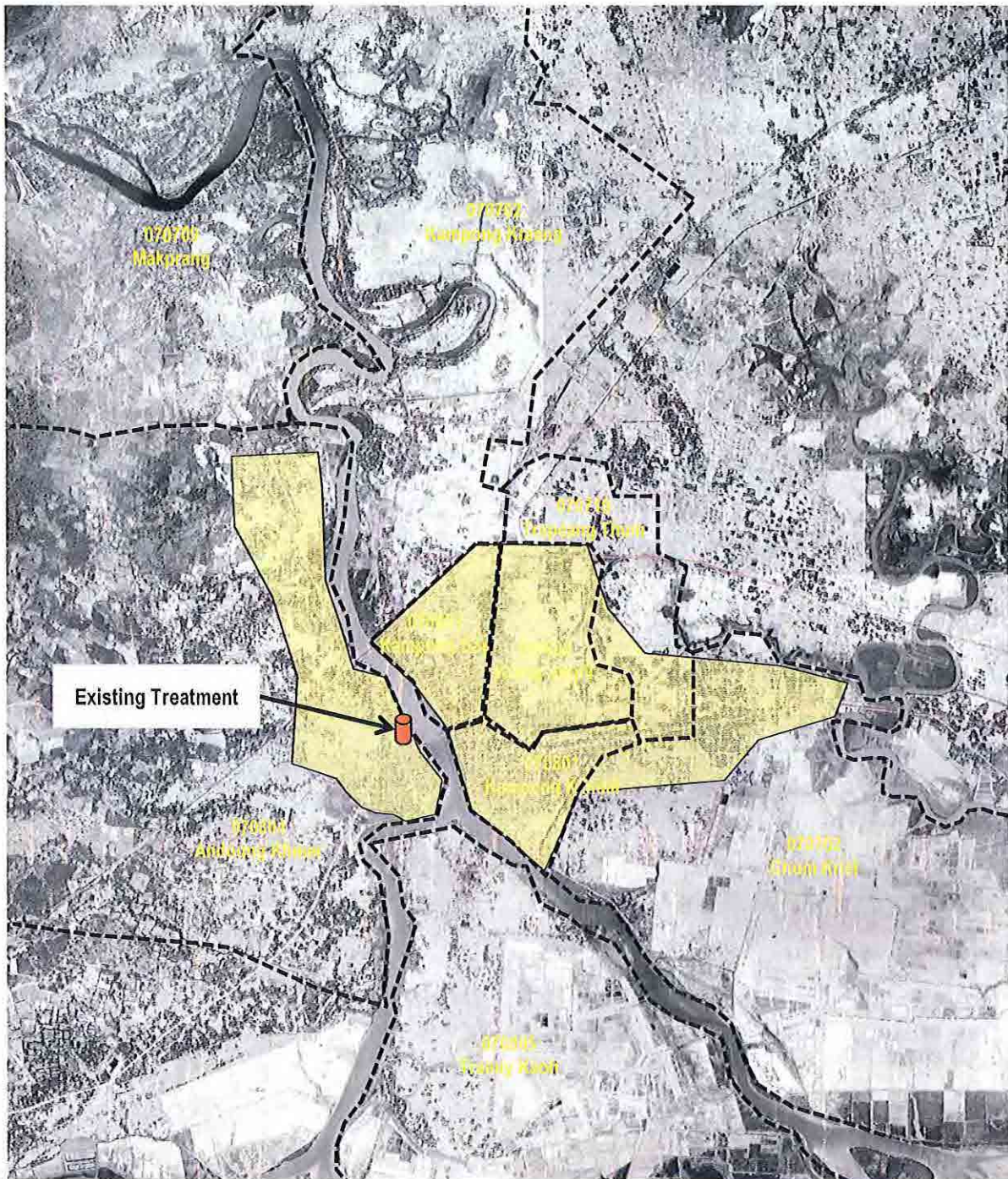


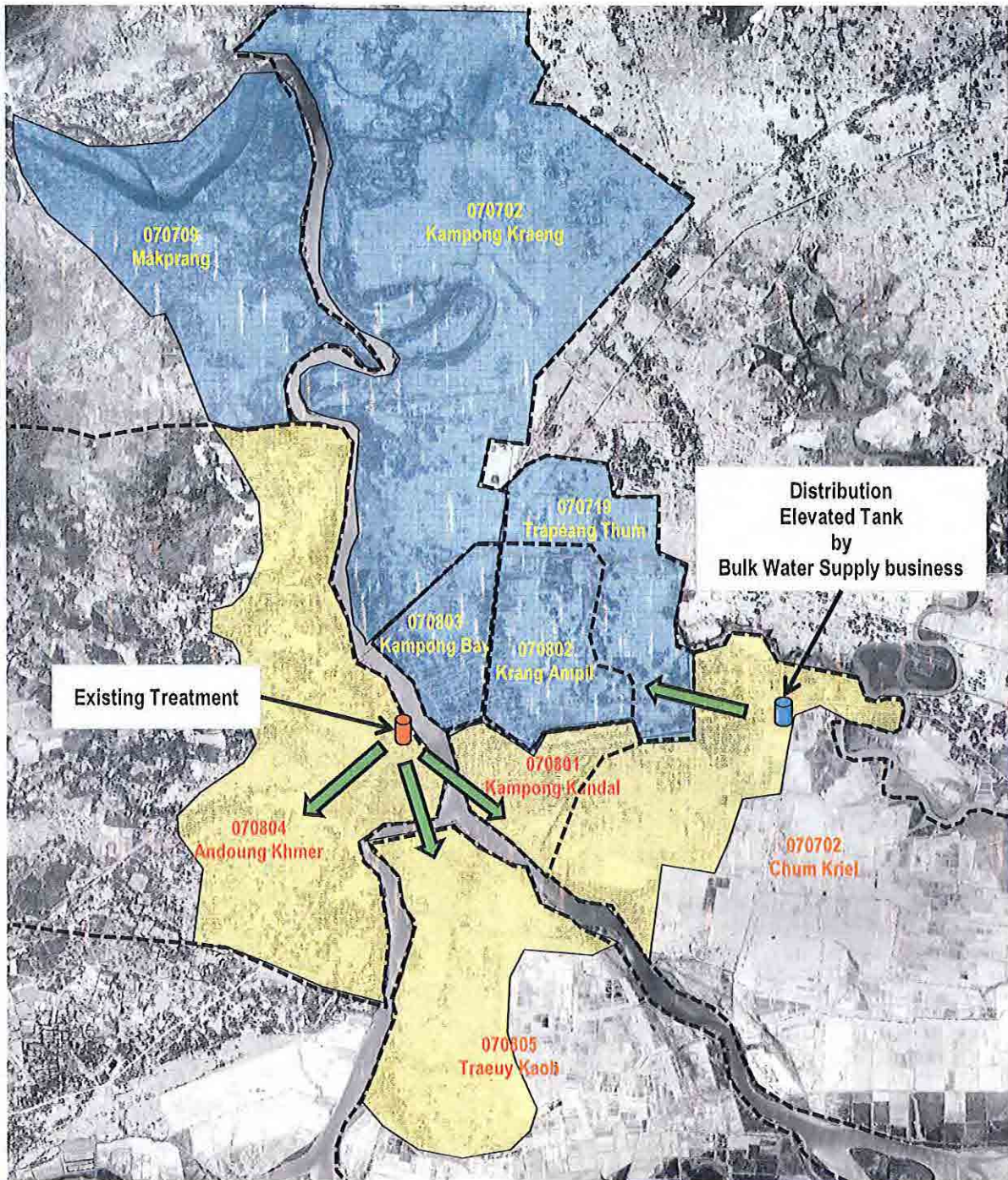
5.4.

カンボット上水道計画資料

Service Area of Kampot 2030



Service Area of Kampot 2030



Frame Data (2015) of Water Supply in KAMPOT City

Items	Domestic	Tourist		Total
		Domestic	Foreigner	
Population	57,397	673	50	58,120
Coverage ratio of water supply	92.5%	100.0%	100.0%	-
Coverage population of Water supply	53,111	673	50	53,834
Unit of Water Consumption (l/day)	120	120	250	-
Water Consumption (m3/Day)	6,373	81	13	6,467
Revenue ratio	90.0%	90.0%	90.0%	-
Average daily supply	7,081	90	14	7,185
Rate of loading	0.80	0.80	0.80	-
Maximum Daily Supply	8,851	113	18	8,982
Hourly Factor (peek factor)	1.6	1.6	1.6	-
Hourly Maximum Supply (m3/h)	590.07	7.53	1.20	598.80

Frame Data (2015) of Existing treatment Plant

Items	Domestic	Tourist		Total
		Domestic	Foreigner	
Coverage population of Water supply				
Chum Kriel	4,796	0	0	4,796
Kampong Kandal	7,784	472	41	8,297
Andoung Khmer	11,639	67	3	11,709
Traeuy Kaoh	6,243	0	0	6,243
Total	30,462	539	44	31,045
Unit of Water Consumption (l/day)	120	120	250	-
Water Consumption (m3/Day)	3,655.4	64.7	11.0	3,731
Revenue ratio	90.0%	90.0%	90.0%	-
Average daily supply	4,062	72	12	4,146
Rate of loading	0.80	0.80	0.80	-
Maximum Daily Supply	5,078	90	15	5,183

Frame Data (2015) of Bulk Water Supply

Items	Domestic	Tourist		Total
		Domestic	Foreigner	
Coverage population of Water supply				
Kampong Kraeng	5,991	0	0	5,991
Makprang	4,007	0	0	4,007
Trapeang Thum	2,348	0	0	2,348
Krang Ampil	4,624	67	3	4,694
Kampong Bay	5,679	67	3	5,749
Total	22,649	134	6	22,789
Unit of Water Consumption (l/day)	120	120	250	-
Water Consumption (m3/Day)	2,717.6	16.3	2.0	2,736
Revenue ratio	90.0%	90.0%	90.0%	-
Average daily supply	3,019.0	18.0	2.0	3,039
Rate of loading	0.80	0.80	0.80	-
Maximum Daily Supply	3,773	23	3	3,799

Frame Data (2030) of Water Supply in KAMPOT City

Items	Domestic	Tourist		Total
		Domestic	Foreigner	
Population	58,858	629	64	59,551
Coverage ratio of water supply	92.4%	100.0%	100.0%	-
Coverage population of Water supply	54,401	629	64	55,094
Unit of Water Consumption (l/day)	120	120	250	-
Water Consumption (m3/Day)	6,528	75	16	6,619
Revenue ratio	90.0%	90.0%	90.0%	-
Average daily supply	7,253	83	18	7,354
Rate of loading	0.80	0.80	0.80	-
Maximum Daily Supply	9,066	104	23	9,193
Hourly Factor (peak factor)	1.6	1.6	1.6	-
Hourly Maximum Supply (m3/h)	604.40	6.93	1.53	612.86

Frame Data (2030) of Existing treatment Plant

Items	Domestic	Tourist		Total
		Domestic	Foreigner	
Coverage population of Water supply				
Chum Kriel	5,068	0	0	5,068
Kampong Kandal	8,155	440	55	8,650
Andoung Khmer	12,223	63	3	12,289
Traeuy Kaoh	6,580	0	0	6,580
Total	32,026	503	58	32,587
Unit of Water Consumption (l/day)	120.0	120.0	250.0	-
Water Consumption (m3/Day)	3,843	60	15	3,918
Revenue ratio	90.0%	90.0%	90.0%	-
Average daily supply	4,270	67	17	4,354
Rate of loading	0.80	0.80	0.80	-
Maximum Daily Supply	5,338	83	21	5,442

Frame Data (2030) of Bulk Water Supply

Items	Domestic	Tourist		Total
		Domestic	Foreigner	
Coverage population of Water supply				
Kampong Kraeng	6,274	0	0	6,274
Makprang	4,036	0	0	4,036
Trapeang Thum	2,454	0	0	2,454
Krang Ampil	4,577	63	3	4,643
Kampong Bay	5,034	63	3	5,100
Total	22,375	126	6	22,507
Unit of Water Consumption (l/day)	120	120	250	-
Water Consumption (m3/Day)	2,685	15	1	2,701
Revenue ratio	90.0%	90.0%	90.0%	-
Average daily supply	2,983	16	1	3,000
Rate of loading	0.80	0.80	0.80	-
Maximum Daily Supply	3,728	21	2	3,751

