

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

REPUBLIC OF ZAMBIA
MINISTRY OF ENERGY AND WATER DEVELOPMENT

THE STUDY

ON

THE NATIONAL WATER RESOURCES MASTER PLAN

IN

THE REPUBLIC OF ZAMBIA

FINAL REPORT
SUPPORTING
(Volume-1)

OCTOBER, 1995

YACHIYO ENGINEERING CO., LTD.
(YEC)

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FINAL REPORT

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FINAL REPORT
SUPPORTING REPORT [A]
SOCIO-ECONOMY

OCTOBER, 1995

YACHIYO ENGINEERING CO., LTD.
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**THE STUDY ON NATIONAL WATER RESOURCES MASTER PLAN
IN THE REPUBLIC OF ZAMBIA**

**SUPPORTING REPORT (A)
SOCIO-ECONOMY**

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CHAPTER 1 INTRODUCTION

1.1 Objective of Socio-economic Study

The socio-economic study aims at presenting two aspects for planning sections in this master plan: (1) present socio-economic structures in sectors concerned to water resources development; and (2) future socio-economic framework in the sectors. These two aspects are not only essential for planning but also fundamental for estimation of water requirement in water consumers such as domestic, industrial, agriculture and hydro-electric power generation sectors.

In this connection, Chapter 2 gives the present socio-economic conditions in relation to water resources development. The components of socio-economic conditions include the following nine issues: (1) administrative structures in the country, (2) population, labour force and employment, (3) national accounts, (4) profiles of three major economic sectors such as agriculture, industry and services, (5) infrastructures comprising (a) social infrastructure like education and health and (b) physical infrastructure such as transport, water, electricity and communication, (6) living standard regarding housing conditions and household budget, (7) external trade, (8) prices and inflation, and (9) public finance for development to the water sectors.

Chapter 3 presents the future socio-economic framework in the fields of population, national accounts and public finance for development. The projection of the fields is based on the national development plans or official proposals in principal. In case that the official projection was not available, the basic factors were cited from the predictions presented by international agencies such as the World Bank. The projection was also discussed in the Technical Committee and the Steering Committee in the process of the study properly.

1.2 Sources of Data

Population issues were based on the 1990 census. During the study proceeding, however, the data of the census were not published officially. The census data were specially provided for the JICA Study Team by Central Statistical Office (CSO). Thus, the figures used in this study report were slightly different from the final official figures which were issued in February 1995. This difference was so small that it would scarcely have influence upon planning of water resources development.

Administrative structure was made on the basis of information at the time of the 1990 census. Afterwards, four new districts were created as independent districts, and for respective districts a district council was established for autonomous activity as local government. Besides, two new district councils were promoted to municipal councils. In this manner, administrative information is always changing even during the study period. Yet, socio-economic information and data were not available since these newly established bodies do not have any records of performance in socio-economic activities. In this study, thus, most of information and data were in the time of the 1990 census in principal because of their availability.

1.3 Acknowledgment

This study has been completed with co-operation of Mr. C.G. Mudenda, a former Zambian Counterpart at starting stage, and Ms. P.M. Chitundu, a successor of Mr. Mudenda, for the socio-economic study and project evaluation. The study has also had constant assistance and valuable advice from staff of NCDP, CSO, DWA, MLGH and MOF. A heartfelt thanks is also to be extended to staff of UNZA, UNPD and WHO.

CHAPTER 2 PRESENT CONDITIONS OF SOCIO-ECONOMIC STRUCTURE

2.1 Administrative Units

Zambia administratively consists of nine Provinces. They are: Lusaka, Copperbelt, Central, Northwestern, Western, Southern, Luapula, Northern and Eastern. Province is furthermore divided into Districts. There are 61 Districts at present in the country. In the 1990 census year, the number of Districts was 57 as shown in Table 2-1. Afterwards, as shown in Table 2-2, four Districts were created as independent Districts: Chongwe and Kafue Districts into which Lusaka-Rural District was divided; Chibombo and Kapriir-Mposhi Districts into which Kabwe-Rural District was divided; Nyimba District separated from Petauke District; and Nakonde District separated from Isoka District. Incidentally, Gwembe District was renamed as Munyumbwe District. However, socio-economic data of newly created Districts are not organised enough for analytic research. In this current study, thus, the number of Districts is considered as 57 as of the 1990 census year, because of data availability. These administrative structures are summarised as shown in below Table 2-3:

Table 2-3 Administrative Structure of Zambia

Provinces	Number of District at the 1990 Census	Number of Districts in 1995
Lusaka	3	4
Copperbelt	8	8
Central	5	6
Northwestern	6	6
Western	6	6
Southern	9	9
Luapula	5	5
Northern	9	10
Eastern	6	7
Zambia	57	61

The central government is located in Lusaka city, the national capital. It comprises 22 Ministries and Offices of the President and the Vice President. The Ministries and Offices have branches in the following provincial capitals: Lusaka of Lusaka Province, Ndola of Copperbelt Province, Kabwe of Central Province, Solwezi of Northwestern Province, Mongu of Western Province, Livingstone of Southern Province, Mansa of Luapula Province, Kasama of Northern Province and Chipata of Eastern Province.

Apart from the central government, there are three levels of autonomous local government in the country. They are established by "The Local Government Act, No.22 of 1991" of the Zambian Laws. As of the 1990 census year, 57 local authorities were functioning as shown in Table 2-1. They were distributed as follows: three city councils, i.e., Lusaka, Ndola and Kitwe; seven municipal councils, i.e., Chingola, Kabwe, Mufulira, Luanshya, Livingstone, Chililabombwe and Kalulushi; and 47 district councils which were located in District capital towns. Incidentally, Kasama and Chipata district councils were promoted to municipal council from district council. Besides, four district councils increased after the 1990 census year, so in 1995 the total local authority is enumerated as follows: three city councils, nine municipal councils and 49 district councils.

Table 2-1 Inventory of Local Government and Settlement by Type: 1990

Code	Province District	Local Authority			Settlement/Township		
		City Council	Municipal Council	District Council	Large Urban Area	Small Urban Area	Rural Centre
11	Lusaka-Urban	1			1		
12	Lusaka-Rural			1		2	2
13	Luangwa			1			1
21	Ndola-Urban	1			1		
22	Ndola-Rural			1		1	1
23	Chililabombwe		1			1	1
24	Chingola		1		1		
25	Mufulira		1		1		
26	Kafulushi		1			1	1
27	Kitwe	1			1		
28	Luanshya		1		1		
31	Kabwe-Urban		1		1		
32	Kabwe-Rural			1		1	2
33	Mumbwa			1		1	1
34	Mkushi			1		1	
35	Serenje			1		1	
41	Solwezi			1		1	
42	Mwinilunga			1		1	
43	Zambezi			1		1	1
44	Kabompo			1		1	
45	Mfumbwe			1			1
46	Kasempa			1			1
51	Mongu			1		2	1
52	Lukulu			1		1	
53	Kalabo			1		1	1
54	Kaoma			1		1	
55	Senanga			1		1	1
56	Sesheke			1		1	2
61	Livingstone		1		1		
62	Namwala			1		1	1
63	Mazabuka			1		1	5
64	Monze			1		1	1
65	Choma			1		1	3
66	Kalomo			1		1	1
67	Siavonga			1		1	1
68	Gwembe			1			1
69	Sinazongwe			1		1	1
71	Mansa			1		1	
72	Nchelenge			1		1	1
73	Kawambwa			1		1	1
74	Mwense			1			1
75	Samfya			1		1	
81	Kasama			1		1	
82	Kaputa			1			1
83	Mbala			1		1	1
84	Mporokoso			1			1
85	Luwingu			1			1
86	Chilubi			1			1
87	Isoka			1		1	1
88	Chinsali			1		1	
89	Mpika			1		1	
91	Chipata			1	1		
92	Chama			1			1
93	Lundazi			1		1	
94	Chadiza			1			1
95	Katete			1		1	
96	Petauke			1		1	2
10	Lusaka	1	0	2	1	2	3
20	Copperbelt	2	5	1	5	3	3
30	Central	0	1	4	1	4	3
40	Northwestern	0	0	6	0	4	3
50	Western	0	0	6	0	7	5
60	Southern	0	1	8	1	7	14
70	Luapula	0	0	5	0	4	3
80	Northern	0	0	9	0	5	6
90	Eastern	0	0	6	1	3	4
	Zambia	3	7	47	9	39	44

Table 2-2 List of Local Authorities: 1990 and 1995

1990 Census Year			Existent Situation in 1994		
Code	District	Code	District Capital Town	District	District Capital Town
Lusaka Province					
11	Lusaka-Urban	111	Lusaka *	Lusaka	Lusaka *
12	Lusaka-Rural	121	Chongwe	Chongwe	Chongwe
13	Luangwa	131	Luangwa	Kafue **	Kafue
13	Luangwa	131	Luangwa	Luangwa	Luangwa
Copperbelt Province					
21	Ndola-Urban	211	Ndola *	Ndola-Urban	Ndola *
22	Ndola-Rural	221	Masaiti	Ndola-Rural	Masaiti
23	Chililabombwe	231	Chililabombwe	Chililabombwe	Chililabombwe
24	Chingola	241	Chingola	Chingola	Chingola
25	Mufulira	251	Mufulira	Mufulira	Mufulira
26	Kalulushi	261	Kalulushi	Kalulushi	Kalulushi
27	Kitwe	271	Kitwe	Kitwe	Kitwe
28	Luanshya	281	Luanshya	Luanshya	Luanshya
Central Province					
31	Kabwe-Urban	311	Kabwe *	Kabwe	Kabwe *
32	Kabwe-Rural	321	Chibombo	Chibombo	Chibombo
33	Mumbwa	331	Mumbwa	Kapiri-Mposhi **	Kapiri-Mposhi
34	Mkushi	341	Mkushi	Mumbwa	Mumbwa
35	Serenje	351	Serenje	Mkushi	Mkushi
35	Serenje	351	Serenje	Serenje	Serenje
Northwestern Province					
41	Solwezi	411	Solwezi *	Solwezi	Solwezi *
42	Mwinitunga	421	Mwinitunga	Mwinitunga	Mwinitunga
43	Zambezi	431	Zambezi	Zambezi	Zambezi
44	Kabompo	441	Kabompo	Kabompo	Kabompo
45	Mfumbwe	451	Mfumbwe	Mfumbwe	Mfumbwe
46	Kasempa	461	Kasempa	Kasempa	Kasempa
Western Province					
51	Mongu	511	Mongu *	Mongu	Mongu *
52	Lukulu	521	Lukulu	Lukulu	Lukulu
53	Kalabo	531	Kalabo	Kalabo	Kalabo
54	Kaoma	541	Kaoma	Kaoma	Kaoma
55	Senanga	551	Senanga	Senanga	Senanga
56	Sesheke	561	Sesheke	Sesheke	Sesheke
Southern Province					
61	Livingstone	611	Livingstone *	Livingstone	Livingstone *
62	Namwala	621	Namwala	Namwala	Namwala
63	Mazabuka	631	Mazabuka	Mazabuka	Mazabuka
64	Monze	641	Monze	Monze	Monze
65	Choma	651	Choma	Choma	Choma
66	Kalomo	661	Kalomo	Kalomo	Kalomo
67	Siavonga	671	Siavonga	Siavonga	Siavonga
68	Gwembe	681	Gwembe	Munyumbwe	Munyumbwe
69	Sinazongwe	691	Sinazongwe	Sinazongwe	Sinazongwe
Luapula District					
71	Mansa	711	Mansa *	Mansa	Mansa *
72	Nchelenge	721	Nchelenge	Nchelenge	Nchelenge
73	Kawambwa	731	Kawambwa	Kawambwa	Kawambwa
74	Mwense	741	Mwense	Mwense	Mwense
75	Samfya	751	Samfya	Samfya	Samfya
Northern District					
81	Kasama	811	Kasama *	Kasama	Kasama *
82	Kaputa	821	Kaputa	Kaputa	Kaputa
83	Mbala	831	Mbala	Mbala	Mbala
84	Mporokoso	841	Mporokoso	Mporokoso	Mporokoso
85	Luwingu	851	Luwingu	Luwingu	Luwingu
86	Chilubi	861	Chilubi	Chilubi	Chilubi
87	Isoka	871	Isoka	Isoka	Isoka
88	Chinsali	881	Chinsali	Nakonde **	Nakonde
89	Mpika	891	Mpika	Chinsali	Chinsali
89	Mpika	891	Mpika	Mpika	Mpika
Eastern Province					
91	Chipata	911	Chipata *	Chipata	Chipata *
92	Chama	921	Chama	Chama	Chama
93	Lundazi	931	Lundazi	Lundazi	Lundazi
94	Chadiza	941	Chadiza	Chadiza	Chadiza
95	Katete	951	Katete	Katete	Katete
96	Petauke	961	Petauke	Petauke	Petauke
96	Petauke	961	Petauke	Nyimba **	Nyimba

Remark: * Provincial capital town

** District created newly

2.2 Population and Labour Force

2.2.1 Population

Population distribution is one of the most basic piece of information to formulate a water resources development plan. The latest available and reliable information regarding present population and its distribution is the 1990 census. The final reports of the 1990 census, were officially published in February, 1995. During the study proceeding, however, the census information was not available, so it was provided for the JICA Study Team through the courtesy of CSO's information and research section. Thus, since this current master plan study was based on the preliminary census information, some figures were slightly different from the final ones. This difference, however, was so small that it would have no influence upon planning of water resources development.

(1) District Distribution

According to the 1990 census, the national population was 7.38 million as the final figure. Its distribution by District is shown in Table 2-4. The Districts having a population more than 200,000 were Lusaka-Urban, Kitwe, Ndola-Urban, Chipata, Petauke, Kabwe-Rural and Lusaka-Rural in order of population. Lusaka-Urban District had 769,000, the largest District among the 57 Districts.

The Districts, which recorded high population growth rate of more than 4% per annum on average for 10 years between the 1980 and 1990 censuses, were eleven: Mfumbwe, Gwembe, Kalomo, Ndola-Rural, Kaoma, Petauke, Mumbwa, Mkushi, Kabwe-Rural, Lundazi and Namwala, as shown in Table 2-4. Lusaka-Urban District recorded an average growth rate of 3.7% per annum, which was the 15th largest in the 57 Districts. On the contrary, Mufulira and Kalabo Districts recorded negative growth during the same period. The reason for that is considered to be out-migration to economically advanced or newly settled areas such as large and small urban areas. Incidentally, the national average growth was 2.7% per annum.

In terms of population density, Lusaka-Urban District was the most densely inhabited among the 57 Districts with 1,744 persons per km². The following four Districts recorded a density of more than 100 persons per km²: Kitwe, Ndola-Urban, Luanshya and Kabwe-Urban. They are all urbanised Districts and located along the Lusaka-Copperbelt line. On the other hand, Mfumbwe and Kasempa Districts recorded the lowest density of less than 2 persons per km².

(2) Family Size

The average family size in the 1990 census was 4.8 persons, as shown in Table 2-5. Of District averages, the largest was 6.4 persons of Monze. The Districts having more than 6 family members on average were Kalomo and Choma as well as Monze. The smallest size was 3.3 persons of Samfya and Chilubi. Besides, the following Districts recorded less than four family members on average: Mwense, Nchelenge, Kawambwa and Mansa. They are all in Luapula Province except Chilubi District.

Table 2-4 Census Population and Growth Rate: 1969, 1980 and 1990

Code	Province District	Census Population			Average Annual Growth Rate (%)		
		1969	1980	1990	1969-80	1980-90	'69-90
11	Lusaka-Urban	262,423	533,830	769,353	6.70	3.68	5.26
12	Lusaka-Rural	83,624	143,762	201,507	5.05	3.43	4.28
13	Luangwa	7,925	11,462	16,246	3.41	3.55	3.48
21	Ndola-Urban	159,786	281,315	334,531	5.28	1.75	3.58
22	Ndola-Rural	72,215	102,494	165,004	3.23	4.88	4.01
23	Chililabombwe	44,862	62,131	62,578	3.00	0.07	1.60
24	Chingola	103,292	145,993	161,038	3.20	0.99	2.14
25	Mufulira	107,802	150,069	146,451	3.05	-0.24	1.47
26	Katolushi	32,272	59,267	68,223	5.68	1.42	3.63
27	Kitwe	199,798	320,320	347,756	4.38	0.83	2.67
28	Luanshya	96,282	129,589	141,927	2.74	0.91	1.86
31	Kabwe-Urban	65,974	136,033	161,456	6.80	1.73	4.35
32	Kabwe-Rural	122,570	146,295	219,339	1.62	4.13	2.81
33	Mumbwa	60,138	83,907	127,895	3.07	4.31	3.66
34	Mkushi	56,992	72,190	108,466	2.17	4.16	3.11
35	Serenje	52,981	73,480	103,472	3.02	3.48	3.24
41	Solwazi	52,979	92,773	124,624	5.23	3.00	4.16
42	Mwinilunga	51,398	68,845	81,496	2.69	1.70	2.22
43	Zambezi	61,324	60,811	68,365	-0.08	1.18	0.52
44	Kabompo	33,376 *1	40,347	53,197	- *1	2.80	- *1
45	Mfumbwe	- *1	9,286	22,979	1.79 *1	9.48	2.59 *1
46	Kasempa	32,656 *1	30,606	36,893	- *1	1.89	- *1
51	Mongu	110,123 *2	114,405	142,795	3.41 *2	2.24	2.75 *2
52	Lukulu	- *2	44,800	51,953	- *2	1.49	- *2
53	Kalabo	105,893	98,496	97,320	-0.66	-0.12	-0.40
54	Kaoma	56,450	70,066	112,049	1.98	4.81	3.32
55	Senanga	88,602	101,957	137,768	1.28	3.06	2.12
56	Sesheke	49,019	56,731	64,928	1.34	1.36	1.35
61	Livingstone	49,063	71,521	82,952	3.49	1.49	2.53
62	Namwala	36,600	56,038	83,073	3.95	4.01	3.98
63	Mazabuka	159,376 *3	112,238	155,436	3.09 *3	3.31	2.75 *3
64	Monze	- *3	110,423	126,039	- *3	1.33	- *3
65	Choma	97,980	130,416	163,050	2.63	2.26	2.45
66	Kalonso	76,571	97,177	162,674	2.19	5.29	5.29
67	Siavonga	- *4	29,633	34,876	- *4	1.64	- *4
68	Gwembe	76,451 *4	20,666	33,462	1.90 *4	5.55	2.71 *4
69	Sinazongwe	- *4	43,771	63,586	- *4	3.80	- *4
71	Mansa	80,342	111,437	142,497	3.02	2.49	2.77
72	Nchelenge	56,735	80,233	112,039	3.20	3.40	3.29
73	Kawambwa	54,706	63,304	82,782	1.34	2.72	1.99
74	Mwense	52,974	65,552	80,356	1.96	2.06	2.00
75	Samfya	90,807	100,440	107,486	0.92	0.68	0.81
81	Kasama	107,817	147,594	189,360	2.90	2.52	2.72
82	Kaputa	- *5	44,731	49,993	- *5	1.12	- *5
83	Mbala	93,633	113,935	136,091	1.60	1.79	1.69
84	Mporokoso	67,390 *5	41,145	52,505	2.23 *5	2.47	2.02 *5
85	Luwingu	79,164 *6	52,596	66,699	0.74 *6	2.40	1.43 *6
86	Chilubi	- *6	33,283	39,874	- *6	1.82	- *6
87	Isoka	77,700	93,999	121,871	1.75	2.63	2.17
88	Chinsali	58,014	66,174	83,659	1.20	2.37	1.76
89	Mpika	59,378	81,291	115,125	2.90	3.54	3.20
91	Chipata	148,416	204,738	291,372	2.97	3.59	3.26
92	Chama	30,887	35,359	51,772	1.24	3.89	2.49
93	Lundazi	92,247	114,653	171,602	2.00	4.12	3.00
94	Chadiza	32,169	44,879	63,210	3.07	3.48	3.27
95	Katete	80,485	94,208	138,470	1.44	3.93	2.62
96	Petauke	125,311	157,065	249,542	2.07	4.74	3.33
10	Lusaka	353,974	691,054	987,106	6.27	3.63	5.00
20	Copperbelt	816,309	1,251,178	1,427,528	3.96	1.33	2.70
30	Central	358,655	511,905	720,628	3.29	3.48	3.38
40	Northwestern	231,733	302,668	387,554	2.46	2.50	2.48
50	Western	410,087	486,455	606,813	1.56	2.24	1.88
60	Southern	496,041	671,923	907,150	2.80	3.05	2.92
70	Luapula	335,584	420,966	525,160	2.08	2.24	2.16
80	Northern	545,096	674,750	855,177	1.96	2.40	2.17
90	Eastern	509,515	650,902	965,968	2.25	4.03	3.09
	Zambia	4,056,994	5,661,801	7,383,084	3.08	2.69	2.89

Source: (1) 1990 Census of Population, Housing and Agriculture, Preliminary Report, Dec. 1994, CSO (Ref.B36)

(2) 1980 Census of Population and Housing, Volume I, General Population and Migration Tables, September 1985, CSO (Ref.B01)

