

***FC-1 Cross-Sectional Characteristics of
River Improvement Works
in the Lower Cagayan River***

FC-1 Cross-sectional Characteristics of River Improvement Works in the Lower Cagayan River

Regend	
H	: Elevation (EL m)
B	: River Width (m)
A	: Area of Flow (m ²)
R	: Hydraulic Mean Depth (m)
N	: Manning's Roughness coefficient

CG 0+000 (00000)

H	B	A	R	N
-2.00	735.790	2230.3	3.031	0.040
-0.50	974.429	3567.2	3.661	0.040
1.00	1063.573	5093.6	4.789	0.040
2.50	1088.000	6714.7	6.172	0.040
4.00	1088.000	8346.7	7.672	0.040
5.50	1088.000	9978.7	9.172	0.040
7.00	1088.000	11610.7	10.672	0.040
8.50	1088.000	13242.7	12.172	0.040
10.00	1088.000	14874.7	13.672	0.040
11.50	1088.000	16506.7	15.172	0.040
13.00	1088.000	18138.7	16.672	0.040
14.50	1088.000	19770.7	18.172	0.040
16.00	1088.000	21402.7	19.672	0.040
17.50	1088.000	23034.7	21.172	0.040

CG 1+000 (00100)

H	B	A	R	N
-2.00	904.107	2779.8	3.075	0.040
-0.50	1179.150	4342.5	3.683	0.040
1.00	1333.322	6201.6	4.651	0.040
2.50	1859.000	8782.3	5.680	0.040
4.00	1859.000	11570.8	6.922	0.041
5.50	1859.000	14359.3	8.276	0.041
7.00	1859.000	17147.8	9.681	0.042
8.50	1859.000	19936.3	11.114	0.042
10.00	1859.000	22724.8	12.565	0.042
11.50	1859.000	25513.3	14.026	0.042
13.00	1859.000	28301.8	15.496	0.042
14.50	1859.000	31090.3	16.971	0.043
16.00	1859.000	33878.8	18.450	0.043
17.50	1859.000	36667.3	19.933	0.043

CG 2+000 (00200)

H	B	A	R	N
-2.00	1193.493	2153.1	1.804	0.040
-0.50	1626.387	4326.4	2.660	0.040
1.00	1988.000	6841.4	4.083	0.040
2.50	1988.000	9823.4	5.357	0.040
4.00	1988.000	12805.4	6.752	0.041
5.50	1988.000	15787.4	8.189	0.041
7.00	1988.000	18769.4	9.648	0.041
8.50	1988.000	21751.4	11.119	0.041
10.00	1988.000	24733.4	12.597	0.041
11.50	1988.000	27715.4	14.079	0.042
13.00	1988.000	30697.4	15.566	0.042
14.50	1988.000	33679.4	17.054	0.042
16.00	1988.000	36661.4	18.545	0.042
17.50	1988.000	39643.4	20.037	0.042

CG 3+000 (00300)

H	B	A	R	N
-2.00	854.290	2330.5	2.728	0.040
-0.50	1284.825	3963.5	3.085	0.040
1.00	1870.023	6196.5	3.669	0.040
2.50	1923.000	9075.0	5.008	0.040
4.00	1923.000	11959.5	6.433	0.041
5.50	1923.000	14844.0	7.889	0.041
7.00	1923.000	17728.5	9.360	0.041
8.50	1923.000	20613.0	10.840	0.041
10.00	1923.000	23497.5	12.325	0.041
11.50	1923.000	26382.0	13.813	0.041
13.00	1923.000	29266.5	15.303	0.041
14.50	1923.000	32151.0	16.796	0.042
16.00	1923.000	35035.5	18.289	0.042
17.50	1923.000	37920.0	19.784	0.042

CG 4+000 (00400)

H	B	A	R	N
-2.00	701.902	1801.8	2.567	0.040
-0.50	1072.629	2999.9	2.797	0.040
1.00	1543.641	5062.1	3.279	0.040
2.50	1933.000	7725.6	4.331	0.040
4.00	1933.000	10625.1	5.730	0.040
5.50	1933.000	13524.6	7.177	0.041
7.00	1933.000	16424.1	8.643	0.041
8.50	1933.000	19323.6	10.120	0.041
10.00	1933.000	22223.1	11.604	0.041
11.50	1933.000	25122.6	13.091	0.041
13.00	1933.000	28022.1	14.581	0.041
14.50	1933.000	30921.6	16.073	0.041
16.00	1933.000	33821.1	17.566	0.041
17.50	1933.000	36720.6	19.061	0.041

CG 5+000 (00500)

H	B	A	R	N
-2.00	1036.001	2495.7	2.409	0.040
-0.50	1507.656	4489.1	2.978	0.040
1.00	1587.076	6786.2	4.405	0.040
2.50	1987.000	9507.9	5.617	0.040
4.00	1987.000	12488.4	6.892	0.041
5.50	1987.000	15468.9	8.265	0.041
7.00	1987.000	18449.4	9.683	0.041
8.50	1987.000	21429.9	11.125	0.041
10.00	1987.000	24410.4	12.582	0.042
11.50	1987.000	27390.9	14.048	0.042
13.00	1987.000	30371.4	15.522	0.042
14.50	1987.000	33351.9	17.000	0.042
16.00	1987.000	36332.4	18.482	0.042
17.50	1987.000	39312.9	19.967	0.042

CG 6+000 (00600)

H	B	A	R	N
-2.00	763.167	2399.7	3.144	0.040
-0.50	827.100	3584.3	4.334	0.040
1.00	1385.334	4971.9	4.714	0.040
2.50	1693.000	7417.9	4.796	0.041
4.00	1693.000	9957.4	6.182	0.041
5.50	1693.000	12496.9	7.618	0.041
7.00	1693.000	15036.4	9.076	0.042
8.50	1693.000	17575.9	10.547	0.042
10.00	1693.000	20115.4	12.026	0.042
11.50	1693.000	22654.9	13.509	0.042
13.00	1693.000	25194.4	14.996	0.042
14.50	1693.000	27733.9	16.486	0.042
16.00	1693.000	30273.4	17.977	0.042
17.50	1693.000	32812.9	19.469	0.042

FC-1 Cross-sectional Characteristics of River Improvement Works in the Lower Cagayan River

CG 7+000 (00700)					CG 8+000 (00800)				
H	B	A	R	N	H	B	A	R	N
-2.00	477.901	2739.5	5.732	0.040	-2.00	426.980	2405.6	5.634	0.040
-0.50	551.124	3493.9	6.340	0.040	-0.50	629.070	3228.7	5.831	0.040
1.00	682.471	4424.1	6.482	0.040	1.00	779.902	4256.3	6.028	0.040
2.50	1676.000	6603.7	6.697	0.040	2.50	1560.094	5875.2	6.225	0.040
4.00	1676.000	9117.7	6.911	0.041	4.00	1732.674	8431.8	6.422	0.040
5.50	1676.000	11631.7	7.126	0.041	5.50	1738.000	11037.9	6.619	0.041
7.00	1676.000	14145.7	8.591	0.041	7.00	1738.000	13644.9	8.065	0.041
8.50	1676.000	16659.7	10.068	0.041	8.50	1738.000	16251.9	9.529	0.041
10.00	1676.000	19173.7	11.551	0.041	10.00	1738.000	18858.9	11.003	0.041
11.50	1676.000	21687.7	13.037	0.042	11.50	1738.000	21465.9	12.484	0.041
13.00	1676.000	24201.7	14.527	0.042	13.00	1738.000	24072.9	13.969	0.041
14.50	1676.000	26715.7	16.019	0.042	14.50	1738.000	26679.9	15.458	0.042
16.00	1676.000	29229.7	17.512	0.042	16.00	1738.000	29286.9	16.948	0.042
17.50	1676.000	31743.7	19.006	0.042	17.50	1738.000	31893.9	18.440	0.042

CG 9+000 (00900)					CG 10+000 (01000)				
H	B	A	R	N	H	B	A	R	N
-2.00	527.009	2719.6	5.161	0.040	-2.00	791.127	2069.0	2.615	0.040
-0.50	736.407	3629.9	5.350	0.040	-0.50	1365.198	3678.1	2.694	0.040
1.00	1131.612	4910.7	5.539	0.040	1.00	1549.528	5904.1	3.814	0.040
2.50	1763.177	7087.3	5.729	0.040	2.50	1706.987	8327.6	5.233	0.040
4.00	1774.000	9746.3	5.918	0.040	4.00	1919.000	11107.2	6.485	0.040
5.50	1774.000	12407.3	7.319	0.041	5.50	1919.000	13985.7	7.825	0.041
7.00	1774.000	15068.3	8.758	0.041	7.00	1919.000	16864.2	9.226	0.041
8.50	1774.000	17729.3	10.217	0.041	8.50	1919.000	19742.7	10.658	0.041
10.00	1774.000	20390.3	11.686	0.041	10.00	1919.000	22621.2	12.109	0.041
11.50	1774.000	23051.3	13.163	0.041	11.50	1919.000	25499.7	13.571	0.041
13.00	1774.000	25712.3	14.645	0.041	13.00	1919.000	28378.2	15.041	0.041
14.50	1774.000	28373.3	16.131	0.042	14.50	1919.000	31256.7	16.517	0.042
16.00	1774.000	31034.3	17.619	0.042	16.00	1919.000	34135.2	17.997	0.042
17.50	1774.000	33695.3	19.109	0.042	17.50	1919.000	37013.7	19.481	0.042

CG 11+000 (01100)					CG 12+000 (01200)				
H	B	A	R	N	H	B	A	R	N
-2.00	737.953	2159.7	2.927	0.040	-2.00	744.959	1624.0	2.180	0.040
-0.50	1220.862	3500.2	3.522	0.040	-0.50	1202.199	3023.0	2.539	0.040
1.00	1330.906	5415.3	4.117	0.040	1.00	1797.568	5211.5	2.923	0.040
2.50	1441.015	7452.1	5.505	0.040	2.50	2101.301	8111.4	4.165	0.040
4.00	1762.274	9880.5	6.646	0.040	4.00	2342.386	11433.9	5.457	0.040
5.50	1984.615	12749.3	7.672	0.041	5.50	2402.706	15005.7	6.759	0.041
7.00	2026.813	15763.5	8.861	0.041	7.00	2420.396	18623.4	8.136	0.041
8.50	2038.606	18812.9	10.153	0.042	8.50	2422.000	22256.1	9.558	0.041
10.00	2058.000	21881.9	11.473	0.042	10.00	2422.000	25889.1	11.003	0.042
11.50	2062.763	24973.8	12.851	0.042	11.50	2422.000	29522.1	12.463	0.042
13.00	2065.724	28070.1	14.256	0.043	13.00	2422.000	33155.1	13.932	0.042
14.50	2068.684	31170.9	15.675	0.043	14.50	2422.000	36788.1	15.407	0.042
16.00	2069.000	34274.4	17.117	0.043	16.00	2422.000	40421.1	16.887	0.042
17.50	2069.000	37377.9	18.570	0.043	17.50	2422.000	44054.1	18.371	0.042

CG 13+000 (01300)					CG 14+000 (01400)				
H	B	A	R	N	H	B	A	R	N
-2.00	450.067	1658.0	3.684	0.040	-2.00	403.388	1800.7	4.464	0.040
-0.50	915.671	2568.7	3.941	0.040	-0.50	635.597	2583.4	4.679	0.040
1.00	1337.660	4343.5	4.198	0.040	1.00	1055.750	4037.5	4.894	0.040
2.50	1808.639	6652.8	4.455	0.040	2.50	1183.115	5696.0	5.110	0.040
4.00	2180.820	9722.5	5.175	0.041	4.00	1656.409	7845.4	6.119	0.040
5.50	2291.516	13051.1	6.429	0.042	5.50	1860.862	10588.8	7.056	0.041
7.00	2389.099	16583.7	7.696	0.042	7.00	1869.649	13386.6	8.234	0.042
8.50	2410.727	20188.3	9.031	0.043	8.50	1875.228	16195.4	9.527	0.042
10.00	2417.496	23809.5	10.417	0.043	10.00	1880.673	19012.3	10.878	0.043
11.50	2424.182	27440.7	11.826	0.043	11.50	1884.383	21836.2	12.265	0.043
13.00	2430.868	31082.0	13.249	0.044	13.00	1887.981	24665.5	13.673	0.043
14.50	2437.554	34733.3	14.681	0.044	14.50	1891.580	27500.1	15.094	0.044
16.00	2450.233	38398.9	16.099	0.044	16.00	1895.178	30340.2	16.525	0.044
17.50	2463.340	42084.1	17.514	0.044	17.50	1898.776	33185.7	17.961	0.044

FC-1 Cross-sectional Characteristics of River Improvement Works in the Lower Cagayan River

CG 15+000 (01500)					CG 16+000 (01600)				
H	B	A	R	N	H	B	A	R	N
-2.00	500.228	1643.0	3.285	0.040	-2.00	590.899	1760.6	2.980	0.040
-0.50	820.211	2799.2	3.413	0.040	-0.50	618.317	2660.8	4.303	0.040
1.00	882.861	4063.1	4.780	0.040	1.00	706.750	3663.5	5.306	0.040
2.50	1029.447	5432.7	6.077	0.040	2.50	987.262	4819.3	5.748	0.040
4.00	1577.151	7374.1	6.692	0.040	4.00	1236.826	6477.1	6.475	0.040
5.50	1636.896	9801.2	7.547	0.041	5.50	1322.345	8412.9	7.481	0.041
7.00	1655.953	12274.6	8.676	0.042	7.00	1373.706	10449.8	8.671	0.041
8.50	1671.455	14773.5	9.915	0.043	8.50	1426.438	12550.5	9.854	0.042
10.00	1702.380	17308.4	11.163	0.043	10.00	1439.552	14697.7	11.171	0.042
11.50	1704.000	19864.0	12.525	0.044	11.50	1458.009	16873.2	12.507	0.043
13.00	1704.000	22420.0	13.923	0.044	13.00	1470.188	19069.3	13.868	0.043
14.50	1704.000	24976.0	15.343	0.044	14.50	1471.000	21275.8	15.267	0.043
16.00	1704.000	27532.0	16.778	0.045	16.00	1471.000	23482.3	16.688	0.044
17.50	1704.000	30088.0	18.225	0.045	17.50	1471.000	25688.8	18.124	0.044

CG 17+000 (01700)					CG 18+000 (01800)				
H	B	A	R	N	H	B	A	R	N
-2.00	513.777	1816.5	3.535	0.040	-2.00	335.356	2212.2	6.597	0.040
-0.50	546.378	2611.6	4.780	0.040	-0.50	382.264	2742.8	7.175	0.040
1.00	668.326	3544.2	5.303	0.040	1.00	607.810	3526.3	7.252	0.040
2.50	915.470	4652.8	5.414	0.040	2.50	816.242	4557.7	7.328	0.040
4.00	1258.621	6316.9	6.068	0.040	4.00	1127.591	6042.3	7.405	0.040
5.50	1299.351	8222.9	7.240	0.041	5.50	1277.597	7890.0	7.481	0.041
7.00	1422.461	10297.5	8.411	0.041	7.00	1366.052	9857.7	8.601	0.041
8.50	1440.269	12444.5	9.667	0.042	8.50	1601.193	12194.2	9.517	0.042
10.00	1475.340	14631.5	10.950	0.042	10.00	1625.038	14616.1	10.636	0.042
11.50	1485.917	16852.4	12.283	0.042	11.50	1639.000	17070.7	11.854	0.043
13.00	1496.703	19089.3	13.638	0.042	13.00	1639.000	19529.2	13.161	0.043
14.50	1511.775	21345.6	14.993	0.043	14.50	1639.000	21987.7	14.515	0.043
16.00	1523.186	23622.8	16.364	0.043	16.00	1639.000	24446.2	15.900	0.044
17.50	1532.655	25914.7	17.745	0.043	17.50	1639.000	26904.7	17.307	0.044

CG 19+000 (01900)					CG 20+000 (02000)				
H	B	A	R	N	H	B	A	R	N
-2.00	410.060	1161.4	2.832	0.040	-2.00	643.995	909.3	1.412	0.040
-0.50	536.941	1872.6	3.488	0.040	-0.50	713.214	1933.2	2.711	0.040
1.00	706.955	2797.0	3.956	0.040	1.00	804.394	3087.5	3.967	0.040
2.50	864.767	4001.5	4.658	0.040	2.50	1096.287	4386.0	5.085	0.040
4.00	1316.030	5648.2	5.191	0.040	4.00	2972.333	8427.2	5.235	0.042
5.50	1347.287	7646.5	6.341	0.041	5.50	2982.744	12891.1	5.385	0.045
7.00	1380.507	9691.0	7.553	0.041	7.00	3010.655	17384.0	6.573	0.046
8.50	1417.694	11788.3	8.787	0.041	8.50	3011.000	21900.5	7.907	0.048
10.00	1763.000	14165.4	9.475	0.041	10.00	3011.000	26417.0	9.299	0.048
11.50	1763.000	16809.9	10.730	0.042	11.50	3011.000	30933.5	10.723	0.049
13.00	1763.000	19454.4	12.058	0.042	13.00	3011.000	35450.0	12.166	0.050
14.50	1763.000	22098.9	13.430	0.043	14.50	3011.000	39966.5	13.622	0.050
16.00	1763.000	24743.4	14.830	0.043	16.00	3011.000	44483.0	15.087	0.050
17.50	1763.000	27387.9	16.251	0.043	17.50	3011.000	48999.5	16.558	0.050

CG 21+000 (02100)					CG 22+000 (02200)				
H	B	A	R	N	H	B	A	R	N
-2.00	338.400	171.2	0.506	0.040	-2.00	514.403	614.2	1.194	0.040
-0.50	974.825	1378.3	1.416	0.040	-0.50	539.234	1401.6	2.599	0.040
1.00	1022.163	2887.1	2.864	0.040	1.00	671.712	2248.4	3.347	0.040
2.50	1162.146	4474.1	3.870	0.040	2.50	1081.382	3515.5	3.652	0.040
4.00	1404.672	6311.7	5.144	0.040	4.00	1335.168	5284.2	3.958	0.040
5.50	1649.596	8646.7	6.206	0.041	5.50	1675.922	7429.0	5.106	0.040
7.00	2933.000	12833.1	6.454	0.042	7.00	1972.000	10298.0	6.098	0.040
8.50	2933.000	17232.6	7.374	0.043	8.50	1972.000	13256.0	7.381	0.041
10.00	2933.000	21632.1	8.553	0.044	10.00	1972.000	16214.0	8.751	0.041
11.50	2933.000	26031.6	9.847	0.045	11.50	1972.000	19172.0	10.165	0.041
13.00	2933.000	30431.1	11.203	0.046	13.00	1972.000	22130.0	11.603	0.042
14.50	2933.000	34830.6	12.597	0.046	14.50	1972.000	25088.0	13.057	0.042
16.00	2933.000	39230.1	14.015	0.047	16.00	1972.000	28046.0	14.520	0.042
17.50	2933.000	43629.6	15.450	0.047	17.50	1972.000	31004.0	15.991	0.042

FC-1 Cross-sectional Characteristics of River Improvement Works in the Lower Cagayan River

CG 23+000 (02300)

H	B	A	R	N
-2.00	354.420	792.7	2.237	0.040
-0.50	463.120	1391.1	3.004	0.040
1.00	667.121	2227.0	3.764	0.040
2.50	995.391	3484.7	4.534	0.041
4.00	1246.723	5098.7	4.859	0.042
5.50	1593.730	7175.8	5.184	0.042
7.00	1597.422	9570.0	6.487	0.043
8.50	1599.981	11968.0	7.869	0.044
10.00	1602.539	14369.9	9.285	0.044
11.50	1603.000	16774.3	10.735	0.045
13.00	1603.000	19178.8	12.201	0.045
14.50	1603.000	21583.3	13.674	0.045
16.00	1603.000	23987.8	15.153	0.046
17.50	1603.000	26392.3	16.636	0.046

CG 24+000 (02400)

H	B	A	R	N
-2.00	535.813	930.5	1.737	0.040
-0.50	675.878	1887.0	2.792	0.040
1.00	759.706	2959.5	3.896	0.040
2.50	771.145	4106.9	5.326	0.040
4.00	781.323	5271.1	6.746	0.040
5.50	803.689	6460.6	8.039	0.040
7.00	810.546	7671.3	9.464	0.040
8.50	1773.784	9963.8	9.725	0.040
10.00	1774.000	12624.8	9.985	0.041
11.50	1774.000	15285.8	10.933	0.042
13.00	1774.000	17946.8	12.064	0.043
14.50	1774.000	20607.8	13.298	0.043
16.00	1774.000	23268.8	14.598	0.044
17.50	1774.000	25929.8	15.940	0.044

CG 25+000 (02500)

H	B	A	R	N
-2.00	443.749	893.9	2.014	0.040
-0.50	622.952	1670.0	2.681	0.040
1.00	717.417	2707.9	3.775	0.040
2.50	731.042	3794.3	5.190	0.040
4.00	769.653	4912.9	6.383	0.040
5.50	777.368	6072.5	7.812	0.040
7.00	784.022	7243.9	9.239	0.040
8.50	837.511	8431.6	10.633	0.040
10.00	1763.096	10709.5	10.666	0.040
11.50	1827.000	13411.2	11.023	0.041
13.00	1827.000	16151.7	11.825	0.042
14.50	1827.000	18892.2	12.855	0.042
16.00	1827.000	21632.7	14.017	0.043
17.50	1827.000	24373.2	15.260	0.044

CG 26+000 (02600)

H	B	A	R	N
-2.00	309.007	997.6	3.228	0.040
-0.50	437.836	1559.8	3.563	0.040
1.00	678.034	2383.3	4.233	0.040
2.50	695.958	3412.4	4.903	0.040
4.00	702.358	4462.4	6.353	0.040
5.50	706.595	5519.1	7.811	0.040
7.00	712.358	6583.0	9.241	0.040
8.50	789.715	7717.2	10.550	0.040
10.00	818.441	8930.4	11.785	0.040
11.50	834.070	10170.6	13.035	0.040
13.00	913.248	11466.9	14.171	0.040
14.50	934.855	12858.0	15.307	0.040
16.00	947.245	14269.5	16.485	0.041
17.50	959.635	15699.7	17.679	0.041

CG 27+000 (02700)

H	B	A	R	N
-2.00	374.225	830.0	2.218	0.040
-0.50	583.037	1576.6	2.704	0.040
1.00	591.077	2456.3	4.156	0.040
2.50	598.495	3349.3	5.596	0.040
4.00	645.537	4261.1	7.012	0.040
5.50	784.797	5333.8	8.139	0.040
7.00	1090.898	6670.4	8.906	0.040
8.50	1112.916	8321.2	9.677	0.041
10.00	1128.458	10006.8	10.729	0.042
11.50	1132.418	11702.5	11.910	0.042
13.00	1141.751	13405.5	13.105	0.042
14.50	1143.000	15120.0	14.429	0.043
16.00	1143.000	16834.5	15.802	0.043
17.50	1143.000	18549.0	17.199	0.044

CG 28+000 (02800)

H	B	A	R	N
-2.00	483.811	1372.8	2.837	0.040
-0.50	523.450	2128.2	4.066	0.040
1.00	532.867	2923.6	5.487	0.040
2.50	537.364	3726.3	6.934	0.040
4.00	541.860	4535.7	8.371	0.040
5.50	550.859	5355.4	9.722	0.040
7.00	557.063	6186.3	11.105	0.040
8.50	563.695	7026.6	12.465	0.040
10.00	568.871	7876.3	13.910	0.040
11.50	573.710	8733.2	15.393	0.040
13.00	578.548	9597.4	16.864	0.040
14.50	583.387	10468.9	18.324	0.040
16.00	588.226	11347.6	19.775	0.040
17.50	593.065	12233.5	21.216	0.040

CG 29+000 (02900)

H	B	A	R	N
-2.00	183.411	1835.5	10.007	0.040
-0.50	204.200	2124.3	10.403	0.040
1.00	228.946	2453.1	10.715	0.040
2.50	233.901	2800.2	11.972	0.040
4.00	292.372	3173.7	12.057	0.040
5.50	354.054	3681.4	12.142	0.040
7.00	378.540	4232.6	12.227	0.040
8.50	395.836	4810.9	12.312	0.040
10.00	542.597	5580.9	13.211	0.040
11.50	544.539	6396.3	14.198	0.040
13.00	546.481	7214.6	15.309	0.041
14.50	548.423	8035.7	16.495	0.041
16.00	550.366	8859.8	17.729	0.041
17.50	551.000	9686.2	19.053	0.041

CG 30+000 (03000)

H	B	A	R	N
-2.00	287.215	2142.1	7.458	0.040
-0.50	343.974	2633.8	7.657	0.040
1.00	362.381	3166.7	8.739	0.040
2.50	369.068	3715.3	10.067	0.040
4.00	375.755	4273.9	11.374	0.040
5.50	444.512	4895.8	11.829	0.040
7.00	453.414	5569.2	12.283	0.040
8.50	487.444	6273.4	12.870	0.040
10.00	520.893	7026.4	13.489	0.040
11.50	632.000	7918.0	14.482	0.040
13.00	632.000	8866.0	15.725	0.040
14.50	632.000	9814.0	17.032	0.040
16.00	632.000	10762.0	18.381	0.040
17.50	632.000	11710.0	19.758	0.040

FC-1 Cross-sectional Characteristics of River Improvement Works in the Lower Cagayan River

CG 31+000 (03100)					CG 32+000 (03200)				
H	B	A	R	N	H	B	A	R	N
-2.00	297.662	1817.5	6.106	0.040	-2.00	305.011	2149.9	7.738	0.040
-0.50	321.632	2278.2	7.083	0.040	-0.50	409.117	2686.7	7.740	0.041
1.00	345.956	2782.9	8.044	0.040	1.00	464.133	3347.3	7.742	0.041
2.50	354.935	3309.7	9.325	0.040	2.50	509.935	4073.9	8.716	0.041
4.00	360.514	3846.3	10.669	0.040	4.00	544.140	4864.0	9.541	0.041
5.50	366.094	4391.2	11.995	0.040	5.50	618.543	5735.6	9.948	0.041
7.00	402.080	4981.9	12.390	0.040	7.00	783.652	6850.0	10.230	0.042
8.50	472.060	5652.3	12.623	0.040	8.50	1032.187	8230.4	10.512	0.042
10.00	730.988	6511.0	12.856	0.040	10.00	1098.477	9795.6	10.794	0.042
11.50	862.641	7748.1	13.314	0.040	11.50	1116.360	11464.0	11.904	0.043
13.00	917.000	9088.5	13.980	0.041	13.00	1118.836	13140.4	13.141	0.043
14.50	917.000	10464.0	14.869	0.041	14.50	1121.312	14820.5	14.431	0.044
16.00	917.000	11839.5	15.923	0.042	16.00	1123.788	16504.3	15.754	0.044
17.50	917.000	13215.0	17.082	0.042	17.50	1126.265	18191.9	17.101	0.045

CG 33+000 (03300)					CG 34+000 (03400)				
H	B	A	R	N	H	B	A	R	N
-2.00	325.869	1008.9	3.096	0.040	-2.00	202.100	1035.7	5.125	0.040
-0.50	369.958	1534.5	4.194	0.040	-0.50	496.904	1513.1	5.362	0.040
1.00	425.325	2132.0	5.157	0.040	1.00	514.871	2277.4	5.598	0.040
2.50	460.191	2796.1	6.196	0.040	2.50	523.804	3056.4	5.835	0.040
4.00	491.592	3515.0	7.262	0.040	4.00	532.567	3848.8	7.227	0.040
5.50	764.482	4372.9	7.900	0.040	5.50	712.066	4834.0	8.259	0.040
7.00	1137.654	5791.4	8.083	0.041	7.00	783.081	5949.1	9.012	0.040
8.50	1238.943	7602.6	8.266	0.042	8.50	1065.813	7369.5	9.103	0.041
10.00	1800.041	9914.6	8.339	0.042	10.00	1297.755	9187.0	9.676	0.041
11.50	2014.997	12693.8	8.984	0.043	11.50	1403.879	11219.7	10.548	0.042
13.00	2170.000	15924.8	9.756	0.045	13.00	1427.802	13350.9	11.575	0.043
14.50	2170.000	19179.8	10.824	0.046	14.50	1433.054	15496.6	12.737	0.043
16.00	2170.000	22434.8	12.026	0.047	16.00	1438.307	17650.1	13.978	0.044
17.50	2170.000	25689.8	13.307	0.047	17.50	1443.972	19811.5	15.269	0.044

CG 35+000 (03500)					CG 36+000 (03600)				
H	B	A	R	N	H	B	A	R	N
-2.00	235.660	344.4	1.461	0.040	-2.00	345.666	732.7	2.120	0.040
-0.50	468.639	904.8	1.931	0.040	-0.50	377.710	1278.9	3.386	0.040
1.00	636.828	1729.1	2.715	0.040	1.00	416.326	1872.9	4.499	0.040
2.50	758.984	2830.8	3.730	0.040	2.50	515.400	2552.2	4.952	0.040
4.00	774.516	3977.3	5.184	0.040	4.00	659.500	3413.5	5.692	0.040
5.50	859.084	5173.6	6.567	0.040	5.50	673.883	4415.6	7.000	0.040
7.00	1017.663	6574.1	7.739	0.040	7.00	817.064	5507.5	8.136	0.040
8.50	1465.725	8321.4	8.546	0.040	8.50	2060.907	7692.3	8.338	0.041
10.00	1719.679	10666.4	9.076	0.041	10.00	2111.692	10805.1	8.541	0.042
11.50	1732.000	13261.8	9.929	0.042	11.50	2116.000	13977.6	8.743	0.044
13.00	1732.000	15859.8	11.028	0.043	13.00	2116.000	17151.6	9.832	0.045
14.50	1732.000	18457.8	12.250	0.043	14.50	2116.000	20325.6	11.056	0.046
16.00	1732.000	21055.8	13.546	0.044	16.00	2116.000	23499.6	12.358	0.047
17.50	1732.000	23653.8	14.888	0.044	17.50	2116.000	26673.6	13.708	0.047

CG 37+000 (03700)					CG 38+000 (03800)				
H	B	A	R	N	H	B	A	R	N
-2.00	251.401	747.6	2.974	0.040	-2.00	244.966	536.8	2.192	0.040
-0.50	328.481	1189.9	3.622	0.040	-0.50	430.386	1063.9	2.472	0.040
1.00	482.824	1767.9	3.662	0.040	1.00	461.393	1740.0	3.771	0.040
2.50	489.949	2497.5	5.097	0.040	2.50	469.315	2438.0	5.195	0.040
4.00	496.922	3237.7	6.515	0.040	4.00	477.541	3148.1	6.592	0.040
5.50	627.927	4016.7	7.874	0.040	5.50	485.768	3870.6	7.968	0.040
7.00	1715.420	5674.1	7.990	0.040	7.00	494.607	4605.5	9.311	0.040
8.50	1747.249	8257.7	8.106	0.042	8.50	1755.928	6013.8	9.479	0.040
10.00	1810.990	10948.7	8.222	0.044	10.00	1821.000	8720.7	9.646	0.042
11.50	1821.509	13673.1	9.256	0.045	11.50	1821.000	11452.2	9.814	0.043
13.00	1845.212	16427.0	10.423	0.046	13.00	1821.000	14183.7	9.981	0.044
14.50	1848.741	19197.4	11.693	0.047	14.50	1821.000	16915.2	11.115	0.045
16.00	1849.000	21970.9	13.024	0.047	16.00	1821.000	19646.7	12.356	0.046
17.50	1849.000	24744.4	14.395	0.048	17.50	1821.000	22378.2	13.663	0.047

FC-1 Cross-sectional Characteristics of River Improvement Works in the Lower Cagayan River

CG 39+000 (03900)					CG 40+000 (04000)				
H	B	A	R	N	H	B	A	R	N
-1.00	442.750	260.7	0.589	0.040	-1.00	413.958	492.3	1.189	0.041
0.50	725.685	1207.5	1.664	0.040	0.50	753.874	1340.2	1.779	0.041
2.00	732.869	2301.2	3.140	0.040	2.00	808.035	2516.4	3.122	0.041
3.50	749.761	3412.5	4.551	0.040	3.50	857.490	3765.1	4.415	0.041
5.00	769.364	4551.1	5.915	0.040	5.00	1003.976	5147.8	5.143	0.041
6.50	794.903	5722.7	7.199	0.040	6.50	1068.509	6708.9	6.300	0.041
8.00	818.999	6937.4	8.471	0.040	8.00	1574.799	8641.6	6.393	0.041
9.50	2212.289	8418.5	9.453	0.040	9.50	1912.585	11320.2	6.486	0.041
11.00	2248.138	11763.7	9.750	0.041	11.00	2773.375	14429.8	7.423	0.041
12.50	2304.575	15182.4	10.047	0.042	12.50	2789.355	18609.6	8.323	0.042
14.00	2307.000	18641.9	10.344	0.043	14.00	2794.000	22798.9	9.481	0.043
15.50	2307.000	22102.4	11.470	0.044	15.50	2794.000	26989.9	10.763	0.044
17.00	2307.000	25562.9	12.705	0.045	17.00	2794.000	31180.9	12.108	0.044
18.50	2307.000	29023.4	14.006	0.045	18.50	2794.000	35371.9	13.491	0.044

CG 41+000 (04100)					CG 42+000 (04200)				
H	B	A	R	N	H	B	A	R	N
-1.00	406.164	423.0	1.041	0.040	-1.00	417.608	510.3	1.222	0.040
0.50	491.602	1111.7	2.261	0.040	0.50	478.741	1209.9	2.527	0.040
2.00	516.606	1870.4	3.621	0.040	2.00	481.559	1930.4	4.009	0.040
3.50	551.452	2674.9	4.851	0.040	3.50	543.083	2700.7	4.973	0.040
5.00	610.811	3549.7	5.811	0.040	5.00	653.893	3594.0	5.496	0.040
6.50	760.058	4565.7	6.137	0.040	6.50	719.174	4610.1	6.410	0.040
8.00	1206.445	6051.2	6.299	0.040	8.00	858.399	5813.7	6.773	0.040
9.50	1434.188	7993.7	6.460	0.040	9.50	974.829	7131.9	8.148	0.040
11.00	1877.601	10525.0	7.360	0.040	11.00	2202.294	10050.7	8.313	0.041
12.50	2852.000	14554.0	7.600	0.041	12.50	2208.000	13357.2	8.477	0.042
14.00	2852.000	18832.0	8.477	0.042	14.00	2208.000	16669.2	9.456	0.043
15.50	2852.000	23110.0	9.609	0.043	15.50	2208.000	19981.2	10.623	0.044
17.00	2852.000	27388.0	10.864	0.044	17.00	2208.000	23293.2	11.891	0.044
18.50	2852.000	31666.0	12.189	0.045	18.50	2208.000	26605.2	13.219	0.045

CG 43+000 (04300)					CG 44+000 (04400)				
H	B	A	R	N	H	B	A	R	N
-1.00	237.074	234.9	0.991	0.040	-1.00	435.322	963.4	2.213	0.040
0.50	538.751	859.6	1.595	0.040	0.50	447.698	1626.1	3.632	0.040
2.00	560.019	1689.8	3.017	0.040	2.00	453.331	2302.3	5.079	0.040
3.50	580.407	2541.2	4.378	0.040	3.50	457.525	2985.5	6.525	0.040
5.00	611.942	3435.5	5.614	0.040	5.00	461.719	3674.9	7.959	0.040
6.50	677.780	4407.4	6.503	0.040	6.50	477.057	4378.1	9.177	0.040
8.00	689.437	5432.8	7.880	0.040	8.00	495.089	5106.2	10.314	0.040
9.50	710.219	6483.9	9.129	0.040	9.50	570.414	5933.2	10.402	0.040
11.00	1813.722	7928.7	9.907	0.040	11.00	1397.822	7432.7	10.558	0.040
12.50	2000.000	10834.8	9.947	0.041	12.50	1709.701	9846.0	10.624	0.041
14.00	2000.000	13834.8	9.986	0.042	14.00	1711.000	12412.4	10.691	0.042
15.50	2000.000	16834.8	10.895	0.043	15.50	1711.000	14978.9	11.553	0.043
17.00	2000.000	19834.8	12.000	0.044	17.00	1711.000	17545.4	12.621	0.044
18.50	2000.000	22834.8	13.216	0.045	18.50	1711.000	20111.9	13.807	0.045

CG 45+000 (04500)					CG 46+000 (04600)				
H	B	A	R	N	H	B	A	R	N
-1.00	263.992	1205.2	4.565	0.040	-1.00	263.970	729.5	2.763	0.040
0.50	315.143	1641.8	5.210	0.040	0.50	448.904	1205.0	3.415	0.040
2.00	391.129	2155.5	5.511	0.040	2.00	465.143	1891.9	4.067	0.040
3.50	439.855	2802.7	6.372	0.040	3.50	479.724	2599.7	5.419	0.040
5.00	447.485	3468.2	7.750	0.040	5.00	495.227	3334.0	6.732	0.040
6.50	456.998	4146.1	9.072	0.040	6.50	514.300	4083.7	7.940	0.040
8.00	467.531	4839.5	10.351	0.040	8.00	549.063	4889.9	8.906	0.040
9.50	478.740	5548.9	11.591	0.040	9.50	554.228	5717.3	10.316	0.040
11.00	575.099	6305.3	12.701	0.040	11.00	561.849	6555.0	11.667	0.040
12.50	749.772	7311.2	13.147	0.040	12.50	771.188	7592.0	12.660	0.040
14.00	865.529	8501.7	13.837	0.040	14.00	821.380	8786.4	13.506	0.040
15.50	1688.000	10612.3	13.837	0.041	15.50	1799.000	10991.2	13.506	0.041
17.00	1688.000	13144.3	13.837	0.042	17.00	1799.000	13689.7	13.506	0.042
18.50	1688.000	15676.3	13.837	0.043	18.50	1799.000	16388.2	13.506	0.042

FC-1 Cross-sectional Characteristics of River Improvement Works in the Lower Cagayan River

CG 47+000 (04700)					CG 48+000 (04800)				
H	B	A	R	N	H	B	A	R	N
-1.00	257.772	177.6	0.689	0.040	-1.00	202.566	114.9	0.567	0.040
0.50	509.698	817.5	1.604	0.040	0.50	506.920	654.1	1.290	0.040
2.00	521.167	1593.8	3.058	0.040	2.00	610.907	1494.0	2.446	0.040
3.50	527.520	2380.3	4.512	0.040	3.50	730.700	2503.0	3.425	0.040
5.00	533.374	3176.2	5.955	0.040	5.00	762.084	3622.6	4.754	0.040
6.50	538.458	3980.1	7.392	0.040	6.50	779.088	4780.3	6.136	0.040
8.00	543.543	4791.6	8.815	0.040	8.00	904.819	6014.9	6.648	0.040
9.50	548.628	5610.7	10.227	0.040	9.50	916.109	7385.1	8.061	0.040
11.00	585.066	6445.3	11.613	0.040	11.00	1089.781	8870.3	9.369	0.040
12.50	815.721	7434.8	12.700	0.040	12.50	1435.786	10777.0	10.235	0.040
14.00	925.378	8778.6	13.336	0.040	14.00	1467.468	12949.5	11.170	0.041
15.50	937.000	10175.5	14.201	0.041	15.50	1508.057	15179.5	12.252	0.041
17.00	948.538	11589.6	15.220	0.041	17.00	1540.000	17473.1	13.400	0.041
18.50	959.529	13020.8	16.331	0.041	18.50	1540.000	19783.1	14.637	0.042

CG 49+000 (04900)					CG 50+000 (05000)				
H	B	A	R	N	H	B	A	R	N
-1.00	164.857	82.9	0.503	0.040	-1.00	148.024	297.1	2.007	0.040
0.50	511.808	706.1	1.380	0.040	0.50	249.164	572.7	2.299	0.040
2.00	563.712	1513.3	2.685	0.040	2.00	386.492	1081.9	2.799	0.040
3.50	684.716	2493.2	3.641	0.040	3.50	393.131	1668.8	4.245	0.040
5.00	694.367	3525.7	5.078	0.040	5.00	396.560	2261.1	5.702	0.040
6.50	711.647	4580.2	6.436	0.040	6.50	399.989	2858.5	7.146	0.040
8.00	767.647	5670.0	7.386	0.040	8.00	404.138	3461.3	8.565	0.040
9.50	833.355	6877.7	8.253	0.040	9.50	448.797	4090.5	9.929	0.040
11.00	853.429	8143.0	9.542	0.040	11.00	513.264	4802.9	11.089	0.040
12.50	1307.354	9655.3	10.586	0.040	12.50	652.163	5671.3	11.945	0.040
14.00	1498.000	11778.7	11.210	0.040	14.00	668.000	6670.6	12.827	0.041
15.50	1498.000	14025.7	12.087	0.041	15.50	668.000	7672.6	13.908	0.041
17.00	1498.000	16272.7	13.167	0.041	17.00	668.000	8674.6	15.099	0.041
18.50	1498.000	18519.7	14.362	0.042	18.50	668.000	9676.6	16.362	0.042

CG 51+000 (05100)					CG 52+000 (05200)				
H	B	A	R	N	H	B	A	R	N
0.00	307.237	687.3	2.237	0.040	0.00	242.365	373.3	1.540	0.040
1.50	365.035	1210.2	3.315	0.040	1.50	572.552	944.1	1.649	0.040
3.00	370.386	1761.8	4.757	0.040	3.00	593.745	1830.5	3.083	0.040
4.50	375.737	2321.4	6.178	0.040	4.50	598.510	2724.7	4.552	0.040
6.00	381.002	2889.0	7.583	0.040	6.00	603.274	3626.0	6.011	0.040
7.50	387.657	3464.6	8.937	0.040	7.50	611.341	4536.5	7.421	0.040
9.00	394.971	4052.0	10.259	0.040	9.00	620.165	5460.1	8.804	0.040
10.50	401.737	4649.5	11.574	0.040	10.50	626.140	6395.6	10.214	0.040
12.00	408.336	5257.1	12.875	0.040	12.00	630.759	7338.2	11.634	0.040
13.50	500.390	5904.5	14.091	0.040	13.50	921.631	8508.0	12.661	0.040
15.00	569.770	6734.4	15.037	0.040	15.00	947.324	9906.6	13.535	0.040
16.50	576.461	7594.1	16.081	0.040	16.50	961.000	11343.9	14.551	0.041
18.00	583.152	8463.8	17.210	0.040	18.00	961.000	12785.4	15.701	0.041
19.50	586.367	9341.3	18.406	0.041	19.50	961.000	14226.9	16.932	0.041

CG 53+000 (05300)					CG 54+000 (05400)				
H	B	A	R	N	H	B	A	R	N
0.00	233.900	1693.4	7.240	0.040	0.00	214.175	1251.7	5.844	0.040
1.50	310.433	2102.9	7.643	0.040	1.50	251.413	1603.0	6.376	0.040
3.00	320.000	2574.6	8.046	0.040	3.00	295.859	2012.3	6.801	0.040
4.50	350.421	3075.4	8.776	0.040	4.50	324.050	2478.4	7.648	0.040
6.00	363.280	3610.7	9.939	0.040	6.00	362.710	2993.0	8.252	0.040
7.50	375.910	4165.2	11.080	0.040	7.50	388.825	3554.9	9.143	0.040
9.00	383.265	4734.7	12.354	0.040	9.00	414.462	4163.7	10.046	0.040
10.50	392.670	5314.9	13.535	0.040	10.50	432.718	4795.2	11.081	0.040
12.00	416.340	5922.2	14.224	0.040	12.00	443.794	5454.4	12.290	0.040
13.50	797.617	6831.5	14.659	0.040	13.50	452.143	6126.0	13.549	0.040
15.00	828.392	8052.2	14.758	0.040	15.00	461.400	6811.2	14.762	0.040
16.50	832.860	9299.8	15.387	0.041	16.50	470.654	7510.2	15.957	0.040
18.00	834.768	10550.6	16.261	0.041	18.00	475.286	8220.3	17.296	0.040
19.50	836.677	11804.1	17.274	0.042	19.50	478.870	8935.9	18.660	0.040

FC-1 Cross-sectional Characteristics of River Improvement Works in the Lower Cagayan River

CG 55+000 (05500)					CG 56+000 (05600)				
H	B	A	R	N	H	B	A	R	N
0.00	250.809	329.9	1.315	0.040	0.00	357.681	494.8	1.383	0.040
1.50	406.877	890.4	2.188	0.040	1.50	477.428	1126.7	2.360	0.040
3.00	449.406	1539.2	3.425	0.040	3.00	485.948	1850.3	3.808	0.040
4.50	499.597	2238.4	4.480	0.040	4.50	492.509	2584.1	5.247	0.040
6.00	545.095	3026.4	5.552	0.040	6.00	499.070	3327.8	6.668	0.040
7.50	561.674	3862.0	6.876	0.040	7.50	525.595	4098.1	8.033	0.040
9.00	574.492	4710.8	8.200	0.040	9.00	550.842	4898.8	9.346	0.040
10.50	595.767	5591.3	9.385	0.040	10.50	630.809	5787.2	10.484	0.040
12.00	608.354	6494.4	10.675	0.040	12.00	694.579	6765.8	11.516	0.040
13.50	896.696	7572.5	11.244	0.040	13.50	923.686	7950.3	12.147	0.040
15.00	1007.500	9035.5	11.932	0.040	15.00	1122.142	9505.5	12.451	0.041
16.50	1021.242	10556.7	12.844	0.041	16.50	1139.817	11197.6	13.224	0.041
18.00	1192.000	12311.8	13.685	0.041	18.00	1283.333	12997.7	14.094	0.042
19.50	1192.000	14099.8	14.699	0.041	19.50	1727.000	15183.6	14.634	0.042