Situation of Domestic and Tourist in 2011

Code	District / Commune	Domestic						Tourist			
		All			Served			Cambodian		Foreigner	
		Population	Families	P/F	Population	Families	%	Number	%	Number	%
0707_02	Chum Kriel	5,245	1,058	5.0	1,685	337	31.9%	0	0%	0	0%
0707_03	Kampong Kraeng	6,727	1,387	4.9	29	6	0.4%	0	0%	0	0%
0707_09	Makprang	5,205	1,013	5.1	372	73	7.2%	0	0%	0	0%
0707_19	Trapeang Thum	2,914	615	4.7	742	158	25.7%	0	0%	0	0%
0708_01	Kampong Kandal	7,445	1,377	5.4	6,987	1,294	94.0%	641	70%	14,533	85%
0708_02	Krang Ampil	4,525	897	5.0	2,750	550	61.3%	91	10%	855	5%
0708_03	Kampong Bay	5,447	1,107	4.9	4,341	886	80.0%	91	10%	855	5%
0708_04	Andoung Khmer	10,675	2,083	5.1	3,626	711	34.1%	91	10%	855	5%
0708_05	Traeuy Kaoh	6,233	1,356	4.6	50	11	0.8%	0	0%	0	0%
	Total	54,416	10,893	5.0	20,582	4,026	37.0%	914		17,098	

Population Served of Water Supply in 2015

Code	District / Commune	Population	Domestic			Tourist			
			Served			Domestic		Foreigner	
			Families	Population	%	Number	%	Number	%
0707_02	Chum Kriel	5,995	959	4,796	80%	0	0%	0	0%
0707_03	Kampong Kraeng	7,489	1,223	5,991	80%	0	0%	0	0%
0707_09	Makprang	5,009	786	4,007	80%	0	0%	0	0%
0707_19	Trapeang Thum	2,935	500	2,348	80%	0	0%	0	0%
0708_01	Kampong Kandal	7,784	1,441	7,784	100%	472	70%	41	85%
0708_02	Krang Ampil	4,624	925	4,624	100%	67	10%	3	5%
0708_03	Kampong Bay	5,679	1,159	5,679	100%	67	10%	3	5%
0708_04	Andoung Khmer	11,639	2,282	11,639	100%	67	10%	3	5%
0708_05	Traeuy Kaoh	6,243	1,357	6,243	100%	0	0%	0	0%
	Total	57,397	10,632	53,111	92.5%	673		50	

Population Served of Water Supply in 2030

Code	District / Commune	Population	Domestic			Tourist			
			Served			Domestic		Foreigner	
			Families	Population	%	Number	%	Number	%
0707_02	Chum Kriel	6,335	1,267	5,068	80%	0	0%	0	0%
0707_03	Kampong Kraeng	7,842	1,600	6,274	80%	0	0%	0	0%
0707_09	Makprang	5,045	989	4,036	80%	0	0%	0	0%
0707_19	Trapeang Thum	3,067	653	2,454	80%	0	0%	0	0%
0708_01	Kampong Kandal	8,155	1,510	8,155	100%	440	70%	55	85%
0708_02	Krang Ampil	4,577	915	4,577	100%	63	10%	3	5%
0708_03	Kampong Bay	5,034	1,027	5,034	100%	63	10%	3	5%
0708_04	Andoung Khmer	12,223	2,397	12,223	100%	63	10%	3	5%
0708_05	Traeuy Kaoh	6,580	1,430	6,580	100%	0	0%	0	0%
	Total	58,858	11,788	54,401	92.4%	629		64	

Population and Number of Household in Kampot City (Commune Units)

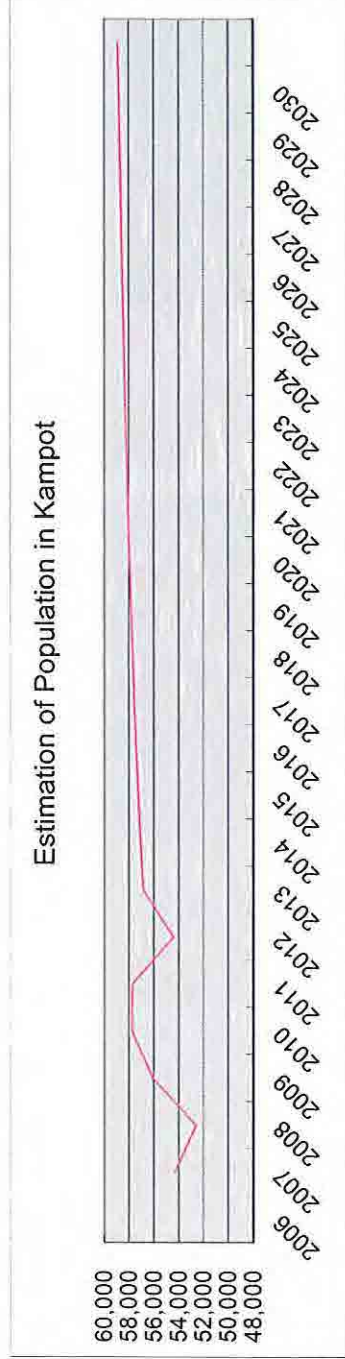
Code	2006		2007		2008		2009		2010		2011	
	Household	Population	Household	Population	Household	Population	Household	Population	Household	Population	Household	Population
0707_02	965	5,032	981	5,154	980	5,983	988	5,975	1,051	5,892	1,058	5,245
0707_03	1,292	6,698	1,293	6,668	1,287	6,809	1,298	7,326	1,393	7,926	1,387	6,727
0707_09	876	4,854	860	5,400	875	4,437	1,008	4,951	997	4,922	1,013	5,205
0707_19	513	2,636	521	2,680	523	2,700	540	2,840	557	2,796	615	2,914
0708_01	1,475	7,834	1,413	5,000	1,452	7,751	1,449	7,928	1,449	7,814	1,377	7,445
0708_02	859	4,726	878	4,701	889	4,677	908	4,732	922	4,755	897	4,525
0708_03	1,155	7,026	1,154	7,114	1,152	6,553	1,144	6,532	1,148	6,501	1,107	5,447
0708_04	1,867	9,937	1,933	10,432	2,110	11,488	1,988	11,567	2,032	11,126	2,083	10,675
0708_05	1,002	5,574	1,048	5,451	1,151	5,674	1,255	5,884	1,262	5,983	1,356	6,233
Total	10,004	54,317	10,081	52,600	10,419	56,072	10,578	57,735	10,811	57,715	10,893	54,416

Population and Number of Household in Kampot City (Village Units)

2006				2007				2008				2009				2010				2011			
Code	Household	Population		Household	Population	Code		Household	Population	Code		Household	Population	Code		Household	Population	Code		Household	Population		
7070201	229	1,155	7070201	233	1,097	7070201	234	234	1,251	7070201	240	240	1,210	7070201	253	253	1,213	7070201	254	254	1,215		
7070202	330	1,691	7070202	335	1,708	7070202	335	335	1,711	7070202	335	335	1,717	7070202	354	354	1,757	7070202	355	355	1,760		
7070203	175	933	7070203	177	971	7070203	174	174	909	7070203	176	176	936	7070203	180	180	810	7070203	184	184	906		
7070204	231	1,253	7070204	236	1,378	7070204	237	237	2,112	7070204	237	237	2,112	7070204	264	264	2,112	7070204	265	265	1,364		
Sub-total	965	5,032	Sub-total	981	5,154	Sub-total	980	980	5,983	Sub-total	988	988	5,975	Sub-total	1,051	1,051	5,892	Sub-total	1,058	1,058	5,245		
7070301	396	1,888	7070301	397	1,867	7070301	396	396	1,880	7070301	396	396	2,000	7070301	403	403	2,173	7070301	399	399	1,840		
7070302	342	1,780	7070302	342	1,814	7070302	339	339	1,798	7070302	340	340	1,898	7070302	340	340	1,897	7070302	353	353	1,794		
7070303	141	984	7070303	141	813	7070303	139	139	864	7070303	142	142	1,066	7070303	163	163	1,136	7070303	159	159	911		
7070304	248	1,283	7070304	248	1,389	7070304	245	245	1,497	7070304	252	252	1,564	7070304	262	262	1,859	7070304	264	264	1,319		
7070305	165	763	7070305	165	785	7070305	168	168	770	7070305	168	168	798	7070305	225	225	861	7070305	212	212	863		
Sub-total	1,292	6,698	Sub-total	1,293	6,668	Sub-total	1,287	1,287	6,809	Sub-total	1,298	1,298	7,326	Sub-total	1,393	1,393	7,926	Sub-total	1,387	1,387	6,727		
7070901	542	3,010	7070901	528	2,786	7070901	539	539	2,742	7070901	626	626	3,073	7070901	620	620	3,050	7070901	629	629	3,144		
7070902	95	568	7070902	90	486	7070902	90	90	493	7070902	95	95	494	7070902	90	90	493	7070902	96	96	602		
7070903	239	1,276	7070903	242	1,228	7070903	246	246	1,202	7070903	287	287	1,394	7070903	287	287	1,379	7070903	288	288	1,459		
Sub-total	876	4,854	Sub-total	860	5,400	Sub-total	875	875	4,437	Sub-total	1,008	1,008	4,951	Sub-total	997	997	4,922	Sub-total	1,013	1,013	5,205		
7071901	119	666	7071901	121	679	7071901	121	121	675	7071901	126	126	705	7071401	135	135	710	7071401	153	153	739		
7071902	113	585	7071902	115	591	7071902	115	115	591	7071902	118	118	609	7071402	126	126	632	7071402	138	138	658		
7071903	139	715	7071903	143	736	7071903	145	145	759	7071903	145	145	771	7071403	139	139	676	7071403	153	153	726		
7071904	142	670	7071904	142	674	7071904	142	142	675	7071904	151	151	755	7071404	157	157	778	7071404	171	171	791		
Sub-total	513	2,636	Sub-total	521	2,680	Sub-total	523	523	2,700	Sub-total	540	540	2,840	Sub-total	557	557	2,796	Sub-total	615	615	2,914		
7080101	803	4,126	7080101	787	2,008	7080101	794	794	4,118	7080101	657	657	3,830	7080101	792	792	4,184	7080101	720	720	4,091		
7080102	672	3,708	7080102	626	2,992	7080102	658	658	3,633	7080102	792	792	4,098	7080102	657	657	3,630	7080102	657	657	3,354		
Sub-total	1,475	7,834	Sub-total	1,413	5,000	Sub-total	1,452	1,452	7,751	Sub-total	1,449	1,449	7,928	Sub-total	1,449	1,449	7,814	Sub-total	1,377	1,377	7,445		
7080201	526	2,793	7080201	537	2,819	7080201	543	543	2,800	7080201	553	553	2,832	7080201	559	559	2,835	7080201	517	517	2,628		
7080202	333	1,933	7080202	341	1,882	7080202	346	346	1,877	7080202	355	355	1,900	7080202	363	363	1,920	7080202	380	380	1,897		
Sub-total	859	4,726	Sub-total	878	4,701	Sub-total	889	889	4,677	Sub-total	908	908	4,732	Sub-total	922	922	4,755	Sub-total	897	897	4,525		
7080301	683	4,399	7080301	684	3,945	7080301	681	681	3,924	7080301	674	674	3,861	7080301	678	678	3,879	7080301	629	629	3,161		
7080302	472	2,627	7080302	470	3,169	7080302	471	471	2,629	7080302	470	470	2,671	7080302	470	470	2,622	7080302	478	478	2,286		
Sub-total	1,155	7,026	Sub-total	1,154	7,114	Sub-total	1,152	1,152	6,553	Sub-total	1,144	1,144	6,532	Sub-total	1,148	1,148	6,501	Sub-total	1,107	1,107	5,447		
7080401	418	2,215	7080401	421	2,367	7080401	422	422	2,370	7080401	422	422	2,395	7080401	443	443	2,884	7080401	455	455	1,844		
7080402	529	2,906	7080402	546	2,927	7080402	569	569	3,000	7080402	568	568	2,986	7080402	573	573	3,034	7080402	566	566	2,979		
7080403	393	2,157	7080403	397	2,210	7080403	403	403	2,281	7080403	406	406	2,329	7080403	414	414	2,379	7080403	428	428	2,422		
7080404	249	1,248	7080404	257	1,469	7080404	397	397	2,341	7080404	257	257	2,287	7080404	263	263	1,253	7080404	277	277	1,589		
7080405	278	1,411	7080405	312	1,459	7080405	319	319	1,496	7080405	335	335	1,570	7080405	339	339	1,576	7080405	357	357	1,841		
Sub-total	1,867	9,937	Sub-total	1,933	10,432	Sub-total	2,110	2,110	11,488	Sub-total	1,988	1,988	11,567	Sub-total	2,032	2,032	11,126	Sub-total	2,083	2,083	10,675		
7080501	237	1,188	7080501	250	1,159	7080501	295	295	1,317	7080501	306	306	1,348	7080501	309	309	1,361	7080501	325	325	1,358		
7080502	177	1,027	7080502	198	985	7080502	171	171	997	7080502	226	226	1,041	7080502	228	228	1,070	7080502	258	258	1,167		
7080503	327	1,915	7080503	322	1,912	7080503	367	367	1,945	7080503	398	398	2,021	7080503	397	397	2,062	7080503	397	397	2,079		
7080504	261	1,444	7080504	278	1,395	7080504	318	318	1,415	7080504	325	325	1,474	7080504	328	328	1,490	7080504	376	376	1,629		
Sub-total	1,002	5,574	Sub-total	1,048	5,451	Sub-total	1,151	1,151	5,674	Sub-total	1,255	1,255	5,884	Sub-total	1,262	1,262	5,983	Sub-total	1,356	1,356	6,233		

