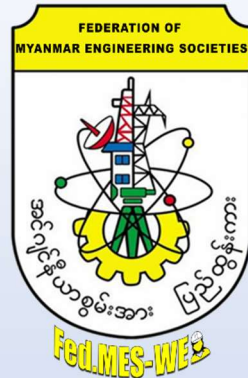


Federation of Myanmar Engineering Society



Status of Rural Water Supply and Town Water Supply Systems in Myanmar (2012 to 2022)

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July 2022

Goals of Rural Water Supply

- ❖ In the past, rural water supply activities was implemented to supply sufficient water quantity to rural community according to MDG goals
- ❖ Now a days, According to SDG, provision of equitable, effective, efficient and affordable services for water supply and sanitation and safe hygienic behavior to Rural Community
- ❖ Department of Rural Development (DRD) are focusing the development of Rural Water Supply for Rural Community



Global Sustainable Development Goal 6 (SDG 6)

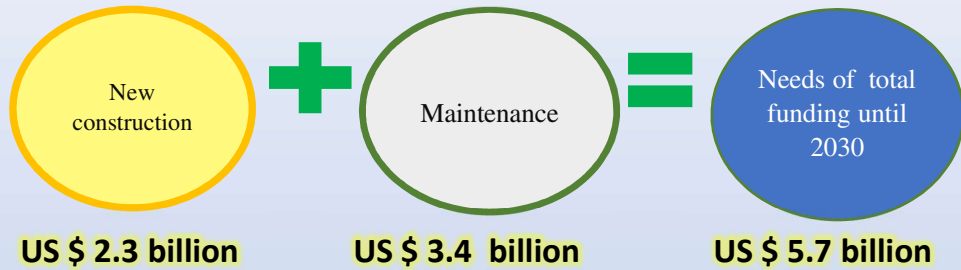
SDG-6 CLEAN WATER AND SANITATION

- Ensure Availability and Sustainable Management of Water and Sanitation for all

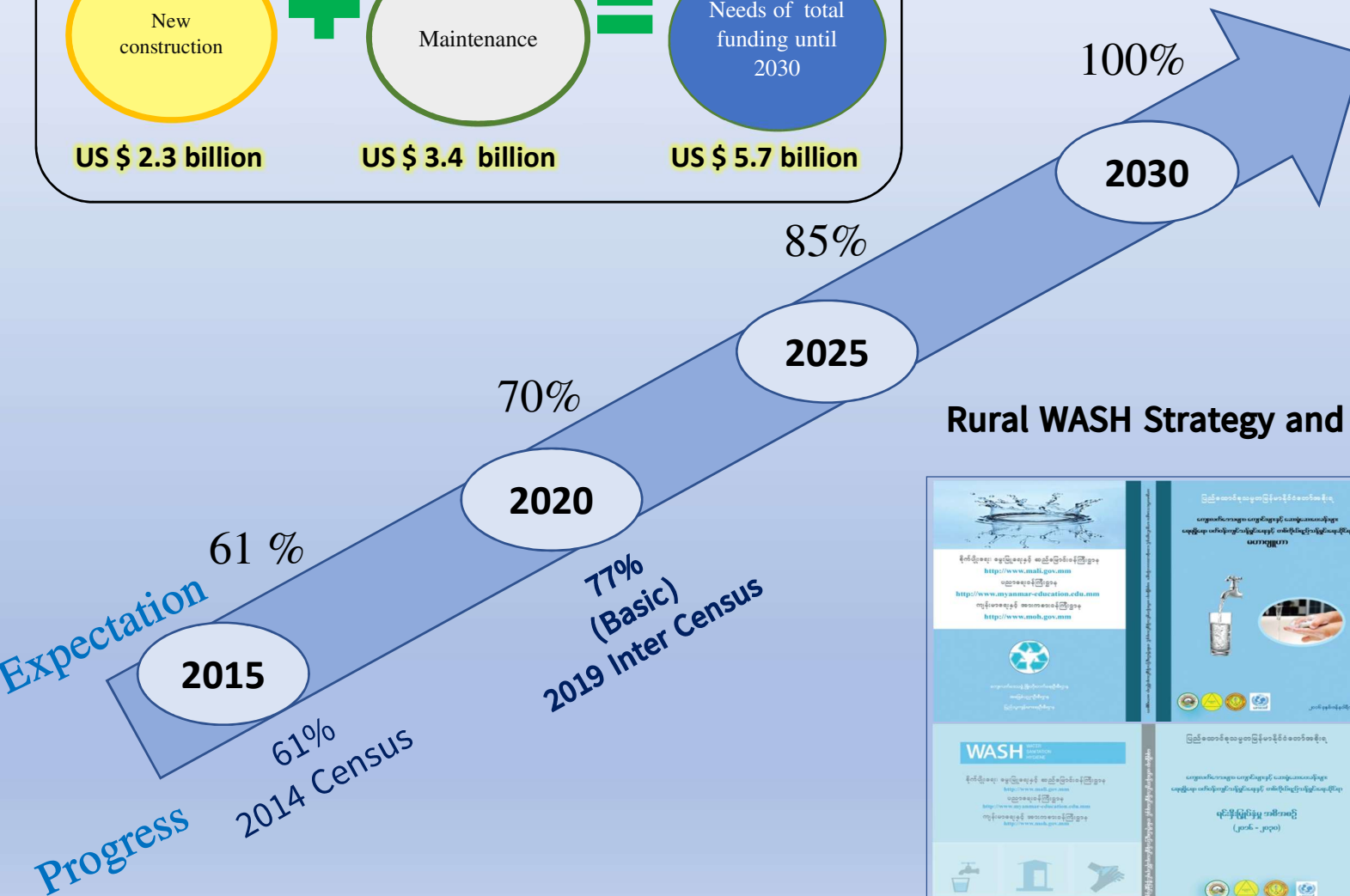


Rural Water Supply Plan to be achieved by 2030

Need of Funding



SDG



Rural WASH Strategy and Investment Plan(2017-2030)



Summary of expenditure requirements for the WASH sector

(Million US\$)

Component	Annual costs			Costs (2017-2030)
	Capital	Recurrent	Total	
(1) Capacity building and Operations	1.6	16	18	251
(2) Rural WASH Rural Water Supply - 162.65 Sanitation - 60.63 Solid Waste - 12.968 CLTS &Promotion - 31.748 Hygiene and Research - 00.118	268	383	651	9,120
(3) WASH in School	35	81	115	1,622
(4) WASH in Health Facilities	16	16	31	440
(5) Emergency WASH	0.2	0.1	0.3	4
Total	321	496	817	11,439

Capital = 321 x 14 = 4494 (000 US\$)

MDG/SDG	Service ladder	Progressive realization
SDG 6.1	Safely managed drinking water services	Drinking water from an improved source which is located inside the user's dwelling, plot or yard, available when needed and free of faecal and priority chemical contamination, such as arsenic and fluoride.
Improved water sources: Piped household water connection, public taps or standpipes, tube wells or boreholes, protected dug wells, protected springs, protected dam, protected pond and rainwater collection	Basic service	Drinking water from an improved source and collection time is not more than 30 minutes for a roundtrip including queuing
	Limited service	Drinking water from an improved source and collection time is over 30 minutes for a roundtrip including queuing
	Unimproved	Drinking water from unprotected dug wells or unprotected springs or any other source where water is not protected from the outside environment
	Surface water	Drinking water from a river, dam, lake, pond, stream, canal or irrigation channel/ditches

Realisation

Progressive

Fund Requirement

Rural WASH (New)

Annual Cost = US \$ (162) Million

Total Requirement Fund (to 2030) – Us \$ (2277) Million (~2300 Million)

- Contribution of Household (30%) - US \$ (690) Million (US \$ (49) Million/Year)
- Contribution of Development Partners (35 %) - US \$ (805) Million, US \$ (57.7) Million/Year
- Contribution of Government (35 %) -US \$ (805) Million, US \$ (57.7) Million/Year

Implementation of Rural Water Supply

Water Resources

(Surface Water)

- Rain Water Harvesting Pond
- Spring Water Gravity Flow System

(Underground Water)

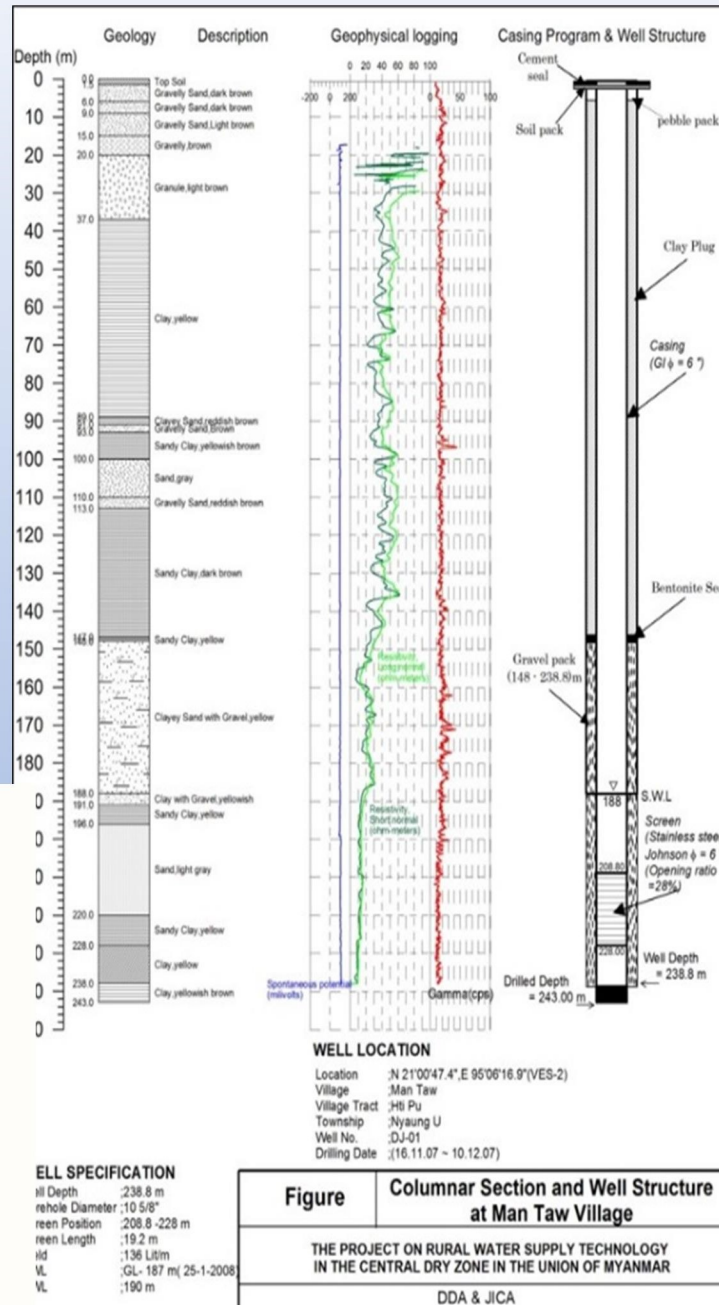
- Shallow Tube Well
- Deep Tube Well
- Hand Dug Well



Basic Water Supply

- Shallow Well
- Deep Tube Well
- Dug Well
- Spring Water Gravity Flow
- Rain Water Harvesting Pond