(3) Data of CSO

Remark: *1-*6 comprises some parts of other Districts

Table 2-5 Family Size and Population Density: 1990 Census

Code District	District Feature					Urban Population			
	Population	Number of Households	Family Size	Area (sq. km.)	Pop. Density (per sq. km.)	Population	Number of Households	Family Size	Urban Pop. Ratio (%)
11 Lusaka-Urban	769,353	148,609	5.2	441	1,744.4	769,353	148,609	5.2	100.0
12 Lusaka-Rural	201,507	42,679	4.7	17,794	11.3	58,514	12,201	4.8	29.0
13 Luangwa	16,246	3,675	4.4	3,859	4.2	1,606	332	4.8	9.9
21 Ndola-Urban	334,531	60,679	5.5	993	336.8	334,531	60,679	5.5	100.0
22 Ndola-Rural	165,004	38,766	4.3	23,423	7.0	12,977	3,205	4.0	7.9
23 Chililabombwe	62,578	11,919	5.3	1,010	62.0	49,850	8,856	5.6	79.7
24 Chingola	161,058	29,557	5.4	1,751	92.0	142,379	24,679	5.8	88.4
25 Mufulira	146,451	27,363	5.4	1,280	114.4	124,746	21,908	5.7	85.2
26 Kalulushi	68,223	13,756	5.0	1,135	60.1	41,419	7,573	5.5	60.7
27 Kitwe	347,756	60,031	5.8	751	463.2	288,592	47,222	6.1	83.0
28 Luanshya	141,927	27,794	5.1	873	162.6	118,143	21,974	5.4	83.2
31 Kabwe-Urban	161,456	33,849	4.8	1,530	105.5	161,456	33,849	4.8	100.0
32 Kabwe-Rural	219,359	40,549	5.4	25,536	8.6	20,570	4,274	4.8	9.4
33 Mumbwa	127,895	22,587	5.7	21,576	5.9	15,103	3,097	4.9	11.8
34 Mkushi	108,466	21,810	5.0	22,470	4.8	7,804	1,662	4.7	7.2
35 Serenje	103,472	18,628	5.6	23,572	4.4	8,265	1,751	4.7	8.0
41 Solwezi	124,624	27,472	4.5	30,122	4.1	26,223	5,579	4.7	21.0
42 Mwinilunga	81,496	18,189	4.5	20,894	3.9	6,342	1,404	4.5	7.8
43 Zambezi	68,365	16,290	4.2	18,746	3.6	7,739	1,550	5.0	11.3
44 Kabompo	53,197	11,190	4.8	14,535	3.7	5,005	971	5.2	9.4
45 Mfumbwe	22,979	5,152	4.5	19,078	1.2	4,860	1,116	4.4	21.1
46 Kasempa	36,893	7,850	4.7	21,905	1.7	4,151	932	4.5	11.3
51 Mongu	142,793	30,280	4.7	10,071	14.2	36,837	7,467	4.9	25.8
52 Lukulu	51,933	11,347	4.6	15,639	3.3	3,129	706	4.4	6.0
53 Kalabo	97,320	22,302	4.4	17,230	5.6	8,868	2,105	4.2	9.1
54 Kaoma	112,049	22,977	4.9	31,857	3.5	9,165	2,092	4.4	8.2
55 Senanga	137,768	27,702	5.0	29,522	4.7	9,326	1,930	4.8	6.8
56 Sesheke	64,928	14,355	4.5	23,024	2.8	8,416	1,775	4.7	13.0
61 Livingstone	82,952	17,150	4.8	1,041	79.7	76,875	15,404	5.0	92.7
62 Namwala	83,075	14,424	5.8	21,528	3.9	8,799	1,843	4.8	10.6
63 Mazabuka	155,436	26,373	5.9	4,901	31.7	42,991	8,556	5.0	27.7
64 Monze	126,039	19,701	6.4	7,008	18.0	17,585	3,723	4.7	14.0
65 Choma	163,050	27,314	6.0	6,625	24.6	35,520	7,540	4.7	21.8
66 Kalomo	162,674	26,746	6.1	31,425	5.2	9,737	2,224	4.4	6.0
67 Siavonga	34,876	6,735	5.2	2,609	13.4	7,641	1,690	4.5	21.9
68 Gwembe	35,462	6,577	5.4	5,262	6.7	2,013	406	5.0	5.7
69 Sinazongwe	63,586	11,623	5.5	4,800	13.2	10,823	2,182	5.0	17.0
71 Mansa	142,497	36,843	3.9	15,997	8.9	39,051	8,694	4.5	27.4
72 Nchelenge	112,039	30,827	3.6	7,944	14.1	16,398	4,023	4.1	14.6
73 Kawambwa	82,782	22,108	3.7	9,108	9.1	11,264	2,879	3.9	13.6
74 Mwense	80,356	22,939	3.5	6,672	12.0	3,695	847	4.4	4.6
75 Samfya	107,486	32,844	3.3	9,872	10.9	12,718	3,185	4.0	11.8
81 Kasama	189,360	46,319	4.1	20,457	9.3	48,045	10,422	4.6	25.4
82 Kaputa	49,993	12,007	4.2	12,388	4.0	2,936	636	4.6	5.9
83 Mbala	136,091	32,875	4.1	18,695	7.3	14,924	3,280	4.6	11.0
84 Mporokoso	52,505	12,181	4.3	11,933	4.4	4,818	1,051	4.6	9.2
85 Lurungu	66,699	15,945	4.2	8,831	7.6	4,664	999	4.7	7.0
86 Chilubi	39,874	11,978	3.3	5,269	7.6	1,366	371	3.7	3.4
87 Isoka	121,871	25,957	4.7	13,767	8.9	13,089	2,800	4.7	10.7
88 Chinsali	83,659	20,683	4.0	15,445	5.4	7,509	1,663	4.5	9.0
89 Mpika	115,125	26,812	4.3	40,505	2.8	20,950	4,094	5.1	18.2
91 Chipata	291,372	61,720	4.7	12,189	23.9	52,213	10,270	5.1	17.9
92 Chama	51,772	11,297	4.6	17,803	2.9	3,474	764	4.5	6.7
93 Lundazi	171,602	35,970	4.8	13,687	12.5	5,590	1,200	4.7	3.3
94 Chadiza	63,210	13,240	4.8	2,502	25.3	3,031	746	4.1	4.8
95 Katete	138,470	30,572	4.5	3,842	36.0	7,165	1,633	4.4	5.2
96 Petuke	249,542	50,526	4.9	19,123	13.0	11,277	2,405	4.7	4.5
10 Lusaka	987,106	194,963	5.1	22,094	44.7	829,473	161,142	5.1	84.0
20 Copperbelt	1,427,528	269,865	5.3	31,217	45.7	1,112,637	196,096	5.7	77.9
30 Central	720,628	137,423	5.2	94,684	7.6	213,198	44,633	4.8	29.6
40 Northwestern	387,554	86,143	4.5	125,280	3.1	54,320	11,552	4.7	14.0
50 Western	606,813	128,963	4.7	127,344	4.8	75,741	16,075	4.7	12.5
60 Southern	907,150	156,643	5.8	85,199	10.6	211,984	43,568	4.9	23.4
70 Luapula	525,160	145,561	3.6	49,594	10.6	83,126	19,628	4.2	15.8
80 Northern	855,177	204,757	4.2	147,292	5.8	118,301	25,316	4.7	13.8
90 Eastern	965,968	203,325	4.8	69,146	14.0	82,750	17,018	4.9	8.6
Zambia	7,383,084	1,527,643	4.8	751,851	9.8	2,781,530	535,028	5.2	37.7

Source: (1) 1990 Census of Population, Housing and Agriculture, Preliminary Report, Dec. 1994, CSO (Ref B36)

(2) 1980 Census of Population and Housing, Volume I, General Population and Migration Tables, September 1985, CSO (Ref B01)

(3) Data by Demography Division of CSO

In urban areas, the average family size was 5.2 persons, as shown in the table. Of the urban family size averages, Kitwe had the largest figure of 6.1 persons and Chilubi had the smallest one of 3.7 persons.

(3) Urban Population

A human settlement (or township) is defined as settlement with 1,000 persons and more, according to "Human Settlement" report (Ref. A04). The 1990 census showed that there were 92 urban settlements and their total population was 2.78 million. It accounted for 38% of the total census population of 7.38 million. A specific list of the 92 townships is enumerated in Appendix 1. Of these settlements, 48 townships have population size of 5,000 and above. Settlements with a population size of 5,000 and above are officially classified as small urban area. Besides size of population, most of them have to be involved in non-agriculture activities and to have common facilities like piped water, electricity, post office and police station. In addition, a large urban area is defined as that with a population of 50,000 and above, and with the same conditions mentioned above. There are nine large urban areas in the country as of the 1990 census year: Lusaka, Ndola, Kitwe, Chingola, Kabwe, Mufulira, Luanshya, Livingstone and Chipata.

It is difficult to figure out a population growth of urban areas, because boundaries shown on the census maps are not always clear and even without boundary changes the physical area of urban area is not always the same from one census to the next. Thus, there was no definite estimation of urban population growth even in the final report of the 1990 census (Ref. B36). Provincial distribution of urban population in the 1980 census was given to the JICA Study Team by Demography Division of CSO in June 1994, since they were not available even in the final reports of the 1980 census. Table 2-6 shows a population growth of urban and rural areas by Province between the two censuses of 1980 and 1990.

Between the two censuses, a growth rate of urban population in the country was 2.1%, which was lower than the natural population increase rate of 2.7%, as shown in Table 2-6. There were five Provinces of which the growth rate exceeded the natural increase rate: Lusaka, Luapula, Central, Northwestern and Eastern. In Western Province, its growth rate was negative. In Copperbelt Province, although its urban population has grown at 0.8%, its percentage share of 45.6% in 1980 decreased to 40.0% in 1990.

Among nine large urban areas, the towns which exceeded the natural increase rate of population in the country were only two towns, Lusaka and Ndola, as shown in Table 2-7. Kalulushi town recorded the largest negative rate of 4.9% per annum during the two censuses. The total population of large urban areas grew at 1.9% on average, which was lower not only than that of the natural increase rate of the country but also than that (2.1%) of the total urban population including small urban areas. Between the 1969 and 1980 censuses, the population growth in urban areas recorded much higher rates, 4.1% in large urban areas and 6.0% in the all urban areas, since the natural increase rate in the country was 3.1% during the same period. Thus, people in urban areas seemed to return to rural areas during the latest two censuses.

Table 2-6 Population Growth of Urban/Rural Areas by Province: 1980-1990

Code	Province	1980 Census*1			1990 Census		
		Total	Urban	Rural	Total	Urban	Rural
Census Population							
10	Lusaka	691,054	551,367	139,687	987,106	829,473	157,633
20	Copperbelt	1,251,178	1,029,903	221,275	1,427,528	1,112,637	314,891
30	Central	511,905	151,419	360,486	720,628	213,198	507,430
40	Northwestern	302,668	40,849	261,819	387,554	54,320	333,234
50	Western	486,455	82,318	404,137	606,813	75,741	531,072
60	Southern	671,923	166,555	505,368	907,150	211,984	695,166
70	Luapula	420,966	54,942	366,024	525,160	83,126	442,034
80	Northern	674,750	118,275	556,475	855,177	118,301	736,876
90	Eastern	650,902	62,892	588,010	965,968	82,750	883,218
	Zambia	5,661,801	2,258,520	3,403,281	7,383,084	2,781,530	4,601,554
Average Annual Growth Rate (%)							
10	Lusaka	-	-	-	3.6	4.2	1.2
20	Copperbelt	-	-	-	1.3	0.8	3.6
30	Central	-	-	-	3.5	3.5	3.5
40	Northwestern	-	-	-	2.5	2.9	2.4
50	Western	-	-	-	2.2	-0.8	2.8
60	Southern	-	-	-	3.0	2.4	3.2
70	Luapula	-	-	-	2.2	4.2	1.9
80	Northern	-	-	-	2.4	0.0	2.8
90	Eastern	-	-	-	4.0	2.8	4.2
	Zambia	-	-	-	2.7	2.1	3.1
Percentage Distribution (%)							
10	Lusaka	12.2	24.4	4.1	13.4	29.8	3.4
20	Copperbelt	22.1	45.6	6.5	19.3	40.0	6.8
30	Central	9.0	6.7	10.6	9.8	7.7	11.0
40	Northwestern	5.3	1.8	7.7	5.2	2.0	7.2
50	Western	8.6	3.6	11.9	8.2	2.7	11.5
60	Southern	11.9	7.4	14.8	12.3	7.6	15.1
70	Luapula	7.4	2.4	10.8	7.1	3.0	9.6
80	Northern	11.9	5.2	16.4	11.6	4.3	16.0
90	Eastern	11.5	2.8	17.3	13.1	3.0	19.2
	Zambia	100.0	100.0	100.0	100.0	100.0	100.0

Source: Data by Demography Division of CSO

Table 2-7 Large Urban Population and Growth Rate: 1969, 1980 and 1990

Code	District	Census Urban Population			Average Annual Growth Rate (%)		
		1969	1980	1990	1969-80	1980-90	1969-90
Census Population and Growth Rate (%)							
111	Lusaka	262,425	535,830	769,353	6.70	3.68	5.26
211	Ndola	159,782	250,502	334,531	4.17	2.93	3.58
231	Chililabombwe	44,862	54,737	48,055	1.83	-1.29	0.33
241	Chingola	103,292	130,875	142,379	2.17	0.85	1.54
251	Mufulira	107,802	135,535	124,746	2.10	-0.83	0.70
261	Kalulushi	32,272	52,146	31,474	4.46	-4.92	-0.12
271	Kitwe	199,798	266,286	288,592	2.65	0.81	1.77
281	Luanshya	96,282	110,907	118,143	1.29	0.63	0.98
311	Kabwe	65,974	136,006	161,456	6.80	1.73	4.35
611	Livingstone	45,243	63,275	76,875	3.10	1.97	2.56
Large Urban Total		1,117,732	1,736,099	2,095,604	4.08	1.90	3.04
Urban Total		1,192,116	2,258,520	2,781,530	5.98	2.10	4.12

Percentage Distribution (%)

		To Large Urban Population			To Total Urban Population		
		1969	1980	1990	1969	1980	1990
111	Lusaka	23.5	30.9	36.7	22.0	23.7	27.7
211	Ndola	14.3	14.4	16.0	13.4	11.1	12.0
231	Chililabombwe	4.0	3.2	2.3	3.8	2.4	1.7
241	Chingola	9.2	7.5	6.8	8.7	5.8	5.1
251	Mufulira	9.6	7.8	6.0	9.0	6.0	4.5
261	Kalulushi	2.9	3.0	1.5	2.7	2.3	1.1
271	Kitwe	17.9	15.3	13.8	16.8	11.8	10.4
281	Luanshya	8.6	6.4	5.6	8.1	4.9	4.2
311	Kabwe	5.9	7.8	7.7	5.5	6.0	5.8
611	Livingstone	4.0	3.6	3.7	3.8	2.8	2.8
Large Urban Total		100.0	100.0	100.0	93.8	76.9	75.3
Urban Total		-	-	-	100.0	100.0	100.0

Source Human Settlements and The Environment in Zambia, January 1994, Dr.Khonje of MLGH
1980 Census of Population and Housing, Volume I, General Population and Migration Table,
September 1983, CSO Data by Demography Division of CSO

(4) Basin Distribution

Population distribution by major river basin is tabulated in Table 2-8. The population distribution by river basin area is estimated on the basis of the Census Supervisory Area (CSA) distribution. The basin distribution is made by what is called the "ratio method". The estimation procedure is as follows.

- 1) Rural population is entirely distributed by the "ratio method". If a CSA is divided by sub-basin boundaries, CSA population is allotted in proportion to the land area rates of respective parts which are divided by basin boundaries.
- 2) Urban population is allotted in a sub-basin where its urban CSA is located, since the urban area is small and included in the sub-basin area in general.
- 3) Sub-basin population is estimated as the aggregate of both rural and urban populations allotted into its sub-basin through the above procedure.

Finally, the population distribution by river basin was aggregated as shown in Table 8-1 of Appendix 8. The basin boundaries are illustrated in Part C "Hydrology" of Supporting Report. The populations in the major river basins were summarised in Table 2-8.

Table 2-8 Population by Major Drainage Area: 1990
(Unit: 1000)

Major River Drainage Area	Population
Zambezi river basin	1,699
Kafue river basin	2,864
Luangwa river basin	1,311
Chambeshi river basin	376
Luapula river basin	833
Lake Tanganyika basin	81

2.2.2 Labour Force

In the 1980 census, a total population aged 12 years old and above was estimated at 3.30 million or 59% of the total census population (5.66 million). Labour force, defined as persons active economically who are either working or if not working are seeking work, was estimated at 1.74 million in the same year. Then, labour force participation rate was 53%.

According to "Labour Force Survey 1986, CSO" (Ref. B33), there were 3.81 million people aged 12 years old and above in the country. Of these people, 2.72 million people or 71.3% were economically active and 1.08 million or 28.4% were economically inactive. About 0.01 million or 0.3% did not report their economic status. The economically active populations in urban and rural areas were estimated as 0.76 million (28%) and 1.95 million (72%), respectively. Out of the total economically active population, 1.43 million or 52% were male and 1.29 million or 48% were female. Table 2-9 shows people's economic status by province, currently economic activity, sex and urban/rural in the survey. Northern Province recorded the highest provincial labour force participation rate of 88%, i.e., 0.37 million people active economically to 0.42 million of the total provincial population aged 12 years old and above. Copperbelt Province exhibits the lowest rate of 55%, i.e., 0.45 million to 0.51 million.

Table 2-9 Population Aged 12 Years and Above by Province, Current Economic Activity, Sex and Urban/Rural: 1986

(Unit: 1000)

Province	Total *1	Economically Active			Economically Inactive			Not Stated
		Total	Urban	Rural	Total	Urban	Rural	
10 Lusaka	374.1	247.1	182.1	65.0	125.8	101.6	24.2	1.2
20 Copperbelt	806.2	447.0	331.3	115.7	357.1	311.4	45.7	2.1
30 Central	415.9	278.9	36.8	242.1	135.4	28.7	106.7	1.6
40 Northwestern	230.5	173.3	32.0	141.3	56.0	20.4	35.6	1.2
50 Western	295.1	241.0	45.0	196.0	53.0	18.5	34.5	1.1
60 Southern	461.7	338.0	52.5	285.5	122.3	36.1	86.2	1.4
70 Luapula	271.8	217.1	19.9	197.2	53.8	15.2	38.6	0.9
80 Northern	423.9	372.9	33.7	339.2	49.9	22.3	27.6	1.1
90 Eastern	532.7	402.3	30.2	372.1	128.4	20.4	108.0	2.0
Total	3,811.9	2,717.6	763.5	1,954.1	1,081.7	574.6	507.1	12.6

Province	Total *1	Economically Active			Economically Inactive			Not Stated
		Total	Male	Female	Total	Male	Female	
10 Lusaka	374.1	247.1	139.1	108.0	125.8	46.2	79.6	1.2
20 Copperbelt	806.2	447.0	281.8	165.2	357.1	123.9	233.2	2.1
30 Central	415.9	278.9	160.5	118.4	135.4	46.4	89.0	1.6
40 Northwestern	230.5	173.3	79.5	93.8	56.0	23.2	32.8	1.2
50 Western	295.1	241.0	104.7	136.3	53.0	20.8	32.2	1.1
60 Southern	461.7	338.0	182.2	155.8	122.3	50.9	71.4	1.4
70 Luapula	271.8	217.1	104.8	112.3	53.8	22.2	31.6	0.9
80 Northern	423.9	372.9	171.5	201.4	49.9	17.0	32.9	1.1
90 Eastern	532.7	402.3	201.3	201.0	128.4	44.7	83.7	2.0
Total	3,811.9	2,717.6	1,425.4	1,292.2	1,081.7	395.3	686.4	12.6

Source: Labour Force Survey 1986, CSO

Note: *1 Total population aged 12 years old and above

Of the total labour force of 2.72 million people, 2.36 million or 87% were employed and 0.36 million or 13% was unemployed, according to the survey. Of the unemployed people, the unemployment rate for urban areas was 19.2% while that for rural areas was 10.6%. The unemployment rate for female was 17.8% whilst that of males was 8.6%.

The survey defined employed persons to include those employed in the formal sector as well as those employed in the informal sector which includes the subsistence sectors. Hence, the informal sector is broadly defined as consisting of all subsistence farmers, all own accounted workers and all employers in unlicensed and unregistered businesses. The survey estimates that there were 1.83 million people in the informal sector and 0.54 million people in the formal sector. The total employment consisted of 55% in the subsistence sector, 22% in non-subsistence informal activities and 23% in the formal sector. Table 2-10 shows the detailed distribution of employment in 1986.

2.3 National Accounts

2.3.1 Gross Domestic Product

In 1992, Zambia had serious drought. Although the worst effects of the drought on Zambia's populace were averted, it had significant negative effects on economic growth, fiscal and monetary operations, and domestic inflation. Agricultural production in 1992 dropped 33.1%. Although this was offset by rises of 12.4% in mining and quarrying and 8.5% in manufacturing, overall Gross Domestic Product (GDP) fell by 3.8%. In 1993, on the other hand, the national economy grew at 5.2%, and recovered to almost the same level to the 1991 economic level.

Sectoral contribution of economic sectors for GDP was given during the recent nine years from 1985 to 1993 in Table 2-11. The leading sectors of the national economy were agriculture, manufacturing, and mining and quarrying, which accounted for 27.7%, 24.6% and 10.0% of GDP in 1993, respectively. Besides these sectors, wholesale and retail trading sector contributed about 8.3% of GDP. Government services which were shown in social and personal services accounted down to 5.0% only in 1993.

Table 2-12 shows real based GDP during the latest nine years. The highest annual growth was 6.3% in 1988 due to good rains and the lowest was -3.8% in 1992 because of the serious drought. An average growth rate was 1.24% for the nine years. This growth has been among the lowest in Africa. It is said that this low growth is due to worsening terms of trade, to low efficiency and to decreasing levels of investment.

Per capita GDP went down to K179,000 or almost US\$400 level in 1993, as shown in Table 2-11. Per capita GDP has not grown constantly since 1985, as far as seen in US\$ figures. In the same manner, the growth rates in Table 2-12 show many negative figures. In fact, an average of per capita GDP growth rates for the nine years was -1.35%, because GDP failed to keep up with population growth. Thus, living standards for an average Zambian have been worsening since 1985.

**Table 2-10 Employment in Formal and Informal Sector by Industrial Group
and Urban/Rural: 1986**

(Unit: 1000)

Industrial Group	Informal Sector			Formal Sector	Total
	Total	Urban	Rural		
1. Agriculture, Forestry & Fishery	1,414.8	79.7	1,335.1	107.0	1,521.8
a. Agriculture, Forestry & Fishery	105.7	3.4	102.3	-	-
b. Subsistence Farming	1,309.1	76.3	1,232.8	-	-
2. Mining & Quarrying	0.5	0.3	0.2	50.0	50.5
3. Manufacturing	73.6	18.0	55.6	57.0	130.6
4. Electricity, Gas & Water	1.3	0.5	0.8	7.0	8.3
5. Construction	23.8	3.9	19.9	36.0	59.8
6. Wholesale, Retail Trade & Catering	252.8	132.4	120.4	59.0	311.8
7. Transport, Storage & Communication	5.7	4.0	1.7	33.0	38.7
8. Finance, Insurance, Real Estates, etc.	1.0	0.8	0.2	18.0	19.0
9. Social & Personal Services	46.3	26.8	19.5	166.0	212.3
10. Not Stated	6.5	0.9	5.6	-	6.5
Total	1,826.3	267.3	1,559.0	533.0	2,359.3