CG 57+000 (05700)					CG 58+000 (05800)				
H	B	A	R	N	H	B	A	R	N
0.00	300.968	2594.7	8.621	0.040	0.00	344.157	796.9	2.316	0.040
1.50	363.996	3103.3	9.149	0.040	1.50	353.200	1320.7	3.739	0.040
3.00	378.250	3660.0	9.676	0.040	3.00	357.935	1854.1	5.180	0.040
4.50	392.505	4238.1	10.797	0.040	4.50	362.671	2394.5	6.603	0.040
6.00	409.319	4839.1	11.822	0.040	6.00	367.406	2942.1	8.008	0.040
7.50	426.597	5466.1	12.813	0.040	7.50	372.142	3496.8	9.396	0.040
9.00	435.167	6112.6	14.046	0.040	9.00	376.878	4058.5	10.769	0.040
10.50	448.377	6772.2	15.284	0.040	10.50	381.613	4627.4	12.126	0.040
12.00	478.749	7469.9	16.504	0.040	12.00	386.349	5203.4	13.468	0.040
13.50	497.063	8201.7	17.664	0.040	13.50	391.084	5786.4	14.796	0.040
15.00	854.837	9415.9	17.733	0.040	15.00	545.734	6509.8	15.707	0.040
16.50	1054.931	10841.8	17.801	0.040	16.50	662.037	7427.7	16.275	0.040
18.00	1218.000	12574.1	17.869	0.041	18.00	982.000	8575.1	16.391	0.040
19.50	1218.000	14401.1	17.938	0.041	19.50	982.000	10048.1	16.552	0.041

CG 59+000 (05900)					CG 60+000 (06000)				
H	B	A	R	N	H	B	A	R	N
0.00	194.031	921.7	4.750	0.040	0.00	272.127	1012.3	3.720	0.040
1.50	231.829	1228.5	5.299	0.040	1.50	285.632	1431.1	5.010	0.040
3.00	261.762	1600.1	6.113	0.040	3.00	295.046	1866.6	6.327	0.040
4.50	273.120	2001.3	7.327	0.040	4.50	306.079	2316.9	7.570	0.040
6.00	280.171	2417.0	8.627	0.040	6.00	318.383	2785.3	8.748	0.040
7.50	285.911	2841.5	9.939	0.040	7.50	331.356	3272.5	9.876	0.040
9.00	291.651	3274.7	11.228	0.040	9.00	345.130	3779.4	10.951	0.040
10.50	301.678	3717.6	12.323	0.040	10.50	364.796	4311.3	11.818	0.040
12.00	325.237	4185.1	12.868	0.040	12.00	378.031	4869.2	12.880	0.040
13.50	351.954	4694.1	13.337	0.040	13.50	387.189	5443.1	14.058	0.040
15.00	547.748	5300.2	14.246	0.040	15.00	403.601	6032.8	15.263	0.040
16.50	744.382	6321.5	14.362	0.040	16.50	496.280	6702.7	16.408	0.040
18.00	762.000	7456.2	14.479	0.041	18.00	595.708	7512.5	17.328	0.040
19.50	762.000	8599.2	15.267	0.041	19.50	629.000	8448.6	18.090	0.040

CG 61+000 (06100)					CG 62+000 (06200)				
H	B	A	R	N	H	B	A	R	N
0.00	220.710	1730.6	7.841	0.040	0.00	261.951	282.2	1.077	0.040
1.50	262.893	2102.3	7.997	0.040	1.50	393.791	834.2	2.118	0.040
3.00	293.328	2521.3	8.596	0.040	3.00	399.921	1429.6	3.575	0.040
4.50	315.452	2977.9	9.440	0.040	4.50	404.891	2033.2	5.022	0.040
6.00	341.469	3469.8	10.162	0.040	6.00	412.332	2645.2	6.415	0.040
7.50	360.198	3996.4	11.095	0.040	7.50	421.934	3270.9	7.752	0.040
9.00	380.505	4551.5	11.962	0.040	9.00	490.621	3957.5	8.979	0.040
10.50	396.206	5134.1	12.958	0.040	10.50	562.340	4737.5	10.083	0.040
12.00	404.742	5735.0	14.170	0.040	12.00	775.050	5706.6	10.774	0.040
13.50	510.325	6378.9	15.362	0.040	13.50	801.484	6904.0	11.445	0.041
15.00	527.622	7155.5	16.414	0.040	15.00	805.252	8109.1	12.386	0.041
16.50	757.000	8121.7	17.068	0.040	16.50	809.020	9319.8	13.466	0.042
18.00	757.000	9257.2	17.617	0.041	18.00	821.868	10541.2	14.689	0.042
19.50	757.000	10392.7	18.429	0.041	19.50	849.933	11800.6	15.932	0.043

FC-1 Cross-sectional Characteristics of River Improvement Works in the Lower Cagayan River

CG 63+000 (06300)					CG 64+000 (06400)				
H	B	A	R	N	H	B	A	R	N
0.00	238.133	156.4	0.657	0.040	1.00	259.411	275.2	1.061	0.040
1.50	435.332	688.0	1.580	0.040	2.50	360.915	751.0	2.081	0.040
3.00	488.571	1370.7	2.805	0.040	4.00	452.213	1390.2	3.074	0.040
4.50	492.854	2106.9	4.275	0.040	5.50	508.449	2089.0	4.482	0.040
6.00	496.784	2849.2	5.735	0.040	7.00	714.604	3001.2	5.541	0.040
7.50	500.715	3597.3	7.184	0.040	8.50	1882.918	4313.3	6.016	0.041
9.00	587.495	4357.8	8.578	0.040	10.00	1914.889	7145.9	6.046	0.043
10.50	1510.819	6083.4	8.638	0.041	11.50	2603.000	10180.4	6.077	0.045
12.00	1701.195	8491.7	8.698	0.042	13.00	2603.000	14084.9	6.943	0.047
13.50	2500.000	11649.1	8.758	0.043	14.50	2603.000	17989.4	8.104	0.048
15.00	2500.000	15399.1	8.818	0.045	16.00	2603.000	21893.9	9.390	0.049
16.50	2500.000	19149.1	9.768	0.046	17.50	2603.000	25798.4	10.742	0.050
18.00	2500.000	22899.1	10.911	0.047	19.00	2603.000	29702.9	12.134	0.051
19.50	2500.000	26649.1	12.160	0.048	20.50	2603.000	33607.4	13.551	0.051

CG 65+000 (06500)					CG 66+000 (06600)				
H	B	A	R	N	H	B	A	R	N
1.00	133.876	197.1	1.472	0.040	1.00	142.243	154.3	1.085	0.040
2.50	488.269	722.2	1.479	0.040	2.50	336.390	537.9	1.599	0.040
4.00	493.917	1458.9	2.954	0.040	4.00	363.092	1065.8	2.935	0.040
5.50	499.565	2204.0	4.412	0.040	5.50	377.187	1621.0	4.298	0.040
7.00	520.418	2965.6	5.769	0.040	7.00	563.567	2292.0	4.790	0.040
8.50	1466.590	4044.9	6.538	0.040	8.50	627.388	3196.7	5.282	0.040
10.00	1498.298	6285.6	6.861	0.042	10.00	709.188	4190.3	6.610	0.040
11.50	1632.628	8626.9	7.184	0.043	11.50	1201.983	5730.7	7.151	0.041
13.00	2201.000	11821.6	7.681	0.045	13.00	1803.000	7759.7	7.690	0.042
14.50	2201.000	15123.1	8.635	0.046	14.50	1803.000	10464.2	8.188	0.043
16.00	2201.000	18424.6	9.804	0.047	16.00	1803.000	13168.7	9.158	0.044
17.50	2201.000	21726.1	11.080	0.048	17.50	1803.000	15873.2	10.325	0.045
19.00	2201.000	25027.6	12.417	0.049	19.00	1803.000	18577.7	11.596	0.046
20.50	2201.000	28329.1	13.794	0.049	20.50	1803.000	21282.2	12.928	0.046

Gabut COC (GAB01)					Gabut COC (GAB02)				
H	B	A	R	N	H	B	A	R	N
1.00	234.300	242.7	1.036	0.040	1.00	233.220	200.6	0.860	0.040
2.50	243.300	600.9	2.470	0.040	2.50	242.220	557.2	2.300	0.040
4.00	252.300	972.6	3.855	0.040	4.00	251.220	927.3	3.691	0.040
5.50	261.300	1357.8	5.196	0.040	5.50	260.220	1310.9	5.038	0.040
7.00	470.300	1966.5	5.393	0.040	7.00	469.220	1882.0	5.229	0.040
8.50	479.300	2678.7	5.589	0.040	8.50	478.220	2592.5	5.421	0.040
10.00	488.300	3404.4	6.972	0.040	10.00	487.220	3316.6	6.807	0.040
11.50	497.300	4143.6	8.332	0.040	11.50	496.220	4054.2	8.170	0.040
13.00	1800.000	6258.0	8.369	0.041	13.00	1900.000	6021.0	8.441	0.041
14.50	1800.000	8958.0	8.405	0.043	14.50	1900.000	8871.0	8.713	0.042
16.00	1800.000	11658.0	8.442	0.044	16.00	1900.000	11721.0	8.984	0.044
17.50	1800.000	14358.0	9.559	0.045	17.50	1900.000	14571.0	9.255	0.045
19.00	1800.000	17058.0	10.804	0.046	19.00	1900.000	17421.0	10.491	0.046
20.50	1800.000	19758.0	12.121	0.047	20.50	1900.000	20271.0	11.804	0.047

Gabut COC (GAB03)					CG 76+000 (07600)				
H	B	A	R	N	H	B	A	R	N
1.00	232.080	156.4	0.674	0.040	2.00	160.920	162.3	1.009	0.040
2.50	241.080	511.3	2.121	0.040	3.50	312.454	485.1	1.552	0.040
4.00	250.080	879.7	3.518	0.040	5.00	419.769	1066.4	2.540	0.040
5.50	259.080	1261.5	4.869	0.040	6.50	425.859	1700.6	3.993	0.040
7.00	468.080	1792.9	5.057	0.040	8.00	432.250	2344.2	5.423	0.040
8.50	477.080	2501.8	5.244	0.040	9.50	438.641	2997.3	6.833	0.040
10.00	486.080	3224.1	6.633	0.040	11.00	445.637	3660.2	8.214	0.040
11.50	495.080	3960.0	7.999	0.040	12.50	453.843	4334.9	9.551	0.040
13.00	1700.000	5524.0	8.124	0.040	14.00	723.028	5111.2	10.328	0.040
14.50	1700.000	8074.0	8.249	0.042	15.50	1733.000	7357.5	10.475	0.041
16.00	1700.000	10624.0	8.375	0.043	17.00	1733.000	9957.0	10.622	0.042
17.50	1700.000	13174.0	9.445	0.045	18.50	1733.000	12556.5	10.768	0.044
19.00	1700.000	15724.0	10.663	0.046	20.00	1733.000	15156.0	10.915	0.045
20.50	1700.000	18274.0	11.963	0.046	21.50	1733.000	17755.5	12.088	0.046

FC-1 Cross-sectional Characteristics of River Improvement Works in the Lower Cagayan River

CG 77+000 (07700)

H	B	A	R	N
2.00	158.400	366.5	2.314	0.040
3.50	359.375	707.4	2.854	0.040
5.00	370.018	1255.9	3.394	0.040
6.50	377.945	1816.3	4.806	0.040
8.00	387.679	2390.5	6.166	0.040
9.50	397.412	2979.3	7.497	0.040
11.00	408.890	3584.0	8.765	0.040
12.50	1054.327	4304.4	9.683	0.040
14.00	1282.120	6147.8	9.905	0.041
15.50	1530.000	8260.3	10.127	0.042
17.00	1530.000	10555.3	10.349	0.044
18.50	1530.000	12850.3	10.572	0.045
20.00	1530.000	15145.3	11.730	0.046
21.50	1530.000	17440.3	12.983	0.046

CG 78+000 (07800)

H	B	A	R	N
3.00	196.071	1081.0	5.513	0.040
4.50	246.205	1404.1	5.703	0.040
6.00	252.359	1778.0	7.045	0.040
7.50	258.129	2161.1	8.372	0.040
9.00	260.901	2550.4	9.775	0.040
10.50	263.795	2943.9	11.160	0.040
12.00	266.688	3341.8	12.531	0.040
13.50	308.721	3759.9	13.819	0.040
15.00	1371.467	5685.9	13.819	0.041
16.50	1573.000	7910.5	13.819	0.043
18.00	1573.000	10270.0	13.819	0.044
19.50	1573.000	12629.5	13.819	0.046
21.00	1573.000	14989.0	13.819	0.047
22.50	1573.000	17348.5	13.819	0.048

CG 79+000 (07900)

H	B	A	R	N
3.00	453.855	1696.3	3.738	0.040
4.50	466.215	2386.4	5.119	0.040
6.00	472.655	3090.6	6.539	0.040
7.50	480.086	3805.1	7.926	0.040
9.00	487.572	4530.8	9.293	0.040
10.50	495.059	5267.8	10.641	0.040
12.00	502.546	6016.0	11.971	0.040
13.50	1810.646	7343.0	12.133	0.040
15.00	1813.000	10061.0	12.296	0.041
16.50	1813.000	12780.5	12.458	0.042
18.00	1813.000	15500.0	12.621	0.043
19.50	1813.000	18219.5	12.783	0.044
21.00	1813.000	20939.0	13.916	0.045
22.50	1813.000	23658.5	15.137	0.046

CG 80+000 (08000)

H	B	A	R	N
3.00	131.514	87.0	0.661	0.040
4.50	440.291	548.2	1.245	0.040
6.00	546.743	1281.8	2.484	0.040
7.50	803.852	2313.7	3.407	0.041
9.00	925.448	3622.1	4.334	0.042
10.50	1104.170	5149.5	4.955	0.042
12.00	1105.300	6806.6	6.375	0.043
13.50	1706.000	8977.4	7.315	0.044
15.00	1706.000	11536.4	8.293	0.044
16.50	1706.000	14095.4	9.488	0.045
18.00	1706.000	16654.4	10.787	0.046
19.50	1706.000	19213.4	12.144	0.046
21.00	1706.000	21772.4	13.536	0.046
22.50	1706.000	24331.4	14.952	0.047

CG 81+000 (08100)

H	B	A	R	N
3.00	341.560	279.0	0.817	0.040
4.50	530.313	960.6	1.811	0.040
6.00	559.481	1778.4	3.179	0.040
7.50	681.918	2675.3	3.923	0.040
9.00	781.504	3750.4	5.252	0.040
10.50	1168.744	5115.1	6.176	0.040
12.00	2179.470	7292.0	6.548	0.041
13.50	2220.000	10621.2	6.876	0.043
15.00	2220.000	13951.2	7.840	0.044
16.50	2220.000	17281.2	9.028	0.045
18.00	2220.000	20611.2	10.322	0.046
19.50	2220.000	23941.2	11.675	0.047
21.00	2220.000	27271.2	13.065	0.047
22.50	2220.000	30601.2	14.480	0.048

CG 82+000 (08200)

H	B	A	R	N
3.00	231.259	1248.8	5.400	0.040
4.50	256.693	1602.6	6.243	0.040
6.00	518.611	2183.6	6.257	0.040
7.50	548.886	2982.1	6.271	0.040
9.00	874.205	4078.7	6.285	0.040
10.50	1082.964	5565.7	7.070	0.041
12.00	1336.202	7355.2	7.789	0.042
13.50	1532.328	9513.3	8.377	0.043
15.00	1567.542	11846.4	9.361	0.044
16.50	1801.836	14311.2	10.092	0.045
18.00	1826.000	17044.4	11.179	0.046
19.50	1826.000	19783.4	12.414	0.046
21.00	1826.000	22522.4	13.717	0.047
22.50	1826.000	25261.4	15.064	0.048

CG 83+000 (08300)

H	B	A	R	N
3.00	143.916	168.2	1.169	0.040
4.50	479.719	658.0	1.372	0.040
6.00	490.372	1385.6	2.826	0.040
7.50	498.613	2126.6	4.265	0.040
9.00	512.400	2884.9	5.630	0.040
10.50	1345.932	4259.3	5.931	0.040
12.00	1404.642	6312.6	6.372	0.042
13.50	1436.535	8451.2	7.327	0.043
15.00	1444.637	10612.1	8.506	0.045
16.50	1452.738	12785.1	9.785	0.045
18.00	1738.928	15201.3	10.699	0.046
19.50	1749.372	17818.0	11.872	0.047
21.00	1760.042	20449.9	13.120	0.047
22.50	1771.147	23098.3	14.411	0.048

CG 84+000 (08400)

H	B	A	R	N
3.00	242.291	570.3	2.354	0.040
4.50	278.955	972.5	3.486	0.040
6.00	318.430	1410.9	4.431	0.040
7.50	417.116	1991.0	4.773	0.040
9.00	423.219	2621.5	6.194	0.040
10.50	428.886	3260.5	7.602	0.040
12.00	555.743	3933.8	8.939	0.040
13.50	1337.026	5635.6	9.013	0.041
15.00	1417.168	7719.2	9.086	0.042
16.50	1500.535	9923.6	9.160	0.043
18.00	1502.000	12176.6	10.158	0.045
19.50	1502.000	14429.6	11.325	0.045
21.00	1502.000	16682.6	12.587	0.046
22.50	1502.000	18935.6	13.909	0.047

FC-1 Cross-sectional Characteristics of River Improvement Works in the Lower Cagayan River

CG 85+000 (08500)					CG 86+000 (08600)				
H	B	A	R	N	H	B	A	R	N
3.00	282.969	295.2	1.043	0.040	3.00	437.667	302.8	0.692	0.040
4.50	408.924	818.9	2.003	0.040	4.50	453.898	974.4	2.147	0.040
6.00	415.665	1438.2	3.460	0.040	6.00	505.794	1668.9	3.299	0.040
7.50	418.160	2063.6	4.935	0.040	7.50	526.250	2441.6	4.640	0.040
9.00	583.804	2856.2	5.985	0.040	9.00	597.887	3270.2	5.803	0.040
10.50	615.303	3749.8	7.093	0.041	10.50	815.929	4340.5	6.644	0.040
12.00	784.260	4834.1	8.016	0.041	12.00	874.488	5608.2	7.663	0.041
13.50	1470.000	6180.9	8.571	0.042	13.50	1600.000	7667.9	7.921	0.041
15.00	1470.000	8385.9	8.742	0.043	15.00	1600.000	10067.9	8.579	0.043
16.50	1470.000	10590.9	9.551	0.044	16.50	1600.000	12467.9	9.604	0.044
18.00	1470.000	12795.9	10.623	0.045	18.00	1600.000	14867.9	10.796	0.044
19.50	1470.000	15000.9	11.830	0.046	19.50	1600.000	17267.9	12.079	0.045
21.00	1470.000	17205.9	13.116	0.047	21.00	1600.000	19667.9	13.418	0.046
22.50	1470.000	19410.9	14.453	0.047	22.50	1600.000	22067.9	14.793	0.046

CG 87+000 (08700)					CG 88+000 (08800)				
H	B	A	R	N	H	B	A	R	N
3.00	165.690	370.4	2.236	0.040	4.00	344.167	306.5	0.890	0.040
4.50	200.230	653.4	3.263	0.040	5.50	411.139	886.1	2.155	0.040
6.00	321.127	1029.5	3.371	0.040	7.00	439.021	1524.1	3.472	0.040
7.50	464.848	1617.0	3.479	0.040	8.50	460.680	2198.9	4.773	0.040
9.00	480.760	2320.9	4.908	0.040	10.00	511.463	2929.8	5.728	0.040
10.50	1193.766	3231.4	5.845	0.040	11.50	532.470	3710.2	7.100	0.040
12.00	1482.193	5328.4	6.165	0.042	13.00	1550.349	5417.2	7.170	0.041
13.50	1494.935	7565.6	6.485	0.044	14.50	1570.517	7757.6	7.241	0.042
15.00	1499.693	9811.6	7.637	0.045	16.00	1583.008	10124.7	8.149	0.044
16.50	1504.452	12064.7	8.915	0.046	17.50	1591.758	12505.7	9.286	0.045
18.00	1509.210	14324.9	10.255	0.047	19.00	1598.000	14899.4	10.537	0.046
19.50	1513.968	16592.3	11.630	0.047	20.50	1598.000	17296.4	11.866	0.046
21.00	1518.000	18868.2	13.029	0.048	22.00	1598.000	19693.4	13.238	0.047
22.50	1518.000	21145.2	14.464	0.048	23.50	1598.000	22090.4	14.638	0.047

San Isidro COC (SAN01)					San Isidro COC (SAN02)				
H	B	A	R	N	H	B	A	R	N
5.00	252.900	529.9	2.095	0.040	5.00	251.820	484.4	1.924	0.040
6.50	261.900	916.0	3.497	0.040	6.50	260.820	868.9	3.332	0.040
8.00	270.900	1315.6	4.856	0.040	8.00	269.820	1266.9	4.695	0.040
9.50	479.900	1858.7	5.072	0.040	9.50	478.820	1772.4	4.907	0.040
11.00	488.900	2585.3	5.288	0.040	11.00	487.820	2497.4	5.119	0.040
12.50	497.900	3325.4	6.679	0.040	12.50	496.820	3235.8	6.513	0.040
14.00	1500.000	5225.0	6.761	0.041	14.00	1500.000	4955.0	6.626	0.041
15.50	1500.000	7475.0	6.844	0.043	15.50	1500.000	7205.0	6.740	0.042
17.00	1500.000	9725.0	7.890	0.044	17.00	1500.000	9455.0	7.752	0.044
18.50	1500.000	11975.0	9.117	0.045	18.50	1500.000	11705.0	8.964	0.045
20.00	1500.000	14225.0	10.435	0.046	20.00	1500.000	13955.0	10.273	0.046
21.50	1500.000	16475.0	11.803	0.047	21.50	1500.000	16205.0	11.637	0.047
23.00	1500.000	18725.0	13.204	0.047	23.00	1500.000	18455.0	13.035	0.047
24.50	1500.000	20975.0	14.627	0.048	24.50	1500.000	20705.0	14.455	0.048

San Isidro COC (SAN03)					San Isidro COC (SAN04)				
H	B	A	R	N	H	B	A	R	N
5.00	250.740	439.2	1.752	0.040	5.00	249.420	384.2	1.540	0.040
6.50	259.740	822.1	3.165	0.040	6.50	258.420	765.1	2.961	0.040
8.00	268.740	1218.4	4.534	0.040	8.00	267.420	1159.5	4.336	0.040
9.50	477.740	1686.3	4.742	0.040	9.50	476.420	1581.3	4.540	0.040
11.00	486.740	2409.7	4.951	0.040	11.00	485.420	2302.7	4.744	0.040
12.50	495.740	3146.5	6.347	0.040	12.50	494.420	3037.6	6.144	0.040
14.00	1500.000	4685.0	6.495	0.041	14.00	1500.000	4355.0	6.382	0.040
15.50	1500.000	6935.0	6.643	0.042	15.50	1500.000	6605.0	6.534	0.042
17.00	1500.000	9185.0	7.617	0.044	17.00	1500.000	8855.0	7.455	0.044
18.50	1500.000	11435.0	8.812	0.045	18.50	1500.000	11105.0	8.629	0.045
20.00	1500.000	13685.0	10.113	0.046	20.00	1500.000	13355.0	9.918	0.046
21.50	1500.000	15935.0	11.472	0.046	21.50	1500.000	15605.0	11.270	0.046
23.00	1500.000	18185.0	12.866	0.047	23.00	1500.000	17855.0	12.660	0.047
24.50	1500.000	20435.0	14.284	0.047	24.50	1500.000	20105.0	14.075	0.047

FC-1 Cross-sectional Characteristics of River Improvement Works in the Lower Cagayan River

CG 97+000 (09700)

H	B	A	R	N
6.00	135.135	177.9	1.317	0.040
7.50	449.848	648.7	1.442	0.040
9.00	473.733	1349.6	2.849	0.040
10.50	489.737	2067.0	4.291	0.040
12.00	551.347	2844.9	5.567	0.040
13.50	702.384	3764.2	6.614	0.040
15.00	784.048	4854.8	7.721	0.041
16.50	917.135	6128.7	8.692	0.041
18.00	1603.000	7894.3	9.020	0.042
19.50	1603.000	10298.8	9.426	0.043
21.00	1603.000	12703.3	10.307	0.044
22.50	1603.000	15107.8	11.406	0.045
24.00	1603.000	17512.3	12.623	0.046
25.50	1603.000	19916.8	13.912	0.046

CG 98+000 (09800)

H	B	A	R	N
6.00	324.803	76.5	0.236	0.040
7.50	562.687	859.3	1.527	0.040
9.00	569.086	1708.3	3.002	0.040
10.50	613.724	2585.6	4.317	0.040
12.00	711.978	3579.7	5.477	0.040
13.50	1013.386	4802.4	6.479	0.040
15.00	1050.181	6359.4	7.420	0.041
16.50	1170.022	8017.9	8.498	0.042
18.00	1581.000	10058.0	9.258	0.042
19.50	1581.000	12429.5	10.129	0.043
21.00	1581.000	14801.0	11.232	0.044
22.50	1581.000	17172.5	12.456	0.045
24.00	1581.000	19544.0	13.753	0.045
25.50	1581.000	21915.5	15.097	0.045

CG 99+000 (09900)

H	B	A	R	N
6.00	378.900	671.9	1.773	0.040
7.50	392.204	1250.3	3.188	0.040
9.00	409.136	1849.0	4.620	0.040
10.50	422.777	2472.9	6.006	0.040
12.00	468.393	3132.7	7.293	0.040
13.50	581.163	3924.5	8.295	0.040
15.00	789.915	4978.1	8.872	0.041
16.50	1945.944	6465.4	9.130	0.041
18.00	1958.019	9393.4	9.387	0.043
19.50	1969.693	12339.4	9.643	0.045
21.00	1979.460	15301.3	9.900	0.046
22.50	1993.652	18280.2	10.981	0.047
24.00	2003.783	21280.3	12.177	0.048
25.50	2009.000	24289.9	13.457	0.048

CG 100+000 (10000)

H	B	A	R	N
7.00	289.061	574.7	1.988	0.040
8.50	435.317	1127.2	2.589	0.040
10.00	438.713	1782.7	4.063	0.040
11.50	442.604	2443.4	5.521	0.040
13.00	447.376	3110.9	6.954	0.040
14.50	599.106	3871.6	8.142	0.040
16.00	2283.429	5022.2	8.614	0.040
17.50	2307.000	8470.6	8.863	0.042
19.00	2307.000	11931.1	9.112	0.044
20.50	2307.000	15391.6	9.361	0.046
22.00	2307.000	18852.1	9.610	0.047
23.50	2307.000	22312.6	10.887	0.048
25.00	2307.000	25773.1	12.225	0.049
26.50	2307.000	29233.6	13.601	0.050

CG 101+000 (10100)

H	B	A	R	N
7.00	221.880	567.2	2.556	0.040
8.50	464.680	1030.8	3.066	0.040
10.00	488.761	1747.4	3.575	0.040
11.50	499.842	2490.3	4.982	0.040
13.00	507.879	3246.2	6.392	0.040
14.50	601.182	4040.9	7.776	0.040
16.00	738.446	5042.1	8.788	0.040
17.50	2394.000	8322.7	8.959	0.042
19.00	2394.000	11913.7	9.131	0.044
20.50	2394.000	15504.7	9.302	0.045
22.00	2394.000	19095.7	9.474	0.047
23.50	2394.000	22686.7	10.736	0.048
25.00	2394.000	26277.7	12.064	0.049
26.50	2394.000	29868.7	13.435	0.049

CG 102+000 (10200)

H	B	A	R	N
7.00	310.239	1339.7	4.318	0.040
8.50	317.572	1811.5	5.704	0.040
10.00	325.215	2292.3	7.049	0.040
11.50	337.260	2789.2	8.270	0.040
13.00	466.831	3375.2	9.302	0.040
14.50	1940.697	5645.5	9.403	0.041
16.00	1952.808	8565.4	9.505	0.044
17.50	1965.652	11504.2	9.607	0.046
19.00	2012.694	14473.6	9.708	0.047
20.50	2061.142	17534.6	9.810	0.048
22.00	2086.648	20645.4	11.090	0.049
23.50	2110.569	23793.8	12.405	0.050
25.00	2133.572	26976.9	13.740	0.051
26.50	2144.000	30189.3	15.103	0.051

CG 103+000 (10300)

H	B	A	R	N
7.00	305.295	779.0	2.552	0.040
8.50	365.346	1283.8	3.514	0.040
10.00	399.016	1852.6	4.643	0.040
11.50	453.465	2504.4	5.523	0.040
13.00	1898.096	3980.0	5.757	0.041
14.50	1899.804	6828.5	5.991	0.043
16.00	1907.615	9681.3	6.226	0.045
17.50	1915.698	12549.9	7.397	0.047
19.00	2518.000	15741.3	8.501	0.048
20.50	2518.000	19518.3	9.500	0.049
22.00	2518.000	23295.3	10.690	0.050
23.50	2518.000	27072.3	11.976	0.050
25.00	2518.000	30849.3	13.319	0.051
26.50	2518.000	34626.3	14.698	0.051

CG 104+000 (10400)

H	B	A	R	N
7.00	269.186	1006.1	3.738	0.040
8.50	350.501	1468.1	4.189	0.040
10.00	457.845	2071.3	4.524	0.040
11.50	550.209	2839.9	5.161	0.040
13.00	560.668	3673.1	6.551	0.040
14.50	1799.291	5782.7	6.568	0.041
16.00	1801.955	8482.8	6.584	0.043
17.50	1806.804	11190.0	7.565	0.044
19.00	2709.000	14476.6	8.344	0.046
20.50	2709.000	18540.1	9.096	0.047
22.00	2709.000	22603.6	10.157	0.048
23.50	2709.000	26667.1	11.366	0.049
25.00	2709.000	30730.6	12.657	0.049
26.50	2709.000	34794.1	13.999	0.050

FC-1 Cross-sectional Characteristics of River Improvement Works in the Lower Cagayan River

CG 105+000 (10500)

H	B	A	R	N
7.00	339.814	909.0	2.675	0.040
8.50	363.734	1432.0	3.937	0.040
10.00	517.457	2071.2	4.003	0.040
11.50	609.751	2901.3	4.758	0.040
13.00	630.723	3829.6	6.072	0.040
14.50	1354.512	5472.6	6.438	0.040
16.00	3068.761	7588.5	7.072	0.042
17.50	3157.000	12321.2	7.144	0.044
19.00	3157.000	17056.7	7.216	0.046
20.50	3157.000	21792.2	8.309	0.047
22.00	3157.000	26527.7	9.554	0.048
23.50	3157.000	31263.2	10.879	0.049
25.00	3157.000	35998.7	12.251	0.050
26.50	3157.000	40734.2	13.653	0.050

CG 106+000 (10600)

H	B	A	R	N
7.00	463.913	1069.3	2.305	0.040
8.50	469.655	1769.5	3.768	0.040
10.00	476.709	2479.3	5.201	0.040
11.50	481.732	3197.0	6.636	0.040
13.00	496.585	3928.1	7.968	0.040
14.50	2263.954	5143.9	8.208	0.040
16.00	2701.000	8741.7	8.436	0.042
17.50	2701.000	12793.1	8.664	0.044
19.00	2701.000	16844.6	8.892	0.046
20.50	2701.000	20896.1	9.121	0.048
22.00	2701.000	24947.6	10.396	0.049
23.50	2701.000	28999.2	11.735	0.049
25.00	2701.000	33050.6	13.114	0.050
26.50	2701.000	37102.1	14.520	0.051

CG 107+000 (10700)

H	B	A	R	N
7.00	294.304	1524.8	5.181	0.040
8.50	300.508	1971.3	6.560	0.040
10.00	321.417	2436.7	7.581	0.040
11.50	356.686	2940.9	8.245	0.040
13.00	394.768	3517.5	8.910	0.040
14.50	2047.909	4152.4	10.159	0.040
16.00	2181.831	7356.6	10.234	0.042
17.50	2266.234	10686.2	10.309	0.044
19.00	2278.372	14094.2	10.385	0.046
20.50	2291.833	17521.8	10.460	0.047
22.00	2293.000	20961.3	10.536	0.048
23.50	2293.000	24400.8	11.841	0.049
25.00	2293.000	27840.3	13.195	0.050
26.50	2293.000	31279.8	14.581	0.050

CG 108+000 (10800)

H	B	A	R	N
7.00	207.601	594.8	2.865	0.040
8.50	224.505	917.3	4.086	0.040
10.00	241.842	1267.7	5.242	0.040
11.50	315.005	1671.6	5.306	0.040
13.00	462.780	2267.0	5.823	0.040
14.50	467.676	2964.9	6.340	0.040
16.00	721.293	3777.2	7.524	0.040
17.50	1943.000	5604.4	7.592	0.041
19.00	1943.000	8518.9	7.659	0.043
20.50	1943.000	11433.4	7.727	0.045
22.00	1943.000	14347.9	8.842	0.046
23.50	1943.000	17262.4	10.093	0.047
25.00	1943.000	20176.9	11.418	0.048
26.50	1943.000	23091.4	12.788	0.049

CG 109+000 (10900)

H	B	A	R	N
7.00	392.500	522.1	1.330	0.040
8.50	551.175	1239.1	2.248	0.040
10.00	559.944	2073.0	3.702	0.040
11.50	564.663	2916.5	5.165	0.040
13.00	569.382	3767.0	6.616	0.040
14.50	574.101	4624.6	8.055	0.040
16.00	578.821	5489.3	9.484	0.040
17.50	2395.750	7002.5	9.504	0.040
19.00	2407.000	10609.8	9.524	0.042
20.50	2407.000	14220.3	9.544	0.043
22.00	2407.000	17830.8	9.564	0.045
23.50	2407.000	21441.3	10.690	0.046
25.00	2407.000	25051.8	11.930	0.047
26.50	2407.000	28662.3	13.237	0.047

CG 110+000 (11000)

H	B	A	R	N
7.00	298.154	211.9	0.711	0.040
8.50	502.482	856.6	1.705	0.040
10.00	570.530	1683.3	2.950	0.040
11.50	586.582	2550.0	4.347	0.040
13.00	1041.937	3696.9	5.271	0.040
14.50	1045.364	5262.3	6.175	0.041
16.00	1048.791	6833.0	7.376	0.042
17.50	1064.074	8411.0	8.681	0.043
19.00	2355.000	10976.2	8.948	0.043
20.50	2355.000	14508.7	9.237	0.045
22.00	2355.000	18041.2	10.076	0.046
23.50	2355.000	21573.7	11.155	0.046
25.00	2355.000	25106.2	12.362	0.047
26.50	2355.000	28638.7	13.646	0.048

CG 111+000 (11100)

H	B	A	R	N
7.00	434.328	548.8	1.264	0.040
8.50	474.139	1247.5	2.631	0.040
10.00	479.886	1963.6	4.092	0.040
11.50	483.928	2686.5	5.551	0.040
13.00	629.601	3492.4	6.814	0.040
14.50	852.883	4612.3	7.563	0.040
16.00	959.809	5972.4	8.283	0.041
17.50	1124.001	7534.7	8.926	0.042
19.00	1720.078	9668.9	9.190	0.043
20.50	1841.118	12394.9	9.678	0.044
22.00	1845.000	15160.6	10.583	0.045
23.50	1845.000	17928.1	11.698	0.046
25.00	1845.000	20695.6	12.924	0.047
26.50	1845.000	23463.1	14.217	0.047

CG 112+000 (11200)

H	B	A	R	N
7.00	308.932	617.5	1.999	0.040
8.50	361.500	1138.2	3.149	0.040
10.00	421.047	1709.2	4.059	0.040
11.50	506.497	2404.4	4.747	0.040
13.00	513.152	3169.1	6.176	0.040
14.50	693.760	3990.4	7.505	0.040
16.00	778.600	5121.7	8.388	0.040
17.50	1414.760	6656.6	8.617	0.041
19.00	1917.000	9251.6	8.825	0.042
20.50	1917.000	12127.1	9.032	0.043
22.00	1917.000	15002.6	9.982	0.045
23.50	1917.000	17878.1	11.122	0.046
25.00	1917.000	20753.6	12.368	0.046
26.50	1917.000	23629.1	13.678	0.047

FC-1 Cross-sectional Characteristics of River Improvement Works in the Lower Cagayan River

CG 113+000 (11300)					CG 114+000 (11400)				
H	B	A	R	N	H	B	A	R	N
7.00	456.939	882.2	1.931	0.040	7.00	449.989	626.0	1.391	0.040
8.50	469.891	1577.3	3.357	0.040	8.50	529.411	1402.3	2.649	0.040
10.00	474.675	2287.2	4.819	0.040	10.00	535.918	2203.0	4.111	0.040
11.50	476.879	3000.9	6.293	0.040	11.50	538.016	3008.4	5.592	0.040
13.00	479.813	3718.0	7.749	0.040	13.00	540.130	3817.0	7.067	0.040
14.50	484.505	4441.3	9.167	0.040	14.50	542.172	4628.8	8.537	0.040
16.00	553.406	5211.5	10.496	0.040	16.00	644.287	5518.4	9.843	0.040
17.50	739.995	6074.3	11.660	0.040	17.50	721.405	6543.6	10.988	0.040
19.00	1493.000	8100.7	11.903	0.041	19.00	1687.833	8368.1	11.077	0.040
20.50	1493.000	10340.2	12.146	0.042	20.50	1689.000	10901.4	11.166	0.042
22.00	1493.000	12579.7	12.389	0.043	22.00	1689.000	13434.9	11.255	0.043
23.50	1493.000	14819.2	12.632	0.044	23.50	1689.000	15968.4	12.196	0.043
25.00	1493.000	17058.7	13.761	0.044	25.00	1689.000	18501.9	13.303	0.044
26.50	1493.000	19298.2	14.981	0.045	26.50	1689.000	21035.4	14.511	0.045

CG 115+000 (11500)					Tuguegarao COC (TUG01)				
H	B	A	R	N	H	B	A	R	N
7.00	269.817	56.5	0.209	0.040	9.00	497.887	1029.0	2.067	0.040
8.50	485.811	692.9	1.426	0.040	10.50	515.440	1789.0	3.471	0.040
10.00	598.541	1537.5	2.569	0.040	12.00	538.731	2577.5	4.784	0.040
11.50	608.103	2445.3	4.021	0.040	13.50	608.737	3443.4	5.657	0.040
13.00	624.777	3369.9	5.394	0.040	15.00	713.269	4439.7	6.766	0.040
14.50	658.863	4321.1	6.729	0.040	16.50	1161.576	5745.8	7.569	0.040
16.00	787.318	5407.4	7.370	0.040	18.00	1241.394	7551.9	8.268	0.041
17.50	856.396	6650.0	8.329	0.040	19.50	1320.262	9505.0	9.185	0.042
19.00	1205.164	8406.3	8.946	0.041	21.00	1325.246	11489.1	10.304	0.042
20.50	1298.000	10286.2	9.816	0.041	22.50	1332.426	13481.1	11.533	0.043
22.00	1298.000	12233.2	10.981	0.042	24.00	1377.370	15512.1	12.740	0.044
23.50	1298.000	14180.2	12.249	0.042	25.50	1400.000	17606.4	13.998	0.044
25.00	1298.000	16127.2	13.579	0.042	27.00	1400.000	19706.4	15.339	0.044
26.50	1298.000	18074.2	14.948	0.043	28.50	1400.000	21806.4	16.712	0.045

Tuguegarao COC (TUG02)					Tuguegarao COC (TUG03)				
H	B	A	R	N	H	B	A	R	N
9.00	252.960	411.6	1.627	0.040	9.00	250.602	357.1	1.425	0.040
10.50	261.960	797.8	3.046	0.040	10.50	1148.934	1066.6	1.933	0.041
12.00	270.960	1197.5	4.420	0.040	12.00	1435.805	3137.1	2.351	0.048
13.50	479.905	1642.7	4.619	0.040	13.50	1469.085	5315.7	3.721	0.050
15.00	550.980	2385.9	4.818	0.040	15.00	1605.015	7689.9	4.811	0.051
16.50	911.960	3504.9	5.550	0.040	16.50	2569.315	10867.1	5.741	0.051
18.00	1472.621	5273.8	5.733	0.042	18.00	2782.874	14787.2	6.236	0.051
19.50	1800.000	7560.3	6.419	0.043	19.50	2800.000	18980.9	7.503	0.052
21.00	1800.000	10260.3	7.272	0.045	21.00	2800.000	23180.9	8.865	0.053
22.50	1800.000	12960.3	8.426	0.046	22.50	2800.000	27380.9	10.272	0.053
24.00	1800.000	15660.3	9.708	0.047	24.00	2800.000	31580.9	11.705	0.053
25.50	1800.000	18360.3	11.057	0.048	25.50	2800.000	35780.9	13.154	0.053
27.00	1800.000	21060.3	12.446	0.048	27.00	2800.000	39980.9	14.614	0.054
28.50	1800.000	23760.3	13.860	0.049	28.50	2800.000	44180.9	16.081	0.054

Tuguegarao COC (TUG04)					Tuguegarao COC (TUG05)				
H	B	A	R	N	H	B	A	R	N
9.00	235.317	289.6	1.231	0.040	10.00	248.300	496.4	1.999	0.040
10.50	1278.520	1118.5	1.302	0.043	11.50	257.300	875.6	3.403	0.040
12.00	1348.695	3070.8	2.380	0.048	13.00	266.300	1268.3	4.763	0.040
13.50	1823.279	5256.7	3.522	0.050	14.50	475.252	1784.5	4.968	0.040
15.00	2042.420	8209.9	4.596	0.051	16.00	484.121	2504.0	5.172	0.040
16.50	2115.729	11328.5	5.813	0.051	17.50	1673.773	3770.2	5.445	0.040
18.00	2980.988	14909.5	6.224	0.050	19.00	1799.150	6375.2	5.684	0.043
19.50	3100.000	19533.6	6.636	0.051	20.50	2400.000	9440.0	5.922	0.045
21.00	3100.000	24183.6	8.073	0.052	22.00	2400.000	13040.0	6.829	0.047
22.50	3100.000	28833.6	9.530	0.053	23.50	2400.000	16640.0	8.016	0.048
24.00	3100.000	33483.6	10.999	0.053	25.00	2400.000	20240.0	9.320	0.049
25.50	3100.000	38133.6	12.475	0.053	26.50	2400.000	23840.0	10.685	0.050
27.00	3100.000	42783.6	13.956	0.054	28.00	2400.000	27440.0	12.086	0.050
28.50	3100.000	47433.6	15.441	0.054	29.50	2400.000	31040.0	13.510	0.051

FC-1 Cross-sectional Characteristics of River Improvement Works in the Lower Cagayan River

Tuguegarao COC (TUG06)

H	B	A	R	N
10.00	243.100	439.5	1.808	0.040
11.50	252.100	810.9	3.216	0.040
13.00	261.100	1195.8	4.580	0.040
14.50	470.137	1664.2	4.769	0.040
16.00	479.295	2376.2	4.958	0.040
17.50	488.815	3102.1	6.346	0.040
19.00	1230.083	4292.6	6.766	0.040
20.50	1900.000	6467.5	6.896	0.042
22.00	1900.000	9317.5	7.027	0.044
23.50	1900.000	12167.5	8.001	0.045
25.00	1900.000	15017.5	9.189	0.046
26.50	1900.000	17867.5	10.481	0.047
28.00	1900.000	20717.5	11.832	0.048
29.50	1900.000	23567.5	13.220	0.048

Tuguegarao COC (TUG07)

H	B	A	R	N
10.00	237.900	384.4	1.616	0.040
11.50	246.900	748.0	3.029	0.040
13.00	255.900	1125.1	4.397	0.040
14.50	464.900	1545.7	4.572	0.040
16.00	473.900	2249.8	4.747	0.040
17.50	482.900	2967.4	6.145	0.040
19.00	491.900	3698.5	7.519	0.040
20.50	1600.000	4608.0	8.444	0.040
22.00	1600.000	7008.0	8.708	0.041
23.50	1600.000	9408.0	8.973	0.043
25.00	1600.000	11808.0	9.237	0.044
26.50	1600.000	14208.0	10.412	0.045
28.00	1600.000	16608.0	11.686	0.046
29.50	1600.000	19008.0	13.019	0.046