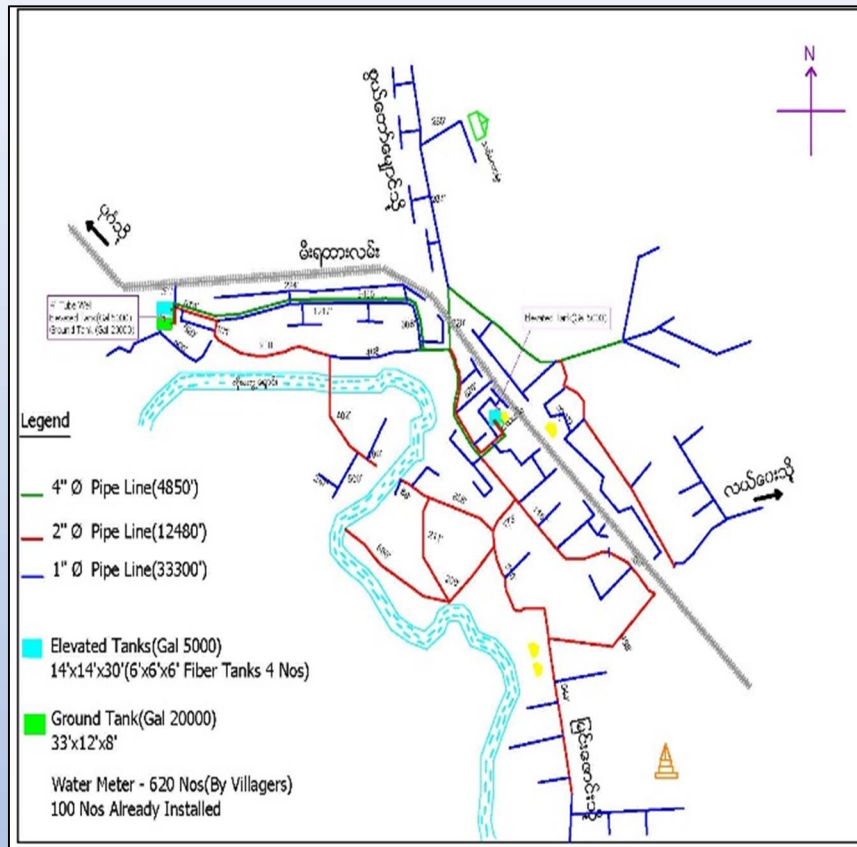
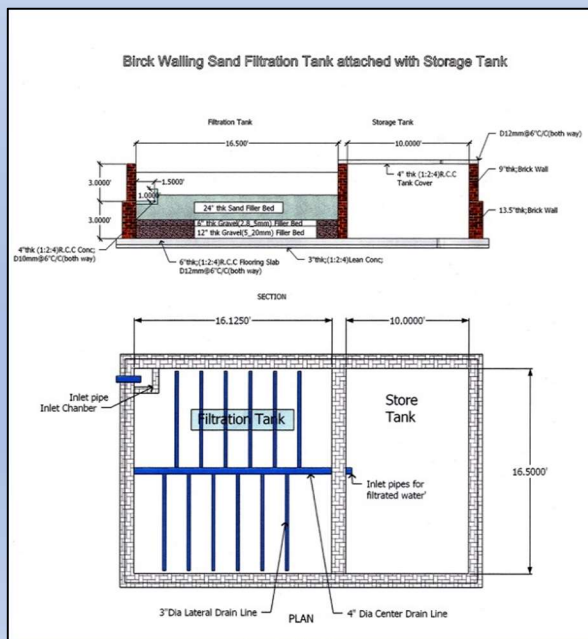
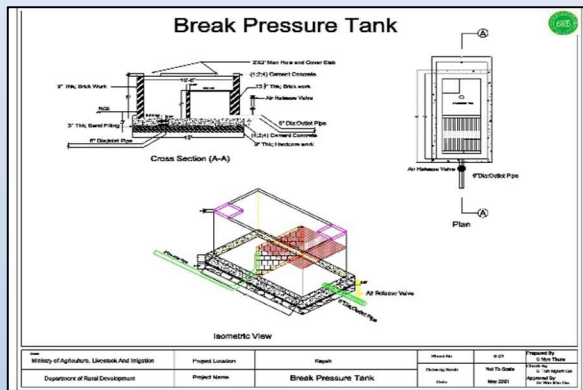
Rural Water Supply Activities



Upgrading Of WS service

- HH connection with Meter
- Water Treatment System

Rural Water Supply Activities



Implementation of Water Supply Activities (From 2000–2001 FY to 2015–2016 FY)

Sr	State/Region	No of WS activities	Type of WS	No of facility
၁	Kachin	1913	Deep TW	23596
၂	Kayah	645	Shallow TW	11336
၃	Kayin	1086	Dug Well	5845
၄	Chin	870		
၅	Sagaing	7175	RWH Pond	6457
၆	Tanintharyi	1398	Spring GFS	4416
၇	Bago	6711		
၈	Magway	9016	Other	7364
၉	Mandalay	8473		
၁၀	Mon	1849		
၁၁	Rakhine	3164		
၁၂	Yangon	2755		
၁၃	Shan	5453		
၁၄	Ayeyarwady	8259		
၁၅	Naypyitaw	247		
	Total Activities (Work)	59014		
			Total WS Activities(Work)	59014
			❖ Up to 2015 (Basic Service for Rural Community and After 2015 – focus to improved and Safely managed drinking water services in Rural Area)	

Implementation of Water Supply Activities (From 2016–2017 FY to 2019–2020 FY)

Sr	State/Region	No of WS activities
1	Kachin	687
2	Kayah	345
3	Kayin	920
4	Chin	371
5	Sagaing	1112
6	Tanintharyi	696
7	Bago	2120
8	Magway	878
9	Mandalay	1020
10	Mon	627
11	Rakhine	1443
12	Yangon	693
13	Shan	1700
14	Ayeyarwady	1812
15	Naypyitaw	310
Total Activities (Work)		14734

Type of WS	No of facility
Deep TW	1212
Shallow TW	2781
Dug Well	1826
RWH Pond	1331
Spring GFS	1731
Other	5853

Ground Water: 5819 (Deep TW, Shallow TW, Dug Well)

Surface Water: 3062 (RWH Pond, Spring GFS)



In 2020-2021 FY- 3143 water supply facilities(works) were implemented in (3083) villages

Implementation Status of Rural Water Supply Facilities From 2011-2012 to 2020-2021 Fiscal Year

Sr	Fiscal Year	No of Village	Type of Facilities							Budget (MMK)	Beneficiary HH	Beneficiary Pop
			Shallow TW	Deep TW	Dug Well	Pond	Spring	Others	Total			
1	2011-2012	1611	539	503	82	176	72	239	1611	3213.59	86571	390594
2	2012-2013	1571	386	410	225	335	221	263	1840	9764.467	131796	707176
3	2013-2014	2028	150	699	232	332	305	541	2259	16239.09	129408	698930
4	2014-2015	3940	401	1380	484	893	872	299	4329	43849.18	426848	3380268
5	2015-2016	3455	4051	1671	911	1423	672	1668	10396	36580.1	553856	2983187
6	2016-2017	3634	272	769	407	409	377	1524	3758	28780.25	334571	1635041
7	2017-2018	1269	208	377	169	231	178	951	2114	15084.31	212673	1033064
8	2018-2019(6M)	989	169	34	237	20	54	537	1051	4371.203	143937	708224
9	2018-2019(12M)	1803	274	719	657	218	406	1058	3332	28230.5	401350	2060298
10	2019-2020	4074	289	882	356	452	716	1784	4479	57765	698139	3606281
11	2020-2021	3766	174	875	287	360	647	1472	3815	56359.87	503136	2446110
12	2021-2022(6M)	1580	89	331	106	276	235	716	1753	23699.4	261009	1285202
	Total	29720	7002	8650	4153	5125	4755	11052	40737	323936.9	3883294	20934375

Photos Record of Rural Water Supply Activities



Chauk Twp, Kan Taut Chaung Village



Chauk Twp, Sal Kan Village



Chauk Twp, Kan Yay Lay Village



Chauk Twp, Sal Kan Village



Pyaw Bwe Twp, War Yone Su Village



Myaing Twp, Phoe Gone Village

Photos Record of Rural Water Supply Activities



Pakokku Twp, Sone Gone Village, Tube
Well Drilling



Kan Palet Twp, Ma Sar Twi Village, Spring
Water Supply Gravity Flow



Phaan Twp, Phoe Gone Village
Spring Water Supply Gravity Flow



Man Si Twp, Ci Ou Village, Deep Tube
Well



Myaing Twp, Phoe Gone Village
Deep Tube Well Drilling



Magway Twp, San Kan Village
Deep Tube Well Drilling

Implementation of Rural water Distribution Network (Household Metering System) (From 2016–2017 FY to 2020–2021 FY)

State/Region	Twp	Village	HH	Pop
Kachin	2	2	654	4008
Kayah	6	51	5048	24779
Kayin	3	11	1739	9827
Chin	7	259	20883	106339
Sagaing	26	666	112851	560616
Tanintharyi	10	120	32938	181206
Bago	1	13	1152	4414
Magway	24	829	134627	644041
Mandalay	20	593	100608	487760
Mon	9	94	46032	263880
Rakhine	4	32	8780	43030
Yangon	4	6	2550	10821
Shan	48	328	29024	149482
Ayeyarwady	9	25	3900	15437
Naypyitaw	4	9	4395	17275
Total	177	3038	505181	2522915



Implementation of Tapping System and Household Metering System



First Prize – Magway Region

Implementation of Water Treatment System

Sr	State/Region	Tsp	Village	Households	Pop
1	Kayin	4	5	1,498	8,608
2	Tanintharyi	1	1	29	164
3	Bago	8	9	3,034	14,469
4	Mandalay	1	1	58	321
5	Mon	2	3	1,798	11,851
6	Rakhine	10	60	13,196	64,679
7	Yangon	11	26	6,537	29,255
8	Ayeyarwady	21	58	12,808	57,187
Total		58	163	38,958	186,534



