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THE REPUBLIC OF INDONESIA

THE STUDY ON IKK SYSTEM WATER SUPPLY PROJECT  
IN PROVINCES OF  
CENTRAL JAVA, EAST JAVA AND BALI  
INDONESIA

FINAL REPORT

SUPPORTING REPORT

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**SUPPORTING REPORT A**  
**SOCIO-ECONOMIC CONDITION**





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## SUPPORTING REPORT A

### SOCIO-ECONOMIC CONDITION

#### 1. ECONOMIC STRUCTURE

##### 1.1 National Economy

###### 1.1.1 Location and Administrative Units

Indonesia located in the tropical zone has a territory of 1,911,260 square km, comprising more than 14 thousand islands, and has a population of 182 million in 1990. The country is administratively divided into 27 Provinces, 241 Districts (Kabupaten), 55 Municipalities (Kotamadya), 3,601 Sub-districts (Kecamatan) and 66,979 Villages (Desa).

###### 1.1.2 Gross Domestic Product

In 1988, Gross Domestic Product (GDP) of Indonesia grew to Rp.139,452 billion at current market prices at an average annual rate of 16.71% for the period 1986-1988. In particular, both sectors of quarrying and industries indicated the growth rate more than 20% on annual average. In the percentage distribution by sector of the GDP in 1988, the agricultural sector showed a highest rate of 24.1%, and each sector of industries (18.5%), trade (17.3%) and quarrying (11.6%) followed after the agricultural sector (Table 1.1.1).

Although the GDP at current market prices showed the high growth rate as mentioned above, due to a high rise of prices, the real annual growth rate was only 5.24% on average during the same period, and 5.71% at the real growth rate of GNP (Table 1.1.2).

Per capita GDP at current market prices amounted to Rp.804 thousand in 1988 at the average annual growth rate of 14.31% since 1986, and the real growth rate was 3.08% for the period 1986-1988 (Table 1.1.2). As seen in the above figures, the growth in the per capita GDP showed a low rate compared with those of the GDP and GNP. This was due mainly to a high growth in population.

### 1.1.3 External Trade

In 1989, external trade of Indonesia amounted to US\$37,947 million which consisted of exports of US\$22,026 million and imports of US\$15,921 million, therefore the trade balance was an export surplus of about Rp.16 billion. Such a favorable balance has been maintained every year since 1980. While, the trade balance without commodities of petroleum and gas in the exports and imports became an import surplus (Table 1.1.3).

Of the 1989 exports, petroleum and related products amounted to US\$7,879 million which corresponded to about 35% of the exports as a whole. Following the petroleum sector, the manufactured goods ranked second amounting to US\$5,733 million (26%). With regard to the percentage distribution of petroleum and manufactured goods in the exports, it is worthy of notice that the former was decreasing its share every year and in the contrary the latter was trending toward increase (Table 1.1.4).

On the other hand, the imports were represented by three sectors; machinery & transport equipment, chemicals and manufactured goods, which amounted to US\$5,789 million, US\$2,908 million and US\$2,669 million in 1989, respectively. The total amount of the three sectors accounted for over 70% of the exports as a whole every year for five years from 1985 to 1989 (Table 1.1.5).

### 1.1.4 Government Budget

In the fiscal year 1988/89, budget expenditure of the Central Government amounted to Rp.32,990 billion, consisting of Rp.17,482 billion for the routine sector and Rp.12,251 billion for the development sector. These amounts, compared with the 1987/88 budget expenditure, increased by 22% for the whole expenditure, 19% for the routine sector and 29% for the development sector (Table 1.1.6). Such a considerable increase in the development budget is notable as a positive policy of the Government to the national socio-economic development.

### 1.1.5 National Development Plan

The economic development of Indonesia is being promoted at present on the basis of the Fifth Five-Year Development Plan (Repelita V) for the period

1989/90-1993/94, which aims to improve the living standards of people and to establish a strong foundation for the next development stage. The Repelita V emphasizes the importance of achievement a balanced economic structure, and it is designed;

- to achieve self-sufficiency with regard to food by increase in agricultural products,
- to increase exports of manufactured goods by promoting development of industries,
- to provide adequate productive employment opportunities,
- to realize more equitable income distribution, etc.

