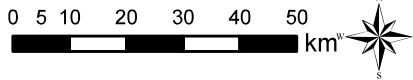


# Ayeyarwady Region

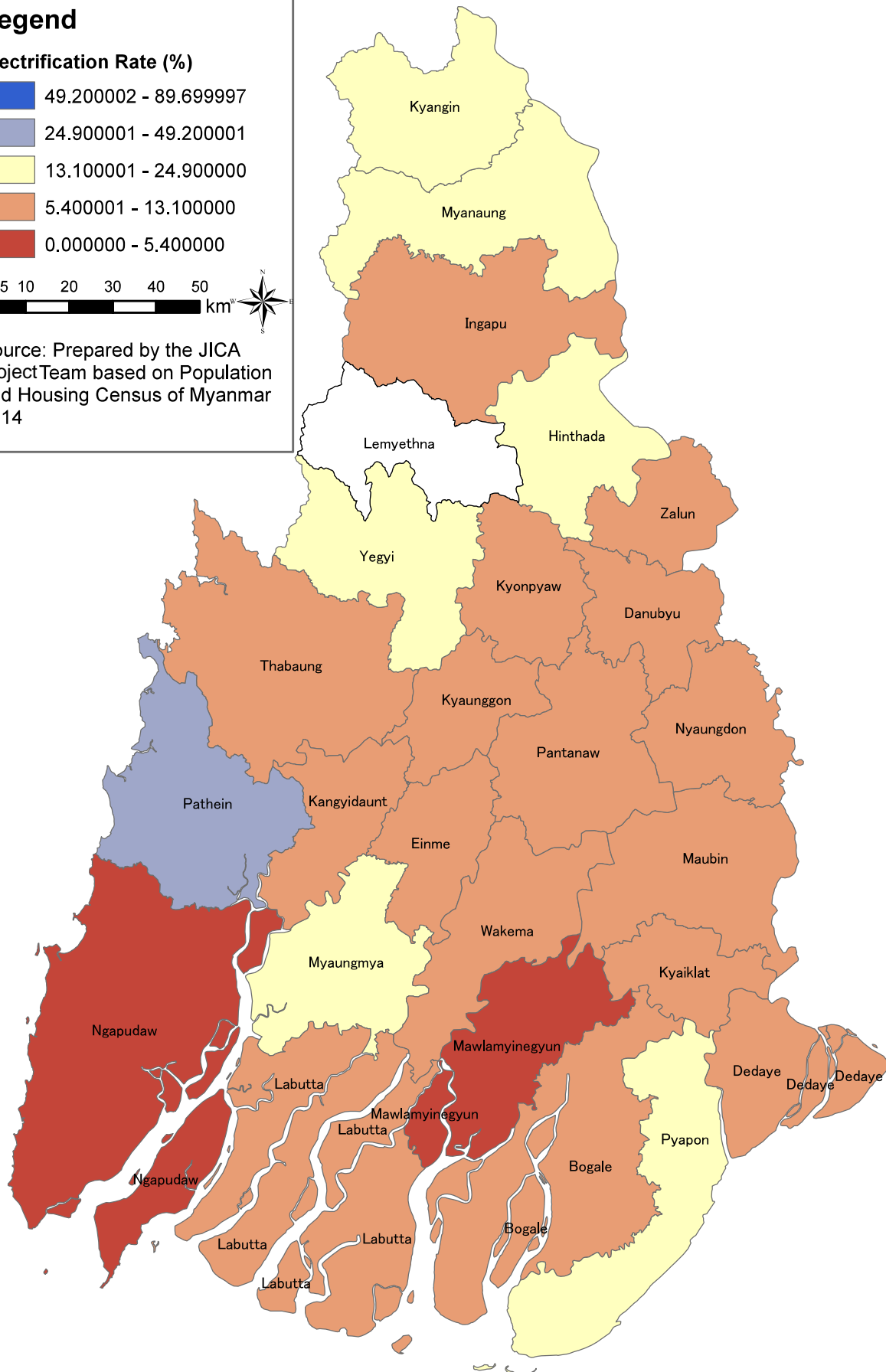
## Legend

### Electrification Rate (%)

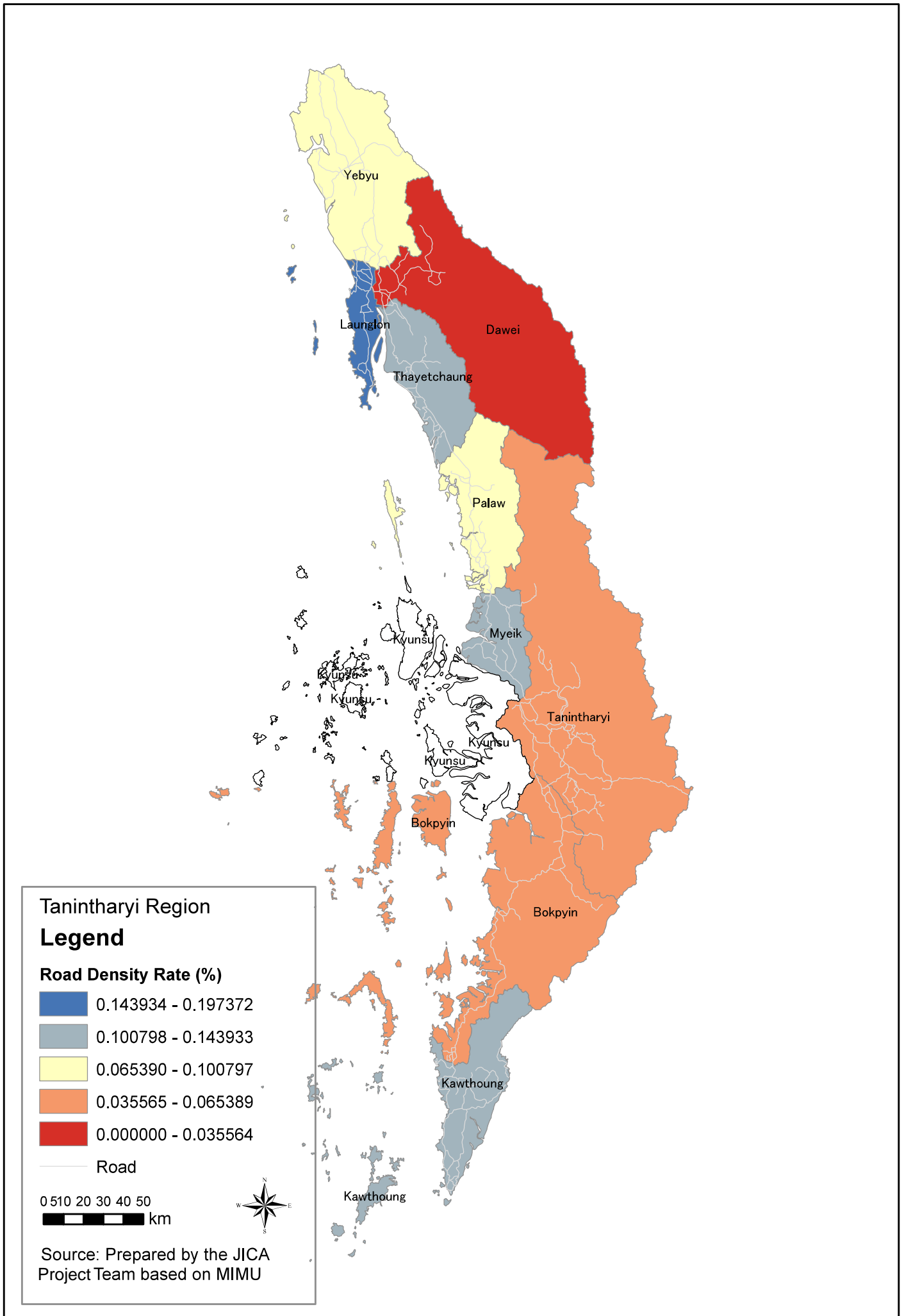
- 49.200002 - 89.699997
- 24.900001 - 49.200001
- 13.100001 - 24.900000
- 5.400001 - 13.100000
- 0.000000 - 5.400000

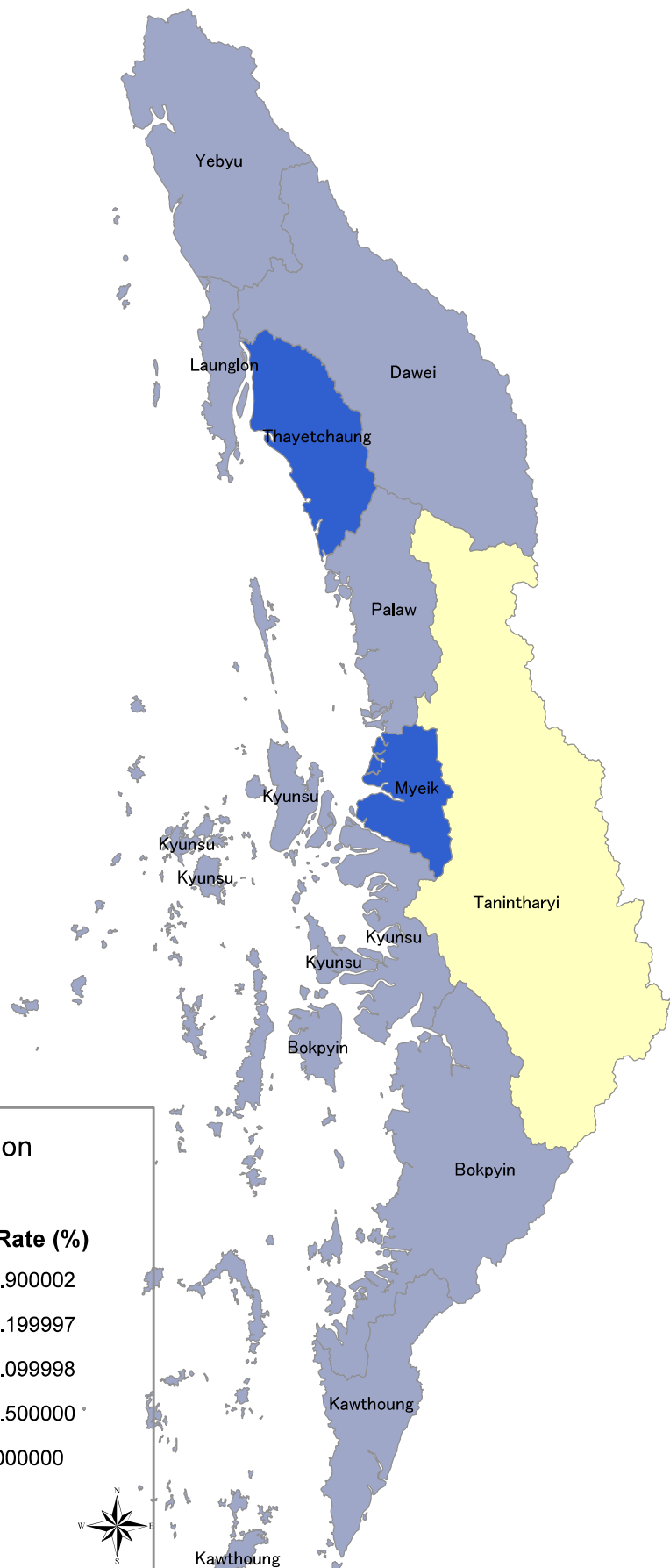


Source: Prepared by the JICA Project Team based on Population and Housing Census of Myanmar 2014



#### 4. Tanintharyi Region






**Ayeyarwady Region**

**Legend**

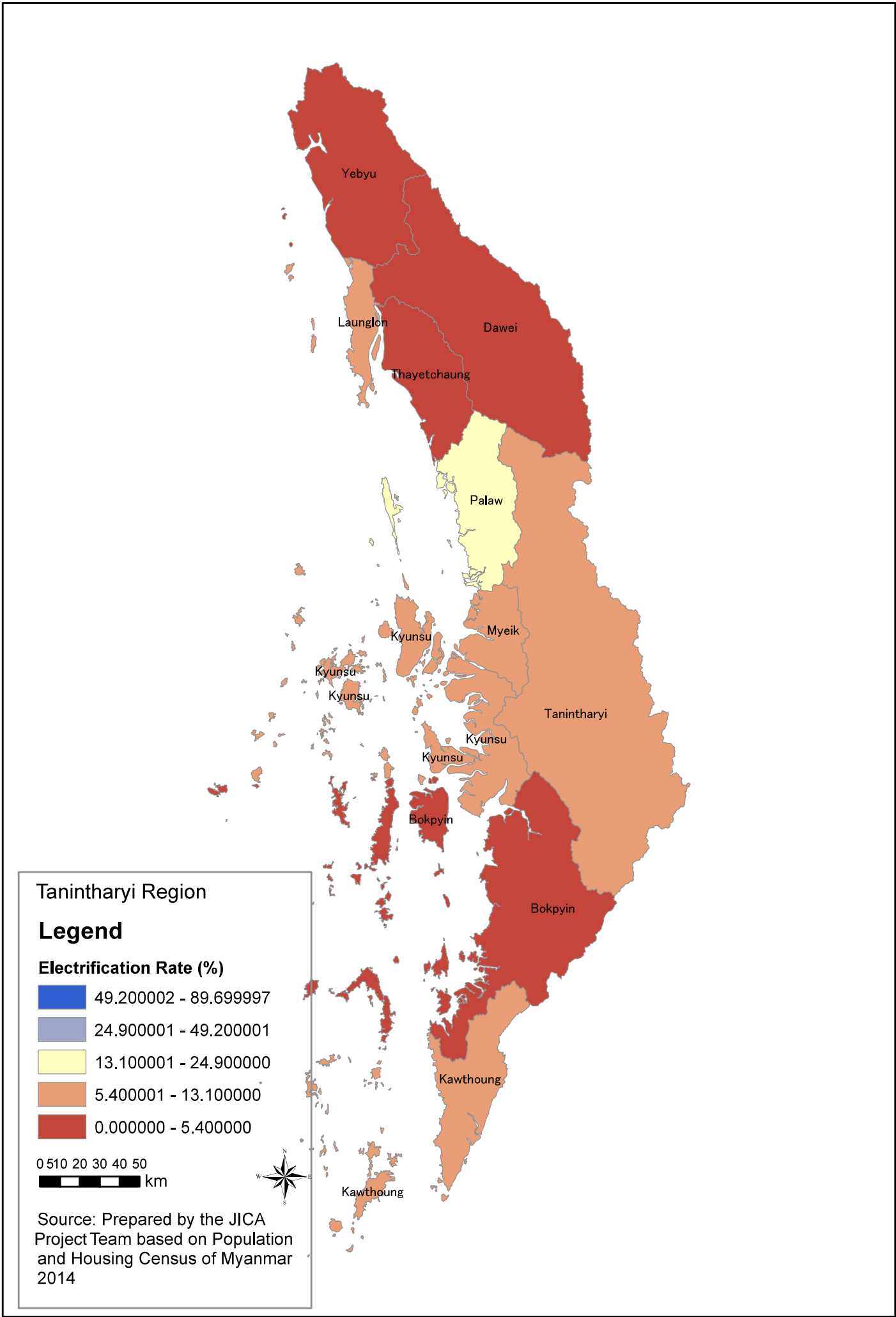
**Safe Water Access Rate (%)**

- 87.199998 - 98.900002
- 75.099999 - 87.199997
- 57.500001 - 75.099998
- 30.000001 - 57.500000
- 0.000000 - 30.000000

0 10 20 30 40 50  
 km

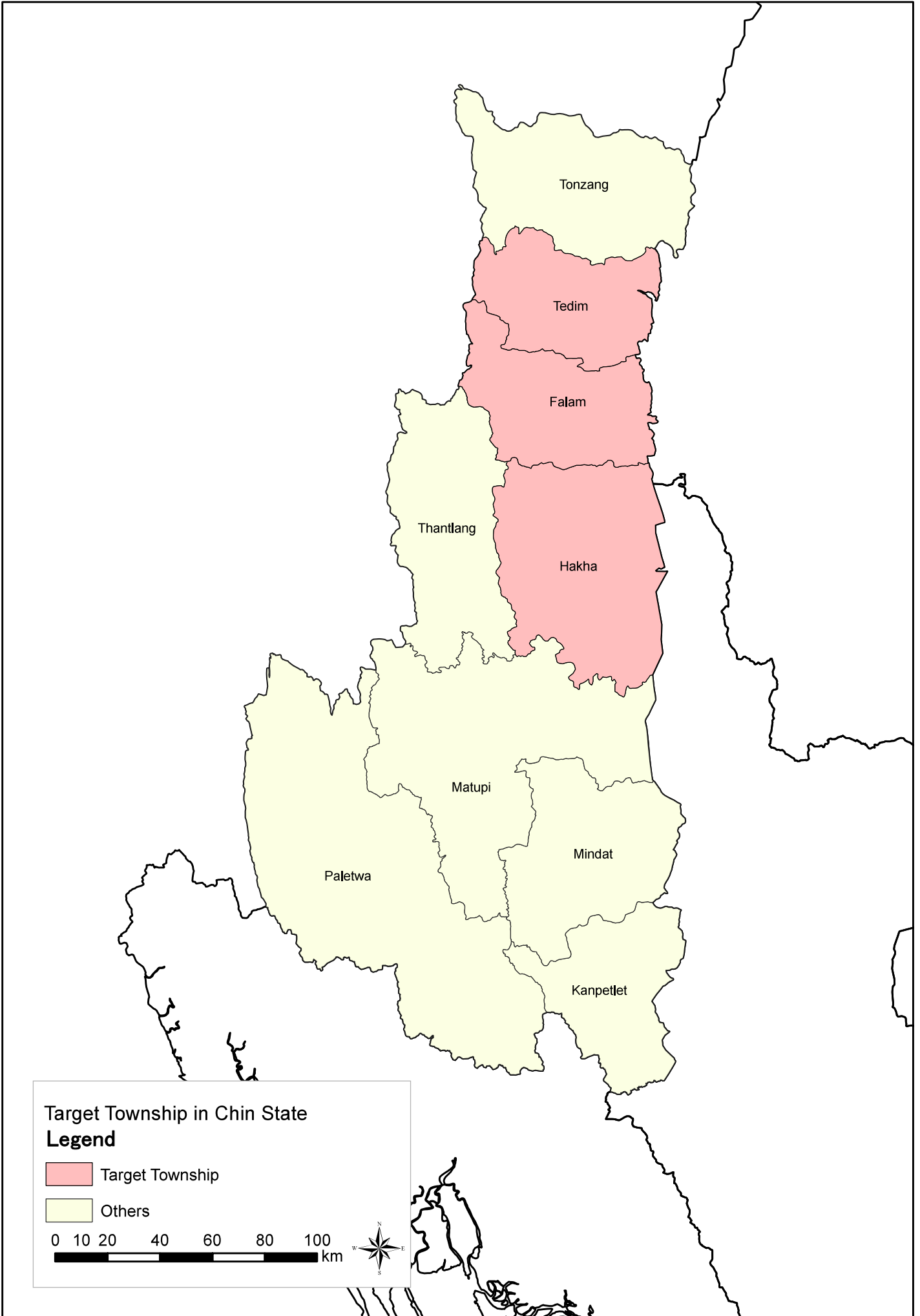


Source: Prepared by the JICA Project Team based on Population and Housing Census of Myanmar 2014