Tuguegarao COC (TUG08)

H	B	A	R	N
10.00	236.700	336.9	1.423	0.040
11.50	245.700	698.7	2.844	0.040
13.00	254.700	1074.0	4.217	0.040
14.50	263.700	1462.8	5.547	0.040
16.00	472.700	2155.1	5.754	0.040
17.50	481.700	2870.9	5.960	0.040
19.00	490.700	3600.2	7.337	0.040
20.50	499.700	4343.0	8.691	0.040
22.00	1700.000	6833.0	8.761	0.041
23.50	1700.000	9383.0	8.830	0.043
25.00	1700.000	11933.0	8.899	0.044
26.50	1700.000	14483.0	10.057	0.045
28.00	1700.000	17033.0	11.323	0.046
29.50	1700.000	19583.0	12.651	0.047

Tuguegarao COC (TUG09)

H	B	A	R	N
10.00	235.620	294.4	1.249	0.040
11.50	244.620	654.6	2.676	0.040
13.00	253.620	1028.3	4.054	0.040
14.50	262.620	1415.4	5.390	0.040
16.00	471.620	2070.1	5.591	0.040
17.50	480.620	2784.3	5.793	0.040
19.00	489.620	3512.0	7.173	0.040
20.50	498.620	4253.2	8.530	0.040
22.00	1700.000	6527.0	8.610	0.041
23.50	1700.000	9077.0	8.691	0.043
25.00	1700.000	11627.0	8.771	0.044
26.50	1700.000	14177.0	9.911	0.045
28.00	1700.000	16727.0	11.167	0.046
29.50	1700.000	19277.0	12.489	0.047

CG 129+000 (12900)

H	B	A	R	N
11.00	132.822	49.8	0.375	0.040
12.50	372.655	438.3	1.176	0.040
14.00	598.595	1248.3	2.085	0.040
15.50	639.137	2181.0	3.412	0.040
17.00	657.905	3154.5	4.795	0.040
18.50	675.418	4153.8	6.150	0.040
20.00	696.514	5182.4	7.440	0.040
21.50	2099.992	7653.8	7.614	0.041
23.00	3285.361	11053.2	7.787	0.044
24.50	3403.000	16121.8	7.960	0.048
26.00	3403.000	21226.3	8.133	0.052
27.50	3403.000	26330.8	9.253	0.055
29.00	3403.000	31435.3	10.503	0.058
30.50	3403.000	36539.8	11.825	0.060

CG 130+000 (13000)

H	B	A	R	N
11.00	279.654	99.8	0.357	0.040
12.50	369.450	585.2	1.584	0.040
14.00	545.729	1253.9	2.298	0.040
15.50	823.689	2325.3	2.823	0.040
17.00	835.136	3570.1	4.275	0.040
18.50	844.592	4829.9	5.719	0.040
20.00	1724.389	6147.6	7.074	0.040
21.50	1963.891	9004.9	7.424	0.042
23.00	3629.820	12019.0	7.774	0.044
24.50	3767.000	17638.3	8.035	0.047
26.00	3767.000	23288.8	8.297	0.050
27.50	3767.000	28939.3	9.364	0.053
29.00	3767.000	34589.8	10.581	0.056
30.50	3767.000	40240.3	11.882	0.058

CG 131+000 (13100)

H	B	A	R	N
12.00	197.680	107.5	0.544	0.040
13.50	573.130	787.3	1.374	0.040
15.00	679.329	1736.6	2.556	0.040
16.50	848.802	2807.9	3.908	0.040
18.00	1247.550	4404.0	4.740	0.041
19.50	1400.698	6358.3	5.740	0.043
21.00	1714.497	8683.1	6.660	0.045
22.50	1861.528	11449.8	7.587	0.048
24.00	2186.250	14298.9	8.439	0.049
25.50	3812.000	19485.4	8.795	0.049
27.00	3812.000	25203.4	9.151	0.053
28.50	3812.000	30921.4	9.507	0.056
30.00	3812.000	36639.4	10.790	0.059
31.50	3812.000	42357.4	12.132	0.061

CG 132+000 (13200)

H	B	A	R	N
12.00	337.641	419.9	1.244	0.040
13.50	429.247	1013.6	2.361	0.040
15.00	540.415	1733.1	3.207	0.040
16.50	570.618	2578.2	4.518	0.040
18.00	577.460	3439.2	5.956	0.040
19.50	1224.612	4589.6	6.850	0.040
21.00	1370.598	6549.7	7.139	0.042
22.50	1458.712	8716.7	7.892	0.044
24.00	1722.055	11077.0	8.686	0.046
25.50	3483.000	15052.3	8.837	0.047
27.00	3483.000	20276.8	8.987	0.051
28.50	3483.000	25501.3	9.138	0.055
30.00	3483.000	30725.8	10.328	0.058
31.50	3483.000	35950.3	11.611	0.060

FC-1 Cross-sectional Characteristics of River Improvement Works in the Lower Cagayan River

CG 133+000 (13300)

H	B	A	R	N
12.00	237.340	438.6	1.848	0.040
13.50	325.936	843.9	2.589	0.040
15.00	563.023	1514.4	2.690	0.040
16.50	582.287	2364.4	4.060	0.040
18.00	718.405	3313.1	5.346	0.040
19.50	751.647	4426.8	6.553	0.041
21.00	3146.931	6734.5	6.555	0.041
22.50	3176.016	11488.4	6.557	0.047
24.00	3186.439	16260.4	6.559	0.052
25.50	3265.154	21073.8	7.672	0.056
27.00	3298.000	26001.1	8.917	0.059
28.50	3298.000	30948.1	10.251	0.062
30.00	3298.000	35895.1	11.632	0.064
31.50	3298.000	40842.1	13.043	0.065

CG 134+000 (13400)

H	B	A	R	N
12.00	263.037	204.2	0.776	0.040
13.50	509.891	812.9	1.594	0.040
15.00	524.093	1590.3	3.034	0.040
16.50	547.308	2386.3	4.454	0.040
18.00	613.070	3256.6	5.726	0.040
19.50	654.144	4212.2	6.996	0.040
21.00	805.073	5247.4	8.091	0.041
22.50	3185.103	8057.7	8.166	0.042
24.00	3238.843	12881.3	8.241	0.047
25.50	3255.000	17757.5	8.316	0.052
27.00	3255.000	22640.0	8.392	0.056
28.50	3255.000	27522.5	9.638	0.059
30.00	3255.000	32405.0	10.962	0.061
31.50	3255.000	37287.5	12.332	0.063

CG 135+000 (13500)

H	B	A	R	N
12.00	407.634	434.2	1.065	0.040
13.50	424.551	1058.7	2.494	0.040
15.00	436.761	1706.5	3.907	0.040
16.50	457.447	2374.3	5.190	0.040
18.00	519.497	3102.1	6.525	0.040
19.50	572.390	3923.8	7.745	0.040
21.00	2877.163	5303.6	7.971	0.040
22.50	2974.545	9746.7	8.198	0.046
24.00	3000.670	14225.9	8.424	0.051
25.50	3021.000	18746.5	8.651	0.056
27.00	3021.000	23278.0	8.877	0.059
28.50	3021.000	27809.5	10.188	0.062
30.00	3021.000	32341.0	11.553	0.064
31.50	3021.000	36872.5	12.951	0.066

CG 136+000 (13600)

H	B	A	R	N
12.00	376.463	578.8	1.537	0.040
13.50	389.347	1155.0	2.967	0.040
15.00	398.763	1746.3	4.379	0.040
16.50	428.396	2363.0	5.516	0.040
18.00	445.881	3020.3	6.774	0.040
19.50	3041.516	3912.8	7.447	0.040
21.00	3060.260	8501.6	7.605	0.046
22.50	3062.103	13093.4	7.762	0.053
24.00	3149.304	17760.8	7.920	0.058
25.50	3163.000	22498.1	8.078	0.062
27.00	3163.000	27242.6	9.410	0.065
28.50	3163.000	31987.1	10.793	0.067
30.00	3163.000	36731.6	12.207	0.068
31.50	3163.000	41476.1	13.640	0.070

CG 137+000 (13700)

H	B	A	R	N
12.00	279.188	888.5	3.182	0.040
13.50	316.452	1334.2	4.216	0.040
15.00	392.650	1862.8	4.744	0.040
16.50	422.993	2474.7	5.850	0.040
18.00	462.468	3130.3	6.921	0.040
19.50	606.413	3964.6	7.787	0.040
21.00	628.686	4890.9	8.932	0.041
22.50	670.191	5862.9	10.058	0.041
24.00	3079.477	9561.5	10.066	0.043
25.50	3419.072	14414.3	10.075	0.048
27.00	3480.000	19568.2	10.084	0.053
28.50	3480.000	24788.2	10.093	0.057
30.00	3480.000	30008.2	10.102	0.060
31.50	3480.000	35228.2	11.385	0.063

CG 138+000 (13800)

H	B	A	R	N
12.00	306.440	320.7	1.047	0.040
13.50	553.979	976.5	1.763	0.040
15.00	598.279	1824.2	3.219	0.040
16.50	730.828	2834.6	4.450	0.041
18.00	1520.316	4422.8	5.016	0.042
19.50	1568.336	6758.3	5.650	0.046
21.00	1581.227	9120.4	6.750	0.049
22.50	3964.000	14852.0	7.136	0.052
24.00	3964.000	20798.0	7.522	0.058
25.50	3964.000	26744.0	7.908	0.062
27.00	3964.000	32690.0	9.196	0.065
28.50	3964.000	38636.0	10.551	0.067
30.00	3964.000	44582.0	11.944	0.069
31.50	3964.000	50528.0	13.363	0.070

CG 139+000 (13900)

H	B	A	R	N
12.00	306.407	382.0	1.247	0.040
13.50	513.507	1059.9	2.064	0.040
15.00	547.222	1856.9	3.393	0.040
16.50	582.466	2704.7	4.644	0.040
18.00	689.932	3623.6	5.810	0.040
19.50	985.461	4847.1	5.858	0.040
21.00	4518.263	9808.9	5.907	0.044
22.50	4528.000	16600.3	5.956	0.052
24.00	4528.000	23392.3	6.004	0.057
25.50	4528.000	30184.3	7.317	0.061
27.00	4528.000	36976.3	8.699	0.064
28.50	4528.000	43768.3	10.118	0.066
30.00	4528.000	50560.3	11.558	0.067
31.50	4528.000	57352.3	13.012	0.068

CG 140+000 (14000)

H	B	A	R	N
12.00	298.123	246.6	0.827	0.040
13.50	502.987	910.4	1.810	0.040
15.00	519.175	1678.7	3.233	0.040
16.50	532.482	2467.4	4.634	0.040
18.00	554.548	3279.7	5.914	0.040
19.50	618.166	4156.8	6.724	0.040
21.00	3787.770	7871.6	6.760	0.044
22.50	4151.000	13986.3	6.796	0.051
24.00	4151.000	20212.8	6.832	0.056
25.50	4151.000	26439.3	6.868	0.059
27.00	4151.000	32665.8	8.274	0.062
28.50	4151.000	38892.3	9.709	0.064
30.00	4151.000	45118.8	11.163	0.065
31.50	4151.000	51345.3	12.628	0.066

FC-1 Cross-sectional Characteristics of River Improvement Works in the Lower Cagayan River

CG 141+000 (14100)

H	B	A	R	N
13.00	235.970	251.1	1.064	0.040
14.50	585.977	836.7	1.428	0.040
16.00	781.260	1798.7	2.302	0.040
17.50	924.457	3108.9	3.363	0.040
19.00	964.116	4509.4	4.829	0.040
20.50	1722.876	6035.0	6.115	0.040
22.00	2110.688	9043.6	6.340	0.042
23.50	4037.000	14447.5	6.554	0.045
25.00	4037.000	20503.0	6.768	0.050
26.50	4037.000	26558.5	7.870	0.053
28.00	4037.000	32614.0	9.126	0.056
29.50	4037.000	38669.5	10.462	0.058
31.00	4037.000	44725.0	11.842	0.060
32.50	4037.000	50780.5	13.252	0.061

CG 142+000 (14200)

H	B	A	R	N
13.00	267.801	341.6	1.275	0.040
14.50	419.063	889.2	2.122	0.040
16.00	525.520	1606.7	3.057	0.040
17.50	531.953	2399.8	4.511	0.040
19.00	579.934	3230.7	5.900	0.040
20.50	617.687	4124.3	7.177	0.040
22.00	4167.106	7305.6	7.182	0.043
23.50	4245.000	13655.9	7.187	0.050
25.00	4245.000	20023.4	7.193	0.057
26.50	4245.000	26390.9	7.198	0.062
28.00	4245.000	32758.4	8.511	0.065
29.50	4245.000	39125.9	9.884	0.068
31.00	4245.000	45493.4	11.293	0.070
32.50	4245.000	51860.9	12.724	0.071

CG 143+000 (14300)

H	B	A	R	N
13.00	208.969	320.4	1.533	0.040
14.50	500.865	790.4	1.578	0.040
16.00	553.844	1575.5	2.845	0.040
17.50	711.879	2531.4	3.790	0.040
19.00	844.424	3706.4	4.994	0.040
20.50	851.521	4978.4	6.289	0.041
22.00	1878.899	7373.9	6.450	0.042
23.50	4782.000	12936.6	6.612	0.047
25.00	4782.000	20109.6	6.774	0.054
26.50	4782.000	27282.6	6.935	0.059
28.00	4782.000	34455.6	8.179	0.062
29.50	4782.000	41628.6	9.513	0.065
31.00	4782.000	48801.6	10.896	0.067
32.50	4782.000	55974.6	12.309	0.069

CG 144+000 (14400)

H	B	A	R	N
13.00	298.025	471.6	1.641	0.040
14.50	435.767	1000.3	2.715	0.041
16.00	957.157	1890.2	3.137	0.044
17.50	962.161	3329.7	3.559	0.047
19.00	967.166	4776.7	5.008	0.048
20.50	1997.227	7263.4	5.368	0.047
22.00	4921.028	10436.4	5.727	0.052
23.50	5099.000	18052.3	6.035	0.058
25.00	5099.000	25700.8	6.342	0.063
26.50	5099.000	33349.3	7.537	0.067
28.00	5099.000	40997.8	8.849	0.070
29.50	5099.000	48646.3	10.222	0.072
31.00	5099.000	56294.8	11.630	0.073
32.50	5099.000	63943.3	13.060	0.075

CG 145+000 (14500)

H	B	A	R	N
13.00	203.840	245.9	1.206	0.040
14.50	554.126	747.8	1.349	0.040
16.00	627.792	1668.9	2.658	0.040
17.50	631.356	2613.2	4.139	0.040
19.00	634.919	3562.9	5.612	0.040
20.50	2248.143	5425.9	5.624	0.041
22.00	2250.184	8799.6	5.733	0.045
23.50	5451.000	15061.0	5.796	0.051
25.00	5451.000	23237.5	5.859	0.057
26.50	5451.000	31414.0	6.934	0.062
28.00	5451.000	39590.5	8.192	0.066
29.50	5451.000	47767.0	9.534	0.069
31.00	5451.000	55943.5	10.923	0.071
32.50	5451.000	64120.0	12.340	0.072

CG 146+000 (14600)

H	B	A	R	N
13.00	306.206	247.4	0.808	0.040
14.50	573.044	862.0	1.504	0.040
16.00	588.227	1737.5	2.954	0.040
17.50	593.765	2623.8	4.419	0.040
19.00	640.385	3543.4	5.850	0.040
20.50	689.539	4541.1	7.175	0.040
22.00	771.566	5627.5	8.409	0.041
23.50	2693.375	8357.9	8.557	0.042
25.00	3998.000	13184.9	8.706	0.046
26.50	3998.000	19181.9	8.854	0.051
28.00	3998.000	25178.9	9.003	0.055
29.50	3998.000	31175.9	9.152	0.059
31.00	3998.000	37172.9	10.435	0.062
32.50	3998.000	43169.9	11.780	0.064

CG 147+000 (14700)

H	B	A	R	N
14.00	259.035	1540.3	5.946	0.040
15.50	274.829	1942.4	7.068	0.040
17.00	279.918	2358.1	8.424	0.040
18.50	295.111	2785.7	9.440	0.040
20.00	486.261	3310.5	9.545	0.040
21.50	563.640	4117.4	9.651	0.040
23.00	1669.960	6475.5	9.757	0.042
24.50	1702.292	9004.5	9.862	0.045
26.00	1710.652	11564.3	9.968	0.048
27.50	2915.000	14344.9	10.074	0.050
29.00	2915.000	18717.4	10.180	0.053
30.50	2915.000	23089.9	10.285	0.055
32.00	2915.000	27462.4	11.381	0.057
33.50	2915.000	31834.9	12.598	0.059

CG 148+000 (14800)

H	B	A	R	N
14.00	321.965	249.8	0.776	0.040
15.50	465.689	864.0	1.855	0.040
17.00	547.722	1619.5	2.957	0.040
18.50	782.116	2544.9	3.254	0.040
20.00	1050.075	3938.0	3.750	0.040
21.50	1300.115	5679.7	4.887	0.040
23.00	2259.000	7946.6	5.818	0.040
24.50	3622.000	12510.5	5.859	0.043
26.00	3622.000	17943.5	6.562	0.047
27.50	3622.000	23376.5	7.670	0.050
29.00	3622.000	28809.5	8.935	0.052
30.50	3622.000	34242.5	10.277	0.054
32.00	3622.000	39675.5	11.664	0.056
33.50	3622.000	45108.5	13.078	0.057

FC-1 Cross-sectional Characteristics of River Improvement Works in the Lower Cagayan River

CG 149+000 (14900)

H	B	A	R	N
14.00	282.067	359.0	1.273	0.040
15.50	500.332	921.8	1.842	0.040
17.00	544.731	1723.1	3.163	0.040
18.50	564.411	2553.5	4.524	0.040
20.00	577.699	3411.5	5.905	0.040
21.50	620.712	4298.9	7.274	0.040
23.00	676.096	5275.7	8.524	0.040
24.50	2484.929	7955.7	8.684	0.042
26.00	3703.000	13116.0	8.844	0.046
27.50	3703.000	18670.5	9.003	0.051
29.00	3703.000	24225.0	9.163	0.055
30.50	3703.000	29779.5	9.323	0.059
32.00	3703.000	35334.0	10.623	0.061
33.50	3703.000	40888.6	11.978	0.063

CG 150+000 (15000)

H	B	A	R	N
14.00	246.933	539.3	2.184	0.040
15.50	355.052	976.7	2.751	0.040
17.00	410.371	1571.1	3.829	0.040
18.50	413.736	2189.2	5.291	0.040
20.00	417.101	2812.4	6.743	0.040
21.50	436.347	3452.4	7.912	0.040
23.00	2317.545	5002.6	7.948	0.041
24.50	2473.419	8661.0	7.984	0.046
26.00	2474.191	12371.7	8.020	0.051
27.50	3867.031	16394.0	8.056	0.055
29.00	3875.000	22206.3	8.092	0.059
30.50	3875.000	28018.8	9.064	0.062
32.00	3875.000	33831.3	10.235	0.065
33.50	3875.000	39643.8	11.509	0.067

CG 151+000 (15100)

H	B	A	R	N
14.00	143.802	360.9	2.510	0.040
15.50	332.370	662.0	2.849	0.040
17.00	580.751	1336.2	3.188	0.040
18.50	650.764	2295.3	3.527	0.040
20.00	666.036	3282.4	4.928	0.040
21.50	689.760	4301.2	6.236	0.040
23.00	693.249	5338.5	7.701	0.040
24.50	706.268	6384.0	9.039	0.040
26.00	916.953	7556.3	10.116	0.040
27.50	4328.000	13160.4	10.171	0.043
29.00	4328.000	19652.4	10.227	0.048
30.50	4328.000	26144.4	10.283	0.052
32.00	4328.000	32636.4	10.338	0.056
33.50	4328.000	39128.4	10.394	0.059

CG 152+000 (15200)

H	B	A	R	N
14.00	121.483	559.7	4.607	0.040
15.50	336.499	817.9	4.761	0.040
17.00	571.340	1599.1	4.914	0.040
18.50	638.397	2490.8	5.068	0.040
20.00	664.106	3467.7	5.222	0.040
21.50	702.299	4488.7	6.391	0.040
23.00	790.462	5594.4	7.613	0.040
24.50	2430.748	7731.8	7.824	0.041
26.00	4373.698	12257.3	8.035	0.044
27.50	4434.000	18905.7	8.247	0.049
29.00	4434.000	25556.7	8.458	0.054
30.50	4434.000	32207.7	8.669	0.057
32.00	4434.000	38858.7	9.928	0.060
33.50	4434.000	45509.7	11.259	0.063

CG 153+000 (15300)

H	B	A	R	N
14.00	236.687	501.5	2.119	0.040
15.50	316.319	912.0	2.883	0.040
17.00	334.836	1406.5	4.201	0.040
18.50	353.373	1914.7	5.418	0.040
20.00	408.417	2494.1	6.107	0.040
21.50	447.343	3134.5	7.007	0.040
23.00	739.744	4012.5	7.843	0.040
24.50	2260.744	5395.4	8.010	0.041
26.00	2262.644	8788.0	8.176	0.045
27.50	4566.000	14123.9	8.343	0.050
29.00	4566.000	20972.9	8.509	0.056
30.50	4566.000	27821.9	8.676	0.061
32.00	4566.000	34670.9	8.842	0.065
33.50	4566.000	41520.0	10.138	0.068

CG 154+000 (15400)

H	B	A	R	N
14.00	240.350	531.7	2.212	0.040
15.50	316.464	960.4	3.035	0.040
17.00	346.839	1457.8	4.203	0.040
18.50	353.001	1983.8	5.620	0.040
20.00	366.406	2516.9	6.869	0.040
21.50	453.296	3160.0	6.971	0.040
23.00	474.567	3855.9	8.125	0.040
24.50	658.817	4763.4	9.099	0.040
26.00	3762.417	9546.9	9.135	0.044
27.50	4082.000	15565.2	9.171	0.051
29.00	4082.000	21688.2	9.207	0.057
30.50	4082.000	27811.2	9.243	0.062
32.00	4082.000	33934.2	9.279	0.065
33.50	4082.000	40057.2	10.635	0.067

CG 155+000 (15500)

H	B	A	R	N
15.00	334.134	882.8	2.642	0.040
16.50	359.830	1411.2	3.922	0.040
18.00	363.444	1953.6	5.375	0.040
19.50	386.253	2514.7	6.786	0.040
21.00	472.254	3138.2	8.023	0.040
22.50	546.050	3915.8	8.966	0.041
24.00	651.509	4810.2	9.780	0.041
25.50	2470.455	7349.8	9.951	0.043
27.00	2865.893	11449.3	10.121	0.048
28.50	2904.526	15776.7	10.291	0.053
30.00	3109.111	20212.9	10.462	0.057
31.50	3175.000	24971.0	10.632	0.061
33.00	3175.000	29733.5	10.802	0.064
34.50	3175.000	34496.0	12.106	0.066

CG 156+000 (15600)

H	B	A	R	N
15.00	277.352	720.1	2.596	0.040
16.50	327.214	1172.7	3.584	0.040
18.00	352.659	1686.6	4.783	0.040
19.50	361.805	2222.5	6.143	0.040
21.00	369.025	2771.0	7.509	0.040
22.50	510.694	3376.0	8.427	0.040
24.00	578.197	4214.4	9.185	0.040
25.50	626.617	5115.7	10.134	0.041
27.00	2235.307	7403.2	10.197	0.042
28.50	2577.803	11101.4	10.259	0.046
30.00	2605.000	14997.5	10.322	0.051
31.50	2605.000	18905.0	10.385	0.055
33.00	2605.000	22812.5	10.448	0.058
34.50	2605.000	26720.0	11.702	0.060

*The Feasibility Study of the Flood Control Project for
the Lower Cagayan River in the Republic of the Philippines
Final Report
Data Book*

***FC-2 Hydraulic Values by Non-uniform
Flow Method for Reviewed Flood Control
Master Plan***

**FC-2 Hydraulic Values by non-uniform flow method for Reviewed
Flood Control Master Plan (25year Design Flood)**

Station	Sec-No	Distance of Section (m)	Design Discharge (m ³ /s)	Calculated Water Level (EL m)	Velocity (m/s)	Area of Flow (m ²)	Hydraulic Mean Depth (m)
CG 0+000.00A	000-A	0	17900	1.380	3.25	5515.9	5.107
CG 0+000.00B	000-B	651	17900	2.520	2.75	6521.0	5.961
CG 0+000.00	00000	544	17900	3.106	2.43	7374.3	6.778
CG 0+500.00	00050	360	17900	3.436	1.71	10492.8	7.328
CG 1+000.00	00100	662	17900	3.684	1.63	10982.5	6.660
CG 1+500.00	00150	474	17900	3.862	1.46	12270.6	7.010
CG 2+000.00	00200	522	17900	4.006	1.40	12817.6	6.757
CG 2+500.00	00250	503	17900	4.136	1.47	12214.1	6.684
CG 3+000.00	00300	525	17900	4.277	1.43	12491.5	6.701
CG 3+500.00	00350	477	17900	4.411	1.40	12777.7	6.442
CG 4+000.00	00400	424	17900	4.519	1.54	11628.4	6.231
CG 4+500.00	00450	110	17900	4.589	1.25	14296.9	7.329
CG 5+000.00	00500	692	17900	4.710	1.29	13898.5	7.542
CG 5+500.00	00550	846	17900	4.872	1.40	12817.9	7.064
CG 6+000.00	00600	714	17900	5.041	1.53	11720.0	7.179
CG 6+500.00	00650	449	17900	5.166	1.50	11927.8	7.805
CG 7+000.00	00700	540	17900	5.302	1.58	11300.7	7.098
CG 7+500.00	00750	470	17900	5.434	1.63	11013.9	8.009
CG 8+000.00	00800	553	17900	5.601	1.60	11213.9	6.716
CG 8+500.00	00850	565	17900	5.791	1.38	12958.0	7.498
CG 9+000.00	00900	403	17900	5.877	1.37	13076.3	7.681
CG 9+500.00	00950	626	17900	6.013	1.20	14876.9	7.722
CG 10+000.00	01000	454	17900	6.084	1.19	15106.2	8.371
CG 10+500.00	01050	445	17900	6.144	1.21	14751.0	8.281
CG 11+000.00	01100	536	17900	6.211	1.26	14177.6	8.236
CG 11+500.00	01150	508	17900	6.303	1.18	15127.5	8.440
CG 12+000.00	01200	599	17900	6.397	1.04	17168.4	7.582
CG 12+500.00	01250	541	17900	6.466	1.07	16812.9	7.000
CG 13+000.00	01300	671	17900	6.554	1.15	15533.0	7.319
CG 13+500.00	01350	540	17900	6.626	1.34	13390.7	7.477
CG 14+000.00	01400	532	17900	6.730	1.39	12883.6	8.023
CG 14+500.00	01450	503	17900	6.818	1.51	11891.9	8.224
CG 15+000.00	01500	363	17900	6.902	1.48	12113.6	8.602
CG 15+500.00	01550	533	17900	7.009	1.57	11414.7	8.527
CG 16+000.00	01600	408	17900	7.101	1.69	10591.7	8.751
CG 16+500.00	01650	634	17900	7.264	1.67	10701.5	8.793
CG 17+000.00	01700	761	17900	7.484	1.63	10990.5	8.816
CG 17+500.00	01750	458	17900	7.571	1.84	9733.9	9.517
CG 18+000.00	01800	556	17900	7.742	1.63	11013.1	9.054
CG 18+500.00	01850	617	17900	7.904	1.54	11633.4	9.652
CG 19+000.00	01900	448	17900	7.987	1.62	11071.5	8.365
CG 19+500.00	01950	487	17900	8.142	1.16	15408.5	8.939
CG 20+000.00	02000	667	17900	8.258	0.85	21172.3	7.692
CG 20+500.00	02050	768	17900	8.336	0.92	19412.9	7.297
CG 21+000.00	02100	515	17900	8.389	1.06	16908.2	7.306
CG 21+500.00	02150	623	17900	8.491	1.04	17235.3	7.108
CG 22+000.00	02200	455	17900	8.544	1.34	13341.9	7.420
CG 22+500.00	02250	612	17900	8.597	1.90	9409.5	7.415
CG 23+000.00	02300	438	17900	8.854	1.43	12535.6	8.204
CG 23+500.00	02350	574	17900	8.994	1.38	12974.5	9.265
CG 24+000.00	02400	613	17900	9.044	1.64	10929.4	9.819
CG 24+500.00	02450	470	17900	9.128	1.84	9750.7	10.718
CG 25+000.00	02500	527	17900	9.246	1.87	9564.1	10.649
CG 25+500.00	02550	520	17900	9.490	0.58	30792.1	23.968
CG 26+000.00	02600	433	17900	9.336	2.13	8393.6	11.238
CG 26+500.00	02650	568	17900	9.506	2.08	8594.6	12.043
CG 27+000.00	02700	428	17900	9.614	1.87	9572.8	10.458
CG 27+500.00	02750	538	17900	9.756	1.92	9348.4	11.282
CG 28+000.00	02800	539	17900	9.837	2.30	7784.1	13.754
CG 28+250.00	02825	395	17900	9.803	2.94	6082.9	13.035
CG 28+500.00	02850	290	17900	10.036	2.43	7374.3	20.890
CG MAGAPIT BRIDGE	MAGAP	126	17900	9.628	3.85	4644.4	15.491

**FC-2 Hydraulic Values by non-uniform flow method for Reviewed
Flood Control Master Plan (25year Design Flood)**

Station	Sec-No	Distance of Section (m)	Design Discharge (m ³ /s)	Calculated Water Level (EL m)	Velocity (m/s)	Area of Flow (m ²)	Hydraulic Mean Depth (m)
CG 28+750.00	02875	134	17900	10.066	2.65	6744.2	15.515
CG 29+000.00	02900	227	17900	9.985	3.21	5573.3	13.202
CG 29+250.00	02925	233	17900	10.226	2.78	6448.6	13.841
CG 29+500.00	02950	181	17900	10.311	2.74	6544.8	14.456
CG 29+750.00	02975	203	17900	10.396	2.73	6549.9	14.725
CG 30+000.00	03000	255	17900	10.552	2.43	7354.8	13.855
CG 30+250.00	03025	186	17900	10.583	2.51	7123.7	14.236
CG 30+500.00	03050	213	17900	10.679	2.30	7784.8	15.676
CG 30+750.00	03075	179	17900	10.721	2.25	7956.4	17.223
CG 31+000.00	03100	215	17900	10.703	2.52	7090.7	13.071
CG 31+250.00	03125	311	17900	10.755	2.56	6987.9	14.039
CG 31+500.00	03150	260	17900	10.934	2.22	8073.4	14.733
CG 31+750.00	03175	263	17900	11.011	2.13	8419.0	13.244
CG 32+000.00	03200	366	17900	11.186	1.61	11114.4	11.672
CG 32+250.00	03225	346	17900	11.260	1.52	11769.5	10.675
CG 32+500.00	03250	499	17900	11.373	1.39	12883.0	10.429
CG 32+750.00	03275	590	17900	11.494	1.18	15193.7	10.193
CG 33+000.00	03300	255	17900	11.461	1.42	12621.4	8.967
CG 33+500.00	03350	496	17900	11.586	1.27	14055.5	8.858
CG 34+000.00	03400	853	17900	11.707	1.56	11514.4	10.690
CG 34+500.00	03450	552	17900	11.849	1.26	14157.4	11.166
CG 35+000.00	03500	769	17900	11.937	1.28	14019.5	10.249
CG 35+500.00	03550	550	17900	12.008	1.28	13974.6	9.462
CG 36+000.00	03600	490	17900	12.082	1.18	15209.4	9.165
CG 36+500.00	03650	491	17900	12.165	1.11	16192.6	9.633
CG 37+000.00	03700	518	17900	12.215	1.20	14984.9	9.812
CG 37+500.00	03750	483	17900	12.188	1.67	10732.2	10.532
CG 38+000.00	03800	471	17900	12.346	1.38	12992.5	9.908
CG 38+500.00	03850	454	17900	12.429	1.35	13231.0	9.559
CG 39+000.00	03900	543	17900	12.564	1.17	15330.1	10.060
CG 39+500.00	03950	469	17900	12.649	0.95	18810.7	9.620
CG 40+000.00	04000	327	17900	12.682	0.94	19117.5	8.464
CG 40+500.00	04050	226	17900	12.696	0.96	18710.4	8.465
CG 41+000.00	04100	241	17900	12.692	1.19	15102.4	7.712
CG 41+500.00	04150	183	17900	12.703	1.31	13635.5	7.737
CG 42+000.00	04200	477	17900	12.789	1.28	13994.3	8.665
CG 42+500.00	04250	501	17900	12.842	1.50	11963.9	10.063
CG 43+000.00	04300	460	17900	12.906	1.54	11646.6	9.957
CG 43+500.00	04350	502	17900	12.978	1.67	10721.2	11.663
CG 44+000.00	04400	525	17900	13.061	1.66	10805.1	10.649
CG 44+500.00	04450	687	17900	13.185	1.70	10508.3	10.740
CG 45+000.00	04500	539	17900	13.248	2.26	7904.7	13.491
CG 45+500.00	04550	488	17900	13.389	2.18	8197.1	12.988
CG 46+000.00	04600	513	17900	13.536	2.13	8416.9	13.244
CG 46+500.00	04650	520	17900	13.585	2.53	7076.8	14.126
CG 47+000.00	04700	798	17900	13.887	2.06	8677.6	13.289
CG 47+500.00	04750	778	17900	14.116	1.57	11375.1	13.332
CG 48+000.00	04800	638	17900	14.237	1.35	13301.3	11.341
CG 48+500.00	04850	473	17900	14.290	1.38	12976.8	11.519
CG 49+000.00	04900	654	17900	14.358	1.45	12315.3	11.420
CG 49+500.00	04950	913	17900	14.419	1.93	9275.6	12.801
CG 50+000.00	05000	487	17900	14.375	2.59	6921.0	13.097
CG 50+250.00	05025	414	17700	14.375	2.27	7788.4	13.717
CG 50+500.00	05050	336	17700	14.415	2.60	6821.9	15.992
CG 50+750.00	05075	553	17700	14.382	3.36	5276.2	16.641
CG 51+000.00	05100	277	17700	14.675	2.70	6554.8	14.832
CG 51+250.00	05125	220	17700	14.785	2.54	6959.9	14.610
CG 51+500.00	05150	258	17700	14.924	2.29	7728.5	13.005
CG 51+750.00	05175	327	17700	15.088	1.93	9190.0	13.389
CG 52+000.00	05200	272	17700	15.153	1.76	10052.8	13.639
CG 52+250.00	05225	245	17700	15.191	1.82	9717.2	14.599
CG 52+500.00	05250	242	17700	15.211	1.88	9418.8	14.615

**FC-2 Hydraulic Values by non-uniform flow method for Reviewed
Flood Control Master Plan (25year Design Flood)**

Station	Sec-No	Distance of Section (m)	Design Discharge (m ³ /s)	Calculated Water Level (EL m)	Velocity (m/s)	Area of Flow (m ²)	Hydraulic Mean Depth (m)
CG 52+750.00	05275	259	17700	15.230	1.98	8956.0	15.000
CG 53+000.00	05300	288	17700	15.219	2.15	8234.5	14.850
CG 53+250.00	05325	208	17700	15.330	1.89	9383.8	17.853
CG 53+500.00	05350	297	17700	15.226	2.65	6679.7	18.346
CG 53+750.00	05375	222	17700	15.443	1.88	9409.7	20.590
CG 54+000.00	05400	161	17700	15.325	2.54	6962.5	15.021
CG 54+250.00	05425	265	17700	15.472	2.19	8070.7	15.574
CG 54+500.00	05450	304	17700	15.546	2.13	8330.1	15.448
CG 54+750.00	05475	344	17700	15.634	2.04	8697.5	13.086
CG 55+000.00	05500	195	17700	15.694	1.82	9739.3	12.354
CG 55+250.00	05525	308	17700	15.756	1.75	10133.2	12.738
CG 55+500.00	05550	263	17700	15.810	1.65	10721.0	12.785
CG 55+750.00	05575	272	17700	15.864	1.55	11411.5	12.571
CG 56+000.00	05600	297	17700	15.878	1.69	10496.0	12.904
CG 56+250.00	05625	226	17700	15.869	1.96	9048.2	14.328
CG 56+500.00	05650	169	17700	15.871	2.07	8542.8	16.563
CG 56+750.00	05675	218	17700	15.923	2.11	8391.6	20.441
CG 57+000.00	05700	191	17700	16.012	1.71	10377.6	17.779
CG 57+250.00	05725	406	17700	15.956	2.31	7656.8	15.222
CG 57+500.00	05750	480	17700	16.057	2.35	7519.5	15.785
CG 57+750.00	05775	247	17700	16.104	2.44	7259.4	16.274
CG 58+000.00	05800	270	17700	16.149	2.45	7212.8	16.142
CG 58+250.00	05825	308	17700	16.190	2.54	6974.6	15.881
CG 58+500.00	05850	240	17700	16.260	2.18	8115.4	14.588
CG 58+750.00	05875	265	17700	16.411	2.04	8660.4	17.303
CG 59+000.00	05900	249	17700	16.258	2.88	6156.9	14.344
CG 59+250.00	05925	275	17700	16.492	2.55	6940.7	16.139
CG 59+500.00	05950	246	17700	16.591	2.38	7428.6	16.400
CG 59+750.00	05975	282	17700	16.639	2.43	7287.3	16.368
CG 60+000.00	06000	305	17700	16.663	2.61	6790.9	16.509
CG 60+250.00	06025	278	17700	16.688	2.67	6641.7	16.628
CG 60+500.00	06050	291	17700	16.909	2.18	8127.4	16.727
CG 60+750.00	06075	284	17700	16.889	2.47	7154.7	15.196
CG 61+000.00	06100	238	17700	17.021	2.08	8516.0	17.258
CG 61+250.00	06125	244	17700	16.922	2.51	7056.0	15.655
CG 61+500.00	06150	372	17700	17.098	2.22	7975.1	15.067
CG 61+750.00	06175	275	17700	17.258	1.79	9878.8	13.644
CG 62+000.00	06200	456	17700	17.344	1.77	10007.3	14.154
CG 62+500.00	06250	618	17700	17.548	0.99	17820.2	10.759
CG 63+000.00	06300	532	17700	17.599	0.81	21896.1	10.605
CG 63+500.00	06350	574	17700	17.639	0.81	21793.4	9.696
CG 64+000.00	06400	589	17700	17.694	0.67	26303.8	10.922
CG 64+500.00	06450	448	17700	17.715	0.68	25900.2	11.192
CG 65+000.00	06500	591	17700	17.732	0.80	22236.9	11.287
CG 65+500.00	06550	483	17700	17.752	0.88	20078.3	11.122
CG 66+000.00	06600	507	17700	17.768	1.08	16355.8	10.552
GABUT COC	GAB01	400	17700	17.787	1.19	14873.7	9.797
GABUT COC	GAB02	1000	17700	17.930	1.15	15387.6	9.609
GABUT COC	GAB03	1000	17700	18.056	1.25	14119.2	9.897
CG 75+500.00	07550	400	17700	18.094	1.38	12865.0	10.268
CG 76+000.00	07600	512	17700	18.145	1.48	11941.7	10.734
CG 76+500.00	07650	516	17700	18.242	1.47	12023.4	9.850
CG 77+000.00	07700	492	17700	18.354	1.40	12627.4	10.550
CG 77+500.00	07750	496	17700	18.368	1.62	10928.5	11.910
CG 78+000.00	07800	550	17700	18.421	1.62	10932.2	13.819
CG 78+500.00	07850	504	17700	18.582	1.29	13700.4	14.321
CG 79+000.00	07900	354	17700	18.703	1.06	16775.1	12.697
CG 79+500.00	07950	709	17700	18.789	0.91	19568.2	12.568
CG 80+000.00	08000	112	17700	18.784	0.98	17992.4	11.496
CG 80+500.00	08050	286	17700	18.791	1.11	15948.0	9.721
CG 81+000.00	08100	128	17700	18.844	0.79	22484.8	11.083
CG 81+500.00	08150	705	17700	18.876	0.86	20499.8	10.906

**FC-2 Hydraulic Values by non-uniform flow method for Reviewed
Flood Control Master Plan (25year Design Flood)**

Station	Sec-No	Distance of Section	Design Discharge	Calculated Water Level	Velocity	Area of Flow	Hydraulic Mean Depth
		(m)	(m ³ /s)	(EL m)	(m/s)	(m ²)	(m)
CG 82+000.00	08200	671	17700	18.903	0.95	18693.4	11.923
CG 82+500.00	08250	608	17700	18.940	1.02	17371.6	10.933
CG 83+000.00	08300	565	17700	18.991	1.05	16930.2	11.474
CG 83+500.00	08350	547	17700	19.021	1.23	14417.3	11.258
CG 84+000.00	08400	496	17700	19.058	1.29	13766.1	10.981
CG 84+500.00	08450	515	17700	19.123	1.33	13298.4	11.005
CG 85+000.00	08500	507	17700	19.221	1.21	14591.1	11.606
CG 85+500.00	08550	511	17700	19.270	1.26	14083.5	11.947
CG 86+000.00	08600	496	17700	19.365	1.04	17051.2	11.963
CG 86+500.00	08650	602	17700	19.402	1.13	15644.9	10.583
CG 87+000.00	08700	517	17700	19.473	1.07	16551.5	11.605
CG 87+500.00	08750	540	17700	19.510	1.24	14306.6	10.291
CG 88+000.00	08800	535	17700	19.590	1.12	15842.9	11.060
CG 88+500.00	08850	464	17700	19.621	1.31	13497.0	9.922
SAN ISIDRO COC	SAN01	500	17700	19.715	1.28	13797.0	10.184
SAN ISIDRO COC	SAN02	1000	17700	19.871	1.29	13761.8	10.161
SAN ISIDRO COC	SAN03	1000	17700	20.029	1.29	13728.5	10.139
SAN ISIDRO COC	SAN04	1200	17700	20.220	1.29	13684.6	10.116
CG 97+000.00	09700	500	17700	20.252	1.54	11504.4	9.868
CG 97+500.00	09750	96	17700	20.299	1.44	12298.8	10.124
CG 98+000.00	09800	232	17700	20.377	1.28	13815.8	10.774
CG 98+500.00	09850	585	17700	20.388	1.55	11407.5	9.378
CG 99+000.00	09900	879	17700	20.634	1.21	14577.8	9.838
CG 99+500.00	09950	525	17700	20.734	1.08	16394.9	9.206
CG 100+000.00	10000	579	17700	20.804	1.10	16093.1	9.412
CG 100+500.00	10050	526	17700	20.896	1.00	17693.4	8.773
CG 101+000.00	10100	474	17700	20.935	1.07	16547.3	9.352
CG 101+500.00	10150	544	17700	21.032	0.93	19069.9	9.132
CG 102+000.00	10200	548	17700	21.084	0.94	18745.4	10.308
CG 102+500.00	10250	480	17700	21.144	0.87	20456.9	9.543
CG 103+000.00	10300	560	17700	21.196	0.83	21269.7	10.052
CG 103+500.00	10350	590	17700	21.207	1.01	17508.0	9.174
CG 104+000.00	10400	567	17700	21.302	0.86	20711.9	9.663
CG 104+500.00	10450	469	17700	21.326	1.03	17120.8	9.139
CG 105+000.00	10500	511	17700	21.409	0.72	24662.5	9.064
CG 105+500.00	10550	597	17700	21.452	0.69	25519.0	9.797
CG 106+000.00	10600	552	17700	21.470	0.75	23515.6	9.945
CG 106+500.00	10650	520	17700	21.479	0.91	19532.1	10.041
CG 107+000.00	10700	484	17700	21.522	0.89	19865.9	10.512
CG 107+500.00	10750	520	17700	21.514	1.16	15310.2	9.954
CG 108+000.00	10800	491	17700	21.582	1.31	13535.0	8.531
CG 108+500.00	10850	526	17700	21.724	1.02	17334.8	9.375
CG 109+000.00	10900	813	17700	21.808	1.02	17368.4	9.561
CG 109+500.00	10950	561	17700	21.852	1.10	16035.5	10.762
CG 110+000.00	11000	512	17700	21.928	0.99	17872.7	10.036
CG 110+500.00	11050	654	17700	21.977	1.01	17450.4	10.548
CG 111+000.00	11100	589	17700	22.015	1.17	15188.2	10.594
CG 111+500.00	11150	535	17700	22.085	1.12	15877.6	10.196
CG 112+000.00	11200	509	17700	22.138	1.16	15266.5	10.087
CG 112+500.00	11250	490	17700	22.166	1.44	12338.4	11.662
CG 113+000.00	11300	518	17700	22.239	1.37	12937.0	12.428
CG 113+500.00	11350	520	17700	22.317	1.25	14128.2	11.234
CG 114+000.00	11400	649	17700	22.398	1.26	14107.4	11.505
CG 114+500.00	11450	643	17700	22.484	1.28	13866.3	13.130
CG BONTON BRIDGE	BONTO	78	17700	22.481	1.37	12878.0	12.614
CG 115+000.00	11500	365	17700	22.527	1.37	12916.9	11.426
TUGUEGARAO COC	TUG01	500	17700	22.591	1.30	13604.2	11.606
TUGUEGARAO COC	TUG02	1100	17700	22.745	1.32	13401.5	8.636
TUGUEGARAO COC	TUG03	1100	17700	23.004	0.62	28790.9	10.753
TUGUEGARAO COC	TUG04	1100	17700	23.054	0.58	30549.7	10.072
TUGUEGARAO COC	TUG05	1100	17700	23.091	1.13	15659.0	7.693
TUGUEGARAO COC	TUG06	1100	17700	23.271	1.51	11731.9	7.852