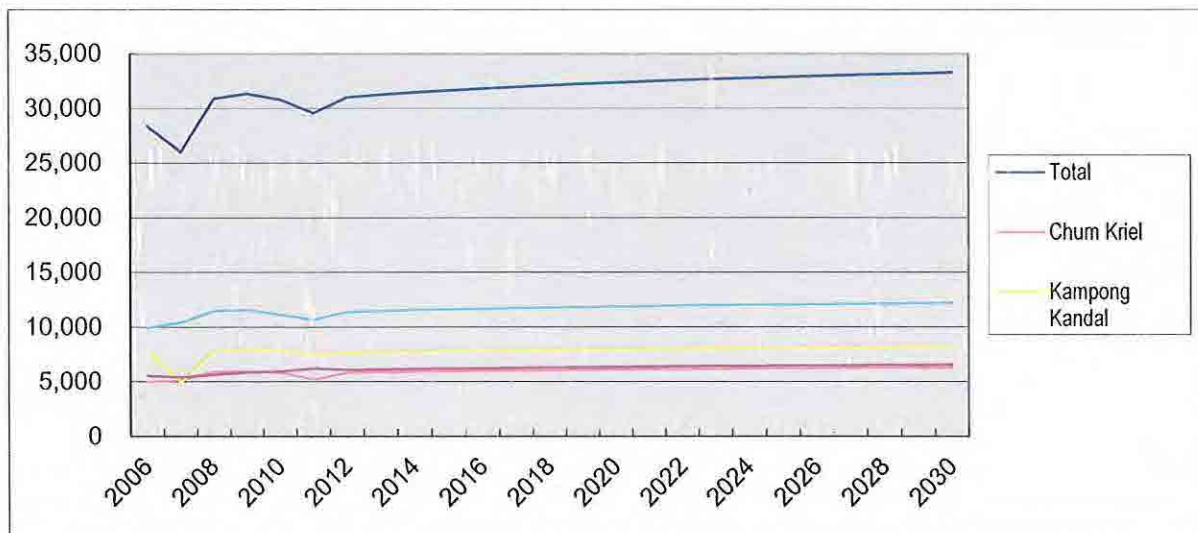
Estimation of Total Population in Kampot

Year	Total	0707_02	0707_03	0707_09	0707_19	0708_01	0708_02	0708_03	0708_04	0708_05
2006	54,317	Chum Kriol	Kampong Kraeng	Makkrang	Trapeang Thum	Kampong Kandol	Krang Ampil	Kampong Bay	Andoung Khmer	Traeuy Kaoh
2007	52,600	5,032	6,698	4,854	2,636	7,834	4,726	7,026	9,937	5,574
2008	56,072	5,154	6,668	5,400	2,680	5,000	4,701	7,114	10,432	5,451
2009	57,735	5,983	6,809	4,437	2,700	7,751	4,677	6,553	11,488	5,674
2010	57,715	5,975	7,326	4,951	2,840	7,928	4,732	6,532	11,567	5,884
2011	57,715	5,892	7,926	4,922	2,796	7,814	4,755	6,501	11,126	5,983
2012	54,416	5,245	6,727	5,205	2,914	7,445	4,525	5,447	10,675	6,233
2013	56,828	5,862	7,352	4,995	2,884	7,639	4,642	5,930	11,412	6,112
2014	57,042	5,912	7,404	5,000	2,903	7,694	4,635	5,836	11,497	6,161
2015	57,230	5,956	7,449	5,005	2,920	7,741	4,629	5,753	11,572	6,205
2016	57,397	5,995	7,489	5,009	2,935	7,784	4,624	5,679	11,639	6,243
2017	57,550	6,030	7,526	5,012	2,949	7,823	4,619	5,612	11,700	6,279
2018	57,688	6,062	7,560	5,016	2,961	7,858	4,614	5,551	11,755	6,311
2019	57,814	6,092	7,590	5,019	2,973	7,890	4,610	5,494	11,806	6,340
2020	57,933	6,120	7,619	5,022	2,984	7,920	4,606	5,442	11,853	6,367
2021	58,044	6,145	7,645	5,025	2,994	7,948	4,603	5,394	11,897	6,393
2022	58,145	6,169	7,670	5,027	3,003	7,974	4,600	5,348	11,938	6,416
2023	58,243	6,192	7,694	5,029	3,012	7,999	4,596	5,305	11,977	6,439
2024	58,335	6,213	7,716	5,032	3,020	8,022	4,594	5,265	12,013	6,460
2025	58,421	6,233	7,736	5,034	3,028	8,044	4,591	5,227	12,048	6,480
2026	58,502	6,252	7,756	5,036	3,035	8,065	4,588	5,191	12,081	6,498
2027	58,581	6,270	7,775	5,038	3,042	8,085	4,586	5,157	12,112	6,516
2028	58,653	6,287	7,793	5,040	3,049	8,103	4,583	5,124	12,141	6,533
2029	58,724	6,304	7,810	5,041	3,055	8,121	4,581	5,092	12,170	6,550
2030	58,792	6,320	7,826	5,043	3,061	8,139	4,579	5,062	12,197	6,565
2030	58,858	6,335	7,842	5,045	3,067	8,155	4,577	5,034	12,223	6,580



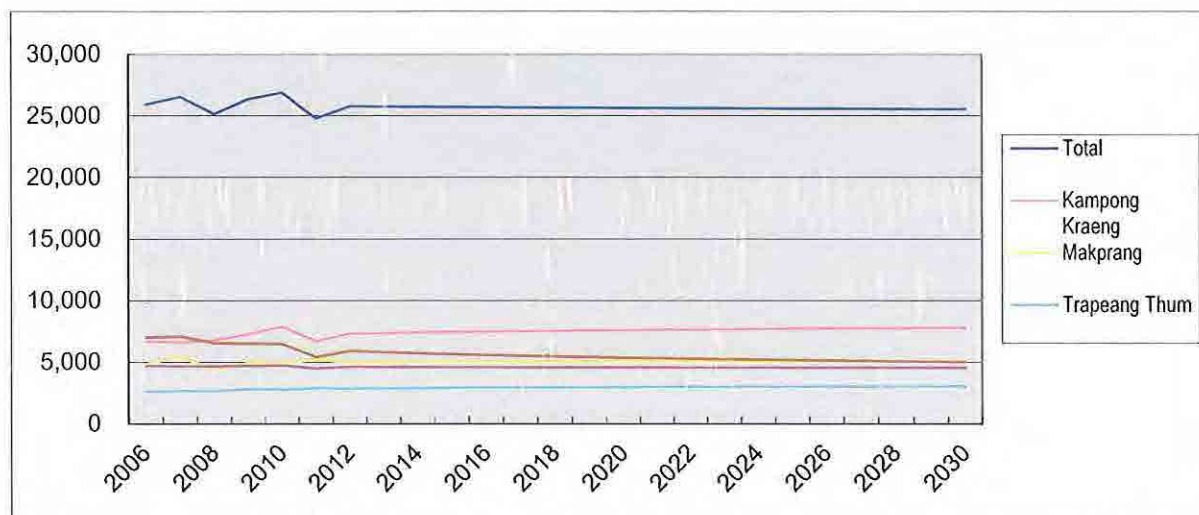
Estimation of Population belong to Existing Treatment Plant in Kampot

Year	Total	0707_02	0708_01	0708_04	0708_05
		Chum Kriel	Kampong Kandal	Andoung Khmer	Traeuy Kaoh
2006	28,377	5,032	7,834	9,937	5,574
2007	26,037	5,154	5,000	10,432	5,451
2008	30,896	5,983	7,751	11,488	5,674
2009	31,354	5,975	7,928	11,567	5,884
2010	30,815	5,892	7,814	11,126	5,983
2011	29,598	5,245	7,445	10,675	6,233
2012	31,025	5,862	7,639	11,412	6,112
2013	31,264	5,912	7,694	11,497	6,161
2014	31,474	5,956	7,741	11,572	6,205
2015	31,661	5,995	7,784	11,639	6,243
2016	31,832	6,030	7,823	11,700	6,279
2017	31,986	6,062	7,858	11,755	6,311
2018	32,128	6,092	7,890	11,806	6,340
2019	32,260	6,120	7,920	11,853	6,367
2020	32,383	6,145	7,948	11,897	6,393
2021	32,497	6,169	7,974	11,938	6,416
2022	32,607	6,192	7,999	11,977	6,439
2023	32,708	6,213	8,022	12,013	6,460
2024	32,805	6,233	8,044	12,048	6,480
2025	32,896	6,252	8,065	12,081	6,498
2026	32,983	6,270	8,085	12,112	6,516
2027	33,064	6,287	8,103	12,141	6,533
2028	33,145	6,304	8,121	12,170	6,550
2029	33,221	6,320	8,139	12,197	6,565
2030	33,293	6,335	8,155	12,223	6,580