## **7-2. SELECTED SURVEY AREA MAP**

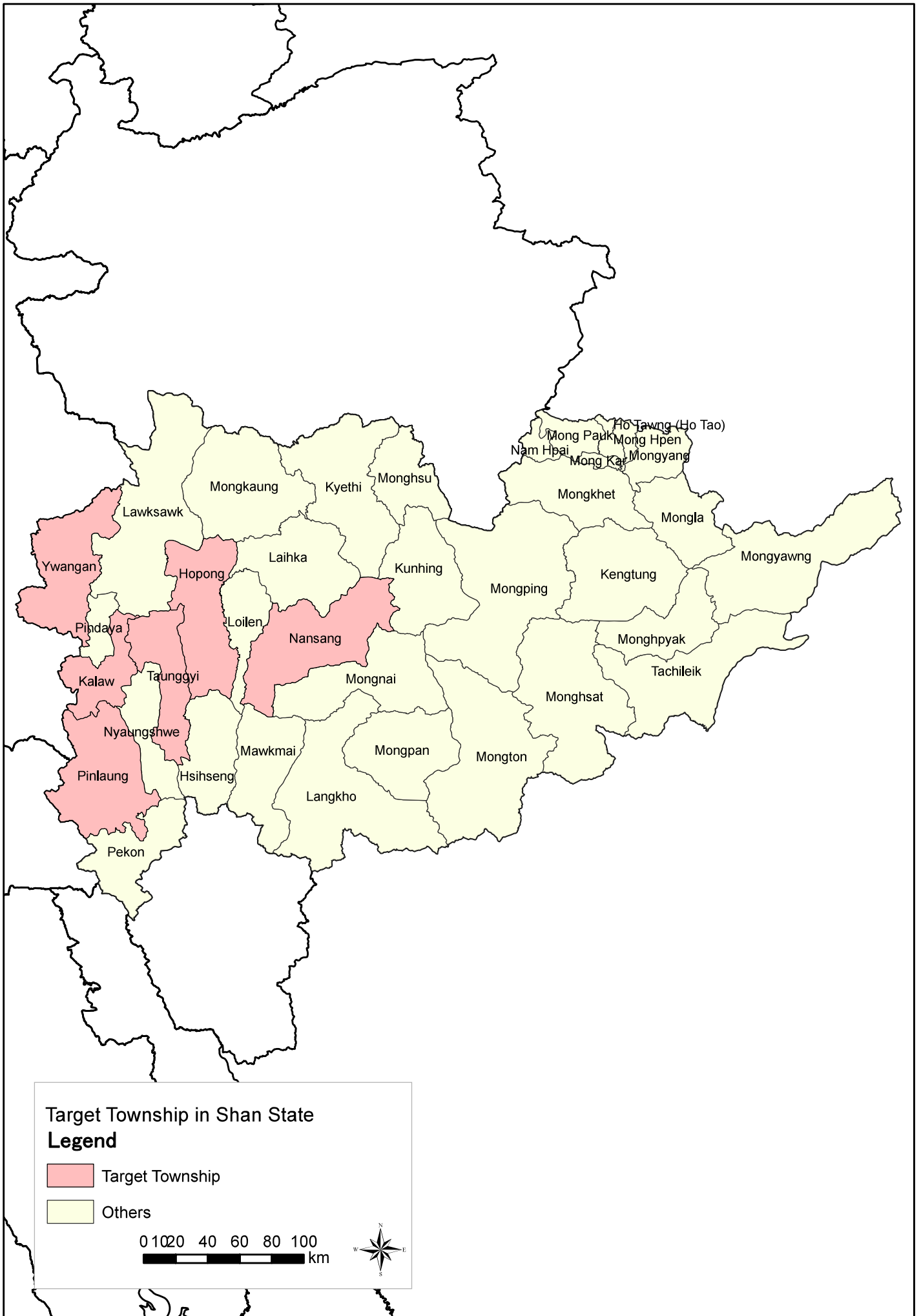
# 1. Chin State



Source: JICA Survey Team

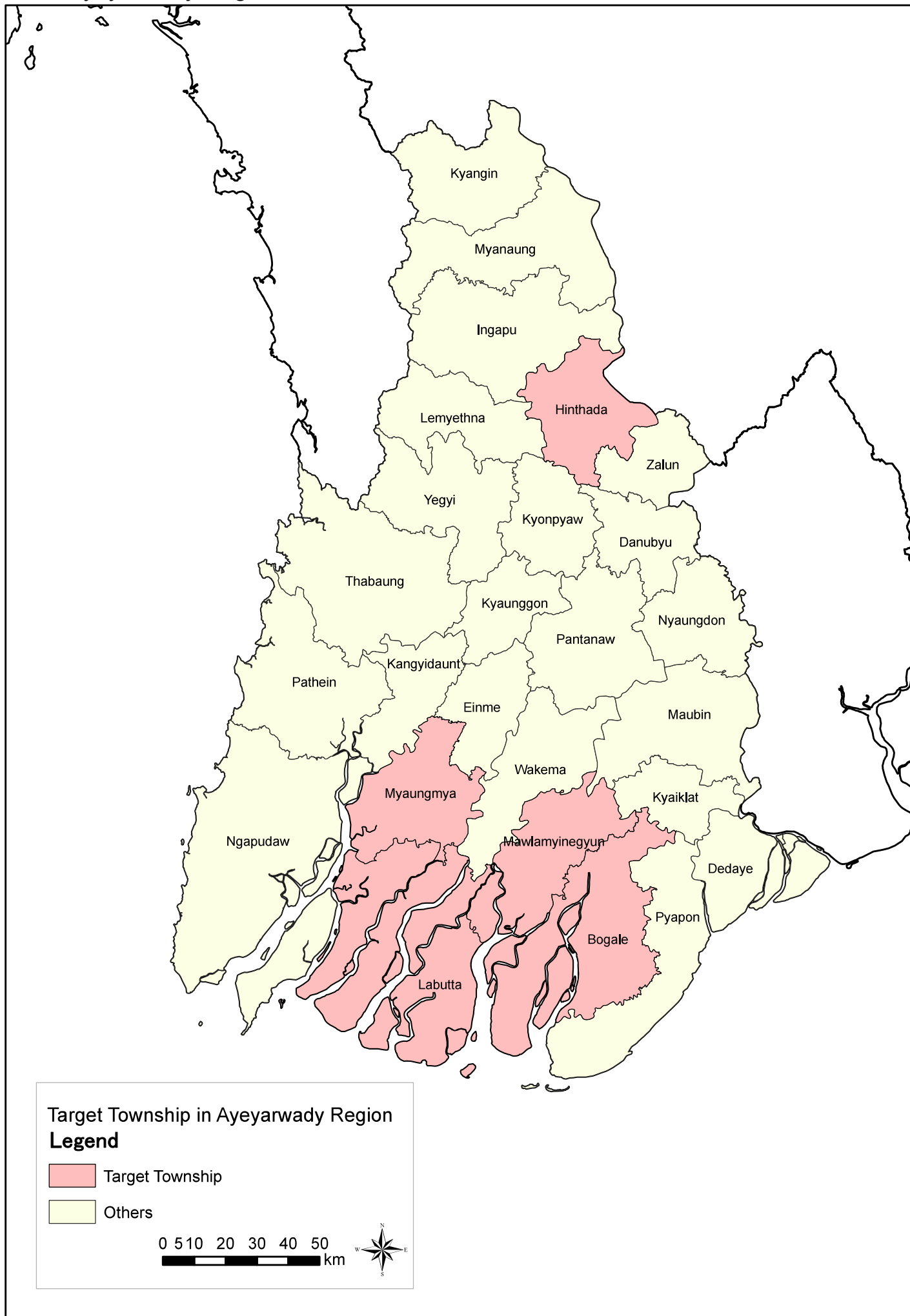


## 2. Shan State



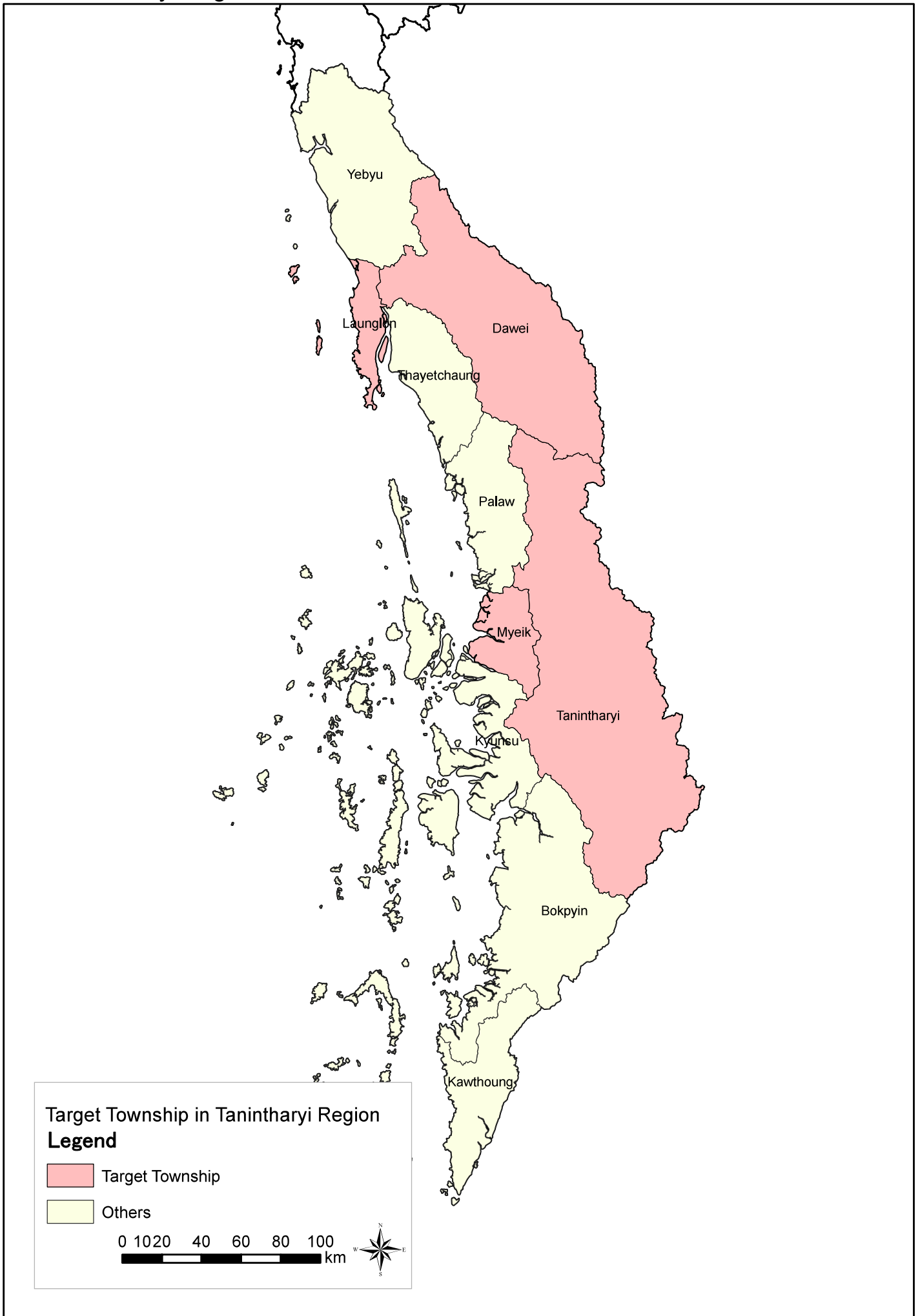
Source: JICA Survey Team

### 3. Ayeyarwady Region



Source: JICA Survey Team

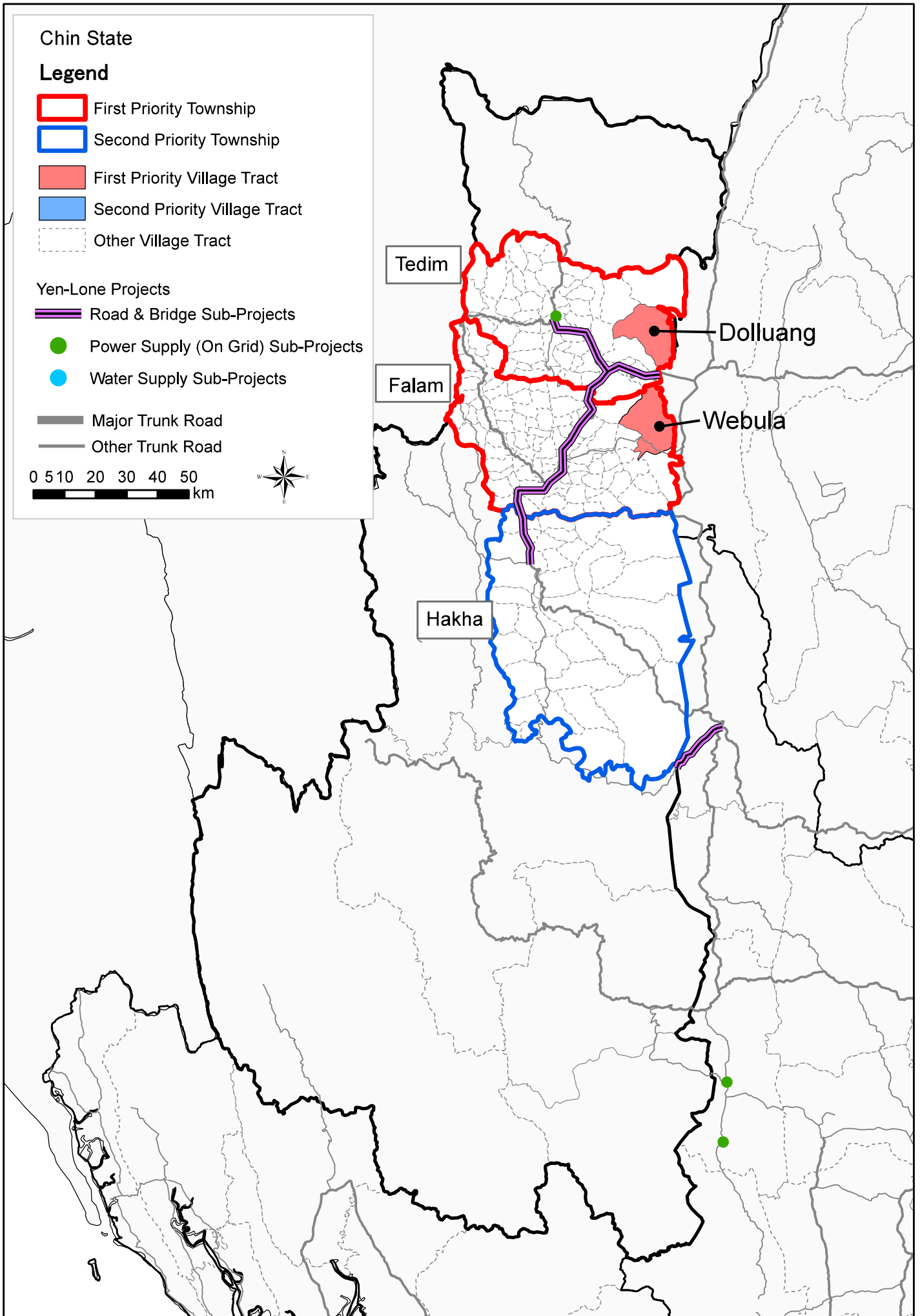
#### 4. Tanintharyi Region



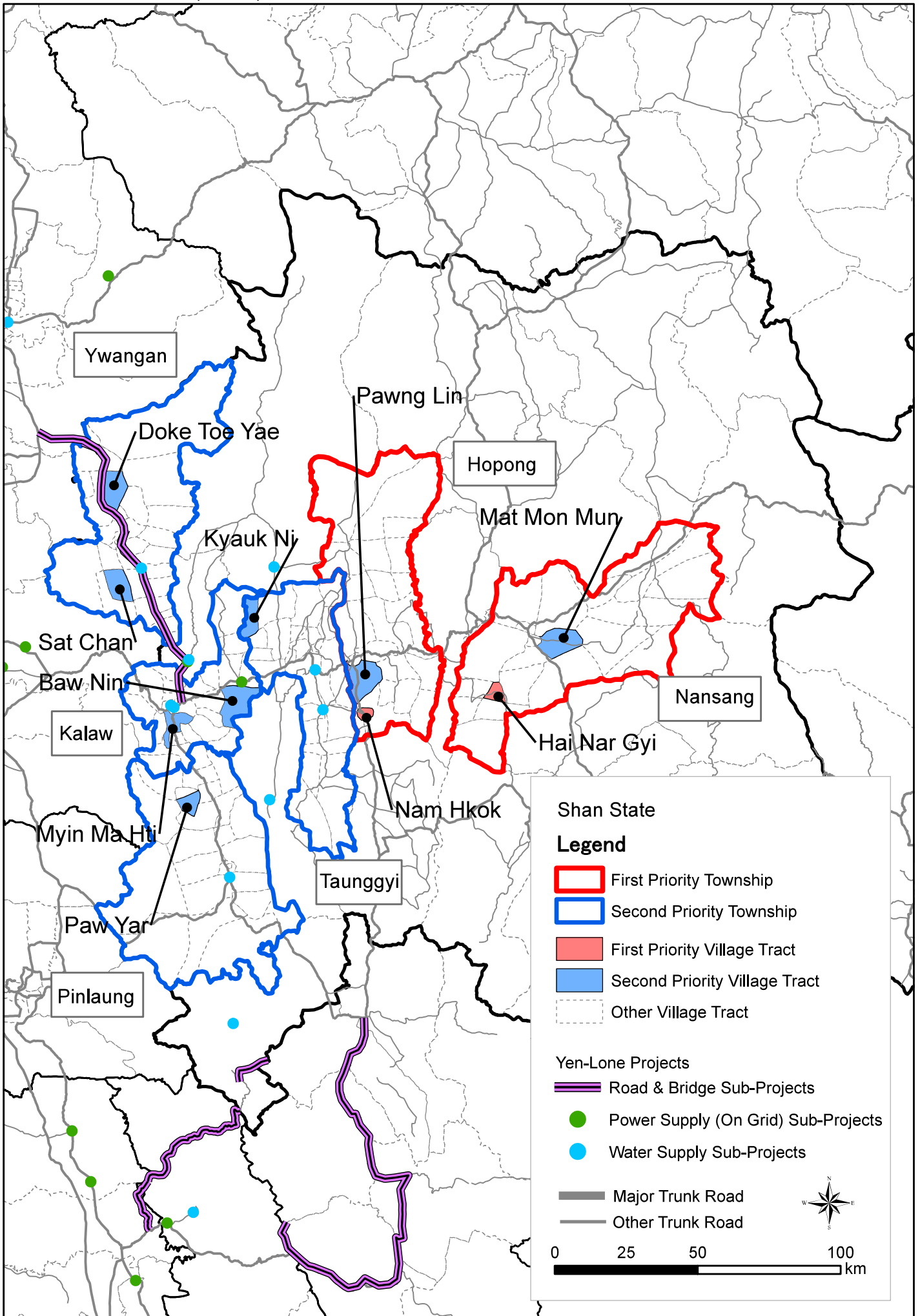
Source: JICA Survey Team

**7-3. JAPANESE YEN LOAN PROJECT MAP  
WITH PROPOSED PROJECTS**

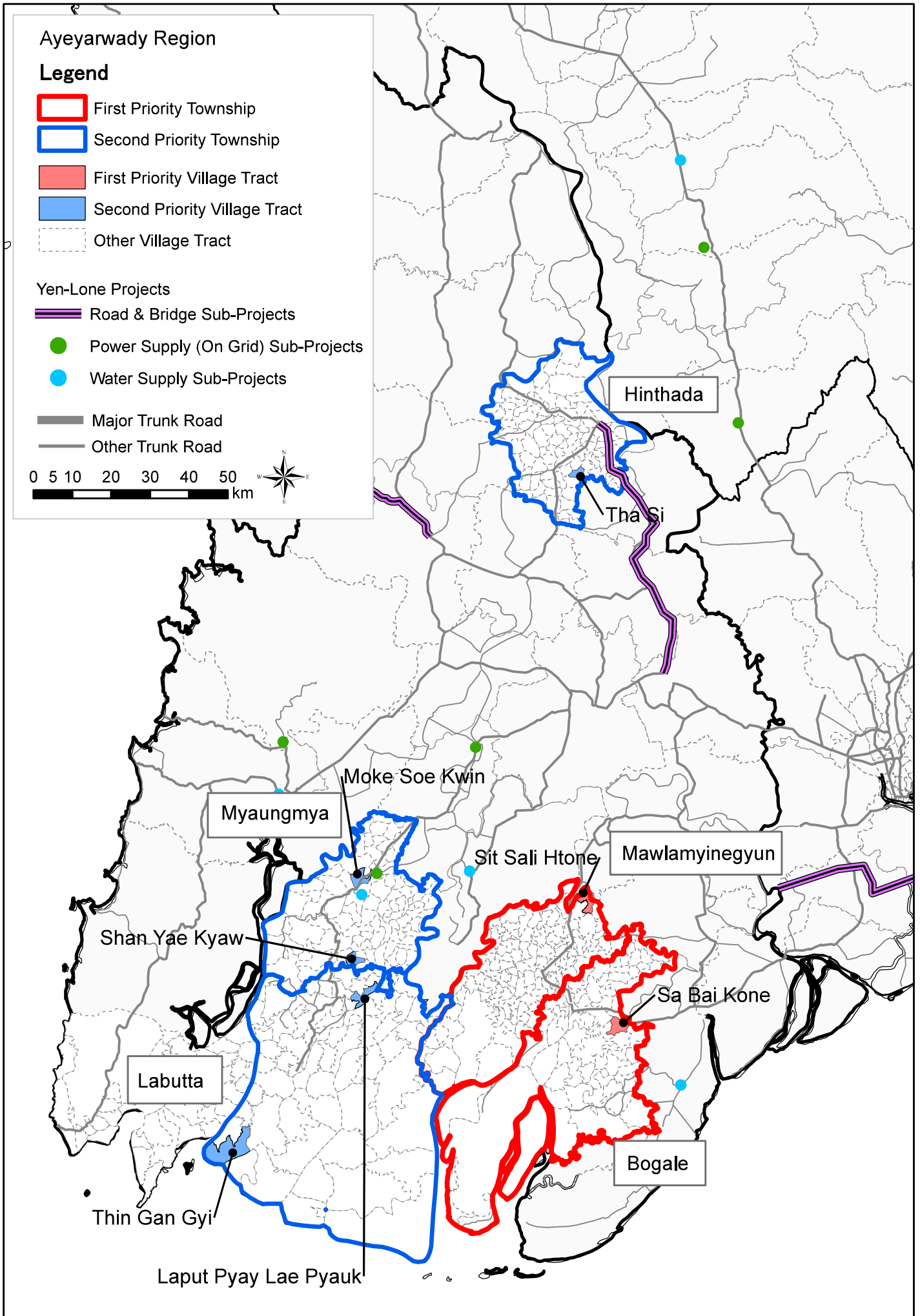
# 1. Chin State



2. Shan State (South)

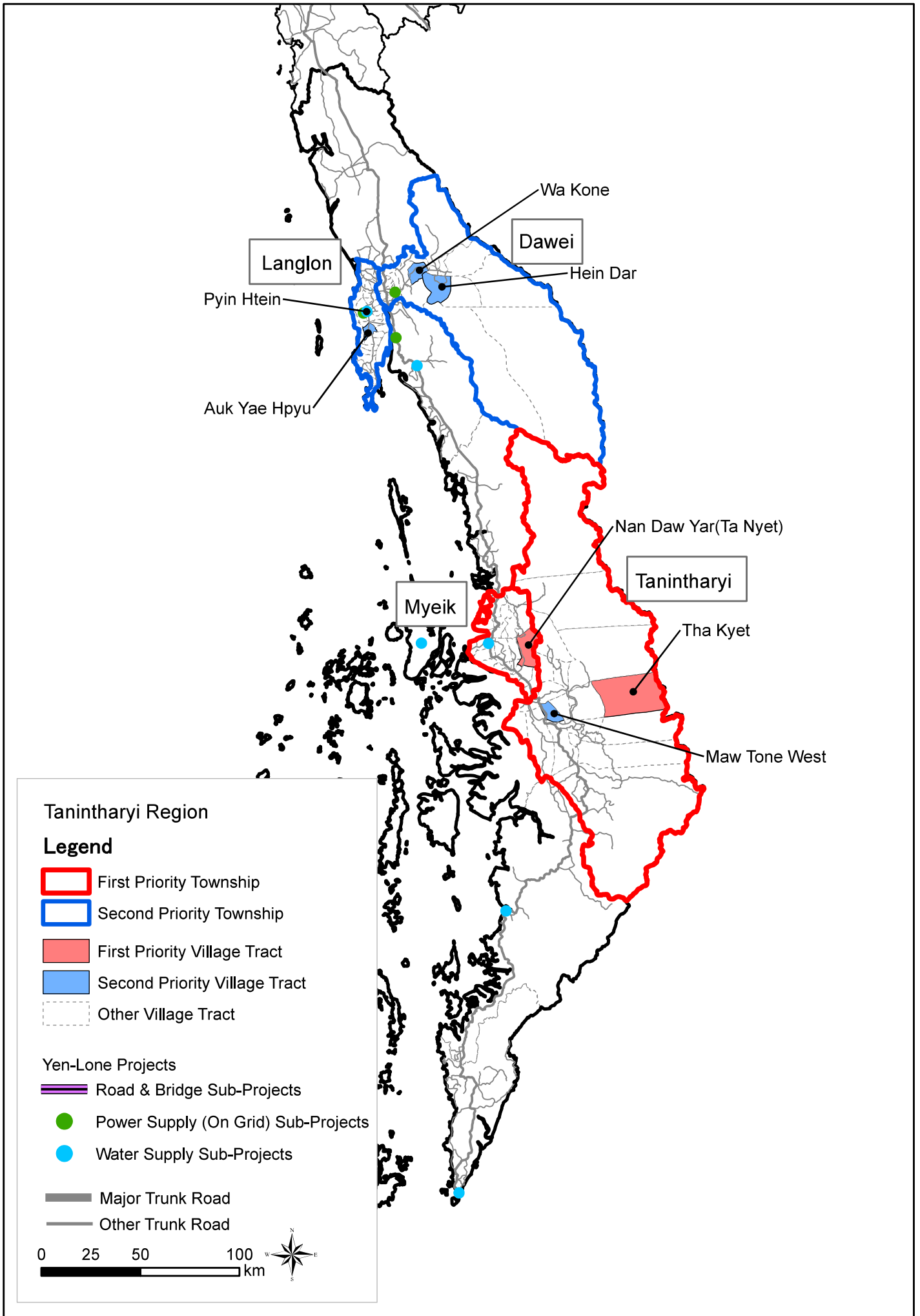


### 3. Ayeyarwady Region



Source: JICA Survey Team

#### 4. Tanintharyi Region



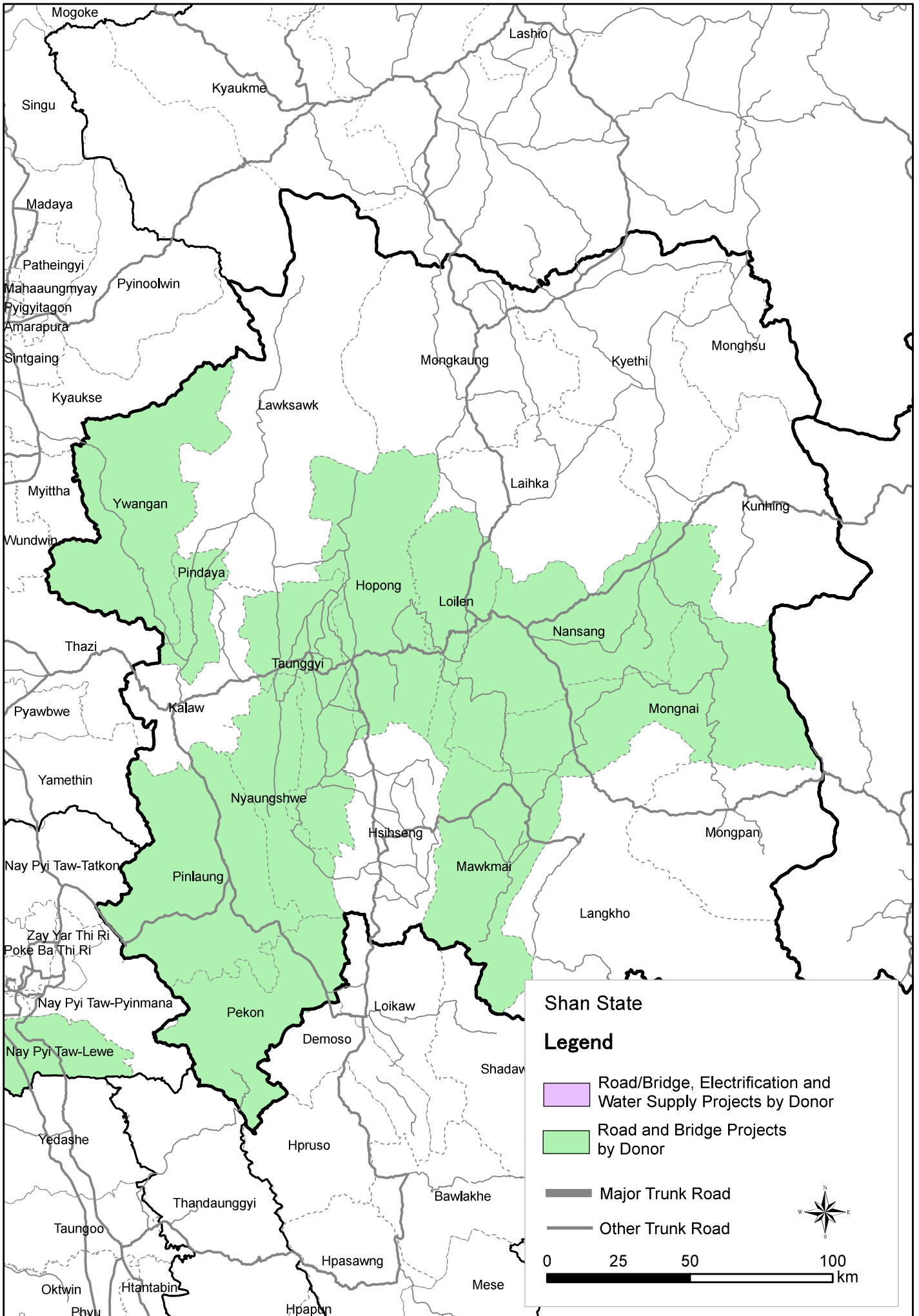
Source: JICA Survey Team



## **7-4. PROJECT MAP AND LIST BY OTHER DONOR**

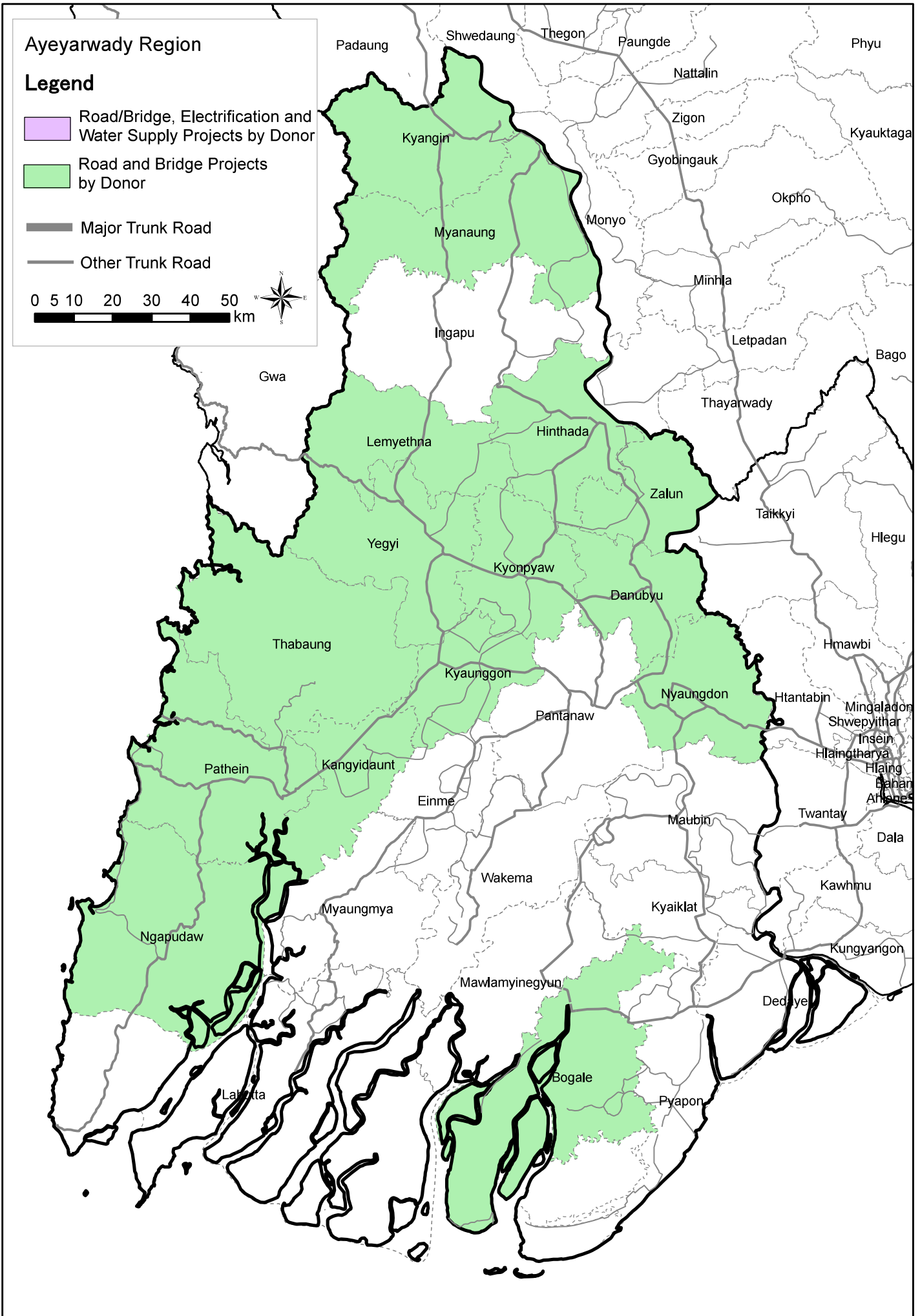


## 2. Shan State (South)

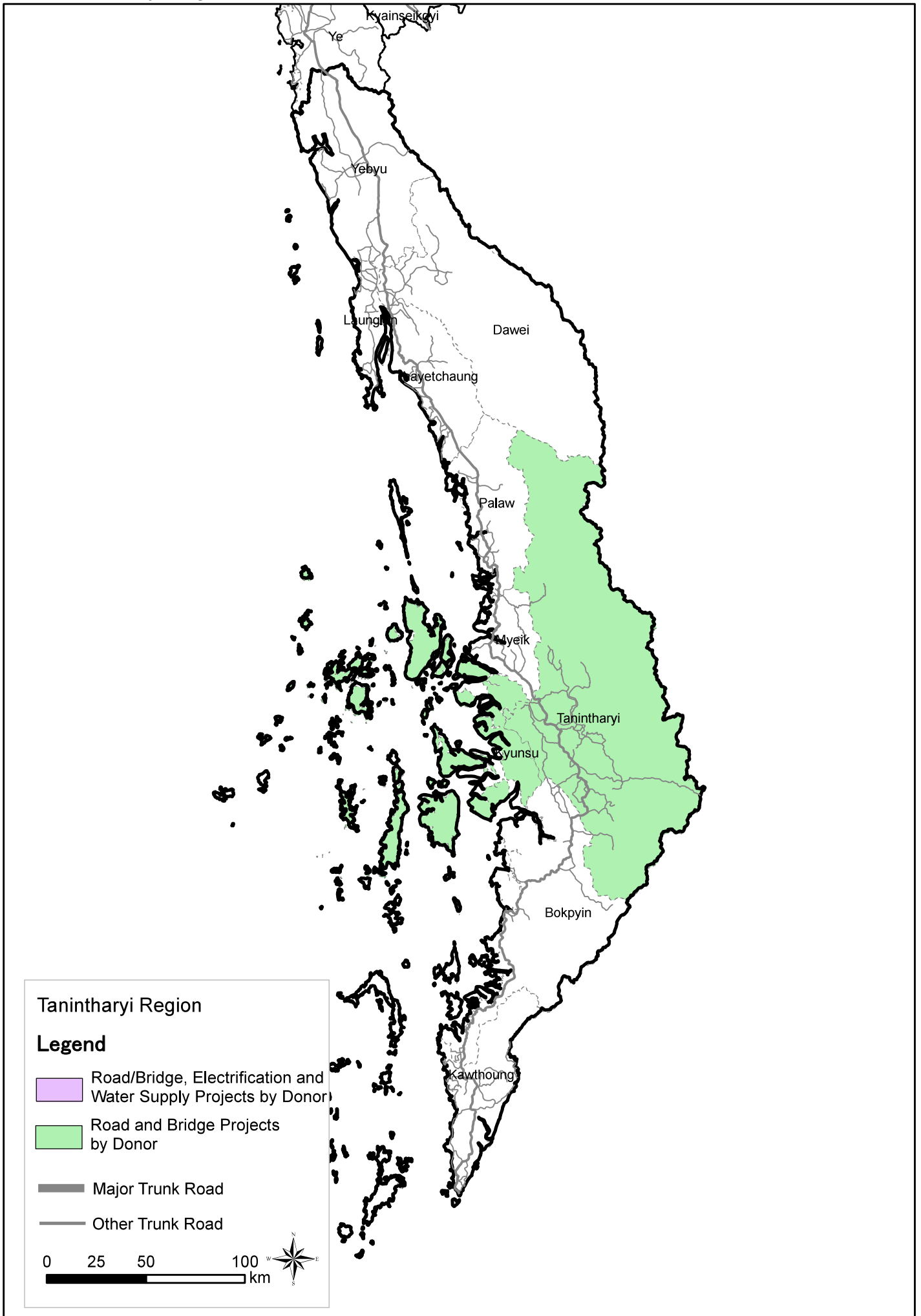


Source: Prepared by JICA Survey Team based on provided DATA from MALI A7-22

### 3. Ayeyarwady Region



#### 4. Tanintharyi Region



Source: Prepared by JICA Survey Team based on provided DATA from MALI A7-24

Ministry of Agriculture , Livestock and Irrigation  
Department of Rural Development

Emergency Support to Chin State for Livelihood Restoration

- Asia Development Bank -

### Rehabilitation Projects List for Rural Road and Bridge (Proposed)

Earth Road - 190/6 Miles  
 Bridge (Suspension, Timber, Bailey)- 140 Nos 10622 Feet

1 American Dollar = 1300 Kyats

No.	Township	Road		Bridge		Estimate Cost (Million Kyats)	Total Estimate Cost (Million Kyats)
		Length (Miles / Furlong)	Estimate Cost (Million Kyats)	Nos	Feet		
1	Hakha	17/6	502.571	4	450	330.000	832.571
2	Htan Ta Lan	32/7	487.475	9	935	437.750	925.225
3	Falam	24/5.38	364.875	71	2274	775.900	1140.775
4	Teedim	13/2.73	218.418	15	1424	725.400	943.818
5	Hton Zam	22/3	464.053	3	9	6.000	470.053
6	Mintut	62/2	883.018	24	2630	951.000	1834.018
7	Ma Tu P	17/4	303.318	14	2900	870.000	1173.318
		190/6.11	3223.728	140	10622	4096.050	7319.778
General (10%)							731.978
Total							8051.756
Proposed							8060.000