**FC-2 Hydraulic Values by non-uniform flow method for Reviewed
Flood Control Master Plan (25year Design Flood)**

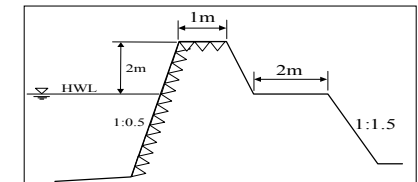
Station	Sec-No	Distance of Section (m)	Design Discharge (m ³ /s)	Calculated Water Level (EL m)	Velocity (m/s)	Area of Flow (m ²)	Hydraulic Mean Depth (m)
TUGUEGARAO COC	TUG07	1100	17700	23.532	1.87	9458.6	8.978
TUGUEGARAO COC	TUG08	1100	17700	23.921	1.75	10099.0	8.849
TUGUEGARAO COC	TUG09	1000	17700	24.242	1.71	10339.0	8.731
CG 128+500.00	12850	500	17700	24.500	1.23	14347.3	9.442
CG 129+000.00	12900	840	17700	24.587	1.08	16418.2	7.970
CG 129+500.00	12950	578	17700	24.672	1.15	15464.8	9.302
CG 130+000.00	13000	542	17700	24.793	0.94	18743.4	8.086
CG 130+500.00	13050	537	17700	24.848	0.89	19802.6	7.688
CG 131+000.00	13100	513	17700	24.911	1.01	17449.7	8.656
CG 131+500.00	13150	480	17700	24.961	1.05	16939.9	7.931
CG 132+000.00	13200	519	17700	25.007	1.29	13745.8	8.787
CG 132+500.00	13250	501	17700	25.132	1.11	15960.0	8.096
CG 133+000.00	13300	505	17700	25.274	0.87	20349.9	7.505
CG 133+500.00	13350	492	17700	25.327	0.96	18511.2	8.697
CG 134+000.00	13400	536	17700	25.383	1.02	17377.1	8.310
CG 134+500.00	13450	484	17700	25.439	1.07	16583.0	9.382
CG 135+000.00	13500	492	17700	25.548	0.94	18892.5	8.658
CG 135+500.00	13550	505	17700	25.639	0.86	20509.4	8.795
CG 136+000.00	13600	508	17700	25.743	0.76	23265.4	8.293
CG 136+500.00	13650	507	17700	25.807	0.78	22647.0	7.951
CG 137+000.00	13700	504	17700	25.771	1.15	15345.1	10.077
CG 137+500.00	13750	536	17700	25.742	1.60	11091.3	10.861
CG 138+000.00	13800	578	17700	26.100	0.61	29122.0	8.423
CG 138+500.00	13850	512	17700	26.167	0.42	41999.6	9.583
CG 139+000.00	13900	494	17700	26.179	0.53	33260.1	7.943
CG 139+500.00	13950	875	17700	26.240	0.58	30415.8	7.423
CG 140+000.00	14000	804	17700	26.309	0.59	29797.6	7.626
CG 140+500.00	14050	791	17700	26.359	0.77	23103.3	7.018
CG 141+000.00	14100	502	17700	26.428	0.67	26266.5	7.817
CG 141+500.00	14150	586	17700	26.461	0.71	24928.4	7.705
CG 142+000.00	14200	501	17700	26.518	0.67	26467.3	7.214
CG 142+500.00	14250	508	17700	26.576	0.69	25534.9	6.912
CG 143+000.00	14300	471	17700	26.652	0.63	28007.8	7.061
CG 143+500.00	14350	417	17700	26.691	0.64	27745.2	7.432
CG 144+000.00	14400	383	17700	26.749	0.51	34620.8	7.755
CG 144+500.00	14450	480	17700	26.763	0.68	26210.0	6.168
CG 145+000.00	14500	522	17700	26.854	0.53	33342.2	7.231
CG 145+500.00	14550	528	17700	26.889	0.60	29398.0	7.631
CG 146+000.00	14600	710	17700	26.900	0.85	20782.7	8.894
CG 146+500.00	14650	600	17700	26.900	1.17	15126.9	8.970
CG STA. MARIA BRIDGE STA M		80	17700	26.981	0.98	18127.6	8.983
CG 147+000.00	14700	579	17700	27.041	1.31	13494.3	10.042
CG 147+500.00	14750	854	17700	27.253	1.06	16706.8	7.315
CG 148+000.00	14800	1099	17700	27.467	0.76	23257.9	7.646
CG 148+500.00	14850	936	17700	27.539	0.86	20600.5	7.405
CG 149+000.00	14900	602	17700	27.585	0.93	18986.2	9.012
CG 149+500.00	14950	586	17700	27.651	0.93	18984.9	8.843
CG 150+000.00	15000	513	17700	27.728	1.03	17276.5	8.061
CG 150+500.00	15050	546	17700	27.844	1.01	17561.0	8.590
CG 151+000.00	15100	483	17700	27.889	1.19	14841.9	10.186
CG 151+500.00	15150	501	17700	28.014	0.82	21603.7	7.501
CG 152+000.00	15200	506	17700	28.070	0.83	21431.6	8.327
CG 152+500.00	15250	459	17700	28.046	1.01	17530.6	8.501
CG 153+000.00	15300	503	17700	28.118	1.05	16944.0	8.411
CG 153+500.00	15350	503	17700	28.186	1.13	15700.8	9.530
CG 154+000.00	15400	499	17700	28.310	0.94	18869.8	9.190
CG 154+500.00	15450	479	17700	28.308	1.10	16104.3	9.932
CG 155+000.00	15500	426	17700	28.383	1.15	15439.1	10.278
CG 155+500.00	15550	531	17700	28.447	1.22	14502.8	10.693
CG 156+000.00	15600	512	17700	28.463	1.61	11010.4	10.258

***FC-3 Estimation of Embankment
Volume for Each Dike System***

FC-3 Estimation of Embankment Volume for Each Dike System

No.	Name	Reach	Dike length (km)	Height of Dike (m)	Crown Width (m)	Sectional Area (m ²)	Embankment Volume (m ³)	Remark
1. Left Dike System								
•	Mabangue Dike	CG0+000-B • CG 10+000	10.87	5.0	7.0	110.0	1,196,000	
•	Catugan Dike	CG 22+000 • CG 24+500	7.38	5.0	7.0	110.0	812,000	
•	Lasam Dike	CG 35+500 • CG 46+500	7.03	5.5	7.0	129.3	909,000	
•	Alcala-Buntun Dike	CG 64+000 • CG112+500	33.54	7.0	7.0	196.0	6,574,000	
•	Enrile Dike	TUG04 • CG132+500	12.19	4.0	7.0	76.0	927,000	
Left Bank Total			71.01				10,418,000	
2. Right Dike System								
•	Camalaniugan Dike	CG 1+500 • CG 14+000	9.15	5.0	7.0	110.0	1,007,000	
		CG 7+000 • CG 11+000	3.97	5.0	•	36.0	143,000	with Wet Masonry
•	Lal-lo Dike	CG 16+000 • MAGAPIT BR.	11.06	4.5	7.0	92.3	1,021,000	
		CG 23+000 • CG 25+000	1.81	2.5	•	9.8	18,000	with Wet Masonry
•	Gattaran Dike	CG 31+250 • CG 37+000	6.07	4.5	7.0	92.3	560,000	
•	Nassiping Dike	CG 41+000 • CG 50+500	9.72	3.0	7.0	48.0	467,000	
•	Amulung Dike	CG 66+000 • CG 87+000	12.60	3.5	18.0	99.8	1,257,000	
•	Iguig Dike	SAN01 • CG 99+500	3.20	3.5	7.0	61.3	196,000	
•	Tuguegarao Dike	CG104+500 • CG130+500	21.28	6.0	7.0	147.3	3,134,000	
Right Bank Total			78.86				7,803,000	
3. Total			149.87				18,221,000	

Dike with Wet Masonry



***FC-4 Excavation Volume of Cut-off
Channels and Filling Volume of
Abandoned River Channel***

FC-4 Excavation Volume of Cut-off Channels and Filling Volume of Abandoned River Channel

Excavation Volume of Cut-off Channels

Section	Distance of Section (m)	Cross section area (m ²)	Excavation Volume (m ³)	Accumulate Excavation Volume (m ³)
Gabut coc				
06600	0	0	0	
GAB01	500	1211	605,700	
GAB02	700	4990	3,493,000	
GAB03	600	532	318,900	
07550	500	410	205,000	
07600	0	0	0	
				4,623,000
San Isidro coc				
08850	0	0	0	
SAN01	550	1100	604,725	
SAN02	1000	4873	4,873,000	
SAN03	600	5436	3,261,600	
SAN04	600	978	586,500	
09700	500	475	237,500	
09750	0	0	0	
				9,563,000
Tuguegarao coc				
TUG01	0	0	0	
TUG02	800	591	473,040	
TUG03	1150	2416	2,778,400	
TUG04	750	2084	1,563,225	
TUG04'	400	1018	407,240	
TUG05	200	1269	253,800	
TUG06	1500	2847	4,270,200	
TUG07	1100	4968	5,464,800	
TUG08	750	4119	3,089,100	
TUG09	800	1042	833,920	
12850	0	0	0	
				19,134,000
Total				33,320,000

Filling Volume of Abandoned River Channel

Section	Distance of Section (m)	Cross section area (m ²)	Filling Volume (m ³)	Accumulate Filling Volume (m ³)
Gabut coc				
06750	300	3437	1,031,100	
06800	400	3232	1,292,800	
07350	250	3881	970,250	
07400	400	4908	1,963,200	
07450	500	1434	717,000	
				5,974,000
San Isidro coc				
09000	350	4089	1,431,150	
09050	350	6323	2,213,050	
09100	150	5234	785,100	
09450	350	3705	1,296,750	
09500	600	3016	1,809,600	
09550	300	1315	394,500	
				7,930,000
Tuguegarao coc				
12000	200	3200	640,000	
12600	300	5404	1,621,200	
12650	550	6013	3,307,150	
12700	350	5440	1,904,000	
				7,472,000
Total				21,376,000

***FC-5 Breakdown of Quantities of Bank
Protection and Spur Dike***

FC-5 Break Down of Quantities of Bank protection and Super dikes

(1) Bank protection

Gabion (t=0.5m)	Location	Cross-sectional Length (m)	Length (m)	Area (m ²)
	Gabut	20.0	2,000	40,000
	San Isidro	27.5	600	17,000
		14.5	650	9,000
	Sub total			26,000
	Tuguegaro	16.0	2,000	32,000
	Total			98,000

Cobble stone Average dia.=0.2m)	Location	Cross-sectional Area (m ²)	Length (m)	Volume (m ³)
	Gabut	22.0	750	17,000
		26.5	1,250	33,000
	Sub total			50,000
	San Isidro	28.0	1,250	35,000
	Tuguegaro	33.0	2,000	66,000
	Total			151,000

(2) Spur dike

Cobble stone Average dia.=0.3m)	Location	Cross-sectional Area (m ²)	Length (m)	Volume (m ³)
	Gabut	52.5	360	19,000
	San Isidro	-	-	-
	Tuguegaro	52.5	550	29,000
	Total			48,000

***FC-6 Breakdown of Quantities of Sluice,
Culvert and Bridge***

FC-6 Break Down of Quantities of Sluice, Culvert and Bridge

(1) Sluice (per unit)

Item		Unit	Quantity
Concrete Volume	Slab of Main Structure	m ³	566
	Wall of Main Structure	m ³	442
	Column of Main Structure	m ³	68
	Hoist Deck	m ³	58
	Wing of Main Structure	m ³	91
	Apron (River Side)	m ³	117
	Retaining Wall (River Side)	m ³	38
	Apron (Land Side)	m ³	239
	Retaining Wall (Land Side)	m ³	50
	Total Volume of Concrete		m ³
RC Pile • φ600, L=25m) n=132		lin.m	3,075
•teel Sheet Pile (t=400,L=5m) n=220		lin.m	1,100
Wet Masonry		m ²	224
Gabion (t=0.5m)		m ²	292
Cobble stone		m ²	49
Steel Gate (containing hoist & guide)		ton	65

(2) Culvert (per unit)

Item		Unit	Quantity
Concrete Volume	Conduit	m ³	235
	Adjusting Channel	m ³	106
Total Volume of Concrete		m ³	341
Wooden Pile • φ200, L=5m) n=84		lin.m	420
Concrete Sheet Pile • t=500, L=3m • n=100		lin.m	300
Gabion (t=0.5m)		m ²	367
Flap Gate		unit	2

(3) Bridge (per unit)

Item		Unit	Quantity
Concrete Volume	Abut	m ³	125
	Pier	m ³	561
	Super Structure	m ³	771
Total Volume of Concrete		m ³	1,457
RC Pile • φ450, L=3.5m) n=96		lin.m	336

*The Feasibility Study of the Flood Control Project for
the Lower Cagayan River in the Republic of the Philippines
Final Report
Data Book*

***FC-7 Questionnaire Survey
of OCD Region 2***

(1) OCD/RDCC Region 2

Name: Mrs. Norma Talosig – Operations Officer (OCD)

Date :

Interviewer :

Questions	Their Answers	DPWH actions
1. Is there updated "Integrated Regional Disaster Management Plan", even a part?	Yes or No	Get one copy of the updated one, if available.
2. Latest organization and staff	1) Organization chart and function 2) Staff a) () b) () c) () d) () e) () f) () g) () h) () i) () j) ()	1) Get one copy Refer to Oplan "Arayat"
3. Annual budget	1) Regular budget with breakdown Annual total Pesos: 2) Calamity reserve with breakdown Annual total Pesos:	No Regular Budget
4. Communication facilities	1) Available communication facilities with numbers such as telephone, telefax, radio, VHS, cellphone: a)	Refer Appendix "D" of Oplan Arayat
5. Communication flow	1) Offices from which you get flood information and warning? a) 2) Offices to which you give flood information and warning? a)	Refer Appendix C of Oplan Arayat
6. Available rescue facilities	1) Rescue facilities and numbers a) Motorized Banca	The RDCC utilized the existing resources its member agencies/ organization

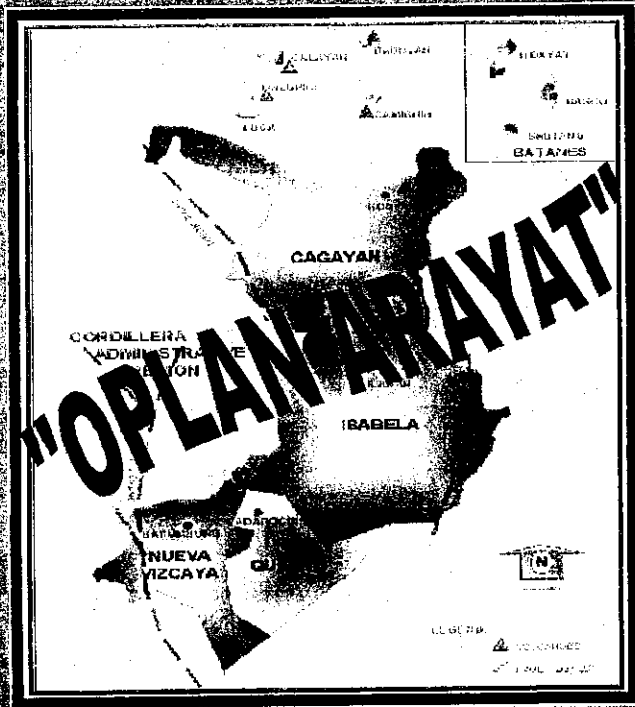
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7. Evacuation process during flood	1) Your activities on Warning a) Warning time _____ on warning level _____ of PAGASA or others?: 2) Your activities on Order to Move a) 3) Your activities on Shelter a) 4) Your activities on Return a)	<ul style="list-style-type: none"> ▪ Warning is given when its signal 1 to 4 are raised at the water gauging station is 10m. ▪ The LGU's have the primary responsibility on the evacuation of people.
8. Training program and drill	1) Training of DCC staff (experience, program, schedule, budget, lecturer) a) Training on Search and Rescue (Water borne reserve) b) November, 2001 c) Lecturers will be from the AFP 2) Training of local people (experience, program, schedule, budget, lecturer) a) Drill for local people – LGU concern b) For pupil - yes	
9. Operation of evacuation center during calamity	1) Organization and Staff a) Organization chart and function b) Staff c) Evacuation task team? 2) Volunteers a) Name, numbers – NGOs, civic/ Religious organizations b) Activities	Refer Oplan "Arayat"
10. Others	1) Your criteria on the standard area for the evacuation center per head. (area of 3.52m ² /head is acceptable?) Acceptable 2) Training cost of 0.25 million/year is too much for each Municipality? Enough	
11. Comments	The RDCC needs strengthening on all aspects of disaster management – preparedness, prevention / mitigation, response and recovery.	



Republic of the Philippines
REGIONAL DISASTER COORDINATING COUNCIL
Region 02
Tuguegarao City

RDCC 02



2001 Revised Edition

III. EXECUTION:

a. Concept of Operation:

Annex B map shows coverage of RDCC2. RDCC2 undertakes necessary services incident to any disaster/calamity, natural or otherwise, making use of all resources, both government, private and civic organizations;

b. Medical Services:

1. Provide augmentation support to LGUs through the provision of necessary medical personnel and medicines and/or vaccines for distribution to affected areas;
2. Detect and prevent spread of communicable/contagious diseases/pestilence in the disaster area and/or areas of operation;
3. Establish emergency treatment station for disaster victims;
4. Conduct information drive on preventive and curative measures to check and control the occurrence of communicable diseases and epidemics;
5. Organize/train paramedics from the Regional down to Barangay levels;
6. Conduct periodic drills and exercises at all levels to make operational activities automatic to personnel; and
7. Render reports of all its activities to the RDCC thru the Secretariat.

c. Transportation, Rescue and Evacuation Services:

1. Make available and provide adequate means of transportation by air, land and water for use before, during and after calamity in the movement of victims, personnel and relief goods;
2. Assist LGU's in the restoration and undertake emergency repairs and engineering of damaged or destroyed infrastructure, electric power and other public works facilities in coordination with the department agencies concerned;
3. Undertake sea, land and air survey and assess extent of damage caused by the calamity;
4. Organize/train emergency transport, rescue and evacuation service from the Regional down to Barangay levels;
5. Undertake aerial and rescue operation as needed;
6. Direct and monitor all evacuation and rescue activities within the region; and
7. Render reports on all its activities to the RDCC thru the Secretariat.

8. Coordinate with concerned LGUs/agencies/organizations for the availability of Evacuation Centers.

d. Peace & Order and Fire Services:

1. Organize/train and employ Police/Fire/military personnel to maintain peace and order and traffic control in disaster stricken areas;
2. Increase Police/Fire fighting potentials through augmentation by civilian participation;
3. Prescribe the duties, function and authority of civilian volunteers;
4. Make available communication facilities for use in disaster operation;
5. Conduct information drive on crime/fire prevention and crime/fire fighting procedures and strategies;
6. Conduct Police/Fire drills and exercises; and
7. Render reports on all its activities to the RDCC thru the Secretariat.

e. Commo and Warning Services:

1. Establish and provide communication linkages to RDCC, PDCC's and MDCC's utilizing all facilities in the region;
2. The RDOC communication system shall be the backbone of RDCC2 signal system, while the PRO2 commo system shall augment existing RDCC commo network;
3. Establish tie-up with radio communications group through NTC for dissemination of warning information and monitoring of disaster situation;
4. Establish a working arrangement with all forms of media in relaying information, instructions and warning to the general public; and
5. Render reports on all its activities to the RDCC thru the Secretariat.

f. Public Information Services:

1. Provide the civilian population accurate/relevant and timely information and instruction arising from natural or man-made disaster;
2. The PIA Regional Director serves as the official spokesman of RDCC;
3. Produce radio talk shows, documentary and features film and publications on disaster related activities; and

4. Render reports on all its activities to the RDCC thru the Secretariat

g. Relief and Rehabilitation Services:

1. Provide augmentation support to LGUs affected in the provision of relief goods, serve emergency hot meals and distribute same to victims on site at disaster/calamity areas;
2. Give guidance and counseling to victims to avoid panic;
3. Operate and maintain rehabilitation centers in coordination with other disaster services;
4. Provide and establish Emergency Collection Centers for distribution of relief goods and supplies;
5. Assist in the procurement of farm inputs;
6. Assist in facilitating payments of crop insurance;
7. Assist in the procurement and distribution of seeds, fingerlings and other plant materials;
8. Request banking institution for the packaging of special financing programs to disaster victims;
9. Make representation with banking/lending institution for moratorium on outstanding loan in affected areas; and
10. Render reports on all its activities to the RDCC thru the Secretariat.

h. Coordinating Instructions:

1. Concerned agencies shall provide personnel representative to man the Regional Disaster Management Center if the needs arises;
2. Subsistence of personnel and man-power contribution to Disaster Operation Center (DOC) and disaster services shall be provided by parent participating agency concerned;
3. Planning and Operations shall be done in an inter-agency, multi-sectoral basis to optimize the utilization of resources;
4. Maximum lateral and vertical coordination among the staff branches, action groups, operating troops and civil authorities is encouraged;
5. The principle of agency specialization shall be respected and utilized to assure economy and judicious use of government resources;
6. All reports shall be submitted to the Chairman, RDCC and thru the Secretariat

i. Logistical Support:

- a. All agencies shall provide their own logistical and financial support for short-term operations; and
- b. Request for support for protracted operations shall be forwarded to the Secretariat for referrals.

j. Control:

- 1. The manning and supervision of the day-to-day activity of the Regional Disaster Management Center will be exercised by the Secretariat during normal periods and by the RDCC during disaster periods;
- 2. The Secretariat Office will be at the Office of Civil Defense-DND and the Regional Disaster Management Center will be the RDCC Headquarters stationed at PRO2, Camp Marcelo Adduru, Tuguegarao City.

CMO
PAGASA

Regional Director
COMELEC

Regional Director
DAR

Asst. Regional Director
BJMP

Manager
PLDT

Regional Director
BIR

Regional Director
POPCOM

Manager
NAPOCOR

Regional Director
NSO

Regional Director
NLRC

Manager
PCIC

Regional Director
NCIP

PNP Maritime Command

President
CVMC

Aviation Security Group

President
REACT

Regional Director
NARCOM

Regional Director
NAPOLCOM

Regional Director
DFA

Regional Director
NICA

Regional Director
PLI

President
KABALIKAT

Manager
NHA

Regional Director
NEA

Manager
GSIS

Manager
SSS

Manager
DIGITEL

Regional Director
NFA

Manager
PAGIBIG

Manager
PNB

Manager
LBP

Manager
DBP

			Regional Director CHED	Regional Director DILG	Regional Director DOH
Regional Director DOLE	Regional Director PPC	Regional Director NIA	Regional Director DSWD	Regional Director DA	Regional Director NEDA
Regional Director LTFRB	Regional Director COA	Regional Director TESDA	Regional Director BFAR	Regional Director DPWH	Regional Director PIA
Regional Director TELOF	Regional Director DTI	Asst. Regional Director BFP	Regional Director Dep Ed	Regional Director PMS	Regional Director CHR
Regional Director BLGF	Regional Director LTO	Regional Director DOJ		Commanding General 5 th ID, PA, AFP	Regional Director OCD
Regional Director DENR	Regional Director NTC	Regional Director CSC			
Administrator PNRC	Regional Director DBM	Regional Director PAO			
Manager ATO	Regional Director DOST	Regional Director DOT			

Approved:

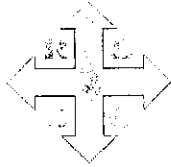
P/CS DOMINADOR C. RESOS JR.
Regional Director, PRO 2
Chairman, RDCC2

Annexes:

- A- Task Organization
- B- Map Coverage of RDCC2
- C- Communication and Warning Flowchart
- D- RDCC2/PDCC Communication Linkages
- E- Disaster Alert Status

Distribution:

1 each cooperating agency (See task organization)



Republic of the Philippines
REGIONAL DISASTER COORDINATING COUNCIL
Regional Disaster Management Center-R2
Camp Adduna, Tuguegarao City
Tel/Fax No. (078-844-1630/31)

ANNEX "A"

ANNEX A (TASK ORGANIZATION) to "OPLAN ARAYAT", Regional Disaster Coordinating Council 2

TASK ORGANIZATION

I. GENERAL:

This Task Organization contains the guidelines, prescribes organizational concept, organizational chart and instructions to participating/ coordinating civilian/government agencies pertaining to organization and performance objectives and requirement of temporary groupment of personnel, equipment and supplies detailed/provided by participants-agencies.

II. OBJECTIVES:

1. To organize, equip and employ a Regional Disaster Coordinating Council (RDCC) composed of personnel detailed by participating/agencies and volunteers. The RDCC shall manage disaster detection, identification of affected areas, organization and employment of provincial, city and municipal disaster coordinating councils in affected areas.
2. To organize, equip and employ Disaster Service units and groups at Provincial, City, Municipal level as operating arms composed of integrated personnel, equipment and supplies detailed by participating agencies from.
 - a. Existing resources
 - b. Actual disaster/calamity victim assistance
 - c. General/Special assistance to concerned government/private agencies in the effective performance of their statutory function/mission.
3. To provide a central unit at Regional, Provincial, City and Municipal level as focal point/venue for coordination and/or to source out official, reliable and most current information about the disaster and its aftermath.

III. ORGANIZATIONAL CONCEPT:

1. Specified regional offices and volunteers shall detail responsible officials and personnel to constitute the key personnel of the Disaster Coordinating Council at Regional, Provincial, City and Municipal levels. These personnel will report to designated operation centers upon receipt of alert advise from concerned agencies.
2. Other government/private agencies shall detail officials and maintain liason at coordinating operation centers and contribute personnel, supplies and equipment requested/directed by the RDCC 2.

IV. ORGANIZATION CHART. Appendix 1

V. KEY PERSONNEL REQUIREMENTS. Appendix 2

VI. SUGGESTED FORMAT FOR STANDARD OPERATING PROCEDURES. Appendix 3

P/CSUPT DOMINADOR C. RESOS JR.
Regional Director, PRO2
Chairman, RDCC

Appendixes:

- 1- Organizational Chart
- 2- Key Personnel Requirements
- 3- Suggested Format for SOP

APPENDIX "2" (KEY PERSONNEL REQUIRMENTS) TO ANNEX "A"

PRO2----- CHAIRMAN
 ----- VICE CHAIRMAN

SECRETARIAT:

OCD2----- EXECUTIVE OFFICER
 MEMBERS

NEDA
 TELOF
 DSWD
 DENR
 PIA
 PRO2
 DILG
 DPWH
 DA

STAFF BRANCH:

1. RESEARCH AND ANALYSIS:

NEDA----- CHIEF
 SID MEMBERS

COA
 PMS
 DSWD
 NSO
 DOST
 PRO2
 DBM
 DENR
 DA

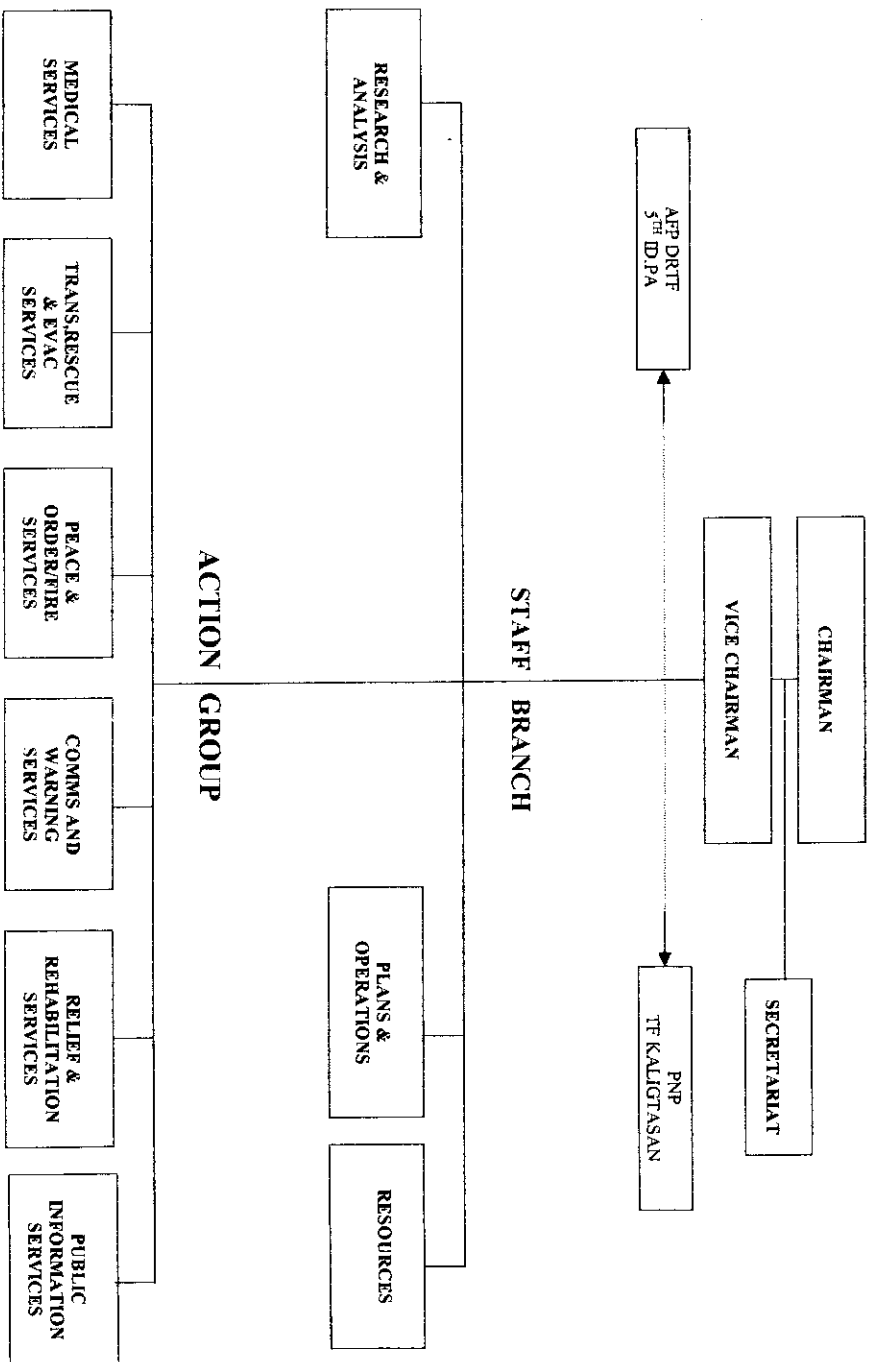
2. PLANS AND OPERATIONS:

DILG----- CHIEF
 PRO2 MEMBERS

LTO
 DOJ/RPO
 SID
 DOH
 OCD
 DOLE
 DOST
 NTC
 PIA

Appendix 1

RDCCC2 ORGANIZATIONAL CHART



3. RESOURCES:

DSWD-----	CHIEF
DPWH	MEMBERS
DOH	
LBP	
SID	
BIR	
PNRC	
Bankers Association	
DA	
COA	
GSIS	
Dep Ed	
SSS	
DTI	
RELIGIOUS/CIVIC ORGN	
NFA	
BLGF	
TESDA	
POPCOM	
NEA	
NAPOCOR	
CSC	
NHA	
CHED	
BFAR	
PAGIBIG	
PHI	

ACTION GROUP:

1. MEDICAL:

DOH-----	CHIEF
DSWD	MEMBERS
PRO2	
SID	
PNRC	
DA	
BFP	
CVMC	
BFAR	
CHED	
Dep Ed	

2. TRANS, RESCUE & EVAC:

SID-----	CHIEF
PRO2	MEMBERS
DPWH	
NIA	
NFA	
Dep Ed	
LTO	
CVMC	
ATO	
BFP	
PNP MARITIME	
NGOs (SMOC, etc.)	
DENR	
CHED	
DOH	
LTFRB	
DILG	
DFA	

3. PEACE & ORDER/FIRE:

PRO2-----	CHIEF
ATO	MEMBERS
DOJ/RPO	
NAPOLCOM	
BFP	
SID	
DENR	
Maritime Command	
Phil Coast Guard	
Aviation Security Group	
NARCOM	
BJMP	
DILG	
NBI	
NICA	
CAFGU	
PAO	

4. COMMO AND WARNING:

NTC-----	CHIEF
OCD	MEMBERS
PRO2	
PAGASA/DOST	
NIA	

Dep Ed
SID
TELOF
PPC
PLDT
PLI
REACT
KABALIKAT
CHED
DPWH
DIGITEL
DA
PAGPRO
Cable TV Operators
DILG

5. RELIEF & REHABILITATION:

DSWD----- CHIEF
PNRC MEMBERS
GSIS
SSS
DILG
DENR
TESDA
POPCOM
COMELEC
NCIP
COA
NFA
NIA
NEA
CSC
PCIC
DA
LB
PNB
DBP
BIR
DPWH
DAR
DOT
RELIGIOUS/ CIVIC ORGN'S
NHA
BFAR
NLRC

6. PUBLIC INFORMATION:

PIA----- CHIEF
KBP MEMBERS
CABLE TV's
PRINT
BROADCAST MEDIA
PNA

Appendix 3

SUGGESTED FORMAT FOR STANDARD OPERATING PROCEDURES

Republic of the Philippines
Name of Agency
Address

STANDARD OPERATING PROCEDURES

1. References:

- 1. P.D. 1566
- 2. National Calamities and Disaster Preparedness Plan
- 3. Oplan "Arayat"

2. Aim

The purpose of these Standard Operating Procedures is to provide a quick and easy reference to the actions to be undertaken by the Agency in times of disaster.

3. Preparedness Action

- a. Ensure general readiness to respond to disaster
- b. Ensure that the Agency Disaster Action Plan is accurate and appropriate
- c. Ensure that SOPs are current and that personnel concerned are aware of their responsibilities
- d. State any other aspects appropriate to the Agency's Preparedness.

4. Operational Tasks

State operational tasks as laid down in the National Calamities and Disaster Preparedness Plan/OPLAN "Arayat" with any amplifications necessary to ensure that tasks are clear to Agency staff.

5. Resources Available

List resources available for and likely to be available for disaster purposes. It may be useful to list these under the headings of:

Personnel - with skills and members available
 Equipment
 Facilities

6. Supplementary Resources

List these under categories such as:

Trained persons within the community who might be called to augment the Agency Staff.

Equipment which could be used to supplement that of the Agency.

Contact arrangements, as relevant, need to be included in these section.

7. Activation Guidelines

List the most likely sources of information on which the Agency would be activated

List activation system within the Agency

List names, duties and telephone numbers of supervisors who are responsible for activation and initiation of action by Agency staff.

8. Direction Coordination

Outline system of direction and coordination which would apply to Agency's actions, along lines indicated below:

In No-warning or Short Warning Situations

Who would authorize emergency response and exercise direction and coordination of agency activities.

In Long-warning Situation

Who would exercise direction and coordination of agency activities

9. Operational Checklists

Stage 1 - Readiness (or Alert)

Specify action such as:

- Warn members or persons concerned
- Action, as necessary, to secure Ministry Property, equipment and facilities.
- Check supplies and equipment for use during disaster.
- Warn supplementary trained persons in community (if applicable)
- Other points relevant to particular Agency.

Stage II - Stand-by

Specify actions such as:

Place staff on stand-by
Deploy resources, as necessary
Prepare to carry out operational tasks

Stage III - Action

Specify action such as:

Carry out operational tasks as notified by RDCC/Action Group
Maintain communication with the Disaster Operation Center
Report tasks progress and task complete to the DOC

Operation Complete

Assume normal status
Revert to Preparedness Action

10. Administrative

Maintain disaster log and necessary records to facilitate post-disaster administrative and accounting action.

11. Stand Down

12. Submit report to the RDCC, thru its Secretariat

**NOTE: AGENCY MENTIONED REFERS TO CHIEF OF OFFICE
Organization refers to the President/Chairman/Head of the Organization**

Tab A (Functions of RDCC, Secretariat, Line Directorate Staff and participating/coordinating agencies) to Appendix 1 (Organizational Chart) to Annex A (Task Organization) to "OPLAN ARAYAT", RDCC2.

FUNCTIONS:

1. Regional Disaster Coordinating Council (RDCC)

- a. Coordinates the disaster operation activities in the region from the RDMC or from any forward operating facility within the region.
- b. Implements within the region the guidelines set by the NDCC, and advises the Local Disaster Coordinating Councils (LDCCs) on Disaster Management.
- c. Assists in the organization and training of the DCCs.
- d. Monitors and evaluates requests for National Calamity Fund Assistance and likewise monitors the utilization of NCF releases thru the CFMC.
- e. Submits appropriate recommendations to the NDCC, as necessary.

2. Secretariat/Operations Center

- a. Records and publishes minutes of conference of the RDCC
- b. Custodian of all records of the RDCC
- c. Maintains complete record of the Council and its activities.
- d. Monitors and gathers data regarding calamity/disaster situation.
- e. Coordinates the efforts of all government agencies involved in calamity/disaster operation.
- f. Prepares report to higher authorities.
- g. Undertakes administrative secretarial functions of the Council.
- h. Assists the Chairman in the preparation of policies, directives, SOPs, etc., to member-agencies, as necessary.

3. Research & Analysis Staff Branch:

- a. Evaluates information and advises the member-agencies of the Regional/Provincial/City/Municipal Disaster Coordinating Council of impending disasters.

- b. Makes recommendations on how to prevent disasters, if possible, and/or suggests precautionary measures to minimize effects of disaster.
- c. Submits recommendation for allocation of needed resources.
- d. Prepares appropriate recommendation to proper authorities for possible declaration of the existence of a State of Calamity in affected areas. This recommendation shall serve as a basis for the release of calamity funds to ameliorate the sufferings of the disaster victims.
- e. Gather and collects information pertaining to impending or on-going disaster.

4. Plans & Operations Staff Branch:

- a. Determines courses of action to be taken based on recommendation of the Research & Analysis Staff Branch.
- b. Initiates plans, directives and reports.
- c. Monitors result of operation of subordinate DCC and Disaster services.
- d. Determines the type of service units to be utilized in the disaster area.
- e. Recommends implementation/termination of existing operations.
- f. Maintains and/or supervises progress of operations and determine the necessity of utilizing additional service units.
- g. Prepares appropriate reports upon termination of operations.

5. Resources Staff Branch:

- a. Undertakes a survey and coordinate the availability on site of urgent items needed in helping the victims of disaster/calamity and gather the necessary statistics and resources such as:
 - a.1. Food- rice, corn, canned goods, vegetable, fish, meat, soft drinks, and other grocery items.
 - a.2. Clothing- clothing materials and footwear.
 - a.3. Construction materials- lumber, cement, roofing, materials and hardware
 - a.4. Medical Supplies- medicines
 - a.5. Transportation- government and private vehicles available
 - a.6. Other rehabilitation items- seeds, planting materials, pesticides, fertilizers, livestock and fingerlings

- b. It shall have the continuing task of updating its data and to all concerned, for ready reference and guidance.

6. PRO2

- a. The Regional Director is designated as Chairman of the Regional Disaster Coordinating Council (RDCC) for Region 2.
- b. Provides Chief for Peace and Order and member-representatives for Secretariat, Research and Analysis, Plans and Operations Staff Branches, and Medical, Trans, Rescue & Evac., Communications and Warning Action Groups.
- c. Assists all Governors and Mayors in the area of operation in activating and mobilizing all agencies under their control for joint efforts with own forces in rescue and relief operations.
- d. Plans closely with civil officials in the integration of their manpower and resources with own forces in relief and rehabilitation activities.
- e. Makes communication facilities available for disaster operations.
- f. Disseminates information on situation obtained in affected areas.
- g. Maintains peace and order in safeguarding of essential facilities during disaster or civil disturbance.
- h. Performs rescue operation and other special operations that may be needed before, during or after a disaster.
- i. Provides forensics technical supports through Regional Crime Laboratory.
- j. Ensures that traffic at the disaster area will be orderly in order to speed up rescue/recovery/relief and rehabilitation operations.
- k. Other tasks deemed appropriate to be taken.

7. Office of Civil Defense (OCD):

- a. The Regional Director is designated as Executive Officer and Chief of the Secretariat, and provides member-representative to Plans and Operations Staff Branch, Comms and Warning Action Group.
- b. Advises the Chairman, RDCC on matters concerning disaster management.
- c. Coordinates the activities and functions of various agencies and instrumentalities of the national government and private institutions and civic organization to implement the policies set by the RDCC relative to disaster management.

- d. Conducts training exercises and seminars on Disaster Preparedness and Disaster Operations
- e. Provides communication and warning to the public.

8. Department of Agriculture (DA):

- a. Provides member representative to Resources Staff Branch, Relief and Rehabilitation, Commo & Warning and Medical Action Groups.
- b. Undertakes surveys and investigate the extent of damage to agricultural crops and livestock in affected areas.
- c. Renders technical assistance to disaster victims whose crops, livestock, or fisheries have been destroyed, damaged or lost.
- d. Provides rehab assistance such as seeds and plant materials, as well as livestock to rehabilitate farms
- e. Assists in the control of animal pests and diseases in the solution of agricultural problems arising from disaster.
- f. Checks the availability of grains stocks in the disaster areas.
- g. Provides mitigation measures.
- h. Makes available existing communication facilities for disaster operations and provides warning to the public on impending releases of matter.

9. National Economic Development Authority (NEDA):

- a. Acts as the Chief of the Research and Analysis Branch
- b. Determines and analyzes the effects of disaster and calamities on the socio-economic plans and programs of the region.
- c. Assists in mobilizing resources through the provision of technical assistance in the formulation of projects for ODA funding and/or programming.
- d. Ensures that disaster concerns are integrated in development plans and monitor the situation and progress of activities in disaster- affected and disaster- prone areas for appropriate policy and program interventions.
- e. Develops damage assessment schemes to be used for surveying after-disaster damages.
- f. Reflects the effect of calamities in the preparation of the Regional Economic Situationer.
- g. Extends technical assistance to LGUs in integrating disaster related concerns to the local plans.

10. Department of Social Welfare and Development (DSWD):

- a. Acts as the Chief of the Resources Staff Branch and provides member representative to the Research and Analysis Staff Branch. Acts as the Chief of the Relief and Rehabilitation Action Group.
- b. Undertakes on-the-spot surveys of disaster areas to determine the extent of damage and number of victims eligible for relief and assistance
- c. Assists LGUs by augmenting their relief goods and supplies to disaster victims.
- d. Extends stress debriefing to victims and their immediate family members and other service to boost the morale of the victims.
- e. Prepares case records of victims in coordination with participating teams and agencies to determine the need and eligibility of disaster victims for rehabilitation services, such as cash aid, emergency shelter assistance/CORE Shelter, additional relief supplies, etc.
- f. Makes available the different social service program of the welfare department to disaster victims eligible for help such as skills training and livelihood.
- g. Receives donations from public and private sectors.
- h. Coordinates with other agencies to plan resettlement of needy victims.
- i. Assists in the conduct of Disaster Preparedness Training and re-training of the members of PDCC, MDCC and BDCC.

11. Department of Health (DOH):

- a. Acts as the Chief of the Medical Action Group and provides member-representative to Plans and Operations, and Resources Staff Branches.
- b. Establishes emergency station for first aid treatment of disaster victims.
- c. Augments resources of LGUs in the provision of necessary medicine and medical supplies.
- d. Institutes preventive and curative measures to check and control the occurrence of communicable diseases and epidemics.
- e. Issues appropriate warning and advisories to the public on the occurrence of epidemics and other health hazards.
- f. Oversees the organization of assessment and medical response teams in all hospitals, clinics, sanitarium, and the like to assist LGUs in times of emergencies and disasters.

- g. Establishes an integrated system for emergency preparedness/response and management within the health system
- h. Enhances the capabilities of the health sector in effective and efficient disaster and emergency response.
- i. Promotes emergency preparedness through networking, inter-sectoral collaboration, technical assistance, training and development.