Implementation of Water Treatment System



First Prize – Rakhine State

Photos Record of Water Treatment System



Thanlyin Tspı Nga Pyay Ma village



Khayan Tspı Tha Pyu Kan Village



Hmawbi Tspı Yoe Gyi Village



Kungyangon Tspı Nghaat Gyi Daung Village



Htantabin Tspı Yaypawthaung Village



Pathein Tspı Thitpotekone Village

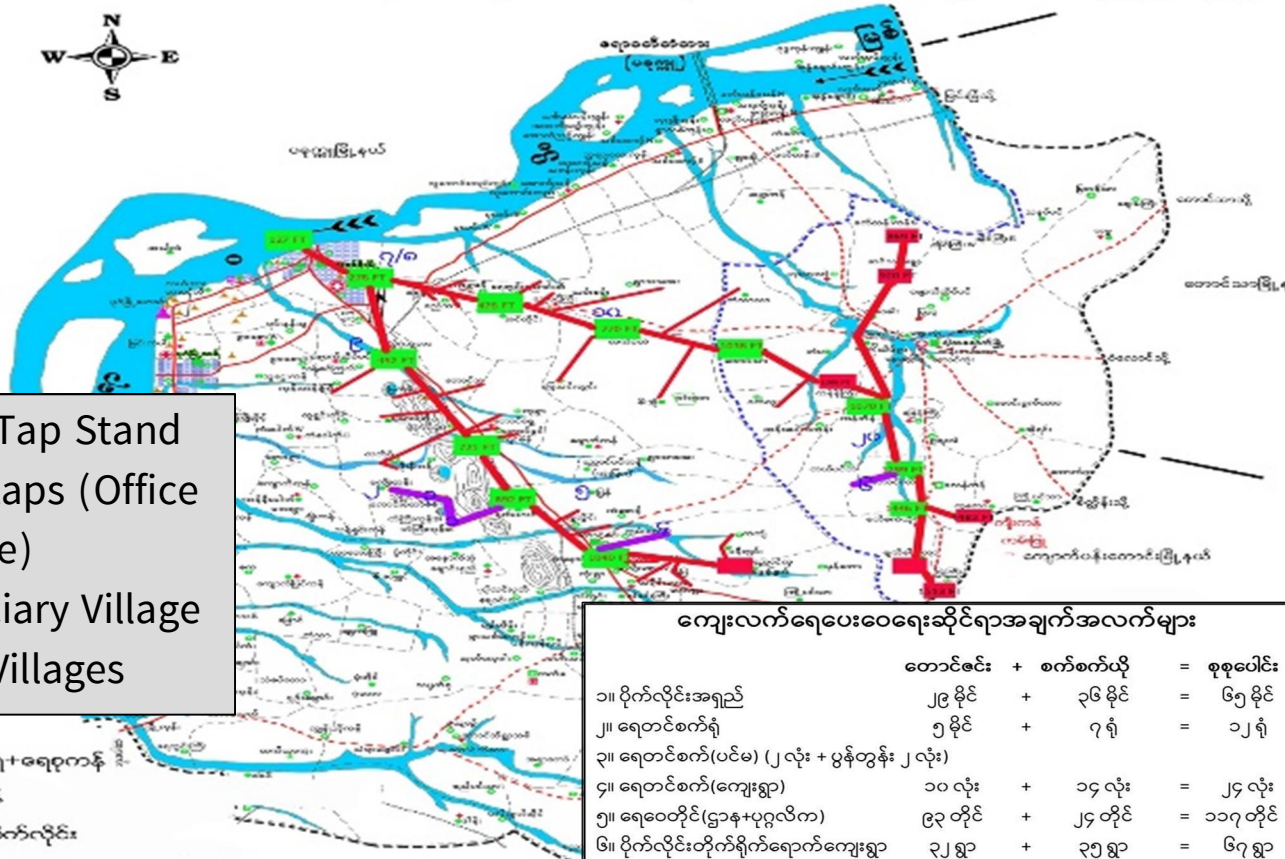
Training Related To Rural Water Supply

Sr	Type of Training
(A)	Department (Headquarter)
	Workshop for Deputy Director and Township Officer for the management of Rural Water Supply systems
	Rural Water Supply Technical Training (Basic and Advance) for engineer (Water Quality Testing, Gravity flow Pipe Line Design , Tube well drilling, Water treatment etc.)
(B)	State and Region
	Rural Water Supply Technical Training (Basic and Advance) for engineer (Water Quality Testing, Gravity flow Pipe Line Design , Tube well drilling, Water treatment etc.)
	GIS Mapping and Feasibility Survey
	Auto Cad , Etabs- Structural Analysis,
	Technical Audit
(C)	In Village
	Water Committee forming g, Operation and Maintenance, Awareness raising for Water , Sanitation and Hygiene (Water Safety Plan)



Nyaung-U (Bagan) Township, River Water Pumping Rural Water Supply

တောင်ဇင်း-စက်စက်ယို ကျေးလက်ရေပေးရေးပိုက်လိုင်းအခြေပြမြေပုံ



Public Tap Stand
(117) taps (Office
+Private)
Beneficiary Village
(105) Villages

ရည်ညွှန်းချက်

- ရေစက်ရုံ+ရေစက်
- ရေစက်
- မူလရေပိုက်လိုင်း
- ၁၇-၁၈တိုင်တိုးချဲ့ထားသောပိုက်လိုင်း

ကျေးလက်ရေပေးရေးဆိုင်ရာအချက်အလက်များ

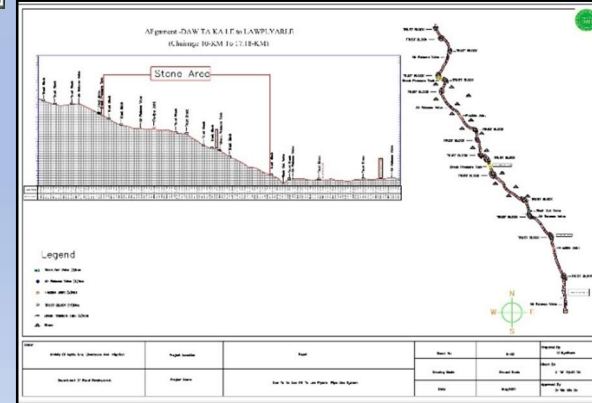
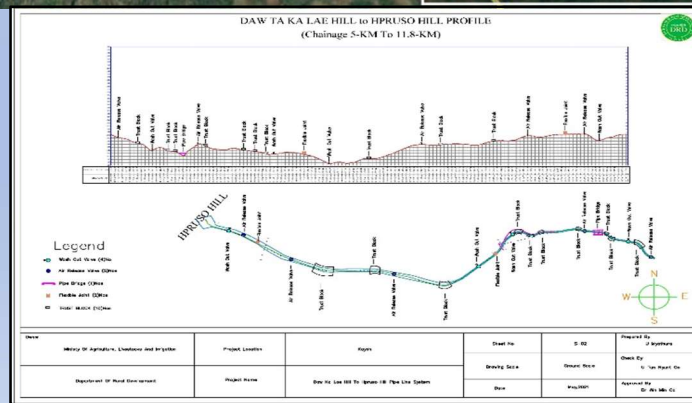
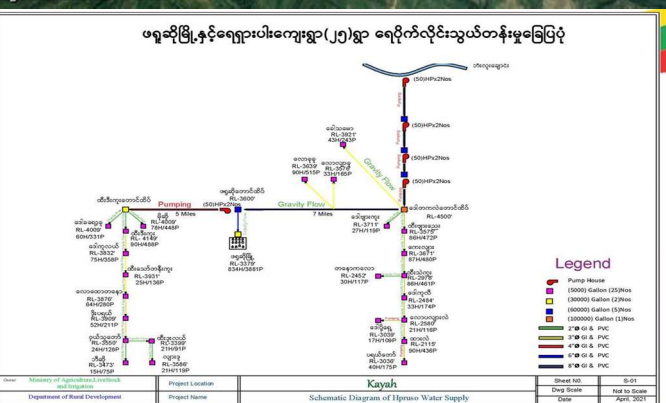
	တောင်ဇင်း	စက်စက်ယို	= စုစုပေါင်း
၁။ ပိုက်လိုင်းအရှည်	၂၉ မိုင်	+ ၃၆ မိုင်	= ၆၅ မိုင်
၂။ ရေတိုင်စက်ရုံ	၅ မိုင်	+ ၇ ရုံ	= ၁၂ ရုံ
၃။ ရေတိုင်စက်(ပင်မ) (၂ လုံး + ပန်တွန်း ၂ လုံး)			
၄။ ရေတိုင်စက်(ကျေးရွာ)	၁၀ လုံး	+ ၁၄ လုံး	= ၂၄ လုံး
၅။ ရေစက်(ဌာန+ပုဂ္ဂလိက)	၉၃ တိုင်	+ ၂၄ တိုင်	= ၁၁၇ တိုင်
၆။ ပိုက်လိုင်းတိုက်ရိုက်ရောက်ကျေးရွာ	၃၂ ရွာ	+ ၃၅ ရွာ	= ၆၇ ရွာ
၇။ ထပ်ဆင့်အကျိုးပြုကျေးရွာ	၁၆ ရွာ	+ ၂၂ ရွာ	= ၃၈ ရွာ



Kayah State, Hpurso Township and Demawso Township , Water Scare Villages Water Supply Project (Surveying and Pipeline Design Work)

Hpruso (25)village Water Supply

Write a description for your map.



Water Quality Testing and Monitoring

National Drinking Water Quality Standards 2019 (Current)

No:	Priority Parameters
1	Total Coliforms
2	Faecal Coliforms
3	Taste
4	Odor
5	Color
6	Turbidity
7	Arsenic
8	Lead
9	Nitrate
10	Manganese
11	Chloride
12	Hardness
13	Iron
14	pH
15	Sulphate
16	Total Dissolved Solids [TDS]

- Every 3 month for water of water-metered village
- At least 1 test per year of water sources quality from Facilities
- A Chemical test on specific matters (As, Cyanite, etc.)



Compartment #	1	2	3	4	5	MPN/100ml	Upper 95% Confidence Interval/100ml	Health Risk Category Based on MPN and Confidence Interval
1	10ml	10ml	10ml	1ml	1ml	0.0	2.87	Low Risk/Safe
2	10ml	10ml	10ml	1ml	1ml	1.0	5.14	
3	10ml	10ml	10ml	1ml	1ml	1.0	4.74	
4	10ml	10ml	10ml	1ml	1ml	1.1	5.16	
5	10ml	10ml	10ml	1ml	1ml	1.2	5.64	
6	10ml	10ml	10ml	1ml	1ml	1.3	7.81	
7	10ml	10ml	10ml	1ml	1ml	2.0	6.32	
8	10ml	10ml	10ml	1ml	1ml	2.1	6.55	Intermediate Risk/ Probably Safe
9	10ml	10ml	10ml	1ml	1ml	2.1	6.54	
10	10ml	10ml	10ml	1ml	1ml	2.4	7.81	
11	10ml	10ml	10ml	1ml	1ml	2.4	8.32	
12	10ml	10ml	10ml	1ml	1ml	2.6	8.51	
13	10ml	10ml	10ml	1ml	1ml	3.2	8.38	
14	10ml	10ml	10ml	1ml	1ml	3.7	9.70	
15	10ml	10ml	10ml	1ml	1ml	3.1	11.36	
16	10ml	10ml	10ml	1ml	1ml	3.2	11.82	
17	10ml	10ml	10ml	1ml	1ml	3.4	12.53	
18	10ml	10ml	10ml	1ml	1ml	3.9	10.43	
19	10ml	10ml	10ml	1ml	1ml	4.0	10.94	
20	10ml	10ml	10ml	1ml	1ml	4.7	22.75	
21	10ml	10ml	10ml	1ml	1ml	5.1	15.52	Intermediate Risk/ Possibly Safe
22	10ml	10ml	10ml	1ml	1ml	5.4	12.83	
23	10ml	10ml	10ml	1ml	1ml	5.6	17.14	
24	10ml	10ml	10ml	1ml	1ml	5.8	18.87	
25	10ml	10ml	10ml	1ml	1ml	8.4	21.19	
26	10ml	10ml	10ml	1ml	1ml	9.1	17.04	
27	10ml	10ml	10ml	1ml	1ml	9.5	17.69	
28	10ml	10ml	10ml	1ml	1ml	12.6	53.66	High Risk/Probably Unsafe
29	10ml	10ml	10ml	1ml	1ml	12.1	59.35	
30	10ml	10ml	10ml	1ml	1ml	12.6	145.55	High Risk/Probably Unsafe
31	10ml	10ml	10ml	1ml	1ml	48.3	351.91	Unsafe
32	10ml	10ml	10ml	1ml	1ml	>199	9435.30	

Instruments

Head Quarter + State/Region



(Photo Spectrometer)



Palintest

Access to drinking water according to 2019 inter census

In Myanmar, households in villages accessing to basic water supply service were **62%** in 2014 and a lot of improvement that basic WS service in Rural was **77%** in 2019.