**Proposed list of Village Road to be Repair within Hakha Township**

Sr	Township	Name of Road		Type	Village to Town			Village to Village				Cost (Million Kyats)	Beneficiary Village (Nos)	Beneficiary Population (Nos)	Remark
					Length (Miles/Furlong)	Length to be repaired (Miles/Furlong)	Width (Ft)	Length (Mile/Furlong)	Length to be repaired (Miles/Furlong)	Width (Ft)	Total Length to be repaired (Mile/Furlong)				
1	Hakha	1	Thiphu - Rimpi Road	Earth				30/0	4/4	12	4/4	63.240	3	936	2nd
		2	Hakha - Khwar Bae DBST Road	Earth + Bitumen	5/0	2/5	18				2/5	304.946	4	669	1st
		3	Hakha - Hni Lhaing Road	Earth	7/0	1/5	12				1/5	22.837	2	882	1st
		4	Lone Khin - Bwe Lu	Earth				80/0	4/0	10	4/0	46.844	3	2265	2nd
		5	Dan Bar Lo - Dawn Var Road	Earth				12/0	2/3	10	2/3	27.814	3	830	2nd
		6	Hakha - Zinkhwar Road	Earth	12/0	1/4	12				1/4	21.080	2	621	2nd
		7	Hakha Thiphu	Earth	15/0	0/5	12				0/5	8.783	4	1202	2nd
		8	Hakha - Dar Oh Chin Road	Earth	80/0	0/4	10				0/4	7.027	2	344	2nd
			Total for Hakha Township		119/0	6/7		122/0	10/7		17/6	502.571	23	7749	



Proposed list of Village Bridge to be Repair within Hakha Township

Sr	Township	Name of Road		Type	Village to Town			Village to Village			Total		Cost (MillionKyats)	Beneficiary Population (Nos)	Beneficiary y Village (Nos)	Remark
					No	Length (Ft)	Width (Ft)	No	Length (Ft)	Width (Ft)	No	Ft				
1	Hakha	1	Bwal Nhu Bailey Bridge (Between ZarHtarl and Bon Lone)	Bailey				1	200	12	1	200	240.00	1332	2	2nd
		2	Thi Phu - Hlan Hai Bridge	Suspension				1	100	6	1	100	30	800	2	2nd
		3	Daung Chaung Bridge (Between Fai and Khwar Bae)	Timber				1	50	12	1	50	30	637	3	1st
		4	Thi Phu - Falam Bridge	Suspension				1	100	6	1	100	30	800	2	2nd
			Total for Hakha Township					4	450		4	450	330	3569	9	

Proposed list of Village Road to be Repair within Htan Ta Lan Township

Sr	Township	Name of Road	Type	Village to Town			Village to Village				Cost (Million Kyats)	Beneficiary Village (Nos)	Beneficiary Population (Nos)	Remark
				Length (Miles/Furlong)	Length to be repaired (Miles/Furlong)	Width (Ft)	Length (Mile/Furlong)	Length to be repaired (Miles/Furlong)	Width (Ft)	Total Length to be repaired (Mile/Furlong)				
1	Htan Ta Lan	1 Hnar Rain - Khwar Ha Ran Road	Earth	8/0	0/2	18				0/2.00	3.513	2	3721	2nd
		2 Laung Ta Lan - Lone Kwal Thae Road	Earth				12/0	0/2	12	0/2.00	3.513	2	925	1st
		3 Ta Lan Ywar - Ha Ri Phi (Kha) Kyar Road	Earth				12/0	0/3	18	0/3.00	7.905	2	1357	1st
		4 Sel Lin - One Kwar Road	Earth				9/0	0/1	18	0/1.00	2.635	2	1151	2nd
		5 Wao Thwe - Kyaung Htee Yar Car Road	Earth				28/0	0/1	12	0/1.00	1.757	2	1531	2nd
		6 Lone Kway Pi - Phan Htan Kyar Car Road	Earth				8/0	0/1	12	0/1.00	1.757	2	1484	2nd
		7 Nga Fai Thae - Lone Kyway Pi Kyar Car Road	Earth				6/0	0/1	12	0/1.00	1.757	2	476	2nd
		8 Lu Pi Lone - Thi Ki Kyar Car Road	Earth				5/0	0/1	12	0/1.00	1.757	2	583	2nd
		9 Bel Har - Lu Pi Lone Kyar Car Road	Earth				10/0	0/1	12	0/1.00	1.757	2	786	2nd
		10 Far Ta Lan - Lai Lin Kyar Car Road	Earth				11/0	0/4	18	0/4.00	10.540	2	1334	2nd
		11 In Mhwan Pi - Nhar Rain Kyar Myay Thar Road	Earth				14/0	0/1	18	0/1.00	2.635	2	2287	2nd
		12 Zel Fai - Kyaung Htee Yar Myay Thar Road	Earth				28/0	13/5	12	13/5.00	191.477	2	1693	1st
		13 Zel Fai - Ta Lon Myay Thar Road	Earth				10/0	7/0	12	7/0.00	98.373	2	1004	1st
		14 Wong Thue - Ta Lone Yam Myay Thar Road	Earth				10/0	6/0	12	6/0.00	84.320	2	842	1st
		15 Mhwan Htarl - Ta Lan Thae - Mhwarl Kai Myay Thar Road	Earth				13/0	1/4	18	1/4.00	31.620	3	985	1st
		16 Ta Lan Thae - Ta Lan Khwar Myay Thar Road	Earth				11/0	1/0	18	1/0.00	21.080	2	1118	1st
		17 Ywar Pi Yan - Shar Lam Myay Thar Road	Earth				10/0	0/1	12	0/1.00	1.757	2	509	2nd
		18 Zel Fai - Kyaung Htee Yar Myay Thar Road	Earth				28/0	1/3	12	1/3.00	19.323	2	1693	1st
		Total for Htan Ta Lan Township					225/0	32/5		32/7.00	487.475	37	23479	

Proposed list of Village Bridge to be Repair within Htan Ta Lan Township

Sr	Township	Name of Road	Type	Village to Town			Village to Village			Total		Cost (MillionKyats)	Beneficiary Population	Beneficiary Village	Remark
				No	Length (Ft)	Width (Ft)	No	Length (Ft)	Width (Ft)	No	Ft				
1	Htan Ta Lan	1 Htee Chaung Bridge (Between Nhar Rain and Khwar Ha Ran)	Timber				1	50	14	1	50	30	3720	2	1st
		2 Baway Hnu Chaung Bridge (Between Nhar Rain and Sar Thae)	Suspension				1	250	14	1	250	125	2406	2	2nd
		3 Baway Hnu Chaung Bridge (Between Lai Lin and Lao Htan Ta Lan)	Suspension				1	160	4	1	160	48	1352	2	2nd
		4 Lago Bridge (Between Lai Lin and Lao)	Suspension				1	50	12	1	50	15	1246	2	2nd
		5 Lago Bridge (Between Fa Ta Lan and Lai Lin)	Suspension				1	50	12	1	50	15	1334	2	2nd
		6 Thwi Si Chaung Bridge (Between Wao Thu and Kyaung Htee Yar)	Bailey					60	12	0	60	72	1531	2	1st
		7 Sir Yote Si (Between Kyaung Htee Yar and Zel Fai)	Timber				1	50	12	1	56	30	1693	2	1st
		8 La Aw Chaung Bridge (Between Zel Fai and Ta Lon Yan)	Timber					60	12	0	60	36	1004	2	1st
		9 Pipe Culvert (1) (Between Htan Ta Lan and Khwar Phoe Road)	Pipe Culvert and Rwall	1	5	18				1	5	6.75	7302	2	1st
		10 La Aw - Sa Paw - Bway Hnu Bridge	Suspension				1	200	6	1	200	60	527	2	2nd
		Total for Htan Ta Lan Village		1	5		8	930		9	935	437.75			

**Proposed list of Village Bridge to be Repair within Falam Township**

Sr	Township	Name of Road	Type	Village to Town			Village to Village			Total		Cost (Million Kyats)	Beneficiary Population	Beneficiary Village (Nos)	Remark
				No	Length (Ft)	Width (Ft)	No	Length (Ft)	Width (Ft)	No	Ft				
1	Falam	1 Lam Lai Var Chaung Bridge (Between Ta Lan Zarl and Ha Rain Nharl Road)	Timber				1	50	12	1	50	30	2189	14	1st
		2 Ri Lan Khwal - Khim Kan Bridge	Timber				1	16	12	1	16	9.6	226	2	3rd
		3 Lai Zoe - Htan Hni Tit Bridge	Suspension				1	60	6	1	60	18	1171	6	2nd
		4 Waibula - Khi Tham Boat Chaung Bridge	Suspension				1	100	6	1	100	30	654	2	2nd
		5 Sel Pi - Khaw Saum Bridge	Timber				1	20	14	1	20	12	717	6	2nd
		6 Var Chaung Bridge (Between Falam and Rel Sein Road)	Timber				1	14	14	1	14	8.4	1377	5	1st
		7 Pope Var Bridge (Between Falam and Rel Sein Road)	Timber				1	16	14	1	16	9.6	1377	5	1st
		8 Mu Ram - Taw Zam Bridge	Suspension				1	30	6	1	30	9	345	3	erd
		9 Swan Hta Lar (Tha) - Swan Htan Lar (Ha) Bridge (24' x 10')	Timber				1	24	10	1	24	14.4	473	2	3rd
		10 Swan Hta Lar (Tha) - Swan Htan Lar (Ha) Bridge (14' x 10')	Timber				1	14	10	1	14	8.4	473	2	3rd
		11 Darl Bo - Khote Lin Bridge	Suspension				1	150	6	1	150	45	117	6	3rd
		12 El Zarl Mhwal - Rul Bu Bridge (Pedestrian Bridge)	Suspension				1	40	6	1	40	12	629	4	3rd
		13 Lway Chaung Bridge (Between Sharl Si Village and Var Lone Village)	Suspension				1	80	6	1	80	24	1163	5	3rd
		14 Van Var - Kyaung Hway Bridge (Pedestrian Bridge)	Suspension				1	60	6	1	60	18	462	2	2nd
		15 Khwarl Pwar - Kyi Kyaing Bridge (Pedestrian Bridge)	Suspension				1	320	6	1	320	96	916	2	3rd
		16 Sharl Si - Zawl Noe Bridge (Pedestrian Bridge)	Suspension				1	90	6	1	90	27	1163	5	3rd
		17 Bwal Min - Kyi Kyaing Bridge (Pedestrian Bridge)	Suspension				1	80	6	1	80	24	61	2	3rd
		18 Mu Ran - Khwal Bawl Bridge (Pedestrian Bridge)	Suspension				1	315	6	1	315	94.5	111	2	2nd
		19 Ngan Zawl - Htan Hni Bridge (Pedestrian Bridge)	Suspension				1	110	6	1	110	33	814	4	2nd
		20 Htit Kyan - Darl Thi Bridge (Pedestrian Bridge)	Suspension			16	1	110	6	1	110	33	271	2	1st
		21 Falam - Lai Zoe Road Pipe Culvert	Pipe Culvert	1	5	14					5	2	682	3	1st
		22 Falam - Lai Zoe Road Concrete Pipe Culvert x 2 Nos	Pipe Culvert	2	10	14					10	4	682	3	1st
		23 Lai Zoe - El Mhwan Pi Concrete Pipe Culvert x 4 Nos	Pipe Culvert	4	20	14					20	8	682	3	1st
		24 Tarl - Lay Lat Road Concrete Pipe Culvert x 27 Nos	Pipe Culvert	27	135	12					135	54	2086	10	1st
		25 Falam - Lai Lom - Khun Li No. (1) Bridge	Timber	1	15	12					15	9	1377	5	1st
		26 Falam - Lai Lom - Khun Li No. (2) Bridge	Timber	1	15	12					15	9	1377	5	1st
		27 Falam - Lai Lom - Khun Li (Yi Yan Yo)	Timber	1	15						15	9	1377	5	1st
		28 Mon Li - Du Thu Bridge	Suspension				1	60	6	1	60	18	608	4	1st
		29 Khin Kan - Khaw Vwar	Timber				1	40	12	1	40	24	554	3	3rd
		30 Zaung Thae - Zaw Thae	Suspension				1	180	6	1	180	54	364	5	3rd
		31 Khaw Mhwar - Khaw Bwar	Suspension			18	1	30	6	1	30	9	554	3	3rd
		32 Falam - Lai Lom - Khun Li (Pipe Culvert)	Pipe Culvert	3	15	16					15	6	1377	5	2nd
		33 Falam - Lai Lom - Khun Li (Pipe)	Pipe	7	35						35	14	1377	5	1st
		Total for Falam Township		47	265			2009		71	2274	775.9	27806	137	1st

Proposed list of Village Road to be Repair within Tedim Township

Sr	Township	Name of Road	Type	Village to town			Village to Village				Cost (Million Kyats)	Beneficiary Village (Nos)	Beneficiary Population (Nos)	Remark
				Length (Miles/Furlong)	Length to be repaired (Miles/Furlong)	Width (Ft)	Length (Mile/Furlong)	Length to be repaired (Miles/Furlong)	Width (Ft)	Total Length to be repaired (Mile/Furlong)				
1	Tedim	1 Tedim - TetLwee Road Expansion	Earth	3/0	0/1	16				0/1.00	2.342	6	2638	1st
		2 Tedim - Ngai Nhone Road	Earth	5/0	0/2	10				0/2.00	2.928	2	2110	1st
		3 Tedim - Sai Zam Kyar Car Road	Earth	8/0	0/0.4	15				0/0.38	0.834	3	6699	1st
		4 Tedim - Lai Loe Car Road	Earth	3/0	0/0.3	12				0/0.34	0.597	9	9294	1st
		5 Daw Zam Sa Kham - Gam Ngai Kyar Road Expansion	Earth	8/0	0/7	12				0/7.00	12.297	3	5779	1st
		6 Kanady - Twee Saut - Pain Pi Road	Earth	10/0	3/4	12				3/4.00	49.187	5	2491	1st
		7 Mwal Zawi - Man Saung (Landslide)	Earth	6/0	1/0	12				1/0.00	14.053	2	729	1st
		8 Twee Htan Bridge - Ton Zam Kyar Road	Earth	2/0	1/2	12				1/2.00	17.567	2	2748	1st
		9 Htote Hlai - R Lwal Road	Earth	8/0	0/1.2	10				0/1.21	1.771	6	1055	1st
		10 Wam Lai - Manipura (Landslide)	Earth	4/0	0/0.5	10				0.0.45	0.659	1	587	1st
		11 Valvon - Khway Nwal (Landslide)	Earth	4/0	0/3	10				0/3.00	4.392	3	2145	1st
		12 Ent Lant - Manipura (Landslide)	Earth	3/0	0/0.1	10				0/0.08	0.117	2	2026	1st
		13 Lei Zan - Manipura (Landslide)	Earth	5/0	0/2	4				0/2.00	1.171	2	2026	1st
		14 Sai Zam - Mwarl Road Expansion	Earth				12/0	0/3.27	12-18	0/3.27	8.616	10	9644	2nd
		15 Sai Zam - Van Tae Road	Earth				8/0	0/6.55	12-18	0/6.55	17.259	5	7359	2nd
		16 Hail Road - Swan Zam Road Expansion	Earth				4/0	0/4.00	12	0/4.00	7.027	3	3207	2nd
		17 Swan Zam to Kut Tae Road	Earth				6/0	0/3	12-18	0/3.00	7.905	2	4510	2nd
		18 Mwal Bin Bridge - Pat Zam - Swan Phay - Hail Lay Road Expansion	Earth				9/0	1/3	12-18	1/3.00	28.985	5	4573	2nd
		19 Lai Loe - Twee Lant Road Expansion	Earth				2/0	0/3.21	12-18	0/3.21	8.458	2	2748	2nd
		20 Lam Zam - Kut Tae Myay Thar Road	Earth				13/0	0/4.24	12-18	0/4.24	11.172	4	6159	2nd
		21 Khai Kam - Pain Pi New Road Construction	Earth				10/0	1/0	12-18	1/0.00	21.080	4	2468	1st
		Total for Tedim Township					64/0.0	5/3.27		13/2.73	218.418	81	80995	

**Proposed list of Village Bridge to be Repair within Tedim Township**

Sr	Township	Name of Road	Type	Village to Town			Village to Village			Total		Cost (Million Kyats)	Beneficiary Population	Beneficiary Village (Nos)	Remark
				No	Length (Ft)	Width (Ft)	No	Length (Ft)	Width (Ft)	No	Ft				
1	Tedim	1 Khaung Hnone Lwi Twee Zan Bridge ( Between Lai Loe and Twee Htan)					1	24	14	1	24	14.4	9294	9	1st
		2 Nat Tha Khar Bridge (Between Kame Hlaing and Zo Nwan Zam)					1	350	6	1	350	105	957	2	1st
		3 Ngar Htone Bailey Bridge (Between Mwarl Bin and Sai Zan)					1	130	14	1	130	156	5990	6	1st
		4 Kwili Bridge (Between Khaikam and Pain Pi Road)					1	230	10	1	230	69	2468	4	1st
		5 Ngar Htant Chaung Bridge (Between Lai Khai and Htote Hlaing)					1	45	14	1	45	27	1407	5	1st
		6 Manipu Bridge (Between Pyal Kyin and Gam Ngai)					1	330	12	1	330	165	1206	3	1st
		7 Saung Pi - Phu Nwan Bridge)					1	30	14	1	30	18	3034	4	1st
		8 Tam Pi - Twee Bwal Bridge					1	120	14	1	120	72			1st
		9 Htay Zan - Ngarl Zan Bridge					1	25	14	1	25	15	965	2	1st
		10 Sein Lwee Bridge x 3 Nos (Between Mwarl Lone and Gaw Sein					1	15	14	3	15	9	2301	3	1st
		11 Bwin - Ban Tae Bridge					1	35	14	1	35	21	3624	3	1st
		12 Boat Hlan Bridge (Between Htain Lay and Boat Phi)					1	40	14	1	40	24	3597	5	1st
		13 Lwin Lwee Bridge (Between Gam Naing and Gae Zam)					1	50	14	1	50	30	1597	5	1st
		Total Tedim					15	1424			1424	725.4	36440	51	

Proposed list of Village Road to be Repair within Hton Zan Township														
Sr	Township	Name of Road	Type	Village to Town			Village to Village				Cost (Million Kyats)	Beneficiary Village (Nos)	Beneficiary Population (Nos)	Remark
				Length (Miles/Furlong)	Length to be repaired (Miles/Furlong)	Width (Ft)	Length (Mile/Furlong)	Length to be repaired (Miles/Furlong)	Width (Ft)	Total Length to be repaired (Mile/Furlong)				
1	Hton Zam	1 Kyi Khar - Mar O Wan - Sai Pi Mhwarl Zam Pi - Twee	Earth	21/4	2/0	18				2/0	42.160	5	1613	2nd
		2 Darl Khine (Tha) - Ba Pi (Motorcycle Road)	Earth				8/0	0/4	5	0/4	2.928	3	671	2nd
		3 Hai Kyin - Saun Ban - Tong Kyin Road	Earth				30/0	4/0	18	4/0	84.320		1707	1st
		4 Darl Khine (Ha) - Vai Vet Road	Earth				19/0	2/0	18	2/0	42.16	2	1274	1st
		5 Twee Pi - Lain Htote Road	Earth				9/0	1/0	18	1/0	21.08	2	963	1st
		6 Mar O Wan - Vai Vet Road	Earth				5/0	0/7	18	0/7	18.445	2	753	1st
		7 Rar Za Gyo - Ham Kim Road	Earth				12/0	3/0	18	3/0	63.24	2	1138	1st
		8 Rar Za Gyo - Hakhar Lay Road (New)	Earth				6/0	6/0	18	6/0	126.48	2	993	3rd
		9 Zam Pi Junction to Zaung Pi Road	Earth				27/0	3/0	18	3/0	63.24	4	2146	2nd
		Total Hton Zam		21/4	2/0		116/0	20/3		22/3.0	464.053	22	11258	

Proposed list of Village Bridge to be Repair within Hton Zan Township															
Sr	Township	Name of Road	Type	Village to Town			Village to Village			Total		Cost (MillionKyats)	Beneficiary Population	Beneficiary Village (Nos)	Remark
				No	Length (Ft)	Width (Ft)	No	Length (Ft)	Width (Ft)	No	Ft				
1	Hton Zan	1 Ham Lwee Pipe Culvert (Between Mwarl Taung - Sarl Zam)	Culvert				1	3	18	1	3	2	736	2	2nd
		2 Ngar Sha Lwee Pipe Culvert (Between Sarl Zam - Tatzam)	Culvert				1	3	18	1	3	2	723	2	2nd
		3 Tay Zan Lwee Pipe Culvert (Between Phon Taung and Sarl Zan)	Culvert				1	3	18	1	3	2	736	2	2nd
		Total for Hton Zan					3	9		3	9	6	2195	6	



**Proposed list of Village Road to be Repair within Hton Zan Township**

Sr	Township	Name of Road	Type	Village to Town			Village to Village				Cost (Million Kyats)	Beneficiary Village (Nos)	Beneficiary Population (Nos)	Remark
				Length (Miles/Furlong)	Length to be repaired (Miles/Furlong)	Width (Ft)	Length (Mile/Furlong)	Length to be repaired (Miles/Furlong)	Width (Ft)	Total Length to be repaired (Mile/Furlong)				
1	Min Tut	1 Lwi Rain - Dote Ywar Road	Earth				8/0	0/3	12	0/3	5.27	13	3318	1st
		2 Khwal Lone - Hlam Shar Village Road	Earth				3/0	3/0	14	3/0	49.187	7	924	1st
		3 Lay Shi - Kyaut Village Road	Earth				8/6	8/6	12	8/6	122.967	5	1256	1st
		4 Daut Dway - Don Eain Road	Earth				8/0	1/2	14	1/2	20.494	9	2154	1st
		5 Em Laung - Htal Pan Road	Earth				3/0	0/6	12	0/6	10.540	5	793	1st
		6 Shi - Twee Lwi Road	Earth				10/0	4/3	12	4/3	61.483	27	6343	1st
		7 Twee Lwi - Dote Road	Earth				6/0	2/0	12	2/0	28.107	14	3603	1st
		8 Lwi Rain - Htar Eain Nu Road	Earth				10/0	5/3	18	5/3	113.305	11	2806	1st
		9 Htar Eain Nu - Ma Kwi Eain Nu Road	Earth				12/0	2/4	18	2/4	52.7	4	1546	1st
		10 Khu Hlu - Chai Kyar Motorcycle Road	Earth				10/0	10/0	4	10/0	46.844	3	509	1st
		11 Twee Lwi - Ma Tve Kone Road	Earth				3/0	0/7	18	0/7	18.445	11	2330	1st
		12 Ma Tve Kone - A Htet Chai Road	Earth				7/0	3/2	18	3/2	68.51	10	2077	1st
		13 Ah Htet Chai - Aut Chai Road	Earth				5/0	1/6	18	1/6	36.890	9	1808	1st
		14 Done Eain - Nga Shaung - Pan Wah - Kee Thar Road	Earth				5/0	0/6	18	0/6	15.81	6	1110	1st
		15 Mwi Tve - Wa Kaut - Chone Phwal Road	Earth				15/0	0/2	18	1/5	34.255	11	1537	1st
		16 Ta Lan Kwee - Kya Nan - Lon Yine - Lon Bon - Lon Son Motorcycle Road	Earth				15/0	1/5	4	0/2	1.171	5	622	1st
		17 Lon Bon - Lon Son - Shi Wah Thar Jeep Car Road	Earth				12/0	6/5	18	6/5	139.655	4	617	1st
		18 51 Miles - Shi Wah Nu (12 Miles to 5 Miles)	Earth				12/0	7/0	4	7/0	32.791	3	461	1st
		19 Shwee Ti Village Jeep Road	Earth				1/5	1/5	12	1/5	22.837	4	885	1st
		20 Baw (1) - Maw Chaung Jeep Car Road	Earth				7/0	0/1	12	0/1	1.757	14	1794	1st
		Total for Mindut					161/3	62/2			883.018	175	36493	

**Proposed list of Village Bridge to be Repair within Min Dut Township**

Sr	Township	Name of Road	Type	Village to Town			Village to Village			Total		Cost (MillionK yats)	Beneficiary Population	Beneficiary Village (Nos)	Remark
				No	Length (Ft)	Width (Ft)	No	Length (Ft)	Width (Ft)	No	Ft				
1	Min Dut	1 Hay Laung Chaung Bridge (Between Ohn - Chai)					1	30	10	1	30	18	1246	5	1st
		2 Saung Laung Chaung Jeep Car Bridge (Between Shi (ka) - (kha))					1	40	10	1	40	24	6170	26	1st
		3 Dai Mat Chaung Bridge (Between Pan Thwal and Ma Kwi Eain Nu)					1	150	4	1	150	45	1340	4	1st
		4 Laung Chaung Bridge (Between Twee Dain - Lone Khar )					1	150	4	1	150	45	843	4	1st
		5 Dai Bat Chaung Bridge (Between Dai Hlain Ma San - Ma Dar Eain Nu)					1	120	4	1	120	36	1359	5	1st
		6 Dai Bat Chaung Bridge (Between Dai Hlain Ma San - Ah Kwi Eain Nu)					1	100	4	1	100	30	989	4	1st
		7 Em Laung Chaung Bridge (Between Em Laung and Htal Pan)					1	50	4	1	50	15	793	5	1st
		8 Hlat Laung Chaung Bridge (Between Pyone - Ma Chone)					1	300	4	1	300	90	651	4	1st
		9 Kye Laung Chaung Bridge (Between Kyaut Ywar Thit - Harl Tu)					1	40	4	1	40	12	970	3	1st
		10 Hlat Laung Bridge (Between Ro - Pyone)					1	150	4	1	150	45	943	5	1st
		11 Maung Chaung Bridge (Between Lwi Laung - Ma Htoe Ywar)					1	50	4	1	50	15	943	5	1st
		12 Pan Laung Chaung Bridge (Between Ma Kwi - Pha Laut)					1	100	4	1	100	30	750	6	1st
		13 Khay Laung Chaung Bridge (Between Pha Laut Kay - Chaut Yoe)					1	100	4	1	100	30	755	6	1st
		14 Shwi Laung Chaung Bridge (Between Lon Khar Ywar Thit - Ywar Haung)					1	150	4	1	150	45	664	5	1st
		15 Ki Laung Chaung Motor Cycle Bridge (Between Kyaut Thit - Har Tu)					1	150	4	1	150	90	970	3	1st
		16 Min Dut - Kyar Lay Hlaing Bridge					1	90	12	1	90	54	1337	7	1st
		17 Em Laung Chaung Bridge (Between Pan Aut - Lwi Yaw)					1	50	4	1	50	30	1347	7	1st
		18 Ma Shein Laung Chaung Bridge (Between Kyar Lay Hlaing - Dom Do)					1	80	4	1	80	48	1347	7	1st
		19 Chi Chaung Bridge (Between Kan Pat Lat - Pu Kwin Village)					1	120	4	1	120	36	1641	8	1st
		20 Mone Chaung Bridge (Between Kin Hli- Ohn)					1	300	6	1	300	90	2938	10	1st
		21 Dar Do Chaung Bridge (Between Dar Oh - Eain Nu)					1	30	4	1	30	9	739	3	1st
		22 Yaw Chaung Bridge (Between Kyat Au Tay - San Lel Kyi)					1	80	6	1	80	24	725	3	1st
		23 Kant War Chaung Jeep Car Bridge (Between Way Laung - Ta Lan P)					1	100	14	1	100	60	994	6	1st
		24 Yan Laung Chaung Bridge (Between 51 Miles - Shi Wah Nu)					1	100	6	1	100	30	712	4	1st
		Total for Min Dut Township					24	2630		24	2630	951	31166	145	1st

Proposed list of Village Road to be Repair within Ma Tu P Township														
Sr	Township	Name of Road	Type	Village to Town			Village to Village			Total Length to be repaired (Mile/Furlong)	Cost (Million Kyats)	Beneficiary Village (Nos)	Beneficiary Population (Nos)	Remark
				Length (Miles/Furlong)	Length to be repaired (Miles/Furlong)	Width (Ft)	Length (Mile/Furlong)	Length to be repaired (Miles/Furlong)	Width (Ft)					
1	Ma Tu P	1 Lwi Ban - Ma Tu P Road	Earth	25/0	1/0	18			1/0		21.08	1	297	1st
		2 Ma Tu P - Bway Yar - Lwi Ban - Sa Tu Road	Earth	49/0	3/0	14			3/0		49.187	20	927	1st
		3 Lai Lin Tae - Ar Ru Road	Earth	7/0	0/3	12			0/3		5.27	2	2602	1st
		4 Sa Baung Tae - Hlone Man Road	Earth	12/0	1/6	14			1/6		28.692	2	1400	1st
		5 Sa Baung Tae - Sa Baung Pi Road	Earth	12/0	1/0	14			1/0		16.396	2	1900	1st
		6 Sa Baung Tae - ( Miles Sa Khan Road	Earth	9/0	0/6	18			0/6		15.81	1	1380	1st
		7 Khwar Ngan - Rar So Motorcycle Road	Earth	4/0	0/2	4			0/2		1.171	2	364	1st
		8 Rar Soe - Hone Lay Motorcycle Road	Earth	5/0	0/2	4			0/2		1.171	2	610	1st
		9 Lai Lin Tae - Sa Tu Motorcycle Road	Earth	14/0	1/0	4			1/0		4.684	7	2138	1st
		10 Ar Ru - Lai Lin Pi Junction Motorcycle Road	Earth	7/0	0/3	4			0/3		1.757	5	515	1st
		11 Ma Tu P - Em Swe - Mar Du - Wai Lu Road	Earth	22/0	6/0	18			6/0		126.48	3	1599	1st
		12 Lwi Ban - Sa Tu Road	Earth	24/2	1/0	18			1/0		21.08	7	927	1st
		13 Bone Ta Lar Road	Earth				2/6	0/6	12/0/6		10.54	2	215	1st
		Total for Ma Tu P Township		190/2	16/6		2/6	0/6	17/4		303.318	56	14874	1st