12. Department of Public Works and Highways (DPWH):

- a. Provides member-representative to the Secretariat, Resources Staff Branch, Transportation, Rescue and Evacuation, Communication and Warning and Relief and Rehabilitation Action Groups,
- b. Provides adequate vehicles to insure and facilitate the survey of the disaster area, transportation of relief and relief personnel and evacuation of disaster victims.
- c. Surveys, assesses and validates reported damages on public works facilities, roads and bridges.
- d. Effects emergency repair or restoration of damaged public works facilities, roads and bridges in cooperation with other government agencies and relief organizations.
- e. Makes available existing communication facilities for disaster operations and provides warning to the public on impending releases of water from dams under its control.
- f. Provides warning and/or traffic advisories to the public.

13. Philippine Information Agency (PIA):

- a. Acts as the Chief of the Public Information Group, and provides member-representative to the Secretariat.
- b. Disseminates information in coordination with mass media.

14. Department of Education (Dep Ed)/Commission on Higher Education (CHED):

- a. Provides member-representative to Resources Staff Branch, Transportation, Rescue and Evacuation, Relief and Rehabilitation, Medical and Comms and Warning Action Groups.
- b. Makes available school buildings nearest the affected areas as emergency center.
- c. Coordinates with other agencies in warning people on impending calamities, specially in the remote areas.
- d. Disseminates information on the nature of different calamities, their causes and prevention, and other precautionary measures.

- e. Oversees the organization of disaster control groups and reaction teams in all schools and institutions of learning.
- f. Makes the necessary announcements as regards the suspension of classes.

15. Department of Interior and Local Government (DILG):

- a. Acts as the Chief of the Plans and Operations Staff Branch and provides member-representatives to the Secretariat, Relief and Rehabilitation Service Group, and Warning Services Group.
- b. Monitors the organization and coordinate for the mobilization of Disaster Coordinating Councils at the Provincial, City, Municipal and Barangay level.
- c. Provides direction and guidance to the locality before, during and after disasters.
- d. Assists and intensifies in the monitoring and reporting of disaster situation.
- e. Assists in warning rural folks on impending disasters.
- f. Assists and supports lead welfare agencies in the conduct of Disaster Preparedness Training

16. Department of Labor and Employment (DOLE):

- a. Provides member-representative to Plans and Operations Staff Branch.
- b. Assists in the rehabilitation of disaster victims by providing employment opportunities and other means of livelihood.
- c. Coordinates with industrial, commercial, agricultural and private institutions to provide employment opportunities.
- d. Organizes its Regional and Provincial units to support and assist the corresponding local government levels.
- e. Oversees the organization of disaster control groups in industrial complexes, utilizing the existing safety committee therein.

17. Philippine National Red Cross (PNRC):

- a. Provides member-representative and personnel to compose the Resources Staff Branch, Relief and Rehabilitation, and Medical Action Group.
- b. Provides relief goods, assistance and first aid to disaster victims.
- c. Arranges for and supervises the construction of temporary shelters.

- d. Carries out disaster relief and rehabilitation programs.

18. Department of Transportation and Communication/Regional Management Council (LTO, LTRFB, ATO, NTC, TELOF, PPC)

- a. Provides member-representatives to Plans and Operations Staff Branch, Transportation, Rescue and Evacuation, and Chief, Communication and Warning Action Group.
- b. Surveys, assesses and reports damages on public communication system.
- c. Effects emergency repair or restoration of damaged public communication system.
- d. Provides transport units for RDCC Mobile survey teams for rescue and relief works
- e. Prevents/apprehends operators charging illegal transportation fares
- f. Committed to provide the security of the communication facilities for the use of the Council.
- g. Provides efficient facilities in cooperation with different gov't civic/radio groups to Communication and Warning Action Group.
- h. Coordinates with commo carriers for the availability of their facilities during emergencies.

19. Dept of Budget and Management/ Bureau of Local Gov't Finance/Commission on Audit (DBM/BLGF/COA):

- a. Provide member-representative to Research & Analysis, and Resources Staff Branches and member representative to Relief and Rehabilitation Service Group.
- b. Determine funding requirement for disaster operations and makes them available when required.
- c. Provide speed delivery of Audit service and identify the financial impact of the damage and make necessary recommendation for possible release of fund assistance from calamity fund from the President.

20. Department of Science and Technology (DOST):

- a. Provides member-representative to Research and Analysis and Plans and Operation Staff Branches, and Communication and Warning Action Group.
- b. Gathers and disseminates warning information of impending disasters, location and strength and other precautionary measures.

21. Department of Environment & Natural Resources (DENR)/ MGB/EMB:

- a. Provides member representative to the Secretariat, Research and Analysis Staff Branch and Relief and Rehabilitation and Peace and Order/Fire Action Groups.

- b. Surveys and investigate the extent of damage to environmental pollutions, industrial accidents and immediate mobilization of fire fighting teams on forest fires in affected areas.
- c. Provides technical assistance on geo-hazard mapping and assessment studies of urban centers and critical areas prone to disaster.
- d. Assists in the identification of probable relocation sites and to donate confiscated lumber/wood materials to disaster victims
- e. Assists in securing plant materials and to rehabilitate forest reservation.
- f. Monitors and establishes control measures on forest fires and organize fire fighting/suppression crew to quickly respond to such outbreaks.

22. Department of Trade and Industry (DTI):

- a. Provides member representative to Resources Staff Branch
- b. Carries out measures for maintaining the normal levels of prices of prime commodities by preventing hoarding and profiteering in coordination with other concerned agencies like DA, DENR, DOH, etc.
- c. Checks on the availability of essential commodities in the affected areas.
- d. Monitors activities and gathers appropriate data in coordination with other agencies.

23. 5th Infantry Division, PA (5ID, PA):

- a. Provides member representative to Research and Analysis, Plans and Operations, and Resources Staff Branch, to Medical, Peace and Order/Fire, Commo and Warning and acts as Chief of Trans, Rescue and Evacuation Action Group.
- b. Assists all mayors in the area of operation in activating and mobilizing all disaster brigades for joint effort with own forces in Rescue and Relief Operation.
- c. Makes communication and transportation facilities available for disaster operations.
- d. Makes available personnel for security, evacuation and rescue activities
- e. If situation warrants, establishes and mans an alternate RDCC Command Center at the Composite Air Tactical Group, PAF based in Cauayan, Isabela

24. National Irrigation Administration (NIA):

- a. Provides member representative to Transportation, Rescue and Evacuation, Communication and Warning, Relief and Rehabilitation Action Groups.

- b. Provides adequate vehicles for transport of relief supplies, personnel and evacuation of victims
- c. Provides warning to the public on impending releases of water from dams under its control and makes available existing communications facilities for disaster operations.

25. Technical Education and Skills Development Authority (TESDA)

- a. Organizes, trains and mobilizes Disaster Control Groups and Reaction Teams in all schools and institutions of learning under their jurisdiction.
- b. Conducts livelihood skills trainings.
- c. Makes available suitable school buildings nearest the affected areas as evacuation centers.

26. Department of Tourism (DOT)

- a. Organizes, trains and mobilizes Disaster Control Groups and Reaction Teams in hotels, pensions, restaurants and other tourist-oriented facilities.

27. National Housing Authority (NHA)

- a. Assesses housing requirements of displaced persons.
- b. Provides emergency or temporary housing with adequate sanitary facilities.
- c. Plans and sets up new communities as may be required or desired upon.

28. Bureau of Fire Protection (BFP)

- a. Responsible for the prevention and suppression of all kinds of destructive fires in buildings, houses and other structures, forest, land transportation vehicles and equipment, ship or vessels docked at piers or wharves or anchored in major seaports, petroleum industry installations, plane crashes and other similar incidents as well as the enforcement of the Fire Code of the Philippines and the investigation of all causes of fires and if necessary file the proper complaints with the city/provincial prosecutor who has jurisdiction over the case.
- b. Also mandated to respond to emergencies and other life-threatening situations.
- c. Provides member-representative to Medical, Transportation, Rescue & Evacuation, and Peace & Order/Fire Action Groups.

29. Bureau of Fisheries and Aquatic Resources (BFAR)

- a. Provides member-representatives to Relief and Rehabilitation Action Group.
- b. Undertakes information dissemination to the public, particularly, the fisher folks regarding disaster preparedness and response.

- c. Maintains updated data on fisheries specifically in disaster-prone areas to facilitate assessment of damage in cases of calamity.
- d. Monitors and assesses damages to fisheries and reports to the Council thru the Secretariat.
- e. Assists victims by providing credit in the form of soft loans thru the Integrated Livelihood Program.
- f. Assists in the rehabilitation activities by providing tilapia and bangus fingerlings and fishing gears to victims.

30. National Police Commission (NAPOLCOM)

- a. Assists the PNP in the information and dissemination campaign on Disaster Preparedness/Disaster Management.
- b. Coordinates with other agencies especially the PNP on matters of Peace and Order.
- c. Makes commo facilities for use of Disaster Operation.
- d. Renders report on all its activities to RDCC thru the Secretariat.
- d. Provides member-representative to Peace & Order/Fire Action Group.

31. All Government Banks/Lending Institutions:

- a. Provide member-representatives to Relief and Rehabilitation Action Group, and Resources Staff Branch, if and when needed.
- b. Assist in the rehabilitation of disaster victims by providing loans and other assistance and opportunities for livelihood.

32. Other Agencies/Organizations:

- a. Organize themselves based on the three (3) Staff Branches (Research & Analysis, Plans & Operations and Resources) five (5) service groups (Medical, Trans, Rescue and Evacuation, Peace & Order/Fire, Communication and Warning, Relief and Rehabilitation and Public Information) according to their area of specialization and capability.
- b. Assist all service groups in terms of manpower, equipment and financial resources.
- c. Other tasks deemed appropriate to be undertaken.

Tab-"B"

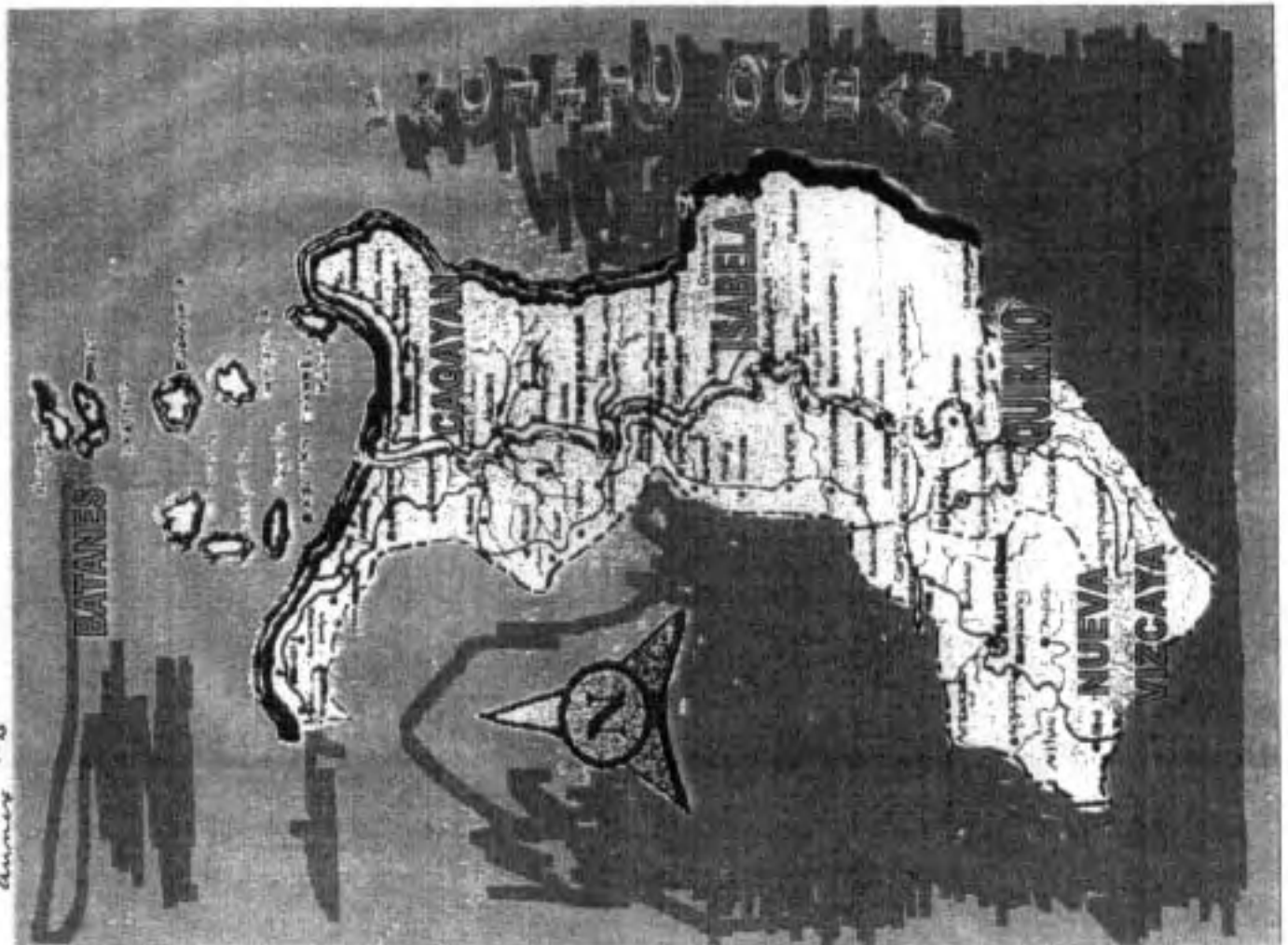
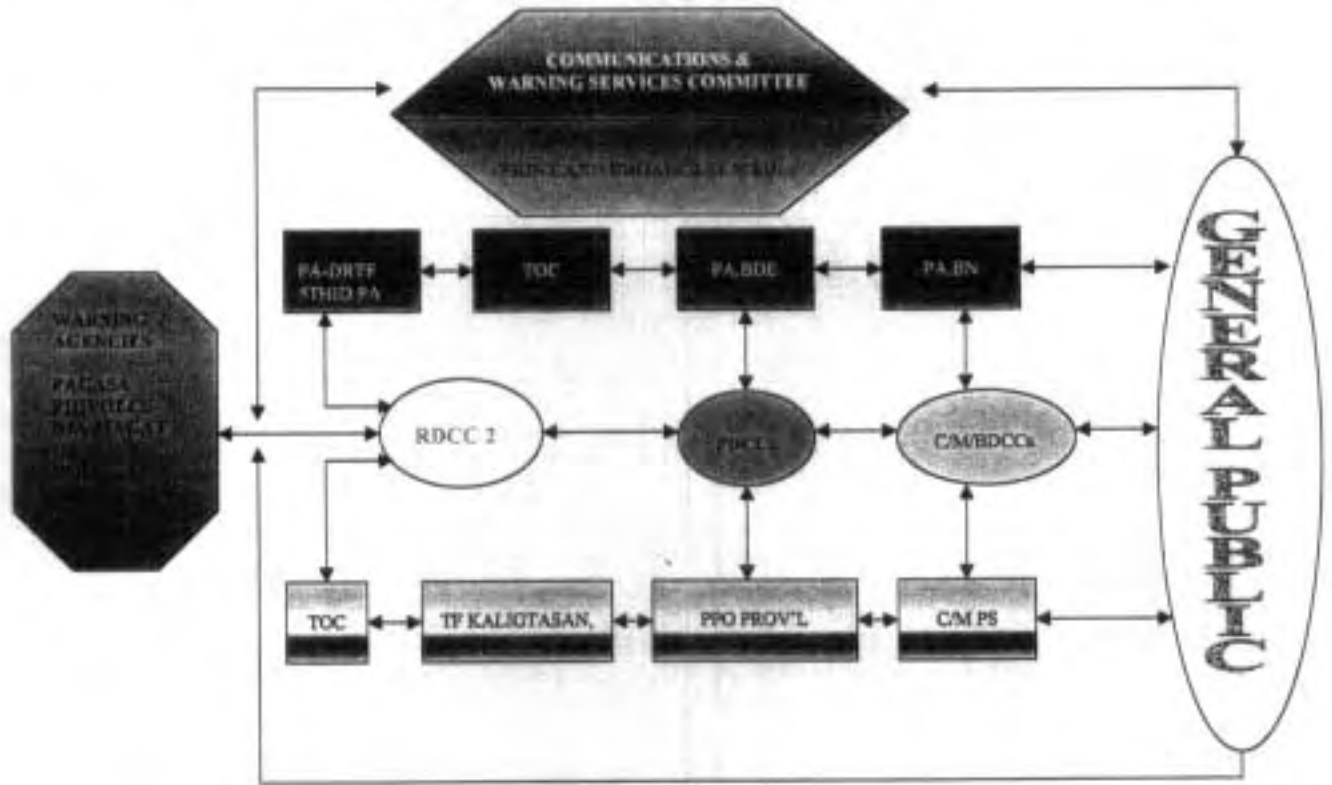
**DIRECTORY OF REGIONAL DIRECTORS/HEADS, PRESIDENTS/MANAGERS
AND
REGIONAL DISASTER ACTION OFFICERS**

AGENCY	DIRECTORS	TEL. NO.	DAO'S	RDAO TEL. NO.
Arch.	Diosdado Talamayan, DD	844-1663		
PRO 2	P/CSUPT DOMINADOR C RESOS JR	844-1596/1954(F)		
5 ID	B/GEN RODLFO ALVARADO	0917-9763-529		
BFP	F/S JUAN G IRINGAN	846-6209	F/SI JESUS FERNANDEZ	844-1648
BJMP	J/SS BENITO A DORIGO	624-0217	J/S JOSEPH B TAEZA	
DSWD	Flora N Pinaroc	846-7532/844-5482(F)	Pacencia Ancheta	844-1636
NEDA	Milagros A Rimando	844-7497/1243(F)	Peachie Ballesteros	844-1243
DOH	OIC - Dr. Eduardo C Janairo	844-1748/6646 846-7230/844-5341	Dr. Cirilo Pintucan	844-5178
DPWH	Rodolfo K Alday	844-1185/846-9138(F)	Engr. Amado Martinez	844-1183
DECS	Teresita Domalanta	844-3855/1862(F)	Felipa Gamiao	846-7372
DIIG	Renato L Brion CESO IV	844-1978/1296(F)	Enrico Tambis	846-1978
DA	Gumerinda C Lasam	844-1324/846-9131(F)	Zotico Perez	844-1031/1312
BFAR	Jovita Ayson	844-4252/5331 846-3661	ARD Severina S Bueno	844-4252
DENR	Alfredo S Pascual	844-1141	George C Cristobal	844-1141/3896
DAR	Abrino L Aydinan	844-1847	Alex A Tabago	844-0959
DOLE	Guerrero N Cirilo	844-2728/1383	Engr. Henry B Balangatan	844-6265
DTI	Jose Hipolito	846-4637/4410	Milagros Pentinio	
DBM	Isabel C Taguinod	844-1338	Evaristo I Caleda III	844-1084
DOST	Rustico Santos	846-9169	Eduardo Te	844-3255/3426
LTO	Moises P Almiente	846-2497/1939(F)	Manuel C Baricaua	846-9144
LTRFB	Glenn N Zaragoza	844-1439-2433		
DOT	Blessida G Diwa	844-1621	Thomas Santos	844-1621
TELOF	Jose A Bagulaya	846-9119/844-1002 844-2146(F)	Engr Proserfino Gacias	846-9123
NTC	Reynaldo C Sta Maria	846-7071	Engr Jomar Cabulisan	846-7071
COA	Rogelio B Urbanozo	844-1790/3793(F)	Celestino G Querol	846-1604
PPC	Casan M Abbas	844-1363/846-9153		
BLGF	George D Camhit	844-1683/3305	Gilbert B Gumabay	
TESDA	Arturo S Redoblado	844-2011/03	Eduardo Cagurungan	844-1219
BIR	Atty. Jaime Q Concepcion	844-3779/1754 / 1502 (Dist)	Atty Jose M Tan	844-2341
CSC	Eliseo S Gatchalian	844-1414/846-9149		
NSO	Edmundo R Udarbe	844-1902/846-9171	Veronica Valencia	844-1902
POPCOM	Madelyn M Mamuri	844-1833/846-4416	Virgilio Malana	844-1833
PAO	Beni C Baldovi	844-1404/846-7242		
NLRC	Ricardo L Olarez	844-5073/72	Paul A Salvatierra	844-5073/72
NCIP	Satur S Bugnay		Flordeliza Piano	
NAPOLCOM	Isidro D Siriban	844-1966	Violeta Pacion	844-1966
PIA	Rudie R Bueno	844-1951/2223(F)	Marcito Avestro	844/1951
COMELEC	Nicanor Urata	844-1582		
CHR	Jimmy P Baliga	844-1098		

FC7-17

AGENCY	DIRECTORS	TEL. NO.	DAO'S	RDAO TEL. NO.
PMS	Tl. Cesar Tuliao	844-1566		
DFA	Normandy Q Macadangdang	846-2310		
NICA	Rodolfo Arzaga Jr	652-3331 (Cyn)	Pascual Barasi	844-4497
NIA	Vicente E Galvez	652-2033 (Cyn) 652-02899	Engr Rolando R Ancheta	
		652-2150(F)	Engr Efraim O Villanueva Engr Florencio F Albano	
NIA	Engr Edgar Catulin	844-1840 (Tug)		
NFA	Jose Cordero	682-8529 (Stgo)		
NFA	Antonio B Panganiban	844-1653/1788/846-9160 (F)Tug		
NEA	Agustin L Maddatu	Cauayan		
NAPOCOR	Virgilio M Rimando	844-1745/1242(F)		
	Engr. Eleazar B Calucag			
	Engr. Alfredo Ablaza			
NAPOCOR	Mngr Marcelo G Ganaden	682-8406 (Stgo)		
PNRC	Flordeliza N Cepeda	846-2881		
GSIS	Mgr. Ireneo M Manguba	844-1082		
SSS	Mgr. Antonia C Fugueres	844-2108/1512		
PAGIBIG	Mgr. Pedro G Darauay	844-1448		
PLDT	Mgr John Gerard Marasigan	844-1200		
DIGITEL	Peter Dumclod	(Stgo)		
DIGITEL	Rolly Gandeza	846-9850 (Tug)		
I.BP	Mgr. Jacinto B Narag	844-1942/43		
PNB	Mgr. Juan C Lugo, Jr	844-1355		
DBP	Mgr Ragsac Bañez	844-1828		
PCIC	Mgr Eladio C Battung	844-4342		
NHA	Engr. Mario C Buton	844-4870		
PAGASA	Engr. Leo Buñag	844-1323/1994(F)		

RDCC 2 COMMUNICATION AND WARNING FLOWCHART



Annex "C"

Annex "E"

DISASTER ALERT STATUS

1. General

This annex prescribes the status of disaster alertness and the corresponding responsibilities of concerned offices in conformity with the typhoon signal as declared by PAGASA or Disaster Warning Advisories from any authoritative source.

2. Purpose

To acquaint all the departments and other offices involved in disaster operations on the type of Disaster Alert Status and their corresponding responsibilities

3. Objective

To achieve automatic responses for maximum efficiency in the monitoring and delivery of services in connection with the effects of disasters.

4. The following are the prescribed Disaster Alert Status (DAS)

- a. Signal No. 1/DAS 1 (Please refer to Appendix 3)
- b. Signal No. 2/DAS 2
- c. Signal No. 3/DAS 3

RDCC member-agencies are placed under Readiness Status (Stage I)

RDCC member-agencies are on stand-by status (Stage II)

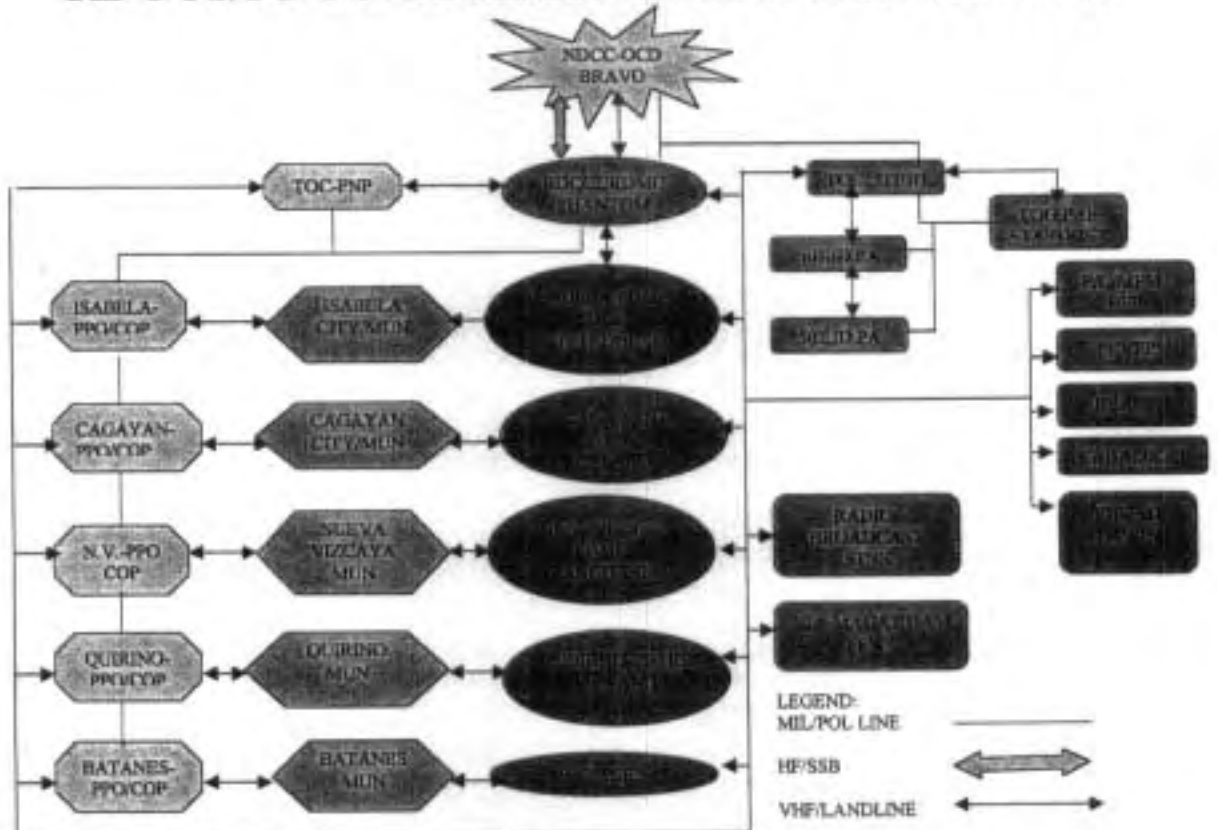
Full activation and operationalization of RDCC 2 (Stage III)

5. Coordinating Instructions

- a. If in case within the region, the different provinces have different typhoon signals (DAS), the highest DAS category will be the DAS category of the RDCC.
- b. The Chairman or the Executive Officer of the RDCC may call for emergency meetings anytime during the three (3) stages
- c. Member-agencies may be required to detail desk officers to man the Regional Disaster Management Center.

Annex "D"

RDCC2/PDCC COMMUNICATION LINKAGES



*The Feasibility Study of the Flood Control Project for
the Lower Cagayan River in the Republic of the Philippines
Final Report
Data Book*

*FC-8 Questionnaire Survey
of CDCC/MDCC*

(2) PDCC, CDCC, MDCC, BDCC in Region 2

Name: Engr. Mario Usal – Aparri MDCC

Date :
Interviewer:

Questions	Their Answers	DPWH actions
1. Is there written disaster preparedness plan, even a part?	Yes or No	Get one copy, if available. * Not available
2. Latest organization and staff	1) Organization chart and function 2) Staff a) Mayor (Chairman) b) C.O.P (Vice-Chairman) c) MSW (intel) d) () e) () f) () g) () h) () i) () j) ()	1) Get one copy
3. Annual budget	1) Regular budget with breakdown Annual total Pesos: ₱ 53,575,100.00 2) Calamity reserve with breakdown Annual total Pesos: 5% of budget for Calamity	
4. Communication facilities	1) Available communication facilities with numbers such as telephone, telefax, radio, VHS, cellphone: a) Telephone	
5. Communication flow	1) Offices from which you get flood information and warning? a) PAGASA b) AM Station c) Info from barangay 2) Offices to which you give flood information and warning? a) MDCC	
6. Available rescue facilities	1) Rescue facilities and numbers a) Dump trucks b) Ambulance c) Private owned vehicles from volunteers	

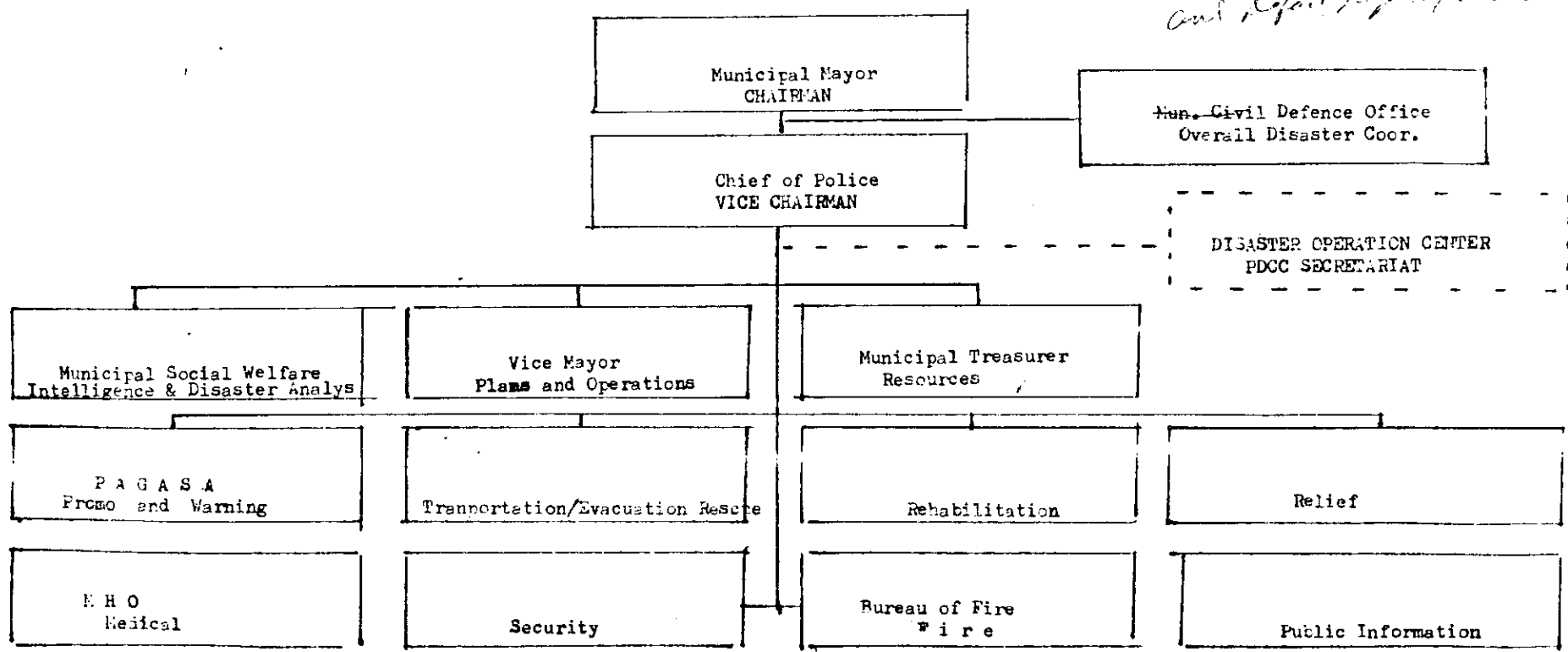
FC8-1

7. Evacuation process during flood	1) Your activities on Warning a) Warning by you? Yes b) Warning time <u>before</u> ? on warning level _____ of PAGASA or others?: It depends 2) Your activities on Order to Move a) Prepare post disaster reports for submission to PDCC 3) Your activities on Shelter a) Registration in the evacuation center - Yes b) Supply of necessary goods (what kind of goods, how many times you serve, etc) - Not enough 4) Your activities on Return a) Rough estimates of damages b) Extent of damages	
8. Training program and drill on disaster preparedness	1) Training of DCCs staff (experience, program, schedule, budget, lecturer) 2) Training of local people (experience, program, schedule, budget, lecturer) a) Drill for local people – Yes b) For pupil in school – Yes	
9. Operation of evacuation center during calamity	1) Organization and Staff a) Organization chart and function b) Staff c) Evacuation task team? MSWD in charge 2) Volunteers, NGO's a) Name, numbers b) Activities - Assist the MDCC for all the disaster activities	
10. Others	1) Your criteria on the standard area for the evacuation center per head. (area of 3.52m ² /head is small or large?) Not Enough 2) Your opinion about training cost of 0.25 million/year/Municipality, it is too much for each Municipality? OK	
11. Comments		

Republic of the Philippines
 Province of Cagayan
 MUNICIPALITY OF APARRI
 -00-

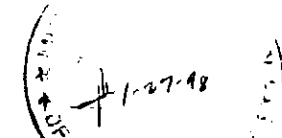
MUNICIPAL DISASTER COORDINATING COUNCIL
 ORGANIZATIONAL SETUP

and Ref. Dept. of Local Govt.



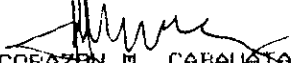
FC8-2

MUNICIPAL DISASTER PREPAREDNESS ACTION PLAN
 APARRI, CAGAYAN
 CY 1998



OBJECTIVES	PROGRAMS/PROJECTS/ACTIVITIES	RESPONSIBLE PERSONS/ AGENCIES	TIME FRAME	FUNDING SOURCE	ESTIMATED COST	
1. To promote disaster awareness and preparedness to minimize impact/effect of disaster	1.1. Public information drive through	LGU, Barangay, MDCC	1st to 4th Quarter	LGU	10,000.00	
	- billboards					
	- public address					
	- streamers					
	- cable TV					
	- barangay information system					
	- schools					
	1.2. Construction of jetty extension, river control & drainage & canals	MDC, MDCC, LGU, DFWH	1st to 4th Quarter		1,400,000.00	
	2. To update inventory of records relative to disaster preparedness	2.1. inventory of - stock	MDCC Secretariat	2nd to 3rd Quarter	LGU	-
		- wholesalers, transportation owners, communication operators				
	- directories					
3. Reduced high incidence of communicable diseases	3.1.- Immunization	MHO, LGU, MSWD, NGO's, Brgys.	1st to 4th Quarter	MDWD, DOH, LGU & Brgys.	150,000.00	
	- Intensified cleaning and greening campaign					
	- chlorination of potable water sources					
	- construction of additional sources of potable water					
	- campaign on the use of sanitary toilets					
	- construction of public toilets					
	- 4:00 habit "tepok lamok" to prevent insect induced sickness					

OBJECTIVES	PROGRAMS/PROJECTS/ACTIVITIES	RESPONSIBLE PERSONS/ AGENCIES	TIME FRAME	FUNDING SOURCE	ESTIMATED COST
Well coordinated & informed MDCC	4.1.- Conduct of meetings - Distribution of leaflets & reading materials and minutes of proceedings	MDCC Secretariat	1st to 4th Quarter	LGU	2,500.00
TOTAL:					₱1,560,000.00
<p>APPROVED FOR IMPLEMENTATION:</p> <p>ISMAEL V. TUMARU, MD Municipal Mayor</p> <p>THIS IS TO CERTIFY THAT THE MUNICIPAL DISASTER PREPAREDNESS ACTION PLAN IS WAS DULY APPROVED BY THE MDCC ON _____, 1998 DURING ITS MEETING HELD AT THE SB SESSION HALL, APARRI, CAGAYAN.</p>					


 CORAZON M. CABALATAN
 MSWDO

(2) PDCC, CDCC, MDCC, BDCC in Region 2

Name: Camalaniugan – MDCC

Date : _____
Interviewer: _____

Questions	Their Answers	DPWH actions
1. Is there written disaster preparedness plan, even a part?	Yes LGU Oplan Saranay	Get one copy, if available.
2. Latest organization and staff	1) Organization chart and function 2) Staff a) Intel and Disaster Analysis (36) b) Plans and Operations (13) c) Resources Unit (12) d) Public Info., Comm. & Warning (33) e) Fire Service (10) f) Service Support (16) g) Rescue and Engineering (33) h) Evacuation Service (36) i) Relief Service (32) j) Police Service (254) k) Health Service (13)	1) Get one copy
3. Annual budget	1) Regular budget with breakdown Annual total Pesos: 2) Calamity reserve with breakdown Annual total Pesos: 5% of total LGU Revenue (Ave. ₱ 1.250 M/year)	
4. Communication facilities	1) Available communication facilities with numbers such as telephone, telefax, radio, VHS, cellphone: a) Telephone – 1 b) Telefax – 1 c) LGU – PNP Radio Station Network – 1 d) PNP/BFP hotline – 2 e) BFP Public Address System – 1	
5. Communication flow	1) Offices from which you get flood information and warning? a) PAGASA b) PDCC 2) Offices to which you give flood information and warning? a) PNP b) BFP c) Barangay DCCs	

FC8-5

6. Available rescue facilities	1) Rescue facilities and numbers a) Municipal Ambulance - 1 b) 6 – wheeler straight truck – 1 c) Mini dump truck – 1 d) 5 tons dump truck – 2 e) Hyundai Van – 2 f) Multi Cab – 1	
7. Evacuation process during flood	1) Your activities on Warning a) Warning by you? b) Warning time _____? on warning level _____? of PAGASA or others? Please refer to OPLAN “SARANAY” 2) Your activities on Order to Move a) } b) } Please refer to OPLAN “SARANAY” c) } 3) Your activities on Shelter a) Registration in the evacuation center b) Supply of necessary goods (what kind of goods, how many times you serve, etc) Please refer to OPLAN “SARANAY” 4) Your activities on Return a) } b) } Please refer to OPLAN “SARANAY” c) }	
8. Training program and drill on disaster preparedness	1) Training of DCCs staff (experience, program, schedule, budget, lecturer) a) Drill for local people – b) For pupil in school – Please refer to OPLAN “SARANAY”	
9. Operation of evacuation center during calamity	1) Organization and Staff a) Organization chart and function b) Staff c) Evacuation task team? Please refer to OPLAN “SARANAY” 2) Volunteers a) Name, numbers b) Activities	
10. Others	1) Your criteria on the standard area for the evacuation center per head. (area of 3.52m ² /head is small or large?) It's acceptable 2) Your opinion about training cost of 0.25 million/year/Municipality, it is too much for each Municipality? Maybe it can be sufficient enough	
11. Comments		

Republic of the Philippines
Province of Cagayan
Municipality of Camalaniugan

OFFICE OF THE SANGGUNIANG BAYAN

EXCERPTS FROM THE MINUTES OF THE 10TH REGULAR SESSION OF THE SANGGUNIANG BAYAN OF CAMALANIUGAN, CAGAYAN HELD AT THE SB SESSION HALL, CAMALANIUGAN TOWN HALL ON SEPTEMBER 14, 1998

RE: RESOLUTION ESTABLISHING A COMMUNITY DISASTER PREPAREDNESS PROGRAM AND CREATING THE DISASTER COORDINATING COUNCIL.

PRESENT:

- HON. ISIDRO T. CABADU ----- Vice-Mayor
Presiding Officer
- HON. MILAGROS C. LIBATIGUE ---- SB Member
- HON. DOMINADOR C. ALVAREZ ---- -do-
- HON. PETER U. FILLON ----- -do-
- HON. HEDY F. COMBATE ----- -do-
- HON. ANASTACIA L. PATYOGALAN -- -do-
- HON. GALITO R. UDARBE ----- -do-
- HON. MANUEL U. PASCUAL ----- -do-
- HON. EDMAR B. REYES ----- -do-

ABSENT:

- HON. THOMAS N. JURADO ----- SB Member
- HON. CULPICIO M. LANGOBY, JR. - -do-

Adopted: September 14, 1998

X ----- X

RESOLUTION NO. 98-033
2nd Semester

WHEREAS, the Philippines has always been subjected to disaster, natural or man-made, all year round;

WHEREAS, the general welfare provisions of the Local Government Code has empowered the Sangguniang Bayan of Camalaniugan to promote the economic upliftment, social welfare and material progress of the people in the community and insure the protection of their lives and properties;

NOW THEREFORE,

BE IT RESOLVED, AS IT IS HEREBY RESOLVED, to perform the following acts and deeds, to wit:

1. To organize the Disaster Coordinating Council of Camalaniugan, draw up from the local government force and private citizens of the community to constitute the council's membership, and organize special reaction teams to handle specific emergencies in addition to the regular Disaster Coordinating Council task unit;
2. To draw up emergency plans for all types of emergencies, which may affect the community;

RESOLVED FURTHER, to reorganize the Municipal Disaster Coordinating Council in the Municipality of Camalaniugan with the following membership, and to establish the DISASTER OPERATIONS CENTER at the Camalaniugan Town Hall.

MUNICIPAL DISASTER COORDINATING COUNCIL
(Intelligence & Disaster Analysis Unit)

- CHAIRMAN - - - - - ATTY. PROSPERO A. OLIVAS *
Major General AFP (Retired)
Municipal Mayor
- VICE-CHAIRMAN - - - - - HON. ISIDRO T. CABADU
Municipal Vice-Mayor
- MEMBERS - - - - - HON. MILAGROS C. LIBATIGUE *
Sangguniang Bayan
- HON. THOMAS N. JURADO
Sangguniang Bayan Member
- HON. DOMINADOR C. ALVAREZ
Sangguniang Bayan Member
- HON. PETER U. FILLON
Sangguniang Bayan Member
- HON. HEDY F. COMBATE
Sangguniang Bayan Member
- HON. CULPICIO M. LANGOBY, JR.
Sangguniang Bayan Member
- HON. ANASTACIA L. PATYOGALAN
Sangguniang Bayan Member
- HON. GALITO R. UDARBE
Sangguniang Bayan Member
- HON. MANUEL U. PASCUAL
ABC President/SB Member
- HON. EDMAR B. REYES
SE Federation Pres./SB Member
- MR. CASMELITO R. SIRIBAN
Secretary to the Sangguniang
- MR. REYNALDO O. MECATE
H P D C
- ENGR. LORENZO R. SANIDAD
Municipal Engineer
- DRA. MILAGROS Q. DE LEON
Municipal Health Officer
- MRS. LILIA G. STARGL
Municipal Social Welfare Officer

FC8-6

MR. JAIME C. ROSARIO
Municipal Agriculturist

MR. RENATO T. CASAUAY
Community Affairs Officer I
General Services Officer - Designate

MR. EDUARDO B. CABADDO
Municipal Assessor

MRS. MA. CONSORCIA G. BAUI
Municipal Budget Officer

MS. LOURDES L. UNCIANO
AEC/Municipal Treasurer-ICD
MARGINA S. SIRIBAN

MRS. LYNDEN B. SALVATIERRA
Sr. Bookkeeper / Municipal
Accountant - Designate

DR. NARCISA AYUYANG
Chief of Hospital
Matilde A. Olivares District Hospital

INSPTR RICARDO M. DAVID
Chief of Police
Camalaniugan PNP Station

SFO3 CHARLIE E. ADAP
BFP Fire Marshall
Camalaniugan BFP Station

SJ04 WILSON UPADO
Man. Jail Warden
BUPP - Camalaniugan

ENGR. HECTOR P. CADENAS
Irrigation Superintendent
NIA-IRIS

MR. CRISANTO C. DOMINGO
Municipal Agrarian Reform Officer
MARD - Camalaniugan

MS. ROSAL BARDAS - LUCIA LAYAN
Post Master
Philippine Postal Service

MR. JACINTO ACARPAO
Telegraph Operator
DUTEL-TEIOP

MRS. MILAGROS A. BUMATAY
President, Camalaniugan Chamber
of Commerce

ENGR. BEIBERIO ESTAL
President, Camalaniugan Federation
of Cooperatives

MR. DANILO NICOLAS
President, Camalaniugan Fruit
Vendors' Association

MR. LORIMO COLUMNA
President, Camalaniugan Fish
Vendors' Association

MR. ROMEO ANPARO
President, Camalaniugan Fruits
& Vegetable Vendors' Association

MDCC PLANS & OPERATIONS UNIT

LEADER - - - - - REYNALDO O. MECATE
M P D C

MEMBERS - - - - - HON. MILAGROS C. LIBATIQUE
SE Member/NGO Representatives
to the MDC Executive Committee

HON. MANUEL U. PASCUAL
AEC President/SE Member

HON. EDMAR B. REYES
SK Federation Pres./SE Member

ENGR. LORENZO R. SANIDAD
Municipal Engineer

MR. CARMELITO R. SIRIBAN
Secretary to the Sangguniang Bayan

MRS. MA CONSORCIA G. BAUI
Municipal Budget Officer

DRA. MILAGROS Q. DE LEON
Municipal Health Officer

MRS. LILIA O. STANGL
M S W D O

MR. JAIME C. ROSARIO
Municipal Agriculturist

MR. RENATO T. CASAUAY
Community Affairs Officer I
GSO - Designate

INSPTR RICARDO M. DAVID
Chief of Police
Camalaniugan PNP Station

SFO3 CHARLIE E. ADAP
Fire Marshall
Camalaniugan BFP Station

MDCC RESOURCES UNIT

LEADER - - - - - MRS. MA. CONSORCIA G. BAUI
Municipal Budget Officer

MEMBERS - - - - - HON. TOMAS N. JURADO
SB Member/Chairman
SB Committee on Appropriations

FC8-7

MS LOURDES L. UNCIANO
Assistant Municipal Treasurer
Municipal Treasurer - ICO

* MRS. LYNDEN B. SALVATIERRA
Sr. Bookkeeper/ Municipal
Accountant - Designate

MR. EDUARDO B. CABADDO
Municipal Assessor

ENGR. HECTOR P. CARDENAS
Irrigation Superintendent, NIA-MP13

MR. CRISANTO C. DOMINGO
Hun. Agrarian Reform Officer

MRS. MILAGROS A. BUNATAY
Pres., Camal. Chamber of Commerce

ENGR. REINERIO ECTAL
President, CAPECO

MR. DANILO NICOLAS
Pres., Camal. Meat Vendors' Assn.