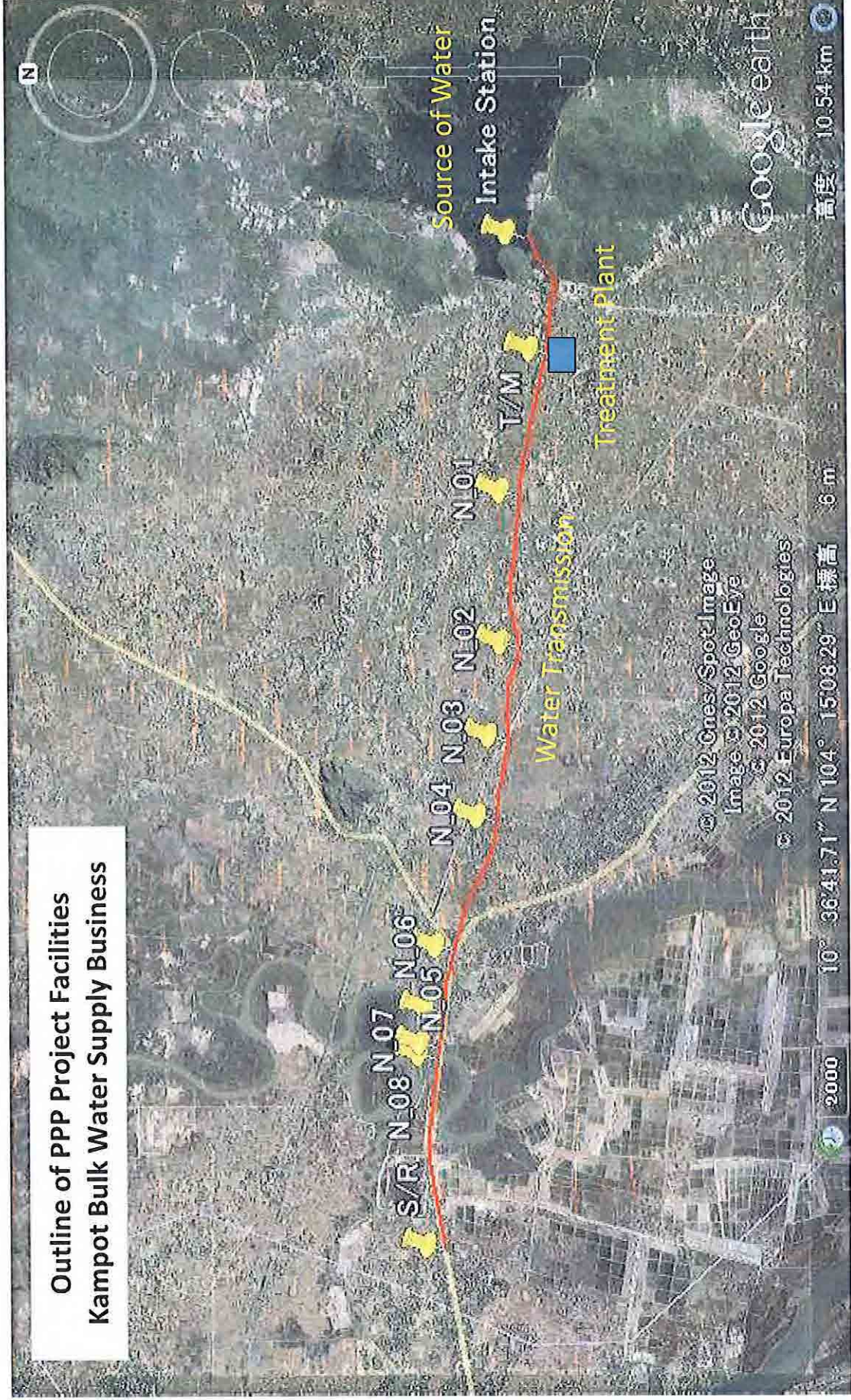


Estimation of Population belong to Bulk Water Supply in Kampot

Year	Total	0707_03	0707_09	0707_19	0708_02	0708_03
		Kampong Kraeng	Makprang	Trapeang Thum	Krang Ampil	Kampong Bay
2006	25,940	6,698	4,854	2,636	4,726	7,026
2007	26,563	6,668	5,400	2,680	4,701	7,114
2008	25,176	6,809	4,437	2,700	4,677	6,553
2009	26,381	7,326	4,951	2,840	4,732	6,532
2010	26,900	7,926	4,922	2,796	4,755	6,501
2011	24,818	6,727	5,205	2,914	4,525	5,447
2012	25,803	7,352	4,995	2,884	4,642	5,930
2013	25,778	7,404	5,000	2,903	4,635	5,836
2014	25,756	7,449	5,005	2,920	4,629	5,753
2015	25,736	7,489	5,009	2,935	4,624	5,679
2016	25,718	7,526	5,012	2,949	4,619	5,612
2017	25,702	7,560	5,016	2,961	4,614	5,551
2018	25,686	7,590	5,019	2,973	4,610	5,494
2019	25,673	7,619	5,022	2,984	4,606	5,442
2020	25,661	7,645	5,025	2,994	4,603	5,394
2021	25,648	7,670	5,027	3,003	4,600	5,348
2022	25,636	7,694	5,029	3,012	4,596	5,305
2023	25,627	7,716	5,032	3,020	4,594	5,265
2024	25,616	7,736	5,034	3,028	4,591	5,227
2025	25,606	7,756	5,036	3,035	4,588	5,191
2026	25,598	7,775	5,038	3,042	4,586	5,157
2027	25,589	7,793	5,040	3,049	4,583	5,124
2028	25,579	7,810	5,041	3,055	4,581	5,092
2029	25,571	7,826	5,043	3,061	4,579	5,062
2030	25,565	7,842	5,045	3,067	4,577	5,034



**Outline of PPP Project Facilities
Kampot Bulk Water Supply Business**



Bulk Water Supply Business to the Kampot Waterworks

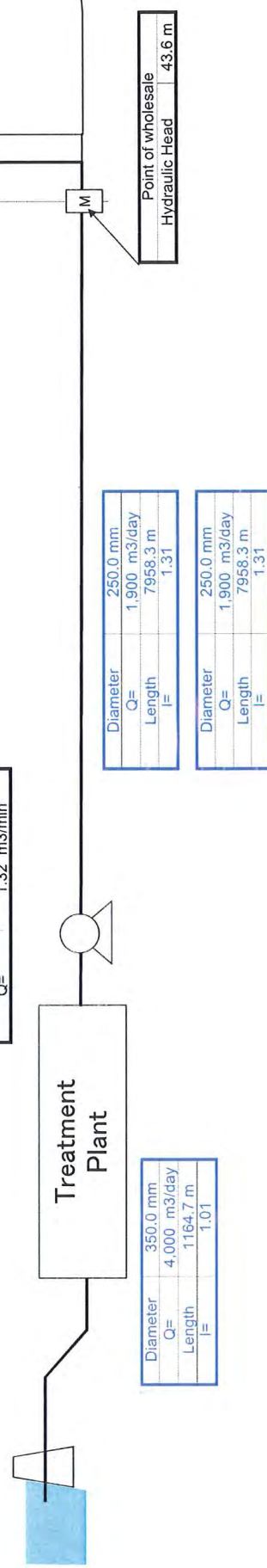
Section	Distance	Flow (m ³ /d)	Diameter	Kind of pipe	Remarks	Unit	Construction cost	Cost
I/T Sta.	1,164.67	4,000 m ³ /day	350.0 mm	Intake	DCIP			
T/P	1,250.24	3,800 m ³ /day	250mm*2	Transmission	HDPE			
N_01	1,337.45	3,800 m ³ /day	250mm*2	Transmission	HDPE			
N_02	829.73	3,800 m ³ /day	250mm*2	Transmission	HDPE			
N_03	712.68	3,800 m ³ /day	250mm*2	Transmission	HDPE			
N_04	1,199.07	3,800 m ³ /day	250mm*2	Transmission	HDPE			
N_05	551.52	3,800 m ³ /day	250mm*2	Transmission	HDPE			
N_06	293.62	3,800 m ³ /day	250mm*2	Transmission	HDPE			
N_07	116.40	3,800 m ³ /day	250mm*2	Transmission	Pipe Bridge using SGF			
N_08	1,667.62	3,800 m ³ /day	250mm*2	Transmission	HDPE			
Total	9,123.00				Magnetic Flow Meter (200mm)			
						Total		

Node	Elevation (m)	Accepted Water Amount
I/T Sta.	20.0 m	
T/P	13.0 m	4,000 m ³ /day
N_01	10.0 m	
N_02	7.0 m	
N_03	4.0 m	
N_04	5.0 m	
N_05	5.0 m	
N_06	5.0 m	
N_07	3.0 m	
N_08	3.0 m	
SIR	35.0 m	3,800 m³/day

H.W.L.	18.5 m
L.W.L.	18.0 m

H.W.L.	40.0 m
L.W.L.	35.0 m
GL	5.0 m

Arrival	16.8 m
T/M	outlet
H.W.L.	14.0 m
L.W.L.	9.0 m
Lifted Head	45.0 m
Hydraulic Head	54.0 m
Q=	1.32 m ³ /min



Kitakyushu 05

Cost Estimation for Expansion Project of Supply area in Kampot (Japanese Grant)

Category	Material	Diameter	Unit	Unit Cost	2030	
					9,193m3/D	
					amount	Cost
Main	DCIP	450	m		60	
Main	DCIP	400	m		2,124	
Main	DCIP	350	m		1,343	
Main	DCIP	300	m		3,209	
Sub main	PE	250	m		4,500	
Sub main	PE	200	m		8,635	
Sub main	PE	150	m		5,397	
Branch	PE	100	m		17,214	
Branch	PE	80	m		13,055	
Distribution Elevated Tank			set		1	
TOTAL						55,537 m

Tabulation of the Pipe Length in Kampot 2030

Category	Material	Diameter	2030			Existing pipe	Planned	Necessary Installation
			Max daily supply 9,193m ³ /d					
			Calculated	Non-Calculated	Total			
Main	DCIP	450	60		60		60	
Main	DCIP	400	2,124		2,124		2,124	
Main	DCIP	350	1,963		1,963	620	1,343	
Main	DCIP	300	3,399		3,399	190	3,209	
Sub main	PE	250	11,836		11,836	7,336	4,500	
Sub main	PE	200	9,175		9,175	540	8,635	
Sub main	PE	150	5,854	5,192	11,046	5,649	5,397	
Branch	PE	100	16,977	17,119	34,096	12,582	17,214	
Branch	PE	80		15,575	15,575	2,520	13,055	
Branch	PE	50 or less		31,150	31,150	27,610	0	
Total			51,388	62,299	120,424	57,047	55,537	

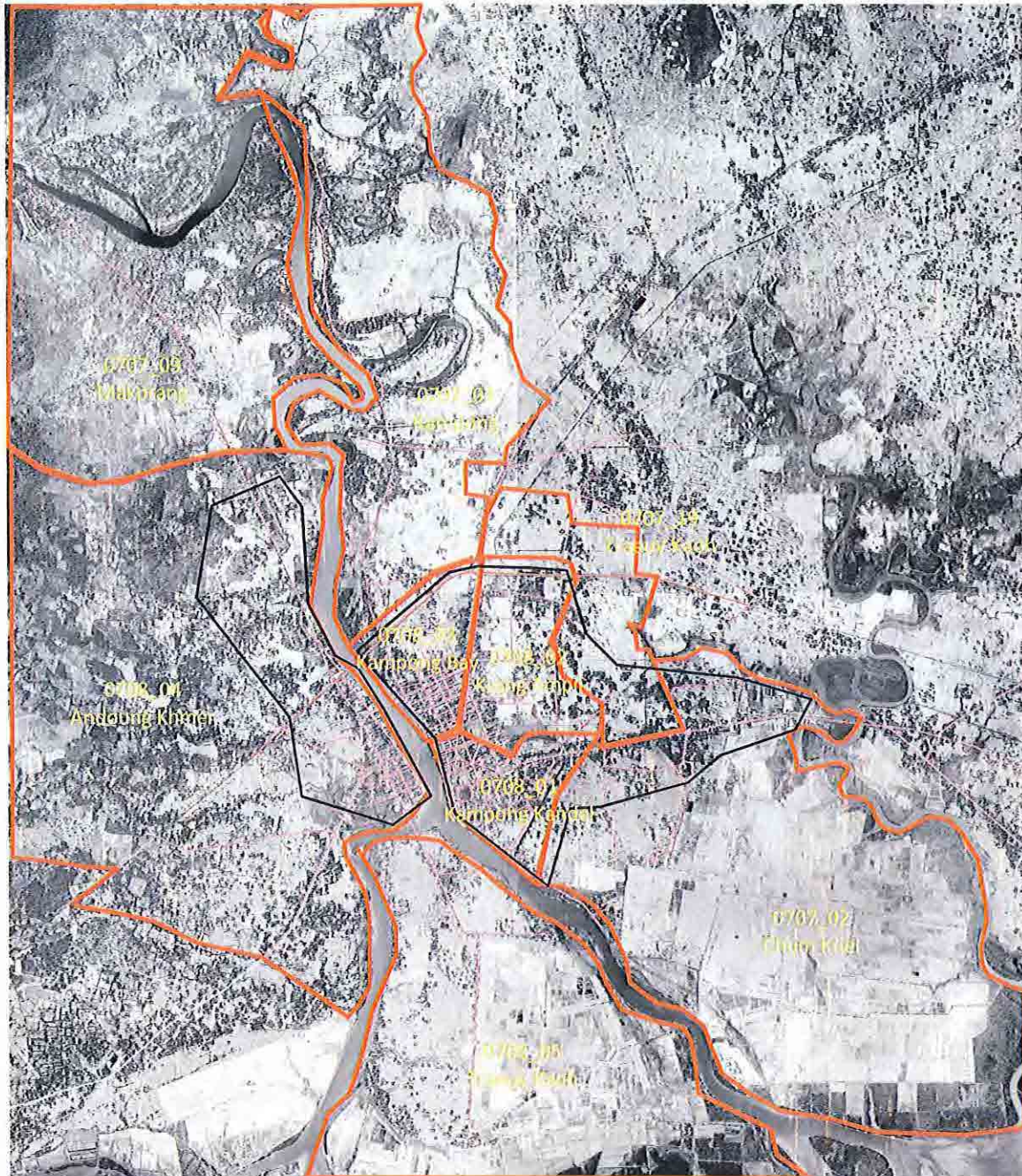
*We couldn't get enough road map of some communes shown below.

"Kampong Kraeng", "Makprang", "Trapeang Thum", "Traeuy Kaoh"

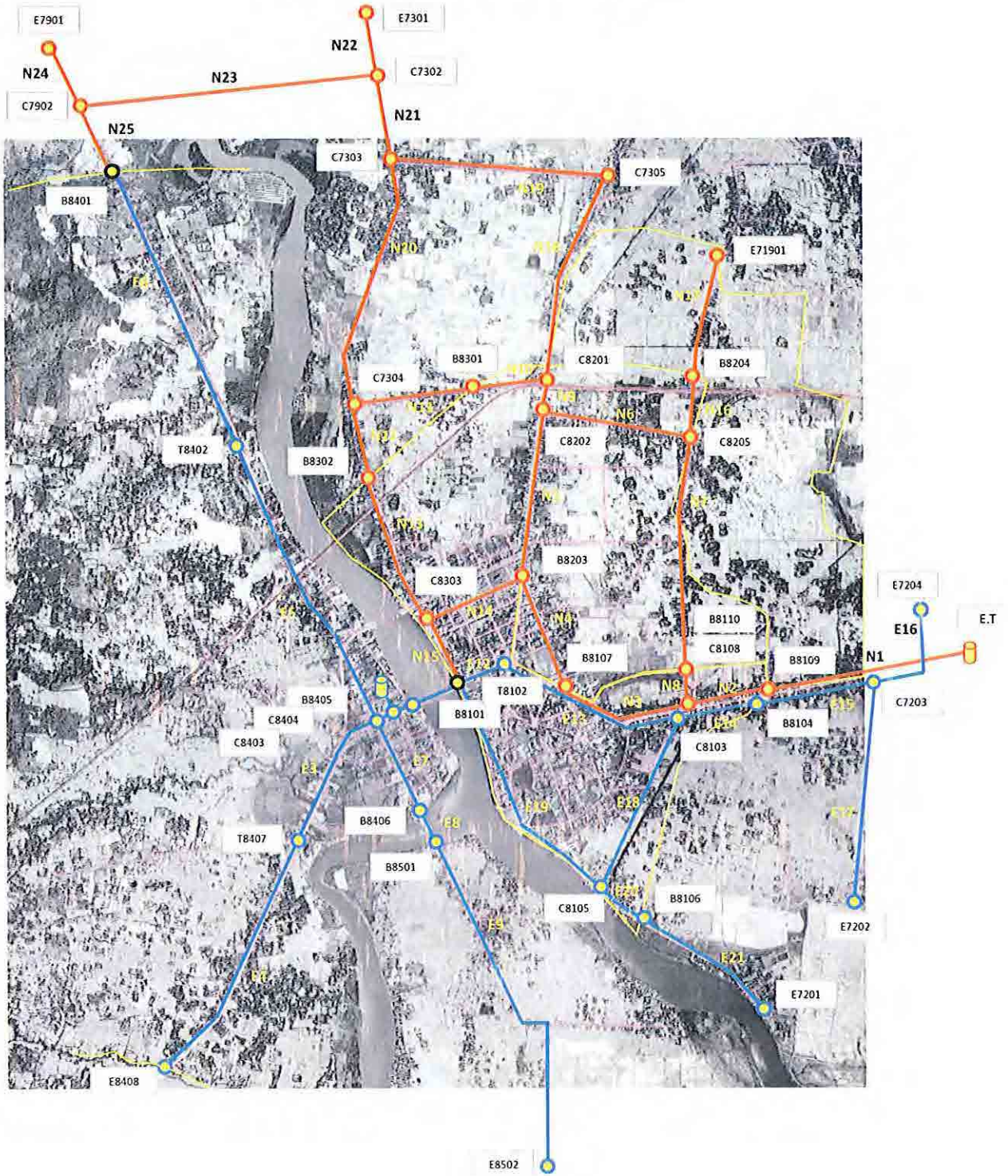
*Therefore in case of four communes, we estimated total length of public roads on which Kampot waterworks have to install distribution pipe within 2015.

