





**Table 2.3.1 CHARACTERISTICS OF EXISTING RIVER CHANNEL**

River System	River	From (m)	To (m)	Average Riverbed Slope (1/I)	Average Width (m)	Average Depth (m)	Average Area (m <sup>2</sup> )	Average Carrying Capacity (m <sup>3</sup> /s)
Lake Limboto System	Alopohu	0	3,618	1072	32	2.9	102	215
		3,618	9,003	796	33	3.0	105	258
	Alo	9,227	13,638	689	32	2.5	84	198
		0	2,818	470	19	1.5	27	55
	Pohu	0	3,214	737	28	2.0	56	115
		0	3,001	646	18	1.7	39	83
		3,001	6,585	357	27	2.1	63	186
	Biyonga	6,585	8,295	245	29	1.2	36	100
		0	2,181	686	14	0.8	12	18
		2,181	4,101	316	20	1.7	34	93
	Marisa	0	1,451	2476	12	0.8	9	6
		1,451	5,268	478	13	1.4	20	40
Rintenga	0	7,020	525	9	0.7	11	21	
Bolango River System	Bolango	0	5,981	1435	34	2.6	97	175
		5,981	16,884	958	58	2.4	120	247
		16,884	18,725	365	83	1.3	100	205
		18,725	19,608	153	87	1.3	99	311
	Tapodu	0	2,473	6230	24	1.9	45	31
	Siendeng	0	1,328	619	27	1.9	55	115
	Limba	0	2,306	2522	6	0.9	7	5
		2,306	8,141	466	10	0.7	8	10
Bone River System	Bone	0	969	1783	216	2.3	524	871
		969	5,572	815	129	1.5	191	301
		5,572	14,713	529	120	1.2	131	214
		14,713	15,824	247	123	1.1	103	232
	Pangimba	0	6,269	538	9	0.8	8	10
	Tamalate	0	5,653	1163	21	1.7	37	53
		5,653	8,318	692	23	1.6	35	60
		8,318	10,520	340	22	1.1	24	47
		10,520	10,926	112	12	1.5	23	103
	Ulanta	0	3,212	323	11	0.9	9	17
Irrigation Canal	0	1,712	1069	9	1.2	13	17	

**Table 2.4.1 PROTECTED SPECIES OF FLORA AND FAUNA  
IN NORTH SULAWESI(1/2)**

DESIGNATED BY THE LAW NO. 5 OF 1990 REGARDING "CONSERVATION OF BIOLOGICAL RESOURCES  
AND ITS ECOSYSTEMS."

No.	Item	Indonesian name	Latin name	LBB basin
<b>I</b>	<b>Flora</b>	Pohon Beringin Kayu Hitam Gaharu Kayu Damar Pohon Kulit Lawang Kayu ipil Benuang Anggrek Bulan Anggrek jingga Bunga bangkai Edelweis	<i>Langusei, Ficus minahasae</i> <i>Diospiros celebica</i> <i>Aquilaria malacensis</i> <i>Shorea sp</i> <i>Cinnamomum cullilawan</i> <i>Intsia sp</i> <i>Duabanga moluccana</i> <i>Phalaenopsis sp</i> <i>Renanthera matutina</i> <i>Amorpophallus sp</i>	
<b>II</b>	<b>FAUNA</b>			
<b>A</b>	<b>Mamalia</b>	Anoa dataran rendah Anoa dataran tinggi Kera hitam sulawesi Rusa Kera/monyet Babirusa Musang sulawesi Kuskus Tangkasi Duyung Lumba-lumba Paus	<i>Buballus depressicornis</i> <i>Buballus quarlesi</i> <i>Cynopithecus niger</i> <i>Cervus temorensis</i> <i>Macaca tongkeana</i> <i>Babyrousa babyrousa</i> <i>Macrogadilia</i> <i>Musschenbroky</i> <i>Phalanger celebencis</i> <i>Dugong dugong</i> <i>Ziphiidae dolphinidae</i> <i>Cetacea order</i>	
<b>B</b>	<b>Aves</b>	Rangkong Maleo Kuntul kolam Cangak merah Pecuk ular Elang Laut Raja Udang Alap-alap Sesap madu Mandar Sulawesi Kuntul Kerbau Raja Udang Bangau Hitam Kuntul Kecil Kuntul Besar Raja Udang Biru Serindit Sulawesi Elang ikan kelabu Elang Hitam Kowak merah Kokareng Betet raket bercak merah Betet raket bercak emas Raja udang kepala putih Nuri Sulawesi	<i>Rhithiceros cassidix</i> <i>Macrocephalon maleo</i> <i>Ardeola speciosa</i> <i>Ardea purpurea</i> <i>Anginga melanogaster</i> <i>Accipiter trinotalus</i> <i>Alceda meinting</i> <i>Accipiter rhodogaster</i> <i>Aethopygia siparaja</i> <i>Aramidopsi platennis</i> <i>Bubujus ibis</i> <i>Ceyx fallax</i> <i>Ciconia episcopus</i> <i>Egretta garzetta</i> <i>Egretta alba</i> <i>Halcyon cloris</i> <i>Loruculus exhillis</i> <i>Lectyopaga inchtlyatus</i> <i>Milvus migras</i> <i>Nycticorax celedonicus</i> <i>Penelopides exorthatus</i> <i>Prioniturus plaricanus</i> <i>Prioniturus platurus</i> <i>Pelargopsis melanorhyncus</i> <i>Tanygnatus sumatranus</i>	