MR. LORIMO COLUMNA
Pres., Camal. Fish Vendors' Assn.

MR. ROMEO AMPARO
Pres., Camal. Fruits and
Vegetables Vendors' Assn.

PUBLIC INFORMATION, COMMUNICATION AND WARNING SERVICE
(Early Warning and Accident Prevention Brigade)

LEADER- - - - - HON. MANUEL U. PASCUAL
ABC President/SB Member

MEMBER - - - - - HON. EDMAR D. REYES
SK Federation Pres./SB Member

HON. ALEJANDRO URMANETA
Barangay Captain

HON. EUGENIO URMATAN
Barangay Captain

HON. LEOPOLDO LASAM
Barangay Captain

HON. REYNALDO DE LA CRUZ
Barangay Captain

HON. LINO TORRES, JR.
Barangay Captain

HON. JOSE URMENETA
Barangay Captain

HON. ESTANISLAO URSUA
Barangay Captain

HON. ANTONIO LORENZO
Barangay Captain

HON. RUDY ROSENDO
Barangay Captain

HON. TIBURCIO BASCO
Barangay Captain

HON. WILMA BALLATAN
Barangay Captain

HON. HECTOR TOLLO
Barangay Captain

HON. MARIO ACASILI
Barangay Captain

HON. PHILIP ARCE
Barangay Captain

HON. LEON MARTINEZ
Barangay Captain

HON. DONATO INAY
Barangay Captain

HON. PRIVADO ROLA
Barangay Captain

HON. ROMULO AGUIRRE
Barangay Captain

HON. CONSTANTINO ARELLANO
Barangay Captain

HON. AGUSTIN OLIVAS
Barangay Captain

HON. SATURNINO COLLADO
Barangay Captain

HON. ERNESTO LIGSAY
Barangay Captain

HON. EPREN ALONZO
Barangay Captain

HON. LESLIE CASAUAY
Barangay Captain

HON. PERLGRINO UBARRI
Barangay Captain

HON. EDGAR EABLIS
Barangay Captain

HON. THOMAS CARINO
Barangay Captain

PO2 JESUS O. ALVAREZ
PNP In-Charge of Radio

FC8-8

MR. ROLLY ROLA
 LGU Radio Operator

MS. ROSAL MANDAC
 Post Master, PPS

MR. JACINTO AGARPAO
 Telegraph Operator, Butel-Telof

F I R E S E R V I C E
 (Fire Protection Brigade)

LEADER - - - - - SFO3 CHARLIE ADAP x
 BFP Fire Marshall
 Camal. BFP Station

MEMBERS - - - - - SFO1 CIRILO UREANDOSO

FO2 ARTEMIO SALVATIERRA

FO1 RIZAL JACOB

FO1 JULIUS DIEGO

FO1 JAIME PASICOLAN

FO1 ARTHUR DALMACEDA

FO1 JOSEPH RIDOLOSO

FO1 DANILO ROSALES

FO1 PEDRO CORPUZ, JR.

T R A N S P O R T A T I O N S E R V I C E
 (Service Support Brigade)

LEADER - - - - - MR. RENATO T. CASAUAY
 Comm. Affairs Officer/GSO-Designate

MEMBERS - - - - - HON. GALITO R. UDARBE
 Sangguniang Bayan Member

MR. LOUIS PAUL STANGL
 Utility Foreman

MR. SILVESTRE MEMBROT
 Driver I

MR. ALWIN MATEO
 Driver I

MR. CHARLITO GUILLERMO
 Driver I

MR. IGNACIO AHAQUI
 Driver I

MR. FELIPE CASTRO
 Utility Worker II

MR. ALEXANDER PALIJO
 Utility Worker II

MR. WILFREDO JOVE
 Utility Worker II

MR. SERAFIO DIEGO
 Utility Worker II

MRS. EDITHA MACABANGUN
 Utility Worker I

MR. JOVENCIO URSULOM
 Utility Worker I

MR. LEOPOLDO LABBINO
 Utility Worker I

MR. ROMEO RAMOYA
 Utility Worker I

MR. NEMESIO MOLINA
 Utility Worker I

R E S C U E A N D E N G I N E E R I N G S E R V I C E
 (Damage Control and Rescue Brigade)

LEADER - - - - - ENGR. LORENZO R. SANIDAD
 Municipal Engineer

MEMBERS - - - - - HON. PETER U. FILLON
 Sangguniang Bayan Member

ENGR. HAROLD TALOSIG
 Engineering Assistant

MR. JESSIE MARTINEZ
 Draftsman II

MS. CHERRY SALVADOR
 Clerk III

All Barangay Captains

All BDCC Members

E V A C U A T I O N S E R V I C E
 (Evacuation Brigade)

LEADER - - - - - MR. JAIME ESCARTEO
 Municipal Agriculturist

MEMBERS - - - - - HON. DOMINADOR C. ALVAREZ
 Sangguniang Bayan Member

MR. ARMANDO ALUPANI
 Agricultural Technician

MRS. MORINA AMAEA
 Agricultural Technician

MS. ELIZABETH BARIUAN
 Agricultural Technician

FC8-9

MR. BENJAMIN ORLANDA
Agricultural Technician
MR. LAZLO MECATE
Agricultural Technician
MRS. ETHELINDA BAUTISTA
Agricultural Technician
All Barangay Captains
All EDCC Members

RELIEF SERVICE
(Relief Brigade)

LEADER - - - - - MRS. LILIA O. STANGL
B S W D O
MEMBERS - - - - - MS. CORAZON CARODAN
Social Welfare Asst. I
MS. JOYCE CAMEROS
Social Welfare Asst./YDW
MRS. M. GRACE BAYHOMAN
Social Welfare Asst.
All Barangay Captains
All EDCC Members

POLICE SERVICE
(Security Brigade)

LEADER - - - - - INSPTR RICARDO M. DAVID
Chief of Police, PHP
Camalaniugan Police Station
MEMBERS - - - - - SPO3 NORBERTO O. REYES
SPO3 ORLINO F. URBANOZO
SPO2 WILSON R. CABRALES
SPO2 CLIMACO T. GALAPIA
SPO2 EDGAR F. URBANOZO
SPO2 RICARDO D. TORRES
SPO2 ALFONSO I. URMATAH
SPO1 BENDITO G. BELLEZA
SPO1 JOHNNY R. OCLOS
SPO1 DOMINGO O. ORTEZA
SPO1 JOENE L. MECATE

SPO1 AGUSTIN C. MORELLO
SPO1 GENARO P. TAGUMASI
PO3 VIRGILIO M. VALLANCA
PO2 LORETO H. RAGSAC
PO2 FRANCIS M. TEANO
PO2 RONALD S. SUYU
PO1 JESUS O. ALVAREZ
PO1 JESSIE P. ALONZO
PO1 ANNAHELLE O. RAMBUYAN
SPO4 WILSON UPANO
Municipal Jail Warden
MHP - Camalaniugan
All Barangay Tanods

HEALTH SERVICE
(Medical Assistance Brigade)

LEADER - - - - - DR. MILAGROS Q. DE LEON
Municipal Health Officer
MEMBERS - - - - - DR. Sulpicio M. LANGOY, JR.
Sangguniang Bayan Member
DR. MACRIA AYUYANG
Chief of Hospital
M A Q D H
DR. GUILLERMO JURADO
Dentist I
MRS. EDNA M. FILLON
Nurse II
MS. THONELYN ORTEZA
Nurse I
MRS. ANGELITA ORATA
Midwife III
MRS. CONSUELO BARRIEN
Midwife II
MRS. ABSTINENCIA MECATE
Midwife II
MS. YVORNE VALDEZ
Midwife I
MR. FRANCISCO DE LA CRUZ
Sanitary Inspector I

FC8-10

Republic of the Philippines
Province of Cagayan
Municipality of Camalaniugan

MUNICIPAL DISASTER COORDINATING COUNCIL
(Intelligence & Disaster Analysis Unit)


MR. REYNALDO MARTINEZ
Dental Aide

MR. SANTIAGO VALDEZ
Malaria Technician


RESOLVED FINALLY, that copies of this Resolution be furnished to the Chairmen, Provincial Disaster Coordinating Council, Regional Disaster Coordinating Council through the Office of Civil Defense, Tuguegarao, Cagayan and the representative of the Department of Interior & Local Government in the community, for their information and guidance;

X ----- X

CERTIFIED TO BE DULY ADOPTED:



ISIDRO T. CABADDU
Vice-Mayor
Presiding Officer

ATTESTED:


CARMELITO R. SIRIBAN
Secretary to the Sanggunian

APPROVED: _____

ATTY. PROSPERO A. OLIVAS
Major General AFP (Retired)
Municipal Mayor

Date Posted: September 13, 1998


SB0/RE98-033/CRS/edm

- CHAIRMAN ----- ISIDRO T. CABADDU
Municipal Mayor
- VICE-CHAIRMAN ----- HON. DOMINADOR C. ALVAREZ
Municipal Vice-Mayor
- MEMBERS ----- HON. MILAGROS A. BUMATAY
Sangguniang Bayan
- HON. PETER U. FILLON
Sangguniang Bayan
- HON. TOMAS N. JURADO
Sangguniang Bayan
- HON. DOMINGO B. OANDASAN
- HON. DEOGRACIAS G. CORTEZ
Sangguniang Bayan
- HON. JOVENCIO A. BUMATAY
Sangguniang Bayan
- HON. TOMAS C. VINAGRERA
Sangguniang Bayan
- HON. NAPOLEON S. VINAGRERA
Sangguniang Bayan
- HON. MANUEL U. PASCUAL
ABC President/SB Member
- HON. EDMAR B. REYES
SK Federation Pres./SB Member
- MR. CARMELITO R. SIRIBAN
Secretary to the Sangguniang
- MR. REYNALDO O. MECATE
M P D C
- ENGR. LORENZO R. SANIDAD
Municipal Engineer
- DRA. MILAGROS Q. DE LEON
Municipal Health Officer
- MS. CORAZON CARODAN
Municipal Social Welfare Officer
- MR. JAIME C. ROSARIO
Municipal Agriculturist

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MR. RENATO T. CASAUAY
Community Affairs Officer I
General Services Officer – Designate

MR. EDUARDO B. CABADDU
Municipal Assessor

MRS. MA. CONSORCIA G. BAUI
Municipal Budget Officer

MRS. LOURDES U. CEPEDA
AMT/Municipal Treasurer – ICO

MRS. EMERITA P. SIRIBAN
Municipal Accountant

DR. MACRIA AYUYANG
Chief of Hospital
Matilde A. Olivas District Hospital

PCI CRISPULO CASILANA
Chief of Police
Camalaniugan PNP Station

SFO4 MAMERTO URBI
BFP Fire Marshall
Camalaniugan BFP Station

ENGR. HECTOR P. CARDENAS
Irrigation Superintendent
NLA-MPIS

MR. RENATO A. UNCIANO
Municipal Agrarian Reform Officer
MARO – Camalaniugan

MRS. ELENA LAYLO
Post Master
Philippine Postal Service

HON. MILAGROS A. BUMATAY
President, Camalaniugan Chamber
of Commerce

ENGR. REINERIO ESTAL
President, Camalaniugan Federation
of Cooperatives

MR. DANILO NICOLAS
President, Camalaniugan Meat
Vendors' Association

MR. LORIMO COLUMNA
President, Camalaniugan Fish
Vendors' Association

MR. ROMEO AMPARO
President, Camalaniugan Fruits
& Vegetable Vendors' Association

MDCC PLANS & OPERATIONS UNIT

LEADER ----- REYNALDO O. MECATE
M P D C

MEMBERS ----- HON. MILAGROS A. BUMATAY
SB Member/NGO Representatives
to the MDC Executive Committee

HON. MANUEL U. PASCUAL
ABC President/SB Member

HON. EDMAR B. REYES
SK Federation Pres./SB Member

ENGR. LORENZO R. SANIDAD
Municipal Engineer

MR. CARMELITO R. SIRIBAN
Secretary to the Sangguniang

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Municipal Budget Officer

DRA. MILAGROS Q. DE LEON
Municipal Health Officer

MS. CORAZON CARODAN
Municipal Social Welfare Officer

MR. JAIME C. ROSARIO
Municipal Agriculturist

MR. RENATO T. CASAUAY
Community Affairs Officer I
General Services Officer – Designate

PCI CRISPULO CASILANA
Chief of Police
Camalaniugan PNP Station

SFO4 MAMERTO URBI
BFP Fire Marshall
Camalaniugan BFP Station

MDCC RESOURCES UNIT

LEADER ----- MRS. MA. CONSORCIA G. BAUI
Municipal Budget Officer

MEMBERS ----- HON. JOVENCIO A. BUMATAY
SB Member/Chairman
SB Committee on Appropriations

MRS. LOURDES U. CEPEDA
AMT/Municipal Treasurer – ICO

MRS. EMERITA P. SIRIBAN
Municipal Accountant

MR. EDUARDO B. CABADDU
Municipal Assessor

ENGR. HECTOR P. CARDENAS
Irrigation Superintendent
NIA-MPIS

HON. MILAGROS A. BUMATAY
President, Camalaniugan Chamber
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ENGR. REINERIO ESTAL
President, Camalaniugan Federation
of Cooperatives

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President, Camalaniugan Meat
Vendors' Association

MR. LORIMO COLUMNA
President, Camalaniugan Fish
Vendors' Association

MR. ROMEO AMPARO
President, Camalaniugan Fruits
& Vegetable Vendors' Association

HON. ESTANISLAO URSUA
Barangay Captain

HON. ANTONIO LORENZO
Barangay Captain

HON. RUDY ROSENDO
Barangay Captain

HON. TIBURCIO BASCO
Barangay Captain

HON. WILMA BALLATAN
Barangay Captain

HON. HECTOR TOLLO
Barangay Captain

HON. MARIO ACASILI
Barangay Captain

HON. PHILIP ARCE
Barangay Captain

HON. LEON MARTINEZ
Barangay Captain

HON. RONEL PAGIBITAN
Barangay Captain

HON. PRIVADO ROLA
Barangay Captain

HON. DALMASIO SALVIO
Barangay Captain

HON. CONSTANTINO ARELLANO
Barangay Captain

HON. AGUSTIN OLIVAS
Barangay Captain

HON. SATURNINO COLLADO
Barangay Captain

HON. ERNESTO LIGSAY
Barangay Captain

HON. EFREN ALONZO
Barangay Captain

HON. LESLIE CASAUAY
Barangay Captain

HON. PEREGRINO UBARRE
Barangay Captain

**PUBLIC INFORMATION, COMMUNICATION & WARNING SERVICES
(Early Warning & Accident Prevention Brigade)**

LEADER ----- HON. MANUEL U. PASCUAL
ABC President/SB Member

LEADER ----- HON. EDMAR B. REYES
SK Federation Pres./SB Member

HON. ALEJANDRO URMANETA
Barangay Captain

HON. EUGENIO URMATAM
Barangay Captain

HON. LEOPOLDO LASAM
Barangay Captain

HON. REYNALDO DE LA CRUZ
Barangay Captain

HON. LINO TORRES, JR.
Barangay Captain

HON. JOSE URMENETA
Barangay Captain

HON. EDGAR BABLIS
Barangay Captain

HON. TOMAS CARIÑO
Barangay Captain

MR. ROLLY ROLA
LGU Radio Operator

MR. CHARLITO GUILLERMO
Driver I

MR. FELIPE CASTRO
Utility Worker II

MR. ALEXANDER PALLJO
Utility Worker II

FIRE SERVICE
(Fire Protection Service)

LEADER ----- SFO4 MAMERTO URBI
BFP Fire Marshall
Canañaniugan BFP Station

MEMBERS ----- SFO2 DANIEL M. PABLO

SFO1 CIRILO U. URBANOZO

FO3 DELIBERT A. PARLOR

FO1 DANILO M. ROSALES

FO1 JOSEPH A. RIDOLOSO

FO1 RIZAL C. JACOB

FO1 RANDY R. CASAUAY

FO1 ZOCIMO T. CABAUTAN

FO1 EDUARDO ROQUE C. QUEROBIN

FO1 ROBERTO D. DE LEON

FO1 RENATO N. RAMENTO

MR. WILFREDO JOVE
Utility Worker II

MR. SERAPIO DIEGO
Utility Worker II

MRS. EDITHA MACABANGUN
Utility Worker I

MR. JOVENCIO URSULUM
Utility Worker I

MR. LEOPOLDO LABBINO
Utility Worker I

MR. ROMEO RABUYA
Utility Worker I

MR. NEMESIO MOLINA
Utility Worker I

RESCUE & ENGINEERING SERVICE
(Damage Control & Rescue Brigade)

LEADER ----- ENGR. LORENZO R. SANIDAD
Municipal Engineer

MEMBER ----- HON. PETER U. FILLON
Sangguniang Bayan Member

ENGR. HAROLD B. TALOSIG
Engineering Assistant

MR. JESSIE MARTINEZ
Draftsman II

MS. CHERRY U. SALVADOR
Clerk III

All Barangay Captains

All BDCC Members

TRANSPORTATION SERVICE
(Service Support Brigade)

LEADER ----- MR. RENATO T. CASAUAY
Community Affairs Officer I
General Services Officer - Designate

MEMBERS ----- HON. DEOGRACIAS CORTES
Sangguniang Bayan Member

MR. LOUIS PAUL STANGL
Utility Foreman

MR. SILVESTRE MEMBROT
Driver I

MR. ALWIN MATEO
Driver I

**POLICE SERVICE
(Security Brigade)**

LEADER ----- PCI CRISPULO CASILANA
Chief of Police
Camalaniugan PNP Station

MEMBERS ----- SPO3 ALFONSO URMATAM

SPO2 WILSON CABRALES

SPO1 BENDITO BELLEZA

SPO1 JORNE MECATE

SPO1 WILTON MERAM

SPO1 AGUSTIN MORELLO

SPO1 ANTONIO OANDASAN

SPO1 JOHNY OCLOS

SPO1 DOMINGO ORTEZA

SPO1 GENARO TAGUMASI

PO3 LORETO RAGSAC

PO3 RONALD SUYU

PO3 VIRGILIO VALLANCA

PO2 CHARLIE CAMIGUING

PO2 ANNABELLE CORDON

PO2 EMALYNE NEYRA

All Barangay Tanod

**HEALTH SERVICE
(Medical Assistance Brigade)**

LEADER ----- DR. MILAGRO Q. DE LEON
Municipal Health Officer

MEMBERS ----- HON. TOMAS N. JURADO
Sangguniang Bayan Member

DR. MACRIA AYUYANG
Chief of Hospital
M A O D H

DR. GUILLERMO JURADO
Dentist I

**EVACUATION SERVICE
(Evacuation Brigade)**

LEADER ----- MR. JAIME ROSARIO
Municipal Agriculturist

MEMBER ----- HON. JOVENCIO BUMATAY
Sangguniang Bayan Member

MR. ARMANDO ALUPANI
Agricultural Technician

MRS. MORINA AMABA
Agricultural Technician

MS. ELIZABETH T. BARRUAN
Agricultural Technician

MR. BENJAMIN ORLANDA
Agricultural Technician

MR. LAZLO O. MECATE
Agricultural Technician

MRS. ETHELINDA BAUTISTA
Agricultural Technician

MRS. MARILYN J. URBANOZO
Agricultural Technician

MR. RASENDYLL BACUYAG
Agricultural Technician

All Barangay Captains

All BDCC Members

MRS. EDNA M. FILLON
Nurse II

MRS. MARVIE CASAUAY
Nurse I

MRS. CONSUELO BARRIEN
Midwife III

MRS. ABSTINENCIA MECATE
Midwife II

MS. YVONE VALDEZ
Midwife I

ENGR. MANOLITO AGUSTIN
Sanitary Inspector I

MR. REYNALDO MARTIEZ
Dental Aide

MR. SANTIAGO VALDEZ
Malaria Technician

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**RELIEF SERVICE
(Relief Brigade)**

LEADER ----- MS. MA. CORAZON CARODAN
M S W D O

MEMBERS ----- MS. JOYCE CABREROS
Social Welfare Asst./YDW

MRS. CLAIRE ANN A. REYES
Social Welfare Asst.

All Barangay Captains (28)

All BDCC Members

(2) PDCC, CDCC, MDCC, BDCC in Region 2

Name: Allacapan (MDCC)

Date :

Interviewer:

Questions	Their Answers	DPWH actions
1. Is there written disaster preparedness plan, even a part?	Yes or No	Get one copy, if available.
2. Latest organization and staff	1) Organization chart and function 2) Staff a) Hon. Leonila C. Onia (Chairman) b) Melchor Cabalza (Vice chairman) c) Lina Posudas. (Member) d) Procella Damasco (Member) e) Dr. Carlito Tonido (Member) f) Ofelia G. Jadutos (Member) g) Hon. Teodora Teneda (Member) h) Hon. Merlina Mallari (Member)	Mayor Chief PNP DILG MPDC MHO SWO II Vice-Mayor SB Member
3. Annual budget	1) Regular budget with breakdown Annual total Pesos: ₱ 34,500,000 2) Calamity reserve with breakdown Annual total Pesos: ₱ 1,725,000	
4. Communication facilities	1) Available communication facilities with numbers such as telephone, telefax, radio, VHS, cellphone a) Telephone b) Cellphone	
5. Communication flow	1) Offices from which you get flood information and warning? a) PSWDO 2) Offices to which you give flood information and warning? a) Barangays (27)	
6. Available rescue facilities	1) Rescue facilities and numbers a) Dump Truck - 6 b) Ambulance c) Some private owned vehicles	

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7. Evacuation process during flood	1) Your activities on Warning a) Warning by you? PNP d) Warning time _____? on warning level ____? of PAGASA or others?: 2) Your activities on Order to Move a) Advice affected communities to cooperate with MDCC for all disaster activities 3) Your activities on Shelter a) Registration in the evacuation center - Register names of affected communities individually b) Supply of necessary goods (what kind of goods, how many times you serve, etc) - Rice, canned goods, noodles, coffee, biscuits (to be served 3x a day) 4) Your activities on Return a) Prepare post disaster report	
8. Training program and drill on disaster preparedness	1) Training of DCCs staff (experience, program, schedule, budget, lecturer) a) None 2) Training of local people (experience, program, schedule, budget, lecturer) a) Drill for local people - None b) For pupil in school - None	
9. Operation of evacuation center during calamity	1) Organization and Staff a) Organization chart and function b) Staff c) Evacuation task team? MDCC members & BDCC members (Ofelia G. Judithas) 2) Volunteers a) Name, numbers - NGO's b) Activities	
10. Others	1) Your criteria on the standard area for the evacuation center per head. (area of 3.52m ² /head is small or large?) Enough 2) Your opinion about training cost of 0.25 million/year/Municipality, it is too much for each Municipality? Enough	
11. Comments		

BARANGAY DISASTER PREVENTION AND RELIEF COMMITTEE
 (Barangay) Kapapalitan Sur

President: Ernesto L. Tablac, Sr.
 Vice-President: Alejandro B. Collado

DISASTER COORDINATING COUNCIL

Pinubogyan
 Barangay
 Chairman: Jeffrey Aguirre
 Vice Chairman: Jeffrey Aguirre
 Staff Teams

SECURITY:

Leader: Andres Unida
 Members: Donato Guerrero
Armas Inocente
Josie Pascua

TRANSPORTATION:

Leader: Bladis Alcaron
 Members: Jose Aguil
Armas Inocente
Edy Tabaca

SUPPLY:

Leader: Edgar Diaz
 Members: Edy Tabaca
Fidelico T. Abaya
Dicky P. Amiller

COMMUNICATION:

Leader: Virgilio Montano
 Members: Jose Aguil
Armas Inocente
Dicky P. Amiller

Operating Teams

WARNING:

Leader: Alfonso Aguirre
 Members: Armas Inocente
Armas Inocente
Clemente de la Cruz

RELIEF/REHABILITATION:

Leader: Armas Inocente
 Members: Armas Inocente
Armas Inocente
Armas Inocente

RESCUE:

Leader: Romy Milla
 Members: Armas Inocente
Armas Inocente

MEDICAL:

Leader: Armas Inocente
 Members: Armas Inocente
Armas Inocente
Armas Inocente

EVACUATION:

Leader: Armas Inocente
 Members: Armas Inocente
Armas Inocente
Armas Inocente

FIRE BRIGADE:

Leader: Armas Inocente
 Members: Armas Inocente
Armas Inocente
Armas Inocente

DAMAGE CONTROL

Leader: Armas Inocente
 Members: Armas Inocente
Armas Inocente
Armas Inocente

Noted:

Armas Inocente
 Barangay Captain

/zbn '97

STAFF TEAMS:

1. Security: Chairman: Gonzalo Alonzo, Jr.
 Members: Rene Agallo
Arturo Talania
Oliver Puerto & Arthur Asiatico
2. Supply: Chairman: Sanny Natividad
 Members: Crisanto Soliven
Crescencio Collado
Jose Guilleros, Sr. & Francisco Tablac
3. Transportation: Chairman: Benjamin Damasco, Jr.
 Members: Emilio Luzero, Jr.
Antonio Cuarrosma
Protacio Saldivar, Jr. & Relie Ugalino
4. Communication: Chairman: Rogelio Braceros
 Members: Alex Urian
Amante Ursua
Renato Puerto & Nelson Tablac

OPERATING TEAMS:

1. Warning: Chairman: Ferdinand G. Tablac
 Members: Florante Tolentino
Penito Garcia
Dante Ugaldo
Jose Braceros
2. Rescue: Chairman: Crescencio B. Collado
 Members: Orlando Tablac
Jose de la Cruz, Jr.
Pic Valencia, Jr.
Antonio Braceros
3. Transportation: Chairman: Cristeto Tolentino
 Members: Ernesto Romano, Sr.
Dionicio Braceros
Edmund Ursua
Raymundo Braceros, Sr.
4. Relief: Chairman: Justiniano Barsatan
 Members: Fundador Urias, Sr.
Jose Tolentino
Lorenzo Urian
Conrado Tablac
5. Medical: Chairman: Heserata de los Santos
 Members: Margie Cacot
Susana Puerto
Mosita Lazo
Eleanor Tablac
6. Fire Brigade: Chairman: Benedicto Molina
 Members: Jessie Lian
Nelson Puerto
Eduardo Braceros
Franklin Osillos

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EXCERPT FROM THE MINUTES OF THE REGULAR SESSION OF THE SANGGUNIANG BAYAN
OF ALIACAPAN, CAGAYAN HELD AT THE MUNICIPAL SESSION HALL ON JULY 20, 1998.

PRESENT:

Hon. Wilfredo P. Alvarado	Hon. Vice Mayor (Presiding)
Hon. Reynaldo B. Benosa	Sangguniang Bayan Member
Hon. Hilogren D. Florido	-do-
Hon. Henry R. Aganoli	-do-
Hon. Teodoro A. Tenedor	-do-
Hon. Jose G. Gallias, Jr.	-do-
Hon. Herlina J. Mallari	-do-
Hon. Benamio O. de la Cruz	-do-
Hon. Maria R. Costales	-do-
Hon. Ferdinand R. Reynoso	-do- (ABG)
Hon. Michael A. Tenedor	-do- (BK Pres.)

ABSENT: NONE

RESOLUTION NO. 87 S' 1998

RESOLUTION CREATING THE MUNICIPAL DISASTER COORDINATING COUNCIL (MDCO) OF
ALIACAPAN, CAGAYAN.

WHEREAS, pursuant to the pertinent provisions of the Local Govern-
ment Code of 1991 and in relation to E.O. No. 1566, there is a need to
create the MDCO to provide among others the relief services and assistance
for victims during and in the aftermath of disasters or calamities;

WHEREAS, the MDCO shall be composed of the following:

Chairman	Municipal Mayor
Vice Chairman	Chief of Police
Members:	
1. Fire Marshall	6. DA
2. PUP	7. Hon. Maria Costales (SB on Health)
3. DILG	8. Hon. Reynaldo Benosa (SB on Finance)
4. DSWD	9. Hon. Herlina Mallari (SB on Agriculture)
5. DRR	10. District Supervisor

WHEREFORE,

On motion of Hon. Reynoso duly seconded:

RESOLVE AS IT IS HEREBY RESOLVED to create as it is hereby created the
MDCO of Aliacapan, Cagayan;

RESOLVED FURTHER that copies of this resolution be forwarded to the
Hon. Mayor Michael A. Tenedor for his approval and to all members of MDCO for
their information.

CARRIED:

I CERTIFY to the correctness of the above-quoted resolution.

Patricio V. Tenedor
PATRICIO V. TENEDOR
Sangguniang Bayan Secretary

ATTESTED:

Wilfredo P. Alvarado
WILFREDO P. ALVARADO
Municipal Vice Mayor

APPROVED:

Michael A. Tenedor
MICHAEL A. TENEDOR
Municipal Mayor

_____ date

DAGupan PROVINCIAL DISASTER COORDINATING COUNCIL
PROVINCIAL DISASTER PLAN YEAR 2000

PROJECT/ACTIVITY	Area Coverage	Physical Target	Financial Target (P/000)	Responsible Agency	Time Frame	Responsible Person/Agency	Remarks
1. Pilot Wide	Com. Wide	30 Participants	30,000	CCD/PS/DO	April to Dec.	CCD-Man.	All DDOCC Chairmen
2. Stress Briefing	Com. Wide	30 "	30,000	CCD/PS/DO	April to Dec.	CCD-Man.	
3. Search and Rescue	Com. Wide	30 "	30,000	PS/DO/CCD	April to Dec.	CCD-Man.	
4. Community Kitchen	Com. Wide	30 "	30,000	PS/DO/CCD	April to Dec.	CCD-Man.	
4. EMERGENCY PREPAREDNESS AND RESPONSE							
A). Re-activation/Re-orientation of local DDOCC's / volunteer Disaster Response Teams	27 Barangays				April to Dec.	CCD-Man.	
B). Formulation/Updating of Contingency Plans	27 Barangays						
C). Equipping of DDOCC	11 Members		10,000	LGU-MS/DO		CCD/PS/DO	
D). Establishment of Disaster and Relief Operation			50,000	LGU-MS/DO		PS/DO and Mun. Government	
E). Procurement/Enhancement of Communication and Warning System			25,000	PS/DO/CCD			
F). Stockpiling			100,000	50 Solidarity Fund	April to Dec.	CCD-Man.	
G). Initiate livelihood projects to farm families to be self-sufficient during and after Disaster	27 Barangays		50,000	PS/DO/CCD	April to Dec.	CCD-Man.	DDOCC/PS/DO

DAGupan PROVINCIAL DISASTER COORDINATING COUNCIL
PROVINCIAL DISASTER PLAN YEAR 2000

PROJECT/ACTIVITY	Area Coverage	Physical Target	Financial Target (P/000)	Responsible Agency	Time Frame	Responsible Person/Agency	Remarks
I. AWARENESS FOR CIVIL PROTECTION							
A) Briefing/Orientation on Disaster Management	Community Wide	27 DDOCC's 10 members per DDOCC's	27,000	LGU	April to Dec.	CCD-Man.	27 barangays are the Pilot Barangays
B) Conduct consultations/Dialogues to DDOCC's	Community Wide	27 barangays	27,000	LGU	April to Dec.	CCD-Man.	DDOCC's/PS/DO
C) Participation on Disaster Special Events ex. Mira Prevention Month/National disaster Consciousness Week	Com. Wide		10,000	LGU-DOCC	April to Dec.	CCD Members	
D). Education Campaign on Health Hazards during and after Disaster	Com. Wide	27 Barangays	15,000	MSU-DOCC	April to Dec.	MSU-DOCC/MSU/DOCC	Info-destination awareness and proper use before, during and after calamities. Health personnel shall be tagged
II. VULNERABILITY/RISK CONTROL							
A). Conduct hazard assessment and vulnerability analysis	Com. Wide	27 barangays	5,000	LGU-DOCC	April to Dec.	CCD-Man.	DDOCC Members
B). Masterlisting of Farmers	Com. Wide	27 barangays	5,000	LGU-DOCC	April to Dec.	MS/DO	MSU-DOCC/DOCC
III. HUMAN RESOURCE DEVELOPMENT							
A). Provide Technical Assistance to local DDOCC	Com. Wide	27 Barangays	30,000	LGU-DOCC	April to Dec.	CCD-DOCC/MSU-DOCC and Mun.	
B). Trainings/Orientation of Local DDOCC's on Disaster Management	Com. Wide	one Training with 50 par.	50,000	MS/DO/CCD/DOCC/MSU	April to Dec.	CCD-Man.	Training funds will be counterparting.
C) Conduct Training on Basic courses of the following:							

CAGAYAN PROVINCIAL DISASTER COORDINATING COUNCIL
PROVINCIAL DISASTER PLAN YEAR 2000

PROJECT/ACTIVITY	Area Coverage	Physical Target	Financial Amount	Request-Source	Time Table	Responsible Lead Agency	Person/Agency Participating Agency	REMARKS
5/ ADMINISTRATIVE COMPONENT A). Conduct Regular Meeting with MDCC members B). Monitor MDCC's in 27 Barangays		Quarterly	5,000	CCD/ADCC			MDCC secretariat	
		Quarterly	5,000	CCD/AS/DO			MDCC	
Prepared By: ENGR. MARCEL P. UYANI Municipal Agr'l. Officer Civil Defense Deputized Coordinator-Municipal								
NOTED BY: ANGELIA JACQUES MDCC-Administrator								

CAGAYAN PROVINCIAL DISASTER COORDINATING COUNCIL
PROVINCIAL DISASTER PLAN YEAR 2000

PROJECT/ACTIVITY	Area Coverage	Physical Target	Financial Amount	Request-Source	Time Table	Responsible Lead Agency	Person/Agency Participating Agency	REMARKS
H). Initiate Preventive and Mitigation Activities such as Flood Control Tree Planting, Dredging of Canals, Clean and Green Projects	27 Barangays			LGU	April to Dec.	CDCC-Mun.	MDCC/MDCC	
I). Provide Periodic Reports to MDCC/MDCC and the Emergency Response Activities conducted by MDCC					As the need arises	MDCC Secretariat		
J). Supervise/Monitor Mgt. of Evacuation Centers		Affected areas		LGU		CDCC-Mun.	MDCC members	
K). Establish Inquiry Desk/ Complaint Desk		Affected areas				CDCC-Mun.	MDCC members	
L). Provide medical assistance to injured and sick persons		Affected persons		LGU		RHU/DOH/AS/DO - RBU/DOH/AS/DO		
M). Provide Transportation and Mobility to Stricken areas		Affected areas		LGU		CDCC/MDCC	MDCC members	
N). Maintain Coordination/ Collaboration with NGOs/GO's							MDCC members	
O). Process Claims for financial assistance			50,000	Disaster Relief Fund		MDCC	Municipal Court	
P). Provide Food for Work Assistance to Barangays			20,000	DOF		MDCC/MDCC	MDCC	
Q). Construct/Rehabilitate Infra-damaged by disaster			1000000	DOF		MDCC/MSDO	DOH/PEO	

(2) PDCC, CDCC, MDCC, BDCC in Region 2

Name: LALLO (MDCC)

Date : 10/19/01

Interviewer:

Questions	Their Answers	DPWH actions
1. Is there written disaster preparedness plan, even a part?	Yes or No Yes	Get one copy, if available. See attache copy
2. Latest organization and staff	1) Organization chart and function 2) Staff a) Municipal Mayor (Chairman) b) PNP (Vice chairman) c) Staff of the reorganization is under process	1) Get one copy under process of reorganization
3. Annual budget	1) Regular budget with breakdown Annual total Pesos: ₱ 2.25M 2) Calamity reserve with breakdown Annual total Pesos: ₱ 1,725,000	See attached copy
4. Communication facilities	1) Available communication facilities with numbers such as telephone, telefax, radio, VHS, cellphone: a) Telephone b) Telefax c) Radio d) Cellphone	
5. Communication flow	1) Offices from which you get flood information and warning? a) PAG-ASA b) OCD c) Media 2) Offices to which you give flood information and warning? a) OCD b) Provincial	
6. Available rescue facilities	1) Rescue facilities and numbers a) Municipal Vehicles - 4	

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7. Evacuation process during flood	<p>1) Your activities on Warning</p> <p>a) Warning by you? Brgy. Officials</p> <p>b) Warning time 24 hrs before? on warning level ___ ? of PAGASA or others?:</p> <p>2) Your activities on Order to Move</p> <p>a) Inform affected Family to evacuate to safer place</p> <p>3) Your activities on Shelter</p> <p>a) Registration in the evacuation center - Yes</p> <p>b) Supply of necessary goods (what kind of goods, how many times you serve, etc) - Refer to attach Disaster plan</p> <p>4) Your activities on Return</p>	
8. Training program and drill on disaster preparedness	<p>1) Training of DCCs staff (experience, program, schedule, budget, lecturer)</p> <p>a) Disaster Preparedness</p> <p>2) Training of local people (experience, program, schedule, budget, lecturer)</p> <p>a) Drill for local people b) For pupil in school a) Drill for local people - None b) For pupil in school - None</p>	
9. Operation of evacuation center during calamity	<p>1) Organization and Staff</p> <p>a) Organization chart and function b) Staff c) Evacuation task team? MDCC members & BDCC members (Ofelia G. Judithas)</p> <p>2) Volunteers</p> <p>a) Name, numbers - Brgy officials-chairman b) Activities</p>	.OIC- MSWDO all members of BDCC
10. Others	<p>1) Your criteria on the standard area for the evacuation center per head. (area of 3.52m²/head is small or large?) Enough</p> <p>2) Your opinion about training cost of 0.25 million/year/Municipality, it is too much for each Municipality? Just Enough</p>	
11. Comments	There should be a designated office for disaster operators Center where all equipment paraphed	



Republic of the Philippines
Province of Cagayan
Municipality of Lal-lo

MUNICIPAL SOCIAL WELFARE AND DEVELOPMENT OFFICE

October 12, 2001

Hon. Florante C. Pascual, CPA
Municipal Mayor
Lal-lo, Cagayan

Sir

Greetings!

Submitting herewith the Calamities and Disaster Plan for the current year 2001-2002

For your information and appropriate action

Very truly yours,

CORAZON Q. PAAT, RSW
MSWDO



Republic of the Philippines
Province of Cagayan
Municipality of Lal-lo

MUNICIPAL SOCIAL WELFARE AND DEVELOPMENT OFFICE

2001-2002 CALAMITIES AND DISASTER PLAN

INTRODUCTION:

Cagayan is identified as disaster prone area and as such has already been subjected to constant natural man-made disaster. In order to minimized the lost of lives and properties, there is a need to come up with activities and strategies that will equip our people to counteract and immediately respond to such situation

GENERAL OBJECTIVES:

1. To save lives
2. To protect needless sufferings
3. To protect properties
4. To minimize damages during disaster and calamities

PROGRAMS:

I. TRAINING ON DISASTER PREPAREDNESS & MANAGEMENT:

- A. For Municipal disaster Coordinating Council (MDCC) and Barangay Disaster Coordinating Council (BDCC)

OBJECTIVES

1. To identify the roles and functions of member agencies
2. To enhance their knowledge and skills in the performance of their functions
3. To work as a team
4. To know the organizational structure of the council and how the members relate with each other

ACTIVITIES TO BE UNDER TAKEN

1. Preparation of training syllabus/modules
2. Identification of trainers and participants
3. Preparation of training hand outs/leaflets
4. Conduct pre and post evaluation

- B. For NGO's Tri-sectoral representatives

OBJECTIVES

1. To create awareness among the NGO's/Volunteers Resource Promotion Center of the municipality
2. Classify and group them according to area/field of expertise profession or interest
3. List their available time for volunteerism
4. Equip them with the necessary knowledge and skills in working as a team



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Province of Cagayan
Municipality of Lal-Lo

MUNICIPAL SOCIAL WELFARE AND DEVELOPMENT OFFICE

II. MEETING WITH MDCC & BDCC MEMBERS:

OBJECTIVES

To ensure that the MDCC and BDCC is active and working council, there is a need to meet occasionally in order

- 1 To update the council on the activities on the different committees in Preparation of any disaster
- 2 To assess the situation during the disaster
- 3 To plan out activities/strategies
- 4 To prepare the over all plan/rehabilitation plan of the municipality

ACTIVITIES:

- Discuss with committee Chairman the Municipal disaster Plan importance of preparedness
- Coordinate with them regarding the activities
- Provide feedback to MDCC and BDCC

III. DISASTER DATA BANK

OBJECTIVES:

- 1 To be able to establish comprehensive data necessary to disaster management
- 2 To be able to immediately assess situations prevailing in disaster areas.

ACTIVITIES

1. Conduct data survey related to disaster, such as disaster prone barangays and population/number of families/persons, properties and crops.
2. Prepare necessary materials/equipments
3. Coordinate members agencies and other organizations to assist in gathering data
4. Brief MDCC on the situational analysis of the disaster based on the report data gathered.

IV. STOCKPILING OF RELIEF

OBJECTIVES:

- 1 To have ready supplies
2. To respond immediately to emergency needs.