Source: Country Profile 1992, Sept. 1992, GRZ

Table 2-11 GDP by Industrial Origin at Current Prices: 1985-1993

Economic Sector	1985	1986	1987	1988	1989	1990	1991	1992	1993*1
I. GDP at Current Prices (Kwacha Millions)									
1. Agriculture, Forestry & Fishery	925.2	1,371.8	2,180.4	5,055.5	10,562.1	20,630.8	34,518.2	121,132.3	393,929.9
Agriculture	788.1	1,303.3	1,707.8	4048.4	8,126.4	16,853.2	28,739.0	101,406.9	326,946.7
Forestry	59.5	125.6	179.0	435.8	1,066.7	1,683.2	2,620.6	12,859.7	48,979.2
Fishery	77.6	143.9	293.6	571.3	1,429.0	2,092.4	3,138.6	6,857.7	18,004.0
2. Mining & Quarrying	1,101.9	2,354.9	2,689.0	3,155.2	7,719.8	10,216.7	18,230.3	31,819.8	142,957.1
Metal Mining	1,056.8	2,280.4	2,584.3	3,009.2	7,519.8	9,817.2	17,313.4	30,439.6	140,334.5
Others	45.1	74.5	104.5	146.0	200.0	399.5	916.9	1,369.2	2,622.8
3. Manufacturing	1,617.3	2,935.3	5,547.9	9,493.6	17,089.7	36,106.6	72,786.0	189,047.6	350,502.6
Food, Beverages & Tobacco	600.2	843.3	1,283.9	2,354.3	5,170.4	11,820.9	21,782.2	81,507.3	145,621.5
Textile & Leather Industries	212.6	289.8	459.5	660.4	1,388.6	2,504.6	4,768.4	8,793.9	19,215.0
Wood & Wood Products	48.8	88.4	74.0	159.0	510.2	898.0	2,387.7	4,087.2	7,462.0
Paper & Paper Products	55.4	166.4	344.9	712.8	1,287.8	3,072.2	4,336.7	6,067.3	10,233.7
Chemicals, Rubber & Plastics	194.8	370.5	592.1	813.3	1,422.1	2,432.2	4,793.9	13,908.7	63,723.7
Non-metallic Mineral Products	129.7	153.7	200.5	1,873.4	2,155.0	3,726.9	13,517.7	28,115.1	40,433.3
Basic Metal Products	18.2	23.9	39.3	89.3	237.6	241.1	336.4	764.7	978.2
Fabricated Metal Products	300.0	960.7	2,448.7	2,383.4	4,406.4	10,347.4	19,944.1	40,293.8	55,887.4
Other Manufacturing n.e.c.	17.8	39.6	85.0	219.5	511.6	1,089.2	916.9	5,507.6	6,947.8
4. Electricity, Gas & Water	71.0	166.2	238.5	306.2	398.1	594.2	1,637.9	7,255.1	18,972.0
5. Construction	183.2	292.2	393.8	618.4	884.0	4,418.8	8,352.8	20,975.2	58,216.2
6. Wholesale & Retail Trade	763.0	1,638.2	2,778.3	3,449.4	5,109.0	10,827.4	23,254.8	40,189.9	118,276.6
7. Restaurants & Hotels	181.1	261.7	427.4	735.5	1,363.3	2,899.5	4,818.6	21,328.2	22,751.6
8. Transport, Storage & Communication	342.3	594.3	839.6	1,206.8	2,880.6	5,501.2	11,218.7	24,896.2	94,919.6
Rail Transport	103.3	181.7	244.1	342.1	779.4	1,330.7	3,843.0	7,259.8	31,387.3
Road Transport	95.5	166.5	249.3	358.8	881.0	1,971.9	2,490.3	4,669.2	25,350.1
Other Transport	63.1	110.5	155.6	211.0	523.7	776.3	1,469.2	2,771.7	13,183.1
Communications	80.4	135.6	190.6	284.9	696.5	1,422.3	3,426.2	10,195.5	24,999.1
9. Financial Institutions & Insurance	228.0	446.2	735.1	1,683.8	1,781.1	3,204.9	4,676.8	17,773.6	17,773.6
10. Real Estate & Business Services	454.6	751.8	1,155.9	1,483.0	2,072.0	4,378.6	10,510.9	23,716.7	59,929.6
11. Social & Personal Services	933.4	1,169.2	1,487.6	2,170.5	2,704.6	7,051.0	13,901.0	42,105.3	70,831.8
Public Administration	391.7	472.8	623.8	879.4	1,153.9	3,637.8	7,838.8	27,426.7	40,918.5
Education	292.1	384.1	436.2	690.0	776.4	1,645.2	3,357.7	8,604.1	18,249.6
Health	112.6	124.6	149.2	272.9	338.3	794.6	1,226.2	2,386.0	5,276.7
Other Services	137.0	187.7	278.4	328.2	434.0	973.4	1,478.3	3,488.5	7,287.0
12. Import Duties	334.1	900.2	1,506.4	1,558.1	3,105.3	7,889.1	13,632.3	33,841.4	79,000.0
13. Less: Imputed Banking Services	64.2	124.9	201.0	297.2	488.4	878.8	1,282.5	4,873.7	4,873.7
14. GDP	7,071.1	12,964.1	19,778.9	30,020.8	55,181.2	113,340.0	218,275.8	569,207.6	1,423,155.9
15. GDP per Capita (Kwacha)	1,093.7	1,952.6	2,901.0	4,287.9	7,673.1	15,331.3	28,939.3	73,361.3	178,926.8
16. GDP per Capita (US\$)	273.4	267.3	326.4	521.4	594.8	529.6	467.2	469.5	411.5
II. Percentage Distribution (%)									
1. Agriculture, Forestry & Fishery	13.1	12.2	11.0	15.8	19.1	18.2	15.8	21.3	27.7
2. Mining & Quarrying	15.6	18.2	13.6	10.5	14.0	9.0	8.4	5.6	10.0
3. Manufacturing	22.9	22.6	28.0	31.6	31.0	31.9	33.3	33.2	24.6
Food, Beverages & Tobacco	8.5	6.5	6.5	8.6	9.4	10.4	10.0	14.3	10.2
Textile & Leather Industries	3.0	2.2	2.3	2.2	2.3	2.2	2.2	1.5	1.4
Wood & Wood Products	0.7	0.7	0.4	0.5	0.9	0.8	1.1	0.7	0.5
Paper & Paper Products	1.3	1.3	1.7	2.4	2.3	2.7	2.0	1.1	0.7
Chemicals, Rubber & Plastics	2.8	2.9	3.0	2.7	2.6	2.2	2.2	2.4	4.5
Non-metallic Mineral Products	1.8	1.2	1.0	6.2	3.9	3.3	6.2	4.9	2.8
Basic Metal Products	0.3	0.2	0.3	0.3	0.4	0.2	0.2	0.1	0.1
Fabricated Metal Products	4.2	7.4	12.4	7.9	8.0	9.1	9.1	7.1	3.9
Other Manufacturing n.e.c.	0.3	0.3	0.4	0.7	0.9	1.0	0.4	1.0	0.3
4. Electricity, Gas & Water	1.0	1.3	1.2	1.0	0.7	0.5	0.8	1.3	1.3
5. Construction	2.6	2.3	2.0	2.1	1.6	3.9	3.8	3.7	4.1
6. Wholesale & Retail Trade	10.8	12.6	14.0	11.5	9.3	9.6	11.6	7.1	8.3
7. Restaurants & Hotels	2.6	2.0	2.2	2.4	2.5	2.6	2.2	3.7	1.6
8. Transport, Storage & Communication	4.8	4.6	4.2	4.0	5.2	4.9	5.1	4.4	6.7
9. Financial Institutions & Insurance	3.2	3.4	3.7	3.6	3.2	2.8	2.1	3.1	1.2
10. Real Estate & Business Services	6.4	5.8	5.8	4.9	3.8	4.3	4.8	4.2	4.2
11. Social & Personal Services	13.2	9.0	7.5	7.2	4.9	6.2	6.4	7.4	5.0
12. Import Duties	4.7	6.9	7.6	5.2	5.6	7.0	6.2	5.9	5.6
13. Less: Imputed Banking Services	0.9	1.0	1.0	1.0	0.9	0.8	0.6	0.9	0.3
GDP	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: National Accounts Statistical Bulletin No. 4, June 1992, CSO (Ref B13)

National Accounts Statistical Bulletin No. 3, January 1990, CSO (Ref B34)

Data by National Accounts Section of CSO

Note: *1 Preliminary estimation

Table 2-12 GDP by Industrial Origin at 1977 Constant Prices: 1985-1993

	1985	1986	1987	1988	1989	1990	1991	1992	1993*1
I. GDP at Current Prices (Kwacha Million)									
1. Agriculture, Forestry & Fishery	343.8	373.8	365.6	436.2	424.5	336.7	406.7	272.2	414.0
Agriculture	303.6	331.7	326.2	389.6	379.0	339.7	361.4	226.6	362.2
Forestry	15.9	14.4	14.2	16.8	16.4	19.4	19.4	21.0	21.9
Fishery	24.3	27.7	25.2	29.8	29.1	27.6	25.9	24.6	29.9
2. Mining & Quarrying	185.8	176.5	184.2	160.4	175.6	162.7	148.5	166.9	154.1
Metal Mining	179.3	169.9	178.7	154.2	169.4	157.8	143.4	161.4	149.8
Others	6.5	6.6	5.5	6.2	6.2	4.9	5.1	5.5	4.3
3. Manufacturing	421.6	423.3	462.9	547.0	544.1	586.7	586.6	636.5	582.3
Food, Beverages & Tobacco	176.9	179.8	189.2	249.6	241.7	268.8	284.3	340.1	320.9
Textile & Leather Industries	74.3	63.5	68.1	76.4	79.2	83.4	72.9	66.1	61.0
Wood & Wood Products	9.3	9.1	8.1	8.0	9.4	10.4	11.9	11.8	10.0
Paper & Paper Products	15.3	19.3	29.9	34.7	36.3	33.9	33.4	32.5	28.6
Chemicals, Rubber & Plastics	42.9	41.7	39.0	39.5	36.4	38.1	39.6	35.6	38.5
Non-metallic Mineral Products	26.1	19.1	21.2	23.2	23.2	32.8	22.9	22.1	20.6
Basic Metal Products	3.6	3.3	2.6	2.8	2.8	2.2	2.2	2.5	2.6
Fabricated Metal Products	68.9	85.1	100.2	100.2	100.2	103.3	106.7	109.4	88.2
Other Manufacturing n.e.c.	4.3	4.4	4.6	10.6	12.9	13.8	13.7	16.4	11.9
4. Electricity, Gas & Water	72.7	71.1	62.2	61.3	49.9	58.8	68.6	60.6	62.7
5. Construction	77.1	81.1	77.3	70.3	63.3	62.6	62.6	58.5	60.4
6. Wholesale & Retail Trade	174.7	174.4	181.5	185.3	186.8	180.7	177.5	165.7	166.9
7. Restaurants & Hotels	51.3	46.8	46.5	48.6	46.2	54.2	48.9	78.6	77.9
8. Transport, Storage & Communication	109.2	110.1	114.5	113.3	110.2	102.1	90.4	84.6	119.3
Rail Transport	32.9	33.4	33.3	31.7	30.0	24.7	30.9	24.6	42.2
Road Transport	30.5	31.2	34.0	34.4	33.9	36.6	20.0	15.9	27.3
Other Transport	20.7	20.5	21.2	20.8	20.2	14.4	11.8	9.4	16.1
Communications	25.1	25.0	26.0	26.4	26.1	26.4	27.7	34.7	33.7
9. Financial Institutions & Insurance	60.6	56.8	50.8	60.0	52.9	53.8	54.7	52.2	52.2
10. Real Estate & Business Services	179.0	178.6	189.2	191.1	192.7	182.7	185.4	185.7	183.6
11. Social & Personal Services	365.6	358.1	370.6	373.5	375.6	381.5	391.9	385.3	384.9
Public Administration	141.3	137.3	142.2	143.2	141.2	147.1	149.3	146.4	146.2
Education	119.0	115.7	120.0	120.7	121.5	123.9	127.5	125.0	124.8
Health	44.1	42.9	44.4	44.7	45.0	45.9	47.2	46.3	46.2
Other Services	61.2	62.2	64.0	64.9	64.9	64.6	67.9	67.6	67.7
12. Import Duties	19.9	22.5	23.1	16.7	17.0	15.9	14.5	21.7	21.7
13. Less: Imputed Banking Services	16.8	15.8	14.1	16.6	14.6	14.9	15.1	32.0	32.0
14. GDP	2,044.5	2,059.3	2,114.3	2,247.1	2,224.2	2,213.5	2,221.2	2,136.5	2,248.0
15. GDP per Capita (Kwacha)	316.2	310.2	310.1	321.0	309.4	299.8	293.5	275.4	282.6
II. Percentage Distribution (%)									
1. Agriculture, Forestry & Fishery	-	8.7	-2.2	19.3	-2.7	-8.9	5.2	-33.1	52.1
2. Mining & Quarrying	-	-5.0	4.4	-12.9	9.5	-7.3	-8.7	12.4	-7.7
3. Manufacturing	-	0.9	8.8	18.2	-0.5	7.8	0.0	8.5	-8.5
Food, Beverages & Tobacco	-	1.6	5.2	31.9	-3.2	11.2	5.8	19.6	-5.6
Textile & Leather Industries	-	-14.5	7.2	12.2	3.7	5.3	-12.6	-9.3	-7.7
Wood & Wood Products	-	-2.2	-11.0	-3.2	17.5	10.6	14.4	-0.8	-15.3
Paper & Paper Products	-	26.1	54.9	16.1	4.6	-6.6	-1.5	-2.7	-12.0
Chemicals, Rubber & Plastics	-	-2.8	-6.5	1.3	-7.8	4.7	1.3	-7.8	8.1
Non-metallic Mineral Products	-	-26.8	11.0	18.9	0.0	30.2	-30.2	-3.5	-6.8
Basic Metal Products	-	-8.3	-21.2	7.7	0.0	-21.4	0.0	13.6	4.0
Fabricated Metal Products	-	23.5	17.7	0.0	0.0	3.1	3.3	2.5	-19.4
Other Manufacturing n.e.c.	-	2.3	4.5	130.4	21.7	7.0	-0.7	19.7	-27.4
4. Electricity, Gas & Water	-	-2.2	-12.5	-1.4	-18.6	17.8	16.7	-11.7	3.5
5. Construction	-	5.2	-4.7	-9.1	-10.0	-1.1	0.0	-6.5	3.2
6. Wholesale & Retail Trade	-	-0.2	4.1	2.1	0.8	-3.3	-1.8	-6.6	0.7
7. Restaurants & Hotels	-	-8.8	-0.6	4.5	-4.9	17.3	-9.8	60.7	-0.9
8. Transport, Storage & Communication	-	0.8	4.0	-1.0	-2.7	-7.4	-11.5	-6.4	41.0
9. Financial Institutions & Insurance	-	-6.3	-10.6	18.1	-11.8	1.7	1.7	-4.6	0.0
10. Real Estate & Business Services	-	-0.2	5.9	1.0	0.8	-5.2	1.5	0.2	-1.1
11. Social & Personal Services	-	-2.1	3.5	0.8	0.6	1.6	2.7	-1.7	-0.1
12. Import Duties	-	13.1	2.7	-27.7	1.8	-6.5	-8.8	49.7	0.0
13. Less: Imputed Banking Services	-	-6.0	-10.8	17.7	-12.0	2.1	1.3	111.9	0.0
14. GDP	-	0.7	2.7	6.3	-1.0	-0.5	0.3	-3.8	5.2
15. GDP per Capita	-	-1.9	0.0	3.5	-3.6	-3.1	-2.1	-6.2	2.6

Source: National Accounts Statistical Bulletin No.4, June 1992, CSO (Ref.B13)
 National Accounts Statistics Bulletin No.3, January 1990, CSO (Ref.B34)
 Data by National Accounts Section of CSO

Note: *1 Preliminary estimation

GDP by type of expenditure was given in Table 2-13 at current prices and in Table 2-14 at 1977 constant prices. Expenditure by government and private sectors since 1985 have kept higher fraction of national economy. It ranged for 96.2% of GDP in 1989 and 77.4% in 1986, and 85.2% on average during the nine years. On the other hand, gross investment accounted for 23.8% in 1986 and 10.4% in 1992, and 14.7% on average. This investment rates seems to be relatively low as compared with other developing countries, because the average rate of low-income economies was 22% on average in 1992, according to "World Development Report 1994" (Ref. D08).

Incremental capital output ratio (ICOR) was 5.3 on average for the latest nine years as shown in Table 2-14, although the ratios fluctuated between 49.7 in 1991 and -21.4 in 1990. The ratio, which is calculated as a quotient of gross investment divided by increment of GDP, indicates necessary points of investment to get one point of increment of GDP.

2.3.2 Input-Output Table

CSO provided an input-output table of 1985. It is also making the latest one of 1990, but it was not finalised yet as of March, 1995. Thus, the 1985 input-output table was the latest version in the country during the time of this master plan study.

The input-output table was tabulated as competitive import type. In the table, the domestic production part indicates the inter-industrial intermediate relation of the national domestic market. The table would be useful to evaluate economic effects of project investment in the national economy. Table 2-1 in Appendix A2 shows the domestic market portion, arranged on the basis of the original table, "Input-output Table of 52 Economic Sectors in Zambia, 1985" compiled by CSO in 1995.

Once one unit of public investment in a construction sector (sector 17 in the table) is inputted in the national market, approximately 34% of intermediate goods and services would be procured from the domestic market, according to Table 2-2 in Appendix 2. The table indicates a coefficient of input from the domestic production sectors, which is compiled through Table 2-1 in Appendix 2. Of the total domestic procurement of 34%, 6% is from the same construction sector, and 5% is from a quarrying and clay sector. The rest 66%, constitutes the procurement (56%) from imports and value added (10%).

Using Appendix 2, Leontief inverse matrix was calculated as shown in Table 2-3 in Appendix 2. This matrix indicates induced effects of investment. Supposing one unit was invested in the national market in the construction sector, 1.54 units of investment effects would be induced in the national economy. Those comprise one unit for the construction sector as direct effect and 0.54 units through the other economic effects on respective production sectors.

Table 2-13 GDP by Type of Expenditure at Current Prices: 1985-1993

Economic Sector	1985	1986	1987	1988	1989	1990	1991	1992	1993*1
I. GDP at Current Prices (Kwacha Million)									
1. Expenditure	5,981.3	10,032.9	16,219.3	24,407.2	53,091.0	93,185.8	178,590.2	525,563.3	1,219,850.5
Government Consumption	1,686.7	3,481.2	4,350.0	4,582.4	7,314.3	21,565.6	69,454.2	85,496.8	176,005.1
Private Consumption	4,294.6	6,551.7	11,829.3	19,824.8	45,516.7	71,620.2	109,136.0	440,066.5	1,043,855.4
2. Gross Investment	1,053.0	3,085.5	2,741.6	3,413.0	5,963.7	19,583.2	32,007.8	52,116.2	720,924.1
Gross Fixed Capital Formation	724.5	1,385.5	1,931.0	2,331.2	3,642.7	15,270.9	24,807.2	55,135.7	160,078.4
Increase of Stocks	328.5	1,701.0	810.6	1,081.8	2,321.0	4,312.3	7,200.6	1,980.5	60,845.7
3. Foreign Trade	37.6	-156.3	817.5	2,200.6	-3,873.5	571.0	7,677.8	-31,296.5	-17,597.7
Exports of Goods & Services	2,740.2	5,759.3	8,512.4	10,266.2	14,791.6	42,302.4	74,967.8	147,110.4	539,036.4
Imports of Goods & Services	2,702.6	5,915.6	7,694.9	8,065.6	18,665.1	41,731.4	67,290.0	178,406.9	596,634.1
4. GDP	7,071.9	12,963.1	19,778.4	30,020.8	55,181.2	113,340.0	218,275.8	551,383.0	1,423,185.9
II. Percentage Distribution (%)									
1. Expenditure	84.6	77.4	82.0	81.3	96.2	82.2	81.8	95.3	85.7
Government Consumption	23.9	26.9	22.2	15.3	13.7	19.0	31.8	15.5	12.4
Private Consumption	60.7	50.5	59.8	66.0	82.5	63.2	50.0	79.8	73.3
2. Gross Investment	14.9	23.8	13.9	11.4	10.8	17.3	14.7	10.4	15.5
3. Foreign Trade	0.5	-1.2	4.1	7.3	-7.0	0.5	3.5	-5.7	-1.2
Exports of Goods & Services	38.7	44.4	43.0	34.2	26.8	37.3	34.3	26.7	40.7
Imports of Goods & Services	38.2	45.6	33.9	26.9	33.8	36.8	30.8	32.4	41.9
4. GDP	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: National Accounts Statistical Bulletin No.4, June 1992, CSO (Ref B13)

National Accounts Statistics Bulletin No.3, January 1990, CSO (Ref B14)

Data by National Accounts Section of CSO

Note: *1 Preliminary estimation

Table 2-14 GDP by Type of Expenditure at 1977 Constant Prices: 1985-1993

Economic Sector	1985	1986	1987	1988	1989	1990	1991	1992	1993*1
I. GDP at 1977 Constant Prices (Kwacha Million)									
1. Expenditure	1,697.0	1,689.0	1,876.1	1,992.2	1,921.2	1,719.0	1,610.4	1,646.3	1,438.9
Government Consumption	460.1	464.4	377.6	331.3	415.7	492.2	665.7	341.7	362.0
Private Consumption	1,236.9	1,224.6	1,498.5	1,660.9	1,505.5	1,226.8	944.7	1,304.6	1,076.9
2. Gross Investment	261.2	385.3	233.9	245.0	228.7	382.9	457.9	407.0	594.4
Gross Fixed Capital Formation	198.8	168.6	158.9	178.1	123.2	172.9	149.9	151.3	209.1
Increase of Stocks	62.4	216.7	75.0	66.9	105.5	210.0	308.0	255.7	355.3
3. Foreign Trade	61.6	10.9	-35.5	-64.1	16.9	11.8	111.2	64.8	116.8
Exports of Goods & Services	527.8	537.8	505.9	475.3	462.6	435.6	455.5	427.1	560.8
Imports of Goods & Services	466.2	526.9	541.4	540.4	452.7	423.8	344.3	362.3	444.0
4. Statistical Discrepancy	23.7	-25.9	39.8	74.0	57.4	99.8	41.7	18.4	97.9
5. GDP	2,044.5	2,059.3	2,114.3	2,247.1	2,224.2	2,213.5	2,221.2	2,136.5	2,248.0
Increment of GDP	-	14.8	55.0	132.8	-22.9	-10.7	7.7	-84.7	111.5
6. Incremental Capital Output Ratio*2	-	17.6	7.0	1.8	-10.7	-21.4	49.7	-5.4	3.7
Average between '85 & '93	-	-	-	-	-	-	-	-	5.3
7. Gross Investment (%)*3	12.8	18.7	11.1	10.9	10.3	17.3	20.6	19.0	26.4
8. Gross Saving (%)*4	17.0	18.0	11.3	11.3	13.6	22.3	27.5	22.9	36.0
9. Resource Balance (%)*5	4.2	-0.7	0.2	-0.4	3.3	5.0	6.9	3.9	9.6
II. Annual Real Growth (%)									
1. Expenditure	-	-0.5	11.1	6.2	-3.6	-10.5	-6.3	2.2	-12.6
2. Gross Investment	-	47.5	-18.7	-12.3	25.5	18.4	35.2	-48.7	5.9
Gross Fixed Capital Formation	-	-15.2	22.4	10.8	-9.4	-18.5	-23.0	38.1	-17.5
3. Foreign Trade	-	-82.6	22.4	10.8	-9.4	-18.5	-23.0	38.1	-17.5
4. GDP	-	0.7	38.7	4.7	-6.7	62.4	19.6	-11.1	46.0

Source: National Accounts Statistical Bulletin No.4, June 1992, CSO (Ref B13)

National Accounts Statistics Bulletin No.3, January 1990, CSO (Ref B14)

Data by National Accounts Section of CSO

Note: *1 Preliminary estimation

*2 Ratio of gross investment to increment of GDP

*3 Share of gross investment to GDP

*4 Share of gross saving (GDP minus gross investment) to GDP

*5 Difference of gross investment subtracted from gross saving

2.4 Economic Sector Profile

2.4.1 Agricultural Sector

Value added (VA) of agricultural sector accounted for 18% of GDP on average during the recent nine years, which fluctuated between 11% in 1987 and 21% in 1992 as shown in Table 2-11. Real agricultural growth averaged only 2.4% annually between 1985 and 1990, as calculated using figures in Table 2-12. This rate was smaller than the population growth rate (2.7%) of the two censuses between 1980 and 1990. Agricultural production depends on investment, land availability and weather in general. In Zambia, variations in weather critically determine agricultural growth in particular.

VA of agricultural sector in 1993 was estimated at K394 billion at current prices as shown in Table 2-11. It was broken down as follows: K327 billion by agriculture including crop and livestock production or 83% of the sectoral VA; K49 billion by forestry or 12%; and K18 billion by fishery or 5%. Referring to "Zambia, Prospects for Sustainable and Equitable Growth" (Ref. C04), the agricultural sub-sector might furthermore be broken down as follows: 55% of the sectoral VA by crop production or K217 billion and 28% by livestock sub-sector or K110 billion. Thus, Zambian agriculture depends on crops in general and on maize in particular. Maize is said to account for almost 85% of crop output in monetary terms.

Agriculture's export base is almost non-existent. Export production consists mainly of small quantities of tobacco, cotton, coffee and beef. Zambia is one of the countries without a developed agricultural export sector.

2.4.2 Industrial Sector

VA of metal mining in Zambia accounted for 98% of the mining and quarrying sector and 10.2% of GDP in 1993, as shown in Table 2-11. Even for the recent nine years, VA of the sector accounted for 11% of GDP on average, which fluctuated between 8% in 1991 and 18% in 1986. Metal mining has been the largest and only one key industry in Zambian economy. Since the oil crisis, however, its share has been decreasing because of declining copper price. Real growth of the sector was -2.3% a year on average between 1985 and 1993, as calculated in Table 2-12.