**Table 2.4.1 PROTECTED SPECIES OF FLORA AND FAUNA  
IN NORTH SULAWESI (2/2)**

<b>No.</b>	<b>Item</b>	<b>Indonesian name</b>	<b>Latin name</b>	<b>LBB basin</b>
<b>C</b>	<b>Reptilia</b>	Ular sanca bodo Ular sawah Buaya Soa soa Penyu belimbing Kura-kura	<i>Phyton molurus</i> <i>phyton reticulatus</i> <i>Crocodylus porosus</i> <i>Hydrosaurus sp</i> <i>Dermochelys coricca</i> <i>Carettochelys sp.</i>	
<b>D</b>	<b>Pisces</b>	Napoleon	<i>Cheilinus undulates</i>	
<b>E</b>	<b>Insecta</b>	Kupu-kupu bidadari Kupu-kupu raja Kupu-kupu raja Kupu-kupu raja Kupu-kupu raja Kupu-kupu raja Kupu-kupu raja	<i>Cethosia myrana</i> <i>T. amphrysus</i> <i>T. miranda</i> <i>T. meoris</i> <i>T. palato</i> <i>T. riedeli</i> <i>O. paradisea</i>	
<b>F</b>	<b>Benthos</b>	Akar bahar Kima raksasa Kima selatan Kima cina Kima kunia lobang Kima sisik Kima kecil Kima tapak kuda Triton trompet Telapak kuda Ketam tapak kuda Kepala kambing Batu laga Nautilus berongga	<i>Anthipates spp</i> <i>Tridacna gigas</i> <i>Tridacna derasa</i> <i>Hippopus porcellanus</i> <i>Tridacna crocea</i> <i>Tridacna squarrosa</i> <i>Tridacna maxima</i> <i>Hippopus hippopus</i> <i>Charonia tritanis</i> <i>Birgus latro</i> <i>Tachipleus gigas</i> <i>Cassis cornuta</i> <i>Turbo marmoratus</i> <i>Nautilus pompilus</i>	

Source: Report on Data Compilation of Potential Forest Resources of North Sulawesi, Jan. 2000.

Remark: The circled are the species seemed to inhabit in LBB basin.

**Table 2.4.2 MEASUREMENT RESULTS OF WATER QUALITY AND CRITERIA**

No.	Parameters	Unit	Rivers		Lake Limboto		Water Quality Criteria							
			September		December		September		December		Class I	Class II	Class III	Class IV
			min. - max.	min. - max.	min. - max.	min. - max.	min. - max.	min. - max.						
<b>A Fundamentals</b>														
1	Temperature	°C	21.0 - 31.6	22.7 - 28.6	25.8 - 27.2	28.0 - 28.1	1)	1)	1)	1)	1)	2)		
2	pH	-	7.0 - 8.2	7.3 - 7.8	7.8 - 8.0	7.5 - 8.0	6 - 9	6 - 9	6 - 9	6 - 9	6 - 9	5 - 9		
3	BOD <sub>5</sub>	mg/l	5.6 - 16.8	8.5 - 38.7	5.6 - 7.5	8.1 - 10.3	2	3	3	3	6	12		
4	COD	mg/l	12 - 23	11 - 45	12 - 13	9 - 12	10	25	25	25	50	100		
5	DO	mg/l	6.6 - 7.1	3.2 - 5.2	6.8 - 6.8	4.0 - 5.5	>6	>4	>4	>4	>3	>0		
6	TSS(Total Suspended Solids)	mg/l	12 - 1,052	6 - 265	27 - 29	2 - 5	-	-	-	-	-	-		
7	Coliform Bacillus	MPN/100ml	<300 - 2,300	<300 - 24,000	<300 - 1,400	300 - 2,000	1,000	5,000	5,000	10,000	10,000	10,000		
8	Total Nitrogen (T-N)	mg/l	0.7934 - 2.7683	1.02 - 4.69	1.1778 - 1.4106	1.28 - 1.58	-	-	-	-	-	-		
9	Total Phosphorus (T-P)	mg/l	0.0020 - 0.0082	0.0391 - 0.0815	0.0023 - 0.0029	0.0391 - 0.0424	0.2	0.2	0.2	1	1	5		
10	Electric Conductivity (EC)	µS/cm	125 - 560	127 - 340	351 - 387	298 - 425	-	-	-	-	-	-		
11	Color	TCU	5 - 18	1 - 34	9 - 10	8 - 12.5	-	-	-	-	-	-		
12	Turbidity	NTU	0.62 - 30.10	0.09 - 7.9	1.61 - 2.81	0.34 - 0.65	-	-	-	-	-	-		
<b>B Heavy Metals</b>														
13	Cadmium (Cd)	mg/l	<0.005 - <0.005	<0.005 - <0.005	<0.005 - <0.005	<0.005 - <0.005	0.01	0.01	0.01	0.01	0.01	0.01		
14	Total Mercury (T-Hg)	mg/l	<0.0002 - <0.0002	<0.0002 - <0.0002	<0.0002 - <0.0002	<0.0002 - <0.0002	0.001	0.002	0.002	0.002	0.002	0.005		
15	Selenium (Se)	mg/l	0.014 - 0.133	<0.005 - <0.005	0.046 - 0.074	<0.005 - <0.005	0.01	0.05	0.05	0.05	0.05	0.05		
16	Lead (Pb)	mg/l	<0.05 - <0.05	<0.05 - <0.05	<0.05 - <0.05	<0.05 - <0.05	0.03	0.03	0.03	0.03	0.03	1		
17	Arsenic (As)	mg/l	<0.002 - <0.002	<0.002 - <0.009	<0.002 - <0.002	0.005 - 0.005	0.05	1	1	1	1	1		
18	Hexavalent Chromium (Cr <sup>6+</sup> )	mg/l	<0.02 - <0.02	<0.02 - <0.02	<0.02 - <0.02	<0.02 - <0.02	0.05	0.05	0.05	0.05	0.05	0.01		
19	Zinc (Zn)	mg/l	<0.005 - 0.057	0.05 - 1.11	<0.005 - <0.005	0.07 - 0.08	0.05	0.05	0.05	0.05	0.05	2		
20	Iron (Fe)	mg/l	<0.02 - 19.28	0.39 - 9.56	<0.02 - <0.02	0.19 - 0.95	0.3	(-)	(-)	(-)	(-)	(-)		
21	Manganese (Mn)	mg/l	0.012 - 0.768	0.072 - 0.495	0.135 - 0.174	0.089 - 0.179	0.1	(-)	(-)	(-)	(-)	(-)		
<b>C Others</b>														
22	Cyanide (CN)	mg/l	<0.026 - <0.026	<0.026 - <0.026	<0.026 - <0.026	<0.026 - <0.026	0.02	0.02	0.02	0.02	0.02	(-)		
23	Nitrate Nitrogen (NO <sub>3</sub> -N)	mg/l	<0.01 - 0.03	0.03 - 0.48	0.01 - 0.01	0.03 - 0.05	10	10	10	20	20	20		
24	Nitrite Nitrogen (NO <sub>2</sub> -N)	mg/l	<0.001 - 0.298	<0.001 - 0.034	0.021 - 0.126	<0.001 - <0.001	0.06	0.06	0.06	0.06	0.06	(-)		
25	Fluorine (F)	mg/l	0.05 - 0.26	0.03 - 0.44	0.11 - 0.12	0.08 - 0.08	0.5	1.5	1.5	1.5	1.5	(-)		
26	Chloride Ion (Cl <sup>-</sup> )	mg/l	7.85 - 47.12	4.49 - 19.29	42.63 - 42.63	13.35 - 31.52	600	(-)	(-)	(-)	(-)	(-)		
27	Calcium (Ca <sup>2+</sup> )	mg/l	21.1 - 127.1	21.37 - 62.91	71.8 - 75.4	25.26 - 34.94	-	-	-	-	-	-		
28	Magnesium (Mg <sup>2+</sup> )	mg/l	4.7 - 17.5	4.6 - 14.13	9.7 - 12.8	9.91 - 10.56	-	-	-	-	-	-		
29	Phenolic Substances	mg/l	<0.005 - <0.005	<0.005 - <0.005	<0.005 - <0.005	<0.005 - <0.005	-	-	-	-	-	-		