Maximum water availability

- Mandalay Division- (90.9)%
- Sagaing Division - (89.8)%
- Kachin State - (89.8)%

Minimum water availability

- Rakhine State - (44.3)%
- Ayayarwaddy - (65.3)%
- Yagon - (65.9)%

Unimproved/ surface water
(23)%

၂၀၁၉ ခုနှစ် ကြားဖြတ်သန်းခေါင်စာရင်းအရ မြန်မာနိုင်ငံ ကျေးလက်ဒေသရှိ

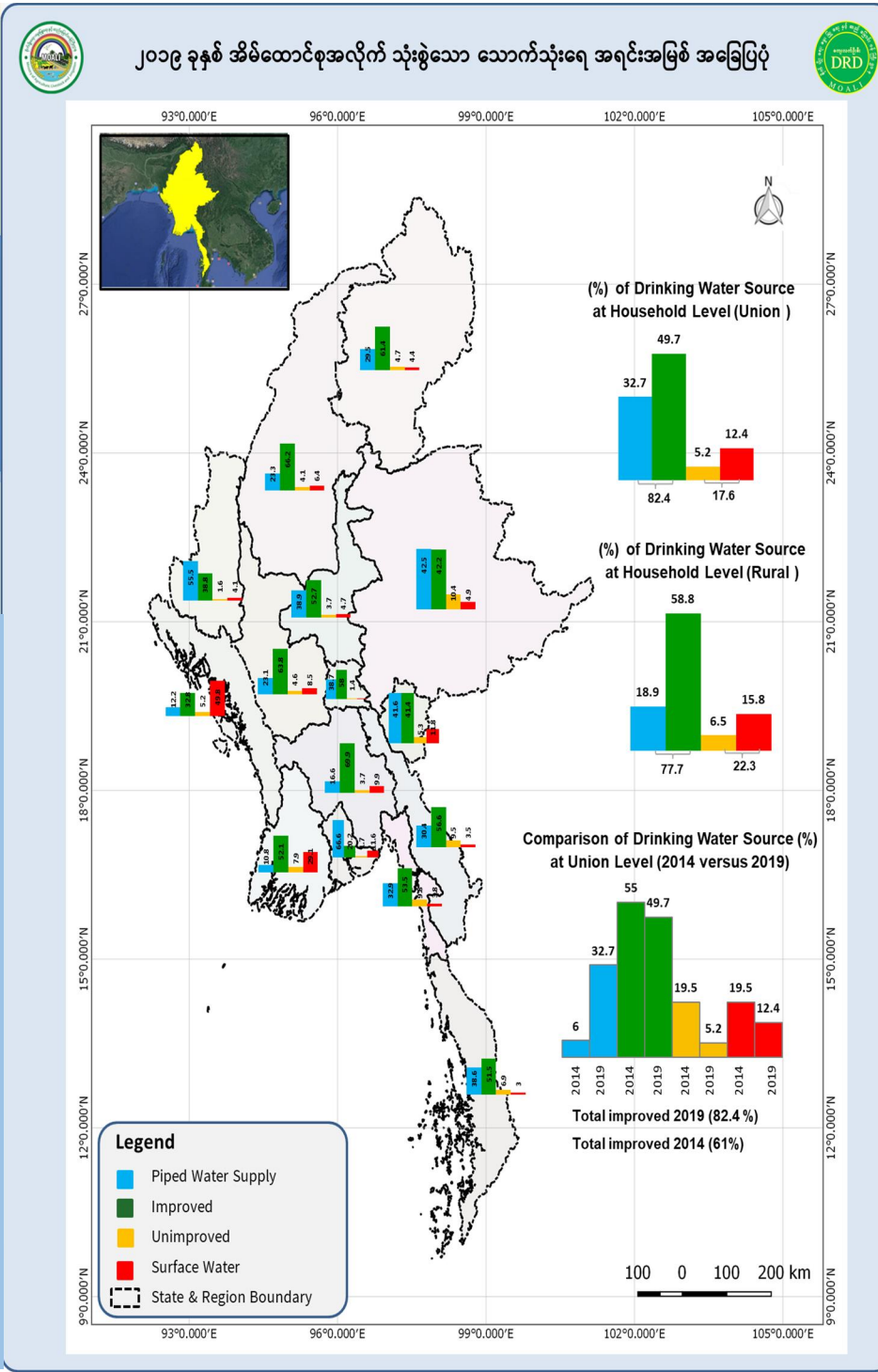
According to Inter Census 2019 -

HH in Rural Area that use (at Least)

Basic water supply service (from Improved

water sources) - 77%

- Pipeline and Public Tap -18%
- Tube wells and Protected wells -47%
- Protected Spring -2%
- Rainwater Harvesting Ponds -2%
- From Water Treatment system -8%

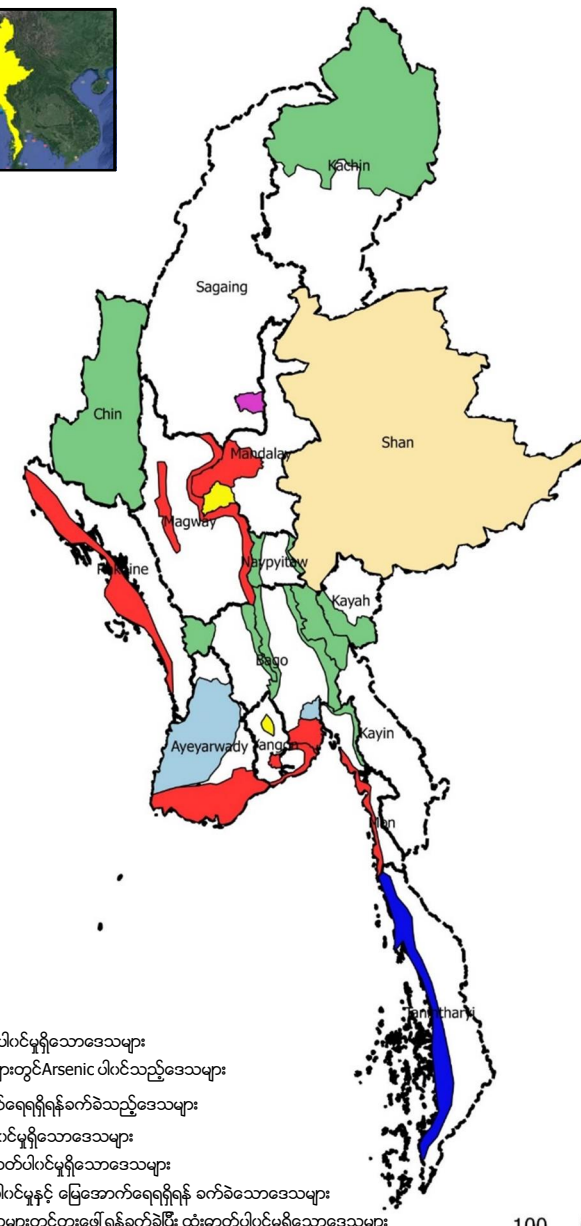


Status of Groundwater Quality and Quantity in State and Region

Kayah	Low Rainfall Intensity , Decrease of Spring Water Source
Kayin	Hard Rock Layer Decrease of yield from Dug Well Spring Water source disappear in Some Twp
Sagaing	Rock formation, Salty Taste
Naga	Hilly Region
Tanintheryi	Water Shortage in Summer, decrease yield from wells
Bago	Decreased Yield from well, Salty Water
Magway	Decreased Yield from well, Low possibility of GW
Mandalay	Low possibility of Underground water
Mon	Coastal Area with Salinity , Low Possibility of GW
Rakhine	Coastal Area with Salinity , Dry in Summer
Yangon	Water Quality Problem (Iron and Salty)
Shan	Decreased of flow and disappearance of Spring
Ayeyarwady	Salinity and Low Possibility of GW , Arsenic
Navvitatw	Rock formation and hard to get GW



Map of Groundwater Quality in State and Region



- ဆားဓာတ်ပါဝင်မှုရှိသောဒေသများ
- တွင်းတိမ်များတွင်Arsenic ပါဝင်သည့်ဒေသများ
- မြေအောက်ရေရရှိရန်ခက်ခဲသည့်ဒေသများ
- သံဓာတ်ပါဝင်မှုရှိသောဒေသများ
- လေ့ရှိတဲ့ဓာတ်ပါဝင်မှုရှိသောဒေသများ
- ဆားဓာတ်ပါဝင်မှုနှင့် မြေအောက်ရေရရှိရန် ခက်ခဲသောဒေသများ
- အချို့နေရာများတွင်တူးဖော်ရန်ခက်ခဲပြီး ထုံးဓာတ်ပါဝင်မှုရှိသောဒေသများ

100 0 100 200 km

Water Purification Vehicles

Facts of water Purification Vehicle

- Ceramic Membrane
- Filtration rate (500) Gal per hour
- Daily Production – (50– 90) ton of treated water according to Raw Water Quality and Turbidity



Objective of using Management Information System for Rural Water Supply (RWS-MIS)

- ❑ To Know the Current Water Supply Status of Villages
- ❑ For Planning, Budgeting and Implementation that will be based on the data collected through the RWS-MIS
- ❑ To Monitor the operation of Rural water Supply in the Villages and preparation for Maintenance

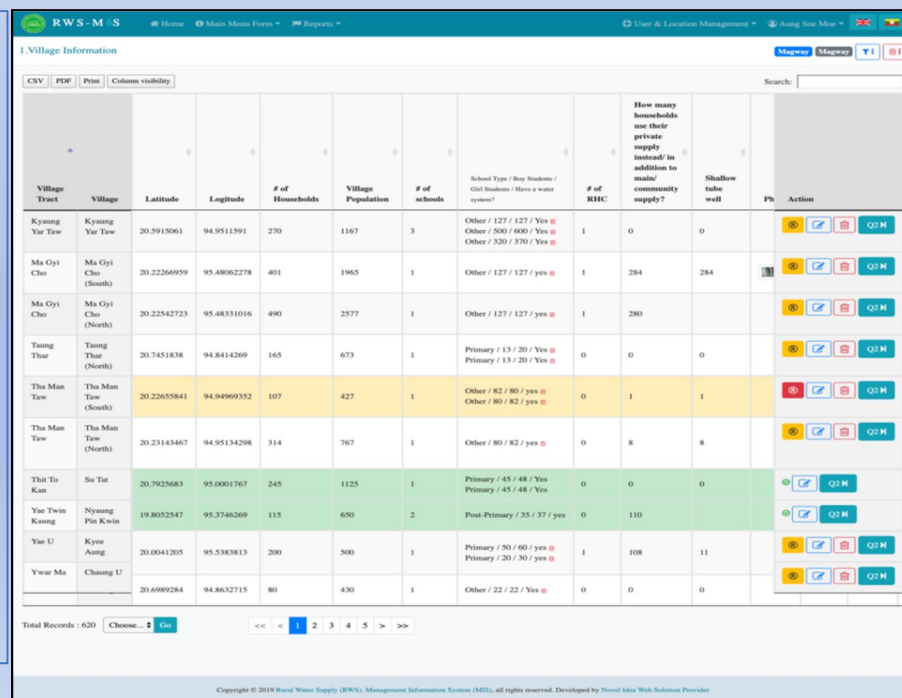
<http://rwsmis.com/>

Key Performance Indicator (KPI)

KPI 1-Coverage of community water supply

KPI 2-Functionality (% Village with communal improved and functional water supply

KPI 3-Safely managed water supply (accessible, reliable, continuous water supply, water quality)



The screenshot displays the RWS-MIS web application interface. At the top, there is a navigation bar with links for Home, Main Menu Items, Reports, User & Location Management, and About Us. Below the navigation bar, the page title is "1. Village Information". There are tabs for CSV, PDF, Print, and Column visibility. A search bar is located on the right. The main content area is a table with the following columns: Village Tract, Village, Latitude, Longitude, # of Households, Village Population, # of schools, School Type / Day Students / Girl Students / Have a water system?, # of RHC, How many households use their private supply instead/ in addition to main/ community supply?, Shallow tube well, and Action. The table contains 10 rows of data for various villages. At the bottom, there is a pagination bar showing "Total Records : 620" and a "Choose..." dropdown.