Proposed list of Village Bridge to be Repair within Min Dut Township															
Sr	Township	Name of Road	Type	Village to Town			Village to Village			Total		Cost (MillionKyats)	Beneficiary Population	Beneficiary Village	Remark
				No	Length (Ft)	Width (Ft)	No	Length (Ft)	Width (Ft)	No	Ft				
1	Ma Tu P	1 Sa Khine Chaung Bridge (Between Sa Khine (ka) - Sa Khine (Kha))	Timber				1	120	6	1	120	36	668	1	1st
		2 Lo Haung Chaung Bridge (Between Sa Khine (Kha) - Kyaung )	Timber				1	100	6	1	100	30	228		1st
		3 T Lat Chaung Bridge (Between Ba Lay - Lone Ngo)	Suspension				1	150	6	1	150	45	1817	4	1st
		4 Saut Chaung Bridge (Ba Lay - Wai T)	Suspension				1	150	6	1	150	45	692	4	1st
		5 Phyar Bar Chaung Bridge (Between Yay Saw - Htal Si)	Suspension				1	120	6	1	120	36	250	2	1st
		6 Myit Thar Myit Bridge (Between Sem Pi - Lon Rain)	Suspension				1	150	6	1	150	45	597	4	1st
		7 Ram Tain - Lel Twar Bridge	Suspension				1	160	6	1	160	48	268	1	2nd
		8 Aut Laung Chaung Bridge ( Between Wai Lu - Mi Tu)	Suspension				1	350	6	1	350	105	419	2	1st
		9 Suspension Bridge (Between Rone Kyay Ywar Thit - Ywar Haung)	Suspension			6	1	150	6	1	150	45	194	2	1st
		10 Lan Ki Chaung Bridge (Between Ar Ru - T Nam)	Suspension	1	250	6				1	250	75	869	7	1st
		11 Aut Laung Chaung Bridge (Between Mar Du - Mee Tu)	Suspension	1	150	6				1	150	45	1134	10	1st
		12 Kaung Var Chaung Bridge (Between T Baw - Em Line)	Suspension	1	350	6				1	350	105	362	1	1st
		13 Sa Raung Chaung Bridge (Between Tan Ku - Sone Sin)	Suspension	1	350	6				1	350	105	818	10	1st
		14 Lan Ki Chaung Bridge (Between Lwi Ban - Sa Tu)	Suspension	1	350					1	350	105	924	2	1st
		Total for Ma Tu Pi Township		5	1450		9	1450		14	2900	870	9240	50	1st

Water Supply Project for Rural Area (Proposed)				
No	Township	Population	Village	Estimate Cost (Million Kyats)
1	Hakha	1475	4	28.589
2	Falam	384	1	50
3	Teedim	9947	10	135.41
4	Hton Zam	1422	2	5.905
5	Min Dut	1978	8	89.352
6	Ma Tu P	1894	6	37.844
	Total	17100	31	347.1

**Water Supply Project for Rural Area (Proposed)**

No	Township	Village Name	Household	Population	Damaged Type	Damaged Area	Estimate Cost (Million Kyats)
1	Hakha	1 Rin Pi	76	398	2" ØPVC	2/4 mile	22.875
		2 Kyin Khwar	89	410	Water Collect tank, 2" ØPVC, Water Harvest Tank	4' * 3' * 4', 500 ft, 6' *4' *2'	1.736
		3 Farl Ron	65	383	Water Collect tank, 2" ØPVC, Water Harvest Tank	5' *5' *6', 1000 ft, 15' *3' *13'	3.721
		4 Mhine Kha	61	284	1.5" ØPVC	160 ft	0.257
	Total For Hakha		291	1475			28.589
2	Falam	5 Sa Taw	67	384	2" ØPVC, Embarkment, Water Collect Tank	6/0 mile	50
	Total For Falam		67	384			50
3	Teedim	6 Warl Mwarl	37	320	2" ØPVC, Embarkment, Water Collect Tank	3/0 mile/furlong, 5000 gallon	36.95
		7 Khime Kam	250	1108	2" ØPVC, Embarkment	1/0 mile	12.15
		8 Maung Lant	35	268	2" ØPVC	2/0 mile	18.3
		9 Twee Bwarl	94	597	Main Pipeline, GI pipe, Desilting tank, Water Harvest Tank	0/2 mile/furlong	10.3
		10 Saung Dawl	42	152	2" ØPVC, embarkment	0/2 mile/furlong	5.289
		11 Saung Pi	182	1489	2" ØPVC, embarkment	0/3 mile/furlong	6.432
		12 Lai Twee	723	4200	2" ØPVC, embarkment	2/0 mile	21.3
		13 Htan Nwae	85	595	1.5" ØPVC, Water Harvest Tank	0/4 mile/furlong	7.25
		14 Bae Kant	21	194	2" ØPVC, embarkment	1/0 mile	12.15
		15 Sel Zan	166	1024	2" ØPVC, embarkment	0/2 mile/furlong	5.289
	Total for Teedim		1635	9947			135.41

**Water Supply Project for Rural Area (Proposed)**

No	Township	Village Name	Household	Population	Damaged Type	Damaged Area	Esitmate Cost (Million Kyats)	
4	Hton Zan	16	Ton Twarl	71	398	4" HDPE	1950 ft	2.53
		17	Fai Tu	152	1024	2"Ø PVC	1951 ft	3.375
		Total For Hton Zan		223	1422			5.905
5	Min Dut	18	Ro	91	424	Reservior, 2" ØPVC	(500 gallon), (1/0) mile	15.65
		19	Yoe Faung	48	328	Reservior, Water harvest tank, 2" ØPVC	(5000 gallon), (0/4) mile/furlong	14.075
		20	Ma Kyan Eain	35	164	Reservior, Water harvest tank, 2" ØPVC	(5000 gallon), (4/6) mile	32.55
		21	Em Laung	27	128	2"Ø PVC	(0/2.5) mile/furlong	2.86
		22	Hla Twe	68	374	2"Ø PVC	(0/7) mile/furlong	8.01
		23	Ohn	54	302	2"Ø PVC	(0/3) mile/furlong	3.432
		24	Hlwar	22	133	Reservior, 2" ØPVC	(0/4) mile/furlong	11.075
	25	Pyone	22	125	3" ØGI	(340) ft	1.7	
Total for Min Dut			367	1978			89.352	
6	Ma Tu Pi	26	Asia	70	509	1.5"Ø GI, 1.5"Ø PVC	(300) ft, (200) ft	1.299
		27	Lwi Ban	56	281	Water Harvest Tank	25' *3' *5'	3
		28	Mwin Ton (Kha)	16	83	Desilting Tank, Reservior, 1.5" PVC	25' *3' *5', 5000 gallon, 2/0 mile	18
		29	Sin Tut	43	298	1.5"Ø PVC	600 ft	0.739
		30	Mhwan Ton (Ka)	44	257	1.5"Ø PVC	1/6 mile	11.375
	31	Lo Taw	80	466	2" ØPVC	0/3 mile/furlong	3.431	
Total For Ma Tu Pi			309	1894			37.844	
Total			2892	17100			347.1	

Electrification Project for Rural Area (Proposed)					
No	Township	Village Nos	Project Number		Estimate Cost (Million Kyats)
			Solar	Mini-Hydro	
1	Hakha	4		4	63
2	Falam	8		8	50.05
3	Teedim	1		1	20
4	Hton Zan	2	180		36
5	Min Dut	5		5	61.2
6	Ma Tu Pi	5		5	25
	Total for 6 Townships				



Electrification Project for Rural Area (Proposed)				
No	Township / Village	Project Name	Project Amount	Estimate Cost (Million Kyats)
1	Hakha	1 Zar Htarl Village Mini-Hydro Project	Dynamo 4" PVC (1000 ft)	3
		2 Rin Pi Village Mini-Hydro Project	6" PVC (1) mile, 4" PVC (3) Furlong	20
		3 Ywar Dae Oh Village Mini-Hydro Project	Pipe and Machine Damaged	20
		4 Thi Fone Mini-Hydro Project (Between Bwarl Tat Village and Man Nu Village)	Dynamo Damaged	20
		Total for Hakha		63
2	Falam	1 Swan Ha Ran Village Mini-Hydro Project	Reservior Damaged	5
		2 Ngan Zawrl Village Mini-Hydro Project	Water Harvest Tank, Reservior Tank and Desilting Tank	13
		3 Wham Ta Lot Village Mini-Hydro Project	Reservior Damaged	5.4
		4 Kalaw Mon Mini-Hydro Project	Water Collect Tank, GI pipe (130 ft)	5
		5 Rel Sein Village Mini-Hydro Project	4" PVC (300 ft)	11
		6 Swan Hta Lar (Ha) Village Mini-Hydro Project		0.5
		7 Ta Lan Khar Village Mini-Hydro Project		5.3
		8 Khaw Ywar Village Mini-Hydro Project		3.9
		For Falam		50.05
3	Teedim Township	1 Bom Bar Mini-Hydro Project	Pipe and Culvert	20
		Teedim		20

Request for State Government

- 1 To Organize the State Central Committee (SCC) with the guidance of 1 State Minister and Related Departments
- 2 To Select and Clarify all Sub-Projects regarding with Rural Road and Bridge, Water Supply, Electrification and Other Projects
- 3 To Support The Administration Process within State and Guidance and Control the project implementation.

## Rural Development Programme in Southern Shan State

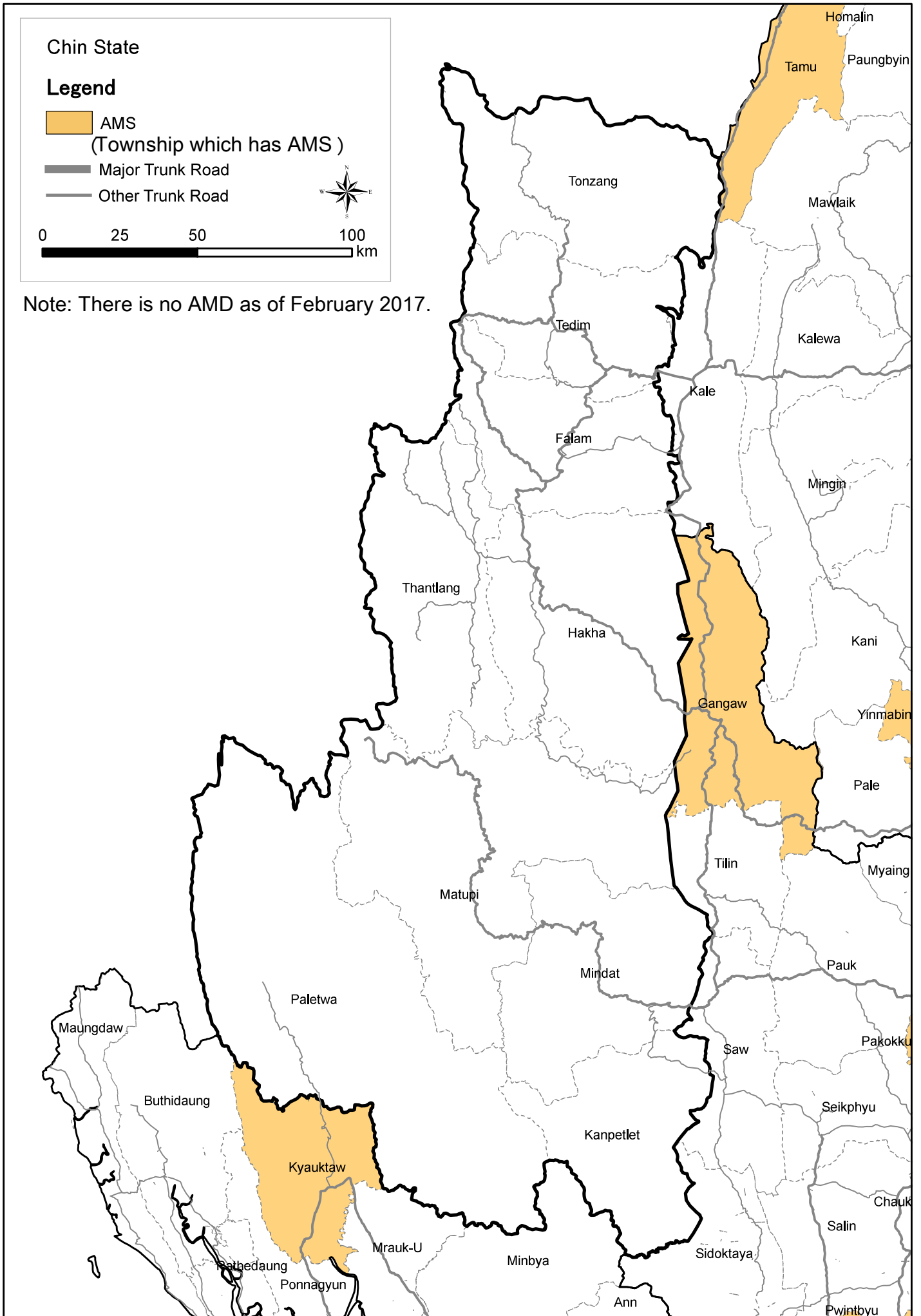
Donor ..... KfW

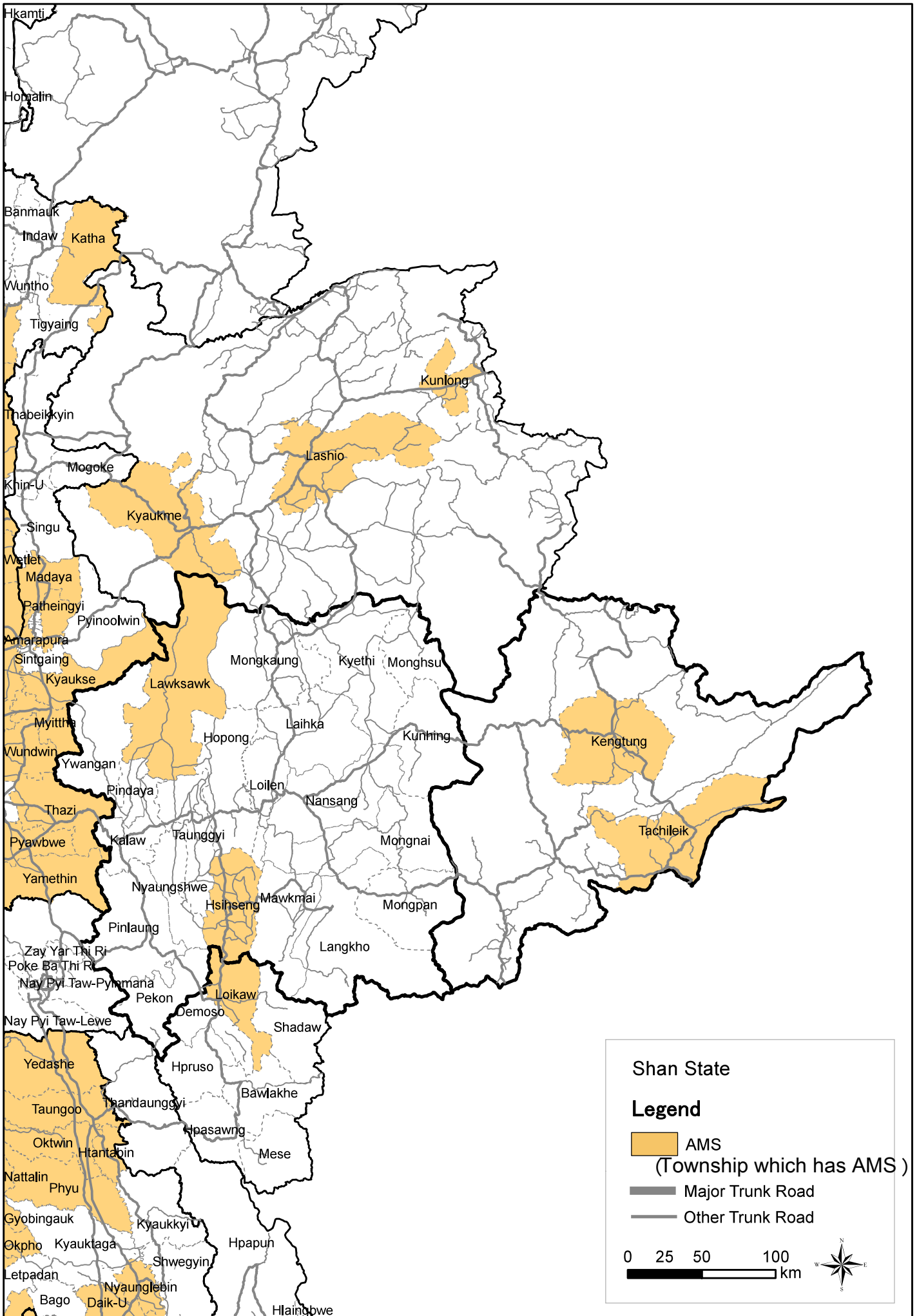
Sr.No	Township	Particular	Granted Amount	Remark
1	Taunggyi	Rural Road	7 Euro million	Phase-I
	Ywar Ngan	Rural Road		
	His Hseng	Rural Road		
2	Kalaw	Rural Road	11 Euro million	Phase-II/III
	Yauk Sauk	Rural Road		
	Taunggyi	Rural Road		
	Nyaung Shwe	Rural Road		
	Hopone	Rural Road		
3	Taunggyi	Rural Road	20 Euro million	Phase IV/V
	Yauksauk	Rural Road		
	Pekon			
	Hopole			
	Pinlaung			
	Hsihseng			
	Pindaya			
	Ywangan			
	Loileim			
	Nansang			
	Mongnai			
	Mawkmai			

## Project Township

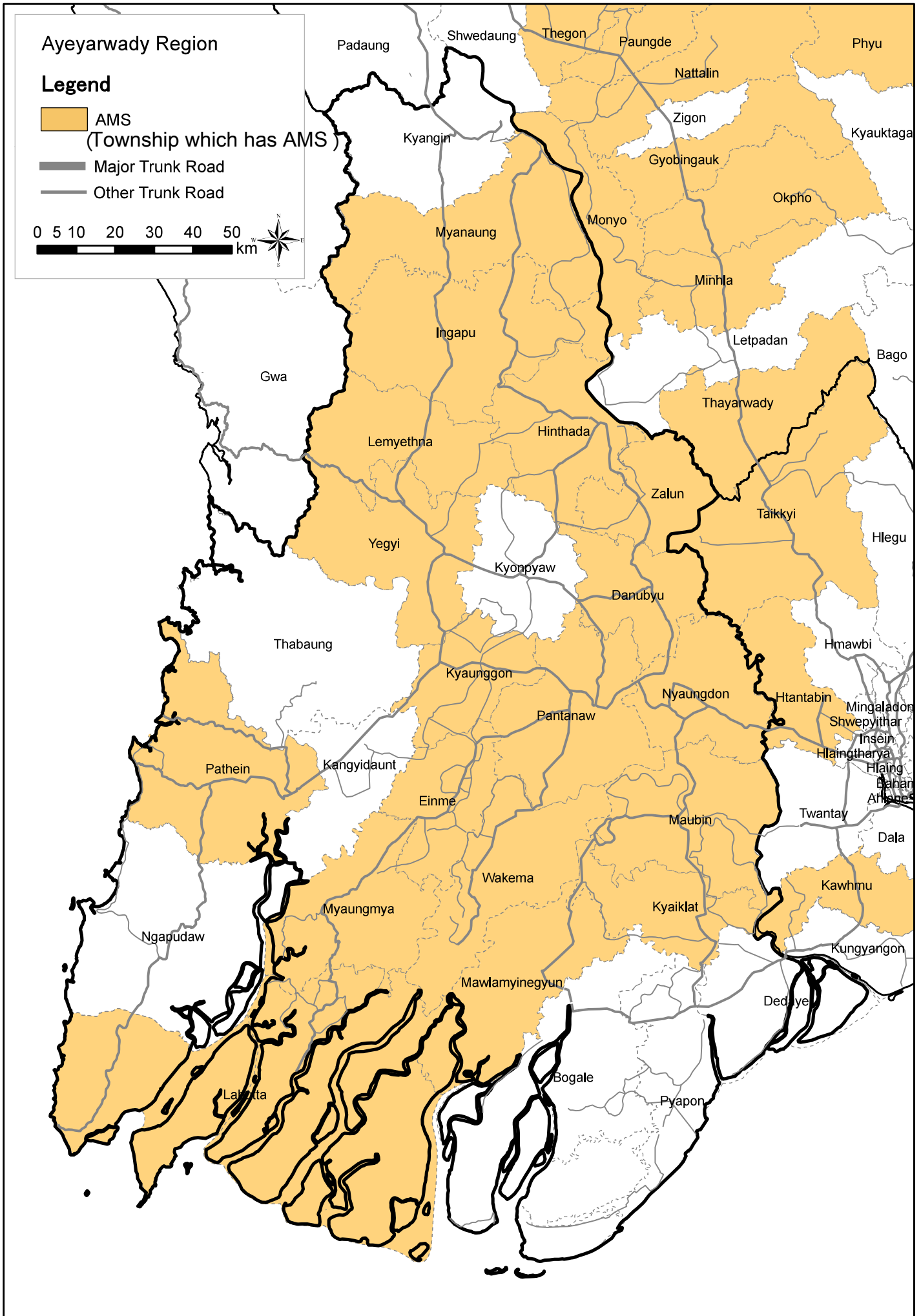
No	Development Partnership	State & Division	Township	
1	CDD Budget allocation Project for Rural Development of each village, according to village requirment including Road and Bridge infrasturacture, Schools, Water tank, Ponds.	Taninthayi	1 Kyunsu	
			2 Taninthayi	
		Ayeyarwady	3 Laymyetna	
			4 Thapaung	
			5 Kyingin	
			6 Ngapudaw	
	2	World Bank Emergency Recovery Credict Project (ERC) Rural Road and Bridge Project for selected Village Tract	Ayeyarwady	1 Pathein
				2 Kangyidaunt
				3 Kyaunggon
				4 Kyonpyaw
				5 Yegy
				6 Thabaung
				7 Nyaungdon
				8 Danubyu
9 Hinthada				
10 Myanaung				
11 Kyangin				
12 Zalun				
13 Lemyethna				
14 Ngapudaw				

## **7-5. AMS TOWNSHIP MAP**



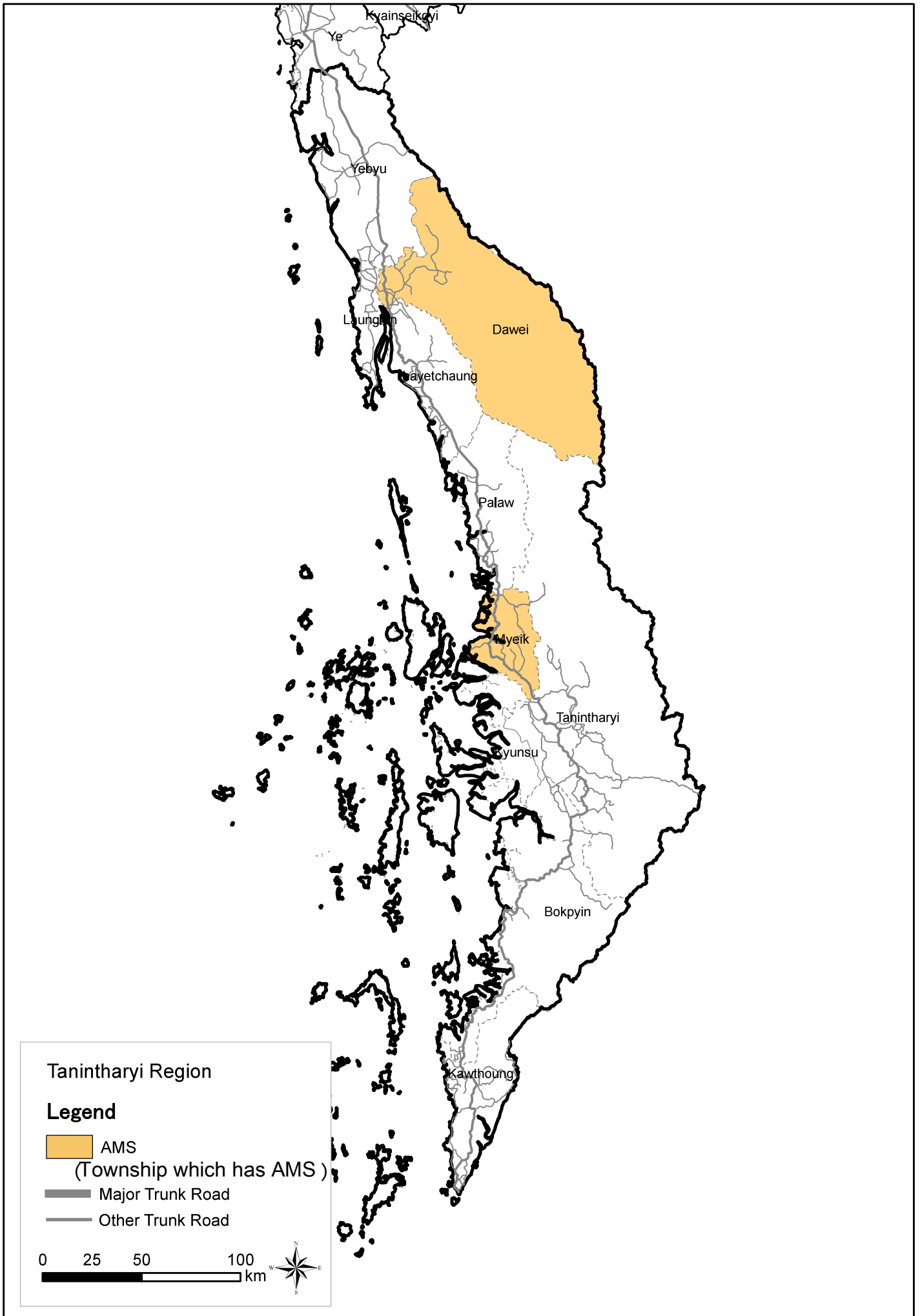


Note: AMS Address List is attached in Appendix 7-6 "Relevant Agricultural Data".  
A7-50



Note: AMS Address List is attached in Appendix 7-6 "Relevant Agricultural Data".  
A7-51





Note: AMS Address List is attached in Appendix 7-6 "Relevant Agricultural Data".  
A7-52

## **7-6. RELEVANT AGRICULTURAL DATA**

## Relevant Agricultural Data

(Source: AMD)

Table-1 Number of Agricultural Mechanization Provider of Private Sector

No.	State & Region *	No.of Service Provider
1	Kachin	-
2	Kayah	8
3	Kayin	-
4	Chin	-
5	Sagaing	227
6	Tanintharyi	9
7	Naypyitaw	30
8	Bago	22
9	Magwe	16
10	Mandalay	522
11	Mon	51
12	Rakhine	-
13	Yangon	430
14	Shan	55
15	Ayeyarwady	57
<b>Total</b>		<b>1,427</b>

\*Italic: Project States & Regions

Source: AMD

Table-2 Budget and Income of AMD and Project States and Regions

Budget		(Million Kyats)								
No.	Project States & Region	2013-14			2014-15			2015-16		
		Capital	Current	Total	Capital	Current	Total	Capital	Current	Total
	AMD	6,356	20,235	<b>26,592</b>	12,897	28,274	<b>41,171</b>	18,437	37,555	<b>55,992</b>
1	Tanintharyi	16	62	<b>78</b>		77	<b>77</b>		79	<b>79</b>
2	Ayeyarwady	16	828	<b>844</b>		952	<b>952</b>		1,146	<b>1,146</b>
3	Chin		58	<b>58</b>		78	<b>78</b>		85	<b>85</b>
4	Shan	16	420	<b>436</b>		460	<b>460</b>		556	<b>556</b>