\* Class I water is utilized for drinking water, Class II water is utilized for recreational activity, freshwater fish culture, animal husbandry, irrigation, and Class IV water is utilized for freshwater fish culture, animal husbandry, irrigation, and Class IV water is utilized for irrigation.

\*\* 1) Air Temperature ±3°C. 2) Air Temperature ±5°C.

**Table 2.5.1 NUMBER OF VILLAGES WHICH HAVE SOCIAL INSTITUTIONS**

Type of social institutions ( <i>italic in Indonesian</i> )	with government initiatives			with community initiatives		religious institutions	
	Scout <i>Pramuka</i>	Village Youth Organisation <i>Karang Taruna</i>	Village Women Movement <i>PKK</i>	Regular Social Gathering for Money <i>Arisan</i>	Community Self help (traditional) <i>Gotong Royong</i>	Religious Service <i>Majelis Taklim, Pengajian/Ibadah</i>	Alms Collection <i>Pengumpul Zakat dst</i>
<u>in Kota</u>	41	45	44	43	43	39	45
(% of total 45 kelurahan)	(91%)	(100%)	(98%)	(96%)	(96%)	(87%)	(100%)
<u>in Kabupaten</u>	241	200	324	281	286	243	318
(% of total 324 desa)	(74%)	(62%)	(100%)	(87%)	(88%)	(75%)	(98%)
<u>Total in Gorontalo</u>	282	245	370	324	329	282	363
(% of total 369 villages)	(76%)	(66%)	(100%)	(88%)	(89%)	(76%)	(98%)

Source: Statistik Potensi Desa Propinsi Sulawesi Utara, 2000 (Tabel 26; halaman 117 - 120)