Village Tract	Village	Latitude	Longitude	# of Households	Village Population	# of schools	School Type / Day Students / Girl Students / Have a water system?	# of RHC	How many households use their private supply instead/ in addition to main/ community supply?	Shallow tube well	Action
Kyung Yur Taw	Kyung Yur Taw	20.5915061	94.9511591	270	1167	3	Other / 127 / 127 / Yes	1	0	0	[Icons]
Ma Gyi Cho	Ma Gyi Cho (South)	20.22266959	95.48062278	401	1965	1	Other / 127 / 127 / yes	1	284	284	[Icons]
Ma Gyi Cho	Ma Gyi Cho (North)	20.22542723	95.48331016	490	2577	1	Other / 127 / 127 / yes	1	280		[Icons]
Tung Thar	Tung Thar	20.7451838	94.8414269	165	673	1	Primary / 13 / 20 / Yes	0	0	0	[Icons]
Tha Man Taw	Tha Man Taw (South)	20.22655841	94.94969352	107	427	1	Other / 82 / 82 / yes	0	1	1	[Icons]
Tha Man Taw	Tha Man Taw (North)	20.23143467	94.95134298	314	767	1	Other / 80 / 82 / yes	0	8	8	[Icons]
Thit To Kan	Su Tat	20.7925683	95.0001767	245	1125	1	Primary / 45 / 48 / Yes	0	0	0	[Icons]
Yue Twin Kaung	Nyung Pin Kwin	19.8052547	95.3746269	115	650	2	Post Primary / 35 / 37 / yes	0	110		[Icons]
Yue U	Kyee Aung	20.0041205	95.5383813	200	500	1	Primary / 50 / 60 / yes	1	108	11	[Icons]
Ywar Ma	Chaung U	20.6989284	94.8632715	80	430	1	Other / 22 / 22 / Yes	0	0	0	[Icons]

Review on Current status of RWS and Challenges

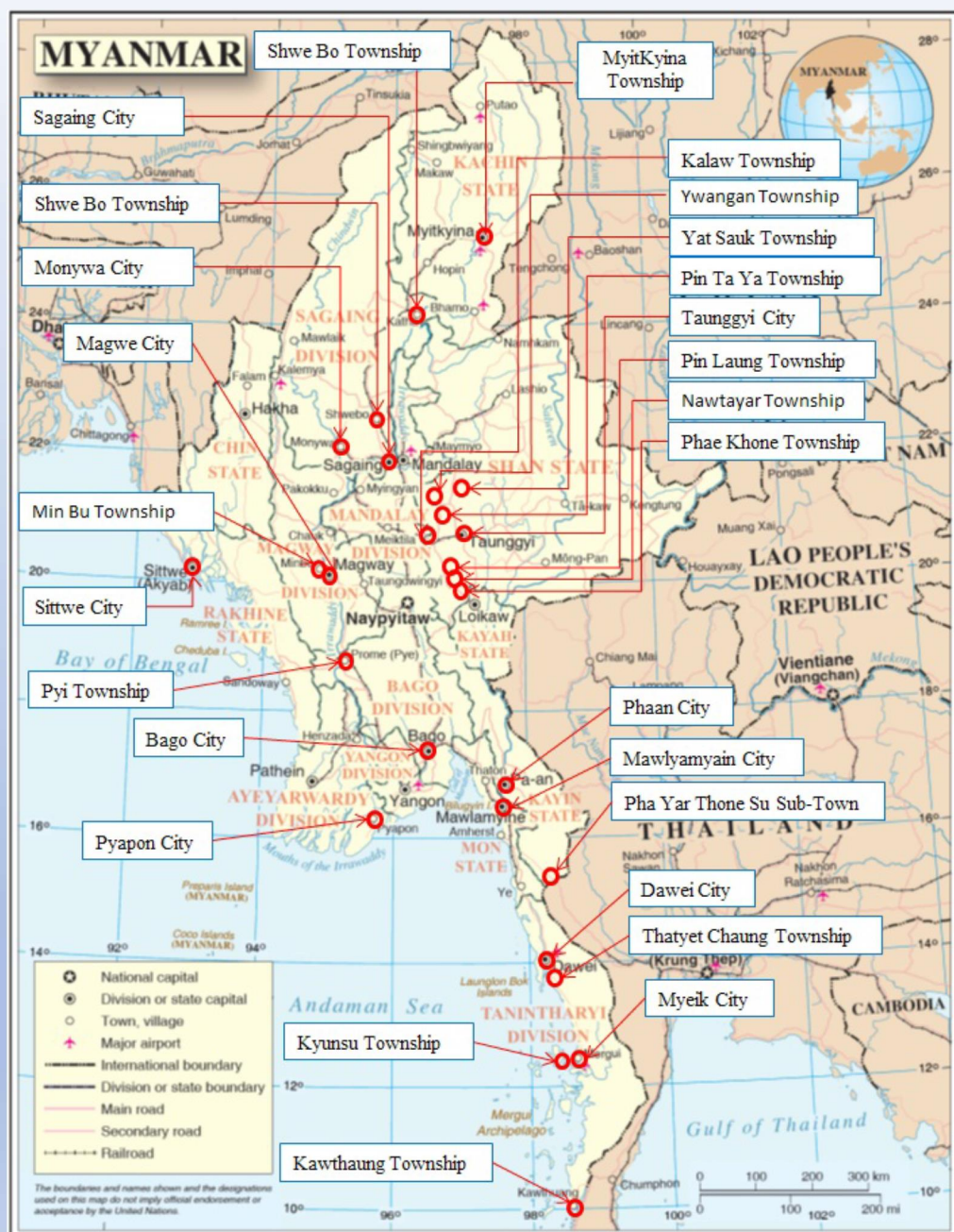
1. According to the Rural Water Access Strategy and Investment Plan, the lack of expected funding;
2. Until 2015, we only provided rural water supply (Basic Service), and after 2015, we worked to improve access to clean and safe drinking water services (Safely managed drinking water services), according to the Safely managed indicator collected according to the 2019 inter census, the household water pipe system, In order to further expand water treatment systems, the need to allocate annual funds;
3. National Fund Region/State Government Fund; need to strengthen the contribution of funding from international organizations; Need for more public input (contribution)
4. With the funds of the Department of Rural Development, only about 2,000 villages can be implemented each year, so in order to achieve the goal, we are cooperating with development partner organizations in addition to project activities (VDP, CDD).
5. Information needed in reviewing the rural water supply strategy and investment plan; Collecting information through RWS-MIS system in order to enter more accurate calculations;

Future Plan and Action based on current Status of Rural Water Supply

- Since the climate change and Global Warming results the shortage of water
 - Groundwater recharging
- In the Area of High Rainfall Intensity ,
 - Rainwater collection systems
 - Upgrading of Rain Water Harvesting Ponds
 - Dams and Weir Upgrading
 - Reserved Ponds
- To save and Reducing deforestation and reserve the spring water sources
 - Planting trees in water resource area
 - Conservation of Forest and Water Resource area
 - Awareness raising for preventing of cutting and falling trees
- Since (18%) of Rural Area use Surface Water Source
 - Promote the Rain Water Harvesting Systems
 - Awareness raising to conserve the surface water sources
 - Water Treatment Systems and Research on Water Quality

Town Water Supply Systems implemented by MY-P1 and MY-P17

- Regional Development Project for Poverty Reduction (Phase -1) MY-P1
 - Funded By Japanese ODA Loan
 - Include (23) Sub-Projects (23 Town Water Supply Projects)
 - Completed
- Regional Development Project for Poverty Reduction (Phase-2) MY-P17
 - Funded By Japanese ODA Loan
 - Include (22) Sub-Projects (22 Town Water Supply Projects)
 - 5 Sub- projects completed (Construction)
 - 2 Sub- projects bidding State
 - 4 Sub- projects Design State
 - 3 Sub- Projects canceled due to security Reason (Thandaunggyi, Kyaryinseikgyi, Lashio)



Location Map of the Sub-Projects

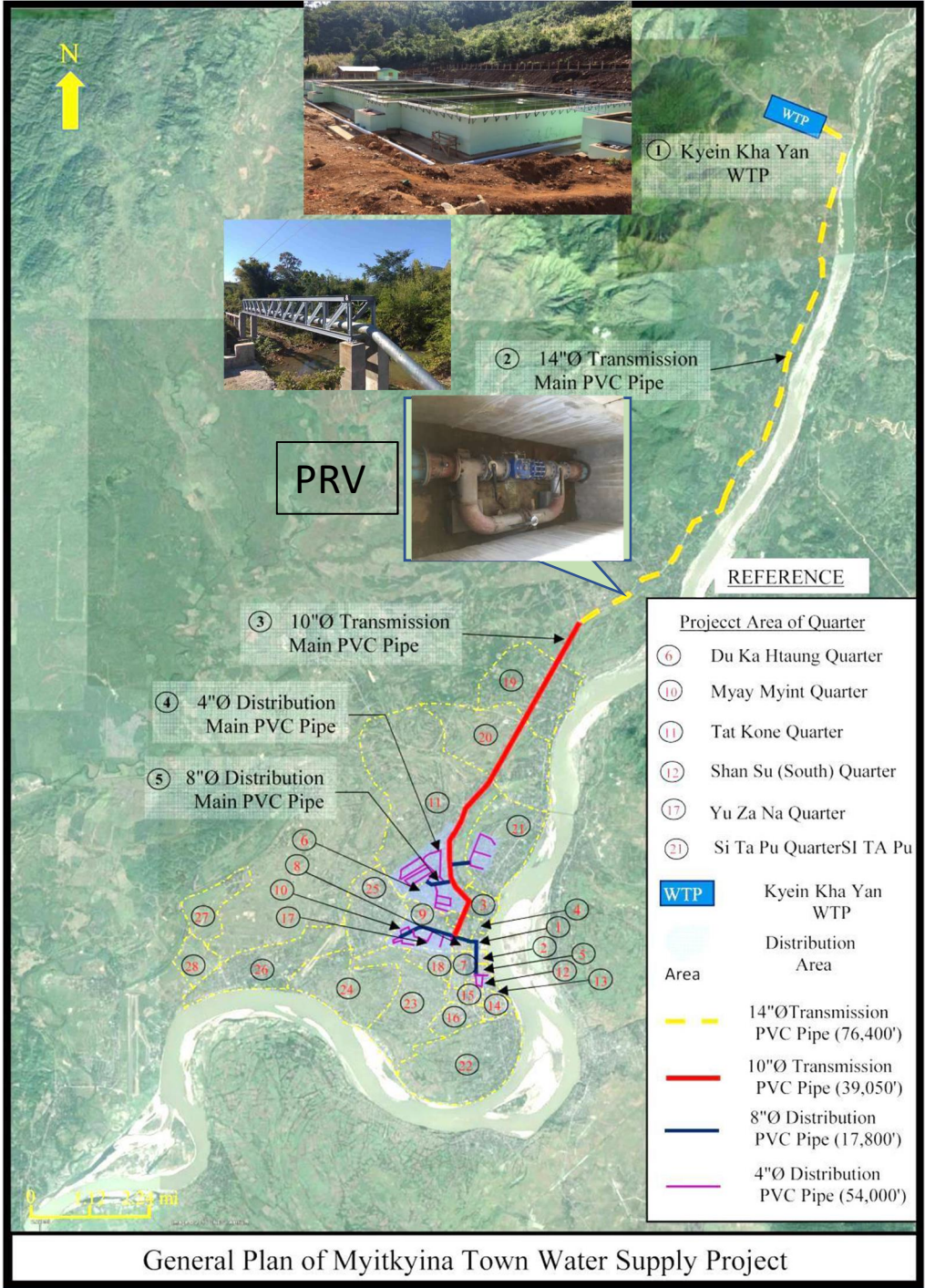
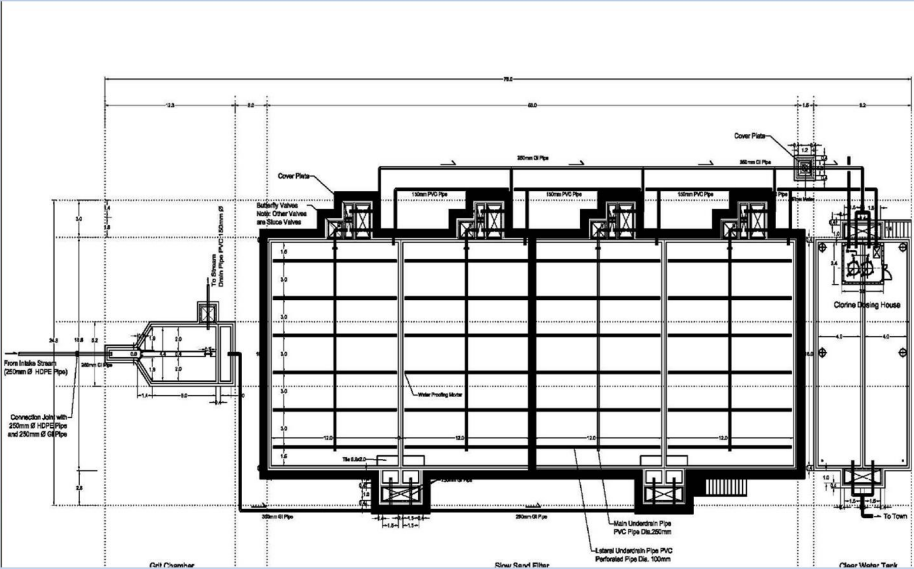
The Projects targets town water supply , not rural water supply. In Myanmar, there is no organization at the government-level for WS, so DRD which is responsible for rural water supply is serve as an executing agency. In terms of actual construction and operation will be done by Township Development Committee (TDC) , which reports to each State/Region Development Committee (SDC/RDC) and each RDC/SDC is under the supervision of local government.