*The branch pipe diameter 100 is installed in parallel with main pipe for easy service installation.

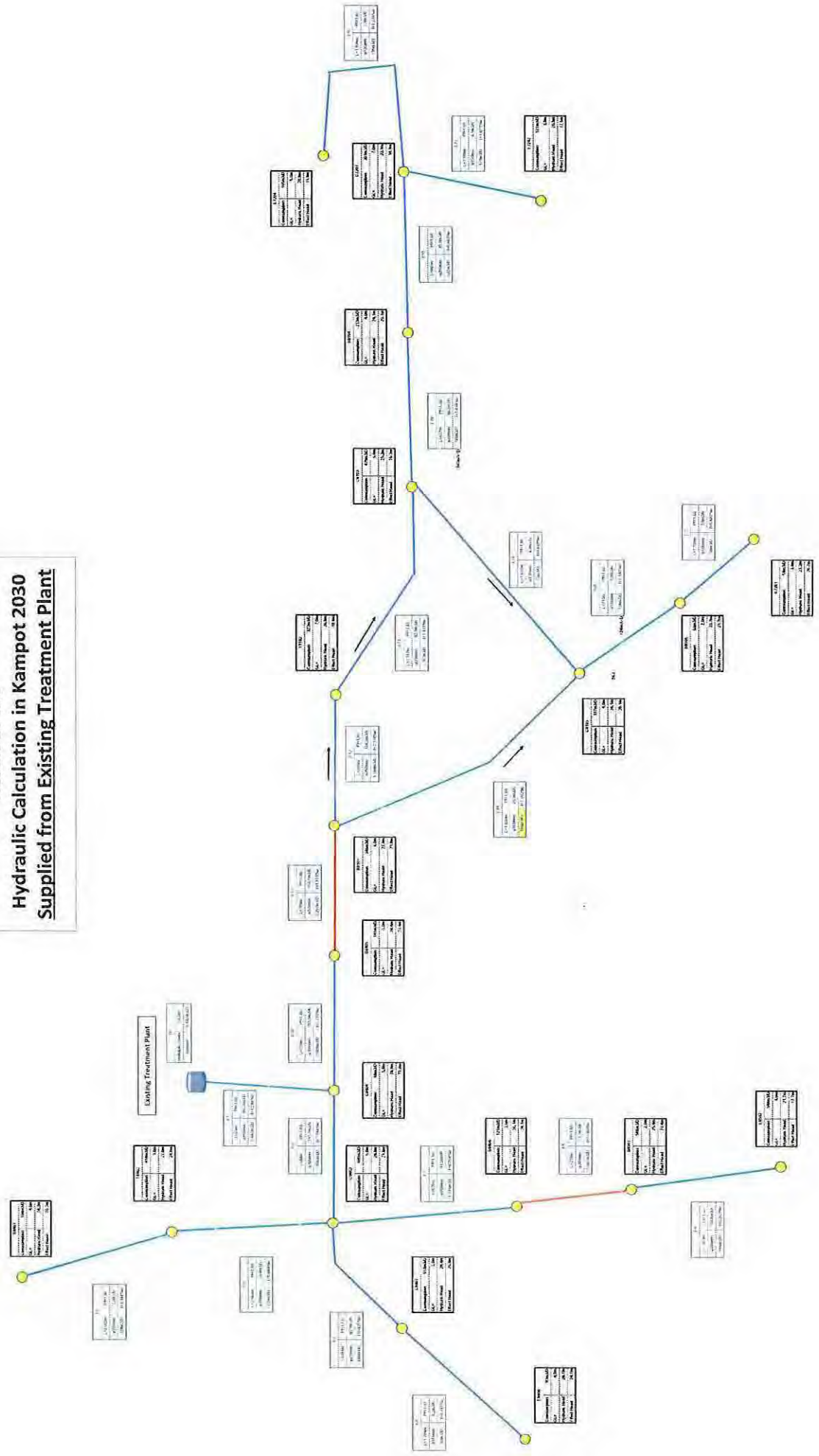
Road Map and Commune Boundary of Kampot



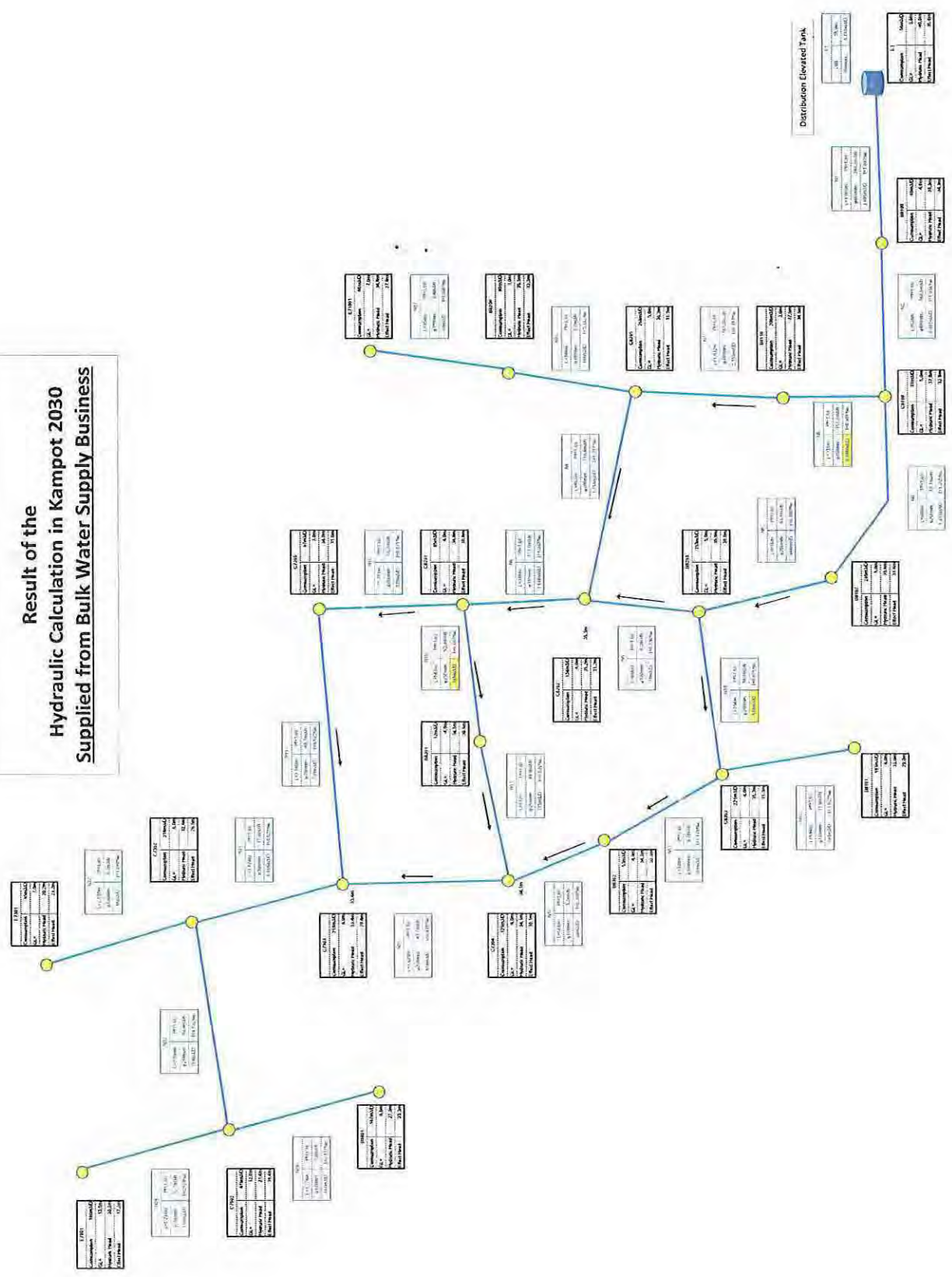
Hydraulic Calculation in Kampot 2030 Schematic of Nodes and Pipes



**Result of the
Hydraulic Calculation in Kampot 2030
Supplied from Existing Treatment Plant**



**Result of the
Hydraulic Calculation in Kampot 2030
Supplied from Bulk Water Supply Business**



**Basic Data of the Hydraulic Calculation in Kampot 2030
Supplied from Existing Treatment Plant**

Node Data

Node	Elevation	Max. Daily Supply
TP	29	
E7201	3	58
E7202	3	121
C7203	7	301
E7204	5	105
B8101	4	345
T8102	7	322
C8103	5	429
B8104	4	213
C8105	4	337
B8106	2	66
B8401	4	108
T8402	3	414
C8403	5	480
C8404	5	88
C8405	5	191
B8406	2	121
T8407	2	553
E8408	4	93
B8501	2	549
E8502	4	548
		5,442

Pipe Data

Pipe Name	Length	Diameter
E1	60	450
E2	44	300
E3	991	250
E4	1,784	150
E5	2,069	200
E6	2,065	100
E7	675	200
E8	216	200
E9	3,963	200
E10	235	300
E11	309	300
E12	396	250
E13	1,187	250
E14	657	200
E15	891	200
E16	1,934	100
E17	1,698	100
E18	1,625	100
E19	1,839	150
E20	233	100
E21	1,109	100
Total	23,980	

**Basic Data of the Hydraulic Calculation in Kampot 2030
Supplied from Bulk Water Supply Business**

Node Data

Node	Elevation	Max. Daily Supply
E7301	7	95
C7302	6	318
C7303	4	218
C7304	4	125
C7305	3	97
E7901	13	190
C7902	12	419
E71901	7	66
B8101	4	193
B8107	5	265
C8108	5	31
B8109	4	88
B8110	3	206
C8201	4	85
C8202	4	134
B8203	5	353
B8204	3	80
C8205	5	259
B8301	4	52
B8302	4	53
C8303	4	221
B8401	4	147
ET	40	56
		3,751

Pipe Data

Pipe Name	Length	Diameter
N1	1,600	400
N2	524	400
N3	908	250
N4	816	250
N5	946	100
N6	852	300
N7	1,632	350
N8	331	350
N9	385	300
N10	543	250
N11	813	250
N12	568	100
N13	828	100
N14	704	200
N15	594	100
N16	369	100
N17	954	100
N18	1,251	250
N19	1,140	250
N20	1,695	250
N21	1,574	300
N22	2,330	100
N23	2,096	250
N24	2,231	150
N25	1,724	100
Total	27,408	

5.5.