**Table 2.5.2 PROCEDURE FOR LAND ACQUISITION**

Steps	Main parties concerned
<b>1 Identification of the location</b>	
< Request for identification of land	Governor
< Coordination Meeting for investigation (compared with RTRW)	Bupati/ Walikota
< Approval of acquisition of requested lands	BPN
< Request for land acquisition	Bappeda Agency
<b>2 Land acquisition request</b>	
< Preparatory work	Committee
< Information dissemination/sharing ("sosialisasi")	Agency
< Determination of area boundary	Land owners
< Inventory preparation	Local residents
< Publication of inventory results	
<b>3 Consultation</b>	
< Negotiation on the compensation	Committee
< Notification of results of the consultation	Land owners Agency
<b>4 Objections to the Committee's decision</b>	
< Submission of objections to the Governor	Committee
< Examination by "Provincial" Committee	Land owners
< Governor's decision	Agency
<b>5 Payment of compensation (implement compensation measures)</b>	
< Preparation of nominative list of beneficiaries	Committee
< Payment /others	Land owners Agency
<b>6 Pronouncement of the release of land rights and transfer of the land</b>	
< Pronouncement of release of land rights / transfer of use right	Committee
< Proceed cancellation of land rights	Land owners Agency
<b>7 Cancellation of land rights</b>	
< Formation of Estimating Committee by national level	Estimating Committee
< Cancellation of land rights	
< Request for a new land right	
<b>8 Issue of land certificate</b>	

Notes

Committee: Land Acquisition Committee / Panitia Pengadaan Tanah  
 \* Members are from various agencies including Bappeda and Kimpraswil, and heads of local governmental bodies such as Kabupaten, Kota, Kelurahan/Desa and Kecamatan  
 \* Committee charges 4 % of total compensation amount (of which 1% as a consultation fee, 1% administration fee and 2 % operation fee)

BPN: Badan Pertanahan Nasional / National Land Agency  
 \* Lands in Kabupaten are treated by Kabupaten BPN, those in Kota by Kotamadya and lands extending in two administrative territories are in charge of the provincial one.

Agency: Project executing government agency  
 \* In case of a private investment, this can be read as a private company.

RTRW: Regional Spatial Plan



**Table 2.6.1 POPULATION GROWTH BY KECAMATAN RELATED TO LBB BASIN**

Nation, Province Regency/Municipality	Census Population			Municipal Area (km <sup>2</sup> )	Percentage in Basin (%)	Area in Basin (km <sup>2</sup> )	Basin Population			Average Annual Growth Rate of Basin Population (%)		Population Density in 2000 (Pers./km <sup>2</sup> )
	1980	1990	2000				1980	1990	2000	'80/'90	'90/'2000	
Indonesia	147,490,000	179,379,000	203,456,000	1,922,570	-	-	-	-	-	-	-	106
Gorontalo Province	600,323	717,091	830,184	12,215	21	2,611	337,593	388,967	439,207	1.43	1.43	168
Sulawesi Utara Province	1,515,061	1,760,098	1,951,322	15,273	1	90	1,550	2,122	2,513	3.19	1.71	28
Limboto-Bolango-Bone Basin	-	-	-	20,573.5	13	2,701	339,144	391,090	441,720	1.44	1.22	164
Kota Gorontalo	97,628	121,214	134,931	64.8	100	65	97,628	121,214	134,931	2.19	1.08	2,083
1. Kota Barat	19,351	23,011	28,390	19.3	100 *	19	19,351	23,011	28,390	1.75	2.12	1,474
2. Kota Selatan	53,187	61,596	64,768	28.8	100 *	29	53,187	61,596	64,768	1.48	0.50	2,247
3. Kota Utara	25,090	36,607	41,773	16.7	100 *	17	25,090	36,607	41,773	3.85	1.33	2,500
Kabupaten Gorontalo	502,695	595,877	695,253	12,150.7	21	2,547	239,965	267,753	304,276	1.10	1.29	119
1. Baturaa	44,920	51,690	56,974	298.1	100 *	298	44,920	51,690	56,974	1.41	0.98	191
2. Tibawa	40,690	49,855	55,003	400.8	90 *	361	36,621	44,870	49,503	2.05	0.99	137
3. Limboto	44,815	49,607	55,512	253.2	100 *	253	44,815	49,607	55,512	1.02	1.13	219
4. Telaga	46,175	49,769	57,501	168.8	98 *	165	45,252	48,774	56,351	0.75	1.45	341
5. Kwardang	33,335	38,045	46,493	560.8	3	19	1,133	1,294	1,581	1.33	2.03	83
6. Tapa	22,827	23,028	26,633	339.6	100 *	340	22,827	23,028	26,633	0.09	1.47	78
7. Kabilia	29,404	31,826	37,068	356.8	95 *	339	27,934	30,235	35,215	0.79	1.54	104
8. Suwawa	16,464	18,257	22,508	771.6	100 *	772	16,464	18,257	22,508	1.04	2.12	29
Kab. Bolaang-Mongondow	299,696	372,353	427,958	8,358.0	1	90	1,550	2,122	2,513	3.19	1.71	28
1. Bolang Uki	15,343	23,318	28,549	1,122.4	5	51	690	1,049	1,285	4.27	2.04	25
2. Sang Tombolang	9,664	13,664	15,476	1,344.2	2	20	145	205	232	3.52	1.25	12
3. Dumoga	47,647	57,870	66,430	1,279.6	2	19	715	868	996	1.96	1.39	52

Sources: (1) 1980 and 1990 Census Population, BPS

(2) 2000 Census of Population, 2001, BPS

(3) 2000 Census Maps, BPS

Note: \*1 "\*" mark means that an urban area of the municipality is included in the basin.

\*2 Since urban populations were not identified in the 2000 census, the population ratio in the river basin was applied that in the 1990 census to estimate the basin population in 1990.

\*3 A percentage of basin area to the total municipal territory was estimated on the basis of the administrative boundary map delineated applying the census maps of BPS by the JICA study team.

\*4 Census populations of Kabupaten Gorontalo were estimated as the population of Kabupaten Gorontalo as a part of Propinsi Sulawesi Utara.