**Regional Development and Poverty reduction
Town Water Supply Sub Projects list of MY-P1, (Phase I)**

Sr	State/Region			Town	Remark
1	Kachin	1	1	Myitkyina	
2	kayin	2	1	Phaan	
3	Sagaing	3	1	Sagaing	
		4	2	Monywa	
2	Tanintharyi	5	1	Dawei	
		6	2	Thatyatckhaung	
		7	3	Kyunsu	
		8	4	Myeik	
		9	5	Kawthaung	
3	Bago	10	1	Bago	
		11	2	Pyay	
4	Magway	12	1	Magway	
6	Mon	13	1	Mawlamyain	
7	Rakhine	14	1	Sittwe	
8	Shan	15	1	Taunggyi	Pilot Project
		16	2	Kalaw	Pilot Project
		17	3	Ywangan	
		18	4	YatSout	
		19	5	Pin Ta Ya	
		20	6	PinLaung	
		21	7	Nawtayar	
		22	8	Phaekhone	
9	Ayeyarwady	23	1	Pyapon	

Myitkyina Town Water Supply Project

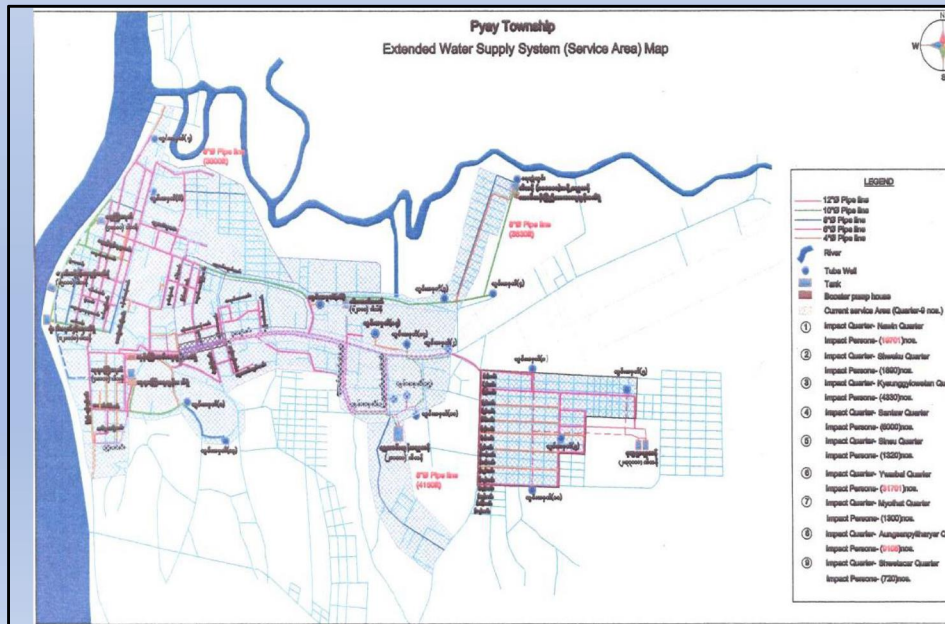
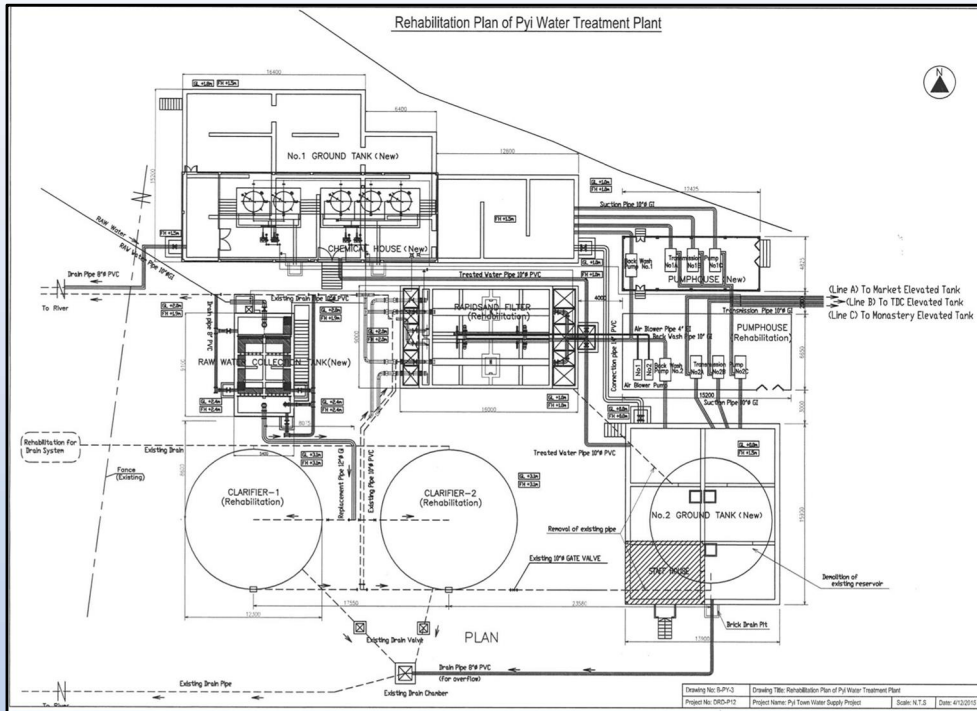
- Intake,
- Grit Chamber,
- WTP (SSF) (6,530 m3/day)(1,450,000 gal /day)
- Clear Water Tank (1),
- Chlorine Dosing System,
- Transmission pipe length (133,250 ft.), Distribution pipe length (114,000 ft.) and total Pipeline length (247,250 ft)
- Service level from 1.3% up to 26%



Pyay Town Water Supply-Rehabilitation

Rehabilitation of WTP (RSF) and receiving/mixing chamber, Alum and Chlorine dosing system, Reservoir, Pump and Motor, Transformer 11 KV Electric Power Line (150 ft), Pump House, Staff House. As additional work, replacement of existing distribution pipe line, installation of water meter boxes and pump design changing of normal pump to VFD system. Water Quality Meter.