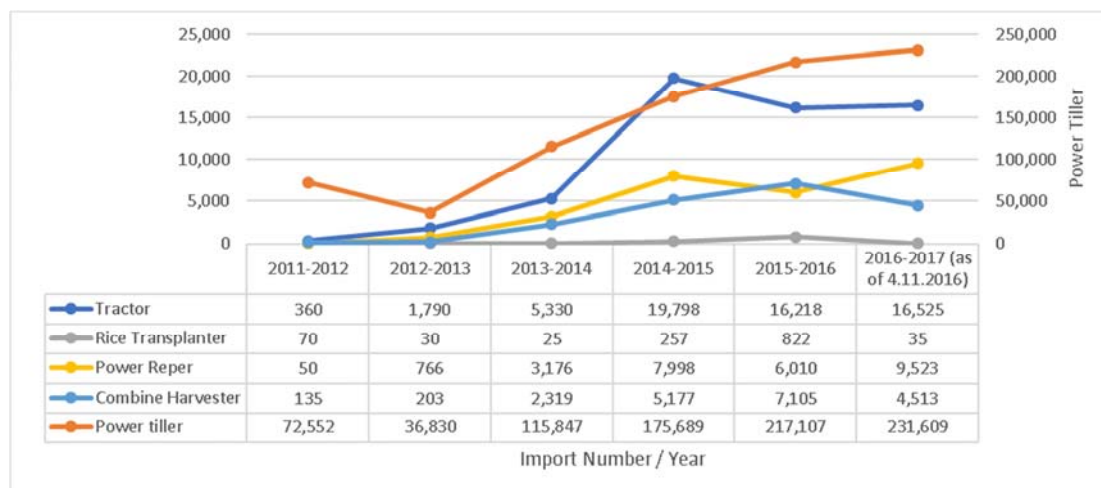
Income		(Million Kyats)								
No.	Project States & Region	2013-14			2014-15			2015-16		
		Agri-mechanization Service	Sales of Machines etc.	Total	Agri-mechanization Service	Sales of Machines etc.	Total	Agri-mechanization Service	Sales of Machines etc.	Total
	AMD	2,319	14,064	<b>16,383</b>	3,958	13,599	<b>17,556</b>	6,334	14,674	<b>21,008</b>
1	Tanintharyi	9	49	<b>58</b>	21	39	<b>60</b>	21	79	<b>101</b>
2	Ayeyarwady	269	1,434	<b>1,702</b>	259	1,181	<b>1,439</b>	505	1,328	<b>1,833</b>
3	Chin	-	-	<b>-</b>	-	-	<b>-</b>	-	-	<b>-</b>
4	Shan	227	1,249	<b>1,476</b>	274	1,535	<b>1,809</b>	392	1,854	<b>2,247</b>

Source: AMD

Table-3 Staff Allocation of AMSs in Project States and Regions

Section	South Shan State			Ayeyarwady Region					Tanintharyi Region	
	No.85 AMS Shwenyaung	No.65 AMS Aungban	Sub-AMS Nansang	Myangmya		No.97 AMS Labutta	No.15 AMS Hinthada	No.53 AMS Mawlamyinegyun	No.91 AMS Dawei	No.95 AMS Myeik
				No. 38AMS	No.4 Workshop					
Administration	8	5	2	7	16	5	4	5	6	8
Machine operation	43	20	14	11	6	14	24	12	5	2
Workshop / Storage	7	7	4	6	21	3	7	3	2	4
Total	58	32	20	24	43	22	35	20	13	14

Source: AMD



Source: AMD

Figure-1 Numbers of Machinery Imported by Private Company in the Last Five Years

Table-5 Number of Farmers trained by AMD

No	Name of Training Program	Period (Week)	Place	No. of Trainees (Farmers)			
				2013-14	2014-15	2015-16	Total
1	Operation & Maintenance of Farm Machinery	12	Meikhtilar, Phayargyi	42	507	587	1,136
2	Operation & Maintenance of Farm Machinery	2	AMSs in Whole Country	1,401	2,503	1,710	5,614
3	Operation & Maintenance of Combine Harvester	12	Meikhtilar, Phayargyi	284	272	125	681
<b>G. Total</b>							<b>7,431</b>

Source: AMD

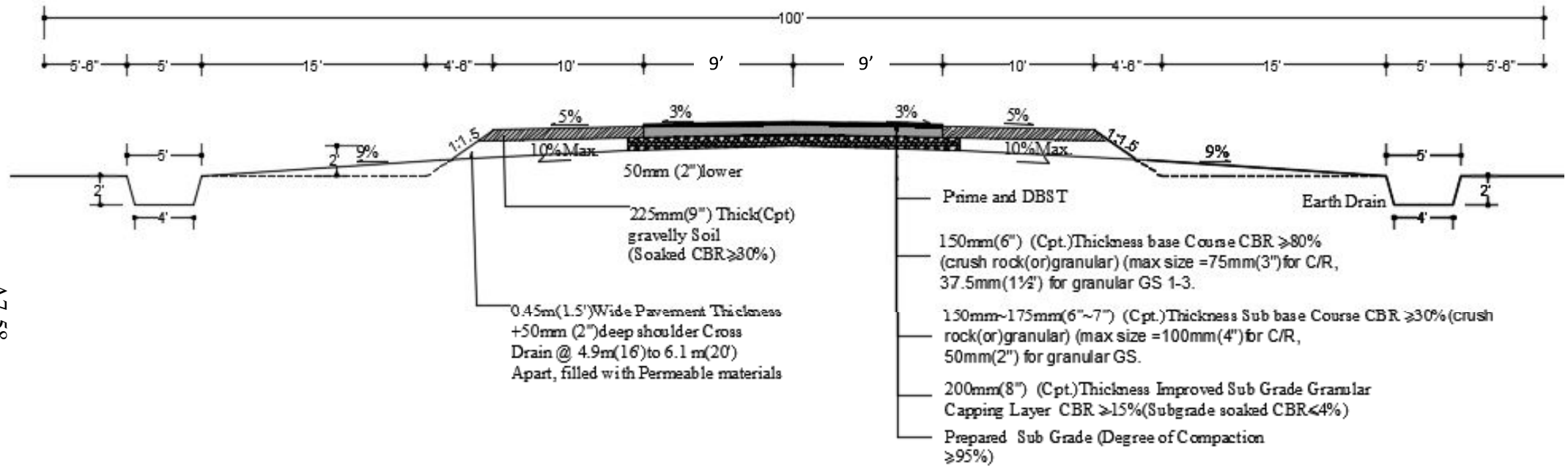
Table-6 AMS Address List of Project Target Areas

No	State/Region	Name of AMS	Address
1	Shan State (South)	No.(85), Shwenyaung	Shwenyaung-Taunggyi Road, Aungthapyay Quarter, near to Aungthapyay Toll Gate
		No.(65), Aungba	Aungban-Pintaya Road, HlaeyoeQuarter, Aungban, Kalaw Township
		Sub,Nantsan	Quarter(5), Nantsan-Moene Road, in front of Planning office
2	Tanintharyi Region	No.(91), Dawei	Kyanmaryay Street, BonemawQuarter, Dawei
		No.(95), Myeik	Myoepark(1) Street, KalwinQuarter, Myeik
3	Ayeyarwady Region	No.(38), Myaungmya	Mayangone Quarter, Htaungyaung- Nay Street near to Happy playground
		No.(75), Kyaiklet	Quarter(1), Street No (20), Khanaung Village, near Maco-Shwezarchi Joint Factory
		No.(53), Mawlamyainggyun	Quarter(6), Yamonena Street, Mawlamyainggyun
		No.(97), Labutta	Quarter(9), near to ShansuWatergate, bank of Yway River
		No.(15), Hinthada	Konegyi Village Tract, Natmaw Road.

**7-7. TYPICAL DRAWINGS OF RURAL ROAD  
AND BRIDGE**

# Typical Drawings of Rural Road and Bridge (2017-2018)

# Design for Rural road(Class-1)



Note-Cpt=Compacted  
 Design Subgrade C.B.R.  $\geq$ (soaked CBR 3%)  
 Subgrade Thickness=12" (Cpt.) (DOC  $\geq 95\%$ )  
 Embankment(DOC  $\geq 90\%$ )

Typical Design Cross Section of Rigid Pavement (Rural Road)

(Cumulative number of standard axle in one direction  $< 0.3 \times 10^6$ )

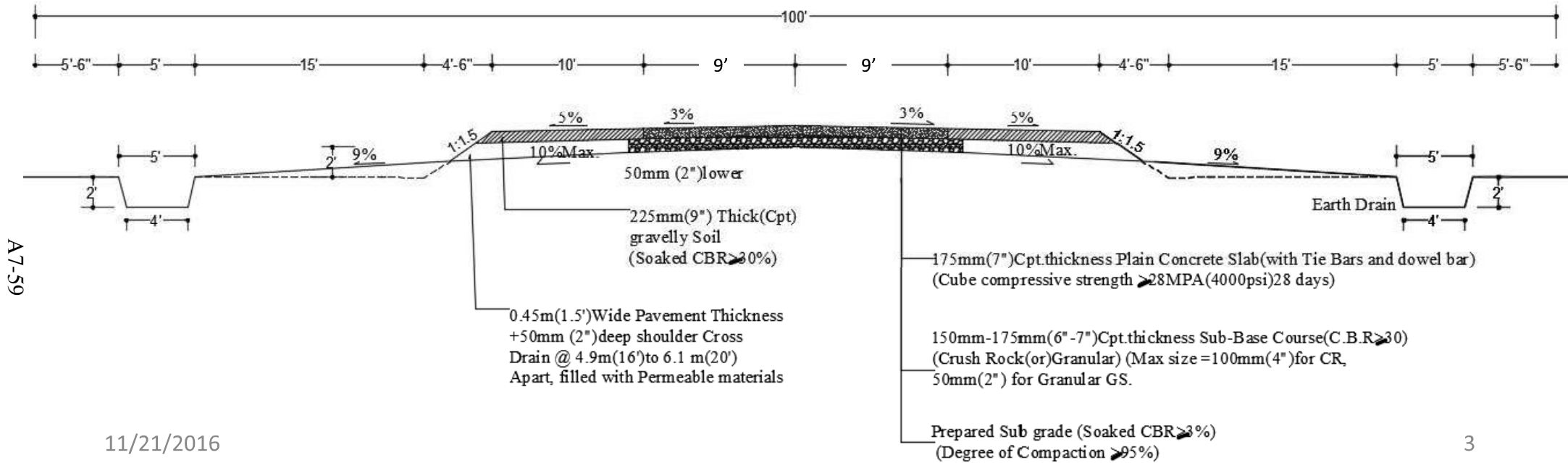
A7-58

11/21/2016

## Bituminous Road

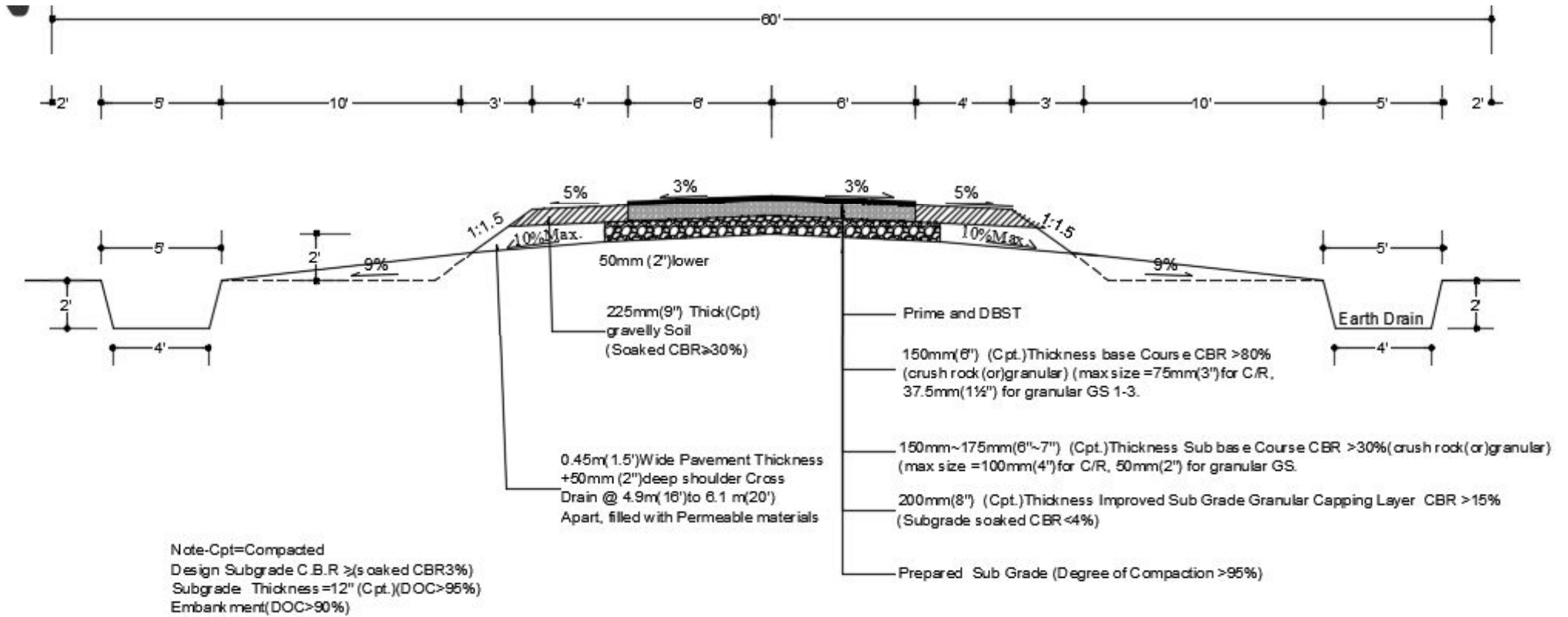


# Design for Rural road(Class-1)



## Concrete Road

# Design for Rural road(Class-2)

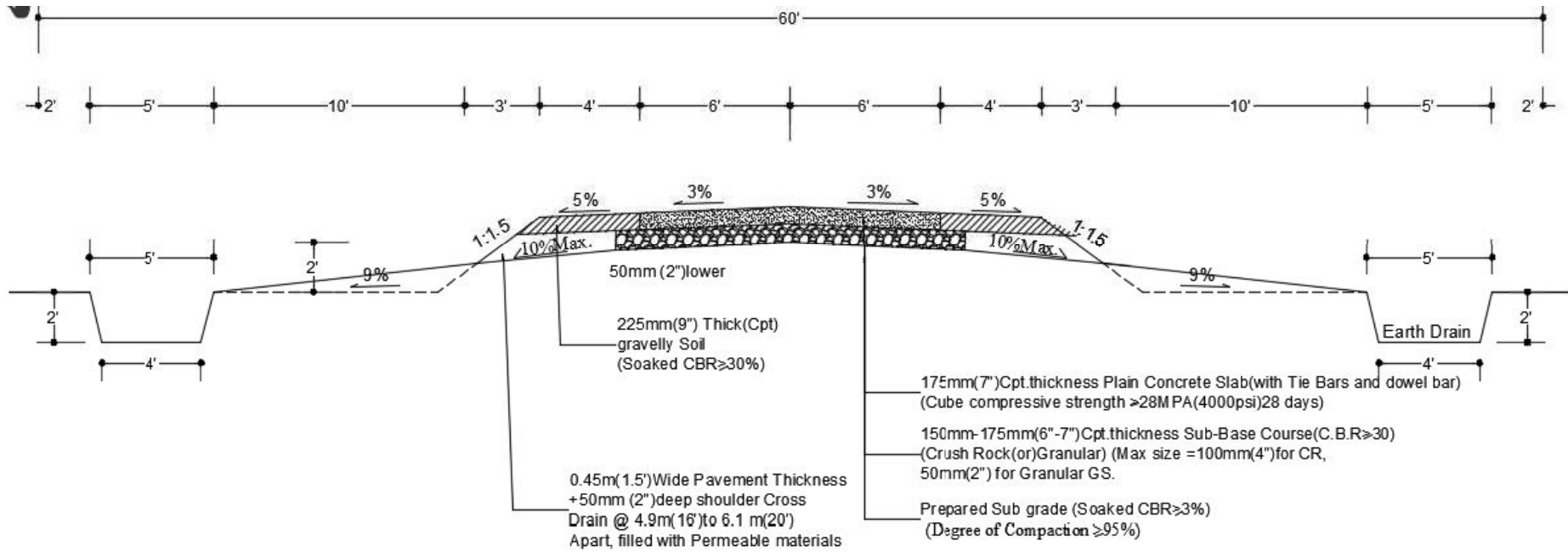


A7-60

11/21/2016

Bituminous Road

# Design for Rural road(Class-2)

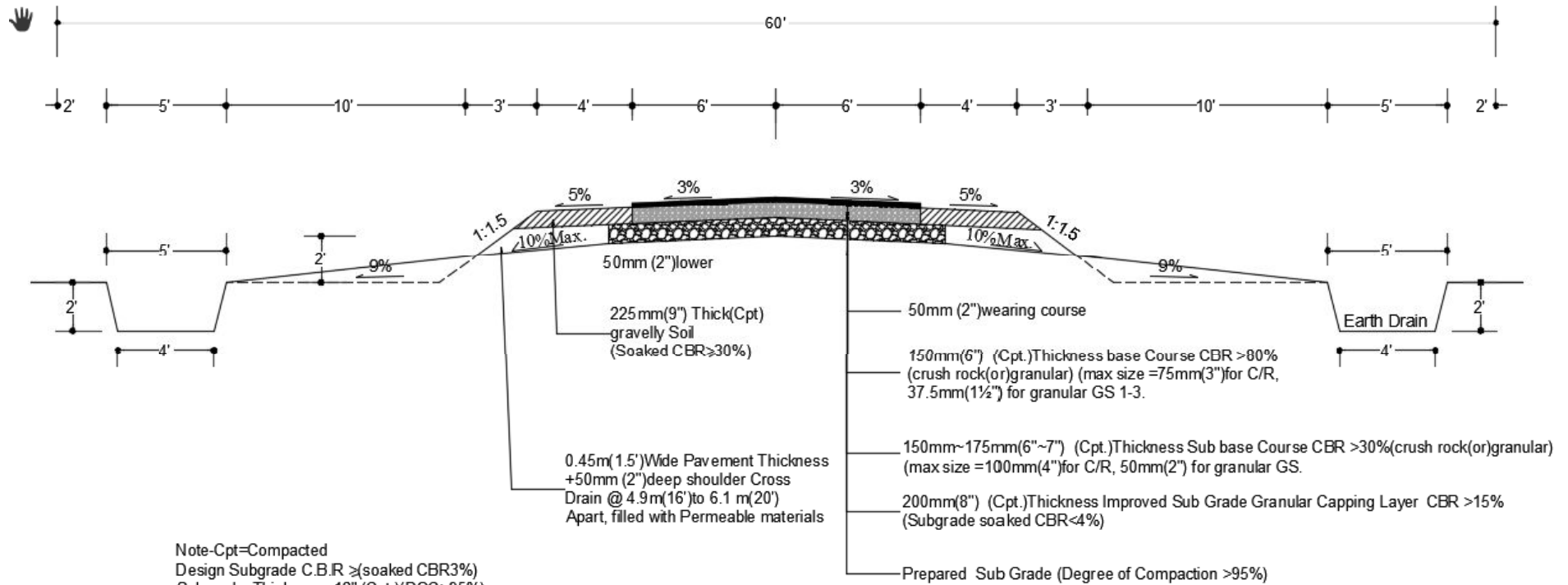


Note-Cpt=Compacted  
Design Subgrade C.B.R  $\geq$ (soaked CBR3%)  
Subgrade Thickness=12" (Cpt)(DOC $>$ 95%)  
Embankment(DOC $>$ 90%)

## Concrete Road

A7-61

# Design for Rural road(Class-2)



Note-Cpt=Compacted  
 Design Subgrade C.B.I.R  $\geq$ (soaked CBR3%)  
 Subgrade Thickness=12" (Cpt.)(DOC>95%)  
 Embankment(DOC>90%)

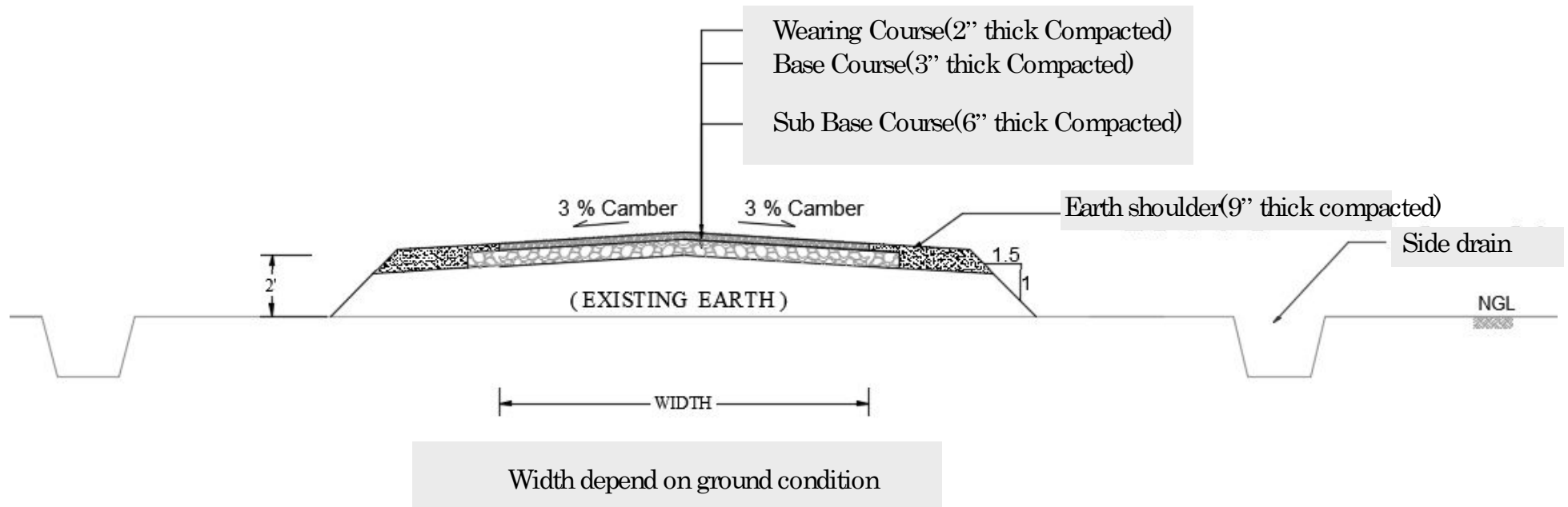
11/21/2016

A7-62

## Macadam Road

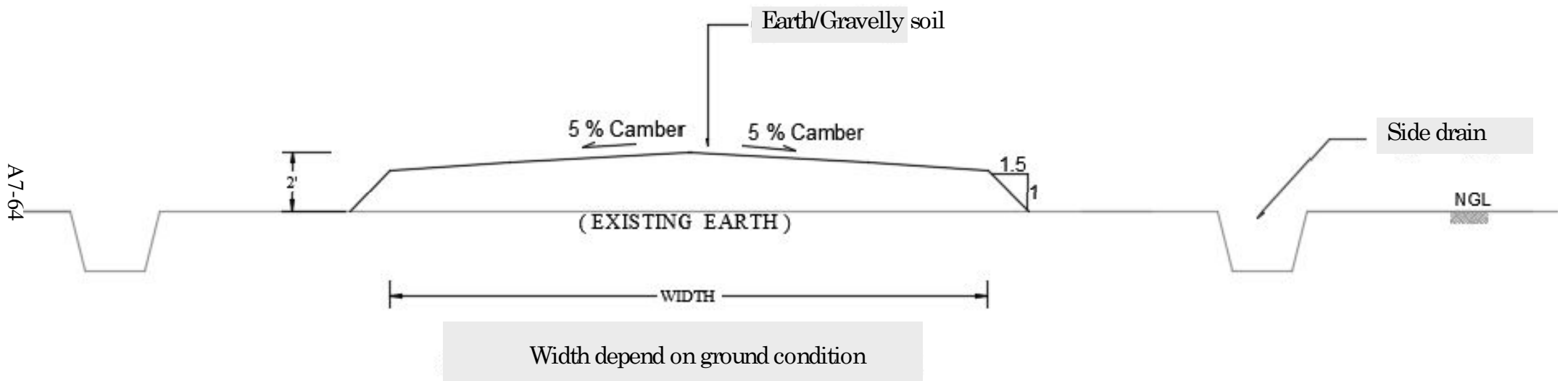
# Design for Rural road(Class3)

A7-63



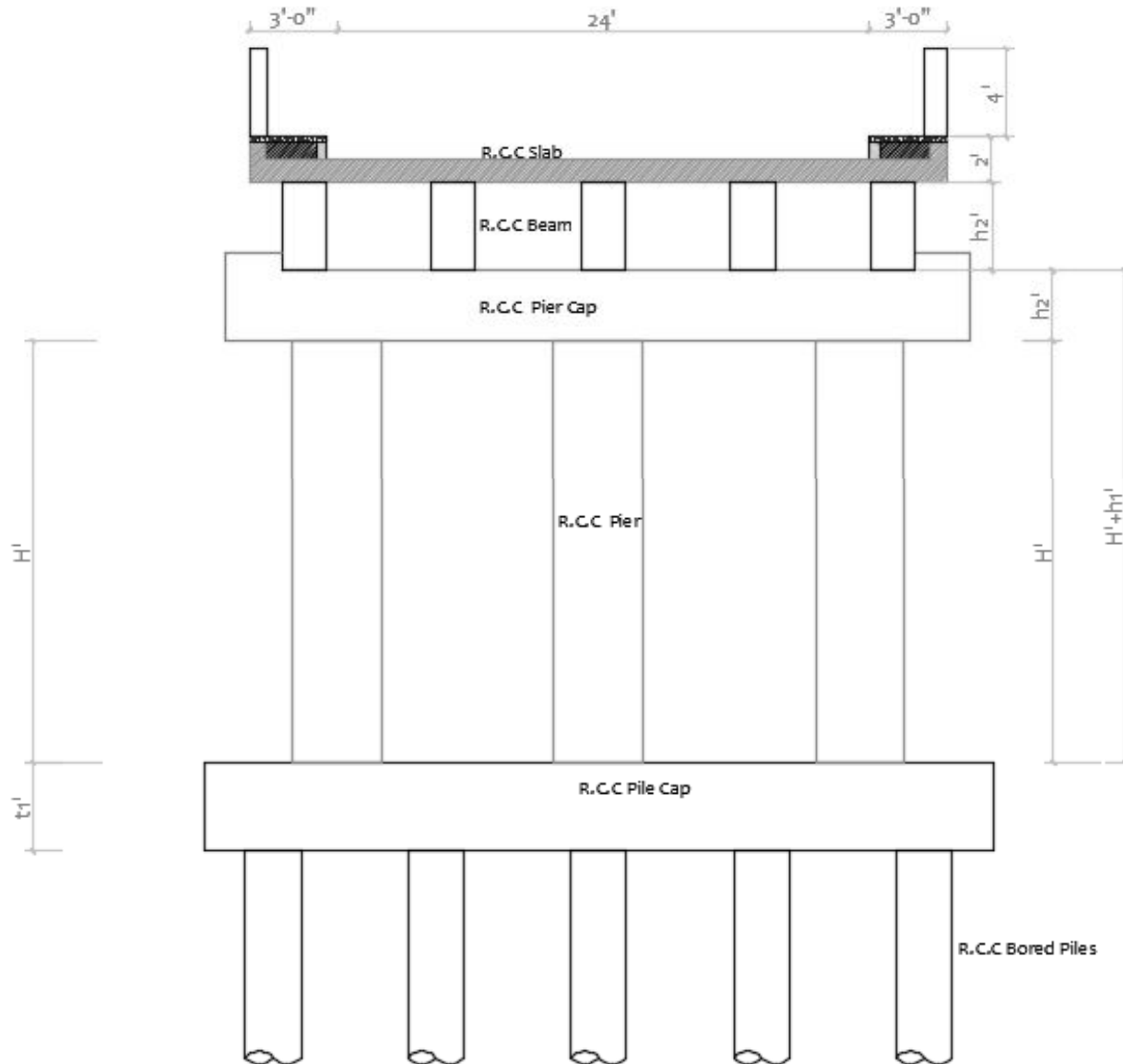
## Macadam Road

# Design for Rural road(Class3)



## Earth Road

# Rural Bridge (Class-1) Concrete Bridge



A7-65

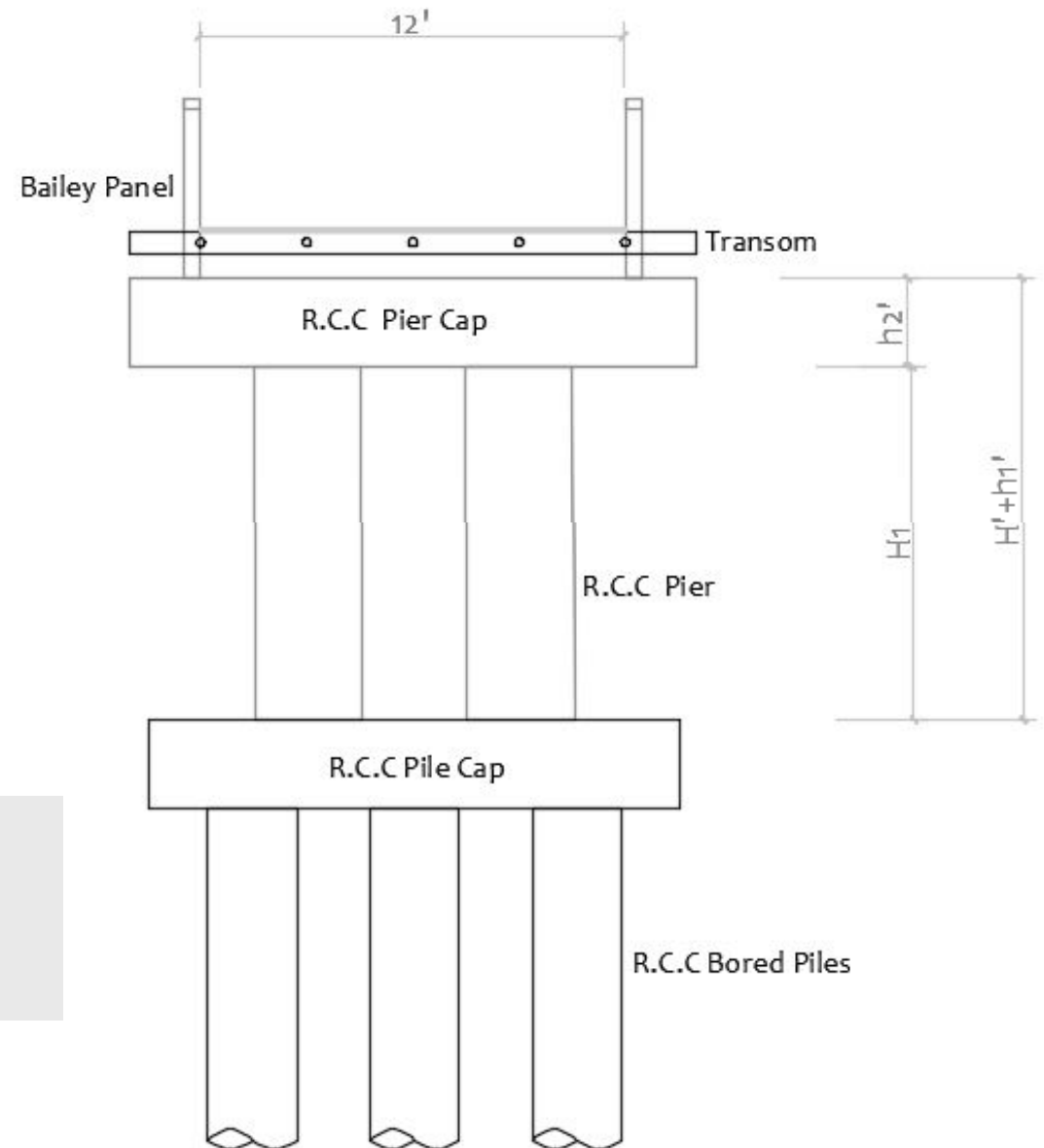
# Rural Bridge ,Class(2)