\*5 The italic figures were calculated on the total figures estimated.

**Table 2.6.2 GRDP PER CAPITA**

Item	1994	1995	1996	1997	1998	1999	2000
<b>In Rupiah (1000)</b>							
Indonesia	1,995	2,334	2,711	3,167	4,780	5,504	6,344
Sulawesi Utara	1,221	1,432	1,791	2,078	3,464	3,913	-
Kabupaten Gorontalo	-	-	817	887	1,447	1,131	1,160
Kota Gorontalo	1,169	1,302	1,481	1,579	1,973	2,162	2,388
% of Province to Nation	61	61	66	66	72	71	-
% of Kabupaten to Nation	-	-	30	28	30	21	18
% of Kotamadya to Nation	59	56	55	50	41	39	38
<b>In US\$ Equivalent</b>							
Indonesia	907	1,011	1,138	681	596	775	666
Sulawesi Utara	555	620	752	447	432	551	-
Kabupaten Gorontalo	-	-	343	191	180	159	122
Kota Gorontalo	531	564	622	340	246	305	251

**Table 2.6.3 PRODUCTION OF MAJOR CROPS**

Crop	1997			1998			1999		
	Area Harvested (1000ha)	Production (1000T)	Yield (MT/ha)	Area Harvested (1000ha)	Production (1000T)	Yield (MT/ha)	Area Harvested (1000ha)	Production (1000T)	Yield (MT/ha)
<b>Indonesia</b>									
1. Cereals									
- Paddy	11,141	49,377	4.4	11,730	49,237	4.2	11,854	50,402	4.3
Wetland	9,882	46,592	4.7	10,476	46,483	4.4	10,688	47,756	4.5
Dryland	1,259	2,785	2.2	1,255	2,754	2.2	1,166	2,646	2.3
- Maize	3,355	8,771	2.6	3,848	10,170	2.6	3,435	9,172	2.7
2. Major Crops									
- Cassava	1,243	15,134	12.2	1,205	14,696	12.2	1,341	16,347	12.2
- Sweet Potat	195	1,848	9.5	202	1,935	9.6	168	1,627	9.7
- Peanuts	628	388	0.6	651	692	1.1	614	648	1.1
- Soybeans	1,119	1,357	1.2	1,095	1,306	1.2	1,143	1,372	1.2
- Onion	39	294	7.6	37	288	7.9	36	319	9.0
- Carrots	17	227	13.0	21	333	15.9	18	265	14.9
- Potatoes	50	813	16.2	65	998	15.3	57	826	14.5
<b>Sulawesi Utara</b>									
1. Cereals									
- Paddy	96.5	393.6	4.1	82.2	302.9	3.7	90.8	378.5	4.2
Wetland	84.8	370.0	4.4	75.7	290.2	3.8	79.7	352.5	4.4
Dryland	11.8	23.6	2.0	6.5	12.6	2.0	11.1	25.9	2.3
- Maize	302.3	140.5	2.2	323.5	153.9	2.1	446.8	204.9	2.2
2. Major Crops									
- Cassava	543.2	53.8	10.1	451.0	45.6	9.9	305.7	30.0	10.2
- Sweet Potat	297.1	34.2	8.7	121.0	14.1	8.6	132.2	15.4	8.6
- Peanuts	8.0	7.6	1.0	6.9	6.2	1.1	6.9	6.7	1.0
- Soybeans	19.0	16.2	1.2	7.4	6.4	1.2	14.7	12.4	1.2
- Onion	1.0	12.1	1.2	0.6	7.3	11.6	0.6	8.1	13.2
- Carrots	0.2	4.5	1.2	0.2	1.2	6.9	0.1	0.9	6.5
- Potatoes	0.9	6.1	1.2	0.6	5.5	8.8	0.6	4.6	8.3
<b>Gorontalo (Kabupaten)</b>									
1. Cereals									
- Paddy	29.1	152.8	5.3	29.8	166.4	5.6	30.3	171.1	5.7
Wetland	27.8	150.7	5.4	29.3	165.0	5.6	30.2	170.9	5.7
Dryland	1.3	2.1	1.6	0.5	1.4	2.7	0.1	0.2	2.8
- Corn	16.1	28.9	1.8	48.8	115.1	2.4	42.6	114.9	2.7
2. Major Crops									
- Cassava	0.3	4.5	14.7	0.4	5.0	13.4	0.6	7.9	12.2
- Sweet Potat	0.2	1.6	7.7	0.2	1.7	8.4	0.3	2.4	8.4
- Peanuts	1.2	0.9	0.7	1.4	1.2	0.9	2.6	2.8	1.1
- Soybeans	1.3	1.5	1.1	2.1	3.2	1.5	1.5	2.0	1.3
- Onion	0.0	0.1	3.2	0.0	0.0	2.2	0.0	0.1	5.2
- Carrots	0.0	0.0	-	0.0	0.0	-	0.0	0.0	-
- Potatoes	0.0	0.0	-	0.0	0.0	-	0.0	0.0	-
- Green Bean	0.3	0.3	0.9	0.8	0.7	0.9	0.2	0.2	1.0
- Chili	2.3	9.0	3.9	1.6	5.7	3.6	6.2	18.8	3.0
- Tomato	0.8	1.6	1.9	0.8	1.7	2.0	1.0	1.9	1.9