During the period of Repelita V, the real economic growth rate is envisaged to reach an average of 5.0% per annum, and an average annual growth rate of population is estimated at 1.9%. It is expected therefore that the per capita income will increase at a rate of 3.1% per annum.

The real average annual growth rate of GDP is envisaged to be the same rate (5%) as that of the said real economic growth, and the distribution by industrial origin of the GDP is given as follows:

Industrial Origin	Average Annual Growth Rate (%)
1. Agriculture	3.6
2. Mining & Quarrying	0.4
3. Manufacturing	8.5
4. Construction	6.0
5. Trade	6.0
6. Transportation & Communication	6.4
7. Other Sectors	6.1

Source : Repelita V, 1989/90-1993/94, BAPPENAS.

By realizing the above economic growth, it is expected that Indonesia will have the more balanced economic structure at the end of the period of Repelita V.

## 1.2 Regional Socio-Economic Conditions

### 1.2.1 Gross Regional Domestic Product

Gross Regional Domestic Product (GRDP) at current market prices in 1987 amounted to Rp.11,977 billion for Central Java, Rp.18,458 billion for East Java and Rp.1,954 billion for Bali, and during the period 1985-1987 the average annual growth rate showed 14.24%, 14.63% and 16.49%, respectively (Tables 1.2.1-1, 1.2.1-2 and 1.2.1-3). Total amount (Rp.32,389 billion in 1987) of the GRDP of the said three provinces corresponded to 26% of the GDP of the country as a whole.

During the said period, the highest average annual growth rate, among sectors in the GRDP, was 23.16% of the sector of electricity, gas & water supply for Central Java, 23.75% of the banking sector for East Java and 30.50% of the manufacturing industrial sector for Bali. However, the growth in GRDP of these provinces showed lower rate than that in the GDP of the country every year, because they have not big cities such as Jakarta and Surabaya in their territories.

Although the average annual growth of the GRDP was the high rate at current market prices, the real growth rate was only 5.28% for Central Java, 5.55% for East Java and 7.67% for Bali during the same period (Tables 1.2.2-1, 1.2.2-2 and 1.2.2-3). However, these real growth rates were of the fairly high level compared with those in foreign countries.

In 1987, the average annual income per capita indicated Rp.376 thousand for Central Java and Rp.534 thousand for East Java, and as for Bali although there are not available income data, it is estimated to be about Rp.800 thousand based on the per capita GRDP of Bali given in Table 1.2.2-3. In comparison with the per capita average income of the country as a whole, the per capita income of these provinces was low in Central Java and East Java, but considerably high in Bali.

### 1.2.2 Prices

Table 1.2.3 shows consumer price indexes for the period from 1985 to 1989 in Jakarta and other major cities close to the Study Area. During this period, the average annual price rise rate of general goods indicated 7% or more for each cities except for Jakarta. In particular, the prices in Denpasar were a high rise rate of 10.7%. Among sectors, the food sector indicated the highest price rise rate of 10% or more in all cities except Jakarta.

Table 1.2.4 shows the average retail prices of nine essential commodities in 1988 in nine towns (Cilacap, Purworejo, Klaten, Wonogiri, Pati, Kudus, Semarang, Kendal and Denpasar) close to the objective IKKs. Among these towns, the commodities in Denpasar indicated the high retail prices comparatively, for example, the retail prices of rice, salted fish and batik in Denpasar in 1988 showed prices of 1.4 times, 2.0 times and 2.1 times of the average values in other towns, respectively.

### 1.2.3 Household Income

During the field surveys at both stages of the Master Plan and Feasibility Studies, an average monthly income per household was surveyed for the objective IKKs as shown in Table 1.2.5. As a result, the average monthly household income is estimated at Rp.128,428 for the whole 30-IKK, Rp.122,610 for 14-IKK in Central Java, Rp.129,649 for 12-IKK in East Java and Rp.145,125 for 4-IKK in Bali.