社会・経済状況

(カンボット州貧困世帯調査 2009)

資料

Poor Households by Commune in Kampot Province in 2009

District	Commune	Poor 1 HHs (nos)	Poor 2 HHs (nos)	Poor 1 HHs (%)	Poor 2 HHs (%)	Total Poor HHs (%)	Total HH Nos
Angkor Chey	Angk Phnum Touch	65	62	6.5	6.2	12.6	1,004
Angkor Chey	Angkor Chey	73	69	7.4	7.0	14.3	991
Angkor Chey	Champey	149	186	7.8	9.7	17.5	1,910
Angkor Chey	Dambouk Khpos	281	237	8.1	6.8	14.9	3,486
Angkor Chey	Dan Koum	134	86	11.0	7.0	18.0	1,221
Angkor Chey	Daeum Doung	26	22	3.8	3.2	7.0	681
Angkor Chey	Mroum	102	56	10.3	5.7	15.9	991
Angkor Chey	Phnum Kong	103	98	4.8	4.6	9.4	2,148
Angkor Chey	Praphnum	113	72	10.1	6.4	16.6	1,117
Angkor Chey	Samlanh	141	109	10.1	7.8	17.9	1,399
Angkor Chey	Tani	134	116	6.7	5.8	12.5	2,001
Banteay Meas	Banteay Meas Khang Kaeut	142	197	8.1	11.3	19.4	1,750
Banteay Meas	Banteay Meas Khang Lech	92	92	5.6	5.6	11.2	1,641
Banteay Meas	Prey Tonle	69	70	13.2	13.4	26.6	522
Banteay Meas	Samraong Kraom	148	166	12.2	13.7	25.9	1,212
Banteay Meas	Samraong Leu	122	87	10.8	7.7	18.4	1,134
Banteay Meas	Sdach Kong Khang Cheung	172	132	13.9	10.7	24.5	1,239
Banteay Meas	Sdach Kong Khang Lech	52	79	5.5	8.4	14.0	938
Banteay Meas	Sdach Kong Khang Tboundg	47	84	7.6	13.6	21.2	618
Banteay Meas	Tnaot Chong Srang	220	255	13.0	15.1	28.2	1,687
Banteay Meas	Trapeang Sala Khang Kaeut	75	82	7.6	8.3	16.0	983
Banteay Meas	Trapeang Sala Khang Lech	157	150	13.6	13.0	26.6	1,156
Banteay Meas	Tuk Meas Khang Kaeut	90	116	7.8	10.1	18.0	1,147
Banteay Meas	Tuk Meas Khang Lech	207	217	10.7	11.2	21.8	1,943
Banteay Meas	Voat Angk Khang Cheung	135	140	9.9	10.2	20.1	1,366
Banteay Meas	Voat Angk Khang Tboundg	175	197	14.3	16.1	30.4	1,224
Chhuk	Baniev	134	128	11.3	10.8	22.1	1,187
Chhuk	Ta Kaen	499	701	16.0	22.4	38.4	3,126
Chhuk	Boeng Nimol	92	102	7.2	8.0	15.3	1,271
Chhuk	Chhuk	140	48	9.3	3.2	12.4	1,511
Chhuk	Doun Yay	127	40	10.3	3.3	13.6	1,229
Chhuk	Krang Sbov	135	109	11.4	9.2	20.6	1,183
Chhuk	Krang Snay	216	139	10.2	6.6	16.8	2,111
Chhuk	Lbaeuk	171	127	11.1	8.2	19.4	1,540
Chhuk	Trapeang Plang	342	219	18.2	11.7	29.9	1,879
Chhuk	Mean Chey	171	173	17.3	17.5	34.9	986
Chhuk	Nareay	98	45	8.4	3.8	12.2	1,169
Chhuk	Satv Pong	78	60	5.4	4.2	9.6	1,435
Chhuk	Trapeang Bei	103	33	8.6	2.8	11.4	1,193
Chhuk	Tramaeng	156	99	11.6	7.4	19.0	1,344
Chum Kiri	Chres	56	71	4.4	5.6	10.0	1,270
Chum Kiri	Chumpu Voan	162	134	9.4	7.8	17.1	1,729
Chum Kiri	Snay Anhchet	144	173	12.4	14.9	27.2	1,164
Chum Kiri	Srae Chaeng	159	77	9.0	4.3	13.3	1,772
Chum Kiri	Srae Knong	153	147	12.7	12.2	24.9	1,204
Chum Kiri	Srae Samraong	74	109	8.1	11.9	19.9	919
Chum Kiri	Trapeang Reang	188	180	13.6	13.0	26.7	1,380
Dang Tong	Damnak Sokram	70	60	8.5	7.3	15.7	827
Dang Tong	Dang Tong	239	179	11.2	8.4	19.6	2,132
Dang Tong	Khcheay Khang Cheung	83	41	9.1	4.5	13.6	911
Dang Tong	Khcheay Khang Tboundg	145	80	12.7	7.0	19.7	1,144
Dang Tong	Mean Ritth	91	33	8.7	3.1	11.8	1,049
Dang Tong	Srae Chea Khang Cheung	63	21	8.5	2.8	11.4	739
Dang Tong	Srae Chea Khang Tboundg	39	26	6.0	4.0	10.1	646
Dang Tong	Totung	135	134	9.0	9.0	18.0	1,493
Dang Tong	Angkor Meas	141	54	11.1	4.2	15.3	1,271
Dang Tong	L'ang	189	48	14.0	3.6	17.6	1,348

District	Commune	Poor 1 HHs (nos)	Poor 2 HHs (nos)	Poor 1 HHs (%)	Poor 2 HHs (%)	Total Poor HHs (%)	Total HH Nos
Kampong Trach	Boeng Sala Khang Cheung	113	82	8.0	5.8	13.9	1,405
Kampong Trach	Boeng Sala Khang Tboung	95	114	6.2	7.5	13.7	1,529
Kampong Trach	Damnak Kantuot Khang Cheung	111	141	10.1	12.9	23.0	1,097
Kampong Trach	Damnak Kantuot Khang Tboung	68	129	4.7	8.9	13.6	1,444
Kampong Trach	Kampong Trach Khang Kaeut	228	316	12.2	16.9	29.0	1,875
Kampong Trach	Kampong Trach Khang Lech	135	185	12.5	17.2	29.7	1,077
Kampong Trach	Kanthaor Khang Cheung	45	56	9.1	11.4	20.5	492
Kampong Trach	Kanthaor Khang kaeut	179	119	18.6	12.4	31.0	961
Kampong Trach	Kanthaor Khang Lech	101	51	10.4	5.3	15.7	968
Kampong Trach	Preaek Kroes	219	213	11.3	11.0	22.2	1,942
Kampong Trach	Ruessei srok Khang Kaeut	52	90	6.2	10.8	17.0	835
Kampong Trach	Ruessei Srok Khang Lech	183	209	10.1	11.5	21.6	1,815
Kampong Trach	Svay Tong Khang Cheung	60	100	9.6	16.0	25.6	626
Kampong Trach	Svay Tong Khang Tboung	101	131	10.7	13.9	24.7	940
Tuek Chhou	Boeng Tuk	112	54	11.0	5.3	16.3	1,020
Tuek Chhou	Chum Kriel	67	84	6.8	8.6	15.4	980
Tuek Chhou	Kampong Kraeng	202	167	15.7	13.0	28.7	1,287
Tuek Chhou	Kampong Samraong	67	76	12.1	13.7	25.9	553
Tuek Chhou	Kandal	179	100	8.7	4.9	13.6	2,052
Tuek Chhou	Kaoh Touch	135	200	13.1	19.4	32.6	1,029
Tuek Chhou	Koun Satv	147	77	8.9	4.7	13.6	1,643
Tuek Chhou	Meakprang	100	86	11.4	9.8	21.3	875
Tuek Chhou	Preaek Tnaot	127	44	8.2	2.8	11.0	1,553
Tuek Chhou	Prey Khmum	108	20	8.4	1.6	9.9	1,288
Tuek Chhou	Prey Thnang	190	102	9.4	5.0	14.4	2,024
Tuek Chhou	Stueng Kaev	159	45	17.0	4.8	21.8	937
Tuek Chhou	Thmei	115	96	7.8	6.5	14.3	1,480
Tuek Chhou	Trapeang Pring	80	96	5.9	7.1	13.0	1,352
Tuek Chhou	Trapeang sangkae	78	82	8.2	8.6	16.7	957
Tuek Chhou	Trapeang Thum	44	44	8.4	8.4	16.8	523
Kampot	Kampong Kandal	-	-	-	-	-	-
Kampot	Krang Ampil	-	-	-	-	-	-
Kampot	Kampong Bay	-	-	-	-	-	-
Kampot	Andoung Khmaer	68	86	6.1	7.7	13.8	1,119
Kampot	Traeuy Kaoh	71	145	6.2	12.6	18.8	1,151
	Total/Average	11,556	10,307	9.9	8.8	18.8	116,500

Source: Ministry of Planning, Identification of Poor Households Programme

**SUBSIDIZING DOMESTIC WATER
CONNECTIONS LOW INCOME RESIDENTS
SCORRING OF LOW INCOME RESIDENTS**

I- CRITERIA TO IDENTIFY POOR

Description	Score
A Householder Status	40
A-1 Widow without regular career (large numbers of children with old mother or father)	6
A-2 Widow is employee (large numbers of children with old mother or father)	5
A-3 Retired employee with large numbers of children in School	4
A-4 Disabled (Ex-soldier), no regular career	5
A-5 Elderly without supporter and large numbers of children with ages unemployable	4
A-6 Householder is only mother or father with large numbers of children	4
A-7 Chronic disease who can not work	4
A-8 Householder with large number of school age children	4
A-9 Elder orphan acts as Householder	4
B Housing Condition	30
B-1 House column made of small wood or house sitting on the ground	4
B-2 Walls of house made of bamboo or palm leaf or plastic tent	4
B-3 Roof of house made of palm leaf or plastic tent or deteriorated galvanized sheets	4
B-4 Many families live in one house as relative or others	4
B-5 House built on roof "terrace", wall made of bamboo or palm leaf or plastic tent	4
B-6 Poor sanitary conditions around house/no latrine	2
B-7 No water source or water source is far away	2
B-8 Very small house comparing to numbers of family members	4
B-9 No electricity or using battery	2
C Assets	10
C-1 No transportation to do business (no cart, motorcycle, bicycle etc.)	2
C-2 No livestock (buffaloes, cows, pigs etc.)	1

C-3	No television, tape and radio or no any items among these	1
C-4	No mosquito net or have insufficient numbers for the household	1
C-5	No bed, table, cupboard, chair or has the improved item	1
C-6	No/little land or no land for cropping	2
C-7	No water well	1
C-8	No cash saving for emergency	1
D	Lack of access to economic assets	10
D-1	No regular job	3
D-2	Household income about 1US\$/day (asking the number of working person and sum Up the total)	2
D-3	Under-16years-old Children can't attend school (check reason)	3
D-4	In debt to others for buying food and necessaries (check reason)	4
E	Lack of access to social assets	10
E-1	Householder is illiterate	1
E-2	Adult members are illiterate	2
E-3	Children can't attend school or not regular attendance (check reason)	3
E-4	No job due to chronic disease	4

II- PAYMENT SCHEME

The poor resident groups will receive different discounts and payment scheme as follows :

- Group A :** Discount water supply connection fee by 30% with the balance of 70% to be paid by the customer along with their monthly water bill over a number of months (10,15 or 20 months) The discounted portion (30%) is funded by the Social Account within PPWSA.
- Group B :** Discount the water supply connection fee by 50% with the balance of 50% to be paid by the customer along with their monthly water bill over a number of months (10,15 or 20 months) The discount portion (50%) is funded by the Social Account within PPWSA.
- Group C :** Discount the water supply connection fee by 70% with the balance of 30% to be paid by the customer along with their monthly water bill over a number of months (10,15 or 20 months) The discount portion (70%) is funded by the Social Account within PPWSA.
- Group D :** Connect free of charge with 100% of the connection fee funded by the Social Account within PPWSA.

Form 4

HOUSEHOLD QUESTIONNAIRE FOR IDENTIFICATION OF POOR HOUSEHOLDS

SECTION A

(INTERVIEWER: Please fill in before going to interview the household)

1. ID Code:

Province	District	Commune	Village		

 -

Household			

2.	Name of head of household:	
3.	Province:	
4.	District:	
5.	Commune:	
6.	Village:	

(INTERVIEWER: Please fill in just before starting the interview)

7.	Address of interviewee ((house №, street name/№, if exist):	
8.	Name of interviewee (adult):	
9.	Interview date:	____ / ____ / 200__
10.	Interviewer's name:	
11.	During the last 4 years, has your household received any poverty card for receiving health or other services or assistance?	Card No. <input style="width: 100px;" type="text"/> Card No. <input style="width: 100px;" type="text"/>
12.	Does the head of household have a national ID card? What is the ID number?	ID Card No. <input style="width: 100px;" type="text"/>

DATA ENTRY TEAM TO FILL IN (PROVINCIAL DEPARTMENT OF PLANNING):

13.	Name of Data Entry Clerk:	
14.	Date of data entry:	____ / ____ / 200__

Poverty Category	Poverty Level 1: 59 to 68 points		
	Poverty Level 2: 45 to 58 points	Total score from Page 7	<input style="width: 50px; height: 30px;" type="text"/>
Calculation:	Other: 0 to 44 points		

NEEDS DISCUSSION BY VILLAGE REPRESENTATIVE GROUP	<input type="checkbox"/>
--	--------------------------

SECTION B: DETAILED INFORMATION ABOUT HOUSEHOLD MEMBERS

(INTERVIEWER: Please explain that "only people who share meals from the same pot, or share expenses for food, are considered as one household. Please record all details for all household members.)

	a. Name (surname and first name)	b. Nick Name	c. Relationship to head of household (e.g. head of household, husband/wife, child, nephew/niece)	d. Sex	e. Year of birth	f. Age in full years (if less than 1 year, please write "0")	g. Main activity/ occupation of each household member
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							

SECTION C:

House Situation: (INTERVIEWER: Ask Q1 for information but not for scoring)

Q1. Is this house the property of your household? Or does your household rent it from other people?