## Bailey Bridge



90-100'

- |            |   |                            |
|------------|---|----------------------------|
| 30' _ 60'  | - | Single Single Bailey Panel |
| 70' _ 80'  | - | Double Single Bailey Panel |
| 90' _ 100' | - | Triple Single Bailey Panel |

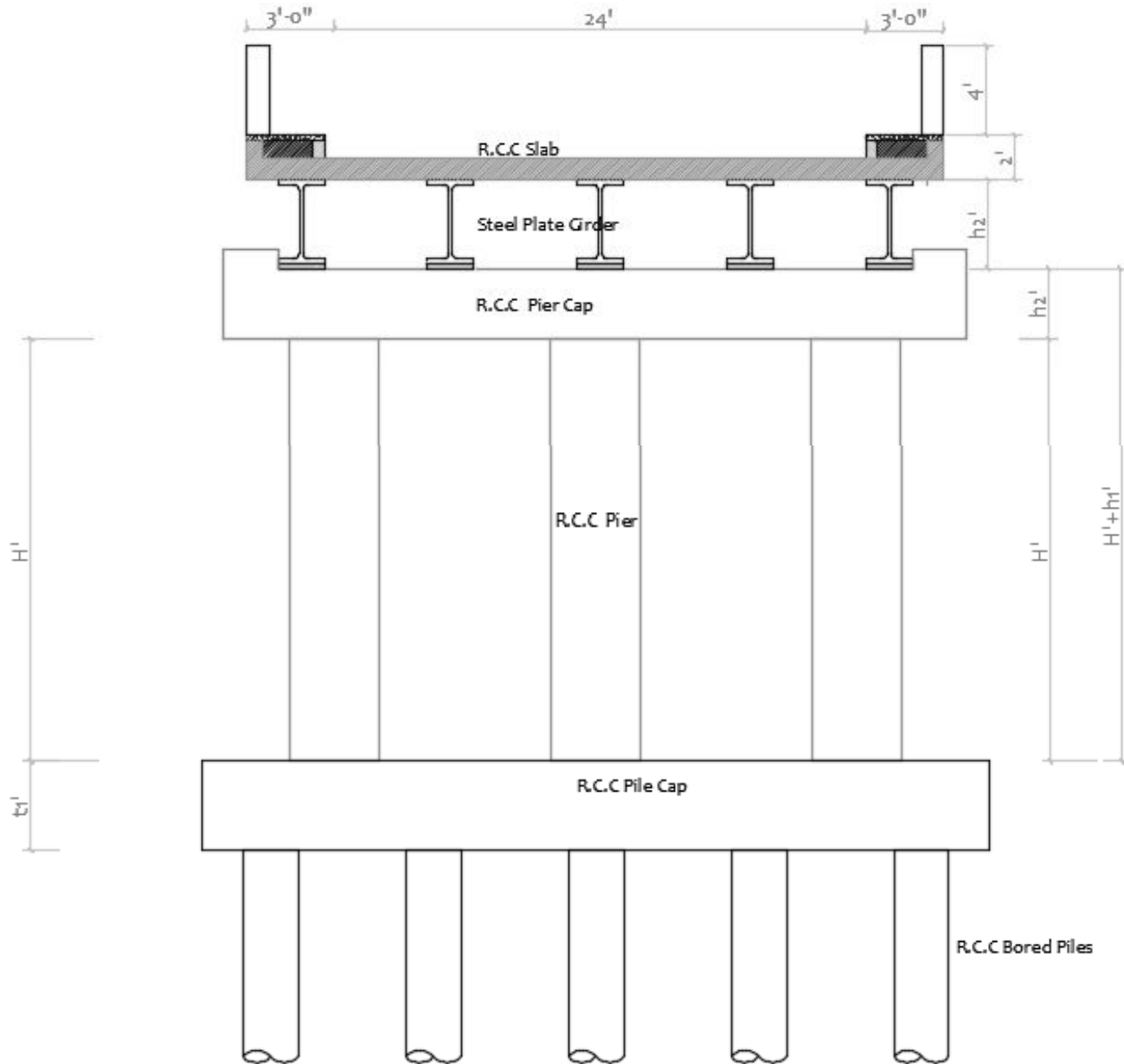




# Rural Bridge ,Class(3)

## R.C.C Bridge

(Steel plate Girder,R.C.C Column)

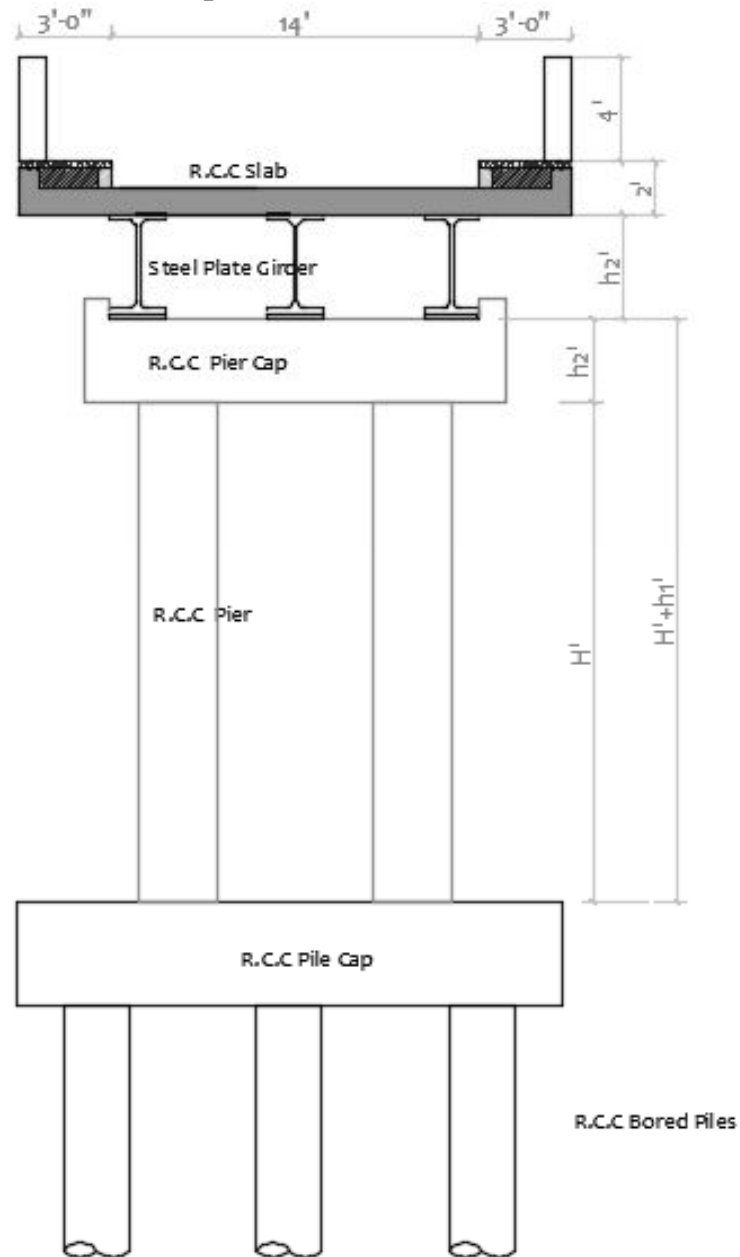


A7-67

# Rural Bridge ,Class(3)

## R.C.C Bridge

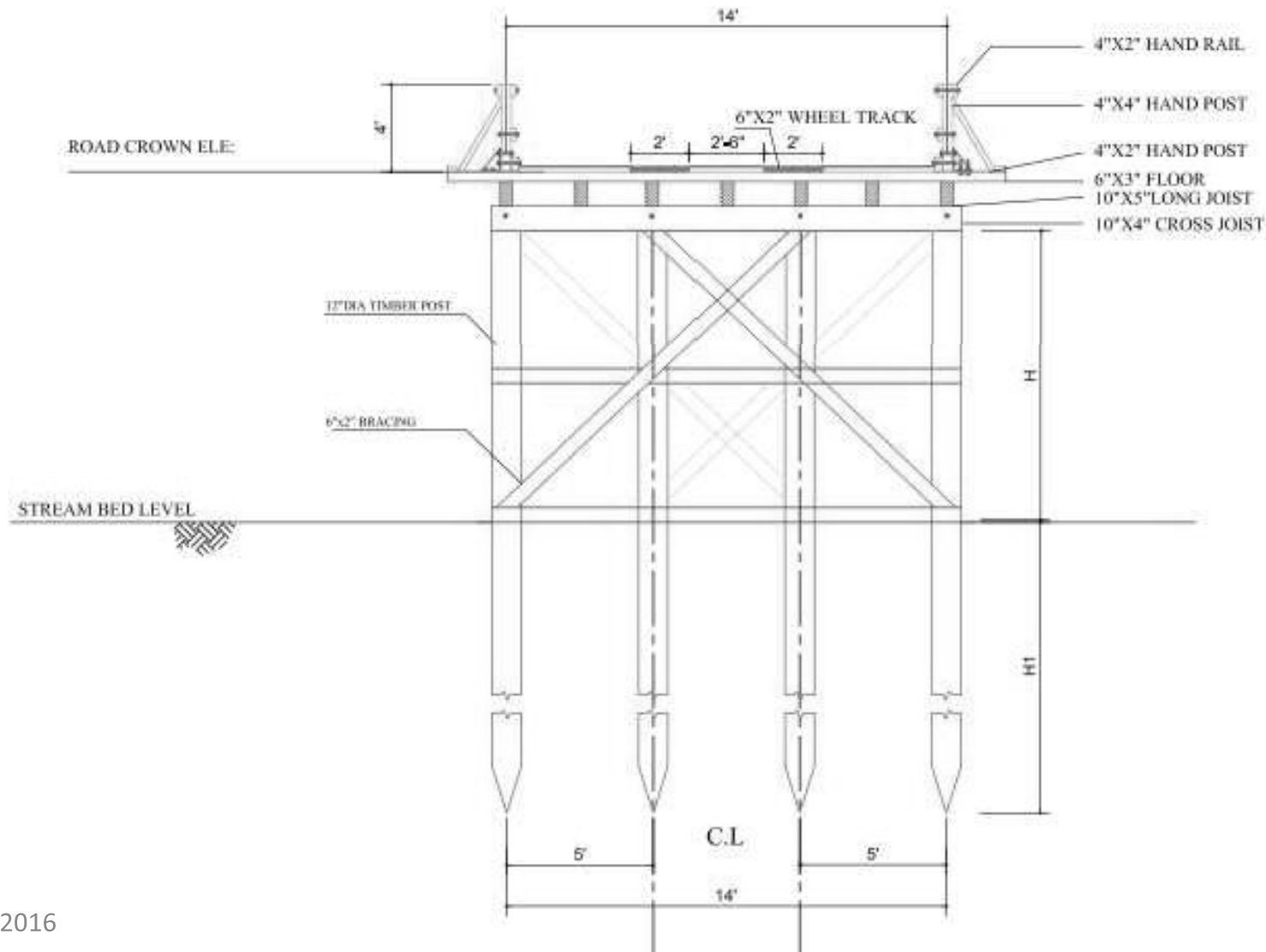
(Steel plate Girder,R.C.C Column)



A7-68

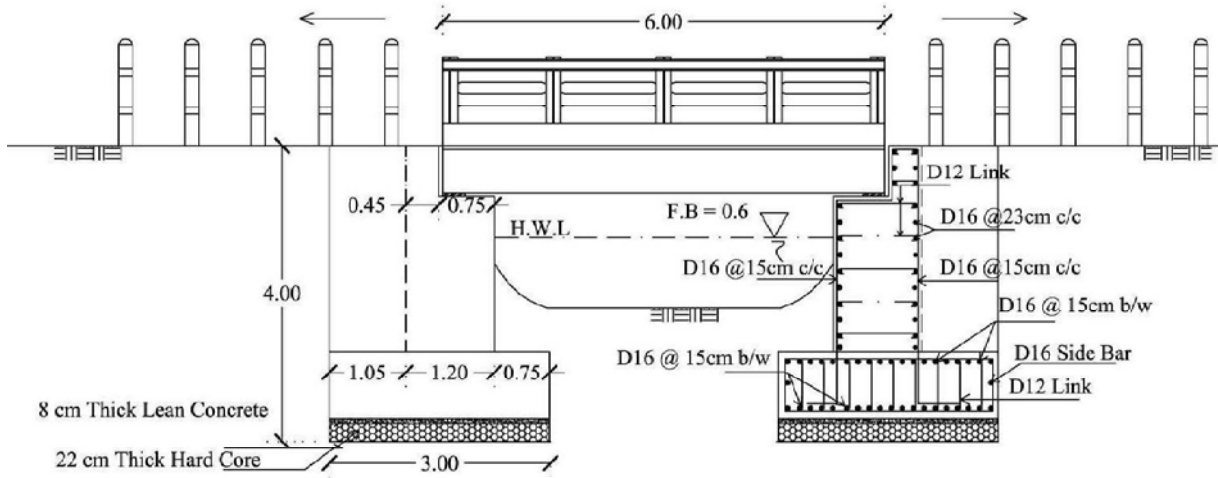
# Rural Bridge ,Class(4)

## Timber Bridge

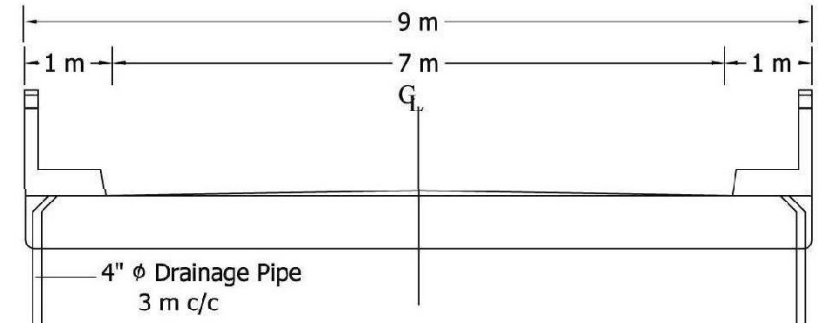


A7-69

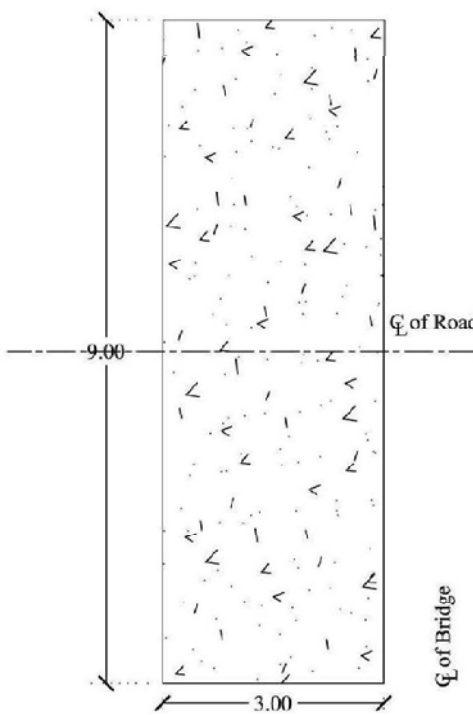
# (6m) Span Reinforced Concrete Bridge



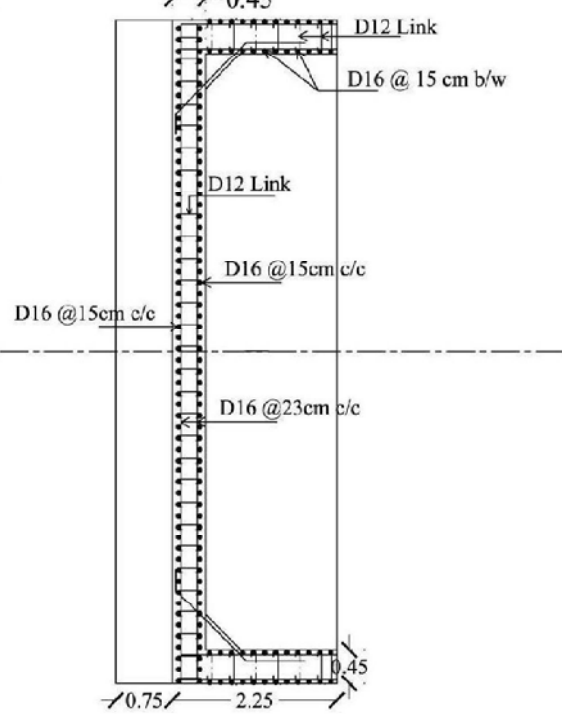
**ELEVATION**



**CROSS SECTION**



**FOUNDATION PLAN**

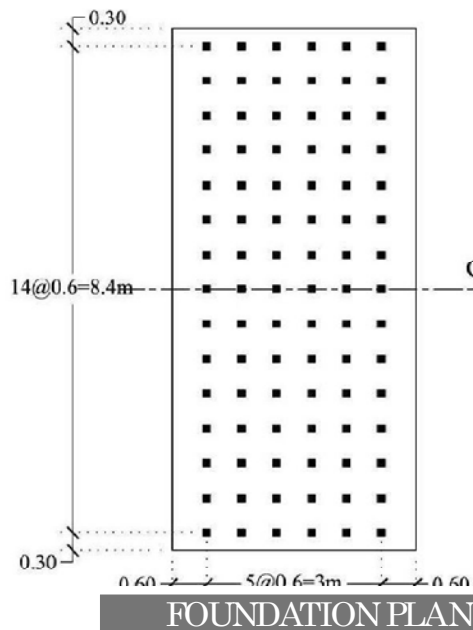
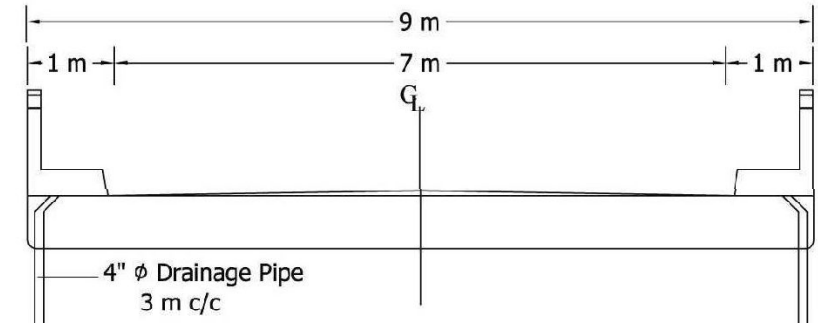
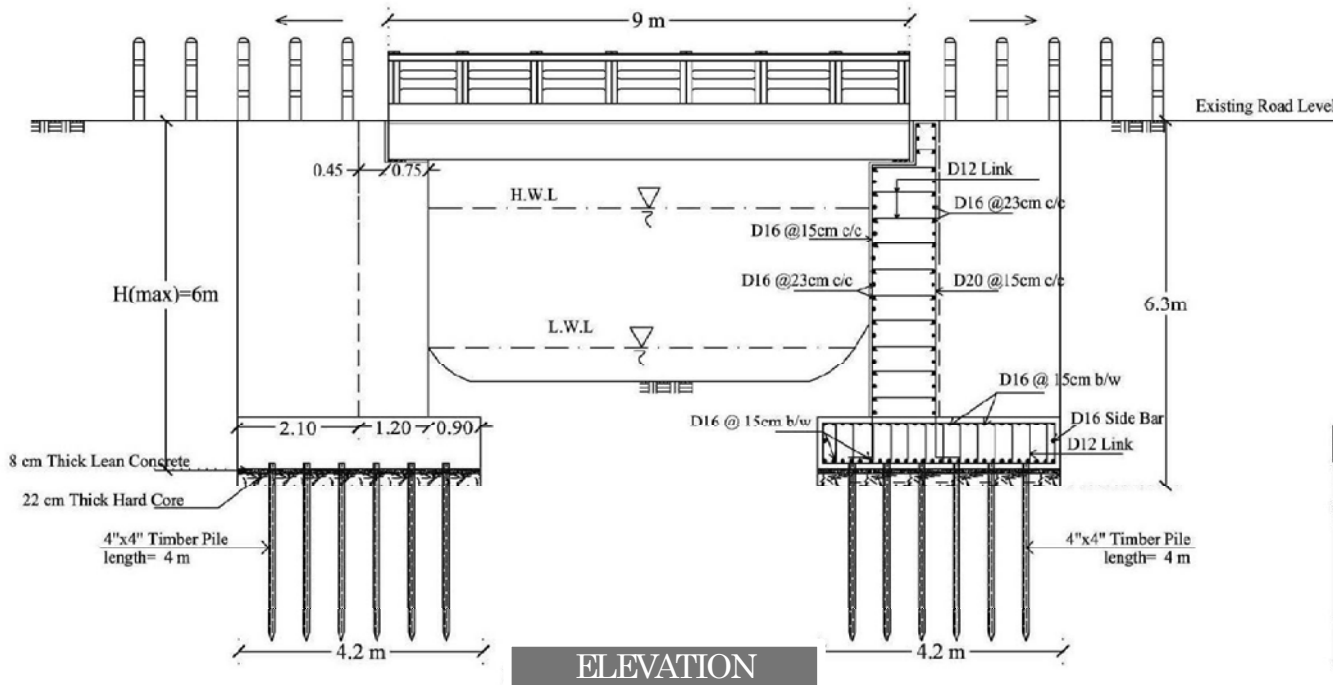


**WING WALL SECTION PLAN**

A7-70

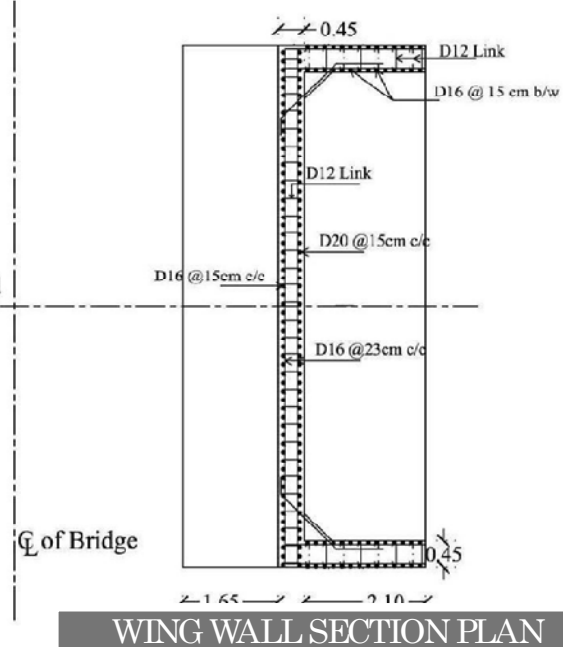
- NOTES**
- 1) Design strength of concrete = 24 Mpa (Cylinder)
  - 2) Yield strength of Re-bar = 295 Mpa
  - 3) Clear cover = 0.05m
  - 4) Re-bar splice length = 5m
  - 5) All dimensions are in meter (m)

# (9m) Span Reinforced Concrete Bridge



**ELEVATION**

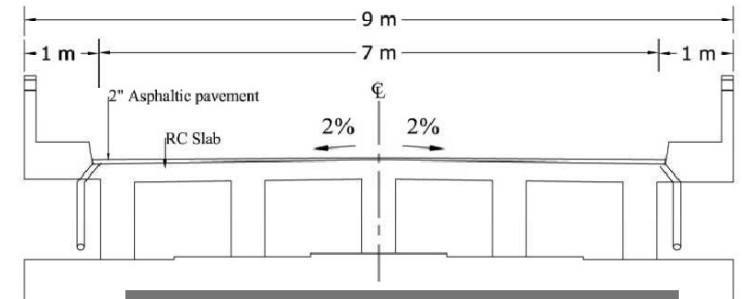
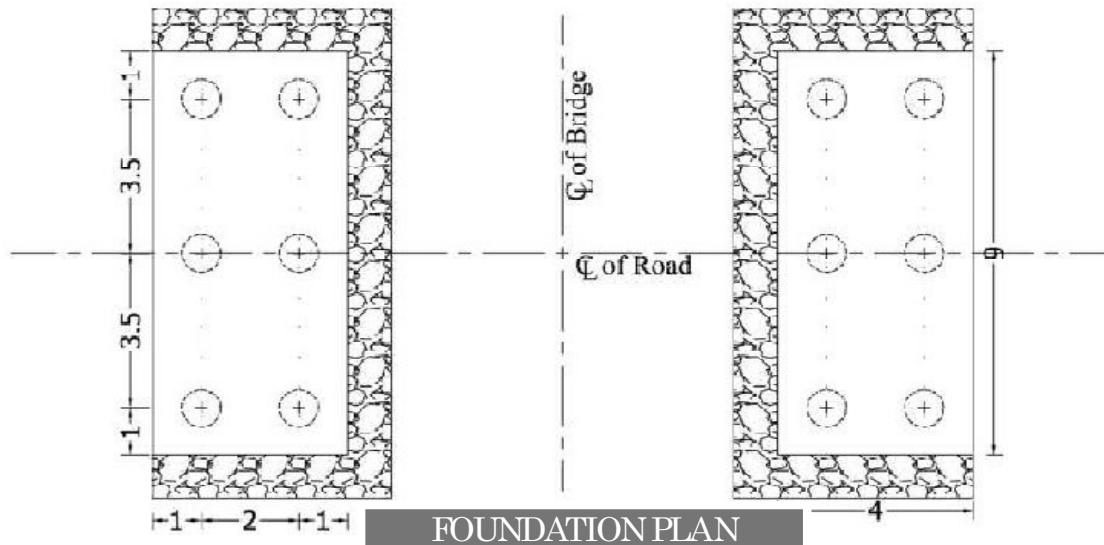
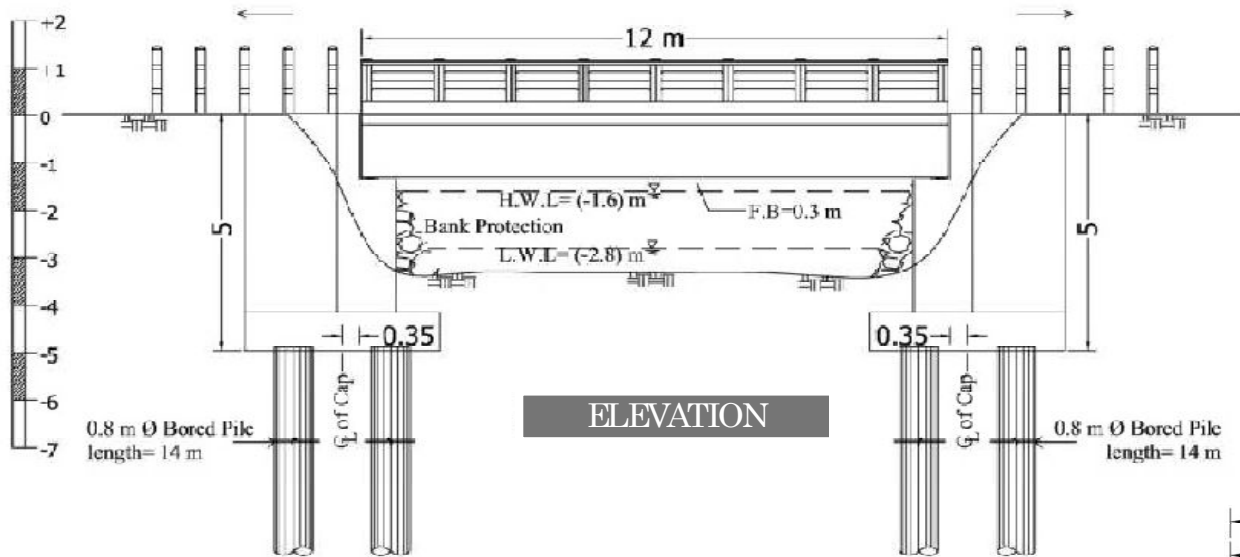
**CROSS SECTION**