In the said table, the medium household income for each IKK together with the marked (\*) incomes would be used as a basic condition for formulating the water supply plan and for estimating the water tariff to be quoted in financial analysis. Where, the marked (\*) incomes were quoted from data at the Master Plan stage, taken data sources at both stages into account.

## **2. POPULATION AND HOUSEHOLD**

### **2.1 Population**

#### **2.1.1 Indonesia and Provinces**

In recent years, the population censuses of Indonesia were conducted in 1980 and 1990. The 1990 population amounted to 179,322 thousand on the increase by 31,832 thousand against the 1980 population at the average annual growth rate of 1.97% for this period. Such growth rate would indicate approximately a natural growth, assuming that the immigrants from and emigrants to foreign countries would be a little share in the entire population growth of Indonesia.

On the other hand, the 1990 population of three provinces amounted to 28,522 thousand for Central Java, 32,488 thousand for East Java and 2,777 thousand for Bali, at the average annual growth rate of 1.18%, 1.08% and 1.18% during the period 1980-1990, respectively. Compared with the average growth rate of country as a whole, such a low growth rate in these provinces might be due mainly to an effect of family planning and an out-migration of people from regional areas to big cities such as Jakarta and Surabaya (See Table 2.1.1).

#### **2.1.2 Kabupatens**

The census population of 21-Kabupaten related to 30-IKK is given in Table 2.1.2. The 1990 population was 19,020 thousand for the whole 21-Kabupaten, 10,803 thousand for 11-Kabupaten in Central Java, 7,536 thousand for 8-Kabupaten in East Java and 680 thousand for 2-Kabupaten in Bali. During the period 1980-1990, the average annual growth rate showed 0.97%, 0.98%, 0.94% and 0.92%, respectively. The population growth rate of these Kabupatens is lower than the rate of each province concerned.

#### **2.1.3 IKKs and the Study Area**

Population of 30-IKK in 1980 and 1990 was carried out by a questionnaire survey form to each Kecamatan concerned by the JICA Study Team in cooperation with Indonesian Consultants, Encona, and the result is given in Table 2.1.3.



The 1990 population was 335,515 for the whole of 30 IKKs, consisting of 154,317 for 14 IKKs in Central Java, 151,707 for 12 IKKs in East Java and 30,497 for 4 IKKs in Bali. The population of the whole 30-IKK corresponds to 87% of the total population of the Study Area (Desas related to the IKK), and this percentage was 92%, 81% and 100% for the said three provinces, respectively.

The population projection for the target year 2000 is made by using the 1990 population and the population growth rate for the period 1990-2000 which is estimated based on the intercensal growth rate between 1980 and 1990. Where, in case where the population data of some IKKs are not appropriate for estimating the average growth rate for the period 1990-2000, the rate of Kabupaten related to the IKKs is applied as an alternative figure for the population growth rate in the IKKs (See Table 2.1.3).

## **2.2 Household**

According to the said population census, the average size of household (hh) in Indonesia decreased from 4.9 persons/hh in 1980 to 4.5 persons/hh in 1990. such a tendency to decrease also appeared in three provinces of Central Java, East Java and Bali (See Table 2.1.1).

The average household size for the whole of 21 Kabupatens which contains the 30 IKKs showed 4.3 persons/hh in 1990 against 4.7 persons/hh in 1980. The 1990 average size in each province was 4.4 persons/hh for 11 Kabupatens in Central Java, 4.2 persons/hh for 8 Kabupatens in East Java and 4.8 persons/hh for 2 Kabupatens in Bali. These household sizes in 1990 show somewhat decrease compared with figures in 1980 as shown in Table 2.1.2. The breakdown for each Kabupaten is given in the said table.