Source: (1) Kabupaten Gorontalo Dalam Angka 2000, BPS Kab. Dati II Gorontalo  
(2) Sulawesi Utara Dalam Angka 1999, Aug. 2000, BPS Sulawesi Utara  
(3) Statistical Yearbook Indonesia 2000, June 2001, BPS

**Table 2.6.4 REVENUE AND EXPENDITURE OF NATIONAL GOVERNMENT**

(Unit: Rp. Trillion)

Item	1995/96	1996/97	1997/98	1998/99	1999/2000
<b>I. Revenue</b>	<b>82.02</b>	<b>99.53</b>	<b>126.66</b>	<b>215.13</b>	<b>245.33</b>
1. Routine Revenue	<b>73.01</b>	<b>87.63</b>	<b>112.28</b>	<b>158.91</b>	<b>201.69</b>
(1) Oil & Gas Revenue	16.06	20.14	30.56	41.25	56.30
(2) Non Oil & Gas Revenue	56.96	67.49	81.72	117.65	145.39
1) Income Tax	21.01	27.06	34.39	49.30	54.94
2) Value Added Tax	18.52	20.35	25.20	28.39	32.98
3) Import Duty	3.03	2.58	3.00	2.22	3.75
4) Excise Duty	3.59	4.26	5.10	7.97	10.40
5) Export Tax	0.19	0.08	0.13	4.58	0.84
6) Other Taxes	0.45	0.59	0.48	0.46	0.57
7) Real Property Tax	1.89	2.41	2.64	3.16	3.65
8) Non Tax Revenues	7.79	10.15	10.78	21.57	38.27
9) Other Oil Revenues	0.49	-	-	-	-
2. Development Revenue	<b>9.01</b>	<b>11.90</b>	<b>14.39</b>	<b>56.23</b>	<b>43.63</b>
(1) Program Aid	-	-	-	30.31	25.36
(2) Project Aid	9.01	11.90	14.39	25.92	18.27
<b>II. Expenditure</b>	<b>79.22</b>	<b>98.51</b>	<b>127.97</b>	<b>215.59</b>	<b>245.19</b>
1. Routine Expenditure	<b>50.44</b>	<b>62.56</b>	<b>89.61</b>	<b>147.72</b>	<b>166.88</b>
(1) Personnel Expenditure	13.00	14.45	17.27	24.48	33.62
(2) Material Expenditure	5.18	8.11	9.00	11.06	10.86
(3) Subsidies to Autonomous Regions	8.23	9.36	11.06	14.19	19.17
1) Personnel Expenditure	7.81	8.87	10.52	13.51	18.38
2) Non-personnel Expenditure	0.42	0.48	0.54	0.68	0.79
(4) Interest and Principal Repayment	22.11	27.49	31.11	55.80	39.99
(5) Others	1.92	3.15	21.17	42.19	63.23
2. Development Expenditure	<b>28.78</b>	<b>35.95</b>	<b>38.36</b>	<b>67.87</b>	<b>78.31</b>
(1) Departments & Institutions	10.98	12.16	12.06	13.40	12.12
(2) Subsidies to Villages	0.43	0.46	0.47	0.48	0.81
(3) Subsidies to Regencies	2.47	2.94	3.44	3.73	5.76
(4) Subsidies to Provinces	1.26	1.39	1.61	1.74	3.04
(5) Government Capital Participation	0.38	0.83	0.38	1.96	-
(6) Fertilizer Subsidy	0.14	0.19	0.71	2.13	-
(7) Construction of Primary Schools	0.49	0.59	0.66	0.59	-
(8) Contribution for Regional Developm	1.72	2.40	2.35	2.85	3.26
(9) Construction of Sanitary Facilities	0.34	0.56	0.59	0.83	-
(10) Construction & Rehabilitation of Ma	-	-	-	-	-
(11) Reforestation	-	-	-	-	-
(12) Assistance for Undeveloped Villages	0.50	0.52	0.48	0.21	-
(13) Construction of Road Facilities	-	-	-	-	-
(14) Others	1.06	2.01	1.22	14.05	35.06
(15) Project Aid	9.01	11.90	14.39	25.92	18.27
(16) Development Budget Reserves	-	-	-	-	-
<b>III. Balance</b>	<b>2.81</b>	<b>1.02</b>	<b>-1.31</b>	<b>-0.46</b>	<b>0.14</b>

Source: Statistik Indonesia 1998, 1999 and 2000, BPS

**Table 2.6.5 BUDGET OF NATIONAL GOVERNMENT**

(Unit: Rp. Trillion)