VA of manufacturing sector accounted for 30% of GDP on average during the recent nine years, which fluctuated between 23% in 1986 and 33% in 1991, as shown in Table 2-11. The top performing sub-sectors, with average share of more than nearly 3% of GDP, were food processing, chemical products, non-metallic mineral products and fabricated metal products.

Manufacturing sector in early stage after independence expanded at high rate through import substitution, thanks to increasing revenue from copper exports and to expanding consumer demand for goods and services. However, recent real manufacturing growth averaged only 4.1% a year between 1985 and 1993. Consumer goods manufacturing recorded comparatively high growth, such as food processing with an annual rate of 7.7% on average during the nine years and paper products with 8.1% of annual growth.

2.4.3 Services Sector

VA of wholesale and retail trade sector in Zambia accounted for 8.3% of GDP in 1993, as shown in Table 2-11. Even for the recent nine years, VA of the sector accounted for 10.5% of GDP on average, which fluctuated between 7.1% in 1992 and 14.0% in 1987. The wholesale and retail sector has been the largest among the services sector. Real growth of the wholesale and retail trade sector averaged -0.5% annually between 1985 and 1993, as calculated in Table 2-12.

VA of social and personal service sector including public services accounted for 6.7% of GDP on average during the recent nine years, which fluctuated between 4.9% in 1989 and 13.2% in 1985, as shown in Table 2-11. The public administration sub-sector occupied the largest share among this sector, which accounted for 56% in 1993.

Tourism is expected one of the major sources of foreign exchange earnings. To facilitate this operations, Ministry of Tourism and Zambia National Tourist Board (ZNTB) were established in 1979. Several tourism parastatals under the National Hotels Development Corporation (NHDC) have been reorganised. In 1985 the number of foreign tourist arrivals was 136,760. In 1990 that increased to 141,004, so an increase of 0.6% per annum on average was recorded during the five years. In 1993, the number increased to 167,271. The tourism industry is centred on the game parks and Victoria Falls. NHDC is trying to develop new tourist spots in areas such as Lakes Kariba and Tanganyika. However, the tourism industry has not grown as expected at the first stage, so far.

2.5 Infrastructure

2.5.1 Social Infrastructure

(1) Education Facilities

In 1990, Zambia's educational system consisted of the following institutions: 3,587 primary schools, 498 secondary schools, 14 teacher training colleges, 14 technical and vocational institutions and 2 universities of the University of Zambia and the Copperbelt University. Since the national census population was 7.38 million, a primary school was allotted for every 2,060 people on average and a secondary school, 14,800 in 1990.

The primary school cycle starts at the age of seven and comprises seven years. The secondary school cycle starts at the age of 14 and comprises five years. A wide range of fields of study such as specialised programmes leading to diplomas in teaching, agriculture, technology, nursing etc., is presented at tertiary education which consists of teaching training college, technical and vocational institution, and university.

In 1992, there were 4,107 primary schools in the country, which had 1.57 million pupils as shown in Table 2-15. National average enrolment, therefore, was 381 pupils per school. In the same year, there were 522 secondary schools. Enrolment was 0.19 million. Then, average enrolment was 364 pupils per school.

Table 2-15 Number of Education Institutions and Enrollment: 1992

Code	Province District	Primary School		Secondary School	
		No. of Schools	Enrollment	No. of Schools	Enrollment
11	Lusaka-Urban	99	132,660	13	10,784
12	Lusaka-Rural	79	45,780	6	2,834
13	Luangwa	10	3,406	2	1,092
21	Ndola-Urban	52	60,345	14	8,711
22	Ndola-Rural	75	35,229	4	5,195
23	Chililabombwe	15	14,329	4	2,058
24	Chingola	32	42,040	6	4,466
25	Mufulira	39	31,907	10	4,283
26	Kalulushi	17	9,403	5	5,910
27	Kitwe	52	79,709	11	10,519
28	Luanshya	36	34,992	11	9,892
31	Kabwe-Urban	34	33,840	8	7,634
32	Kabwe-Rural	128	49,919	3	1,521
33	Mumbwa	82	31,385	6	2,279
34	Mkushi	98	25,409	10	2,917
35	Serenje	87	21,751	4	1,917
41	Solwezi	108	19,141	9	5,248
42	Mwinilunga	66	15,844	7	2,493
43	Zambezi	70	12,754	7	2,477
44	Kabompo	52	11,069	4	1,158
45	Mfumbwe	25	5,801	3	217
46	Kasempa	35	9,523	3	1,593
51	Mongu	97	30,314	16	4,140
52	Lukulu	61	10,631	4	495
53	Kalabo	88	18,507	11	1,971
54	Kaoma	73	22,288	6	2,106
55	Senanga	98	22,499	9	2,168
56	Sesheke	56	75,384	6	1,922
61	Livingstone	41	24,891	19	5,744
62	Namwala	65	17,702	11	1,490
63	Mazabuka	85	33,907	20	4,632
64	Monze	106	32,398	18	4,890
65	Choma	128	43,873	21	6,647
66	Kalomo	137	37,780	22	2,388
68	Gwembe	99	24,068	15	3,393
71	Mansa	83	30,024	6	1,711
72	Nchelenge	56	20,721	5	892
73	Kawambwa	71	20,165	13	3,980
74	Mwense	50	12,417	4	1,131
75	Samfya	84	18,238	6	1,904
81	Kasama	119	41,099	13	6,340
82	Kaputa	47	10,392	4	341
83	Mbala	107	23,283	14	3,131
84	Mporokoso	53	10,712	6	1,503
85	Luwingu	65	14,651	7	2,072
86	Chilubi	41	6,468	4	425
87	Isoka	117	31,899	13	2,973
88	Chinsali	91	21,064	8	3,037
89	Mpika	85	27,632	6	2,609
91	Chipata	170	56,500	32	7,062
92	Chama	60	11,745	4	1,542
93	Lundazi	139	30,750	19	3,782
94	Chadiza	40	6,271	8	1,427
95	Katete	65	15,978	9	3,065
96	Petauke	139	37,368	13	3,920
10	Lusaka	188	181,846	21	14,710
20	Copperbelt	318	307,954	65	51,034
30	Central	429	162,304	31	16,268
40	Northwestern	356	74,132	33	13,186
50	Western	473	179,623	52	12,802
60	Southern	661	214,619	126	29,184
70	Luapula	344	101,565	34	9,618
80	Northern	725	187,202	75	22,381
90	Eastern	613	158,612	85	20,798
	Zambia	4,107	1,567,857	522	189,981

Source: Ministry of Education

Note: Data of Siavonga and Sinazongwe Districts are involved in Gwembe District.

(2) Medical Facilities

Medical care and health services in Zambia are provided by the Government and by institutions run by some industries and the missions. They are provided at the following levels of care: (a) health centres, (b) district hospitals, (c) general hospitals, and (d) central and specialised hospitals.

In 1993, there were 84 hospitals and 1,028 health centres in the country according to the data by Ministry of Health (MOH). Since the national population was estimated at 7.95 million in 1993, a hospital was allotted for every 0.95 million people on average and a health centre, 7,700. The total 84 hospitals were distributed as follows: 3 central hospitals; 9 general hospitals; 36 district hospitals; 5 specialised hospitals; 19 other mission hospitals; 8 industrial hospitals; and 4 other government hospitals. The hospitals and health centres were broken down into respective districts as shown in Table 2-16.

The number of beds and cots in respective districts were enumerated in the table. The total number of beds and cots in the country were 25,707 in 1993, which were distributed as 21,356 beds and 4,351 cots. Thus, there were 3.2 beds and cots per 1,000 population in the country. This figure is somewhat smaller as compared to the recommended level of World Health Organisation (WHO), five beds per 1,000 population. However, Zambia seems to rank high for the number of hospital beds and cots per population among African countries.

2.5.2 Physical Infrastructure

(1) Transport

The total length of all roads was 36,764 km in 1990. It was classified by type as follows: 6,507 km or 18% of the total was paved by bitumen; 8,360 km or 23% by gravel; and 21,897 km or 59% was earth road. The road density to the total national territory was 49 m per km².

The railways system is run by two organisations, i.e., Zambia Railways and the Tanzania-Zambia Railway Authority (TAZARA). The former operates and maintains the total railway of 1,260 km which runs along Copperbelt, Lusaka and Livingstone line. The latter manages the tazara line of 1,860 km long, which provides Zambia with another outlet to the India Ocean port of Dar-es-Salaam in Tanzania.

The total number of airports was 13 in 1991. The total number of flights decreased to 28,600 in 1991 from 36,200 in 1990. Then, the number of passengers fell down by 182,900 to 679,500 in 1991 from 862,400 in 1990. The total amount of freight also declined by 4,000 tonnes to 11,400 tonnes in 1991 from 15,400 tonnes in 1990.

(2) Water Supply and Sanitation

According to the "Economic Report 1993, NCDP" (Ref. C15), less than 25% of the rural people and 43% of the urban people had access to safe drinking water and sanitation facilities as of 1993. The "Social Sector Rehabilitation and Development Programme, 1993-1996" (Ref. D01), says that about 30% of the rural people and 43% of the urban people can access to safe water. Government policy aims at improving accessibility to 35% and 70% for the rural and urban population by 1996.

Table 2-16 Number of Hospitals and Health Centres: 1993

Province	District	Hospital			Health Centre (HC)		
		No. of Hospitals	No. of Beds	No. of Cots	No. of HC	No. of Beds	No. of Cots
11	Lusaka-Urban	3	1,759	501	32	140	90
12	Lusaka-Rural	1	68	22	33	103	23
13	Luangwa	1	78	39	4	16	1
21	Ndola-Urban	2	890	316	54	37	4
22	Ndola-Rural	2	255	60	37	403	35
23	Chililabombwe	1	235	144	7	28	20
24	Chingola	2	322	238	14	73	20
25	Mufulira	3	427	119	19	42	30
26	Kaluhushi	1	99	33	10	21	7
27	Kitete	3	829	264	38	79	53
28	Luanshya	3	385	163	26	46	17
31	Kabwe-Urban	2	599	184	18	6	2
32	Kabwe-Rural	1	200	1	29	206	27
33	Mumbwa	1	75	4	20	62	12
34	Mtshati	0	0	0	18	246	43
35	Serenje	2	185	20	11	80	8
41	Sobwezi	1	251	53	37	260	25
42	Mwinilunga	2	290	32	24	195	27
43	Zambezi	3	374	45	23	199	10
44	Kabompo	2	193	32	13	145	13
45	Mfumbwe	0	0	0	7	65	7
46	Kasempa	1	151	13	12	34	6
51	Mongu	1	280	73	25	211	20
52	Lukulu	1	118	0	11	28	0
53	Kalabo	2	201	19	11	64	3
54	Kaoma	3	294	0	12	44	0
55	Senanga	1	99	33	23	165	13
56	Sesheke	3	343	39	13	86	20
61	Livingstone	1	320	114	19	23	8
62	Namwala	1	37	2	16	136	19
63	Mazabuka	3	471	38	16	125	11
64	Monze	1	200	69	15	146	30
65	Choma	2	434	45	24	245	30
66	Kalomo	0	0	0	28	279	35
67	Siyavonga	2	142	28	4	69	9
68	Gwenbe	1	56	6	3	38	10
69	Sinazongwe	0	0	0	11	111	18
71	Mansa	1	311	72	27	143	19
72	Nchelenge	2	129	41	12	64	10
73	Kawambwa	1	118	14	15	134	12
74	Mwense	0	0	0	17	234	66
75	Samfya	2	203	10	19	132	4
81	Kasama	2	494	46	25	283	22
82	Kaputa	0	0	0	8	107	7
83	Mbala	1	184	65	15	165	10
84	Mporokoso	1	96	12	9	42	2
85	Luswingu	1	46	10	7	92	9
85	Chilubi	0	0	0	10	113	2
87	Isicks	1	84	1	16	156	12
88	Chinsali	1	50	3	14	223	9
89	Mpika	2	215	56	13	132	5
91	Chipeta	3	727	123	28	302	35
92	Chama	0	0	0	12	57	8
93	Lundazi	2	228	27	15	154	31
94	Chadiza	0	0	0	9	87	12
95	Katete	1	252	90	12	64	3
96	Petauke	4	417	42	26	176	3
10	Lusaka	5	1,905	562	69	259	114
20	Copperbelt	17	3,442	1,337	205	749	187
30	Central	6	1,059	299	96	600	92
40	Northwestern	9	1,264	175	116	899	88
50	Western	11	1,335	164	95	598	56
60	Southern	11	1,660	302	136	1,172	170
70	Luapula	6	761	137	90	707	111
80	Northern	9	1,169	193	119	1,313	78
90	Eastern	10	1,624	282	102	840	94
	Zambia	84	14,219	3,361	1,028	7,137	990

Source: Ministry of Education (Ref D10)

According to the 1990 census, 2.75 million people or 37% of the total population were served by piped water system in the country. Of these served population, 0.97 million people or 35% were served by inside water taps within their houses, as shown in Table 2-17. 1.37 million or 50% was served by communal taps around their houses. The rest of 0.41 million or 15% was also served by communal taps but their service points were located more than 100 metres away from their houses. In urban areas, 2.46 million people or 85% of the urban population were covered by the piped supply system. In rural areas, however, only 0.29 million people or 6.5% of the rural population were covered by the piped system. 2.32 million people or 52% of the rural population were served by well or borehole water sources. Thus, 2.61 million people or 58% of the total rural population were covered by the safe water sources in rural areas.

As seen in the same table, 1.46 million people or 20% of the total population were using flush toilet system in the country in 1990. In urban areas, 1.38 million or 48% of the urban population had the flush toilet. In rural areas, however, only 0.082 million or 1.8% of the total rural population used the flush system in their living quarters.

(3) Electrification

The supply of electricity to consumers in the country was 6,600 GWh in 1992/93. The total electricity generation was 6,850 GWh by the Zambian power stations in the same year. Thus, Zambia has achieved a high degree of self-sufficiency. 1,200 GWh or 18% of the total consumption was exported to Zimbabwe and the balance was imported from Zaire.

According to the 1990 census, electric lighting system covered only 1.21 million people or 16% of the total population in the country, as shown in Table 2-18. In urban areas, 1.12 million people or 39% of the urban population were covered by the electric lighting system. In rural areas, however, only 0.088 million or 2.0% of the total rural population was using the electric lighting.

(4) Communication

In 1990, the number of post offices was 162 in the country. The number of street posting boxes was 252 in 1990. The number of post office boxes (P.O.Box) was 45,086 in the same year.

The number of telephone subscribers lines was 60,750 in 1990. Since the number of households was 1.53 million in 1990, one telephone was installed per 25 households on average in the country. Besides telephone, telex subscribers lines was 2,770 in the same year.

**Table 2-17 Households and Persons by Main Source of Water Supply
and by Type of Toilet Facility: 1990**

(Unit: 1000)

Item	Total	Piped Water			Well or Borehole	River/ Stream	Others	Not Stated
		Inside Housing Unit	Outside Housing Unit	Beyond 100m				
Water Supply								
1. Zambia								
Households	1,327.0	142.6	242.8	78.9	489.5	322.1	34.7	16.4
Persons	7,367.0	967.7	1,371.8	414.3	2,647.3	1,677.1	189.2	99.6
2. Urban								
Households	491.3	132.2	214.5	62.2	63.8	9.6	1.7	7.4
Persons	2,893.6	904.6	1,228.0	328.6	328.9	47.4	8.6	47.6
3. Rural								
Households	835.7	10.4	28.3	16.7	425.7	312.5	33.1	9.0
Persons	4,473.4	63.1	143.8	85.7	2,318.4	1,629.7	180.7	52.0
		Total	Flush	Bucket	Aquaprivy	Pit Latrine	Others	Not Stated
Type of Toilet Facility								
1. Zambia								
Households		1,327.0	222.5	1.7	8.6	699.0	374.3	20.9
Persons		7,367.0	1,457.6	9.9	46.7	3,754.2	1,973.2	125.4
2. Urban								
Households		491.3	208.9	1.1	7.4	250.4	16.8	6.8
Persons		2,893.7	1,375.6	6.3	40.7	1,348.1	78.3	44.6
3. Rural								
Households		835.7	13.6	0.7	1.2	448.6	357.6	14.0
Persons		4,473.4	82.0	3.7	6.0	2,406.1	1,894.9	80.8

Source: Census of Population, Housing and Agriculture, 1990, Volume 10, CSO (Ref. B36)

Table 2-18 Housing Units, Households and Persons by Main Source of Energy Used for Lighting and Cooking: 1990

(Unit: 1000)

Item	Total	Electricity	Gas	Paraffin/ Kerosene	Candle	Others	Not Stated	
Lighting								
1. Zambia								
Housing Units	1,321.1	183.4	9.6	971.1	18.1	130.0	8.8	
Households	1,327.0	185.0	9.7	975.0	18.3	130.1	8.9	
Persons	7,367.0	1,206.5	55.2	5,326.6	98.6	620.4	59.8	
2. Urban								
Housing Units	486.6	168.6	4.5	292.4	13.4	4.0	3.7	
Households	491.3	170.2	4.5	295.2	13.5	4.0	3.8	
Persons	2,893.6	1,118.3	26.0	1,626.8	75.1	19.3	28.1	
3. Rural								
Housing Units	834.4	14.7	5.2	678.7	4.7	126.0	5.1	
Households	835.7	14.8	5.2	679.8	4.7	126.1	5.1	
Persons	4,473.4	88.2	29.2	3,699.8	23.5	601.0	31.7	
	Total	Electricity	Gas	Paraffin/ Kerosene	Wood	Charcoal	Others	Not Stated
Cooking (Number of Housing Units)								
1. Zambia	1,321.0	117.2	4.8	32.6	824.3	329.5	6.2	6.3
2. Urban	486.6	110.4	2.5	16.3	80.4	273.2	0.6	3.1
3. Rural	834.3	6.8	2.3	16.2	743.9	56.3	5.6	3.2

Source: Census of Population, Housing and Agriculture, 1990, Volume 10, CSO (Ref. B36)

2.6 Living Standards

2.6.1 Housing Conditions

Among the total households of 1.33 million, 0.56 million or 42% was living in a housing unit having two rooms on average in the country in 1990. 0.32 million or 24% was in three rooms housing unit, as shown in Table 2-19. In urban and rural areas, this tendency was almost in the same conditions as the national trend.

An average family size of the country was around 4.8 in the 1990 census year, as shown in Table 2-5. An average family size in urban and rural areas was estimated at 5.2 and 4.6, respectively. As shown in Table 2-19, the average number of rooms per housing units was 2.6 in the country. It distributed as 2.8 rooms in urban areas and 2.6 rooms in rural areas. Then, the average persons per room were 1.8 in the country. In the same manner, those were 1.9 in urban areas and 1.8 in rural areas.

In the country, 0.46 million households or 35% of the total households were served by piped water system in 1990. Of these households, 0.14 million or 31% installed water taps within their houses, as shown in Table 2-17. 0.24 million or 52% was served by communal taps around their houses. The rest of 0.08 million or 17% was also served by communal taps but their service points were located more than 100 metres away from their houses. In urban areas, 0.41 million households or 83% of the urban households were covered by the piped supply system. In rural areas, however, only 0.6 million households or 7% of the rural households were covered by the piped system. 0.43 million or 51% of the rural households was served by well or borehole water sources. Thus, 0.48 million or 58% of the total households was covered by safe water in rural areas.

0.22 million households or 17% of the total households installed flush toilet system in the country in 1990, as shown in Table 2-17. In urban areas, 0.21 million or 43% of the urban households had the flush toilet. In rural areas, however, only 0.014 million or 1.6% of the total rural households built the flush system in their houses.

Electric lighting system covered only 0.18 million households or 14% of the total households in the country in 1990, as shown in Table 2-18. In urban areas, 0.17 million households or 35% of the urban households were covered by the electric lighting system. In rural areas, however, only 0.015 million or 1.8% of the rural households was using the electric lighting.

Regarding cooking energy, 0.12 million housing units or 8.9% of the total housing units were using electricity in the country in 1990, as shown in Table 2-18. Although 0.11 million housing units or 23% of the urban housing units were using electricity for cooking, only 0.007 million or 0.8% of the total rural housing units were using electricity.

Table 2-19 Households by Family Size and Number of Rooms: 1990

(Unit: 1000)

Family Size (Persons)	Weighted Average (Rooms)	Total	Number of Rooms per Housing Unit (Rooms)							More Than 10	Not Stated
			1	2	3	4	5	6 to 9			
1. Zambia	2.6	1,327.0	178.7	563.1	318.5	161.8	52.9	35.6	3.3	13.1	
1	2.1	102.7	27.5	51.2	15.0	5.1	1.4	1.0	0.1	1.4	
2	2.2	147.3	31.6	75.1	26.0	8.8	2.6	1.6	0.2	1.5	
3	2.3	166.4	30.6	84.0	33.6	11.5	3.2	1.9	0.2	1.5	
4	2.4	169.6	25.8	81.8	39.2	14.5	4.2	2.4	0.2	1.5	
5	2.5	158.8	20.2	71.9	40.7	16.9	5.0	2.6	0.2	1.3	
6	2.7	140.9	14.6	59.3	38.8	18.5	5.4	3.0	0.2	1.2	
7	2.8	120.1	10.4	45.8	34.8	19.2	5.5	3.1	0.2	1.0	
8	3.0	95.8	6.6	33.5	28.8	17.4	5.4	3.1	0.2	0.8	
9	3.1	71.0	4.2	22.3	21.4	14.8	4.7	2.8	0.2	0.6	
More Than 10	3.6	154.4	7.3	38.1	40.4	35.0	15.5	14.0	1.8	2.3	
2. Urban	2.8	491.3	49.1	194.8	129.8	78.5	21.3	12.7	0.8	4.3	
1	2.1	32.0	8.6	15.0	4.8	2.1	0.5	0.4	0.1	0.5	
2	2.3	46.6	10.2	22.5	8.2	3.6	0.9	0.7	0.1	0.5	
3	2.4	52.7	9.2	25.6	10.8	4.7	1.1	0.8	0.0	0.5	
4	2.5	57.7	7.2	27.4	13.7	6.2	1.6	1.0	0.1	0.4	
5	2.7	56.7	5.1	25.5	15.4	7.4	1.9	1.1	0.0	0.4	
6	2.8	54.1	3.4	22.4	15.8	8.6	2.2	1.3	0.1	0.4	
7	2.9	49.2	2.2	18.2	15.5	9.5	2.3	1.2	0.1	0.3	
8	3.1	42.3	1.4	14.0	13.9	9.1	2.3	1.3	0.1	0.3	
9	3.2	32.9	0.8	9.5	10.9	8.2	2.1	1.1	0.0	0.2	
More Than 10	3.5	67.0	1.0	14.8	20.7	19.2	6.2	4.0	0.3	0.9	
3. Rural	2.6	835.7	129.6	368.2	188.8	83.3	31.7	22.9	2.5	8.8	
1	2.1	70.7	18.9	36.2	10.1	3.0	0.9	0.6	0.1	0.9	
2	2.2	100.7	21.4	52.6	17.8	5.2	1.6	1.0	0.1	1.0	
3	2.3	113.7	21.4	58.4	22.7	6.8	2.1	1.1	0.1	1.0	
4	2.4	111.9	18.5	54.4	25.5	8.3	2.6	1.4	0.1	1.0	
5	2.5	102.0	15.1	46.4	25.3	9.5	3.1	1.6	0.1	0.9	
6	2.6	86.7	11.1	36.8	23.0	9.9	3.2	1.7	0.2	0.8	
7	2.7	70.8	8.2	27.7	19.3	9.7	3.3	1.9	0.1	0.7	
8	2.9	53.5	5.3	19.5	14.9	8.3	3.0	1.8	0.1	0.6	
9	3.0	38.2	3.4	12.8	10.5	6.6	2.6	1.7	0.1	0.4	
More Than 10	3.6	87.3	6.2	23.3	19.7	15.8	9.3	10.1	1.5	1.4	

Source: Census of Population, Housing and Agriculture, 1990, Volume 10, CSO (Ref. B36)

Note: In average calculation, the number of rooms of the categories "6 to 9" and "more than 10" was assumed as 7.5 and 10, respectively.