- NOTES**
- 1) Design strength of concrete = 24 Mpa (Cylinder)
  - 2) Yield strength of Re-bar = 295 Mpa
  - 3) Clear cover = 0.05m
  - 4) Re-bar splice length = 5m
  - 5) All dimensions are in meter (m)

A7-71

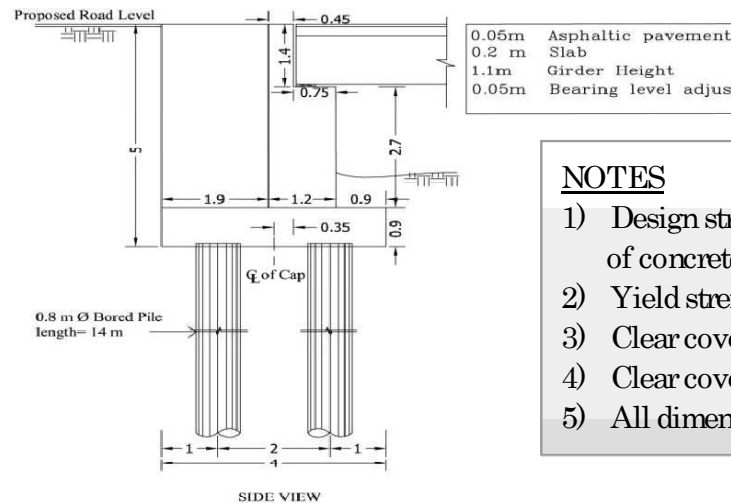
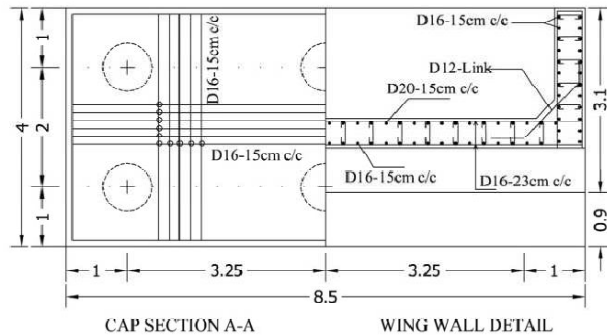
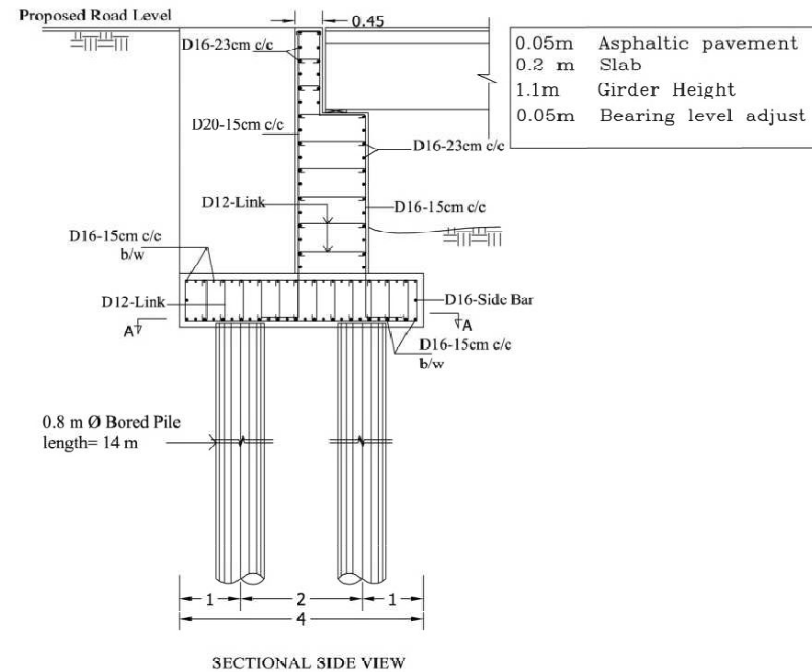
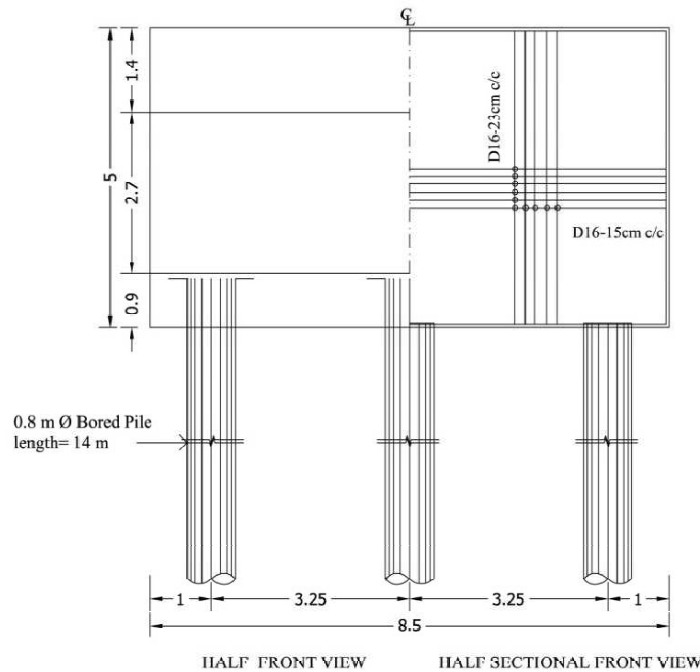
# (12 m) Span Reinforced Concrete Bridge



All Dimension are meter (m)

GENERAL VIEW

# (12 m) Span Reinforced Concrete Bridge

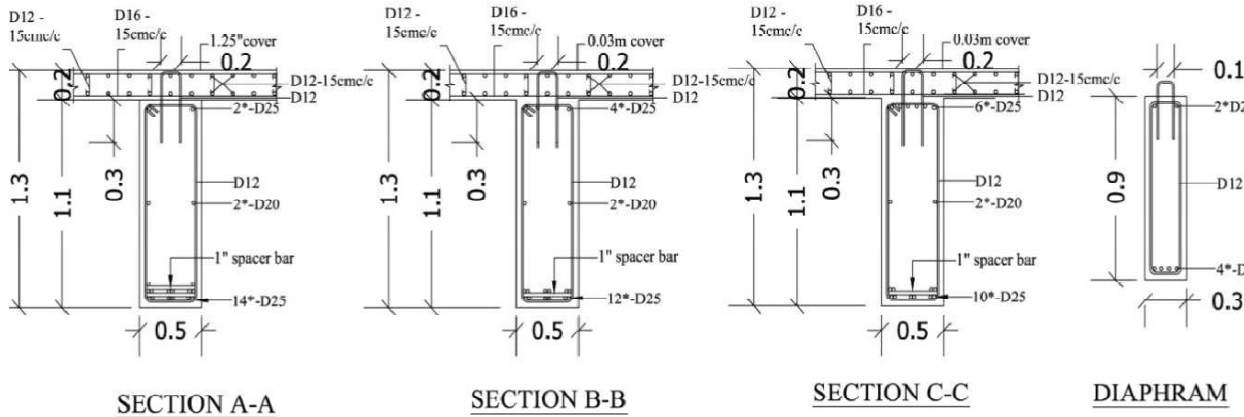
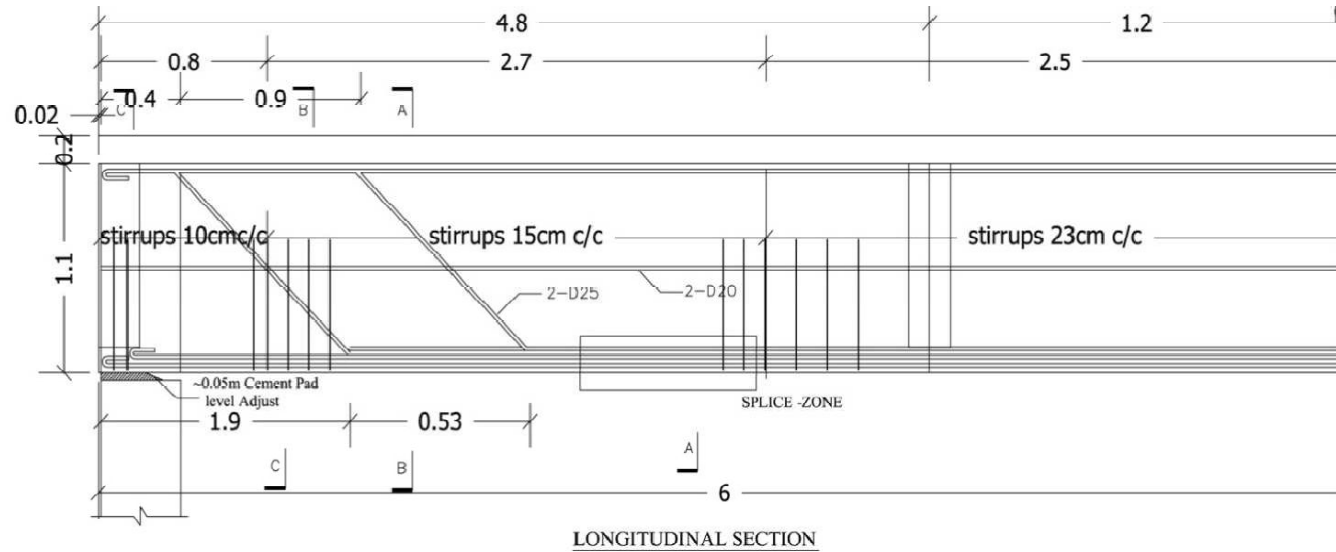


## NOTES

- 1) Design strength = 24 Mpa (Cylinder) of concrete
- 2) Yield strength of Re-bar = 295 Mpa
- 3) Clear cover = 0.05m
- 4) Clear cover = 0.1m
- 5) All dimensions are in meter (m)

## ABUTMENT DETAIL

# (12 m) Span Reinforced Concrete Bridge



## NOTES

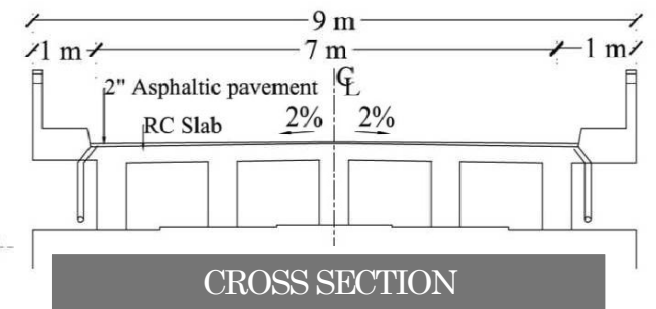
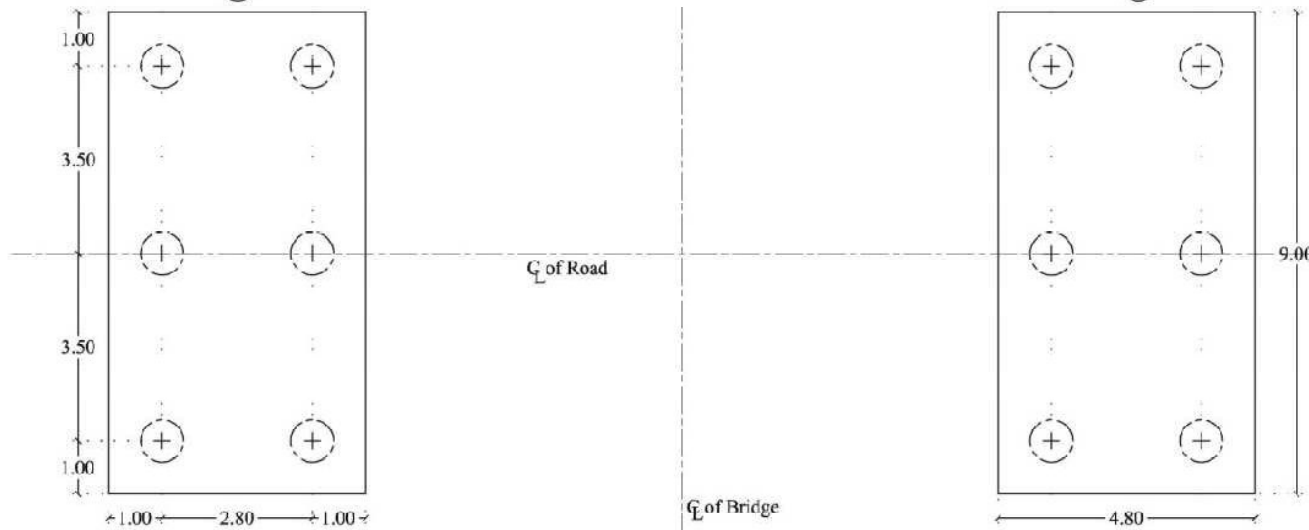
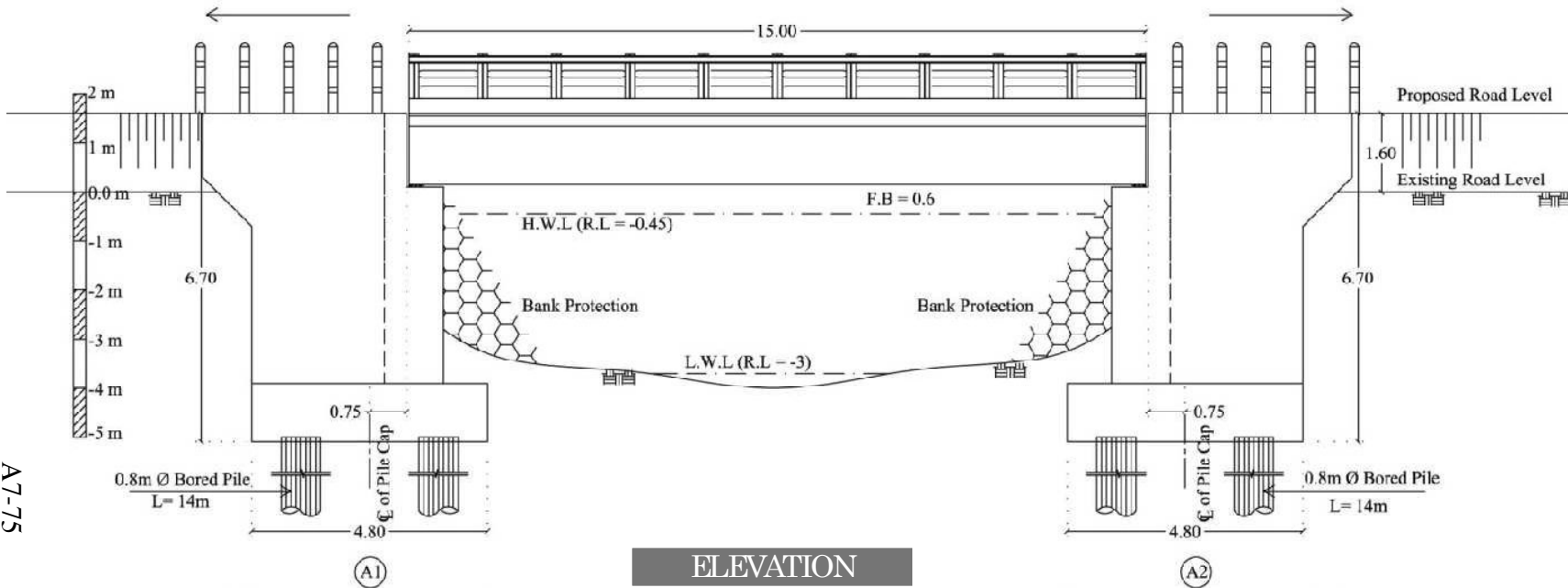
- 1) Design strength = 28 Mpa (Cylinder) of Concrete
- 2) Yield strength of Re-bar = 295 Mpa
- 3) Clear cover = 0.04m
- 4) Min Splice Length = 44 $\phi$
- 5) Alternative bar splice bet. L/5 to L/4 from the end.
- 6) Dead Load Camber of 0.02m at Mid-span.
- 7) All dimensions are in meter (m)

GIRDER DETAIL



# (15m) Span Reinforced Concrete Bridge

A7-75

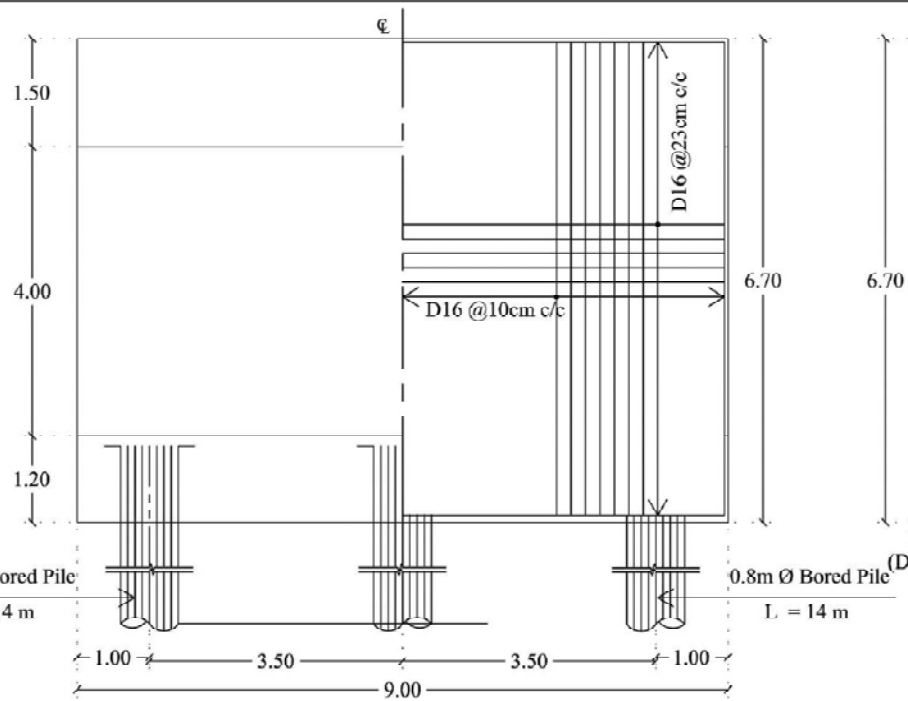


All Dimension are meter (m)

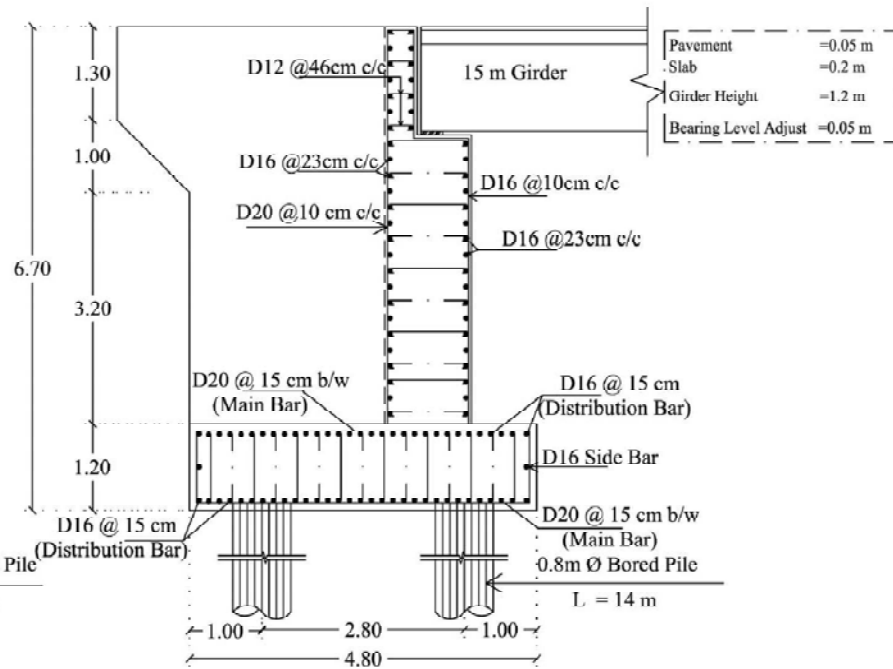
**GENERAL VIEW**

# (15m) Span Reinforced Concrete Bridge

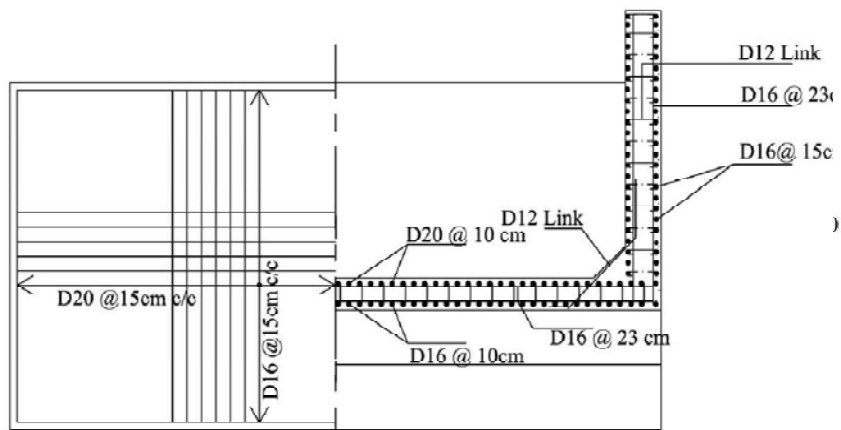
A7-76



Half Sectional Front View

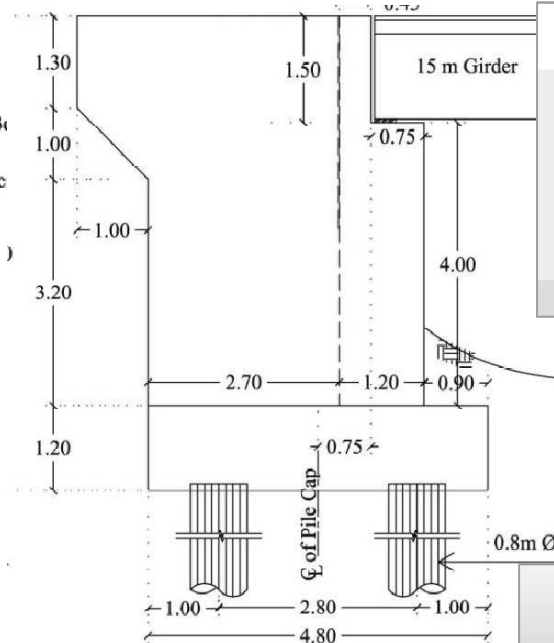


Detail of Abutment



Foundation Plan

Wing Wall Detail

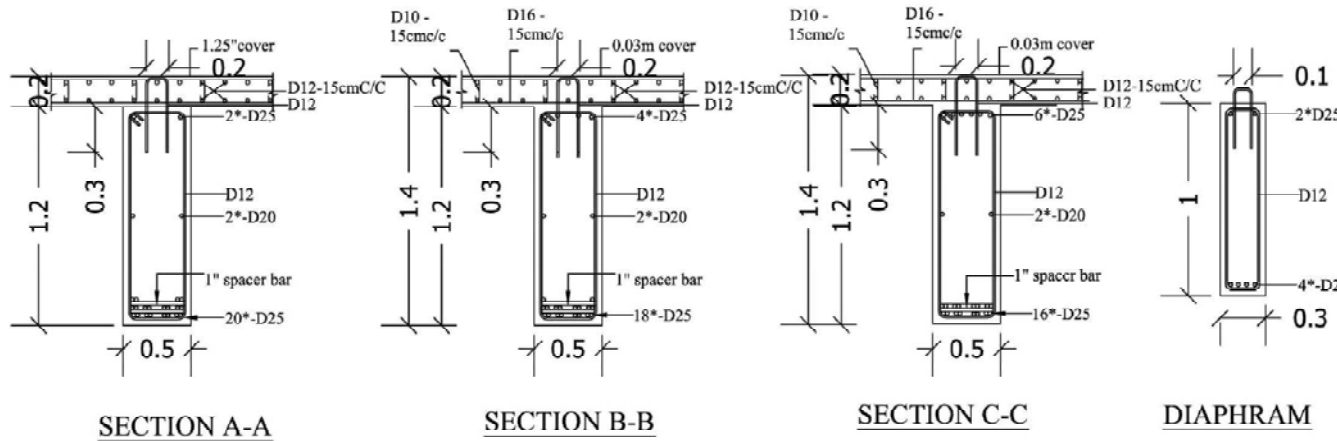
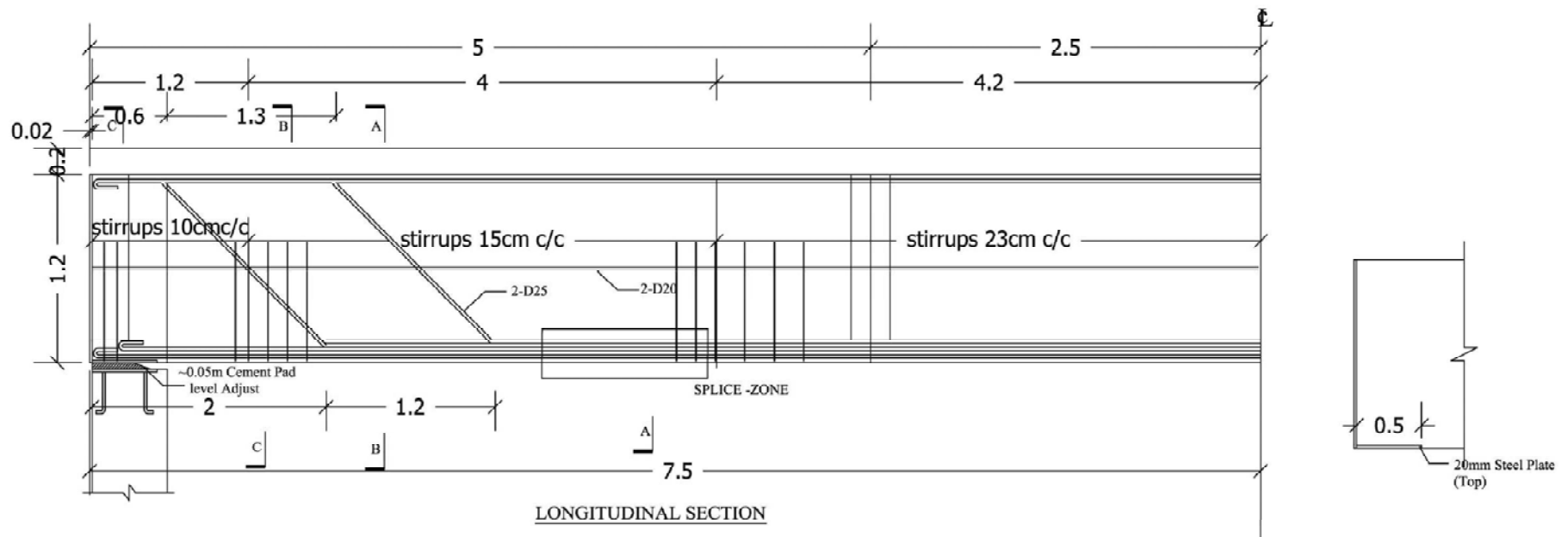


## NOTES

- 1) Design strength = 24 Mpa (Cylinder) of concrete
- 2) Yield strength of Re-bar = 295 Mpa
- 3) Clear cover = 0.05m
- 4) Clear cover = 0.1m
- 5) All dimensions are in meter (m)