Item	1995/96	1996/97	1997/98	1998/99	1999/2000
I. Revenue	78.02	90.62	101.09	263.89	219.60
1. Routine Revenue	66.27	78.20	88.06	149.30	142.20
2. Development Revenue	11.76	12.41	13.03	114.59	77.40
II. Expenditure	78.02	90.62	101.09	263.89	219.60
1. Routine Expenditure	47.24	56.11	62.16	171.21	137.16
2. Development Expenditure	30.78	34.50	38.93	92.68	82.45
III. Balance	0.00	0.00	0.00	0.00	0.00
<hr/>					
<b>IV. Development Expenditure by Sector</b>	<b>30.78</b>	<b>34.50</b>	<b>38.93</b>	<b>92.68</b>	<b>82.45</b>
1. Industry	0.50	0.51	0.59	0.79	0.63
2. Agriculture & Forestry	1.10	1.29	1.51	7.48	4.61
3. <i>Water Resources &amp; Irrigation</i>	<b>2.04</b>	<b>2.32</b>	<b>2.62</b>	<b>4.78</b>	<b>3.47</b>
4. Manpower	0.17	0.19	0.27	1.31	1.20
5. Public Initiative Trading	0.53	0.40	0.55	16.69	19.04
6. Transportation & Geophysics	5.90	6.77	6.85	9.64	8.43
7. Mining & Energy	3.90	4.10	4.42	7.06	6.61
8. Tourism & Communication	1.01	1.04	0.96	1.18	0.92
9. Local Government Development	6.14	6.51	7.16	19.09	14.55
10. Environment	0.52	0.62	0.69	0.78	0.93
11. Education, Culture & Sports	3.36	3.97	4.68	8.37	8.38
12. Demography & Family Planning	0.30	0.33	0.69	0.58	0.59
13. Social Affairs	1.05	1.37	2.10	4.21	4.79
14. Housing	1.10	1.33	1.53	5.62	3.22
15. Religious	0.18	0.25	0.30	0.48	0.63
16. Science & Technology	0.71	0.81	0.88	1.14	0.90
17. Legal Affairs	0.14	0.17	0.20	0.17	0.23
18. Civil Servants & Control	0.66	0.82	0.91	0.79	0.90
19. Politics & Foreign Affairs	0.15	0.18	0.29	0.42	0.15
20. Defense & Security	1.32	1.53	1.73	2.12	2.28

Source: Statistik Indonesia 1998, 1999 and 2000, BPS

**Table 2.6.6 NATIONAL DEVELOPMENT PROJECTS IN SULAWESI UTARA**

Department/Institute Project Field	Number of Projects	Amount (Rp. Million)
1. Attorney General Affairs	3	3,040
2. Central Bureau of Statistics	9	7,150
3. Department of Internal Affairs	-	-
4. Department of Justice	3	1,600
5. Department of Information	2	897
6. Department of Finance	2	880
7. Department of Trade	-	-
8. Department of Cooperation	3	1,885
9. Department of Agriculture	16	68,239
10. Department of Forestry	8	16,883
11. Department of Industry	4	3,600
12. Department of Mining and Energy	3	10,277
13. P.U./Department of Public Works	8	121,254
(1) Water Resources Development		46,333
- River Management & Flood Control Projects		4,056
- Irrigation Projects		40,377
- Coastal Projects		1,900
(2) Road, Bridge & Others		74,921
14. Department of Communication	10	217,274
15. Department of Tourism, Post and Telecommunication	1	800
16. Department of Education and Culture	22	164,071
17. Department of Health	13	22,656
18. Department of Manpower	5	3,398
19. Department of Reforestation	2	6,205
20. Department of Social Affairs	9	11,379
21. Department of Family Planning	8	3,045
22. Board of Land Affairs	-	-
23. Board of Financial Monitoring	-	-
24. Library	-	-
25. Division of Accounting	1	1,458
Total	132	665,993

Source: Sulawesi Utara Dalam Angka 1999, BPS Sulawesi Utara

**Table 2.6.7 OFFICIAL DEVELOPMENT ASSISTANCE**

Item	(Unit: US\$ Million)					
	1995	1996	1997	1998	1999	Total
Bilateral	7,263.5	9,128.3	7,894.8	5,294.9	7,105.3	36,686.8
Japan	3,572.2	4,671.6	3,617.8	4,005.0	3,025.3	18,891.9
USA	1,470.0	2,062.0	2,500.0	406.2	3,064.8	9,503.0
Germany	1,040.4	267.0	651.3	772.2	754.0	3,484.9
UK	106.3	192.5	439.1	-21.2	178.2	894.9
Austria	110.8	294.0	189.6	75.3	129.5	799.2
Australia	192.0	183.5	177.8	128.8	88.1	770.2
Netherlands	139.2	340.4	443.9	-77.2	-163.2	683.1
Italy	33.1	-59.9	68.3	34.3	63.6	139.4
Belgium	232.8	335.7	-437.4	-411.5	-227.8	-508.2
Others	366.7	841.5	244.4	383.0	192.8	2,028.4
Multilateral	643.7	-1,170.2	13.6	1,336.8	1,840.7	2,664.6
ADB	412.8	-820.4	182.2	876.1	1,077.2	1,727.9
IBRD	89.8	-503.0	-245.2	479.1	732.7	553.4
Others	141.1	153.2	76.6	-18.4	30.8	383.3
Arab Countries	-14.7	-14.0	-10.2	1.1	0.6	-37.2
Total	7,892.5	7,944.1	7,898.2	6,632.8	8,946.6	39,314.2

Source: Geographical Distribution of Financial Flows to Aid Recipients, Disbursements Commitments  
Country Indicators 1995-1999, OECD Development Assistance Committee

Note: \*1 Official development assistance is defined as grants and loans, with at least a 25% grant element, administered with the aim of promoting economic or social development. Figures indicate amounts.