<i>(INTERVIEWER: Do not read out)</i>	<i>(INTERVIEWER: Please tick one circle below)</i>
Not own house and pay rent	<input type="radio"/>
Not own house but don't pay rent	<input type="radio"/>
Own house or live with parents	<input type="radio"/>

Q1 <u>NO SCORE</u>

Q2. Main construction material of the house's roof. *(INTERVIEWER: Observe—do not ask)*

<i>(INTERVIEWER: Do not read out)</i>	POINTS
- Thatch, palm leaves, plastic sheet, tarpaulin or other soft materials - OR not own house (rent-free, or paying rent)	8
Corrugated iron	4
Tiles, fibrous cement, or concrete	0

Q2 SCORE

Q3. Main construction material of the house's exterior walls. *(INTERVIEWER: Observe—do not ask)*

<i>(INTERVIEWER: Do not read out)</i>	POINTS
- Saplings, bamboo, thatch, palm leaves, or other soft materials - OR not own house (rent-free, or paying rent)	4
Wood, sawn boards, plywood, corrugated iron	2
Cement, bricks, concrete	0

Q3 SCORE

Q4. General condition of the house. *(INTERVIEWER: Observe—do not ask)*

<i>(INTERVIEWER: Do not read out)</i>	POINTS
- In dilapidated condition - OR not own house (rent-free, or paying rent)	4
In average condition, liveable	2
In good condition and safe	0

Q4 SCORE

Q5. *(INTERVIEWER: Ask and observe)*: How many meters by how many meters is the floor area of your house?

<i>(INTERVIEWER: Do not read out)</i>	POINTS
- 20 meters square or less - OR not own house (rent-free, or paying rent)	4
21-50 meters	2
51 meters or more	0

Q5 SCORE

Q6a. Which activity is the main income source for your household: growing rice or other crops or orchard; fishing; or other activities?

Growing rice or other crops or orchard	<input type="radio"/>	→ Ask Q6b	} Ask only one question
Fishing	<input type="radio"/>	→ Ask Q6c	
Other activities	<input type="radio"/>	→ Ask Q6d	

Q6 SCORE
(Interviewer must write the score for only one question: Q6b, Q6c or Q6d)

(*INTERVIEWER: Ask only households that grow rice, other crops or an orchard as the main source of income)**

Q6b How many ar of land does your household use for growing rice, other crops or an orchard? (Please include your own land, land rented from others, and land around the house.)

Unit calculation	NUMBER OF AR	(Interviewer: do not read out)	SCORE
1 kong ≈ 10 ar	<input type="text"/> <input type="text"/> <input type="text"/> =	From 0 to 20 ar	8
1 ha ≈ 100 ar		From 20 to 50 ar	4
1 ar = 100 m ²		Over 50 ar	0
1 rai ≈ 16 ar			

(*INTERVIEWER: Ask only households for whom fishing is the main source of income)**

Q6c. What types of fishing equipment do you have? (not including boats)

(INTERVIEWER: Do not read out)		
Fishing equipment	Quantity	Size and condition
<input type="radio"/> Line hooks	<input type="text"/> <input type="text"/>	
<input type="radio"/> Throw net	<input type="text"/> <input type="text"/>	
<input type="radio"/> Set net	<input type="text"/> <input type="text"/>	
<input type="radio"/> Drag net	<input type="text"/> <input type="text"/>	
<input type="radio"/> Other <i>(please specify the types of equipment):</i>	<input type="text"/> <input type="text"/>	

	(INTERVIEWER: Do not read out)	POINTS
(INTERVIEWER: Please make your own judgment of the quantity and quality of the equipment listed above)	None or very little equipment and in poor condition	8
	Little equipment and in fair condition	4
	Enough equipment and of good quality	0

(*INTERVIEWER: Ask only households for whom "other activities" are the main source of income for the household)**

Q6d. What activity provides the main source of income for your household?

(INTERVIEWER: Do not read out)	SCORE
Work as labourer, supported by others, beg, etc	8
Micro business, skilled labourer or civil servant	4
Medium- or large-size business	0

(Interviewer: Ask only one of these three questions)

(Interviewer: Ask only one of these questions, NOT both)

(***)**INTERVIEWER: Ask only households living on land (not on water)**

Q7a. For households living on land. Does your household have pigs? goats? buffaloes? horses? How many..? (count weaners and older). Among these animals, how many do you share (*provas*) with others? (**INTERVIEWER: Please write the number of animals in the boxes below. Count any animal which is *provas* as only half an animal.**)

Pigs	<input type="text"/>	<input type="text"/>	Cows	<input type="text"/>	<input type="text"/>	Buffaloes	<input type="text"/>	<input type="text"/>
Goats	<input type="text"/>	<input type="text"/>	Horses	<input type="text"/>	<input type="text"/>			

And does your household raise fish for sale? Yes No

<i>(INTERVIEWER: Do not read out)</i>	POINTS
<ul style="list-style-type: none"> No pigs or goats No cows, buffaloes or horses NO fish raising for sale 	10
<ul style="list-style-type: none"> 1-3 pigs OR 1-5 goats OR 1-2 cows, buffaloes or horses NO fish raising for sale 	5
<ul style="list-style-type: none"> 4-9 pigs AND/OR 6-19 goats AND/OR 3-9 cows, buffaloes or horses AND/OR does fish raising for sale 	0
<ul style="list-style-type: none"> 10 or more pigs AND/OR 20 or more goats AND/OR 10 or more cows, buffaloes or horses (total) 	Disqualify

(***)**INTERVIEWER: Ask only households living on water**

Q7b. For households living on water. Does your household have pigs? How many are weaners and older? Among these pigs, how many do you share (*provas*) with others? (**INTERVIEWER: Please write the number of pigs in the boxes below. Count any pig which is *provas* as only half an animal.**)

Pigs

And does your household do fish raising for sale? Yes No

<i>(INTERVIEWER: Do not read out)</i>	POINTS
<ul style="list-style-type: none"> No pigs No fish raising for sale 	10
<ul style="list-style-type: none"> 1-3 pigs OR fish raising for sale, but not both 	5
<ul style="list-style-type: none"> 4 or more pigs AND/OR does fish raising for sale 	0

Q7 SCORE
(INTERVIEWER: Write the score for Q7a OR Q7b, NOT BOTH)

Q8. During the last 12 months, did your household owe rice or borrow rice from other people?
For how many months?

Number of months		<i>(INTERVIEWER: Do not read out)</i>	POINTS
□ □	=	8-12 months	8
		3-7 months	4
		0-2 months	0

Q8 SCORE

Q9a. *(INTERVIEWER: Please write down the total number of household members by checking the table of all household members in Section B of the questionnaire)*

□ □

Q9b. How many persons in your household **cannot** produce an income (because of young or old age, school pupil, poor health, disability, looking after children, or any other reasons)?

□ □

<i>(INTERVIEWER: Do not read out)</i>	POINTS
More than half of all household members	8
Equal to or less than a half, but more than one quarter of all household members	4
Equal to or less than one quarter of all household members	0

Q9 SCORE

Q10. Does your household have ... ? How many?

<i>(INTERVIEWER: Please write the number of assets in each box below)</i>			
small radio? <input type="checkbox"/>	stereo? <input type="checkbox"/>	colour TV? <input type="checkbox"/>	video camera? <input type="checkbox"/>
large radio? <input type="checkbox"/>	B&W TV? <input type="checkbox"/>	video player/karaoke machine? <input type="checkbox"/>	mobile telephone? <input type="checkbox"/>
water pump? <input type="checkbox"/>	threshing machine? <input type="checkbox"/>	rice milling machine? <input type="checkbox"/>	generator? <input type="checkbox"/>
battery charger? <input type="checkbox"/>			

<i>(INTERVIEWER: Do not read out)</i>	POINTS
Nothing or one small radio	6
Large radio OR black and white TV	3
Colour TV and/or stereo and/or mobile telephone and/or video player/karaoke machine and/or water pump	0
Video camera or threshing machine or rice milling machine or generator	<u>Disqualify</u>

Q10 SCORE

Q11. Does your household have any means of transport? How many?

<i>(INTERVIEWER: Please write the number of means of transport in each box below)</i>			
bicycle? <input type="checkbox"/>	horse/oxen cart? <input type="checkbox"/>	kou yon? <input type="checkbox"/>	small rowboat or canoe (no motor)? <input type="checkbox"/>
motorbike? <input type="checkbox"/>	motorbike remorque? <input type="checkbox"/>	car/van/truck? <input type="checkbox"/>	boat with motor? <input type="checkbox"/>
tractor? <input type="checkbox"/>			

<i>(INTERVIEWER: Please calculate the approximate total value of all forms of transportation)</i>	<i>(INTERVIEWER: Do not read out)</i>	POINTS
	<i>(total value less than 100,000 riel)</i> <ul style="list-style-type: none"> No means of transportation OR one old bicycle only OR one small, old rowboat or canoe 	8
	<i>(total value from 100,000 to less than 400,000 riel)</i> <ul style="list-style-type: none"> Old bicycle Very old motorbike Old horse or oxen cart Old, medium-size rowboat (<u>without motor</u>) 	4
	<i>(total value over 400,000 riel)</i> <ul style="list-style-type: none"> Bicycle in fair condition Motorcycle in fair condition New horse/oxen cart New, large rowboat or canoe OR boat with motor Motorbike remorque Kou yon (hand tractor) 	0
	<i>(very high total value)</i> <ul style="list-style-type: none"> Tractor Car/van/truck 	<u>Disqualify</u>

Q11 SCORE



(VILLAGE REPRESENTATIVE GROUP: Please total up all the points from the right-hand column and write the total in the TOTAL SCORE box to the right. SPECIAL NOTE: If any household had animals or assets which earned the "Disqualify" score, please write "DISQUALIFIED" in the box to the right. This means that a household will be given a Total Score of zero.)

TOTAL SCORE

SECTION D: ADDITIONAL HOUSEHOLD INFORMATION FOR CONSIDERATION BY VILLAGE REPRESENTATIVE GROUP

Q12. During the last 12 months, did your household suffer from any major problems or crises that caused your household to lose income, have a shortage of food, sell assets, or borrow money?

- YES (Let respondent describe the situation)
 NO (Interviewer: skip to Q13a)

<i>(INTERVIEWER: Do not read out)</i>	<i>Please describe</i>
Serious illness/death of household member(s) <input type="radio"/>	
Loss of work of household member <input type="radio"/>	
Serious illness/death of animal(s) <input type="radio"/>	
Seriously reduced crop production <input type="radio"/>	
Theft of property <input type="radio"/>	
Other <input type="radio"/>	

Q12
Could this situation cause a reduction in living standard?
 YES
 NO
If "yes", please also tick at the bottom of the first page of the questionnaire

Q13a. How many children in this household are 6-11 years of age? Please tell their names.

(INTERVIEWER: Please look at Table in Section B and then write the number of children aged 6-11 in the box on the right. If there are no children of aged 6-11, write "00" and go to Q14

Write the names of the children here

Q13b. How many of the children aged 6-11 years that you just mentioned, missed school for at least 1 month in the last 12 months? (except vacations)

(INTERVIEWER: Ask this question if any children missed school in Q13b)

Q13c. For what reason did these children not go to school?

<i>(INTERVIEWER: Do not read out)</i>	<i>Tick in the circle(s)</i>
Serious illness	<input type="radio"/>
Work for others for money or for food	<input type="radio"/>
Domestic work or taking care of young siblings	<input type="radio"/>
Long distance to school	<input type="radio"/>
No money for school fees or uniform	<input type="radio"/>
Other (please specify).....	<input type="radio"/>

Q13
Does this situation show that this household is poor?
 YES
 NO
If "yes", please also tick at the bottom of the first page of the questionnaire

Q14. SPECIAL HOUSEHOLD CIRCUMSTANCES WHICH CAUSE REDUCTION IN LIVING STANDARD

(INTERVIEWER: Please re-check whether this household has any special circumstances which make them vulnerable)

<i>(INTERVIEWER: Do not read out)</i>	<i>Tick in the circle(s)</i>
Severely disabled head of household or spouse of head of household (unable to earn income, or spends money for treatment)	<input type="radio"/>
Head of household or spouse of head of household who is chronically sick (unable to earn income, or spends money for treatment)	<input type="radio"/>
All adults of the family are elderly, over 60 years of age	<input type="radio"/>
Divorced or widowed head of household with three or more children who are all under 12 years of age	<input type="radio"/>
No adults (persons aged 18 years or older) living in the household who provide support to the household	<input type="radio"/>
Other <i>(INTERVIEWER: Please record the details of the situation)</i>	<input type="radio"/>

Q14

Could this situation cause a reduction in living standard?