WTP Capacity -9000 m³/day
 -2,000,000 gal/day



စီမံကိန်းအဆင့်-၁ ဆောင်ရွက်ပြီးစီးမှု မှတ်တမ်းဓာတ်ပုံများ

ပြည်မြို့ Water Treatment Plant



စစ်တွေမြို့ water treatment plant



ဘားအံမြို့ Water Treatment Plant



စစ်ကိုင်းမြို့ ရေလေးရေးဖွင့်ပွဲမှတ်တမ်း



ဖျာပုံမြို့ water treatment plant



ကော့သောင်းမြို့ Pump House & Clear Water Reservoir



စီမံကိန်းအဆင့်-၁ ဆောင်ရွက်ပြီးစီးမှု မှတ်တမ်းဓာတ်ပုံများ

ပဲခူးမြို့ Pump House and Clear Water Tank



ဖယ်ခုံမြို့ Water Treatment Plant



ပင်းတယမြို့ Reservoir and Pump House



တောင်ကြီးရေပေးဝေရေး



မော်လမြိုင်မြို့ Water Treatment Plant



ပင်းတယမြို့ စမ်းသပ်ရေပေးဝေမှု



စီမံကိန်းအဆင့်-၁ ဆောင်ရွက်ပြီးစီးမှု မှတ်တမ်းဓာတ်ပုံများ

ကလေးမြို့ Water Treatment Plant



နောင်တရားမြို့ ရေပေးဝေရေး



သရက်ချောင်းမြို့ ရေစစ်ကန်



ရပ်စောက်မြို့ ရေစစ်ကန်

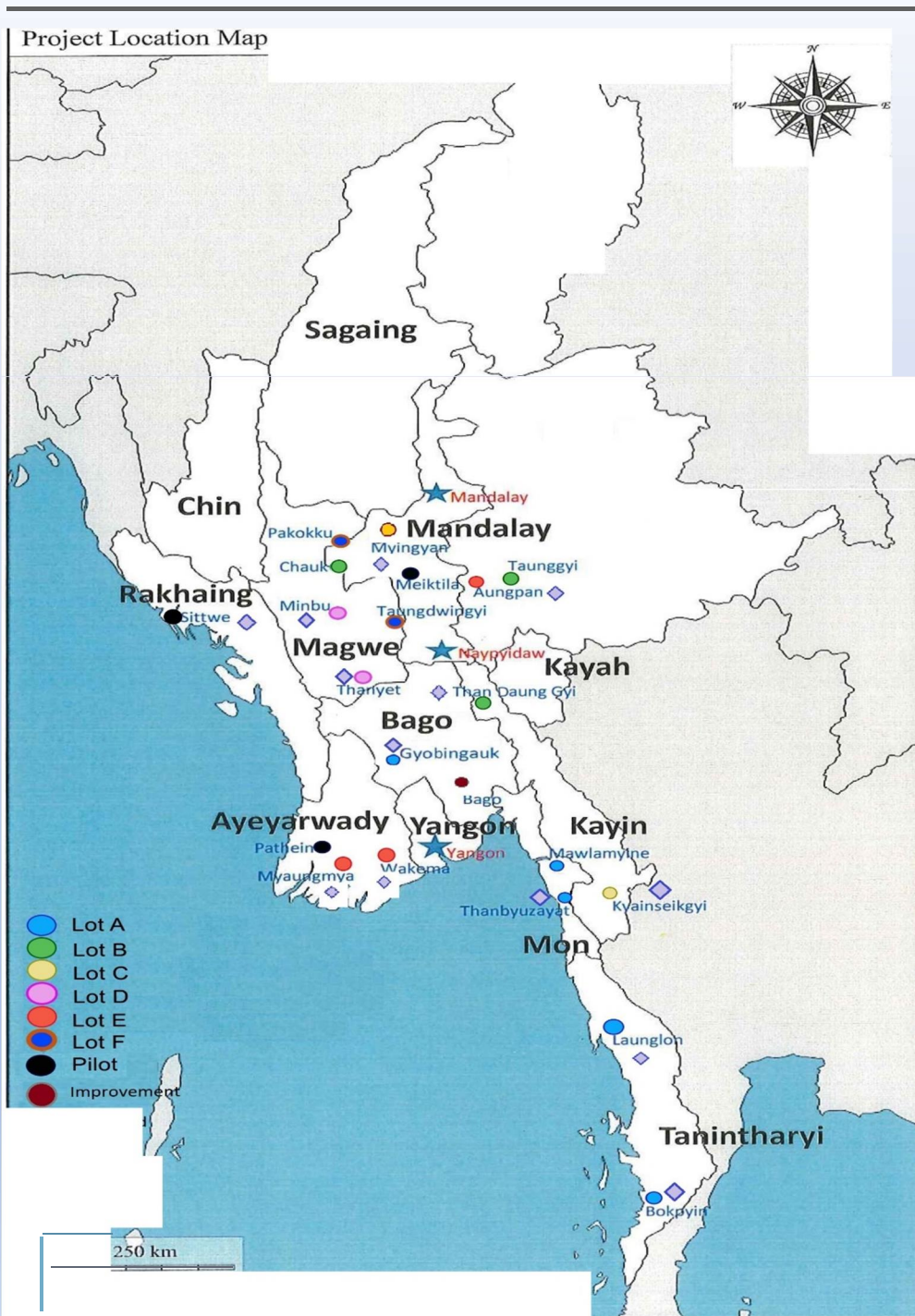


ရွာငုံမြို့ ရေမီတာတပ်ဆင်ထားပုံ



မြိတ်မြို့ ရေစင် ရေစက်ရုံ





Regional Development and Poverty Reduction Phase II

List of Planned Town Water Supply Sub Projects

Sr	State/Region		Township	Remark
1	Kayin	1	Taungdwingyi	
		2	Kyainseikgyi	
2	Tanintharyi	3	Launglon	
		4	Bokpyin	
3	Bago	5	Bago	
		6	Gyobingauk	
4	Magway	7	Chauk	
		8	Taungdwingyi	
		9	Minbu	
		10	Thayet	
		11	Pakokku	
5	Mandalay	12	Myinchan	
		13	Meikhtila	Pilot Project
6		14	Thanbyuzayat	
		15	Mawlamyain	
7	Rakhine	16	Sittwe	Pilot Project
8	Shan	17	Taunggyi	
		18	Aungban	
		19	Lashio	
9	Ayeyarwady	20	Warkema	
		21	Pathein	Pilot Project
		22	Myaungmya	

Construction

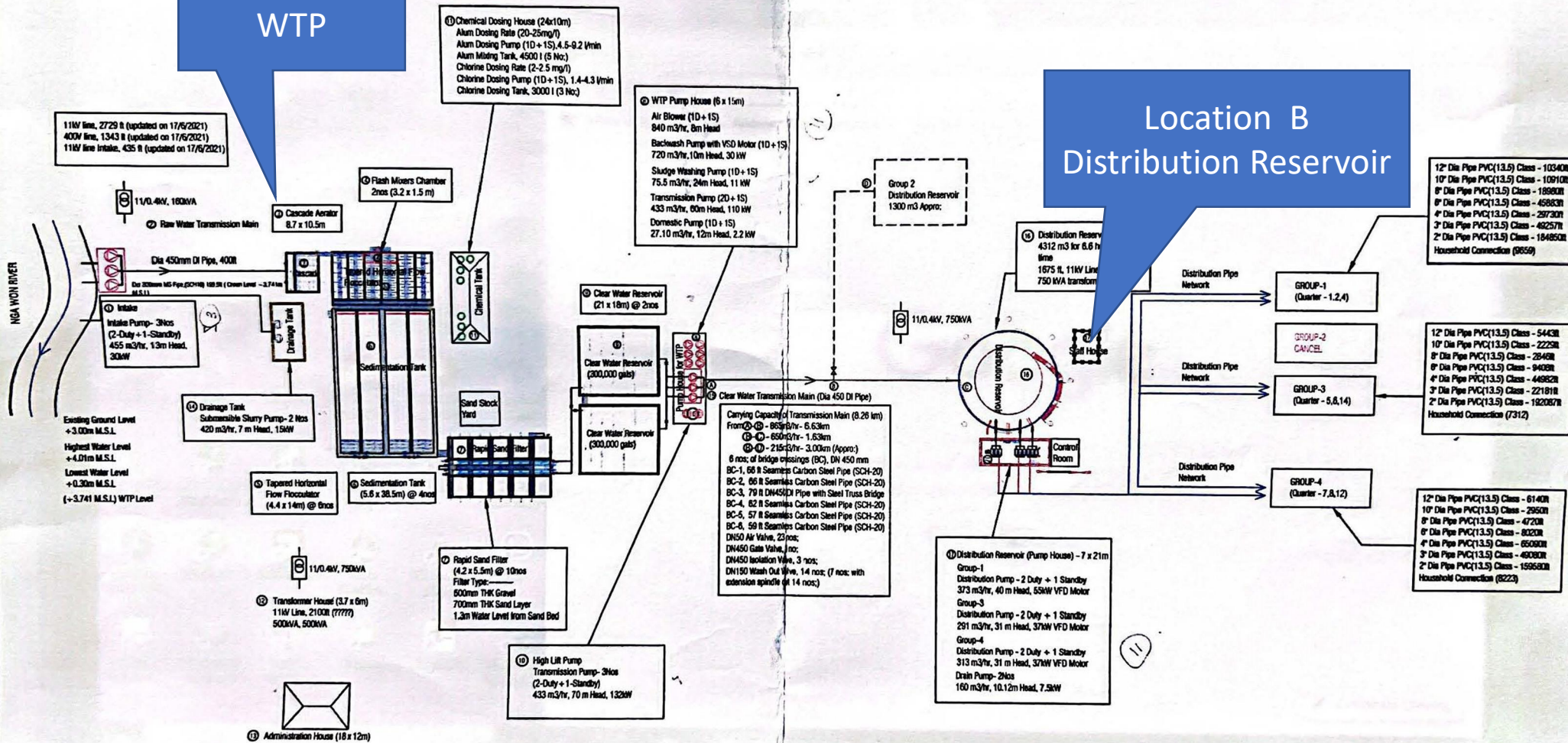
Bidding

Design

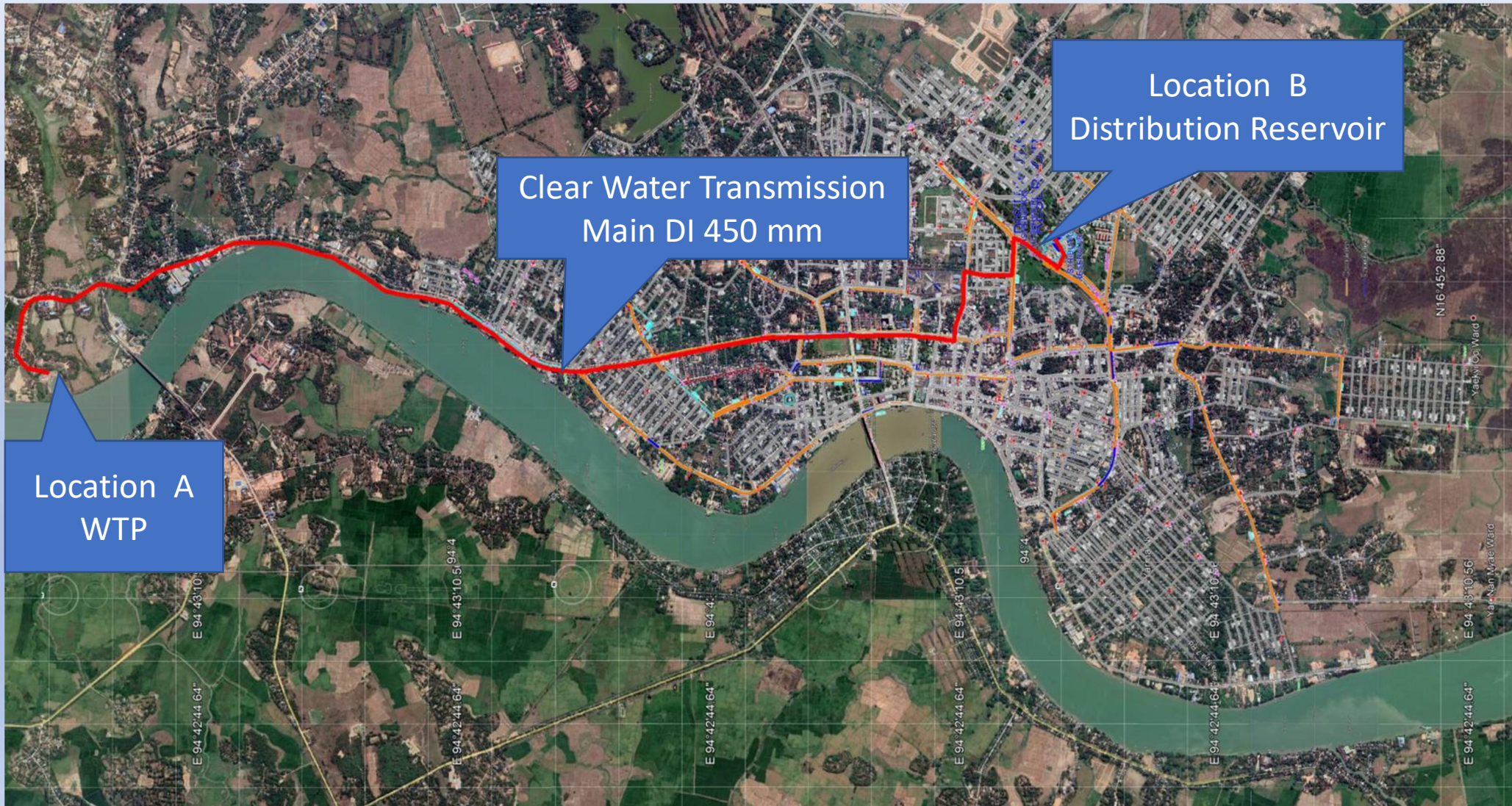
PATHEIN TOWN WATER SUPPLY SYSTEM

Location A
WTP

Location B
Distribution Reservoir



ပုသိမ်မြို့ပြပေးရင်းလုပ်ငန်း စီမံကိန်းပါ ရသေ့နံစစ်စနစ်နှင့် ရယေမြို့ဝှေငြး
အဆောက်အဦးများ တည်နရော