**Table 2.6.8 EXTERNAL DEBT**

(Unit: US\$ Billion)

Item	1994	1995	1996	1997	1998	1999
Total Debt Stocks	107.8	124.4	128.9	136.2	150.9	150.1
1. Long Term Debt	88.4	98.4	96.7	100.3	121.7	119.8
2. Use of IMF Credit	-	-	-	3.0	9.1	10.2
3. Short Term Debt	19.5	26.0	32.2	32.9	20.1	20.0
Debt Outstanding of Long Term Debt	88.4	98.4	96.7	100.3	121.7	119.8
1. Public and Publicly Guaranteed	63.9	65.3	60.0	55.9	67.0	72.6
a. Official Creditors	50.0	51.3	46.1	42.5	48.7	54.8
- Multilateral	19.2	20.0	17.2	15.8	17.9	19.7
- Bilateral	30.8	31.2	28.9	26.7	30.8	35.1
b. Private Creditors	14.0	14.1	13.9	13.3	18.2	17.7
- Bonds	0.1	0.7	1.1	1.2	1.2	1.0
- Commercial Banks	7.4	6.7	6.0	5.9	11.0	12.0
- Others	6.4	6.6	6.7	6.3	6.0	4.8
2. Private Non-guaranteed	24.4	33.1	36.7	44.5	54.7	47.3
Total Debt Service	14.3	16.4	21.5	19.7	18.3	17.8
1. Principal Repayment	9.0	10.2	14.9	13.0	11.2	11.7
a. Long Term Debt	9.0	10.2	14.9	13.0	11.2	11.7
b. IMF Repurchases	-	-	-	-	-	-
2. Interest Payments	5.3	6.2	6.6	6.7	7.1	6.1
a. Long Term Debt	4.2	4.9	5.1	5.1	5.6	4.8
b. IMF Charges	-	-	-	-	0.2	0.4
c. Short Term Debt	1.1	1.3	1.5	1.6	1.3	1.0
Ratios (%)						
1. Total Debt Stocks/GNP	62.6	63.4	58.3	65.0	161.5	113.3
2. Debt Service Ratio *1	30.7	29.9	36.6	30.0	31.7	30.3

Source: Global Development Finance, Country Table 2000, World Bank

Note: Long term debt is defined as having original maturity of more than one year.

\*1 Debt service as a percentage of earnings from exports of goods and service



**Table 2.6.9 POPULATION AND GRDP PROJECTION**

Item	Actual		Projection				Average Annual Growth Rate (%/Year)					
	1998	2000	2005	2010	2015	2020	2000	2005	2010	2015	2020	
I. Population												
1. Population (1000)												
Indonesia	199,930	203,456	215,534	226,826	236,973	246,011	0.88	1.16	1.03	0.88	0.75	
Sulawesi Utara Province*1	1,933	1,951	2,045	2,132	2,209	2,277	0.47	0.94	0.83	0.71	0.61	
Gorontalo Province	794	830	887	941	990	1,034	2.25	1.34	1.19	1.02	0.87	
Kabupaten Gorontalo*2	662	695	746	794	837	876	2.48	1.41	1.25	1.07	0.92	
Kota Gorontalo	132	135	142	148	153	158	1.08	0.98	0.87	0.74	0.63	
LBB Basin	431	442	467	491	512	531	1.22	1.11	0.99	0.84	0.72	
II. GRDP at 1998 Constant Prices												
1. GRDP (Rp. Billion)												
Indonesia	955,754	1,009,820	1,332,215	1,700,282	2,170,038	2,769,580	2.79	5.70	5.00	5.00	5.00	
Sulawesi Utara Province	8,231	9,295	12,882	17,852	24,742	34,289	6.27	6.74	6.74	6.74	6.74	
Gorontalo Province	1,218	1,319	1,675	2,127	2,702	3,431	4.06	4.90	4.90	4.90	4.90	
Kabupaten Gorontalo*2	958	1,033	1,357	1,783	2,344	3,080	3.84	5.62	5.62	5.62	5.62	
Kota Gorontalo	261	287	410	585	836	1,195	4.86	7.40	7.40	7.40	7.40	
LBB Basin*3	694	743	1,002	1,356	1,840	2,504	3.47	6.17	6.23	6.30	6.36	
2. GRDP per Capita (Rp.1000)												
Indonesia	4,780	4,963	6,181	7,496	9,157	11,258	1.89	4.49	3.93	4.09	4.22	
Sulawesi Utara Province	4,258	4,763	6,299	8,375	11,201	15,058	5.77	5.75	5.86	5.99	6.10	
Gorontalo Province	1,534	1,589	1,888	2,260	2,729	3,319	1.77	3.51	3.67	3.84	3.99	
Kabupaten Gorontalo*2	1,447	1,485	1,820	2,247	2,800	3,516	1.32	4.15	4.31	4.50	4.66	
Kota Gorontalo	1,973	2,124	2,891	3,957	5,449	7,544	3.74	6.36	6.48	6.61	6.72	
LBB Basin*3	1,608	1,680	2,144	2,763	3,595	4,719	2.22	5.00	5.20	5.41	5.59	

Source: (1) National Development Program (PROPENAS) of 2000-2004, March 2000, Republic of Indonesia  
(2) Program Pembangunan Jangka Panjang Tahap ke-II (PJP-II), Jan. 1994, Republic of Indonesia  
(3) Proyeksi Penduduk Indonesia per Propinsi 1995-2005, Feb. 1997, BPS

Note: \*1 New Province, excluding former Kabupaten Gorontalo and Kota Gorontalo

\*2 Including Kabupaten Boalemo

\*3 Sum of parts of Kabupaten Gorontalo and Kota Gorontalo, GRDPs of which were calculated on the basis of GRDP per capita of the respective areas.