## **3. INSTITUTIONAL AND ORGANIZATIONAL ASPECTS**

### **3.1 Laws and Regulations**

Domestic water supply administration of Indonesia at present is basically prescribed by the following Joint Decrees of the Minister of Home Affairs and the Minister of Public Works:

- [1] The Joint Decree, No.3/1984, No.26/KPTS/1984, on "Procedures to propose the Water Supply Installation, to carry out the Temporary Management and to transfer the Management to the Regional Government".
- [2] The Joint Decree, No.4/1984, No.27/KPTS/1984, on "Establishment of the Regional Water Supply Enterprises (Perusahaan Daerah Air Minum; PDAM)".
- [3] The joint Decree, No.5/1984, No.28/KPTS/1984, on "Guidelines of Organization, Accounting System, Operation and Maintenance Techniques, Structure and Calculation of Water Supply Tariff, Water Supply Services to Consumers, Water Supply Management in Kecamatan Capital (IKK) and Public Water Tap Management, for the Regional Water Supply Enterprise (Persahaan Daerah Air Minum; PDAM) and the Water Supply Agency (Badan Pengelola Air Minum; BPAM)".

In addition to the Joint Decrees mentioned above, establishment of the BPAM is prescribed by the following decree of the Minister of Public Works:

- [4] The Decree, No.269/KPTS/1984, on "Establishment of the Water Supply Agency (BPAM)".

Based on these Decrees and data which have been collected through the field survey, outlines of the BPAM/PDAM business are stated in the following sections.

### **3.2 Establishment, Organization and Function of BPAM and PDAM**

#### **3.2.1 General**

The Indonesian Government issued the Joint Decree (No.3/1984, No.26/KPTS/1984) of the Minister of Home Affairs and the Minister of Public Works ([1] of Section 3.1), to fulfill domestic water demand and to develop drinking water of the regional communities. According to this decree, the water supply system of a community is completed through the following procedures.

Firstly, the water supply project is implemented by the Ministry of Public Works after it was jointly approved by the Director of Water Supply, Cipta Karya and the Head (Bupati or Walikota) of Regional Government Level II. Where,

the project includes job such as development program, geological and topographical surveys, technical planning and designing, construction, and training for employees and operators.

After completion of the water supply project, the BPAM is established by the Minister of Public Works based on a proposal with approval of the Head of Regional Government, which is prepared by the water supply project manager. The BPAM is a temporary agency which carries out the water supply management such as production of drinking water, distribution of water to house connection and public hydrant, operation and maintenance of the water supply installation and training of employees.

The BPAM is obligated to complete the Water supply system within five years, under conditions which the management is normalized and the revenue from houses connected can cover the operating and maintenance cost. The water supply management of BPAM is finally handed to the PDAM which is supervised by the Head of the Regional Government.

### 3.2.2 Water Supply Agency, BPAM

#### A. Establishment, Responsibilities and Functions

The Water Supply Agency (Badan Pengelola Air Minum; BPAM) is established by the Minister of Public Works in accordance with the Minister Decree (No.269/KPTS/1984), with the object of supporting the Government program on water supply management in the administrative level II of regions. The majority of BPAMs related to 30 IKKs were established in the 1980s, except the BPAM of Wonogiri Kabupaten which was founded in 1976 (See Table 3.2.1).

The Director General of Cipta Karya decides the management policy of the BPAM on behalf of the Minister of Public Works. Responsibilities of the BPAM are as follows:

- (1) To manage the water supply system.
- (2) To provide the employees skilled for operation and maintenance of the system.

To meet the responsibilities above, the BPAM has the following functions:

- (1) To operate and maintain the water supply installation.
- (2) To conduct production, transmission and distribution of drinking water.
- (3) To provide water supply services for customers.
- (4) To train employees for the water supply management.

#### B. Organization Structure and Tasks

Organization of the BPAM is established by the Director General of Cipta Karya on the basis of the said Joint Decree (No.5/1984, No.28/KPTS/1984). The standard organization structure is classified into three types in accordance with number of customers as shown below:

a. Type A	0	-	2,500 customers
b. Type B	2,501	-	5,000 customers
c. Type C	5,001	-	10,000 customers

The organization structure by type is illustrated in Figs. 3.2.1, 3.2.2 and 3.2.3, respectively. Almost all of the BPAMs related to 30 IKKs are organized by Type A, except some BPAMs such as Blora and Tuban.