2.6.2 Household Income and Expenditure

CSO conducted the study of "Priority Survey I, Social Dimensions of Adjustment" (Ref. B27) in 1991. The survey report presents data on average monthly household income by province. The data in Table 2-20 give that the provincial average income ranged between K14,500 in Lusaka Province and K3,000 in Western Province. The ratio of Lusaka to Western was 1:0.21. The range of urban household income decreased to K15,200:K7,000 or 1:0.46. Among rural areas, on the other hand, rural Copperbelt had the highest monthly average income of K12,300. Rural Northwestern had an average of less than K1,800. Their ratio reached down to 1:0.14.

Table 2-20 Provincial Distribution of Average Household Income: 1991

		(Unit: Kwacha)		
Code	Province	Urban	Rural	Whole Area
10	Lusaka	15,229	10,253	14,535
20	Copperbelt	9,000	12,307	9216
30	Central	8,894	5,871	7,071
40	North-western	7,934	1,764	3,371
50	Western	7,045	2,247	3,003
60	Southern	10,528	5,163	6,581
70	Luapula	8,943	3,588	5,076
80	Northern	9,142	2,152	3,374
90	Eastern	7,708	2,764	3,561
	All Zambia	10,738	3,364	6,690

Source: Social Dimensions of Adjustment, Priority Survey I, 1991, November 1993, CSO (Ref.B27)

The average household expenditure of the country was K5,042 in 1991 and distributed as K9,251 in urban area and K1,920 in rural area. Table 2-21 shows household expenditure by province in percentage share form. The largest expenditure item was food accounting for 60% of the total household expenditure in urban and 54% in rural. Housing expense accounted for 19% in urban and 11% in rural. Expenditure for water was only 0.57% of the total expenditure in urban and 0.11% in rural.

Table 2-21 Provincial Distribution of Household Expenditure: 1991

Code	Province	Food	Housing			Clothing	Others	Total
			Rent	Water	Others			
Urban Areas								
10	Lusaka	55	9	1	14	6	15	100
20	Copperbelt	65	1	0	14	7	12	100
30	Central	65	2	0	8	9	15	100
40	North-western	58	1	0	16	9	16	100
50	Western	67	2	0	10	8	13	100
60	Southern	61	3	0	15	10	10	100
70	Luapula	62	2	1	10	14	11	100
80	Northern	66	3	0	8	8	15	100
90	Eastern	56	8	1	7	11	17	100
	All Zambia	60	5	1	13	7	14	100
Rural Areas								
10	Lusaka	62	2	0	10	7	19	100
20	Copperbelt	62	0	2	8	11	17	100
30	Central	53	0	0	6	20	21	100
40	North-western	53	0	0	15	22	10	100
50	Western	54	0	0	11	16	19	100
60	Southern	42	1	0	14	14	29	100
70	Luapula	59	2	0	10	15	14	100
80	Northern	60	1	0	10	13	16	100
90	Eastern	45	1	0	7	25	22	100
	All Zambia	54	1	0	10	16	19	100

Source: Social Dimensions of Adjustment, Priority Survey I, 1991, November 1993, CSO (Ref.B27)

2.7 External Trade

2.7.1 Structure of External Trade

There have been export surpluses for six years from 1986 to 1991 as shown in Table 2-22. In 1991, export surplus showed an upward trend, reaching K16.0 billion. The contribution of the total exports (K67.7 billion) of goods and services to GDP (K218.3 billion) in 1991 stood at 31%. The total imports of goods and services for the same year contributed 24%. In 1992, however, foreign trade recorded a deficit of K146 billion, because of serious drought.

Table 2-22 Total Export and Import: 1985-1991

Year	Exports (FOB)			Imports (CIF)	Balance
	Total	Domestic	Re-exports		
1985	1,508	1,502	6	2,133	-625
1986	5,367	5,348	19	4,448	919
1987	8,059	8,032	27	6,628	1,431
1988	9,786	9,720	66	6,898	2,888
1989*	18,434	18,336	98	12,601	5,833
1990*	39,143	39,037	107	36,553	2,590
1991	69,607	69,522	85	51,773	17,834
1992	129,475	129,303	172	144,108	-14,633

Source: External Trade Bulletin 1993, CSO (Ref. B31)

Note: * Preliminary

Zambia's major exports are minerals, namely, copper, zinc, lead and cobalt, with copper being the largest foreign exchange earner. In 1992, copper accounted for K83.8 billion as shown in Table 2-23 or 65% of the total exports in terms of value, while cobalt accounted for K2.5 billion or 2%. The share of other commodities was each less than 1%. This heavy dependence on copper for Zambia's foreign exchange earnings has resulted in a very volatile performance of the national economy due to fluctuation in copper prices on the world market.

During the period 1985-1992, petroleum registered the highest share of imports, as shown in Table 2-23. Capital goods such as various machinery also had a large share of imports. Of the total value of imports in 1992, petroleum constituted K22.9 billion or 16%, while machinery of items 6, 7 and 8 in the table accounted for K29.4 in total or 20%. In 1992, K13.5 billion was spent on importing cereals because of drought, accounting for 9% of the total value of imports.

During the period 1985-1992, South Africa has been the largest source of Zambia's imports, as shown in Table 2-24. The import from South Africa registered K38.6 billion or 27% of the total value of imports. The value of imports from United Kingdom accounted for K16.9 billion or 12%, followed by USA, Zimbabwe, Japan and Germany. In terms of exports, Japan is the most important destinations for Zambia, as shown in the table. Kenya, Zimbabwe, United Kingdom are also the important destination of Zambia's exports in 1992.

2.7.2 Balance of Payment

The improvement in copper prices helped significant improvements in the balance of trade and the current account after mid-year of 1987. However, the deficit on current account widened for the period 1987-1993, as shown in Table 2-25. The largest deficit during the period was K238 billion experienced in 1993. A large margin of the deficits on the current account balance was due to the ever increasing deficit on the invisible trade which is stated as non-factor service in the table. During the period, alone the deficit in invisible trade balance increased almost the same pace of the trade balance. Another contributory factor to the wide margin of deficit in the current account balance was lack of expansion of the net investment income.

2.7.3 Foreign Exchange Rate

Table 2-26 shows foreign exchange rates between Kwacha and US dollar for the latest ten years, at the end of respective months and on average of the months. The projects costs and benefits are estimated on the basis of this price level in January 1995. The exchange rate at that time was US\$ 0.0016 per Kwacha or K610 per US\$.

Table 2-23 External Trade by Principal Commodity: 1985-1992

Commodity	1985	1986	1987	1988	1989	1990	1991*1	1992*1
I. Export								
Millions of Current Kwacha								
1. Copper	1,258.5	4,428.6	6,845.2	8,339.6	16,353.1	33,733.6	33,785.7	83,783.4
2. Zinc	53.2	99.2	130.9	161.9	301.9	438.1	464.4	781.5
3. Lead	7.4	15.5	19.8	19.0	8.5	0.8	53.5	10.5
4. Cobalt	23.9	385.2	466.2	598.2	1,101.2	2,543.9	1,174.1	2,483.1
5. Tobacco	2.2	4.3	16.6	29.3	24.3	125.3	256.4	786.9
6. Electricity*2	24.0	30.5	98.4	107.4	70.8	453.9	1,791.2	269.1
Thousands of Tonnes								
1. Copper	474.5	436.3	475.8	398.2	431.5	441.2	348.9	399.0
2. Zinc	20.1	21.1	19.7	19.2	13.0	9.5	6.2	4.1
3. Lead	5.1	4.8	4.4	3.7	1.2	0.0	1.3	0.2
4. Cobalt	1.9	4.7	4.3	5.2	4.2	4.9	4.5	4.3
5. Tobacco	1.2	0.7	2.5	2.1	1.0	2.0	1.3	2.3
II. Import in Millions of Current Kwacha								
1. Cereals	42.9	74.8	12.7	129.9	171.4	175.5	384.2	13,491.1
2. Petroleum	459.3	110.9	806.1	827.6	2,218.7	5,209.4	8,314.9	22,856.2
3. Fertilizer	87.4	22.2	378.0	113.9	57.5	777.2	573.3	4,277.6
4. Chemical Materials	67.7	137.0	290.5	396.6	286.4	1,100.9	1,478.0	6,238.3
5. Iron and Steel	75.8	151.6	217.4	263.2	450.9	1,303.0	1,682.1	5,999.3
6. Machinery Specialized	179.2	345.2	517.9	538.6	635.9	2,342.5	5,051.3	12,541.4
7. General Machinery	172.6	417.1	606.7	533.6	930.7	2,491.1	4,568.3	11,189.0
8. Electrical Machinery	64.3	177.6	344.6	344.8	415.3	1,195.3	1,797.4	5,681.6
9. Road Vehicle	276.2	547.5	1,066.2	1,149.5	1,443.1	4,511.9	6,131.6	8,383.4

Source: External Trade Bulletin 1992 & 1993, CSO (Ref. B14 & B31)

Note: *1 Preliminary figures

*2 Quoted from "Zambia, Prospects for Sustainable and Equitable Growth, August 1993, WB" (Ref.C04)

Table 2-24 External Trade by Country: 1985-1992

	(Unit: K' million)							
Country	1985	1986	1987	1988	1989	1990	1991*1	1992*1
I. Export								
Preferential Trade Area								
1. Angola	3.3	4.9	6.4	9.4	15.2	25.3	73.2	24.2
2. Botswana	1.4	5.9	7.5	15.3	3.3	5.5	480.2	356.6
3. Burundi	4.8	14.4	16.3	27.7	20.3	220.5	346.4	182.2
4. Kenya	8.6	35.5	41.3	33.3	128.4	213.9	2,294.5	4,502.4
5. Malawi	9.6	14.5	5.8	32.7	71.5	119.2	789.6	863.5
6. Mozambique	0.3	4.7	1.5	1.3	1.4	2.3	1.4	17.2
7. Swaziland	0.0	0.3	0.4	0.2	0.0	0.1	9.7	34.8
8. Tanzania	16.4	38.2	40.5	52.8	51.8	86.4	635.1	118.5
9. Zimbabwe	40.6	30.0	67.5	166.0	299.4	499.0	2,863.2	4,014.7
Other Selected Countries								
1. United Kingdom	109.3	239.9	266.1	246.3	201.8	336.3	3,208.9	3,391.9
2. South Africa	9.2	25.3	33.2	65.8	33.5	55.8	305.7	880.1
3. USA	43.8	308.8	324.9	1,712.1	189.0	270.0	1,569.8	810.9
4. Japan	343.9	655.8	1,040.6	1,604.1	3,060.8	5,101.3	13,161.9	26,199.2
5. West Germany	71.6	122.1	188.7	147.5	64.5	107.5	94.6	641.0
II. Import								
Preferential Trade Area								
1. Angola	0.1	0.3	0.0	0.0	0.1	0.2	0.0	0.0
2. Botswana	4.4	18.7	65.8	61.6	117.0	195.0	196.6	713.5
3. Burundi	0.0	0.0	0.0	0.0	0.8	33.7	6.5	54.4
4. Kenya	6.7	11.7	13.9	12.5	81.0	134.9	205.2	991.8
5. Malawi	21.5	23.5	8.5	7.0	76.8	128.1	307.4	383.0
6. Mozambique	0.0	0.1	0.0	0.0	0.4	0.7	92.5	63.7
7. Swaziland	1.7	29.6	10.3	31.2	143.8	239.7	263.7	527.8
8. Tanzania	2.2	5.7	14.3	26.5	40.2	67.0	77.9	500.0
9. Zimbabwe	74.8	132.8	578.5	290.9	1,035.2	1,725.3	2,865.9	9,389.0
Other Selected Countries								
1. United Kingdom	317.6	729.1	689.8	161.1	3,584.5	5,974.1	9,658.8	16,949.9
2. South Africa	387.0	777.9	1,162.3	1,303.0	3,737.7	6,229.0	10,673.0	38,602.9
3. USA	193.5	456.3	622.3	1,751.5	938.9	3,742.6	3,658.0	12,405.7
4. Japan	100.0	383.9	421.1	694.1	1,478.2	2,463.6	4,908.2	6,472.4
5. West Germany	90.9	278.0	712.6	436.2	2,576.4	4,293.9	2,144.2	5,361.6

Source: External Trade Bulletin 1992 and 1993, CSO (Ref. B14 & B31)

Note: *1 Preliminary figures

Table 2-25 Balance of Payments: 1987-1993

(Unit: K' million)

Item	1987*1	1988*1	1989*1	1990*2	1991*3	1992*4	1993*4
1. Exports (FOB)	8,059	9,786	18,434	40,707	67,668	198,160	535,296
2. Imports (FOB)	5,572	5,675	10,686	33,744	45,759	139,508	424,106
3. Trade Balance	2,486	4,111	7,748	6,963	21,908	58,652	111,190
4. Non-Factor Services (net)	-1,860	-2,123	-5,383	-7,920	-18,668	-49,664	-110,090
Freight & Insurance	-	-	-	-4,733	-5,905	-20,427	-63,397
Other Services	-	-	-	-3,188	-12,763	-29,236	-46,692
5. Investment (net)	-2,249	-3,925	-6,486	-10,950	-41,834	-109,195	-479,665
6. Unrequited Transfers (net)	-8	-25	-58	-8,041	15,424	51,692	240,940
Government	-	-	-	621	16,854	55,580	261,969
Private	-	-	-	-8,662	-1,430	-3,888	-21,029
7. Current Account Balance	-1,630	-1,962	-4,178	-19,948	-23,170	-48,515	-237,625

Source:

*1 Monthly Digest of Statistics, January 1991, CSO (Ref.B12)

*2 Zambia, Prospects for Sustainable and Equitable Growth, August 1993, World Bank (Ref.C04)

*3 Economic Report 1992, NCDP (Ref.C03)

*4 Economic Report 1993, NCDP (Ref.C15)

Table 2-26 Foreign Exchange Rate: 1985-1994

(Unit: USS/Kwacha)

Month	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
1. End of Period										
January	0.4271	0.1563	0.0670	0.1250	0.0976	0.0426	0.0228	0.0104	0.0030	0.0016
February	0.3909	0.1475	0.1112	0.1250	0.0990	0.0408	0.0205	0.0080	0.0020	0.0020
March	0.4274	0.1460	0.1147	0.1250	0.0965	0.0390	0.0184	0.0075	0.0020	0.0010
April	0.4169	0.1433	0.0476	0.1250	0.0967	0.0376	0.0175	0.0071	0.0020	0.0010
May	0.4156	0.1383	0.1250	0.1250	0.0923	0.0365	0.0164	0.0067	0.0019	0.0010
June	0.4176	0.1332	0.1250	0.1250	0.0931	0.0333	0.0153	0.0062	0.0018	0.0010
July	0.4470	0.1645	0.1250	0.1250	0.0642	0.0316	0.0146	0.0058	0.0019	0.0010
August	0.4452	0.1597	0.1250	0.1250	0.0629	0.0302	0.0141	0.0056	0.0022	-
September	0.4503	0.1410	0.1250	0.1250	0.0610	0.0286	0.0133	-	0.0029	-
October	0.1429	0.0969	0.1250	0.1250	0.0557	0.0269	0.0126	0.0046	0.0028	-
November	0.1724	0.0681	0.1250	0.1020	0.0526	0.0250	0.0119	0.0043	0.0020	-
December	0.1754	0.0787	0.1250	0.1000	0.0462	0.0234	0.0112	0.0028	0.0020	-
2. Period Average										
January	0.4380	0.1679	0.0726	0.1250	0.0990	0.0459	0.0231	0.0108	0.0027	0.0016
February	0.4193	0.1520	0.1107	0.1250	0.0981	0.0416	0.0216	0.0080	0.0024	0.0016
March	0.4320	0.1451	0.1128	0.1250	0.0974	0.0471	0.0188	0.0078	0.0021	0.0015
April	0.4296	0.1439	0.0539	0.1250	0.0990	0.0384	0.0183	0.0073	0.0020	0.0014
May	0.4181	0.1412	0.1250	0.1250	0.0947	0.0356	0.0168	0.0069	0.0018	0.0015
June	0.4162	0.1364	0.1250	0.1250	0.0925	0.0342	0.0159	0.0066	0.0019	0.0010
July	0.4376	0.1504	0.1250	0.1250	0.0637	0.0324	0.0149	0.0062	0.0020	0.0010
August	0.4419	0.1783	0.1250	0.1250	0.0633	0.0309	0.0143	0.0056	0.0022	-
September	0.4605	0.1536	0.1250	0.1250	0.0605	0.0295	0.0137	-	0.0026	-
October	0.1903	0.1158	0.1250	0.1250	0.0577	0.0280	0.0123	0.0048	0.0029	-
November	0.1710	0.0813	0.1250	0.1074	0.0540	0.0262	0.0123	0.0043	0.0027	-
December	0.1740	0.0771	0.1250	0.1012	0.0503	0.0242	0.0115	0.0032	0.0020	-
Annual Average	0.3690	0.1369	0.1125	0.1216	0.0775	0.0345	0.0162	0.0064	0.0023	-

Source: International Financial Statistics, 1985 July - 1995 May, IMF (Ref.C26)

2.8 Prices

2.8.1 Inflation

Inflation in 1993 was high with the rate averaging 187.1%. The trend of inflation rates is shown in Table 2-27. The inflation rate tends to rise in recent years. Since 1989 the rate looked to jump up to more twice level than that in the previous year. After 1992, furthermore, the rate abruptly increased as shown in the table, due to the decontrol of the pricing system, devaluation and floating of the Kwacha, the increase in the rate of excise duties and the increase of free pricing on general commodities.

Table 2-27 Inflation Rates based on Consumer Price Indices: 1986-1993

Year	Composite Group	Low Income Group	High Income Group
1986	54.8	54.0	60.1
1987	47.0	45.6	56.3
1988	54.0	51.7	50.1
1989	128.3	128.7	125.4
1990	109.5	111.0	100.2
1991	93.4	92.6	98.5
1992	191.4	197.4	151.9
1993	187.1	189.0	172.7

Source: Refer to Table 2-28

2.8.2 Price Indices

The consumer price index is a measure of retail price change. The consumer price index series in Table 2-28 for the period of 1985-July 1994 was based on the 1985 prices. The all items index rose by 271.3% during the period of 1985-1993. For low income group, that registered an increase of 277.2%, and 231.3% for high income group.

The wholesale/producer price index series in the same table for the period of 1985-1993 was based on the 1966 prices. The all items index rose by 169.9% during the period of 1985-1993.

2.8.3 Prices of Construction Materials

Cost indices regarding construction materials were also shown in Table 2-28. They were shown for the period of 1985-1992 and based on the 1974 prices. An overall inflation rate for all construction materials was 104.4% for the period of 1985-1992.

Table 2-28 Price Indices: 1985-1994

Year	Month	Consumer Prices (1985=100)*1			Wholesale Prices (1966=100)*2				
		Total	Low Income Group	High Income Group	Total	Agricultural Products	Mining Products	Electricity	Other Products
Weights=>		1000	872	128	1000	82	459	16	443
1985		100.0	100.0	100.0	877.9	902.4	568.1	99.3	1,222.5
1986		154.8	154.0	160.1	1,895.4	1,559.1	1,335.2	229.2	2,598.3
1987		227.6	224.3	250.3	3,495.1	2,078.0	1,952.5	301.8	5,471.0
1988		350.6	346.9	375.8	3,898.7	3,008.2	2,475.4	366.4	5,665.8
1989		800.4	793.5	847.1	7,180.4	6,321.4	4,199.3	424.1	10,672.3
1990		1,677.2	1,674.4	1,696.0	15,479.3	12,601.3	8,879.2	735.8	23,383.1
1991		3,243.0	3,225.0	3,366.1	29,675.5	21,042.3	16,819.0	2,018.2	45,593.3
1992		9,448.5	9,590.6	8,480.2	65,664.7	89,936.9	30,703.8	9,991.5	99,406.2
1993		27,130.4	27,718.0	23,127.1	149,125.8	217,356.2	110,547.4	26,059.2	181,032.7
1994	January	36,369.7	37,077.5	31,548.7	-	-	-	-	-
	February	38,157.5	38,928.5	32,905.1	-	-	-	-	-
	March	38,893.8	39,592.9	34,131.6	-	-	-	-	-
	April	40,020.4	40,711.9	35,309.8	-	-	-	-	-
	May	41,052.2	41,623.6	37,159.6	-	-	-	-	-
	June	41,932.9	42,545.0	37,763.0	-	-	-	-	-
	July	42,394.6	42,974.2	38,446.2	-	-	-	-	-

Year	Month	Construction Materials (1974=100)*3							
		All Items	Timber, Wood & Paper Products	Cement	Concrete Blocks and Bricks	Reinforced Steel & Products	Structural Metal Products	Fabricated Metal Products	Electrical Products
Weights=>		1000	93	103	29	14	61	116	144
1985		485.9	371.0	878.4	334.0	345.0	543.9	628.7	415.4
1986		720.9	529.7	1,346.4	488.2	454.7	985.7	781.3	659.8
1987		1,151.8	1,011.4	2,222.7	923.6	686.8	1,855.3	1,475.8	1,087.0
1988		1,460.3	1,276.5	2,480.5	986.4	1,566.1	2,208.1	1,701.3	1,361.1
1989		4,200.2	3,156.3	4,955.1	2,200.5	3,320.1	3,900.3	5,115.4	3,230.1
1990		10,023.5	7,990.7	12,335.0	6,360.7	6,117.2	9,803.3	10,487.4	7,549.5
1991		18,880.5	10,387.7	32,088.0	11,631.6	9,548.9	15,168.6	16,677.1	12,791.1
1992		50,723.9	29,747.5	76,815.2	30,322.8	18,493.3	53,985.1	50,752.7	28,858.8

Source: *1 Consumer Price Index, July 1994, CSO

*2 Consumer Price Statistics, Fourth Quarter 1993, CSO

*3 Monthly Digest of Statistics, January 1991, CSO

2.9 Public Finance

2.9.1 Central Government

The central government has recorded a deficit balance in the fiscal accounts till the year 1994, as far as seen in Table 2-29.

Table 2-29 Public Finance of Central Government: 1989-1994

Item	(Unit: K' Million)					
	1989	1990	1991	1992	1993*1	1994*2
Total Revenue and Grants	10,009	23,823	41,319	120,700	234,343	586,123
Total Revenue	9,888	23,507	41,629	113,469	234,343	395,791
Total Grants	121	316	2,690	7,231	0	190,632
Total Expenditure	12,376	31,382	84,724	156,401	303,127	686,806
Recurrent Expenditure	10,449	27,249	77,276	133,009	206,069	466,525
Capital Expenditure	1,928	4,132	7,448	23,391	97,058	220,281
Gross Surplus/Deficit	-2,367	-7,559	-32,957	-35,701	-68,784	-100,383
Rate of Total Revenue to GDP ³ (%)	18.1	21.0	20.3	21.2	16.5	-
Rate of Total Expenditure to GDP ³ (%)	22.4	27.6	38.8	27.5	21.3	-

Note: *1 Approved Estimate

*2 Estimate

*3 Refer to Table 2-11

Source: (1) Estimates of Revenue and Expenditure 1994, Volume I, II and III, MOF (Ref.C19-C21)

(2) Financial Report for the Year Ended 31st December 1992, 1994, MOF (Ref.C25)

(3) Financial Report for the Year Ended 31st December 1991, 1993, MOF (Ref.C12)

(3) Financial Report for the Year Ended 31st December 1990, 1992, MOF (Ref.C11)

(4) Financial Report for the Year Ended 31st December 1989, 1991, MOF (Ref.C10)

In 1993, the government tried to get out from the deficit conditions by means of a strict fiscal policy in the year with the use of the cash budget system to combat inflation. In this regard, the tight resource constraint confronts the economy. The government stresses the maintenance and rehabilitation of infrastructure and completion of projects already started rather than starting new projects. However, the government did not succeed to get into a surplus in 1993 as shown in the table, since it had to spend a special relief for drought victims in 1992. In 1994 as well, turning to a surplus condition is not expected, as far as seen in the estimate of the central government.