**ABUTMENT DETAIL**

# (15m) Span Reinforced Concrete Bridge

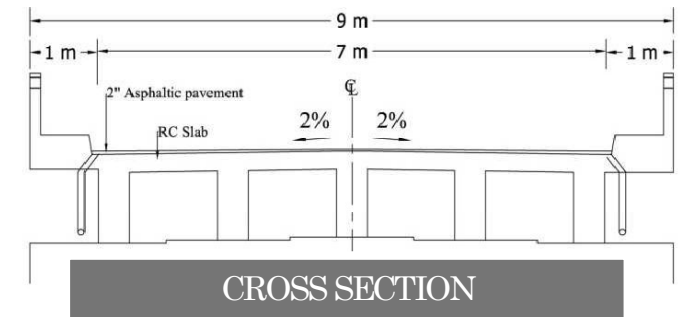
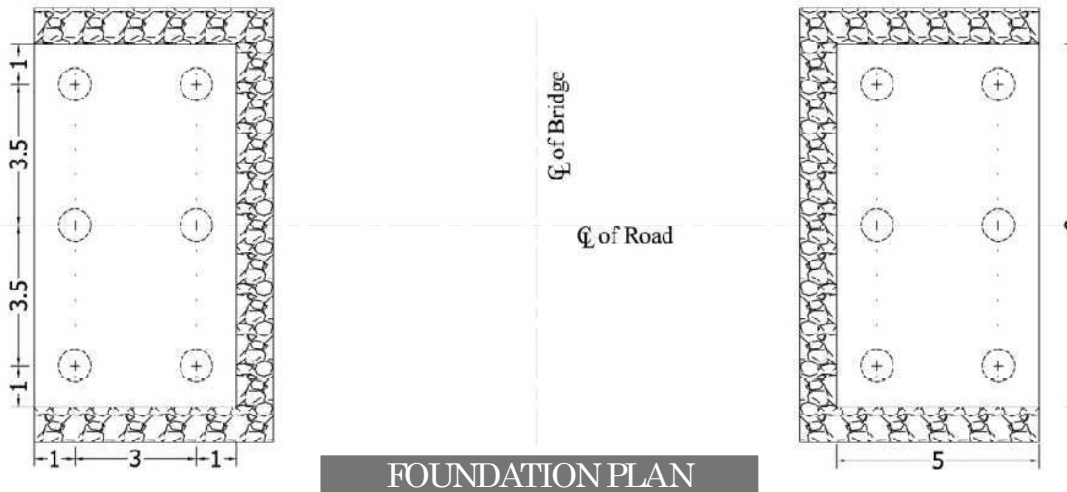
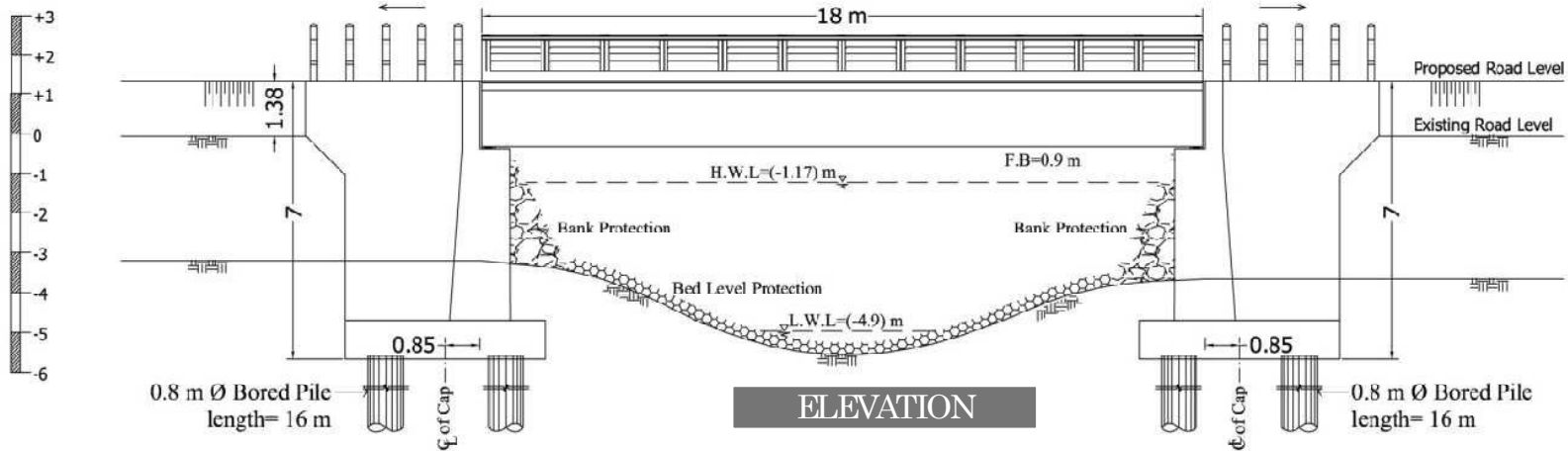


## NOTES

- 1) Design strength = 28 Mpa (Cylinder) of Concrete
- 2) Yield strength of Re-bar = 295 Mpa
- 3) Clear cover = 0.04m
- 4) Min Splice Length = 44f
- 5) Alternative bar splice bet. L/5 to L/4 from the end.
- 6) Dead Load Camber of 0.02m at Mid-span.
- 7) All dimensions are in meter (m)

GIRDER DETAIL

# (18 m) Span Reinforced Concrete Bridge

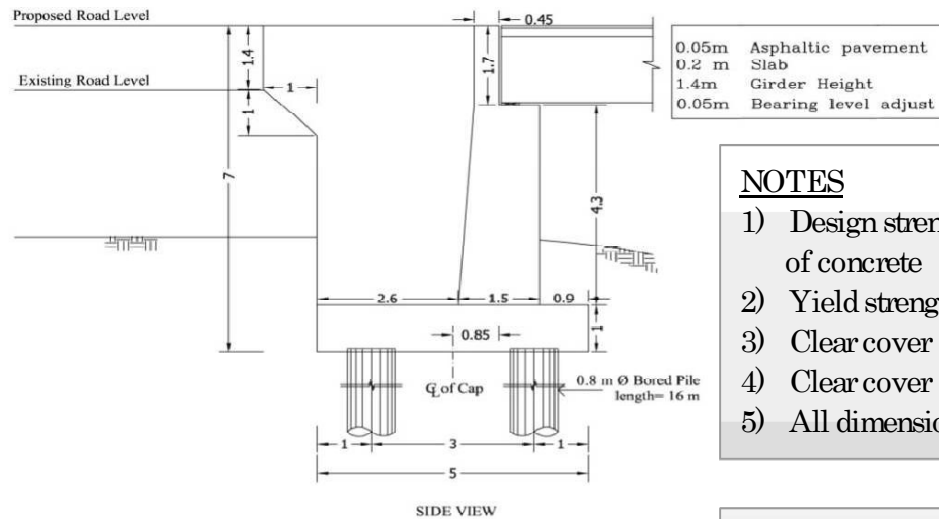
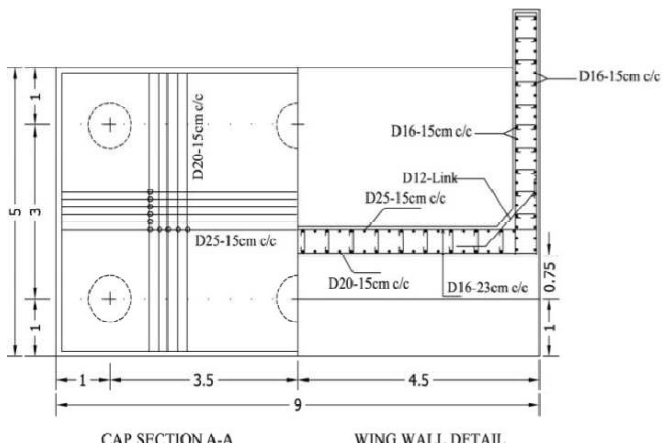
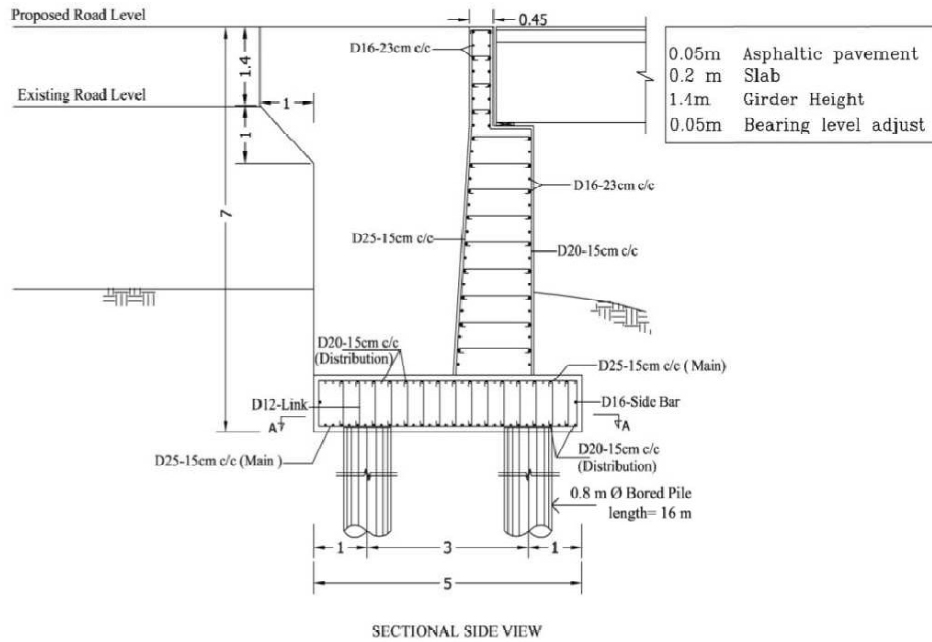
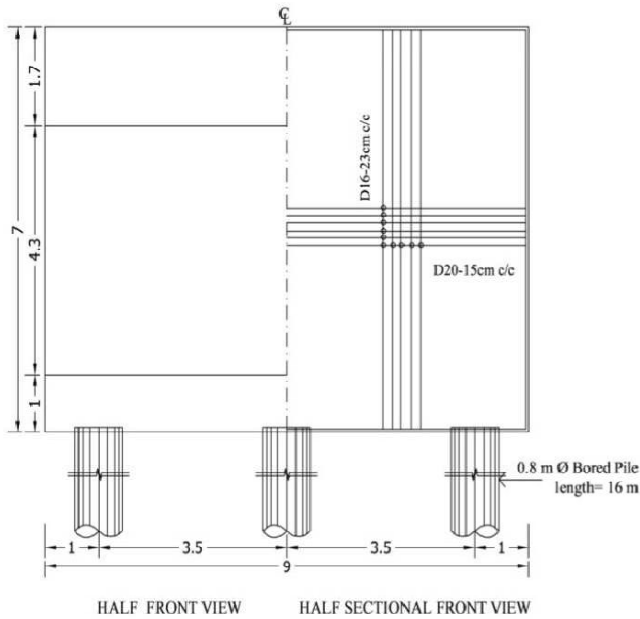


All Dimension are meter (m)

GENERAL VIEW

# (18 m) Span Reinforced Concrete Bridge

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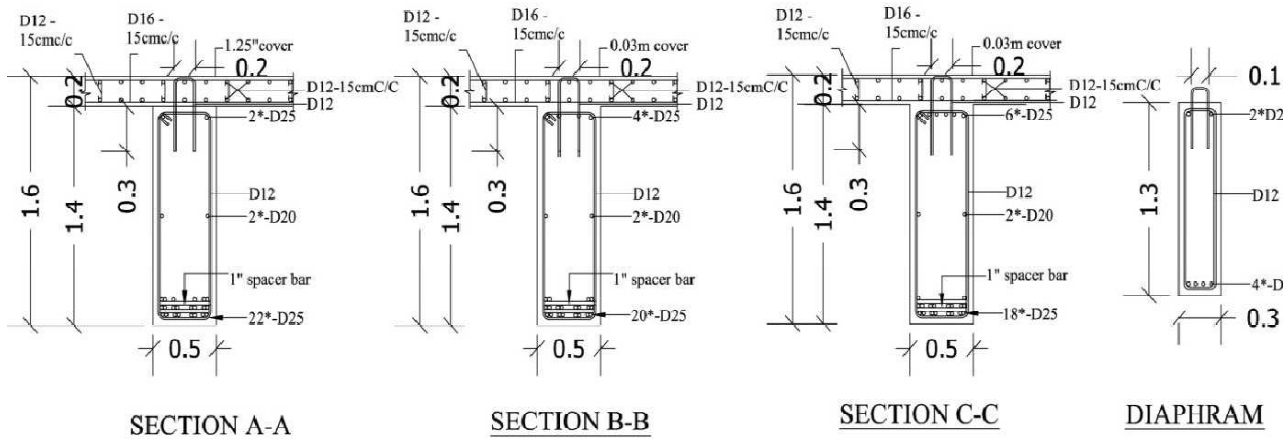
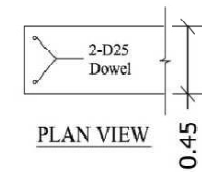
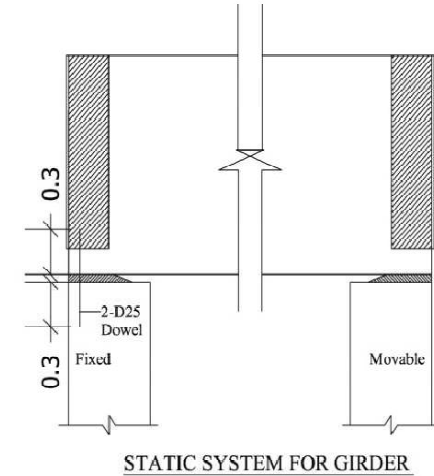
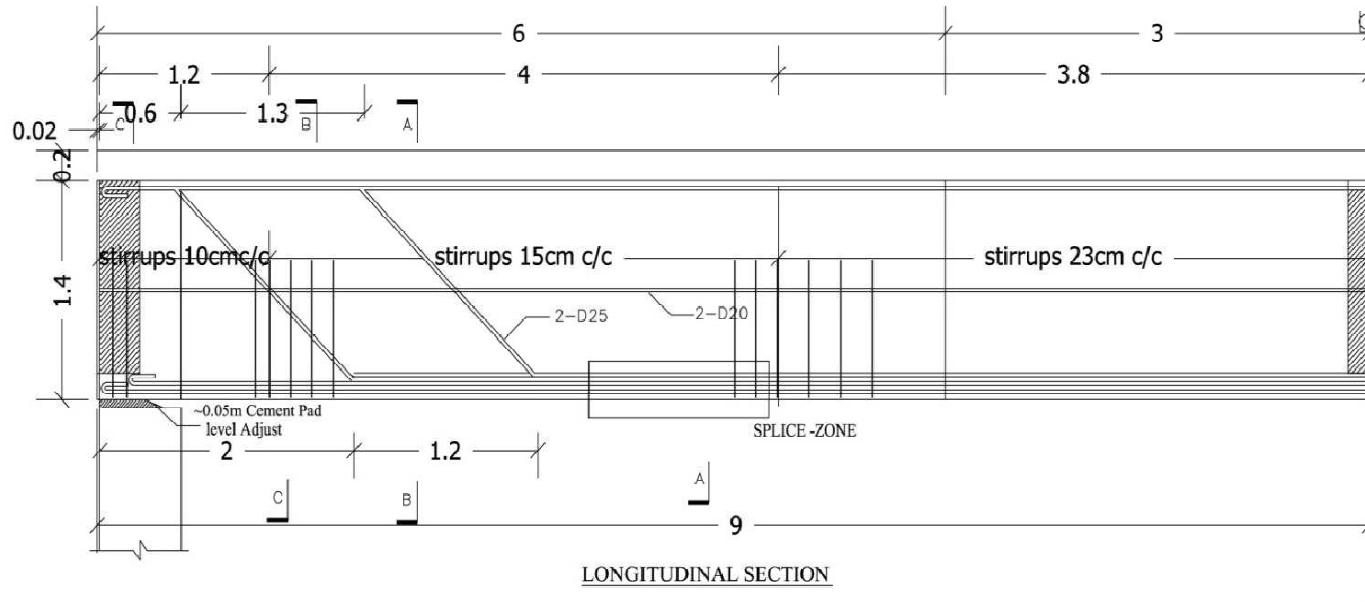


## NOTES

- 1) Design strength = 24 Mpa (Cylinder) of concrete
- 2) Yield strength of Re-bar = 295 Mpa
- 3) Clear cover = 0.05m
- 4) Clear cover = 0.1m
- 5) All dimensions are in meter (m)

## ABUTMENT DETAIL

# (18 m) Span Reinforced Concrete Bridge

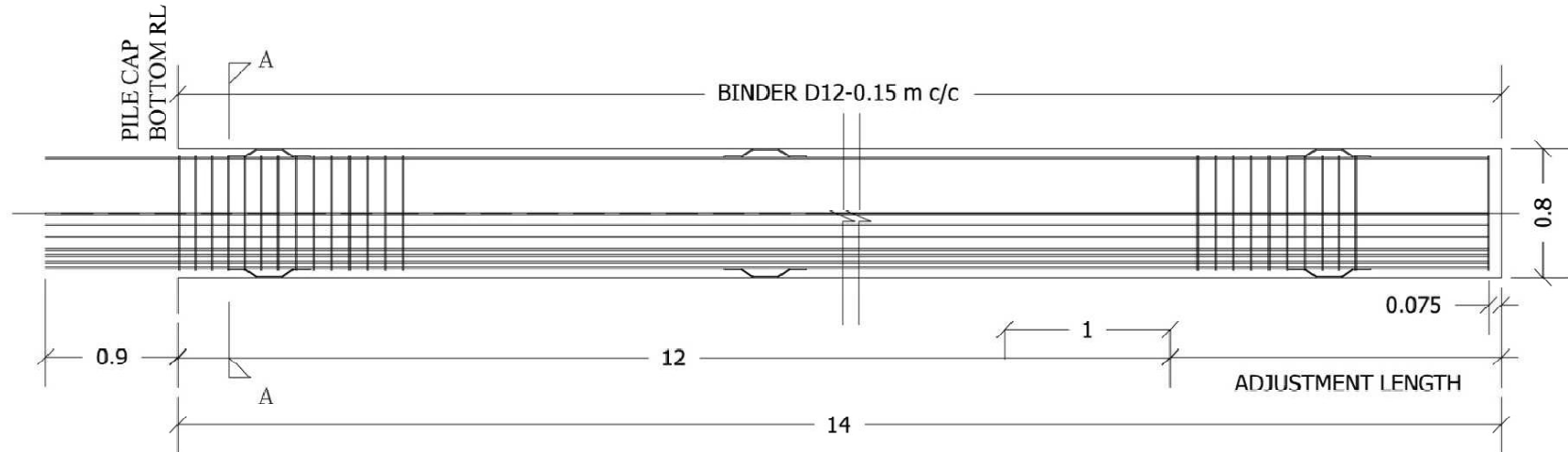


## NOTES

- 1) Design strength = 28 Mpa (Cylinder) of Concrete
- 2) Yield strength of Re-bar = 295 Mpa
- 3) Clear cover = 0.04m
- 4) Min Splice Length =  $44f$
- 5) Alternative bar splice bet.  $L/5$  to  $L/4$  from the end.
- 6) Dead Load Camber of 0.02m at Mid-span.
- 7) All dimensions are in meter (m)

## GIRDER DETAIL

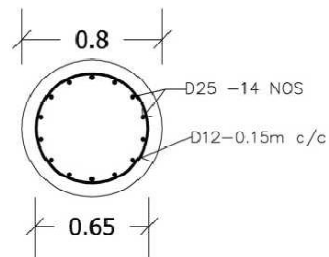
# BORED PILE DETAIL



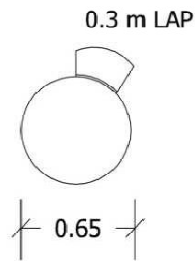
## BAR ARRANGEMENT OF BORED PILE

PILE DIAMETER 0.8 meter

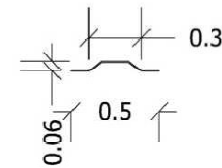
PILE LENGTH 14 meter



SECTION A-A



BINDER DETAIL

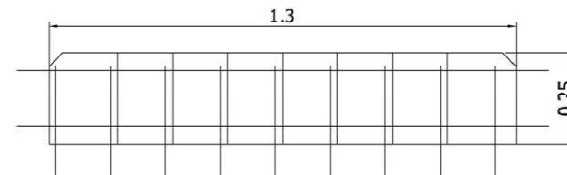
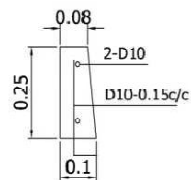
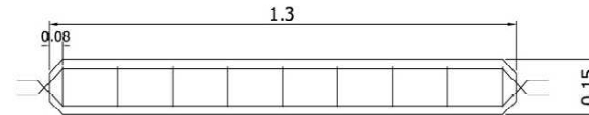
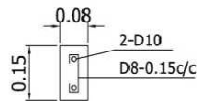
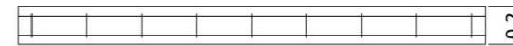
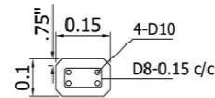
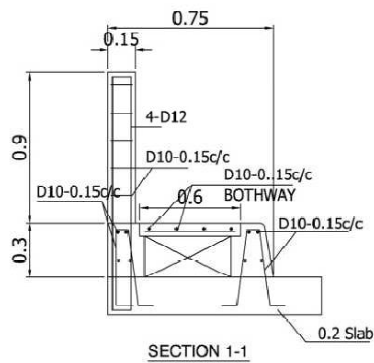
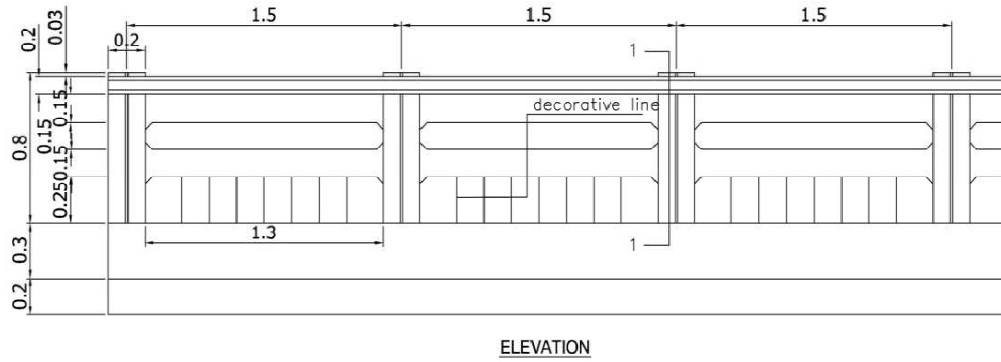
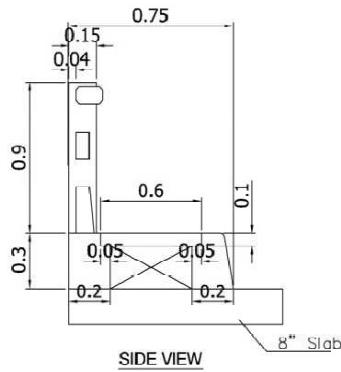


SPACER BAR DETAIL

## NOTES

- 1) Design strength of Concrete = 31 Mpa (Cylinder)
- 2) Yield strength of Re-bar = 295 Mpa
- 3) Clear cover = 0.075m
- 4) Re-bar Splice length as shown
- 5) All dimensions are in meter (m)

# HANDRAIL DETAIL



**RAIL & DEFLECTOR DETAIL**

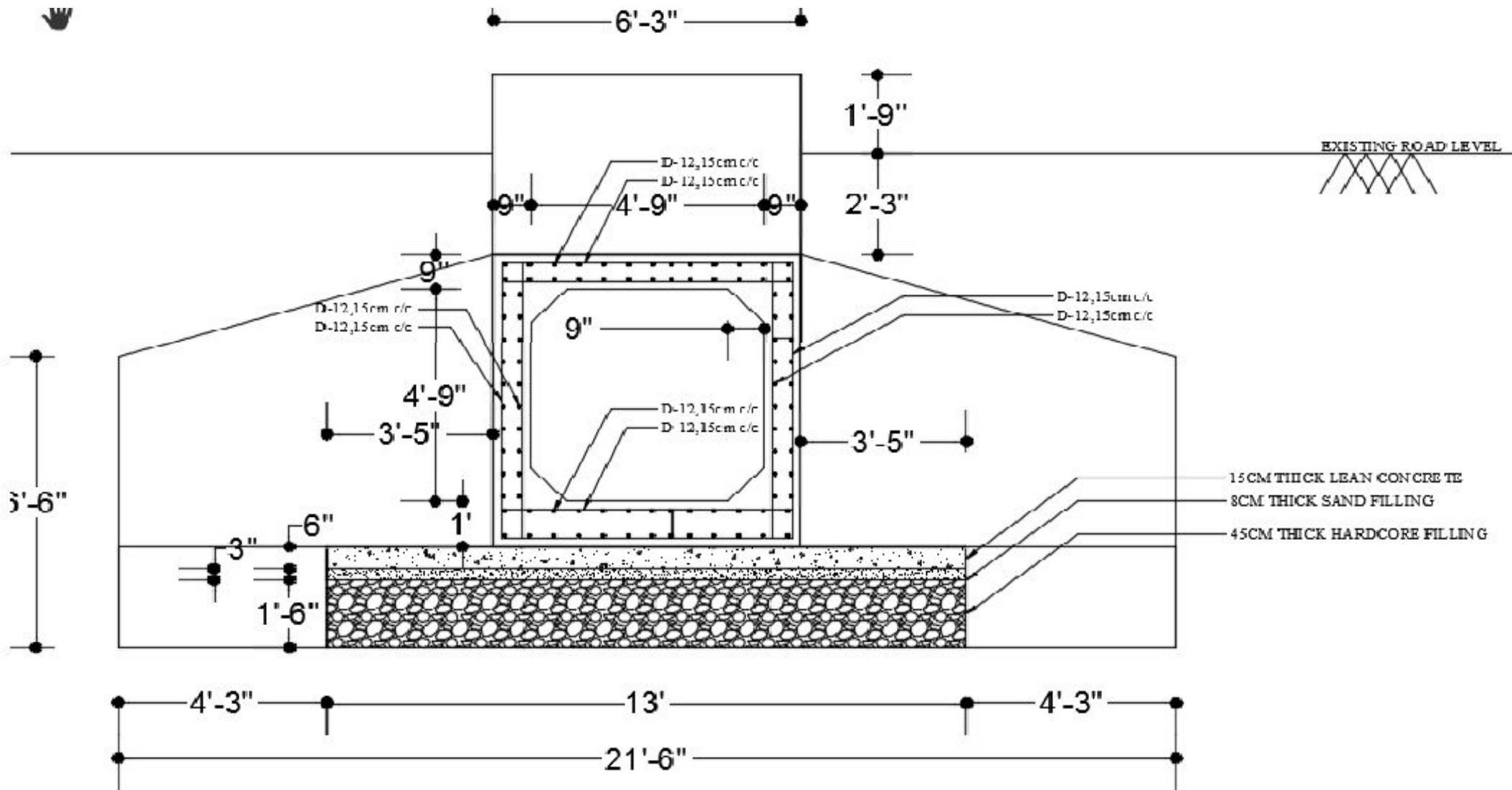
## NOTES

- 1) Design strength of Concrete = 21 Mpa (Cylinder)
- 2) Yield strength of Re-bar = 295 Mpa
- 3) Clear cover = 0.04m
- 4) Min Splice Length = 44f
- 5) All dimensions are in meter (m)



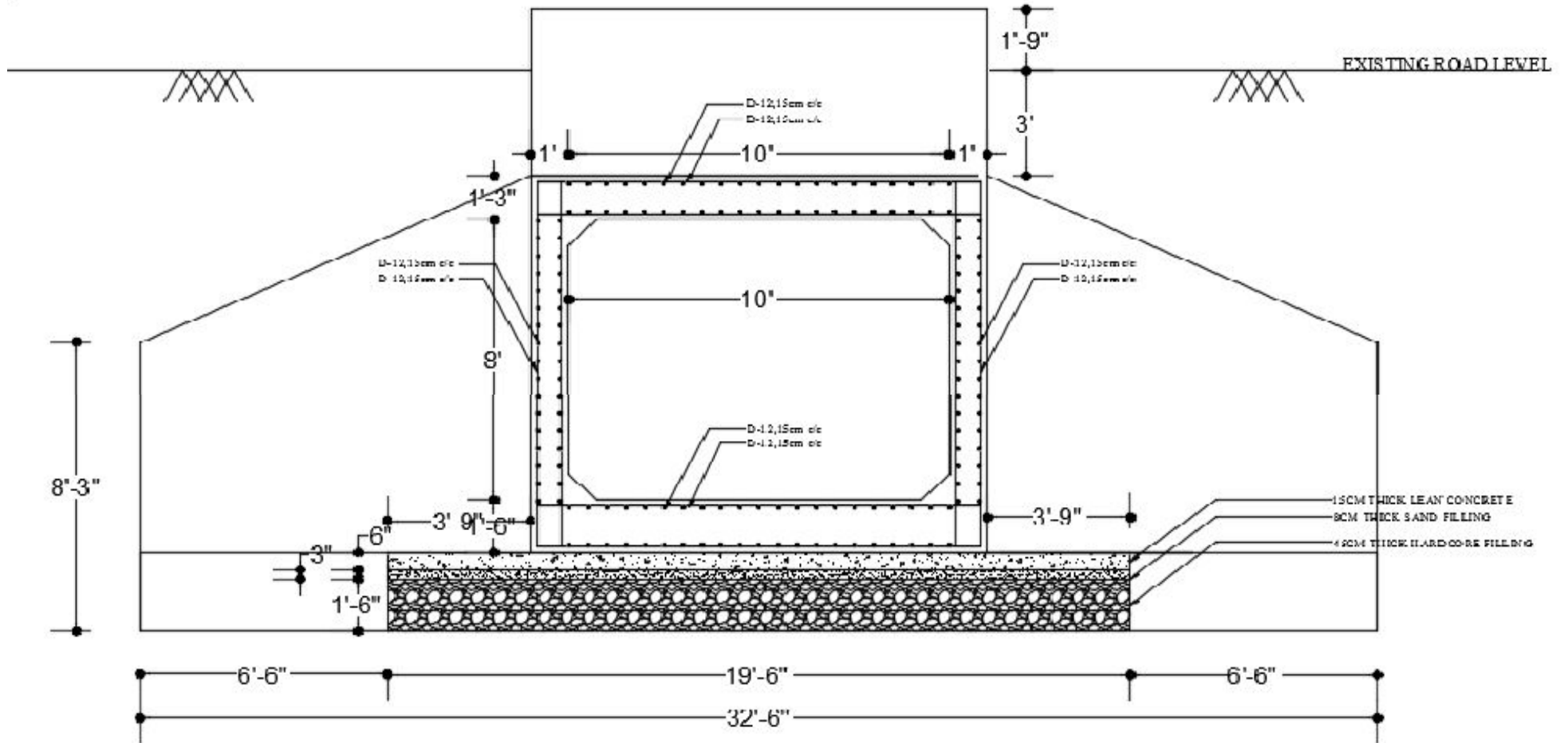
# Box Culvert ( Example )

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SECTIONAL ELEVATION

# Box Culvert ( Example )



SECTION AT ELEVATION