ACTIVITIES

- 1 To list down necessary food commodities/supplies needed during emergency situation.
2. To conduct regular inventory of food commodities/supplies
- 3 To purchase needed commodities



Republic of the Philippines
Province of Cagayan
Municipality of Lal-Lo

MUNICIPAL SOCIAL WELFARE AND DEVELOPMENT OFFICE

V. ORGANIZATION OF QUICK RESPONSE TEAM

OBJECTIVES

- 1 To be able to immediately respond to the needs of the victims
- 2 To immediately assess the situations prevailing in the area
- 3 To be able to immediately report the extent of damages in the area affected
- 4 To give immediate assessment and recommendation to the MDCC

ACTIVITIES

- 1 Coordinate with MDCC members in the organization of the team
- 2 Purchase/install communication requirements
- 3 Prepare standard operating procedures(SOP)

VI. PUBLIC INFORMATION AND DISSEMINATION

OBJECTIVES

- 1 To educate the public on the do's and don'ts on disaster
- 2 To issue warning/precautionary measures to the populace
- 3 To create awareness to the public on the situation in the disaster areas
- 4 To coordinate all media efforts for a better/organized reports

ACTIVITIES

- Prepare handouts/leaflets on disaster counter measures for distribution to the populace

RECOMMENDATION:

For the local government to be prepared, equipped and immediately respond to any eventuality, this plan is strongly recommended for approval

Prepared and submitted by:

CORAZON O. PAAT, RSW
MSWDO/MDCC Secretariat

Approved by:

HON. FLORANTE C. PASCUAL, CPA
Municipal Mayor

**2002 CALAMITIES AND DISASTER PLAN
BUDGETARY REQUIREMENTS**

I. Training on Disaster Preparedness Management:

- Meal & Snacks for the participants (50) 3 days 40,000
- Training materials & other miscellaneous expenses 5,000
- Honorarium for trainers 3,000
- TOTAL 48,000**

II. Meeting of MDCC and BDCC members:

- Quarterly meeting (meals and snack) 20,000
- Miscellaneous expenses 5,000
- TOTAL 25,000**

II. Disaster data bank

- Purchase of necessary supplies (for disaster relief) 50,000
- Administrative expenses (for relief materials) 10,000
- TEV 10,000
- Gasoline 15,000
- TOTAL 75,000**

IV. Stockpiling of relief supplies:

A	Kind	Quantity	Price/Amount
	Rice	200 sacks	200,000
	Sardines	50 cases	50,000
	Pork & Beans	50 cases	50,000
	Meat Loaf	50 cases	50,000
	Coffee	50 cases	50,000
	Sugar(white)	50 bags	50,000
	<i>dry 70 cal food</i>	<i>50 cases</i>	<i>50,000</i>
	TOTAL		700,000

B	OTHER NEEDS	Quantity	Price/Amount
	Flashlights	50 pcs.	50,000
	Raincoats	50 pcs.	50,000
	Gas tank(refillable)	3 tanks	30,000
	Two-burner gas stove	heavy duty	20,000
	TOTAL		150,000

V. Organization of quick response team:

- Travelling allowances
- 1 Hand set radio

GRAND TOTAL

Prepared & Submitted by:
[Signature]
CORAZON O. PAAT, RSW
MSWDO

APPROVED BY:
FLORANTE C. PASUAL, CPA
Municipal Mayor

OFFICE FUNCTION PROJ/ACTIVITY FUND
NON-OFFICE Budgetary Requirements
20% Mun. Development Fund
PROGRAM APPROPRIATION AND OBLIGATION BY OBJECT

OBJECT OF EXPENDITURE 1	ACCOUNT CODE 2	PAST YEAR ACTUAL 3 1999	PAST YEAR ESTIMATED 4 2000	BUDGET YEAR ESTIMATED 5 2001
A. CURRENT OPERATING EXPENSES				
I. PERSONAL SERVICES				
Salaries	3-01-110			
Wages	3-01-111			
Step Increment	3-01-112			
Lump Sum Appropriation	3-01-120			
Term./Mon./Vacation Leave	3-01-130			
Retirement & Life Insurance Premium	3-01-310			
HDMF Premium	3-01-320			
National Health Insurance	3-01-330			
Employees Compensation Ins. Premium	3-01-340			
RATA	3-01-500			
Bonus & Cash Gift	3-01-600			
PERA	3-01-600			
ACA A.O. 53	3-01-901			
Uniform Allowance	3-01-902			
Productivity Incentive Benefit				
Anniversary Bonus				
Loyalty Pay				
Terminal Pay				
TOTAL PERSONAL SERVICES				
MAINTENANCE & OTHER OPERATING EXPENSES				
Travelling Expenses	3-02-000			
Communication Services	3-03-000			
Repair & Maintenance of Govt. Facilities	3-04-000			
Maintenance of Motor Vehicle	3-05-000			
Gasoline, Oil & Lubricant	3-23-000			
Supplies & Materials	3-07-000			
Water, Illumination & Power	3-14-000			
Auditing Services	3-16-000			
Other Expenses	3-18-000			
Other Expenses	3-29-000			
TOTAL M.O.O.E				
III. NON-OFFICE				
20% Mun. Development Fund		5,003,049.82	8,000,000.00	8,900,000.00
5% Calamity Fund		1,328,256.00	2,106,350.00	2,347,375.00
Aid to Barangay		35,000.00	35,000.00	35,000.00
TOTAL NON-OFFICE				
		7,348,105.90	10,141,350.00	11,282,375.00
IV. CAPITAL OUTLAY				
steel cabinet				
TOTAL CAPITAL OUTLAY				
TOTAL EXPENDITURES				
		7,348,105.90	10,141,350.00	11,282,375.00

PREPARED BY:
[Signature]
ORLANDO B. BAINGAN
Municipal Mayor

REVIEWED BY:
[Signature]
ROSARIO T. SIRIBAN
Municipal Budget Officer

APPROVED BY:
[Signature]
ORLANDO BAINGAN
Municipal Mayor

(2) PDCC, CDCC, MDCC, BDCC in Region 2

Name: MDCC – Gattaran, Cagayan

Date :
Interviewer:

Questions	Their Answers	DPWH actions
1. Is there written disaster preparedness plan, even a part?	Yes or No	Get one copy, if available.
2. Latest organization and staff	1) Organization chart and function 2) Staff Committee On a) Rescue Service () b) Engineering () c) Public Info. () d) Resource () e) Health () f) Relief () g) Transportation/Comm. () h) Plans & Operation () i) Education () j) Security () k) Rehabilitation ()	
3. Annual budget	1) Regular budget with breakdown Annual total Pesos: ₱ 55,875,000.00 General Fund: CY 2001 Annual budget - ₱ 53,070,000.00 Personal Services - 26,617,050.00 MOOE - 14,140,011.00 Capital Outlay - 420,000.00 5% Calamity Fund - 2,642,939.00 Aid to barangays - 50,000.00 Economic Enterprise CY 2001 Annual Budget- ₱ 2,805,000.00 P.S - 1,148,061.00 MOOE - 1,561,689.00 5% Calamity Fund - 140,250.00 2) Calamity reserve with breakdown Annual total Pesos: 5% - ₱ 2,793,750.00	
4. Communication facilities	1) Available communication facilities with numbers such as telephone, telefax, radio, VHS, cellphone: a) Cellphone b) Landlines c) Hand-held radios d) CATV e) Vehicles	
5. Communication flow	1) Offices from which you get flood information and warning? a) PAGASA 2) Offices to which you give flood information and warning? a) Disaster Coordinating Council (Operation Center)	

FC8-25

6. Available rescue facilities	1) Rescue facilities and numbers a) Dump truck b) Road Construction Equipment	
7. Evacuation process during flood	1) Your activities on Warning a) Warning by you? c) Warning time <u>every hour</u> ? on warning level _____ ? of PAGASA or others?: 2) Your activities on Order to Move a) Deployment of Vehicles b) Coordinate with Volunteers 3) Your activities on Shelter a) Registration in the evacuation center b) Supply of necessary goods (what kind of goods, how many times you serve, etc) c) Health/hygiene routine 4) Your activities on Return a) Deployment of vehicles b) Clean-up drive at evacuation centers c) Center check at flooded area	
8. Training program and drill on disaster preparedness	1) Training of DCCs staff (experience, program, schedule, budget, lecturer) a) Attendance to disaster training b) Re-echo to service staff 2) Training of local people (experience, program, schedule, budget, lecturer) a) Drill for local people - b) For pupil in school - c) Drill for Volunteers	
9. Operation of evacuation center during calamity	1) Organization and Staff a) Organization chart and function b) Staff c) Evacuation task team? See Attached 2) Volunteers a) Name, numbers - NGO's (see attached) Barangay Tanods (Rescue committee networks) - 50 members b) Activities	
10. Others	1) Your criteria on the standard area for the evacuation center per head. (area of 3.52m ² /head is small or large?) Large 2) Your opinion about training cost of 0.25 million/year/Municipality, it is too much for each Municipality? No	
11. Comments		

Republic of the Philippines
Province of Cagayan
MUNICIPALITY OF GATTARAN

OFFICE OF THE MAYOR

**EXECUTIVE ORDER NO. _____
S-2001**

"RE-ORGANIZING THE MUNICIPAL DISASTER COORDINATING COUNCIL (MDCC) OF GATTARAN, CAGAYAN"

WHEREAS, the MDCC calls for re-organization of effectively carry-out its objectives toward disaster management and preparedness,

WHEREAS, the re-organization shall include its task/service units to strengthen capabilities and establishing a cohesive MDCC workforce,

NOW THEREFORE, I, **ENGR. DANILO C. NOLASCO**, Municipal Mayor, by virtue of power vested in me by law do hereby order that:

Section 1.

The Municipal Disaster Coordinating Council shall be composed of the following:

Chairman **HON. ENGR. DANILO C. NOLASCO**
Municipal Mayor

Co-Chairman **C/INSP FRANCISCO B. PALATTAO, JR.**
Chief of Police

SERVICE UNITS:

RESCUE SERVICE

Leader: Hon. Nelson Publico
Members: Mr. Rodel Jimenez
Mr. Robert de San Juan
Mr. Douglas Santos
Mr. Glenard Mangupag
Mr. Webster Juan
All Personnel of the Bureau of fire protection
Mr. Virgilio Cabalar

ENGINEERING SERVICE

Leader: Engr. Samuel G. Siddayao
Members: Mr. Renato Leano
Mr. Dennis Mandac
Engr. Rey Salvatierra
Mr. Ricardo Talamayan
Engr. Elmer Abad
Mr. Ronald Rata-rita
Mr. Lloyd Farinas

PUBLIC INFORMATION SERVICE

Leader: Hon. Eleazer Tolentino, Jr.
Members: Hon. Charles Q. Manuel, Jr.
Naomi B. Tolentino
Nancy Genoveza
Marites Lara
Nayeme Baltazar
Edward Castillejos
Rodrigo Udarbe
Romeo Salvatierra

RESOURCE SERVICE

Leader: Mr. Rommel B. Rosales
Members: Mr. Glenn Mandac
Demetria M. Pagarán
Evangeline Binuluan
Noel Beltran
Elisa R. Beltran
Jennifer Mandac
Helen P. Gonzales
Mrs. Wilma Castillo

COMMUNICATION SERVICE

Leader: Romeo C. Nolasco
Members: Joselito Paguyo
Bivencio Kadano
Ronniel Sampayan
Rodrigo Udarbe
Edmund Collado
Jerome Bariuán
Edmund Beltran

EVACUATION SERVICE

Leader: Hon. Manuel G. Singson
Members: Hon. Noe M. Pe
Danilo C. Taguinod
Marilyn Siazon
Webster Juan
Virgilio Talosig
Samuel Juan
Pacífico Binuluan

HEALTH SERVICE

Leader: Dr. Nida Rosales
Members: Mrs. Melissa Elizaga
Hon. Venus Rabina
All Hospital and RHU Personnel
All Health Volunteers
Dra. Evangeline Elizaga
Dra. Precy Nolasco

PLANS AND OPERATIONS

Leader: Engr. Pablo L. Domingo
Members: Elpidio Elesterio, Jr.
Ronald Rita-rita
Pacífico Binuluan
Roneil Santos
Dennis Mandac
Rey Salvatierra
Regino Salamero

RELIEF SERVICE

Leader: Mrs. Marivic Leano
Members: Ms. Eloisa Pimera
Mrs. Nenita Tolentino
Hon. Jessie Juan
Emilio Pimentel
Rogelio Mangupag
Wilma T. Castillo
Juliana Talamayan
Vicente Tan
Marilou Abad

Esmeralda Ursua
Norma Battad
Bella Pagulayan
Jose Manuel, Jr.
Carmelita Aneheta
All Day Care Workers

Section 2. ROLES AND RESPONSIBILITIES

The Municipal Disaster Coordinating Council shall perform the following roles and responsibilities

1. The work as a team in order to strengthen and give more service delivery to the community;
2. To identify and monitor critical areas;
3. To formulate strategic formula to minimize damage during disaster and calamities;
4. Conduct information drive on well-preparedness and readiness protect properties;
5. To save lives and prevent needless sufferings

Section 3. EFFECTIVITY:

This Executive Order shall take effect immediately

DONE this _____ day of _____, 2001 at Gattaran, Cagayan

ENGR. DANILO C. NOLASCO
Municipal Mayor

General Fund

CY 2001 - Annual Budget	-	₱ 53,070,000. -
Personal Services	-	26,617,050. -
MOOE	-	14,140,011. -
Capital Outlay	-	420,000. -
20% EDF	-	9,200,000. -
5% Calamity Fund	-	2,642,939. -
Aid to Progs.	-	50,000. -
		<u>₱ 53,070,000. -</u>

Economic Enterprise:

CY 2001 - Annual Budget	-	₱ 2,805,000. -
P.S	-	₱ 1,148,061. -
MOOE	-	1,516,689. -
5% Calamity Fund	-	140,250. -
		<u>₱ 2,805,000. -</u>

(2) PDCC, CDCC, MDCC, BDCC in Region 2

Name: Lasam MDCC

Date :
Interviewer:

Questions	Their Answers	DPWH actions
1. Is there written disaster preparedness plan, even a part?	Yes or No See attached copy	Get one copy, if available.
2. Latest organization and staff	1) Organization chart and function 2) Staff a) Mayor Eulogio Agatep (Chairman) b) P/Ins. Ransel Avenco (Vice chairman) c) Mrs. Nenita Macospac (Relief)	1) Get one copy
3. Annual budget	1) Regular budget with breakdown Annual total Pesos: For CY 2001 ₱ 26,000,000.00 2) Calamity reserve with breakdown Annual total Pesos: 5% of IRA is budgeted	
4. Communication facilities	1) Available communication facilities with numbers such as telephone, telefax, radio, VHS, cellphone: a) 078-853-3003 / 078-853-3004 b) 5 Hand held radio c) PNP Communication System	
5. Communication flow	1) Offices from which you get flood information and warning? a) PAGASA b) Thru Radio c) TV 2) Offices to which you give flood information and warning? a) Mun. Social Welfare Dev't Office b) Mayor	
6. Available rescue facilities	1) Rescue facilities and numbers a) Ambulance b) Dump Trucks	


FC8-28

7. Evacuation process during flood	<p>1) Your activities on Warning</p> <p>a) Warning by you? By the MDCC</p> <p>c) Warning time _____? on warning level _____? of PAGASA or others?:</p> <p>2) Your activities on Order to Move</p> <p>a) Ocular Survey b) Information drive to evacuate</p> <p>3) Your activities on Shelter</p> <p>a) Registration in the evacuation center - Yes</p> <p>b) Supply of necessary goods (what kind of goods, how many times you serve, etc) - Disaster relief such as rice, canned goods, noodles</p> <p>4) Your activities on Return</p> <p>a) Mobilize them to their respective places b) Evaluate the flooded area after water subsides for possible rehabilitation.</p>	
8. Training program and drill on disaster preparedness	<p>1) Training of DCCs staff (experience, program, schedule, budget, lecturer)</p> <p>a) In 1999 b) Budget shouldered by RDCC c) NDCC lectured</p> <p>2) Training of local people (experience, program, schedule, budget, lecturer)</p> <p>a) Drill for local people - None b) For pupil in school - Yes</p>	
9. Operation of evacuation center during calamity	<p>1) Organization and Staff</p> <p>a) Organization chart and function b) Staff c) Evacuation task team?</p> <p>2) Volunteers</p> <p>a) Name, numbers - Utilities/ Day Care Workers b) Activities</p>	C/o DSWD Office Nenita Mocospoc Gerlyn Yang Anatyn Anpil Lita Ramirez Emma Irigayen Lilia Soriano
10. Others	<p>1) Your criteria on the standard area for the evacuation center per head. (area of 3.52m²/head is small or large?) 3.52 sq. m. is small</p> <p>2) Your opinion about training cost of 0.25 million/year/Municipality, it is too much for each Municipality? Enough for small municipality ₱ 400,000 is suggested</p>	
11. Comments		


MUNICIPAL DISASTER COORDINATING COUNCIL
MUNICIPAL DISASTER PLAN

PROJECT/ACTIVITIES	AREA COVERAGE	PHYSICAL TARGET	FINANCIAL REQUIREMENT		TIME TABLE	RESPONSIBLE PERSON/AGENCY		REMARKS
			AMOUNT	SOURCE		LEAD AGENCY	PARTICIPATING AGENCY	
J. Establish inquiry Desk/Complaint desk		Affected areas				CDCC-LGU	MDCC members	
K. provide medical assistance to injure and sick persons if necessary		affected persons		as the need arises		MHO-DOH		
L. provide transportation for mobility and deliver goods to stricken areas		Affected persons		as the need arises		MEO	DPWH	
M. Consolidate rehabilitation of barangay DCC's								
V. Administrative Component		Quarterly	P10,000.00	LGU		MDCC Secretariat		
A. Conduct regular meeting with MDCC members.								

PREPARED BY

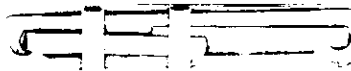

CRISPIN C. CABANTAC, JR.
Civil Defense Deputized Coordinator

NOTED BY


NENITA O. MACASPAC
Mun. SWDO

MUNICIPAL DISASTER COORDINATING COUNCIL
MUNICIPAL DISASTER PLAN

PROJECT/ACTIVITIES	AREA COVERAGE	PHYSICAL TARGET	FINANCIAL REQUIREMENT		TIME TABLE	RESPONSIBLE PERSON/AGENCY		REMARKS
			AMOUNT	SOURCE		LEAD AGENCY	PARTICIPATING AGENCY	
I. Advocacy for Civil Protection								
A. Briefing /orientation on Disaster Management	Mun-Wide	MDCC members	P10,000.00	LGU	Mar-Jun	MDCC-LGU	LGU-PSWDO	Target areas 8 barangays
II. Vulnerability /Risk Control								
A. Conduct Hazard Assessment and Vulnerability Analysis	Mun-Wide	8 Barangays			Mar-Jun	CDCC-LGU	MDCC Mem	MDCC's shall be encourage to do vulnerability analysis per barangay
III. Human Resource Development								
A. Trainings/Orientation of Barangay DCC's Disaster Control Groups on Disaster Management	Mun-Wide	training with 30 PAX Training	P40,000.00	MSWDO LGU	August	CDCC-LGU		training shall coordinate to the brgy for funding support.
IV. Emergency Preparedness and Response								
A. Re-activation /Re-organization of barangay DCC's volunteer Disaster response teams.		8 barangay			Mar-Jun	CDCC's-LGU	MSWDO/Prov	
B. Formulation /updating of contingency plans		30 barangays						
C. Equipping of MDCC			P50,000.00	5% Cal Fund			MSWDO	
D. Establishment of Disaster Operation Center								
E. Inventory of Available Resources					Mar-Jun			
F. Enhancement of Communication and warning system.					Mar-Jun			
G. Provide periodic damage reports to RDCC and the emergency response activities conducted by MDCC					As the need arises	MDCC Secretariat		MDCC Secretariat renders 24 hours duty.
H. Conduct of relief operation if necessary		affected areas	P200,000.00	5% Cal	As the need arises	MDCC members/volunteer group		PSWDO augments relief goods of the MDCC's
I. Supervise/Monitor management of evacuation centers		affected areas		LGU MSWDO		CDCC-LGU	mdcc members	PSWDO augments personnels in the municipality.



Republic of the Philippines
Province of Cagayan
Municipality of Lasan

OFFICE OF THE MAYOR

OFFICE MESSAGE

TO THE FOLLOWING LASAMENOS:

The Annual Budget for CY 2001 is envisioned on the fundamental principles of Local Fiscal Administration as mandated by the Local Government Code of 1991 based on functions, programs/activities and projects in accordance with the Municipal Development Plan of the Municipality. The total appropriation for the year P32,785,025.91 which is distributed to the following.

Personal Services	P19,732,959.45	
MOOE	4,924,065.26	
Capital Outlay	<u>414,000.00</u>	
Sub-Total		P25,071,024.71
Non-Office		
20% Development Fund	P 6,039,025.00	
5% Calamity Fund	1,644,976.20	
Aid to Barangays	<u>30,000.00</u>	
Sub-Total		<u>P 7,714,001.20</u>
TOTAL APPROPRIATION		P 32,785,025.91

The Implementation of 5% Salary Increase shall be dependent on the issuance of implementing circulars by the Department of Budget and Management, Manila.

It is also hoped that continuity of support and assistance will pave way toward the realization of our goals, targets and objectives for CY 2001.

Very truly yours,

EDUARDO V. ASUTEN
Municipal Mayor

Republic of the Philippines
Province of Cagayan
Municipality of Lasan

OFFICE OF THE SANGGUNIANG

1. ~~Sanang Sanggunian~~ Municipal Disaster Coordinating Council
2. Location of Disaster Operation Center : Lasan, Cagayan
3. Chairman : Hon. Eduardo V. Asuten
Municipal Mayor
4. Co-Chairman : Hon. Lilibeth Barut-dcl Rosario
Municipal Vice Mayor

STAFF UNITS

6. INTELLIGENCE AND DISASTER ANALYSIS UNIT
7. Leader : HON. JULIAN V. CASTRO, SR.
8. Members : Pat Gregorio Balisi
All PNO - Lasan Staff
9. PLANS AND OPERATION UNIT
10. Leader : Hon. REVELITO B. CONCISO
11. Members : Engr. Nemah G. Banan
Mr. Edmund Soriano

RESOURCE UNIT

13. Leader : Hon. TOMAS BULUSAN
14. Members : Mrs. Nenita Macaspac
Miss Gerlyn Yang
Mrs. Analyn Api

SERVICE TEAMS

16. Public Information Service
17. Leader : Hon. ANICETO F. ACIERTO
- Members : Engr. Wilfredo B. Dungayan
Mr. Bienvenido Rabanal

18. Communication and Warning Services

19. Leader : Hon. ANICETO F. ACIERTO
20. Members : Arthur Adolfo
SPO IV Dante Agatop

21. Transportation Services

22. Leader : HON. DOMINADOR M. GO
23. Members : Mr. Diosdado Salva
Mr. Jose Capalungan

24. Evacuation Services

25. Leader : Hon. FLOR P. CALAUSTRO
26. Members : Brgy. Capt. Dionicio Aghayani
Mr. ...

27. Rescue Engineering Service :

28. Leader : Hon. ANDY C. CAMBE
29. Members : Mr. Crispin Cabantac
Engr. Felipe Cortes
Municipal Engineer / MPDC Staff
30. Health Services :
31. Leader : HON. FELIX B. GERARDO
32. Members : Dr. John Juliard L. Go
Amelia Asuten
Imelda Ambrocio
All MPDC Personnel
33. Fire Services :
34. Leader : Hon. Loreto Cortes
35. Members : Hon. Fred Arthur E. Agatop
Claudio Nagsangan
Juvener ...
36. Police Service :
37. Leader : P/Major Noli Tuzon
- Members : Policemen

FC8-30

(2) PDCC, CDCC, MDCC, BDCC in Region 2

Name: Rodel Simeon MDCC - Sto. Niño

Date : _____
Interviewer: _____

Questions	Their Answers	DPWH actions
1. Is there written disaster preparedness plan, even a part?	Yes or No	Get one copy, if available. Not Available
2. Latest organization and staff	1) Organization chart and function 2) Staff a) Municipal Mayor (Chairman) b) PNP chief (Vice Chairman) c) Dept. heads (Members)	
3. Annual budget	1) Regular budget with breakdown Annual total Pesos: ₱ 36,099,450.00 20% Econ. Dev't Fund 7,219,650.00 2) Calamity reserve with breakdown Annual total Pesos: 5% Calamity Fund -	See attached for the breakdown of Statement of Income & Expenditures
4. Communication facilities	1) Available communication facilities with numbers such as telephone, telefax, radio, VHS, cellphone: a) Hand held Radio b) Cellphone c) Telephone	
5. Communication flow	1) Offices from which you get flood information and warning? a) PAGASA flood forecasting center b) Radio Station c) Media 2) Offices to which you give flood information and warning? a) BDCC	
6. Available rescue facilities	1) Rescue facilities and numbers a) Bancas (6) - Motorized b) Dump Trucks (1) c) PNP vehicles	

7. Evacuation process during flood	1) Your activities on Warning a) Warning by you? Yes d) Warning time <u>within 24 hours</u> ? on warning level _____? of PAGASA or others?: 2) Your activities on Order to Move a) Advise people to move to safer grounds - evacuation centers (e.g. schools, gyms) 3) Your activities on Shelter a) Registration in the evacuation center - Yes b) Supply of necessary goods (what kind of goods, how many times you serve, etc) - Yes , 4) Your activities on Return a) Prepare post calamity / disaster report	
8. Training program and drill on disaster preparedness	1) Training of DCCs staff (experience, program, schedule, budget, lecturer) a) Disaster Preparedness Training 2000 b) Conducted by the DSWD 2) Training of local people (experience, program, schedule, budget, lecturer) a) Drill for local people - None b) For pupil in school - None	
9. Operation of evacuation center during calamity	1) Organization and Staff a) Organization chart and function - b) Staff c) Evacuation task team? 2) Volunteers a) Name, numbers - NGOs - Senior Citizen, RIC b) Activities	
10. Others	1) Your criteria on the standard area for the evacuation center per head. (area of 3.52m ² /head is small or large?) Enough 2) Your opinion about training cost of 0.25 million/year/Municipality, it is too much for each Municipality? Enough	
11. Comments		

Municipality/Province: Sto. Niño, Cagayan
Fund/Special Account: General

CERTIFIED STATEMENT OF INCOME AND EXPENDITURES
Budget Year 2001

Republic of the Philippines
Province of Cagayan
Municipality of Sto. Niño

OFFICE OF THE MAYOR

Budget Message

October 13, 2000

TO THE HONORABLE SANGGUNIANG BAYAN MEMBERS:

As mandated by Republic Act 7160 and in compliance with the Local Budget Memorandum No. 32, we are submitting herewith the proposed Annual Budget for Fiscal Year 2000. For reference in your deliberations, the following have been considered and complied with:

1. Estimates of revenue and other sources of financing for Fiscal Year 2001 are in accordance with the provision of Title One, Two, Three and Four of Book II of the Local Government Code. Our share from the Internal Revenue Allotment (IRA) for FY 2001 is ₱ 36,099,450.00.
2. Per attached documents, the proposed aggregate amount appropriated for expenditures of ₱ 36,950,650.00 does not exceed the total estimated income of ₱ 36,950,650.00
3. The total amount appropriated for 20% Development Fund is ₱ 7,219,890.00 which is 20% of the total Internal Revenue Allotment (IRA).
4. Full provisions has been made for all statutory and contractual obligations.

Very truly yours,


ATTY. VICENTE G. PAGURAYAN
Municipal Mayor

PARTICULARS	Account Code	Past Year 1999 Actual	Current Year 2000 Actual
1.0 Beginning Balance		1,125,599.91	3,274,601.31
Continuing Appropriations	8-90-000	190,870.75	0.00
Adjustments- Others(Additions)	7-92-419	0.00	0.00
- Others (Reduction)	-420	0.00	(546,460.59)
TOTAL		1,316,470.66	2,728,140.72
2.0 Income			
Tax Revenue:			
Real Property Taxes - Current Year	1-52-101	42,677.51	53,138.78
- Previous Years	-102	61,032.63	105,918.96
- Penalties	-103	16,189.39	26,872.42
Taxes on goods & Services			
- Municipal Bus Taxes	1-53-311	333,945.89	362,324.64
- Occupation Tax	-500	0.00	0.00
- Miscellaneous	-900	5,510.00	49,732.25
Other Taxes			
- Community Tax	1-55-800	29,716.07	40,742.24
- Miscellaneous-Share on Internal Revenue Allotment	-700	26,757,783.00	28,571,850.00
- Miscellaneous-Others	-919	240.00	700.00
TOTAL TAX REVENUES		27,247,094.49	29,211,279.29
3.0 Operating and Miscellaneous Revenues:			
Operating & Service Income:			
- Registration fees	1-57-101	0.00	0.00
- Ante mortem fees	-104	13,730.00	14,125.00
- Inspection fees	-107	27,420.00	24,185.00
- Secretary's fees	-108	35,540.00	52,057.03
- Registration of large cattle	-112	45,115.00	29,833.51
- Marriage fees	-114	342.00	394.00
- Burial fees	-115	1,600.00	1,750.00
- Impounding &/or sale of stray animals	-117	7,126.00	3,655.00
- Police Clearance fees	-121	6,383.00	6,930.00
- Mayor's Permit fees	-124	25,650.00	32,300.00
TOTAL OPERATING AND SERVICE INCOME		162,906.00	165,229.54
Government Bus. Operations:			
- Rentals	1-57-101	7,200.00	4,200.00
-Receipts from Market	-220	127,890.00	102,103.00
- Receipt from Slaughterhouse	-221	3,610.00	11,690.00
- Receipts from Cemetery	-240	0.00	0.00
- Miscellaneous	-800	85,791.34	57,513.35
TOTAL INCOME FROM BUSINESS OPERATIONS		224,491.34	175,506.35

Municipality/Province: Sto. Niño, Cagayan
Fund/Special Account: General

CERTIFIED STATEMENT OF INCOME AND EXPENDITURES
Budget Year 2001

PARTICULARS	Account Code	Past Year 1999 Actual	Current Year 2000 Actual
Borrowings			
TOTAL INCOME		27,634,491.83	29,552,015.18
TOTAL AVAILABLE OF RESOURCES FOR APPROPRIATIONS		28,950,962.49	32,280,155.90
Less: Continuing Appropriations	8-90-000	190,870.75	1,246,000.00
Adjustments-Others (Additions)	7-92-419	0.00	0.00
-Others (Reductions)	7-92-420	0.00	0.00
NET AVAILABLE RESOURCES FOR APPROPRIATIONS		28,760,091.74	31,034,155.90
EXPENDITURES:			
<i>Current operating expenditures</i>			
Personal Services	100		
Salaries	-110	8,770,248.00	8,384,799.43
Wages	-101	0.00	120,000.00
Honorarium	-102	0.00	1,410,000.00
Daycare workers stipend	-102	120,000.00	150,403.83
Terminal Leave Pay	-130	350,000.00	907,212.00
RATA	-200	986,412.00	87,200.00
GSIS Premiums	-310	1,054,768.32	1,008,077.76
HDMF Premiums	-320	108,446.40	104,191.04
Medicare	-330	44,100.00	43,575.00
State Insurance	-340	87,723.36	83,891.48
Monetization of Leave Credits	-500	332,408.52	333,427.74
Bonus	-800	731,028.00	694,021.50
Cash Gift	-800-1	490,000.00	472,500.00
PERA	-900	516,000.00	501,000.00
Clothing Allowance	-900-1	294,000.00	294,000.00
Additional Compensation	-900-2	582,000.00	573,000.00
Laundry Allowance	-900-3	12,000.00	11,100.00
Subsistence Allowance	-900-4	108,000.00	99,900.00
Productivity Incentive Pay	-900-5	172,000.00	172,000.00
Lumpsum appropriations for salary increase		0.00	0.00
TOTAL PERSONAL SERVICES		14,759,134.60	15,430,299.78
II. Maintenance and Other Operating Expenses	200		
Travelling Expenses	-02	970,000.00	1,085,422.00
Communication Services	-03	12,500.00	31,980.30
Repair and Maintenance of Government Facilities	-04	108,000.00	203,300.00
Repair and Maintenance of Government Vehicles	-05	150,000.00	130,000.00
Gasoline and Oil	-06	0.00	250,000.00
Supplies and Materials	-07	1,095,000.00	1,682,763.00
Loan Repayments	-12	251,940.00	364,086.26
Water Illumination and Power Services	-14	150,000.00	250,000.00
Grants, Subsidies and Contribution	-10	105,000.00	100,000.00
Trainings and seminars		0.00	205,000.00
Extra Ordinary & Miscellaneous Expenses	-18	1,921.74	1,543.00
Anti-Insurgency/Intelligence Fund	-20	100,000.00	150,000.00
Other Services	-29	213,500.00	202,000.00
SUB-TOTAL		3,157,861.74	4,656,096.56

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Municipality/Province: Sto. Niño, Cagayan
Fund/Special Account: General

CERTIFIED STATEMENT OF INCOME AND EXPENDITURES
Budget Year 2001

PARTICULARS	Account Code	Past Year 1999 Actual	Current Year 2000 Actual
Self-employment Assistance Program	-200	72,751.00	75,000.00
Child & Youth Welfare Program	-200	130,740.00	100,000.00
Aid to individual in crisis situation	-200	182,740.00	263,000.00
Elderly & disabled persons program	-200	132,740.00	150,000.00
Women Welfare Program	-200	17,740.00	0.00
Family Head & Other Needy Adult	-260	17,740.00	0.00
Field health services	-200	10,000.00	40,000.00
Primary health services	-200	45,000.00	40,000.00
Medical Health Services	-200	25,000.00	0.00
Livelihood Skills Training		0.00	79,700.00
SUB-TOTAL		634,451.00	747,700.00
TOTAL MAINTENANCE AND OTHER OPERATING EXPENSES		3,792,312.74	5,403,796.56
Capital Outlay:			
Investments Outlay			
Construction of Dugwells		70,000.00	120,000.00
Livestock and Crops Outlay			100,303.00
Land and Land Improvements			
Resurfacing and regravelling of Municipal Streets		280,000.00	0.00
Regrading of Barangay Roads		200,000.00	0.00
Rep & Maint of barangay roads		0.00	251,721.50
Road Construction		0.00	330,000.00
Building and Structures Outlay			
Improvement of Legislative Bldg		200,000.00	0.00
Improvement/Repair of Mun. Town Hall		300,000.00	300,000.00
Furnitures, Fixtures & Equipment Outlay		320,000.00	632,000.00
TOTAL CAPITAL OUTLAY		1,370,000.00	1,934,024.50
STATUTORY & CONTRACTUAL OBLIGATIONS			
20% Development fund	6911	5,015,587.00	4,954,000.00
Aid to barangay dev't fund	6999	31,000.00	31,000.00
Aid to barangay Nutrition Scholar	4994	0.00	0.00
Calamity fund	6998	1,292,831.75	1,486,536.58
TOTAL STATUTORY AND CONTRACTUAL OBLIGATIONS		6,339,418.75	6,471,536.58
TOTAL EXPENDITURES		26,260,866.09	29,239,657.42
UNAPPROPRIATED BALANCE		2,499,225.65	1,794,498.48

CERTIFIED CORRECT:

HERMINIGILDO C. LUIS
Accountant Designate

DOMINADOR M. TEJADA
Revenue Collection Clerk I-01C

(2) PDCC, CDCC, MDCC, BDCC in Region 2

Name: Mrs. Wilma Sumabat (MDCC) Alcala _____

Date : _____

Interviewer: _____

Questions	Their Answers	DPWH actions
1. Is there written disaster preparedness plan, even a part?	Yes or No See attached	Get one copy, if available.
2. Latest organization and staff	1) Organization chart and function 2) Staff a) () b) () c) () d) () e) () f) () g) () h) () i) () j) ()	See Attached copy
3. Annual budget	1) Regular budget with breakdown Annual total Pesos: ₱ 26,750,000.00 2) Calamity reserve with breakdown Annual total Pesos: 5% Calamity Fund - ₱ 1,446,030.00	
4. Communication facilities	1) Available communication facilities with numbers such as telephone, telefax, radio, VHS, cellphone a) 1 Com Radio b) Cellphone c) VHS d) Telephone e) Fire trucks	
5. Communication flow	1) Offices from which you get flood information and warning? a) Radio Station or PAGASA 2) Offices to which you give flood information and warning? a) BDCC	
6. Available rescue facilities	1) Rescue facilities and numbers a) Motorized Banca b) Private vehicles c) Dump trucks	

7. Evacuation process during flood	1) Your activities on Warning a) Warning by you? Yes d) Warning time <u>within 24 hours</u> ? on warning level <u>2</u> ? of PAGASA or others?: 2) Your activities on Order to Move a) Advise the people to evacuate 3) Your activities on Shelter a) Registration in the evacuation center - Yes b) Supply of necessary goods (what kind of goods, how many times you serve, etc) - Rice, noodles, sardines (3x a day) 4) Your activities on Return a) Prepare report on damages	
8. Training program and drill on disaster preparedness	1) Training of DCCs staff (experience, program, schedule, budget, lecturer) a) Disaster Preparedness Training 2) Training of local people (experience, program, schedule, budget, lecturer) a) Drill for local people - Yes b) For pupil in school - None	
9. Operation of evacuation center during calamity	1) Organization and Staff a) Organization chart and function b) Staff c) Evacuation task team? 2) Volunteers a) Name, numbers - Popular Organizations - Women's Organization, Youth Organization & Sr. Citizen b) Activities	Barangay Captain 1. Barangay officials 2. Leaders 3. Volunteers
10. Others	1) Your criteria on the standard area for the evacuation center per head. (area of 3.52m ² /head is small or large?) Enough 2) Your opinion about training cost of 0.25 million/year/Municipality, it is too much for each Municipality? Not Enough	
11. Comments		

MUNICIPAL DISASTER COORDINATING COUNCIL

CHAIRMAN ----- Hon. Alvaro T. Antonio

VICE-CHAIRMAN----- PNP Pol Insp Dominador L Sequiña

STAFF :

Intelligence -----Mr. Pablo Perlas
 Disaster Analyst ----- Vice Mayor Eliseo Vergara Sr.
 Pol. Insp Dominador L Sequiña
 41st IB

Plans & Operation ----- SB Johnson Batalla
 Cecilio Sales
 Reynaldo Floria

Resources ----- SB Marjo Paz Te
 Edna C. Morales- Municipal Treasurer
 Susan del Rosario- Mun. Budget Officer
 Jovito Trinidad- Municipal Accountant
 Cristina Jose - Assistant Treasurer
 Eduardo Floria
 Jose Manuel

Communication Warning -- SB Alfredo Caraang
 Jose Jose - Meat Inspector
 41st IB
 PNP Personnel
 BUTEL & TELECOM

Transportation -----SB Alberto Pestejo
 Mario Javier
 Marissa del Rosario
 PNP Personnel
 Alice Floria
 41st IB

Rescue----- SB Joy Duruin
 Jacinto Adviento
 PNP Personnel
 41st IB

Health ----- Dr. Rafael Sumabat
 RHU Personnel
 Napoleon Castillo Jr.
 Nestor Siazon
 Puente Antolin

Fire ----- All BFP Personnel

Security ----- Dep Co-SPO III Eliseo A Cabildo
 All PNP Personnel
 41st IB

Relief----- Wilma C. Sumabat ---MSWDO
 Mildred S. Guiyab
 Magdalena M. Siazon
 Aida Batalla
 Ludivina Campo
 Rosita Lacsina
 Faustina de la Cruz
 Corazon Manuel
 Susan Lazaro
 Marites Quintos
 Virginia Castillo
 Minerva Perez
 Gloria Basas
 Virginia Cabildo

Rehabilitation ----- SB Daniel Sumabat III

Damage Control ----- SB Ener Castillo

Republic of the Philippines
NATIONAL POLICE COMMISSION
PHILIPPINE NATIONAL POLICE
ALCALA POLICE STATION
Alcala, Cagayan

122 E.

MEMORANDUM

FOR : Provincial Director
Cagayan Police Provincial Office
Camp Tirso H Gador, Tuguegarao City

FROM : Chief of Police
Alcala Police Station
Alcala, Cagayan

SUBJECT : Municipal Disaster Preparedness and Management Plan

DATE : 7 June 2001

INTRODUCTION :

Alcala is identified as disaster prone area as such, has already been subjected to constant and man made disaster. In order to minimize the loss of lives and properties, there is a need to come up with activities and strategies that will equip our people to counteract and immediately respond to such situation.

GENERAL OBJECTIVES:

1. To save lives
2. To prevent needless suffering
3. To protect properties
4. To minimize damages during disaster and calamities

PROGRAM:

- I. Orientation and Disaster preparedness and Management
 - A. MDCC members

OBJECTIVES:

1. To identify the roles and function of members in the different agencies.
2. To enhance their knowledge and skills in the performance of their function.
3. To work as a team.
4. To know the organizational structure of the council and how the members relate to each other.

ACTIVITIES TO BE UNDERTAKEN:

1. Preparedness of training syllabus/modules
2. Identification of training venue, training venue participants
3. Preparation Conduct Pre and Post Evaluation
4. Coordinate with LGU's to conduct orientation to barangay officials

BUDGETARY REQUIREMENTS:

Training Materials and their miscellaneous expenses - P5,000.00
Honoraria of trainers
For NGO's/ Trisectoral Representatives

OBJECTIVES:

1. To create awareness between the NGO's and private sector on their social responsibility.
2. Classify and group them according to areas/field of expertise profession or interest.
3. List their available time for volunteerism.
4. Equip them with necessary knowledge and skills in working as a team.

BUDGETARY REQUIREMENTS:

Dialogue/ meeting with volunteers (quarterly Meeting) for meals and snack and other miscellaneous P12,000.00 for expenses at 3,000.00/3/quarter

MEETING OF MDCC MEMBERS:

Objectives:

To ensure that the MDCC is an active and working council, there is a need to meet the occasionally in order.

1. To update the council on the activities of the different committees in preparation of any disaster.
2. To assess the situation during disaster.
3. To plan out strategies/activities
4. To prepare the over all rehabilitation plan of the municipal

Activities:

1. Discuss with committee chairman to the Municipal Disaster Plan and the importance of preparedness

Budgetary Requirements:

Quarterly meeting at P2,000.00/quarter for meals and snacks and other miscellaneous expenses at P8,000.00.

DISASTER DATA BANK

Objectives:

1. To be able to establish comprehensive data necessary to disaster management.
2. To be able to immediately assess situation prevailing in Disaster plan and the importance of preparedness.

Activities:

1. Conducts data survey related to disaster, such as disaster prone barangays, population/ number of families/ persons/ properties and crops
2. Prepare necessary materials/equipments
3. Coordinate with members/agencies and other organizations to assist in gathering data.
4. Brief the MDCC on the situation analysis of the disaster based on report/ data gathered

Budgetary requirements:

- | | |
|------------------------------------|------------|
| 1. Purpose of necessary supplies – | 2,000.00 |
| 2. Administrative expenses – TEV – | P 3,000.00 |
| Gasoline | P 5,000.00 |
| | P 8,000.00 |

STOCK PILING OF RELIEF SUPPLIES

Objectives

1. To have ready supplies/ commodities during emergency situations
2. To respond immediately to emergency needs

Activities

1. To list down necessary food commodities/ supplies needed during emergency situations.
2. To purchase needed commodities.
3. To coordinate and prepare a name of agreement with the NFA Re, purchase of NFA rice on credit during calamities

Budgetary Requirements:

A. KIND	Quantity	Price/Amount
Rice	150 sacks	P 900/135,000.00
Sardines	30 cans	800/ 24,000.00
Noodles	30 boxes	400/ 12,000.00
Coffee	10 boxes (10gm)	100/ 1,000.00
Sugar	50 kls.	50/ 2,500.00
Biscuits/cookies	10 cans	125/ 1,250.00
Salt	20 kls.	16/ 320.00

B. Other needs:

Kind	Quantity	Price/Amount
Diesel	1000 liters	15.45/liter -P15,450
Gasoline	500 liter	15.59/liter –P 7,795
2T oil	20 liter	65/liter - P 1,200
Rain Coats	20 pcs	700/pc -P14,000
Flash lights	10 pairs	300/pair -P 3,000
Life saver kit	15 pcs.	1,000/pc -P15,000
Flashlights	10 pcs	80/pc. –P 800

V. ORGANIZATION OF QUICK RESPONSE TEAM

Objectives

1. To be able to immediately respond to the needs of victims
2. To immediately assess the situations prevailing in the area
3. To be able to report immediately the extend of damages in the area affected
4. To give immediate assessment and recommendation to the MDCC.

Activities:

1. Coordinate with the MDCC members on the organization of the team.
2. Purchase/ install communication equipment.
3. Prepare standard operating procedure (SOP)

Budgetary Requirements:

1. Traveling allowances----- P 5,000.00

VI. CONDUCT OF DRILLS AND EXERCISES

Objectives

To equip the people with the necessary skills in counteracting any disaster.

Activities:

1. Coordinate with agency concerned
2. Conduct drills/ exercises in place prone to disaster (flood, fire, and typhoon).

VII. PUBLIC INFORMATION AND DESIMINATION:

Objectives:

1. To educate the public on the do's and don't's on disaster.
2. To issue warning/precautionary measures to the populace
3. To create awareness to the public on the situation in disaster area.

Activities:

Prepare hand-outs/leaflets on disaster counter measures for distribution to the population.

RECOMMENDATION:

For the Municipal Government to be prepared, equipped and immediately respond to any eventually, this plan is strongly recommended for approval.