Table 2-30 shows the detailed revenue of the central government for the latest six years. The tax revenue accounted for around 85% of the total recurrent revenue and grants on average. The rate of capital grants to total revenue has increased rapidly from 1.2% in 1989 to 32.5% in 1994, although no grants was booked in 1993. A simple average of these rates for six years was around 8%. The rate of the total revenue and grants to GDP ranged between 17% in 1993 and 21% in 1992, and was 19% on average for the data available five years.

Table 2-30 Revenue of Central Government: 1989-1993

Item	(Unit: K' Million)					
	1989 Actual	1990 Actual	1991 Actual	1992 Actual	1993 Revised Est.	1994 Estimate
1. Recurrent Revenue and Grants						
201 Income Tax (Other than mineral tax)	4,030	9,357	13,593	44,389	81,536	107,865
002 Company Tax	1,394	2,988	5,442	13,051	25,500	37,580
005 Pay As You Earn	549	871	2,940	19,249	35,500	46,535
- Others	2,087	5,497	5,212	12,089	20,536	23,750
202 Customs & Excise	4,901	12,291	23,348	58,466	146,650	274,635
001 Customs Duty	1,174	3,191	4,623	13,216	37,000	74,100
011 Sales Tax - Imports	1,547	3,990	4,388	16,399	41,000	73,462
012 Sales Tax - Local	977	1,937	2,763	12,777	35,100	64,003
- Others	1,203	3,172	11,574	16,073	33,550	63,070
204 Mineral Revenue	7	0	3	34	42	500
Total of Tax Revenue	8,938	21,647	36,944	102,888	228,228	383,000
203 Fines, Licenses and Other Taxes	10	18	15	454	213	520
205 Interest	3	4	41	121	78	40
206 Fees of Court or Office	664	1,395	4,581	8,509	3,230	6,058
207 Overseas Services Aid Scheme Reimbursemen	0	0	0	0	0	0
208 Miscellaneous & Other Collections	208	101	10	1,426	2,550	6,050
209 Interest (Loans & Investment)	43	11	11	19	24	54
210 Parastatal Organisations	1	0	0	14	20	10
211 Capital Repayments	20	36	12	39	0	60
212 Capital Grants	121	316	2,690	7,231	0	190,632
156 IBRD	0	0	0	0	0	3,545
135 IDA	0	0	0	0	0	4,334
116 UNDP	0	0	0	4	0	98
117 WHO	0	0	0	0	0	515
094 Japan	27	0	68	1,748	0	6,685
142 JICA	0	0	0	0	0	566
- Other Project Grants	94	316	2,621	5,479	0	59,690
121 Non-Project Grants	0	0	0	0	0	115,200
213 Miscellaneous Capital Receipts	0	295	15	0	0	0
Total Recurrent Revenue & Grants	10,009	23,823	44,319	120,700	234,343	586,423
2. Financing						
214 Internal Borrowing	76	11	2	0	0	11,000
215 External Borrowing	581	32	1,818	330	0	49,382
Total Financing	657	43	1,820	330	0	60,382
216 Exceptional Revenue (Drought, etc.)	0	0	0	0	16,206	40,000
3. Total	10,666	23,866	46,140	121,031	250,549	686,806

Source: (1) Estimates of Revenue & Expenditure 1994, Volume I, II & III, MOF

(2) Financial Report for the Year Ended 31st December 1992, 1994, MOF

(3) Financial Report for the Year Ended 31st December 1991, 1993, MOF

(4) Financial Report for the Year Ended 31st December 1990, 1992, MOF

(5) Financial Report for the Year Ended 31st December 1989, 1991, MOF

Remark *1 Revised estimate

*2 Estimate

Table 2-31 shows the detailed expenditure of the central government for the latest six years. The capital expenditure accounted for around 19% of the total expenditure on average and ranged from 8.8% in 1991 and 32.1% in 1994. The rate of capital grants to the capital expenditure ranged from the smallest 6.3% in 1989 and the largest 86.5% in 1994. The rate of the total expenditure to GDP ranged between 21% in 1993 and 39% in 1991. The capital expenditure of DWA accounted for only 0.5% of the total capital expenditure on average and ranged from K14 million or 0.2% in 1991 and K13,021 million or 1.2% in 1994.

Water projects are mainly implemented by DWA, the water authority of the central government. Besides DWA, some other agencies concerned to water such as agriculture, energy and public hygiene are also investing for projects related to water. Appendix 3 shows the list of projects and their capital expenditure for water projects by agencies concerned in the central government for the latest six years. The rate of the total investment amounts for water projects to the total capital expenditure was 5.3% on average for the six years and ranged from 1.1% in 1992 and 15.4% in 1994. The total investment by DWA accounted for 20% of the total capital expenditure of water projects and ranged from 8% in 1991 and 38% in 1994. On the other hand, the total investment for water supply schemes through MLGH accounted for 62% of the total expenditure and ranged from 37% in 1992 to 81% in 1989, although that amount was disbursed not for direct investment by the central government but for loans to local governments.

2.9.2 Local Governments

Table 2-32 shows the estimated of revenue and expenditure of local governments in 1990. There were 55 districts as shown in the table, since Siavonga and Sinazongwe districts were included in Gwembe district at that time. The total revenue estimate of 55 districts was K1,468 million, which accounted for only 4.7% of that of the central government. Moreover, the total revenue amount included K297 million (or 20% of the total amount) of the grants from the central government.

Among 55 districts, 33 district councils were managing water supply works for the people in the districts. Of the 33 district councils, only nine councils got surplus from water undertaking. Other 24 councils managed the water undertaking in deficit. Mufulira council recorded the largest deficit of K2.35 million in 1990.

The capital investment for water projects by local governments themselves was K14 million in 1990, which did not include the investment of the central government. The amount accounted for only 12% of that (K115.3 million as seen in Appendix 3(3)) of the central government.

2.9.3 Foreign Aid and Debt

According to OECD data, gross disbursements of official development assistance (ODA) has almost increased continuously except 1989, as shown in Table 2-33. In 1992, the total ODA aggregated to US\$1.13 billion, segregated as US\$0.79 billion or 70% of bilateral aid and US\$0.34 billion or 30% of multilateral aid. Since 1990, Germany has kept the position of top donor in bilateral aid. Following Germany, Japan has got the second position. In multilateral assistance, the International Development Association (IDA) has been the top supporter since 1991 and ensured that there was an important increase in total ODA.

Table 2-31 Expenditure of Central Government: 1989-1993

(Unit: K' Million)

Item	1989	1990	1991	1992	1993	1994
	Actual	Actual	Actual	Actual	Approved Est.	Estimate
1. Recurrent Expenditures						
01 Personal Emoluments	1,828	5,732	12,172	31,442	59,107	86,415
02 Recurrent Departmental Charges	2,485	5,120	10,182	21,396	69,968	100,560
001 Allowances	-	-	-	-	3,817	6,709
002 Purchase of Goods	-	-	-	-	25,931	32,979
003 Purchase of Services	-	-	-	-	35,292	54,489
004 Training Expenses	-	-	-	-	4,928	6,382
03 Grants and Other Payments	919	2,337	5,277	9,781	30,503	80,810
Subsidies	1,658	2,531	13,205	3,447	0	0
04 Pensions & Gratuities	189	287	914	1,725	7,945	9,000
05 Constitutional & Statutory Expenditure	3,369	11,241	35,524	65,218	17,596	189,740
Total Recurrent Expenditure	10,449	27,249	77,276	133,009	185,119	466,525
2. Capital Expenditure						
01 Movable Assets	-	-	-	1,817	5,470	8,893
02 Projects	-	-	-	21,574	91,588	211,388
13 Min. of Energy & Water Development	-	-	-	193	1,897	14,247
02 Energy Department *1	6	26	44	125	534	1,018
03 Department of Water Affairs *1	9	14	14	67	1,312	13,021
- Others	-	-	-	0	50	208
46 Ministry of Health	56	128	233	503	6,651	12,798
64 Ministry of Works & Supply*2	-	400	1,077	8,817	9,712	26,848
02 Building Department	-	11	12	718	723	346
- Others	-	389	1,065	8,099	8,989	26,501
89 Min. of Agriculture, Food & Fisheries	153	333	583	917	7,588	24,145
* Loans & Investments						
20 Min. of Local Government & Housing*3	70	82	136	204	3,946	22,230
91 Loans to District Councils	70	82	136	204	3,946	22,230
21 Ministry of Finance	624	1,334	2,411	6,422	38,581	62,604
13 Min. of Energy & Water Dev.*1	-	-	-	0	172	0
37 Min. of Agri., Food & Fisheries	169	312	353	451	31,683	43,095
- Other Ministries	-	-	-	5,971	6,726	19,509
- Others	-	-	-	4,519	23,214	48,516
Total Capital Expenditure	1,928	4,132	7,448	23,391	97,058	220,281
3. Drought Relieves	0	0	0	0	20,950	0
4. Total	12,376	31,382	84,724	156,401	303,127	686,806

Source: (1) Estimates of Revenue & Expenditure 1994, Volume I, II & III, MOF
(2) Financial Report for the Year Ended 31st December 1992, 1994, MOF
(3) Financial Report for the Year Ended 31st December 1991, 1993, MOF
(4) Financial Report for the Year Ended 31st December 1990, 1992, MOF
(5) Financial Report for the Year Ended 31st December 1989, 1991, MOF

Remark: *1 Before 1991, Ministry of Energy and Water Development did not exist.

*2 Before 1989, MOWS did not exist.

*3 Before 1991, classified as Decentralisation Division (Office of the Prime Minister)

Table 2-32 Estimates of Revenue and Expenditure of Local Governments: 1990

(Unit: K'1000)

Code District	Recurrent Revenue and Expenditure Estimates							Capital Estimates	
	Revenue					Expenditure		Annual	Water
	Total	Grant from Central Gov.	Local Tax	Water Supply	Public Works Other Works	Total	Water Supply*1	Investment *2	Project *3
11 Lusaka-Urban	281209	55,978	84,980	0	140,251	275,990	0	43,782	0
12 Lusaka-Rural	22,241	5,639	8,033	665	7,904	22,241	1,594	27,142	95
13 Luangwa	5,988	3,759	-54	5	2,289	5,986	186	3,086	0
21 Ndola-Urban	177,294	17,459	43,929	51,921	63,984	189,233	51,836	8,422	0
22 Ndola-Rural	11,120	4,020	1,114	0	5,987	11,100	0	930	0
23 Chililabombwe	15,095	2,104	4,149	785	8,057	15,095	906	686	0
24 Chingola	33,960	6,727	19,764	5,013	22,456	49,155	4,213	5,050	75
25 Mufutira	82,260	6,925	9,826	2,249	63,260	76,646	4,600	7,534	230
26 Kalulushi	25,258	3,591	8,239	1,497	11,931	25,258	1,479	3,226	1,638
27 Kitwe	154,781	15,303	37,812	38,157	63,509	150,232	38,076	306,168	1,000
28 Luanshya	62,155	6,317	18,883	3,931	33,024	49,433	5,137	5,321	2,030
31 Kabwe-Urban	78,884	10,092	19,860	8,070	40,862	74,688	8,335	284,333	3,586
32 Kabwe-Rural	10,034	5,137	4,507	200	190	10,034	631	9,633	230
33 Mumbwa	16,681	1,359	2,581	0	12,740	16,681	0	8,410	309
34 Mkuoshi	13,344	2,043	3,068	0	8,232	13,307	0	5,059	500
35 Serenje	13,049	2,381	1,341	0	9,327	13,049	0	705	0
41 Solwezi	14,356	3,725	890	267	9,474	14,356	740	8,998	1,000
42 Mwinilunga	7,695	1,921	1,625	1	4,149	7,688	101	1,395	0
43 Zambezi	7,503	40,838	-38,166	0	4,830	7,111	0	561	0
44 Kabompo	5,416	3,111	306	14	1,985	4,867	84	206	0
45 Mfumbwe	3,377	1,409	48	0	1,920	3,378	36	20	0
46 Kasempa	6,565	2,013	233	3	4,317	6,565	82	671	0
51 Mongu	14,542	5,253	1,414	186	7,689	14,542	1,229	4,540	0
52 Lukulu	3,800	1,343	155	0	2,303	3,800	0	3,905	0
53 Kalabo	5,559	2,956	328	0	2,276	5,559	0	3,662	0
54 Kaoma	7,863	2,915	299	0	4,649	7,863	0	1,966	0
55 Senanga	4,807	1,651	639	0	2,517	4,805	0	1,644	0
56 Sesheke	4,673	2,350	521	21	1,781	4,673	45	7,646	0
61 Livingstone	75,625	11,053	16,373	8,100	40,098	75,625	7,178	31,225	0
62 Namwala	7,026	2,354	776	0	3,897	6,212	0	1,556	0
63 Mazabuka	15,351	3,285	4,157	206	7,703	13,976	929	758	100
64 Monze	13,355	3,352	1,000	310	8,693	13,355	774	11,921	0
65 Choma	11,134	3,310	1,978	1,337	4,508	11,047	767	7,240	0
66 Kalomo	7,530	1,833	528	330	4,838	7,530	351	4,094	0
67 Siavonga	-	-	-	-	-	-	-	-	-
68 Gwembe	11,000	3,352	1,240	59	6,350	11,000	420	8,331	0
69 Sinazongwe	-	-	-	-	-	-	-	-	-
71 Mansa	19,025	3,291	2,272	983	12,478	19,025	1,101	41,850	90
72 Nchelenge	10,540	2,455	1,427	83	6,576	10,540	1,489	5,730	110
73 Kawambwa	7,379	3,175	298	87	3,819	7,379	155	9,939	0
74 Mwenze	9,276	1,918	208	17	7,132	9,276	119	11,159	185
75 Samfya	8,129	2,557	113	0	5,460	8,129	0	1,028	70
81 Kasama	18,683	4,209	845	1,117	12,512	18,683	1,004	4,847	0
82 Kapota	4,478	1,837	254	0	2,337	4,478	0	5,584	0
83 Mbala	18,703	3,608	2,118	699	12,277	18,703	603	10,802	350
84 Mporokoso	5,140	1,984	298	0	2,858	5,140	0	1,020	0
85 Luwingu	9,258	2,119	239	0	6,901	9,258	0	1,950	0
86 Chilubi	5,444	1,934	384	0	3,126	5,444	0	3,880	0
87 Isoka	8,358	1,779	738	0	5,841	8,348	0	1,600	0
88 Chinsali	4,940	1,588	386	0	2,966	4,940	0	651	70
89 Mpika	14,870	3,861	4,986	940	5,082	14,870	898	1,800	0
91 Chipata	35,611	4,788	2,698	1,120	27,005	35,533	3,283	35,640	150
92 Chama	5,981	1,560	1,451	0	2,970	5,710	0	11,015	100
93 Lundazi	6,795	1,548	2,234	0	3,013	6,795	0	6,905	420
94 Chadiza	7,764	1,986	377	0	5,400	7,729	0	8,422	170
95 Katele	10,547	2,100	368	13	8,067	9,774	377	4,672	160
96 Petawe	6,905	1,817	1,183	0	3,905	6,810	0	65,595	1,700
Total	1,468,354	297,025	285,241	128,383	757,705	1,438,645	138,810	1,054,115	14,368

Source: District Councils Revenue and Capital Estimates for the Year 1st Jan. 1989 to 31st Dec. 1989, MLGH

Remark: *1 Expenditure of water undertaking is a part of total expenditure.

*2 Including projects done by the central government

*3 Not including projects done by the central government

Table 2-33 Gross Official Development Assistance: 1987-1992

	(Unit: US\$ Million)					
Item	1987	1988	1989	1990	1991	1992
1. Bilateral Assistance						
1) Germany	37.2	52.0	28.3	337.9	113.1	129.0
2) Japan	41.7	114.2	63.0	40.1	103.9	126.4
3) USA	34.0	19.0	20.0	14.0	90.0	125.0
4) UK	40.1	29.7	30.6	42.9	67.1	102.5
5) Sweden	25.4	35.8	36.1	37.2	90.0	79.5
6) Norway	31.9	40.2	34.9	55.3	51.6	50.4
Others	137.6	144.4	103.4	239.1	168.4	177.5
Total	347.9	435.3	316.3	766.5	684.1	790.3
2. Multilateral Assistance						
1) IDA	40.4	5.0	4.0	3.0	213.0	173.7
2) EU	20.0	34.9	34.3	26.3	32.7	98.8
3) ADF	3.9	10.1	11.1	15.6	31.5	22.6
4) UNDP	1.7	3.6	6.1	7.3	7.3	4.7
Others	18.7	17.6	22.7	26.3	20.3	43.3
Total	84.7	71.2	78.2	78.5	304.8	343.1
3. Total ODA	432.6	506.5	394.5	845.0	988.9	1,133.4
- Grants	316.0	362.7	321.8	792.5	554.2	785.5
- Loans	116.6	143.8	72.7	52.5	434.7	347.9

Source: OECD Development Assistance Committee, Geographical Distribution of Financial Flows to Developing Countries.

Note: West Germany only until July 1990

Of the total ODA of US\$1.13 billion in 1992, grants accounted for US\$0.79 billion or 69%. This percentage was close to the average rate of 73% during six years of 1987 to 1992. On the other hand, loan accounted for US\$0.35 billion or 31% in the same year.

In 1992, Zambia's total external debt stood at US\$ 7.04 billion, as shown in Table 2-34. Of this, 40% was long-term debt owned to bilateral donors. The total external debt rated at 193% of GDP in 1992. Zambia is one of the world's most indebted nations, with a burden per head of about US\$900.

Most of the Zambia's debt owes public creditors who accounted for US\$4.40 billion or 91% of the total public debt (US\$4.81). The total arrears on principal and interest payments amounted to an estimated US\$358 million, of which 54% was principal and 46% was interest. Thus, debt-service ratio (DSR) still stayed at 29.3% in 1992, which exceeded the critical line of 20%.

Table 2-34 External Debt: 1987-1992

	(Unit: US\$ Million unless otherwise indicated)					
Item	1987	1988	1989	1990	1991	1992
1. Total External Debt						
1) Long-term Debt	4,465	4,436	4,231	4,848	4,979	4,823
2) Short-term Debt	1,169	1,464	1,578	1,440	1,374	1,371
3) Use of IMF Credit	991	940	900	949	918	846
Total	6,625	6,840	6,709	7,237	7,271	7,040
2. Public Disbursed Debt						
1) Official Creditors	3,793	3,783	3,560	4,305	4,494	4,399
- Multilateral	1,232	1,205	1,239	1,418	1,514	1,589
- Bilateral	2,561	2,578	2,321	2,887	2,980	2,810
2) Private Creditors	673	652	671	542	481	411
Total	4,466	4,435	4,231	4,847	4,975	4,810
3. Debt Service	170	190	206	203	599	358
- Principal	96	112	130	126	292	193
- Interest	74	78	76	77	307	165
4. Debt Service Ratio (%)*1	18.9	15.2	14.4	15.1	51.4	29.3
5. Total External Debt/GDP (%)	297.7	187.4	156.9	185.1	205.6	193.3

Source: World Bank, World Debt Tables

Note: *1 Debt service as a percentage of earnings from exports of goods and services

CHAPTER 3 PROJECTED CONDITIONS OF SOCIO-ECONOMIC STRUCTURE

3.1 Development Policy and Plans

3.1.1 National Development Plans

(1) Trends in National Development Plan

Since the MMD government was voted into office in October 1991, the government made an economic recovery programme to show the people the new economic and financial policy framework. This recovery programme is called as "Policy Framework Paper (PFP)". In 1992 when the new government started, the "Fourth National Development Plan, 1989-1993" was effective as economic development policy. By PFP instead of the Fourth Plan, however, the government adopted the comprehensive reform plan aimed at bringing the budget into balance, encouraging exports, liberalising the economy, cutting back the civil services, and starting the privatisation process. This policy was reflected in the budget programme of the central government, so called as "Public Investment Programme (PIP)". Although the government revises PFP and PIP annually as rolling plan, the government has not announced to make a new five-year national development plan so far.

The government has not presented a long-term national development plan. Since the World Bank published a long-term perspective study of development in Africa south of the Sahara in 1989, African countries were strongly urged to prepare national long-term perspective studies. Taken this background into account, the new government undertook to establish a vision of what the economy of Zambia should be in the year 2020. The study, named as "National Long-Term Perspective Study for Zambia", has been launched in June 1994. The study will be conducted for two years, originally scheduled from March 1994 to February 1996. The study is being implemented on financial support of UNDP.

(2) Medium Term Prospects

Zambia's pre-drought objective was to achieve real GDP growth rates of 2% in 1992, 3% in 1993 and 4% in 1994. It implies a positive real per capita growth by the end of 1994. The favourable weather conditions in 1993 could offset the drought of 1992. In fact, GDP in 1993 changed 9.2% at real term over 1992, according to "Economic Report 1993". The 4% growth remains the target for GDP growth in 1994. The new programme for 1994-1996 says to achieve growth rates of 5% in 1995 and 1996. With these growth rates, per capita income will be expected to rise because these rates exceed population growth.

3.1.2 Sectoral Development Plans

Sectoral development plans are identified in two sectors in the country. The first one is an agricultural investment programme, named as "Agricultural Sector Investment Programme (ASIP)". It was finalised by MAFF in July 1994, supported by the World Bank. The second one is an electric-power system plan, named as "Power System Master Plan: 1994-2014". The plan is implemented by ZESCO, supported by FINNIDA. It would be finalised by July, 1995.

(1) Agricultural Sector Investment Programme

The programme presents the three main policies in the sector for the coming five years. They are: 1) institutional reforms, 2) support for private sector investment and 3) rehabilitation and strengthening public sector agriculture services. The programme expects to achieve a rate of annual 6% growth in agricultural sector, while the nation is expected to grow at 5% annually. This sectoral growth is attained mostly by the private sector's investment, since donor aid and GRZ's public expenditure for the sector will be reduced gradually during the planning period, from 1995 to 1999. Thus, the public sector must facilitate the private sector by means of giving attractive investment environment to investors. The public sector itself rehabilitates its own existing agricultural facilities, improves productivity and increases production of beneficiaries in the facilities.

(2) Power System Master Plan

The former master plan was provided almost ten years ago. The new plan is studied on the basis of the former plan. The new planning study was launched in March 1994 and would be finalised by July 1995. Accordingly, the policy and strategies for power development are not able to be reflected in this current master plan study.

3.2 Population Projection

3.2.1 National Total Population

The report of "1980 Population and Housing Census of Zambia, Analytical Report Volume V, Demographic Projections" (Ref. B32) by CSO officially presents the future population up to the year 2000. The report shows the future population on the basis of the 1980 census figures. The new report of population projection based on the 1990 census results is being provided by Demography Division of CSO. It has not come out so far. Thus, the new official projection is not available for this current study.

In the above report, CSO provided the following three scenarios for population projection to the year 2000;

- 1) Assumption 1 (high variant), which was based on improvement of life expectancy at birth;
- 2) Assumption 2 (medium variant), which was predicated by the United Nations and Stolnitz's observations; and
- 3) Assumption 3 (low variant) that is framed on the basis of the possible effects of the hostile international environment with regard to adverse terms of trade and other iniquitous socio-economic policies of the developed countries on the Zambian economy.