The BPAM is led by a chief under supervision of the Manager of PPSAB (Proyek Peningkatan Sarana Air Bersih) on behalf of the Director General of Cipta Karya. Liabilities and major tasks of the BPAM's Chief are as follows:

- a. To formulate long term plan of the BPAM's activity.
- b. To supervise and to coordinate activities in technical field and administrative and financial aspects.
- c. To set up strategy of water supply policy and to practice the strategy pursuant to the local regulation.
- d. To present Annual Financial Report and Quarterly and Monthly Reports in terms of finance and operation to the PPSAB.
- e. To provide yearly budget and operation plans to the PPSAB.
- f. To carry out assignment, reassignment and movement of employees.
- g. To keep a good relationship with Central and Local Governments and all communities.

- h. To conduct other functions in his position assigned by the Director General of Cipta Karya.

The BPAM's Chief is assisted by both Heads of Administration and Finance Division and Technical Division. Each Division is composed of four sections; the former has Finance Section, Book Keeping and Billing Section, General Administration and Personnel Section and Customer Service Section, and the latter has Production Section, Transmission and Distribution Section, Planning and Control Section and Maintenance Section. Tasks of respective Heads of Divisions and Sections are in detail prescribed in Chapter Three of the said Joint Decree (No.5/1984, No.28/KPTS/1984).

### 3.2.3 Regional Water Supply Enterprise, PDAM

#### A. Establishment and Scope of Works

The Regional Water Supply Enterprise (Perusahaan Daerah Air Minum; PDAM) is established in accordance with the Regional Regulations, based on Act No.5/1962 and Act No.6/1969. In the Study Area, the PDAMs are organized in eleven Kabupatens at present, including the PDAMs which were transferred from organizations of the BPAMs in 1990 and 1991 (See Table 3.2.1).

Main objective of the PDAM is to supply adequate and safety water to communities. The scope of works is as follows:

- a. To build, operate and maintain the water supply installation.
- b. To guide, develop and supervise a suitable and efficient use of drinking water.
- c. To conduct a supervision in order to prevent illegal water use.
- d. To provide a proper water supply services to communities.

#### B. Organization Structure and Tasks

The standard organization structure of the PDAM is classified into three types in accordance with number of customers as follows:

- a. Type A                      less than    5,000 customers
- b. Type B                      50,001 - 100,000 customers

- c. Type C more than 100,001 customers

The organization structures of three types above are illustrated in Figs. 3.2.4, 3.2.5 and 3.2.6, respectively. All the PDAMs shown in Table 3.2.1 have organizations of Type A or a modified Type A.

According to the said Joint Decree (No.5/1984, No.28/KPTS/1984), number of employees of the PDAM is based on number of customers. It is considered to be one (1) person per 100 customers, which is defined as an index number of one (1), and generally the index number would be more than one (1) for less than 20,000 customers and less than one (1) for more than 20,000 customers.

The PDAM is led by a Board of Directors and supervised by a Supervisory Board. The Board of Directors consists of three directors; Prime Director, General Affairs Director and Technical Director. Tasks of the Supervisory Board and the Board of Directors are prescribed by Local Regulation. Main tasks of Prime Director, General Affairs Director and Technical Director are as follows:

i. Tasks of Prime Director

- a. To preside over all activities of the PDAM.
- b. To report the PDAM's activities to the Head of Local Government.
- c. To hold periodical meeting with personnel of units in the PDAM about their tasks.

ii. General Affairs Director

- a. To coordinate and to control activities in fields of administration, finance, employment and secretarial business.
- b. To conduct procurement and custody of equipment and materials.
- c. To plan and to control income and cost sources.
- d. To carry out other tasks assigned by the Prime Director.
- e. To report to the Prime Director about activities in the fields mentioned above.

In the organization of the Type A, the General Affairs Director supervises three divisions; Finance Division, Customer Division and General Affairs Division. In case of Types B and C, the General Affairs Division

in Type A is divided into two divisions; Personnel Division and General Affairs Division.

### iii. Technical Director

- a. To coordinate and to control activities in fields of planning, technics, production, distribution and technical equipment.
- b. To control and to maintain water sources.
- c. To conduct test of equipment and materials.
- d. To carry out other tasks assigned by the Prime Director.
- e. To report to the Prime Director about the above-mentioned activities.