YES
NO

If "yes", please also tick at the bottom of the first page of the questionnaire

Q15. SPECIAL HOUSEHOLD CIRCUMSTANCES WHICH CAUSE IMPROVEMENT IN LIVING STANDARD

Q15a. In the last 12 months, has your household received assistance from children or other relatives?

NO YES → What kind of assistance was this?

<i>(INTERVIEWER: Do not read out)</i>		
Food	<input type="radio"/>	What is the approximate monetary value per month?
Money	<input type="radio"/>	Approximately how much per month?
Other	<input type="radio"/>	Please specify.....

Q15

Could this situation cause an improvement in living standard?

YES
NO

If "yes", please also tick at the bottom of the first page of the questionnaire

Q15b. In the last 12 months, were there any other circumstances that improved the living standard of your household?

<i>(INTERVIEWER: Please probe)</i>		
Sell land	<input type="radio"/>	What was the approximate monetary value?
Other	<input type="radio"/>	Please specify.....

Q16. *(INTERVIEWER: Please consider whether there are any responses or information that is suspicious or untrue?)*

Nothing suspicious

Suspicious → Please specify.....

5.6.

水質試驗分析結果

(6 章+7 章)

រដ្ឋាករទឹកស្វយ័តរាជធានីភ្នំពេញ
នាយកដ្ឋានផលិតកម្ម និងគុណភាពទឹក
ការិយាល័យផលិតកម្ម/ផ្នែកពិសោធន៍ទឹក

លទ្ធផលវិភាគគុណភាពទឹករបស់អង្គការប៊ែកា (JICA) ទទួលថ្ងៃទី ១៧ ខែ មករា ឆ្នាំ ២០១២

No	Test		1	2	3	4	5	6	7	8	9
	Parameters	Unit									
1	pH		7.27	7.21	7.19	6.83	7.00	6.44	6.98	6.95	7.28
2	Turbidity	NTU	39.1	6.67	12.3	5.41	7.63	35.3	14.60	6.47	6.63
3	Conductivity	μS/cm	184	199	94	182	129	88	83	185	72
4	Suspended solids	mg/l	19	6	9	5	7	43	16	4	6
5	Total Dissolve Solids	mg/l	92	99	47	91	65	44	42	93	36
6	Total coliform	cfu/100ml	11000	6400	1400	3200	1700	2400	2100	17700	2500
7	E. coli	cfu/100ml	0	0	100	0	200	0	100	300	200
8	Ca hardness	mg/l	48	50	14	12	20	10	12	28	16
9	Magesium hardness	mg/l	32	34	16	14	10	11	8	16	10
10	Alkalinity	mg/l	59	68	20	14	20	12	14	36	20
11	Organic sustances	mg/l	7.58	8.21	6.32	14.53	12.64	17.06	21.49	12.64	18.33
12	Dissolved Oxygen	mg/l	6.56	6.47	6.70	6.45	6.59	4.76	6.73	6.05	6.76
13	Color	TCU	12.80	3.62	4.14	5.97	9.36	45.21	11.25	6.00	16.04
14	UV,Absorbance		0.072	0.027	0.026	0.078	0.120	0.262	0.153	0.096	0.133
15	Aluminium	mg/l									
16	Ammonia	mg/l	0.158	0.195	0.122	0.183	0.219	0.158	0.134	0.012	0.024
17	Carbone Dioxide	mg/l	29	41	15	22	34	87	20	35	13
18	Copper	mg/l	0.002	0.001	0.000	0.002	0.001	0.005	0.000	0.001	0.000
19	Chloride	mg/l	28	30.5	26.5	58.5	34	29.0	29.0	44.5	25.0
20	Cyanide	mg/l									
21	Fluoride	mg/l									
22	Iron	mg/l	0.23	0.05	0.03	0.09	0.08	1.97	0.140	0.05	0.570
23	Manganese	mg/l	0.010	0.001	0.000	0.000	0.000	0.009	0.009	0.000	0.002
24	Nitrate	mg/l									
25	Nitrite	mg/l									
26	Zinc	mg/l									
27	Phosphate	mg/l									
28	Sulfide	mg/l	0.007	0.001	0.002	0.001	0.003	0.004	0.001	0.003	0.000
29	Sulfate	mg/l	4	0	6	6	4	0	0	2	4
30	Arsenic	mg/l	0	0	0	0	0	0	0	0	0

រាជធានីភ្នំពេញ, ថ្ងៃទី ខែ ឆ្នាំ ២០១២

ប្រធានផ្នែកពិសោធន៍ទឹក

រដ្ឋាករទឹកស្វយ័តរាជធានីភ្នំពេញ
នាយកដ្ឋានផលិតកម្ម និងផ្គត់ផ្គង់ទឹក
ការិយាល័យផលិតកម្ម/ផ្នែកពិសោធន៍ទឹក

លទ្ធផលវិភាគគុណភាពទឹករបស់អង្គការប៊ែក (JICA) ទទួលថ្ងៃទី ១៧ ខែ មករា ឆ្នាំ ២០១២

No	Test		10	11	12	13	14	15	16	17
	Parameters	Unit								
1	pH		7.07	7.18	6.81	7.01	7.06	7.02	7.34	7.32
2	Turbidity	NTU	10.6	0.44	44.7	10.6	4.72	4.35	8.49	13.90
3	Conductivity	μS/cm	37	466	38	45	98	70	53	154
4	Suspended solids	mg/l	7	0	21	6	4	3	8	11
5	Total Dissolve Solids	mg/l	19	233	19	23	49	35	27	77
6	Total coliform	cfu/100ml	9600	0	4400	9900	4600	3100	6700	15600
7	E. coli	cfu/100ml	1000	0	200	100	0	100	400	0
8	Ca hardness	mg/l	14	140	2	3	16	3	18	24
9	Magesium hardness	mg/l	6	48	2	7	12	7	4	10
10	Alkalinity	mg/l	4	164	2	8	23	14	18	44
11	Organic sustances	mg/l	15.8	0.63	13.90	18.33	21.49	9.48	20.22	23.38
12	Dissolved Oxygen	mg/l	6.85	6.35	6.64	6.63	6.60	6.70	6.75	6.12
13	Color	TCU	11.84	0.170	64.42	28.45	17.62	16.58	13.35	19.69
14	UV,Absorbance		0.079	0.004	0.301	0.195	0.153	0.167	0.103	0.193
15	Aluminium	mg/l								
16	Ammonia	mg/l	0.050	0.000	0.097	0.073	0.061	0.097	0.292	0.171
17	Carbone Dioxide	mg/l	15	100	16	16	18	16	13	30
18	Copper	mg/l	0.001	0.007	0.026	0.005	0.001	0.002	0.002	0.006
19	Chloride	mg/l	23.5	50	25	20	23	21	16.5	33.0
20	Cyanide	mg/l								
21	Fluoride	mg/l								
22	Iron	mg/l	0.43	0.02	1.36	0.72	0.56	0.39	0.31	0.200
23	Manganese	mg/l	0.001	0.004	0.030	0.005	0.002	0.000	0.002	0.002
24	Nitrate	mg/l								
25	Nitrite	mg/l								
26	Zinc	mg/l								
27	Phosphate	mg/l								
28	Sulfide	mg/l	0.000	0.000	0.020	0.004	0.100	0.000	0.001	0.005
29	Sulfate	mg/l	1	0	0	0	0	0	0	0
30	Arsenic	mg/l	0	0	0	0	0	0	0	0

រាជធានីភ្នំពេញ, ថ្ងៃទី ខែ ឆ្នាំ ២០១២

ប្រធានផ្នែកពិសោធន៍ទឹក

Names of Samples

- 1- Poa Heng Dam (Kep) Time 3h35
- 2- Kep Village Vipasana pagoda Time 2h00
- 3- Little Pond Kep Time 11h45
- 4- Dei Eth Pond (Fish pond) Time 6h00 Prey Khmum Village and Commune, Teuk Chou (Kampot)
- 5- Die Eth Pond (Right side) Time 6h00 Prey Khmum Village and Commune, Teuk Chou (Kampot)
- 6- Little Pond Time 14h30
- 7- Tea kra La Dam (Kampot) Time 4h45
- 8- Die Eth Pond (Left side) Time 6h20 Prey Khmum Village and Commune, Teuk Chou (Kampot)
- 9- Phnum Voal Dam (Kep) Time 01h05
- 10- Phnum Prous Pond (Kep) Time 4h15
- 11- Vanna Guest house Time 3h35
- 12- Kampong Tra Lach Dam Time 11h45
- 13- Porng Teuk Dam (Phnom Leave) Time 12h15
- 14- Cham kar Bei Dam (Kep) Time
- 15- Tuol Sra Ngan Dam (Kep) Time 12h35
- 16- River Water (Kampot)
- 17- Kep Junior High School (Kep)

WATER ANALYSIS - RAW DATA



Organization: JICA

	1	2	3	4	5	6	7	8
Sample ID:	15-Jan-12	15-Jan-12	15-Jan-12	15-Jan-12	15-Jan-12	15-Jan-12	15-Jan-12	15-Jan-12
Sample Date:	15-Jan-12	15-Jan-12	15-Jan-12	15-Jan-12	15-Jan-12	15-Jan-12	15-Jan-12	15-Jan-12
CDWQS ¹	Units							
Chloride	250 mg/L	14.07	12.9	38.49	20.79	71.85	50.47	29.98
Fluoride	1.5 mg/L	0.12	0.11	0.07	0.06	0.26	0	0.06
Nitrate	50 mg/L	0.64	0	0	0	0	0	0.6
Nitrite	3 mg/L	0	0	0	0	0	0	0
Phosphate	-	0	0	0	0	0	0	0
Sulfate	250 mg/L	5.49	2.91	6.62	5.53	9.72	12.92	3.94

1. Cambodian Drinking Water Quality Standard

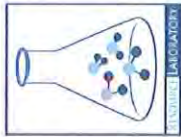
Exceeds Cambodian Drinking Water Quality Standard

February 2, 2012



Laboratory Technical Manager

WATER ANALYSIS - RAW DATA



Organization: JICA

	Sample ID:	9	10	11	12	13	14	15	16	17
		15-Jan-12	15-Jan-12	15-Jan-12	15-Jan-12	15-Jan-12	15-Jan-12	15-Jan-12	15-Jan-12	15-Jan-12
	Sample Date:									
	CDWQS ¹									
Chloride	Units									
	250 mg/L	10.12	7.65	34.07	8.08	6.38	12.06	10.33	2.75	18.75
Fluoride	1.5 mg/L	0.05	0.05	0.15	0	0.07	0.11	0.11	0	0.1
Nitrate	50 mg/L	0	0	1.35	0	0	0	0	0.5	0
Nitrite	3 mg/L	0	0	0	0	0	0	0	0	0
Phosphate	-	0	0	0	0	0	0	0	0	0
Sulfate	250 mg/L	3.69	0.4	6.02	1.82	1.15	2.1	0.89	1.61	0.42

1. Cambodian Drinking Water Quality Standard

Exceeds Cambodian Drinking Water Quality Standard

February 2, 2012
 Resource Laboratory*
 Thorn Sokha
 Laboratory Technical Manager

Names of Samples

- 1- Poa Heng Dam (Kep) Time 3h35
- 2- Kep Village Vipasana pagoda Time 2h00
- 3- Little Pond Kep Time 11h45
- 4- Dei Eth Pond (Fish pond) Time 6h00 Prey Khmum Village and Commune, Teuk Chou (Kampot)
- 5- Die Eth Pond (Right side) Time 6h00 Prey Khmum Village and Commune, Teuk Chou (Kampot)
- 6- Little Pond Time 14h30
- 7- Tea kra La Dam (Kampot) Time 4h45
- 8- Die Eth Pond (Left side) Time 6h20 Prey Khmum Village and Commune, Teuk Chou (Kampot)
- 9- Phnum Voal Dam (Kep) Time 01h05
- 10- Phnum Prous Pond (Kep) Time 4h15
- 11- Vanna Guest house Time 3h35
- 12- Kampong Tra Lach Dam Time 11h45
- 13- Pornng Teuk Dam (Phnom Leave) Time 12h15
- 14- Cham kar Bei Dam (Kep) Time
- 15- Tuol Sra Ngan Dam (Kep) Time 12h35
- 16- River Water (Kampot)
- 17- Kep Junior High School (Kep)