As a result, the projected populations by the year 2000 are estimated as follows:

Table 3-1 Future Population Projected by CSO: 1990-2000

		(Unit: 1000)		
Year		High	Medium	Low
Recorded	1980	5,662	5,662	5,662
Projected	1990	8,090	8,073	8,073
	1995	9,794	9,758	9,745
	2000	11,894	11,834	11,789

In the demographic projection report, the scenario 2 of medium variant was applied in the various analysis. It means that the assumption 2 is the most conceivable projection among the three scenarios. According to the 1990 census, however, the total population of the country was 7.38 million. The projected population in 1990 in Table 3-1 exceeded more than 9% of the actual census figure.

The population growth rate during the latest two censuses dropped down to 2.69% per annum on average from 3.08% of the previous censuses. For this background, the central government has made an endeavor to mitigate population pressure by means of family planning. This policy of population control will be succeeded continuously for the future, because the government has a correct understanding of population pressure to economic growth in the country. In addition to that, it is said that the impact of AIDS will bring about potential long term demographic change in the future. Thus, the population growth rate will be expected to decrease continuously.

Taking these background, the total populations in the country are projected on the basis of the following simple three scenarios in this study:

- 1) High Projection: The future population is assumed to increase at the growth rate derived from the 1980 and 1990 censuses' data.
- 2) Medium Projection: The growth rate after 1990 will decrease at an annual rate of 1.34% which is calculated from the growth rate between the two censuses.
- 3) Low Projection: The growth rate after 1990 will decrease at an annual rate of 2.69%, which is a double of the decreasing rate of Medium Projection.

The estimated growth rates and the projected total populations based on the growth rates were shown in the following Table 3-2 and Figure 3-1:

Table 3-2 Projected National Population: 1995-2015

Year	High Projection		Medium Projection		Low Projection	
	Growth Rate (%)	Population (1000)	Growth Rate (%)	Population (1000)	Growth Rate (%)	Population (1000)
1980	3.08*	5,662	3.08*	5,662	3.08*	5,662*
1990	2.69*	7,383	2.69*	7,383	2.69*	7,383*
1995	2.69	8,431	2.51	8,359	2.35	8,291
2000	2.69	9,628	2.35	9,388	2.05	9,176
2005	2.69	10,992	2.20	10,465	1.79	10,025
2010	2.69	12,551	2.05	11,584	1.56	10,832
2015	2.69	14,336	1.92	12,738	1.36	11,589

Remark: * Actual figures

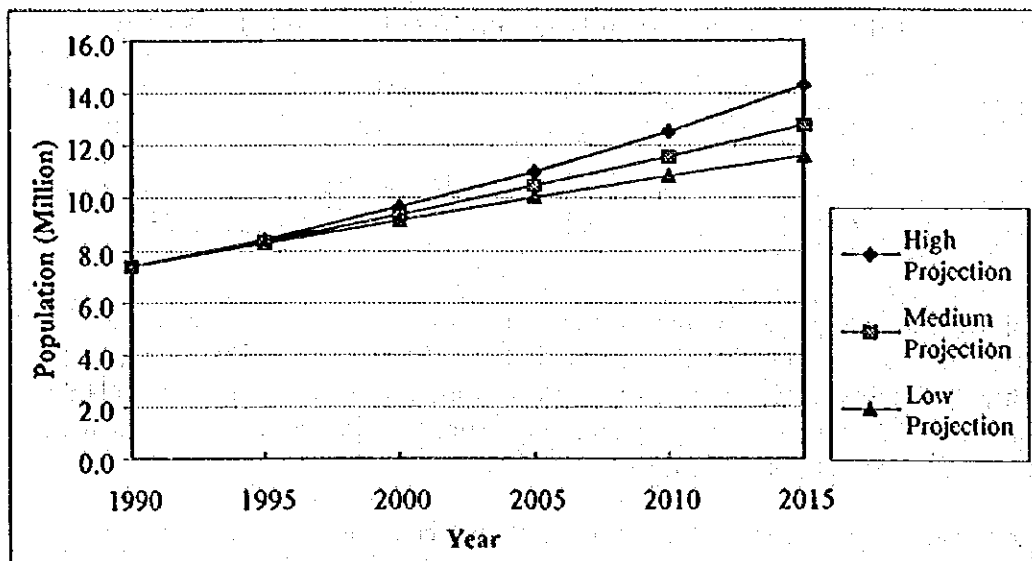


Figure 3-1 Population Projection: 1995-2015

Incidentally, Ministry of Health (MOH) provided a paper of "the Socio-economic Impact of AIDS, Zambia: The Current HIV/AIDS Situation and Future Demographic Impact, Background Paper I" (Ref.C27) in July 1994. It describes the current HIV/AIDS situation in Zambia and shows two scenarios indicating potential long term demographic changes. The first scenario shows that the growth rate drops from the 1990 estimated of 3.1% to 2.4% in 2000-2004. Then, it starts increasing again and reaches 3.2% in 2025. The second scenario shows a more significant decline of growth rate for the projection. By the year 2025-29, the growth rate could be below 1%. In this scenario, the growth rates of 2005-09 and 2015-19 are estimated as about 1.5% and 1.3% respectively, in spite of the fact that the growth rate in 1990 was assumed to be 3.1% which was derived from the two censuses of 1969 and 1980. At any rate, these figures are somewhat smaller than those in the above Low Projection.

3.2.2 Projection Procedure of Urban/Rural Population

Population distribution by administrative unit is prerequisite to consider a water balance of demand and supply in the National Water Resources Master Plan. The population distribution by District is based on the District populations in the 1980 and 1990 censuses. Furthermore, taking account of the difference in water demand between urban and rural areas, the distribution of urban and rural population is also required as fundamental information. The distribution of population in the future is estimated by the following procedure. Figure 3-2 illustrates the projection procedure in flow diagram form.

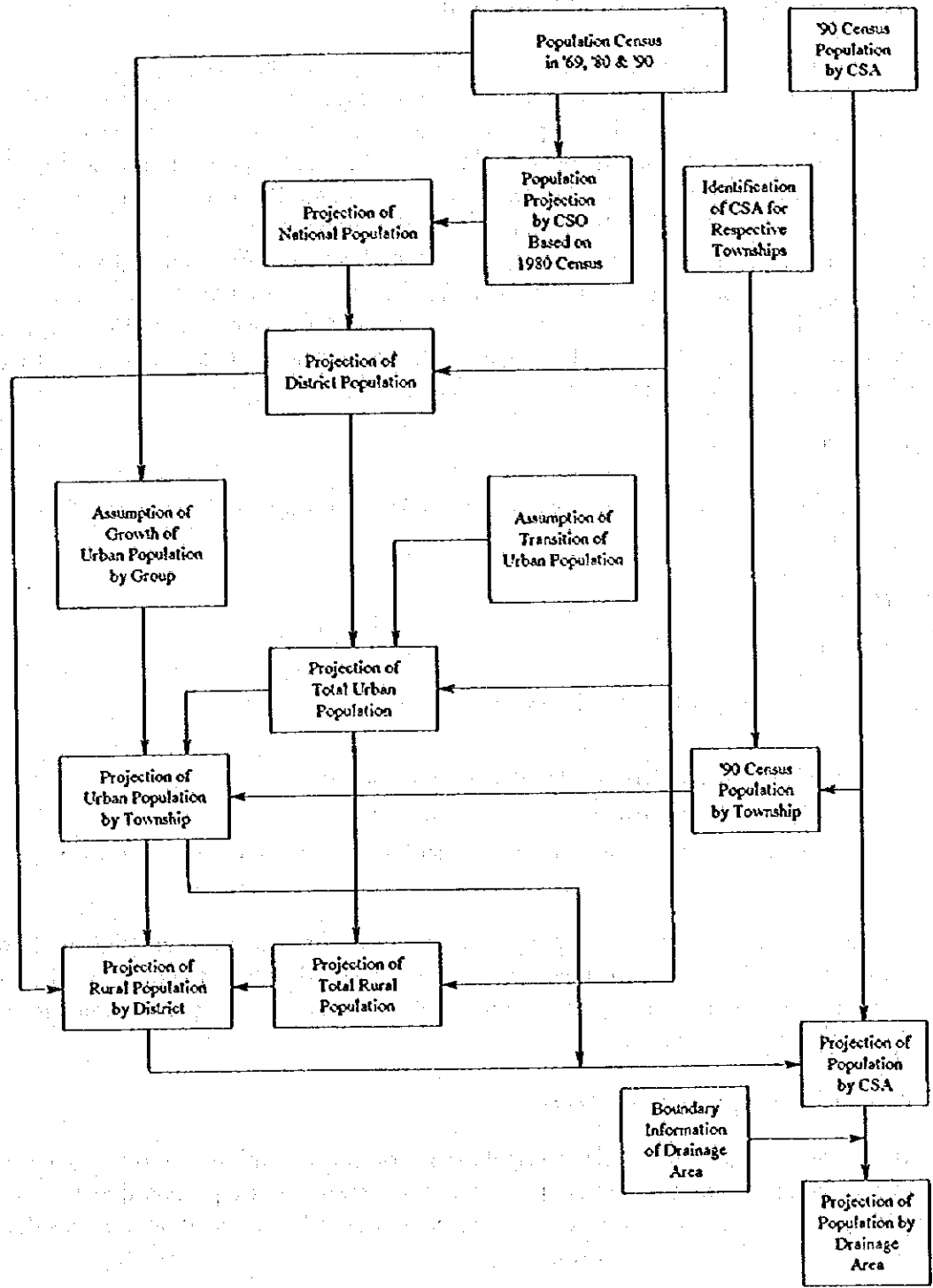


Figure 3-2 Procedure of Population Projection by District and Urban/Rural

(1) Total Population and District Population

The total population of the country is estimated using the data and assumptions mentioned in the previous section. The total population of the respective Districts are estimated in consideration of (a) trend of District population growth, and (b) afterwards, balance of district distributions in the total national population. The district population is assumed to grow at the rate of between the two censuses of 1969 and 1990. In the former decade between the two censuses of 1969 and 1980, the population migration showed the urbanisation to large urban areas. In the latter decade between 1980 and 1990, it showed the modest urbanisation. In this projection, thus, the district populations are assumed to grow at the medium urbanisation rate of between the censuses of 1969 and 1990. Afterward, the total population of the all districts are arranged to become equal to the national total estimated through the above procedure.

(2) Urban Population

The total urban population in the years 1995 to 2015 is estimated using the following urbanisation model.

$$P_u = \frac{P_t \cdot Y_u}{G \cdot Y_r + Y_u}$$

Where P_u = Urban population in a given year

P_t = Total national population

Y_u = That portion of GDP produced in the urban sector

Y_r = That portion of GDP produced in the rural sector

G = Gradient or ratio between urban product per capita and rural product per capita

The basic idea of this formula is that people move from economically depressed rural area to urban economically developed area. The gradient (G) indicates an economic disparity between urban and rural. The population migration to urban areas causes to mitigate the disparity between urban and rural.

(3) Population Projection Scenarios

Since there are three scenarios of the population projection mentioned above. Regarding economic growth in the future, on the other hand, three scenarios are proposed as discussed later in Chapter 3.3. Thus, the projection scenarios of total urban population are considered simply to exist the following nine cases.

Table 3-3 Population Projection Scenarios

Economic Growth Cases (Refer to Table 3-13)	Population Projection Scenarios (Table 3-2)		
	High Projection	Medium Projection	Low Projection
Base Growth Case - Industrialisation	Case 1	Case 2	Case 3
Base Growth Case - Agricultural Expansion	Case 4	Case 5	Case 6
Low Growth Case	Case 7	Case 8	Case 9

Hence, from the point of view of urbanisation and water demand of domestic and industrial sectors, the following three cases among the above nine cases are selected as representative projections:

- (a) Case 5 as Base Scenario - Agricultural Expansion, representing the medium water demand case;
- (b) Case 1 as Base Scenario - Industrialisation, representing the high water demand case; and
- (c) Case 9 as Conservative Scenario, representing the low water demand case.

In 1993, "G" in the formula stood at approximately 4.45, according to the results of calculation based on the statistical data. The detailed procedure was worked out in Appendix 4. The government policy states that the disparity between urban and rural standards of living must be reduced in the future. Then, "G" in the years 2005 and 2015 was assumed to be 4.20 and 4.10 respectively, as shown in Table 3-4.

Table 3-4 Estimate of Total Urban and Rural Population: 1995-2015

Item	(Unit of Population: 1000)				
	1995	2000	2005	2010	2015
G (Gradient: Assumption)	4.30	4.25	4.20	4.15	4.10
Base Scenario - Agricultural Expansion	8,359	9,388	10,465	11,584	12,738
Urban Sector	3,082	3,329	3,818	4,318	4,824
Rural Sector	5,276	6,059	6,647	7,265	7,914
Base Scenario - Industrialisation	8,431	9,628	10,994	12,555	14,336
Urban Sector	3,292	4,130	4,921	5,853	6,950
Rural Sector	5,139	5,498	6,073	6,701	7,387
Conservative Scenario	8,291	9,176	10,025	10,832	11,589
Urban Sector	3,124	3,498	3,846	4,185	4,514
Rural Sector	5,167	5,678	6,180	6,647	7,075

(4) Township Classification

Urban areas of 92 townships were classified into the following three ranked groups:

Group 1, comprising ten large urban areas which are identified in "1990 Census of Population, Housing and Agriculture, Preliminary Report, December 1990, CSO", i.e., Lusaka, Ndola Chililabombwe, Chingola, Mufulira, Kalulushi, Kitwe, Luanshya, Kabwe and Livingstone;

Group 2, comprising district capital towns and townships in the Districts which have the large urban areas, i.e., 53 townships; and

Group 3, which is made up of rural settlements, i.e., 29 townships.

These three Groups are tabulated for the respective Provinces in Table 3-5. The detailed distribution of township and basic urban population by district was broken down in Appendix 5.

Table 3-5 Township Classification and Base Urban Population by Province

Province	Group 1		Group 2		Group 3	
	No.	Population	No.	Population	No.	Population
Lusaka	1	769,353	3	48,777	2	11,343
Copperbelt	7	1,087,920	3	13,880	1	10,837
Central	1	161,456	5	44,682	2	7,060
Northwestern	0	0	6	52,522	1	1,798
Western	0	0	6	61,922	6	13,819
Southern	1	76,875	8	92,395	13	42,714
Luapula	0	0	5	73,844	2	9,282
Northern	0	0	10	115,562	1	2,739
Eastern	0	0	7	81,305	1	1,445
Total	10	2,095,604	53	584,889	29	101,037

(5) Growth Rate of Urban Population

The growth ratio (μ) of urban population to the total population for respective Scenarios is calculated in Table 3-6:

Table 3-6 Growth Rates of Urban Population

Urban Population Scenario	Total Population (1000)			Urban Population (1000)			Ratio (μ) Urban to Total
	1990	2015	Ratio	1990	2015	Ratio	
Base Scenario - Agricultural Expansion	7,383	12,738	1.725	2,782	4,824	1.734	1.00
Base Scenario - Industrialisation	7,383	14,336	1.942	2,782	6,950	2.498	1.29
Conservative Scenario	7,383	10,832	1.467	2,782	4,185	1.504	1.03

The ratios (μ) of urban population to total population in both Base Scenario - Agricultural Expansion and Conservative Scenario were about 1.0. In these cases, the urban population could be considered to grow at almost the same rate as the district population grew. In the Base Scenario - Industrialisation, on the other hand, the urban population would grow at higher rate than the district population. This urbanisation is assumed to be seen in medium and small urban areas rather than large urban areas, referring to the past trend as discussed in Section 2.2.1.

Table 3-7 Assumed Growth Rates of Urban Population

Urban Population Scenario	Group 1	Group 2	Group 3
Base Scenario - Agricultural Expansion	Rate A	Rate A	Rate A
Base Scenario - Industrialisation	Rate A	Rate B	Rate C
Conservative Scenario	Rate A	Rate A	Rate A

Remark: Rate A : at the same rate as District
 Rate B : at a double rate of the District
 Rate C : at 50% higher rate than the District

Hence, it is assumed that the urban population will grow at the rates tabulated in Table 3-7 in Groups 1, 2 and 3, taking into consideration of the above analysis. In cases where the growth rate of the District is negative, such as Mufulira, the growth rate of its urban areas is

assumed to be the same as that of the District having the smallest positive growth rate among all Districts in the same Province.

(6) Rural Population and River Basin Population

Rural population in a District is estimated as the difference between urban population and total population of the District. The population distribution by drainage area is estimated on the basis of CSA distribution. This distribution is made by the "ratio method". Then, the projected populations by drainage area in respective years to 2015 are also estimated in the same procedure.

3.2.3 Projected Population

(1) Urban Population

Urban population is projected for three ranked groups individually, using the projection methodology mentioned in the previous section. Appendix 6 shows the projected urban population by township between 1995 and 2015 for the three projection scenarios, i.e., Base Scenario - Agricultural Expansion, Base Scenario - Industrialisation and Conservative Scenario. Table 3-8 summarised the projected urban population by province for the Base Scenario - Agricultural Expansion.

**Table 3-8 Urban Population of Base Scenario - Agricultural Expansion
by Province: 1995-2015**

Province	(Unit: 1000)				
	1995	2000	2005	2010	2015
Lusaka	1,041	1,290	1,584	1,924	2,315
Copperbelt	1,236	1,361	1,484	1,604	1,720
Central	253	298	347	401	458
Northwestern	62	71	80	89	98
Western	83	90	97	104	110
Southern	236	260	283	306	327
Luapula	91	99	107	115	122
Northern	130	141	152	163	172
Eastern	94	106	118	130	142
Total	3,227	3,717	4,253	4,835	5,465

The total urban population of the Base Scenario - Agricultural Expansion is estimated as 4.25 million in 2005 and 5.46 million in 2015. There are 59 townships which have a population of more than 5,000 in 2005, i.e., small urban areas. Of these townships 13 townships have a population more than 50,000 in 2005, i.e., large urban areas.

(2) Total Population by District and by Urban/Rural Area

The national population by urban/rural area of the Base Scenario - Agricultural Expansion is summarised in Table 3-9. The detailed populations for respective districts are broken down in Appendix 7.

Table 3-9 Projected Population by Urban/Rural of Base Scenario - Agricultural Expansion: 1995-2015

(Unit: 1000, %)

Area	1990 (Census)		1995		2005		2015	
	Number	%	Number	%	Number	%	Number	%
Urban	2,764	37	3,227	39	4,253	41	5,465	43
Rural	4,619	63	5,132	61	6,212	59	7,273	57
Total	7,383	100	8,359	100	10,465	100	12,738	100

Remark: The figures of total population are slightly different from figures projected in Table 3-4, because of rough assumptions of growth rates.

(3) Population by River Basin Area

The basin population in the five major river basins in the country are enumerated in Table 8-2 of Appendix 8. The total basin population of the Base Scenario - Agricultural Expansion was summarised in Table 3-10:

Table 3-10 Projected Population by Major Drainage Area of Base Scenario - Agricultural Expansion

(Unit: 1000)

River Basin	1995	2005	2015
Zambezi river basin	1,917	2,396	2,929
Kafue river basin	3,296	4,265	5,365
Luangwa river basin	1,496	1,889	2,298
Chambeshi river basin	410	474	527
Luapula river basin	907	1,046	1,167
Lake Tanganyika basin	86	93	98

3.3 GDP Projection

3.3.1 Assumption and Prospect

Economic performance for the latest nine years was analysed in Section 2.3 and was worked out as figures and indices in Table 3-11. The national economy seems to attain some recovery gradually since 1985 against economic stagnation before 1985. However, it does not recover a sufficient economic output growth yet, because an average per capita GDP growth is still negative. Gross investment seems to grow at low pace but its share to GDP is still low.

According to "Economic Report 1993" (Ref.C15) and Policy Framework Paper (PFP) for 1994-1996, the national economy is expected to achieve growth rates of 4% in 1994 and 5% in both 1995 and 1996. With these growth rates, per capita income will be expected to rise to 1.4% in 1994 and 2.4% in both 1995 and 1996, as shown in Table 3-11. Agricultural Sector Investment Programme (ASIP) also expects to grow at 5% during its planning period from 1995 to 1999.

Table 3-11 Economic Figures and Indices for Economic Growth Projection

Item	1985 - 1993 Record				
	Maximum	Minimum	Average	Regression Slope	
I. Economic Performance: 1985-1993					
1. GDP					
Price (US\$ million)	4,277 (in 1989)	1,755 (in 1986)	3,197	289	
Growth Rate (%)	6.3% (in 1988)	-3.8% (in 1992)	1.2%	-0.22	
2. GDP per Capita					
Price (US\$)	596 (in 1989)	267 (in 1986)	439	30	
Growth Rate (%)	3.5% (in 1988)	-6.2% (in 1992)	-1.3%	-0.18	
3. Gross Investment					
Price (US\$ million)	676 (in 1990)	423 (in 1986)	450	32	
Growth Rate (%)	47.5% (in 1986)	-48.7% (in 1993)	6.6%	-3.63	
4. GFCF					
Price (US\$ million)	527 (in 1990)	190 (in 1986)	321	36	
Growth Rate (%)	38.1% (in 1992)	-23.0% (in 1989)	-1.5%	-0.57	
5. ICOR					
	49.7	-21.4	5.3	0.71	
6. Gross Saving					
Price (US\$ million)	695 (in 1990)	165 (in 1992)	444	16	
Growth Rate (%)	65.1% (in 1993)	-35.7% (in 1987)	16.1%	6.94	
II. Economic Development Reports					
1. Economic Report 1993					
Economic Growth	Item	1994	1995	1996	
	Real GDP	4.0%	5.0%	5.0%	
	GDP per Capita	1.4%	2.4%	2.4%	
2. LTPS					
	The Study started in June 1994 and will be finalized by the end of 1995. Accordingly, the economic growth projection and prospects have not been worked out yet so far.				
3. ASIP					
	During the programme period of 1995 to 1999, the national economy is expected to grow at 5% annually.				
4. Power System Master Plan: 1994-2014					
	The Study started in March 1994 and will be finalized by July 1995. Accordingly, the economic growth projection and prospects have not been worked out yet so far.				
5. World Bank: Zambia, Prospects for Sustainable & Equitable Growth, August 1993					
GDP Growth	Country Group	1993	1994	1995-1999	2000-2002
	Base Case	14.8%	6.3%	4.7%-5.3%	5.9%-6.1%
	National output grows at over 5% a year for the next decade (1993-2002).				
	High Case	14.8%	7.8%	6.3%-6.7%	6.8%-7.1%
	High case has GDP growth at about 1% a year higher than Base case.				
6. WDR Economic Growth --Long-Term Trends & Prospects					
Growth of Real Per Capita Income	Country Group	1980-90	1991	1990-2000	
	High-income countries	2.4%	0.7%	2.1%	
	Developing countries	1.2%	-0.2%	2.9%	
	Sub-Saharan Africa	-0.9%	-1.0%	0.3%	

Remark:

GDP: Gross Domestic Product

GFCF: Gross Fixed Capital Formation

ICOR: Incremental Capital Output Ratio

ASIP: Agricultural Sector Investment Programme, MAFF & World Bank

LTPS: Long-Term Perspective Study, UNDP

WDR: World Development Report 1992, World Bank

The World Bank Report of "Zambia: Prospects for Sustainable and Equitable Growth, August 1993" (Ref. C04) presented economic projection of Zambian economy for the coming decade of 1993 to 2002. The base scenario in the report says that the national output grows at over 5% for the decade, in considering realistic levels of investment, imports and per capita consumption growth. As mentioned in the report, however, the assumptions are optimistic in general. On the other hand, another World Bank Report of "World Development Report 1992" (Ref.D12) says that a growth of per capita income of Sub-Saharan Africa will grow at 0.3% for the decade of 1990's.