Pathein (Location A- Water Treatment Plant)



Intake structure and pontoon



Cascade Aerator



Sedimentation tank and RSF



Transmission Pump House

Pathein (Location B- Distribution Reservoir)



Distribution Pump station



Distribution Reservoir and VFD Control Room

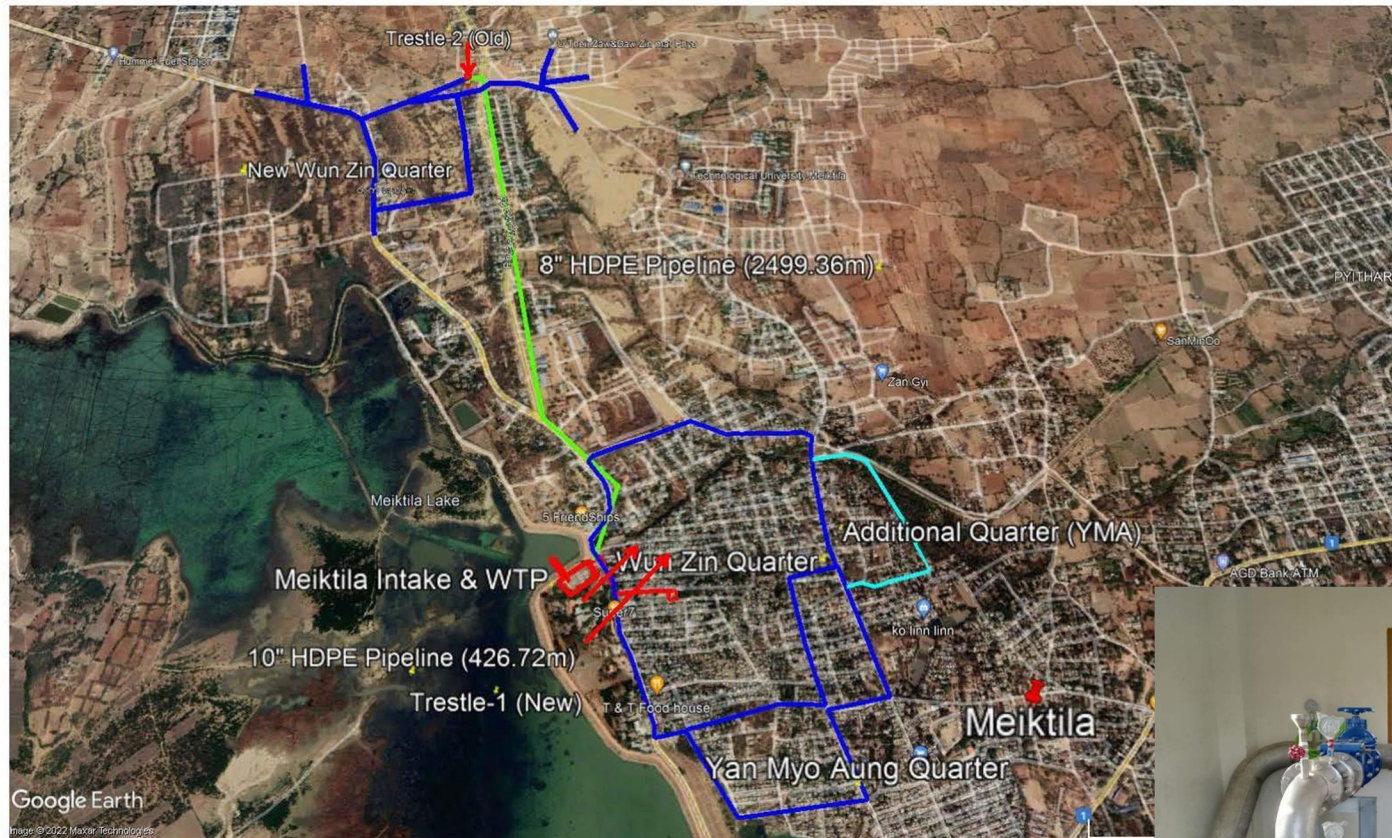


(1400000 Gal Capacity Distribution Reservoir

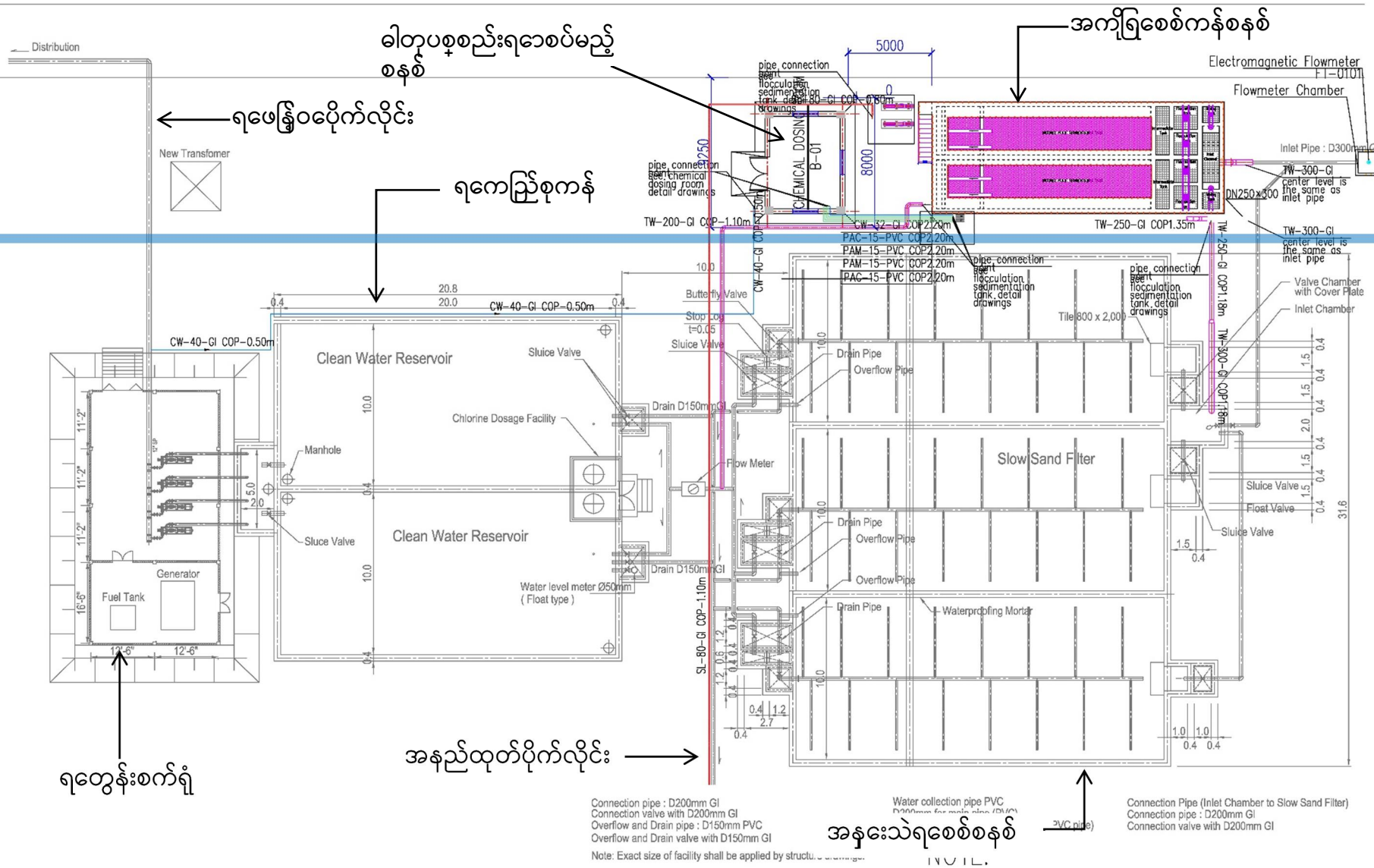


Distribution Pump station

Meikhtila Town Water Supply Project



ပဲခူးမြို့ ရေပေးဝေရေး Phase-1 အနှေးရေစစ်ကန်နှင့် တိုးချဲ့ အကြိုရေစစ်ကန်

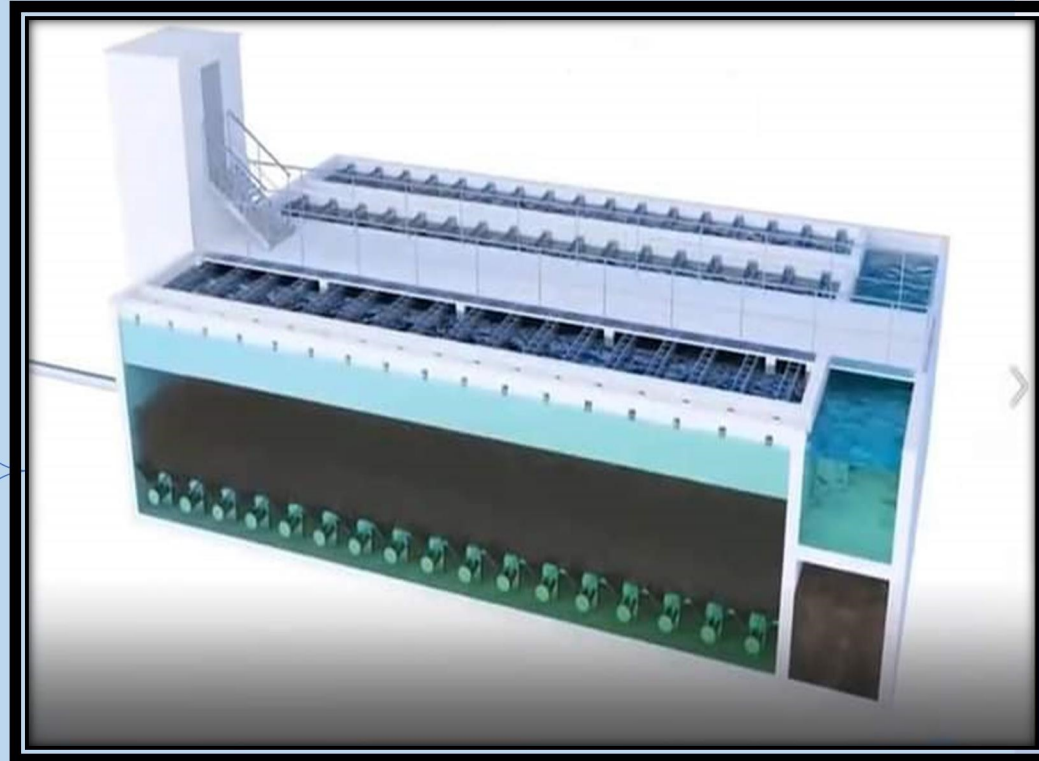


ပဲခူးမြို့ ရေပေးရေး စီမံကိန်း ဆောင်ရွက်ပြီးစီးမှု

(၁) အကြိုရေသန့်စင်ခြင်း စနစ် ဆောင်ရွက်ပြီးစီးမှု

❖ Inclined Plate Sedimentation System

- Inlet Channel
- Mixing Tank
- Flocculation Tank
- Intermediate Tank ၁၀၀%`
- Inclined Plate Sedimentation Tank
- Outlet Channel
- Chemical Dosing Room



Thank you for your kind
Attention