Prepared by:

Approved by:

DOMINADOR SERQUIÑA
Police Inspector
Chief of Police
MDCC Vice Chairman

ATTY. ALVARO T. ANTONIO
Municipal Mayor
MDCC Chairman

(2) PDCC, CDCC, MDCC, BDCC in Region 2

Name: Amulung (MDCC)

Date :
Interviewer:

Questions	Their Answers	DPWH actions
1. Is there written disaster preparedness plan, even a part?	Yes or No	Get one copy, if available. * See attached
2. Latest organization and staff	1) Organization chart and function 2) Staff a) () b) () c) () d) () e) () f) () g) () h) () i) () j) ()	See attached copy
3. Annual budget	1) Regular budget with breakdown Annual total Pesos: ₱ 36,411,863.00 2) Calamity reserve with breakdown Annual total Pesos: 5% Calamity Fund - ₱ 1,820,593.10	
4. Communication facilities	1) Available communication facilities with numbers such as telephone, telefax, radio, VHS, cellphone. a) Cell phone – 30 b) I Com 16 Hand held c) Telephone Unit (Digitel)	
5. Communication flow	1) Offices from which you get flood information and warning? a) Thru Media Advisory b) PDCC & RDCC 2) Offices to which you give flood information and warning? a) Barangay	
6. Available rescue facilities	1) Rescue facilities and numbers a) 2 Units – Motorized Banca	

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7. Evacuation process during flood	1) Your activities on Warning a) Warning by you? Yes b) Warning time <u> </u> at least 24 hours before rise of flood level or per PAGAA or Magat Dam advisory <u> </u> ? on warning level <u> </u> ?of PAGASA or others?: 2) Your activities on Order to Move a) Preparation of transportation b) Preparation of evacuation centers c) Preparation of personnel involved in the in the evacuation 3) Your activities on Shelter a) Registration in the evacuation center - Yes, b) Supply of necessary goods (what kind of goods, how many times you serve, etc) - Rice, noodles, can goods, washing soaps, sugar, salt 4) Your activities on Return a) Post disaster reports	
8. Training program and drill on disaster preparedness	1) Training of DCCs staff (experience, program, schedule, budget, lecturer) a) Disaster preparedness training conducted by the PDCC & RDCC 2) Training of local people (experience, program, schedule, budget, lecturer) a) Drill for local people – b) For pupil in school	
9. Operation of evacuation center during calamity	1) Organization and Staff a) Organization chart and function b) Staff c) Evacuation task team? Please refer to attached MDCC chart 2) Volunteers a) Name, numbers – BIHW, Bantay Bayan b) Activities	
10. Others	1) Your criteria on the standard area for the evacuation center per head. (area of 3.52m ² /head is small or large?) Enough 2) Your opinion about training cost of 0.25 million/year/Municipality, it is too much for each Municipality? Just Enough	
11. Comments		

Republic of the Philippines
 Province of Cagayan
 Municipality of Amulung
 O.O.O

**ORGANIZATIONAL STRUCTURE
 MUNICIPAL DISASTER COORDINATING COUNCIL (MDC)**

Chairman ----- Atty. Nicanor C. de Leon
 Municipal Mayor
 Vice Chairman ----- COP/Insp. Cesar Cabalsa
 Station Commander

STAFF TEAMS

Resources Unit ----- Amor N. de la Cruz
 Luzminda Macasilo
 Judith S. de la Cruz
 Maria B. Remedero
 Myrna N. Matias
 OIC-MHO Amy Catalico
 OIC-MPO Calixto Austria
 Engr. Faustino A. Bundoac

Plans and Operation Unit ----- Charito Moreno
 Saturnino P. Paz
 Engr. Faustino A. Bundoac

Intelligence and Disaster Analysis
 Unit ----- Vice Mayor Euladio Rendon
 Emilio S. Malanog Jr.
 Myrna N. Matias
 Engr. Faustino A. Bundoac
 OIC-MPO Calixto Austria
 OIC-MHO Amy Catalico
 Station Commander

TASK UNITS

Warning and Communication ----- Chairman - COP/Insp. Cesar Cabalsa
 Members - PBC Saturnino Doctolero
 Baldomero Magora
 Butch Baltung
 LITA LUISAN

Rescue and Engineering ----- Chairman - COP/Insp. Cesar Cabalsa
 Members - PNP Members,
 Engr. Faustino A. BUNDOC
 HON. JOHN JOHN MALAMUG
 BARANGAY OFFICIALS
 CONCERNED
 HON. MICHAEL ADRIANO
 HON. JULUS BRUJI

RELIEF ----- CHAIRMAN - MYRNA N. MATIAS
 MEMBERS - TITA MARTINEZ
 INOCENCIO GARCIA
 ANTONINO DANINO JR.
 SATURNINO P. PAZ
 ROSEMARIE PALUN
 BARANGAY OFFICIALS
 CONCERNED

TRANSPORTATION ----- CHAIRMAN - HON. EULADIO RENDON
 VICE MAYOR
 MEMBERS - HON. ANASTACIO MORGADO
 HON. AMBRONIO PEÑA
 HON. ERREN BRITUNG
 HON. FE MATOTE
 HON. ANGELITA RIGOR

REHABILITATION ----- CHAIRMAN - ENGR. FAUSTINO A. BUNDOC
 MEMBERS - MYRNA N. MATIAS
 OIC-MHO AMY CATALICO
 OIC-MPO CALIXTO AUSTRIA
 NGO'S CONCERNED
 MR. LEONARDO AQUILLO

EVALUATION ----- CHAIRMAN - COP/INSR. CESAR CABALSA
 MEMBERS - PNP MEMBERS
 HON. FERNANDO DE LEON
 OIC-MHO AMY CATALICO
 MYRNA N. MATIAS
 AND STAFFS
 BARANGAY OFFICIALS
 CONCERNED

REPUBLIC OF THE PHILIPPINES
 PROVINCE OF CAGAYAN
 MUNICIPALITY OF AMULUNG

MUNICIPAL DISASTER PLAN -2001

PROJECTS/ACTIVITIES	Area Coverage	PHYSICAL		FINANCIAL REQUIREMENT		TIME TABLE	RESPONSIBLE PERSON/AGENCY		REMARKS
		TARGET	AMOUNT	AMOUNT	SOURCE		LEAD AGENCY	PARTICIPATING	
1 PRE-DISASTER									
A. Strengthening organizational structure of BDCC's		47 barangays		5% calamity Fund	July-Dec. '01	DILG	MSWDO		
B. Conduct Disaster Management Training to MDCC Committee & BDCC Chairmen	Flood prone	84 pax	27,500.00	-do-	July, 2001	PNP	MSWDO	2 school (2 pax/brgy) to create awareness on disaster prevention to organized responsible team	
B.1 Conduct rescue Training Search.		70 pax	30,000.00	-do-	October, '01	PNP	MDCC's		
C. Provide technical assistance to BDCC's & monitor implementation of Disaster Preparedness Plan.	Municipalwide	47 barangays	40,000.00	-do-	May-Dec. '01	MSWDO	MDCC		
D. Observance of Nat'l Disaster Consciousness Month			15,000.00	-do-	March-July	MDCC			
E. Establishment of Disaster Operation Center where data are maintained - List of disaster prone brigys. - List of indigent families - List of evacuation/disaster operation centers	-do-		50,000.00	-do-	ASAP	MBCC			

PROJECTS/ACTIVITIES	Area Coverage	PHYSICAL		FINANCIAL REQUIREMENT		TIME TABLE	RESPONSIBLE PERSON/AGENCY		REMARKS
		TARGET	AMOUNT	AMOUNT	SOURCE		LEAD AGENCY	PARTICIPATING	
F. Conduct inventory of stockpile (Local Commodities).						May-June	MDCC		
G. Conduct inventory of Disaster paraphernalia/equipments.						May-June	Inventory Team		
H. Procurement/Acquisition of the following:									
1. Vest Chilaco (life saver)	for rescue team	10 pcs.	15,000.00	-do-	ASAP	GSO	MDCC		
2. Standby Generator		1 unit	50,000.00	-do-	ASAP	GSO	MDCC		
3. Cassette w/ 10 pcs Bat.		1 unit	4,000.00	-do-	ASAP	GSO	MDCC		
4. Medicines (various)			200,000.00	-do-	ASAP	MHO			
5. Flashlight	for rescue team	10 pcs	7,500.00	-do-	ASAP	GSO	MDCC		
6. Stockpile (food com.)			250,000.00	-do-	ASAP	GSO	MSWDO		
7. Rehabilitation seeds			200,000.00	-do-	ASAP	GSO	MAO		
8. MDCC jacket	for rescue team		25,000.00	-do-	ASAP	GSO	MDCC		
9. Rain Coat		15 pcs	3,000.00	-do-	ASAP	GSO	MDCC		
10. Video Camara w/tripad		1 unit	25,000.00	-do-	ASAP	GSO	MDCC		
11. Gallon (big)	for rescue team	15 pcs.	5,000.00	-do-	ASAP	GSO	MDCC	Retrievable	
12. Interior (for Seibebida)		15 pcs	5,000.00	-do-	ASAP	GSO	MDCC		
13. Botes		15 pcs	5,000.00	-do-	ASAP	GSO	MDCC		
14. Chainsaw/jungle bote			30,000.00	-do-	ASAP	GSO	MDCC		
15. Installation Cellphone Antenna			25,000.00	-do-	ASAP	GSO	MDCC		
16. Procurement of banca		1 unit	25,000.00	-do-	ASAP	Engineering	MDCC		
I. Repair and Maintenance of 1 Motorized Banca			5,000.00	-do-	June or as need arises	Engineering	MDCC	Retrievable	

PROJECTS/ACTIVITIES	Area Coverage	PHYSICAL	FINANCIAL REQUIREMENT		TIME	RESPONSIBLE PERSON/AGENCY		REMARKS
		TARGET	AMOUNT	SOURCE	TABLE	LEAD AGENCY	PARTICIPATING	
II. DURING DISASTER:								
A. Conduct emergency meeting to MDCC committee chairman to get immediate & further instruction from the LCE.	MDCC		10,000.00	-do-		LCE	MDCC	
B. Conduct survey to all affected barangays and determine extent of damages on crops properties & human beings	47 brigys.		50,000.00	-do-	as need arises		BDCC/MDCC	
C. Recommend for the declaration of the area as state of calamity	prone area				as need arises	LCE	MDCC	
D. Contingencies			80,000.00	-do-				
E. Conduct relief operations	Affected Brigys		20,000.00	-do-	as need arises			
F. Provide medical assistance to injured/sick persons if needed.	Affected Brigys.		50,000.00	-do-	as need arises	MSWDO MHO	Relief Comm. Medical team Committee	
G. Supervise/monitor management of evacuation centers of food commodities.	Affected Brigys.		50,000.00	-do-	as need arises	MSWDO	MDCC	
H. Request for augmentation of food commodities.	Affected Brigys.			external	as need arises	MSWDO	MDCC	
I. Consolidate/submit disaster reports to concerned agencies	Affected Brigys.				ASAP	MSWDO	MDCC	

PROJECTS/ACTIVITIES	Area Coverage	PHYSICAL	FINANCIAL REQUIREMENT		TIME	RESPONSIBLE PERSON/AGENCY		REMARKS
		TARGET	AMOUNT	SOURCE	TABLE	LEAD AGENCY	PARTICIPATING	
III. AFTER DISASTER:								
A. Conduct assessment and recommend families whose houses and crops were damaged for financial assistance activities undertaken.	Affected areas				as need arises	MSWDO/DA	MDCC	
B. Submit Rehabilitation Plan of damage of typhoon and flood activities undertaken.								
C. Prepare feedback report or write-up on the impact of assistance extended to the brigys/families affected.								
D. Re-construction/rehabilitation of damage infrastructure	stricken areas		518,593.15					
E. Conduct meeting to evaluate activities undertaken.								
TOTAL				1,820,593.15				

PREPARED BY:

SIGNED:


MYRNA N. MATIAS
MSWDO

APPROVED:

SIGNED:

ATTY. NICANOR C. DE LEON
Municipal Mayor
MDCC Chairman

CERTIFIED TRUE COPY OF THE ORIGINAL


MYRNA N. MATIAS
MUNICIPAL ASSISTANT

(2) PDCC, CDCC, MDCC, BDCC in Region 2

Name: Iguig - MDCC

Date :
Interviewer:

Questions	Their Answers	DPWH actions
1. Is there written disaster preparedness plan, even a part?	Yes or No	Get one copy, if available. * See attached
2. Latest organization and staff	1) Organization chart and function 2) Staff a) () b) () c) () d) () e) () f) () g) () h) () i) () j) ()	See attached copy
3. Annual budget	1) Regular budget with breakdown Annual total Pesos: ₱ 20,878,122.00 20% Development Fund - 4,135,624.40 2) Calamity reserve with breakdown Annual total Pesos: 5% Calamity Fund - ₱ 1,130,674.60	
4. Communication facilities	1) Available communication facilities with numbers such as telephone, telefax, radio, VHS, cellphone a) Telephone b) Cellphone c) Radio d) Post Office e) Bureau of Telephone	
5. Communication flow	1) Offices from which you get flood information and warning? a) PAGASA b) Radio Station c) RDCC 2) Offices to which you give flood information and warning? a) Barangay Captains b) DSWD c) Municipal Agricultural Office d) Municipal Engineer Office e) PNP f) School	

6. Available rescue facilities	1) Rescue facilities and numbers a) Government Vehicles b) Privately Owned vehicles	
7. Evacuation process during flood	1) Your activities on Warning a) Warning by you? Yes c) Warning time <u>within 1 hour of receive the communication/information</u> ? on warning level alert ? of PAGASA or others?: 2) Your activities on Order to Move a) Mobilized manpower and facilities 3) Your activities on Shelter a) Registration in the evacuation center b) Supply of necessary goods (what kind of goods, how many times you serve, etc) c) Deployment of medical and personnel 4) Your activities on Return a) Mobilization and facilities b) Transport of victims	
8. Training program and drill on disaster preparedness	1) Training of DCCs staff (experience, program, schedule, budget, lecturer) a) Training on Disaster b) Preparedness in Management c) Personnel of DSWD office & Civil defense 2) Training of local people (experience, program, schedule, budget, lecturer) a) Drill for local people - d) For pupil in school - e) Drill for NGOs	
9. Operation of evacuation center during calamity	1) Organization and Staff a) Organization chart and function - b) Staff c) Evacuation task team? 2) Volunteers a) Name, numbers - b) Activities Provide equipment and communication	
10. Others	1) Your criteria on the standard area for the evacuation center per head. (area of 3.52m ² /head is small or large?) 2) Your opinion about training cost of 0.25 million/year/Municipality, it is too much for each Municipality?	
11. Comments	Accessibility * Its too small, inadequate means	

(2) PDCC, CDCC, MDCC, BDCC in Region 2

Name: Engr. Balud, Solana, Cagayan (MDCC)

Date _____ :

Interviewer: _____

Questions	Their Answers	DPWH actions
1. Is there written disaster preparedness plan, even a part?	Yes or No	Get one copy, if available.
2. Latest organization and staff	1) Organization chart and function 2) Staff a) () b) () c) () d) () e) () f) () g) () h) () i) () j) ()	See attached copy
3. Annual budget	1) Regular budget with breakdown Annual total Pesos: ₱ 50,338,087.00 20% Development Fund 8,922,217.46 2) Calamity reserve with breakdown Annual total Pesos: 5% Calamity Fund - ₱ 2,516,904.35	
4. Communication facilities	1) Available communication facilities with numbers such as telephone, telefax, radio, VHS, cellphone: a) I Com - Radio b) Cellphone c) Kabalikat Radio	
5. Communication flow	1) Offices from which you get flood information and warning? a) PDCC b) PAGASA 2) Offices to which you give flood information and warning? a) Barangay	
6. Available rescue facilities	1) Rescue facilities and numbers a) Banca – Motorized (1) b) Dump truck (5)	

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7. Evacuation process during flood	1) Your activities on Warning a) Warning by you? Yes c) Warning time 24 hours ? on warning level _____ ? of PAGASA or others?: 2) Your activities on Order to Move a) Advice People to move on safer ground 3) Your activities on Shelter a) Registration in the evacuation center - Register names individually b) Supply of necessary goods (what kind of goods, how many times you serve, etc) - Rice, sardines, noodles, coffee & biscuits 4) Your activities on Return a) Prepare damage report b) Post disaster report	
8. Training program and drill on disaster preparedness	1) Training of DCCs staff (experience, program, schedule, budget, lecturer) a) See attached training design 2) Training of local people (experience, program, schedule, budget, lecturer) a) Drill for local people – yes only for flood prone areas b) For pupil in school c) None	
9. Operation of evacuation center during calamity	1) Organization and Staff a) Organization chart and function b) Staff c) Evacuation task team? 2) Volunteers a) Name, numbers – NGO's – World Mission b) Activities	PNP & DSWD – in charge, general center All Barangay officers – members
10. Others	1) Your criteria on the standard area for the evacuation center per head. (area of 3.52m ² /head is small or large?) Enough 2) Your opinion about training cost of 0.25 million/year/Municipality, it is too much for each Municipality? Not Enough	
11. Comments		

TRAINING DESIGN

on

COMMUNITY – BASED DISASTER MANAGEMENT & SKILLS TRAINING

I. BACKGROUND INFORMATION

Disaster managers considered that Philippines is one of the most disaster – prone country in the entire world. And, unfortunately Solana is not spared from these hazards. It has been published that Philippine has the highest number of disaster during the last quarter of the century (Morillo, 1995).

In 1972 alone, Solana experienced a tremendous hazard that many persons were killed, injured and damaged/destroyed properties, loss of houses and even emotional stress and trauma brought by the disaster cause by typhoons & floods.

The Department of Social Welfare and Development is the agency of government mandated to lead welfare programs and services, including disaster of the families affected per year, the average of 80% were served by disaster responders from DSWD, LGU's including NGO's in the area. The DSWD had only a little amount disbursed to response on disasters. Given this situation, the NGO's considered the importance of stressing the preparedness of communities/families to disasters and emergencies.

II. RATIONALE/JUSTIFICATION.

1. Philippines is number one disaster prone country in the world.
2. Every year, Solana suffers from disasters, caused by natural hazards.
3. Disaster statistic from 1985-2000.
 - a.) Average no. of families in the municipality affected by disaster per year - 30% of the total households
 - b.) Average no. of families rendered homeless – 2 families/year.
 - c.) Average no. of casualties per year
 1. dead - 3.
 2. injured - 10.
 - d.) No. of families served by NGO, LGU, DSWD
 - e.) No. of families trained as volunteers
 - f.) No. of families given a core shelter units – 20 in 1989.

III. GOALS AND OBJECTIVES:

1. To enable the participants to acquire with basic knowledge and skills on disaster preparedness and emergency response.
2. To enable the participants to understand and internalized biblical as basis on disaster management.

3. To enable the participants to understand the basic concept of disaster management framework

IV. TRAINING SCHEDULE:

TIME	DAY 1 September 18, 2001	DAY 2 September 19, 2001	DAY 3 September 20, 2001
7:00-8:00	Breakfast	Breakfast	Breakfast
8:00-9:00	Opening Program Expectation Setting Biblical Reflections (CESAR BAUTISTA)	Biblical Reflections (HAYDEE T. CANAPI)	Biblical Reflections (TONY CABUNGAL)
9:00-10:00	Concept of Disaster -meaning of disaster -types of disaster -disaster continuum - hazard map	Legal Bases/Disaster Related Cases	- continuation-
10:00-10:15	Coffee/Tea Break	Coffee/Tea Break	Coffee/Tea Break
10:15-12:00	Continuation on Concept of Disaster	-continuation-	Workshop (Before, During, After Disaster)
12:00-1:00	LUNCH BREAK	LUNCH BREAK	LUNCH BREAK
1:00-2:30	-continuation-	Criteria for the declaration of a calamity area	Simulation (Reporting, Damage Assessment)
2:30-3:00	Coffee Break	Coffee Break	Coffee Break
3:00-5:00	Situationer	Organization of BDCC - BDCC Structure - Functionality of the Organization - Roles and Responsibilities	-Continuation- -Closing Program
Officer of the Day	Cesar, Ating, Zaldy, Poch and Norma, Romy	Haydee, David, Lily and Boyot, Lyn	Joy, Cora, Tony, Dante And Bebang

The approximate number of days for the conduct of the training is three (3) days not included the traveling time.

V. AREAS/BARANGAYS TO BE COVERED:

- Barangays of
1. Dassun
 2. Malacabibi
 3. Sitio Ipil of Bauan East

VI. NUMBER/NAME OF PARTICIPANTS/BENEFICIARIES AND FACILITATORS:

DASSUN	MALACABIBI	BAUAN EAST (Sitio Ipil)
1. CONCHITA L MABBORANG	1. JUANA C. GRUMAJE	1. RENATO L. CARAG
2. SEVERINO B. LAMUSAO	2. JERRY N. TACULOG	2. JOSEPHINE M. CARAG
3. ROLANDO P. MASIRAG	3. BENITO M. PEREZ	3. MACARIO CARONAN
4. DOMINADOR T. DANGARANG	4. MILAGROS A. JOSE	4. PABLO MABATAN
5. BENITO P. GUITERING	5. GAUDENCIO G. JOSE	5. VENANCIO MANGULAB
6. MARIO A. BALOD	6. APOLONIO G. QUILANG	6. MARIO A. CRISTOBAL

7. MILAGROS M. NARAG	7. EDUARDO D. ESTREILLA	7. BENJAMIN C. TAGACAY
8. CARMELITA B. PEREZ	8. ROLANDO CAGURUNGAN	8. SONNY BELANGO
9. JUNITA B. CABALZA	9. JAIME D. JOSE	9. VIRGILIO PATULAY
10. ROMEL BOSI	10. DAVID Q. TANGARO	10. REMA C. CARAG
11. NATIVIDAD B. CAGURANGAN	11. MONICA VICENTE	11. AMELIA P. CARAG
12. PRIMITIVA B. ESTRILLA	12. ALFREDO G. TULIAO	12. ELLAINE CALLANGA
13. FELIX O. MALANA	13. JOVELYN P. JOSE	13. COSME T. CORDON
14. AGRIPINO C. MASIRAG		

FACILITATOR/LECTURER:

- | | |
|---------------------------------|------------------------------|
| 1. Ms. JOCELYN P. CANAPI | 15. Ms. ERLINDA C. TABAO |
| 2. Ms. HAYDEE T. CANAPI | 16. PSI ROMEO T. MANGWAG |
| 3. ENGR. DANTE T. SORIANO | 17. Ms. PRIMITIVA R. CABRERA |
| 4. Mr. DAVID C. LASQUERO | |
| 5. Mr. JOSE M. BLANCAD | |
| 6. Mr. CESAR M. BAUTISTA | |
| 7. Ms. PACIFICA D. LAYUGAN | |
| 8. Ms. EULALIA S. BAGO | |
| 9. Ms. CORAZON A. MATEO | |
| 10. SPO IV ANTONIO M. CABUNGCAL | |
| 11. POI ADOLFO C. VILORIA | |
| 12. PO2 ELIZALDE M. TAGAL | |
| 13. Ms. GENOVEVA C. ABOGADO | |
| 14. Ms. NORMA A. CANAPI | |

VII. BUDGET BREAKDOWN:

1. **Supplies & Materials**

Qty.	Unit	Description	Amount (P)
60	Pcs	Notebook	600
60	Pcs	Plastic Envelop	420
60	Pcs	Ballpen	300
2	Pads	Yellow Pad Paper	50
1	Ream	Bond Paper	150
1	Box	Acetate	900
60	Pcs	Identification Card	150
2	Rolls	Masking/Scotch Tape	100
7	Pcs	Pentel Pen	420
7	Pcs	Acetate Pen	120
50	Rolls	Manila Paper	350
100	Sheets	Linen/Stationary Paper	200
1	Ream	Colored Bond Paper (Oslo)	300
1	Bot	Adhesive spray	250
		Total	P4,310.00

2. **Transportation**

57pax x P150.00 x 2 trips = P17,100.00

3. **Venue/Accommodation**

57pax x P650 x 3 days = P111,150.00
 57pax x P100 = P5,700.00 Monday night
 57pax x P80 = P4,560.00 Friday morning

4. **TOTAL COST OF TRAINING = P142,820.00**

VIII. METHODOLOGY

- Lecture
- Workshop
- Discussion
- Simulation

IX. PROJECT MANAGEMENT

A project team from the NGO shall be formed with the team from the MDCC of LGU-Solana.

The team shall be task to:

- Provide basic knowledge and skills to the participants during the conduct of the training, materials and other inputs on the conduct of the training programs.
- Provide guidelines in the conduct of the activities.
- Coordinate provision of assistance from the various agencies concerned in the program.
- Ensure that the services were given to the beneficiaries.

The monitoring and evaluation shall be done every quarter thereafter to provide continuous sustainability of the program.

Prepared by:

Approved by:

Project Team
 Community-Based Disaster Management

Pacifica Layugan
 Chairman, Board of Trustees
 Green Meadow Dev't. Foundation Inc.

Noted by:

CESAR BAUTISTA
 Regional Coordinator
 ADP North East Luzon, World Vision Dev't Foundation

Municipal Disaster Coordinating Council

STAFF ELEMENTS

OVERALL CHAIRMAN: Mayor Rodrigo C. De Asis
 CIVIL DEFENSE DEPUTIZED COORDINATOR: Engr. Danilo Soriano

I. INTELLIGENCE AND DISASTER ANALYSIS UNIT

CHAIRMAN: Engr. Narciso Edillo
 MEMBERS: SPO4 Antonio Cabunocel
 PO2 Elisilde Magal
 PO1 Adolfo Soloria

II. PLANS AND OPERATION UNIT

CHAIRMAN: Engr. Narciso Edillo
 MEMBERS: David Lasque,
 Edmundo Uquigan
 Engr. Antonio Abactal
 Jose Pagulayan
 Haydee Canapi

III. RESOURCE UNIT

CHAIRMAN: Engr. Narciso Tuquique
 MEMBERS: Jovenal Mallonga, Jr.
 Pedro Bacud
 Celia Abella
 Engr. Maximo Caluang

RESPONSIBILITIES OF THE DIFFERENT COMMITTEE OF THE MDCC

TASK FORCE:

1. Communication and Warning

CHAIRMAN: SPO1 Alfredo Liban
 MEMBERS: Ronald Canapi
 Margel Canapi
 Angie Manogod

2. Transportation

CHAIRMAN: Vice-Mayor Felipe Lingon
 MEMBERS: Engr. Maricela Marquez
 Engr. Amelia Carag

3. Evaluation

CHAIRMAN: Marlon Baccay, Paz Baccay
 MEMBERS: Mrs. Dahlia Sabal
 Mrs. Mira Florin
 Mrs. Laila Dacuray
 All Barangay Captains

4. Rescue and Engineering

CHAIRMAN: P-1 Insp. Alejandro Adlawan
 MEMBERS: Engr. Antonio Malecub
 Engr. Danilo Soriano
 Arnold Camayang

5. Health

CHAIRMAN: Dr. Anastacia Taguba
 MEMBERS: Engr. Sofia De Asis
 Engr. Edward Simangan
 All MHO Staff

6. Fire

CHAIRMAN: SPO3 Rolando Narag
 MEMBERS: All BFP Staff

7. Police

CHAIRMAN: P-1 Insp. Alejandro Adlawan
 MEMBERS: All PNP Staff

8. Relief and Rehabilitation

CHAIRMAN: Jocelyn Canapi
 MEMBERS: All MSWD Staff
 SB Staff
 SB Chairman Vicente Ferrer III

COUNTER DISASTER PLAN

Name of ADP : **ADP CAGAYAN**

Type of Hazards : *FLOODS*

GOAL : *To prevent loss of life's and damage of properties.*

SPECIFIC: *To empower community leaders to become disaster managers.*

9. Public Information

CHIEFMAN: SP-2 Abenardo Pungganan
 MEMBERS: ABC Chairman: Esg. Edgar Palattao
 AE Barangay Captains
 School Heads

DISASTER OPERATION CENTER- PNP

STRATEGIES	RESPONSIBLE PERSON	TIME FRAME
1. Organization of MDCC, BDCC (1 st qtr) > Orientation on disaster management (basic) ◆ First Aid ◆ Water rescue	> MDCC, BDCC, LGU, , Communities, PNP, Religious Groups and NGO(Green Meadow Dev't Foundation /World Vision) > Creation of small committees	> OCTOBER
2. Skills Enhancement (2 nd quarter) > Communication Facilities ◆ Boat ◆ Life Vest ◆ Ropes ◆ Radio Sets ◆ Communication Gadgets > Conduct and Recruit 2 nd liners > Trainers Training		> 2 nd Quarter of 2001
3. Procurement and Acquisition of Facilities equipment. > LGU Solana already conducted initial procurement		

**MUNICIPAL DISASTER PREPAREDNESS PLAN
MUNICIPALITY OF SOLANA
JANUARY - DECEMBER 2001**

ACTIVITIES TO BE UNDERTAKEN	TARGET AREA	TIME FRAME	PERSONS RESPONSIBLE	FUNDING REQUIREMENT	REMARKS
I. PRE-LA NIÑA					
1. DISASTER MANAGEMENT TRAINING	ALL BARANGAY CAPTAIN AND DCW	Aug-01	MSWDO/OCD/MPDC/NGO	P 300,000.00	
2. MDCC REORGANIZATION/REACTIVATION	LINE AGENCIES	3rd QUARTER	MSWDO/PNP/MPDC/NGO		
3. ESTABLISHMENT OF DISASTER COMMUNICATION OPERATING CENTER/UNIT					
3.1 MUNICIPAL LEVEL					
3.1.1 Purchase and installation of Communication Facilities and other related paraphernalia	Municipality (Municipal Compound)	Within the(ASAP)	LGU Concerned		Funding requirement shall only be determined after the result of the canvass
3.2 BARANGAY LEVEL					
3.2.1 Purchase and installation of Barangay ICOM		-DO-	-DO-		-DO-
4. STOCKPILING					
4.1 Procurement of life vest	N/A		MSWDO	P100,000.00	

ACTIVITIES TO BE UNDERTAKEN	TARGET AREA	TIME FRAME	PERSONS RESPONSIBLE	FUNDING REQUIREMENT	REMARKS
5. INFORMATION DESSIMINATION, PROCUREMENT OF LEGUME AND VEGETABLE SEEDS AND PROCUREMENT OF DRUGS FOR LIVESTOCK	38 Barangays	Oct-01	DA-LGU	P230,000.00	
6. ESTABLISHMENT OF BLOOD BANK FOR SOLANA	Municipal Officials and Employees, other Donors	October - December 2001	Health Staff, LCE Regional Health Laboratory Staff (CVMC)		Typing Sera Blood Bags Other Instruments needed
II. DURING LA NIÑA					
1. Monitor/Validate area affected, master-listing of farmers affected/damaged by La Niña.	All Barangays	October - February 2001	DA - LGU		
1.1 Organization/Deployment of personnel to take charge of the Operation Center/Unit	Within the vicinity of the operation center both municipal and barangays.	anytime as the need arises	LGU Concerned		
2. MEDICAL SERVICES	38 Barangays	October - December 2001	MHO Health Staff	P90,000.00	Medicine for Emergency Cases, Diarrheal Disease, Dengue and Cholera

ACTIVITIES TO BE UNDERTAKEN	TARGET AREA	TIME FRAME	PERSONS RESPONSIBLE	FUNDING REQUIREMENT	REMARKS
3. CHLORINATION OF WATER SUPPLY	38 Barangays	October - Dec. 2001	RSI	P30,000.00	Chlorine tab. or Chlorine Granules
4. RELIEF DISTRIBUTION	Disaster stricken barangays	as need arises	MSWDO		
II. POST LA NIÑA					
1. REHABILITATION SERVICES	Affected Families		MSWDO, MEC, MPDC, SB & MAYOR'S OFFICE	P 800,000.00	
2. DISTRIBUTION OF SEEDS TO FARMERS AFFECTED AND MONITOR FOLLOW-UP THE DISTRIBUTED SEEDS.	All Barangays		March - April 2002	P 200,000.00	

Republic of the Philippines
Province of Cagayan
Municipality of Solana
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OFFICE OF THE MUNICIPAL BUDGET OFFICER


CERTIFICATION

TO WHOM IT MAY CONCERN:

THIS IS TO CERTIFY that, the Tentative Allocation for CY 2001, Internal Revenue Allotment (IRA) as per Local Budget Memorandum No. 2000-34 amounts to **FORTY FOUR MILLION, NINE HUNDRED SIXTY ONE THOUSAND, EIGHTY SEVEN PESOS & 00/100 (P44,961,087.00)**

THIS CERTIFICATION is issued for the purpose of preparing the Annual Investment Plan of the municipality for Calendar Year 2001.

This 25th day of August, 2000.


JOVENAL B. MALLONGA JR.
Municipal Budget Officer

vpajbm

(2) PDCC, CDCC, MDCC, BDCC in Region 2

Name: Roy C. Calagui – Civil Defense Disaster Coordinator (Tuguegarao City)

Date :

Interviewer:

Questions	Their Answers	DPWH actions
1. Is there written disaster preparedness plan, even a part?	Yes or No	Get one copy, if available. Not available
2. Latest organization and staff	1) Organization chart and function 2) Staff a) City Mayor (Chairman) b) Chief of Police (Vice Chairman) c) CDCC (Secretariat) d) DSWD / NGOs (Relief) e) City Engineers/DPWH (Transportation & Evacuation) f) PNP (Peace & Order) g) NGOs (Communication) h) Peoples Hospital (Health) i) City Health Office (Medical)	
3. Annual budget	1) Regular budget with breakdown Annual total Pesos: ₱ 255,120,310.00 20% Econ. Dev't Fund 40,046,984.00 2) Calamity reserve with breakdown Annual total Pesos: 5% Calamity Fund - ₱ 12,756,016.00	
4. Communication facilities	1) Available communication facilities with numbers such as telephone, telefax, radio, VHS, cellphone: a) Cellphone b) Telephone	
5. Communication flow	1) Offices from which you get flood information and warning? a) PAGASA b) Radio Station c) NIA Magat their request thru PNP 2) Offices to which you give flood information and warning? a) PDCC	
6. Available rescue facilities	1) Rescue facilities and numbers a) Motor banca (12)	

7. Evacuation process during flood	1) Your activities on Warning a) Warning by you? PAGASA b) Warning time _____? on warning level _____? of PAGASA or others?: 2) Your activities on Order to Move a) Warn/advise people to move to nearest evacuation centers. 3) Your activities on Shelter a) Registration in the evacuation center - Yes b) Supply of necessary goods (what kind of goods how many times you serve, etc) - Rice, canned goods, instant noodles, coffee, sugar 4) Your activities on Return a) Prepare a reports on damages, cost of evacuation	
8. Training program and drill on disaster preparedness	1) Training of DCCs staff (experience, program, sch budget, lecturer) a) Disaster Management System (3 day seminar) b) PDCC and OCD sponsored c) Lectures from CVMCC, OCD Manila 2) Training of local people (experience, program, schedule, budget, lecturer) a) Drill for local people - There was a plan but due to financial constraints, it was not programmed for implementation. d) For pupil in school - Not yet	
9. Operation of evacuation center during calamity	1) Organization and Staff a) Organization chart and function - Barangay Chairman - OIC b) Staff - BDCC staff - members with assistance of the CDCC. c) Evacuation task team? 2) Volunteers a) Name, numbers - NGOs - Kabalikat, Rotary Club, Pugad Lawin b) Activities	
10. Others	1) Your criteria on the standard area for the evacuation center per head. (area of 3.52m ² /head is small or large?) More than Enough 2) Your opinion about training cost of 0.25 million/year/Municipality, it is too much for each Municipality? Not Enough ₱ 50,000 or more	
11. Comments	✦ Improve Water system ✦ Medicines should be provided ✦ Blankets / cots should be provided ✦ Provide generators for power supply ✦ Provide monitoring vehicles ✦ No compensation was provided for the staff and personnel of CDCC.	



Republic of the Philippines
Province of Cagayan
CITY OF TUGUEGARAO
BARANGAY CENTRO 10

OFFICE OF THE BARANGAY CHAIRMAN



Republic of the Philippines
Province of Cagayan
CITY OF TUGUEGARAO
BARANGAY CENTRO 10

OFFICE OF THE BARANGAY CHAIRMAN

Barangay Disaster Coordinating Council
Members

Chairman : Romel Q. Arugay
Vice Chairman; Ronaldo Paguirigan

STALL TEAM

Security;

Leader; Kgd. Ma Jun Teja
Members; 1. Pt. Hilario Adducul
2. Pt. Renie Natividad

Supply :

Leader; Brgy. Treasurer Eloisa
Macaraniag
Member; 1. Grace Alpino
2. Ofelia Punzalan

OPERATING TENMS

Warning

Leader; Kgd. Shelo Caldez
Members; 1. S.K. Rep. Arnel Macaraniag
2. S.K. Joseph Alcantara

Rescue

Leader; Kgd. Ronaldo Paguirigan
Members; 1. Joaquin Baggay
2. Domingo Paguirigan

Relief/Rehab.

Leader; Kgd. Zenaida Caldez
Members; 1. Frances Arce
2. Antonio Javier

DAMAGED CONTROL

Leader; Brgy. Capt. Romel Q. Arugay
Members; 1. Eduardo Santes
2. Magne Jess

Transportation

Leader; Rodney Quinto
Members; 1. Rolando Allam
2. Rodolfo Ferrer

Communication

Leader; Kgd. Nancy Cobales
Members; 1. Rene Cepeda
2. Percival Pagalilauan

Evaluation

Leader; Brgy. Sec. Gorazon Allam
Member; 1. Chare Arugay
2. Norie Martin

Medicare

Leader; Kgd. Rolando Allam
Members; 1. Lilia Allam
2. Flora Allam

Fire Brigade

Leader; Kgd. Maximino Siddayac
Members; 1. Romeo Arugay
2. Carlite Castillo

Security;

Leader; Kgd. Ma Jun Teja
Members; 1. Pt. Hilario Adducul
2. Pt. Renie Natividad

Supply :

Leader; Brgy. Treasurer Eleisa
Macaraniag
Member; 1. Grace Alpino
2. Ofelia Punzalan

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Members; 1. Lilia Allam
2. Flora Allam

Fire Brigade

Leader; Kgd. Maximino Siddayac
Members; 1. Romeo Arugay
2. Carlite Castillo

(2) PDCC, CDCC, MDCC, BDCC in Region 2
Name: Enrile (MDCC)

Date :
Interviewer:

Questions	Their Answers	DPWH actions
1. Is there written disaster preparedness plan, even a part?	Yes or No	Get one copy, if available.
2. Latest organization and staff	1) Organization chart and function 2) Staff a) Mayor Remedios Turingan (Chairman) b) PSI Emilio Bactad (Vice Chairman) c) Vice-mayor Julio Liggayu (Intel & Disaster Analysis) d) Joseph Pauig (Plans & OPM unit) e) Leon Callangan (Warning Unit) f) Wilson Gaffud (Emergency & transpo.) g) Salvador Timagos (Evacuation Services) h) Santiago Palattao (Rescue & Engineering Serv.) i) Ana L. Cortez (Health Service)	
3. Annual budget	1) Regular budget with breakdown Annual total Pesos: ₱ 25,151,955.00 20% Development Fund 5,030,391.00 2) Calamity reserve with breakdown Annual total Pesos: 5% Calamity Fund - ₱ 1,257,597.75	
4. Communication facilities	1) Available communication facilities with numbers such as telephone, telefax, radio, VHS, cellphone: a) 1 Com Radio b) Cellphone c) Telephone	
5. Communication flow	1) Offices from which you get flood information and warning? a) Thru PAGASA b) Thru Radio Station c) TV Broadcasting 2) Offices to which you give flood information and warning? a) DSWD b) LGU c) Red Cross d) Health e) DPWH f) BDCC	

6. Available rescue facilities	1) Rescue facilities and numbers a) Ambulance b) Jeeps	
7. Evacuation process during flood	1) Your activities on Warning a) Warning by you? Yes c) Warning time <u>imminence of flood</u> ? on warning level ____? of PAGASA or others?: 2) Your activities on Order to Move a) Advice to prepare and move to evacuation b) Prepare plan for evacuation 3) Your activities on Shelter a) Registration in the evacuation center - Yes b) Supply of necessary goods (what kind of goods how many times you serve, etc) - Instant Noodles, Rice, Sardines, coffee (If not enough seek assistance from PDCC, MDCC) 4) Your activities on Return a) Prepare Disaster Report	
8. Training program and drill on disaster preparedness	1) Training of DCCs staff (experience, program, schedule, budget, lecturer) a) None 2) Training of local people (experience, program, schedule, budget, lecturer) a) Drill for local people - None b) For pupil in school - None	
9. Operation of evacuation center during calamity	1) Organization and Staff a) Organization chart and function b) Staff c) Evacuation task team? 2) Volunteers a) Name, numbers - NGOs - Pugad Lawin b) Activities Provide equipment and communication	MDCC staff -- DSWD Support PNP Support Barangay Officials
10. Others	1) Your criteria on the standard area for the evacuation center per head. (area of 3.52m ² /head is small or large?) Enough 2) Your opinion about training cost of 0.25 million/year/Municipality, it is too much for each Municipality? Enough	
11. Comments	Lack of water crafts during flood.	

Municipality of Enrile
Province of Cagayan

STATEMENT OF STATUTORY AND CONTRACTUAL OBLIGATION
CALENDAR YEAR 2001

INTERNAL REVENUE ALLOTMENT (IRA)	<u>25,151,955.00</u>
20% Development Fund	5,030,391.00
5% Budgetary Reserve	1,257,597.75

**ENRILE DISASTER COORDINATING COUNCIL
MUNICIPAL DISASTER PLAN - 2001**

PROJECT /ACTIVITIES	AREA COVERAGE	PHYSICAL TARGET	FINANCIAL REQUIREMENT		TIME TABLE	RESPONSIBLE PERSON/AGENCY		REMARKS
			AMOUNT	SOURCE		LEAD AGENCY	PARTICIPATING AGENCY	
I. ADVOCACY FOR CIVIL PROTECTION								
A. Conduct Disaster Mngt Training	22 Barangays	22 BDCC's at 10 members per BDCC	P 36,000.00	LGU	June	LGU	PSWDO, OCD, MSWDO	Target areas are 22 barangays of the Municipality
B. Conduct training on basic courses of the M	22 barangays	200 participants	P 16,000.00	LGU	June	LGU	MSWDO-Red Cross health	
II. VULNERABILITY/RISK CONTROL								
A. Conduct hazard assessment & vulnerability analysis	all barangays	22 barangays			April-May	MDOCC, BDCC	different line agencies	MDOCC's & BDCC's shall be encourage to do vulnerability analysis in the municipality per barangay
B. Risk Mapping	all barangays							
C. Data Banking	all barangays							
D. Masterlisting of families	all barangays							
III. EMERGENCY PREPAREDNESS AND RESPONSE								
A. Re-activation/reorganization of local DCC's volunteer Disaster Response Teams	22 barangays				April-June	MDOCC	All line agencies	
B. Formulation, updating of contingency plans		MDOCC						
C. Equipping MDOCC & BDCC					June	LGU/MDOCC		
D. Establishment of disaster operation center					April-June		all line agencies	

PROJECT ACTIVITIES	AREA COVERAGE	PHYSICAL TARGET	FINANCIAL REQUIREMENT		TIME TABLE	RESPONSIBLE PERSON/AGENCY		REMARKS
			AMOUNT	SOURCE		LEAD AGENCY	PARTICIPATING AGENCY	
II. Inventory of available resources					April-June	MDOCC-BDCC	all line agencies	
E. Enhancement of communication & warning systems					April-June	MDOCC-BDCC	all line agencies and barangay officials	
F. Maximization of linkages with organized communication (NGO's)					April-June	MDOCC-BDCC	PUGAD LAWIN/REACT	
IV. HUMAN RESOURCE DEVELOPMENT								
A. Provide technical assistance to BDCC's	all barangays	22 barangays of Enrile			April-Dec	MDOCC	all line agencies	
B. Trainings/orientation of local DCC's Disaster control groups on disaster management	all barangays	200 participants from 22 brgays	P84,400.00	LGU	June	LGU	PSWDO OCD-PDOCC-MDOCC Red Cross	
C. Initiate preventive and mitigation activities such as tree planting, food control projects, dredging of canals, clean and green activities					as the need arises	MDOCC members	all MDOCC members DA-DENR	MDOCC members monitor disaster damages in every barangay as our basis in reporting
D. Provide periodic damage reports to PDOCC/PDOCC and the emergency response activities conducted by MDOCC								
E. Conduct relief operations if necessary		affected areas	P200,000.00	5% calamity fund	as the need arises	MDOCC members	volunteer groups	
F. Stockpiling			P200,000.00	5% CF	April-Dec	MSWDO	LGU	

PROJECT/ACTIVITIES	AREA COVERAGE	PHYSICAL TARGET	FINANCIAL REQUIREMENT		TIME TABLE	RESPONSIBLE PERSON/AGENCY		REMARKS
			AMOUNT	SOURCE		LEAD AGENCY	PARTICIPATING AGENCY	
G. Supervise/monitor Management of evacuation centers		affected areas		LGU-PSWDO	as the need arises	MDCC	MDCC-BDCC Members	MDCC requires volunteers if necessary
H. Establish Inquiry desk/complaint desk		affected areas			as the need arises	MDCC members	MDCC members	
I. Provide medical assistance to injured and sick persons if necessary		affected persons	P150,000.00	DOH-LGU	as the need arises	MHO	MHO/NDH/PSWDO/RHO DSWD/FMTAO	
J. Cleaning of debris/dredging of canals during disasters		affected brgys.			as the need arises	LGU/NGO's	LGU/NGO's and the barangay people	
K. Provide transportation for mobility and deliver goods to stricken areas.		affected areas			as the need arises	PNP-LGU		
L. Maintain peace & order during disaster		affected persons			as the need arises	PNP		
M. Maintain coordination, collaboration with GO's/NGO's							REACT/PUGAD LARWIN Members	
N. Process claims for financial assistance if there are any		affected persons	P200,000.00	LGU-PSWDO	as the need arises	MSWDO	LGU-Provincial Government	
O. Consolidate rehabilitation plans of local DC's								

PROJECT/ACTIVITIES	AREA COVERAGE	PHYSICAL TARGET	FINANCIAL REQUIREMENT		TIME TABLE	RESPONSIBLE PERSON/AGENCY		REMARKS
			AMOUNT	SOURCE		LEAD AGENCY	PARTICIPATING AGENCY	
Q. Construct/rehabilitate infrastructure damaged by disaster			P200,000.00	LGU-S&DPWH		MPDC-IME	DPWH	
R. Supervise and monitor & Monitor Projects								
S. Assess extent of Damages re livestock, agricultural products & fishers for possible assistance					As the need arises	DA	OPAR, MAFCI LGU	
T. Monitoring of prices of commodities & enforce fair laws during disasters					As the need arises	DTI	PIA/Radio Stations	
U. ADMINISTRATIVE COMPONENT		Quarterly			April - Dec	LGU	MDCC Chairman	
V. Conduct regular meetings with MDCC members		Quarterly				MDCC	Deputized Disaster Coordinator	
W. Monitor BDCC's in the 22 Barangays								

Prepared and Submitted by

[Signature]
PAULINO S. BERNAN
 POLICE SR. INSPECTOR
 in-Charge

Deputy Deputized Disaster Coordinator

Noted by

[Signature]
ROBERT B. TURKINGAN
 Mayor
 Chairman MDCC