Supposing that ICOR of Zambia is 5.3 as seen in the table, gross investment should increase to 26.5% of GDP in order to attain the 5% annual growth. The largest gross investment was 23.8% in 1986 and its average was less than 15% for the nine years, so it will be difficult to keep this investment level for the coming decade. However, if a favourable investment circumstance is expected in the next decade, it might be possible to attain the growth. In this study, thus, both the "Base Growth Cases" of GDP growth are assumed to be 5% annually and to be kept the same level until the year 2000. This growth rate is assumed to be converted to 2.5% per annum of per capita GDP since GDP growth rate is offset by population growth.

Regarding the minimum case of GDP growth named as "Low Growth Case", the 0.3% growth is applied for per capita GDP in reflecting "World Development Report" of the World Bank. This growth rate connotes the around 2.8% growth of GDP, which corresponds almost 60% of both the "Base Growth Cases".

Beyond the year 2000, the over all growth rates were assumed to be a half of those between 1995 and 2000. There are no references which projects the economic growth after the year 2000. The economic growth projection between 1995-2000 seems to be much larger than the past trend as seen Table 3-11. Between 1985 and 1993, the average GDP growth was 1.2% per annum, which was almost a quarter of the GDP projection (5%). Taking into account of this past trend, it would be difficult to keep this continuous high growth. Thus, it would be reasonable that the pace of economic growth could be slow down after high growth like that before 2000.

Sector distribution and growth of respective sectors were assumed as follows:

1) Base Growth Case

In Base Growth Case, the following two cases were assumed:

a) Base Growth Case - Agricultural Expansion

As proposed in ASIP, the agricultural sector grow at 6% annually. Other sectors except manufacturing are assumed to grow at the average growth rate. The rest of VA to attain the expected growth of GDP is assumed to be covered by manufacturing sector.

b) Base Growth Case - Industrialisation

Value added (VA) of the agricultural sector grows at 10% higher than the rate of population growth. Other sectors except manufacturing are assumed to

grow at the average growth rate. The rest of VA to attain the expected growth of GDP is assumed to be covered by manufacturing sector. Thus, the manufacturing sector is expected to grow at considerably higher rate. In this case, the high population projection scenario is applied from the point of view of domestic and industrial water demand as mentioned in Section 3.2.2(3).

2) Low Growth Case

Value added (VA) of the agricultural sector grows at 10% higher than the rate of population growth. Other sectors except manufacturing are assumed to grow at the average growth rate. The rest of VA to attain the expected growth of GDP is assumed to be covered by manufacturing sector.

3.3.2 Projected GDP

On the basis of the aforesaid assumptions, GDP in the years 2005 and 2015 are projected for the three cases of Base Growth Case - Agricultural Expansion, Base Growth Case - Industrialisation and Low Growth Case, to aggregate K2.34 trillion, K2.46 trillion and K1.85 trillion in 2005 and K3.23 trillion, K3.63 trillion and K2.17 trillion in 2015 at 1993 constant prices, respectively. Table 3-12 shows of the projected GDP for respective Cases in every five years. Per capita GDP in 2005 is estimated at K224,000 (equivalent to US\$513) for both the Base Growth Cases, and K184,000 (US\$426) for the Low Growth Case in 2005, as shown in the middle of the table. In 2015, it is estimated as K254,000 (US\$580) and K187 thousand (US\$432), respectively.

Table 3-13 shows VA of major economic sectors for the three scenarios. In Base Growth Case - Agricultural Expansion, manufacturing sector is expected to grow annually at 4.0 % in 1995 and 3.5% till 2000. In Base Growth Case - Industrialisation, on the other hand, its rates are expected to be much higher of 7.8% in 1995 and 7.4% till 2000. These rates, however, are still lower than the highest records of 18.2% in 1988 and 8.8% in 1987. This projection would be thought to portray a feasible scenario with a realistic levels of investment and effective improvement, although it seems to be difficult to keep such high growth rate from the point of view of unsteady sector performance.

3.4 Public Expenditure for Development

3.4.1 Assumptions and Given Conditions

Inadequate public finance is said as one to the most serious constraints for project implementation in developing countries. In formulation of projects in the current study, this is also considered to play a serious role. Investment ceiling of public finance for projects is laid out by the government policy. In this context, the policy is the most important decisive factor for project formulation, which declared in the development plans and is usually piled on top of the accumulation of the past capital formation.

Table 3-12 Projected GDP at 1993 Constant Prices: 1993-2015

Item	1993	1994	1995	2000	2005	2010	2015
I. GDP at 1993 Constant Prices (Unit: K' Billion)*1							
1. Base Growth Case							
- Agricultural Expansion*2	1,423.2	1,479.4	1,554.5	1,975.3	2,343.0	2,759.6	3,229.0
2. Base Growth Case							
- Industrialisation*3	1,423.2	1,489.6	1,567.9	2,025.7	2,461.5	2,990.9	3,634.3
3. Low Growth Case*4	1,423.2	1,453.8	1,492.4	1,676.6	1,845.6	2,009.1	2,165.7
II. GDP per Capita at 1993 Constant Prices (Unit: K' 1000)*5							
1. Base Growth Case	178.9	181.4	186.0	210.4	223.9	238.2	253.5
2. Low Growth Case	178.9	179.5	180.0	182.7	184.1	185.5	186.9
III. Population Projection (Unit: 1000)*6							
1. High Projection	7,995.1	8,210.1	8,431.0	9,627.6	10,994.1	12,554.5	14,336.5
2. Medium Projection	7,954.0	8,154.0	8,359.0	9,388.1	10,465.0	11,583.6	12,737.7
3. Low Projection	7,915.3	8,101.1	8,291.2	9,175.8	10,025.5	10,831.9	11,589.2

Remark:

- *1 GDP in 1993 was a preliminary figure estimated by CSO, which was shown in Table 2-12. GDP figures after 1994 were calculated as products of GDP per capita and population.
- *2 Base Growth Case - Agricultural Expansion shows a case of the base growth case of GDP per capita under the medium population projection.
- *3 Base Growth Case - Industrialisation shows a case of the base growth case of GDP per capita under the high population projection.
- *4 Low Growth Case shows a case of the low growth case of GDP per capita in the low population projection.
- *5 GDP per capita in 1993 was assumed to be K178,927 as shown in Table 2-12. Growth rate of GDP per capita after 1994 was assumed as follows:

	1994	1995-2000	2000-15
Base Growth Case	1.40%	2.50% **	1.25%
Low Growth Case	0.30%	0.30%	0.15%

** 5% of GDP annual growth during 1995 to 2000 was replaced with 2.5% of GDP per Capita growth approximately.

*6 Refer to Table 3-2.

Table 3-13 Projected GDP by Industrial Origin at 1993 Constant Prices: 1993-2015

Item	1993	1994	1995	2000	2005	2010	2015
Projected GDP and GVA (Unit: K' billion)							
I. Base Growth Case - Agricultural Expansion: Basic Policy under Medium Population Projection							
	1,423.2	1,479.4	1,554.5	1,975.3	2,343.0	2,759.6	3,229.0
1. Agriculture	393.9	417.6	442.6	592.3	686.7	796.0	922.8
2. Industry	570.6	585.1	611.0	746.5	901.3	1,074.3	1,265.7
a. Mining	143.0	148.6	156.1	198.4	235.4	277.2	324.4
b. Manufacturing	350.5	356.3	370.5	440.9	538.9	647.5	766.2
c. Others	77.2	80.2	84.3	107.1	127.1	149.7	175.1
3. Services	458.6	476.7	500.9	636.5	755.0	889.3	1,040.5
II. Base Growth Case - Industrialisation: Industrialisation Policy under High Population Projection							
	1,423.2	1,489.6	1,567.9	2,025.7	2,461.5	2,990.9	3,634.3
1. Agriculture	393.9	405.6	417.6	483.1	559.0	646.7	748.2
2. Industry	570.6	604.0	645.1	889.8	1,109.3	1,380.4	1,715.0
a. Mining	143.0	149.6	157.5	203.5	247.2	300.4	365.1
b. Manufacturing	350.5	373.6	402.5	576.5	728.6	917.8	1,152.8
c. Others	77.2	80.8	85.0	109.9	133.5	162.2	197.1
3. Services	458.6	480.0	505.2	652.8	793.2	963.8	1,171.1
III. Low Growth Case under Low Population Projection							
	1,423.2	1,453.8	1,492.4	1,676.6	1,845.6	2,009.1	2,165.7
1. Agriculture	393.9	404.1	414.5	463.4	510.8	556.1	599.0
2. Industry	570.6	579.3	595.3	673.7	740.3	805.6	869.4
a. Mining	143.0	146.6	150.4	168.2	185.4	201.8	217.4
b. Manufacturing	350.5	353.5	363.6	414.8	454.8	494.8	534.7
c. Others	77.2	79.2	81.2	90.8	100.1	109.0	117.4
3. Services	458.6	470.5	482.6	539.5	594.6	647.4	697.3
Average Annual Growth (%)							
I. Base Growth Case - Agricultural Expansion: Basic Policy under Medium Population Projection							
	-	3.9	5.1	4.9	3.5	3.3	3.2
1. Agriculture*1	-	6.0	6.0	6.0	3.0	3.0	3.0
2. Industry	-	2.5	4.4	4.1	3.8	3.6	3.3
Manufacturing*3	-	1.6	4.0	3.5	4.1	3.7	3.4
3. Services*4	-	3.9	5.1	4.9	3.5	3.3	3.2
II. Base Growth Case - Industrialisation: Industrialisation Policy under High Population Projection							
	-	4.7	5.3	5.3	4.0	4.0	4.0
1. Agriculture*2	-	3.0	3.0	3.0	3.0	3.0	3.0
2. Industry	-	5.8	6.8	6.6	4.5	4.5	4.4
Manufacturing*3	-	6.6	7.8	7.4	4.8	4.7	4.7
3. Services*4	-	4.7	5.3	5.3	4.0	4.0	4.0
III. Low Growth Case under Low Population Projection							
	-	2.2	2.7	2.4	1.9	1.7	1.5
1. Agriculture*2	-	2.6	2.6	2.3	2.0	1.7	1.5
2. Industry	-	1.5	2.8	2.5	1.9	1.7	1.5
Manufacturing*3	-	0.8	2.9	2.7	1.9	1.7	1.6
3. Services*4	-	2.6	2.6	2.3	2.0	1.7	1.5

Remark: *1 Agricultural sector is assumed to grow at the rate of 6% as projected in ASIP until 2000.

*2 Agricultural sector is assumed to grow at the rate of population growth rate plus its 10%

*3 Manufacturing sector is assumed to grow at the rate to attain the target GDP growth.

*4 Other sectors are assumed to grow at the same rate of GDP growth.

A principle case of public expenditure for development by the central government is estimated in the following assumptions and procedure:

- 1) The total expenditure by the central government is estimated in proportion to GDP. Its rate is expected to be 27.5%, referring to the past records between 1989 and 1993.
- 2) Capital expenditure is assumed to be 19.4% of the development expenditure, referring to the past share of the central government financial statement and budget between 1989 and 1994.
- 3) 10.7% of the capital expenditure will be spent for projects related to water development, referring to the past records.
- 4) Expenditure for water development is distributed in accordance with the past trend of sector distribution, which rates were shown in Table 3-14. Expenditure for irrigation projects and main hydropower works was not included in the table, because investment for the projects was relied on the private sector in the past.

3.4.2 Projected Public Expenditure for Development

Table 3-14 shows the trend projection of public expenditure estimated based on the above assumptions and given conditions. The public expenditure for development projects is expected to amount to K119 billion in the year 2005 and K164 billion in 2015 at 1993 constant prices. Furthermore, the public expenditure for water schemes is expected to amount to K13 billion in the year 2005 and K18 billion in 2015 at 1993 constant prices. Its total amount accumulated from 1995 will be K123 billion to 2005 and K283 billion to 2015, equivalent to US\$282 million and US\$651 million.

The table shows the budgetary distribution by ministry or department as well. As mentioned above, the accumulated amount of K123 billion by the year 2005 will be broken down as follows: K42 billion through DWA, K73 billion through MLGH and K8 billion through other agencies concerned. In the same manner, the amount of K283 billion will be disbursed: K96 billion through DWA, K167 billion through MLGH and K20 billion through other agencies concerned.

The table also shows the distribution by sector related water resources development. By the year 2005, the budget for water supply and sanitation sector will aggregate to K119 billion. That for other sectors is estimated as follows: K0.5 billion for hydropower and K3 billion for fishery. In the same way, the budget by 2015 are in order of amount: K275 billion for water supply and sanitation, K1 billion for hydropower and K7 billion for fishery.

**Table 3-14 Projected Public Investment by Central Government
for Base Growth Case - Agricultural Expansion: 1995-2015**

(Unit: K' Billion)

Item	1993/94 Average*1	1995	2000	2005	2010	2015
1. GDP at 1993 Constant Prices (Base Case) *2	-	1,554.5	1,975.3	2,343.0	2,759.6	3,229.0
2. Total Expenditure by Central Government *3	-	428.1	544.0	645.3	760.0	889.3
1) Recurrent Expenditure	-	344.9	438.3	519.9	612.4	716.3
2) Capital Expenditure *4	100.0%	83.2	105.7	125.4	147.7	172.8
01 Movable Assets	4.8%	4.0	5.1	6.1	7.1	8.4
02 Projects	95.2%	79.2	100.6	119.3	140.5	164.4
13 Ministry of Energy & Water Development	4.3%	3.5	4.5	5.3	6.3	7.3
02 Energy Department	0.5%	0.4	0.5	0.6	0.7	0.9
032 Hydrological Assistance *	0.0%	0.0	0.0	0.1	0.1	0.1
03 Department of Water Affairs *	3.6%	3.0	3.8	4.6	5.4	6.3
Others	0.1%	0.1	0.1	0.1	0.1	0.1
46 Ministry of Health	6.3%	5.3	6.7	7.9	9.3	10.9
034 Community Water Supply & Sanitation *	0.4%	0.4	0.5	0.5	0.6	0.7
64 Ministry of Works & Supply	11.1%	9.2	11.7	13.9	16.4	19.2
02 Building Department	0.5%	0.4	0.5	0.6	0.7	0.8
002 Urban Water & Sewerage Scheme *	0.0%	0.0	0.0	0.0	0.0	0.0
Others	10.6%	8.9	11.3	13.3	15.7	18.4
89 Ministry of Agriculture, Food & Fisheries	9.4%	7.8	9.9	11.8	13.9	16.2
09 Fishery Department *	0.2%	0.2	0.3	0.3	0.4	0.4
<i>Loans & Investments</i>						
20 Ministry of Local Government & Housing	7.1%	5.9	7.5	8.9	10.5	12.2
91 Loans to District Councils	7.1%	5.9	7.5	8.9	10.5	12.2
Water Schemes *	6.3%	5.2	6.7	7.9	9.3	10.9
21 Ministry of Finance	34.1%	28.4	36.0	42.7	50.3	58.9
13 Ministry of Energy & Water Development	0.1%	0.1	0.1	0.1	0.1	0.2
37 Ministry of Agriculture, Food & Fisheries	26.1%	21.7	27.6	32.7	38.6	45.1
Other Ministries	7.9%	6.6	8.3	9.9	11.7	13.6
Others	22.9%	19.1	24.2	28.8	33.9	39.6
03 Expenditure for Projects Related to Water (* ** marked Agencies or Schemes)	10.7%	8.9	11.3	13.4	15.7	18.4
3. Accumulation of Expenditure for Projects Related to Water						
1) Expenditure by Agencies						
13 Ministry of Energy & Water Development	-	3.1	20.7	42.3	67.7	97.5
02 Energy Department	-	0.0	0.2	0.5	0.8	1.1
03 Department of Water Affairs	-	3.0	20.5	41.8	66.9	96.4
46 Ministry of Health	-	0.4	2.4	4.9	7.9	11.3
64 Ministry of Works & Supply	-	0.0	0.1	0.1	0.2	0.2
02 Building Department	-	0.0	0.1	0.1	0.2	0.2
89 Ministry of Agriculture, Food & Fisheries	-	0.2	1.4	2.8	4.6	6.6
09 Fishery Department	-	0.2	1.4	2.8	4.6	6.6
20 Ministry of Local Government & Housing	-	5.2	35.6	72.5	116.2	167.4
Total of Accumulated Expenditure	-	8.9	60.2	122.7	196.5	283.1
2) Expenditure by Sectors						
Water Supply & Sanitation	-	8.6	58.6	119.4	191.2	275.4
Fishery	-	0.2	1.4	2.8	4.6	6.6
Electric Hydrological Assistance	-	0.0	0.2	0.5	0.8	1.1
Total of Accumulated Expenditure	-	8.9	60.2	122.7	196.5	283.1

Remark: *1 Average of 1993 approved estimate and 1994 estimate in Table 2-31.

*2 Refer to Table 3-12.

*3 Rate of the total expenditure to GDP was assumed at 27.5%.

*4 Rate of the capital expenditure to the total expenditure was assumed at 19.4%.

List of References and Data Collected

Code	Title	Issued on	Issued by
A. General Information			
A01	Country Profile 1985	Sept. 1986	CSO
A02	Country Profile 1992	Sept. 1992	CSO
A03	Land Settlement Scheme Information Booklet		Government Printer
A04	Human Settlements and the Environment in Zambia	Jan. 1994	Dr.Khonze,G.A.C CTCP, MLGH DTCP, MLGH
A05	Proposed Organisational Structures for City & Municipal Councils Planning Departments	Oct. 1993	
A06	The Local Government Act, No.22 of 1991	1991	Government Printer
A07	Financial Regulations 1969, Made Under the Finance (Control & Management) Act of 1969	1969	Government Printer
A08	Water Supply and Sanitation Programme, January 1994-December 1995	Oct. 1993	NCDP
A09	Poverty Analysis Study for Zambia, 1992/93	1993	K.N.Jester & Others
A10	Socio-economic Impact of AIDS, Zambia: Current HIV/AIDS Situation & Future Impact	July 1994	MOH, WHO
A11	Constraints to Social Service Delivery	May 1993	V.Seshamani, & Others
A12	Structural Adjustment and Sustainable Development in Zambia	1994	C.Mupimpila & Others
B. Census and Statistics			
B01	1980 Census of Population and Housing Vol.1 General Population & Migration Tables		CSO
B02	1980 Census of Population and Housing Vol.2 Part 1 Economic Tables		CSO
B03	1980 Census of Population and Housing Vol.2 Part 2 Social Tables		CSO
B04	1980 Census of Population and Housing Vol.3 Fertility Tables		CSO
B05	1980 Census of Population and Housing Analytical Report Vol.III		CSO
B06	1980 Census of Population and Housing Vol.I Administration Report, Nov. 1988		CSO
B07	1990 Census of Population, Housing and Agriculture, Preliminary Report, Dec.'90		CSO
B08	Migration Statistics (Immigrants and Visitors) 1991		CSO
B09	Women and Men in Zambia		
B10	Zambia in Figures, 1992		CSO
B11	Monthly Digest of Statistics, Jan.-Aug. 1990		CSO
B12	Monthly Digest of Statistics, Jan. 1991		CSO
B13	National Accounts Statistical Bulletin No.4	June 1992	CSO
B14	External Trade Bulletin 1992		CSO
B15	External Trade Statistics, CCCN Correspondence Listing 1986	June 1986	CSO
B16	Balance of Payment Statistics 1982/83	Jan. 1989	CSO
B17	Balance of Payment Statistics 1984/85	Dec. 1989	CSO
B18	Consumer Price News, Third Quarter 1992		CSO
B19	Consumer Price News, Fourth Quarter 1992		CSO
B20	Consumer Price News, First Quarter 1993		CSO
B21	Consumer Price Index, 25 Oct. 1993		CSO

Code	Title	Issued on	Issued by
B22	Consumer Price Index, 25 Nov. 1993		CSO
B23	Survey of Rents, Lusaka-Ndola	April 1992	CSO
B24	Transport and Communication Statistics 1984 and 1985		CSO
B25	Transport and Communication Statistics 1986 and 1988		CSO
B26	Quarterly Employment and Earning Statistics	June 1992	CSO
B27	Social Dimensions of Adjustment, Priority Survey I, 1991	Nov. 1993	CSO
B28	Consumer Price Statistics, Fourth Quarter 1993	1994	CSO
B29	Consumer Price News, First Quarter 1993	1993	CSO
B30	Consumer Price Index	Nov. 1993	CSO
B31	External Trade Bulletin 1993	1993	CSO
B32	1980 Population and Housing Census of Zambia (Analytical Report Volume V)	Sept. 1985	CSO
B33	Labour Force Survey 1986	1989	CSO
B34	National Accounts Statistical Bulletin No.3	Jan. 1990	CSO
B35	Consumer Price Index	July 1994	CSO
B36	Census of Population, Housing and Agriculture 1990, Descriptive Tables, Volume 10, Zambia Total	August 1995	CSO
C. Economics and Finance			
C01	Economic Review Jan.-March 1992	May 1992	Office of the President
C02	Economic Review Jan.-June 1993		Office of the President
C03	Economic Report, 1992		NCDP
C04	Zambia, Prospects for Sustainable and Equitable Growth	Aug. 1993	The World Bank
C05	New Economic Recovery Programme, Fourth National Development Plan, 1989-1993		NCDP
C06	Public Investment Programme 1993-1995	March 1993	Office of the President
C07	Global Economic Prospects and the Developing Countries	1993	The World Bank
C08	Consumption Figures and Population Projections for Design of Water Supply	Aug. 1986	DWA
C09	Main Manual to the Cost Accounting System at Department of Water Affairs	Feb. 1988	DWA
C10	Financial Report for the Year Ended 31st December, 1989	1991	Government Printer
C11	Financial Report for the Year Ended 31st December, 1990	1992	Government Printer
C12	Financial Report for the Year Ended 31st December, 1991	1993	Government Printer
C13	Second National Development Plan, 1972-1976	1972	NCDP
C14	Estimates of Revenue and Expenditure for the Year 1st January 1993 to 31st December 1993	1993	Government Printer
C15	Economic Report 1993	Jan. 1994	NCDP
C16	Main Economic Indicators	Sept. 1993	Bank of Zambia
C17	Zambia: Implementation of Economic Recovery Programme, Efforts and Policies	Nov. 1993	Office of the President
C18	A Vision for Zambia, Preparation of a National Long- Term Perspective Study	June 1992	Planning & Development Cooperation, OP
C19	Estimate of Revenue and Expenditure for Year 1994, Vol.I Recurrent Expenditure: Ministry	1994	Government Printer
C20	Estimate of Revenue and Expenditure for Year 1994, Vol.II Recurrent Expenditure: Province	1994	Government Printer
C21	Estimate of Revenue and Expenditure for Year 1994, Vol.III Capital Expenditure	1994	Government Printer

Code	Title	Issued on	Issued by
C22	District Councils Revenue and Capital Estimates for the Year 1988	1989	Government Printer
C23	New Economic Recovery Programme, Economic & Financial Policy Framework, 1992-1994	March 1992	Government Printer
C24	Estimates of Revenue and Expenditure for the year 1st January 1991 to 31st December 1991		Government Printer
C25	Financial Report for the Year Ended 31st December, 1992	1994	MOF
C26	International Financial Statistics, Monthly Reports	July 1985 to May 1995	IMF
C27	National Long-Term Perspective Study for Zambia, African Futures	May 1994	UNDP
C28	Public Investment Programme, 1994-1996	March 1994	NCDP
C29	The Economic Impact of AIDS in Zambia	April 1994	L. Forgy, A. Mwanza
C30	Country Profile, Zambia	1994	Economic Intelligence Unit
D. Sector Information and Plans			
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