The Technical Director supervises four divisions; Production Division ("Production and Laboratory Division" in case of Types B and C), Distribution Division, Technical Equipment Division and Planning Division.

In addition to the above organization structure, two organizations of Internal Auditor and Research and Development Division (RDD) are set up in case of Types B and C. The Auditor reports to the Prime Director about the result of audit for financial aspects, and the Head of RDD assists the Prime Director in fields of the research and development, and reports the result of these activities to the Prime Director.

To assist the Prime Director in regard to the PDAM's management, the Prime Director could set up a Branch Office in the Capital of Kecamatan (IKK) with approval of the Head of the Local Government. Each Branch Office is led by the Branch Office Head which has a position of the Division Head. The Head of Branch Office could create Service Units under an approval of the Board of Director when services to villages are required. The Service Unit is led by the Unit Head which holds a position of the Section Head.

## **3.3 Financial Aspects of BPAM and PDAM**

### **3.3.1 Accounting System**

Finances of the BPAM and PDAM are maintained by income from water supply to customers, based on a capital and fund reserved at the initiation, and the

income is allotted to operating and maintenance costs consisting of personnel expenses, power rates, equipment and materials costs, general administration cost, depreciation cost, and loan interest.

According to the said Joint Decree (No.5/1984, No.28/KPTS/1984), the BPAM and PDAM are obliged to conduct the accounting system in accordance with an accounting principle of Indonesia, in order to perform every records of financial transactions, and it includes procedures such as water selling, procurement, registration of new connections, fine application, financial reports, etc.

The financial reports consist of daily report, monthly report, quarterly report and annual report. The annual report comprises balance sheet, profit-and-loss statement and list of assets.

During the period of field survey, the JICA Study Team collected financial data such as the balance sheet and the profit-and-loss statement of BPAMs and PDAMs related to 30 IKKs (See Table 3.2.1). In general, a capital of the BPAM is bigger than that of the PDAM, because the BPAM holds more fund reserved than the PDAM. Result of the above-mentioned survey shows that the average capital (including the fund reserved) of the whole BPAM/PDAM is approximately Rp.1,624 million, consisting of Rp.2,294 million for the BPAM and Rp.1,137 million for the PDAM.

Data of the profit-and-loss statements in recent five years were collected at the ten BPAMs and the five PDAMs. In 1990, the profit-and-loss account of the BPAM showed an unfavorable balance for the nine BPAMs (90% of the total number of BPAMs), and the BPAM of Kabupaten Wonogiri was the only agency with a favorable balance. To the contrary, the profit-and-loss account of the PDAM was the favorable balance for the four PDAMs (80% of the total number of PDAMs), except the PDAM Kabupaten Karangasem of the Bali Province (Table 3.2.1).

As shown in the said table, the organizations of four Kabupaten BPAMs of Banjar Negara, Sragen, Wonogiri and Lamongan were transferred to the PDAM from 1990 through 1991, and it is said that the BPAM organization of Kabupaten Tuban also will be transferred to the PDAM in 1992.



### 3.3.2 Water Supply Tariff

Revenue from water supply of the BPAM/PDAM is based on a water supply tariff, and the standard tariff structure is prescribed by the foregoing Joint Decree (No.5/1984, No.28/KPTS/1984). This tariff structure is set in conformity to population size of community, quantity of water consumption and customer group, taking account of water demand and affordability to pay of customer groups, and revenue of the BPAM/PDAM (See Table 3.3.1).

Actual water supply rates of the BPAM and PDAM are decided by respective directors with an approval of the Director of Water Supply, Cipta Karya for the former, and with an approval of the Head of the Regional Government for the latter.

The JICA Study Team collected existing water supply tariff data of the BPAM/PDAM related to the 30 IKKs during the period of field survey in 1990 and 1991, and the data include 21 sorts of tariff tables consisting of 14 BPAMs and 7 PDAMs. Among these data, the tariff structure for household is summarized in Table 3.3.2.

The tariff per  $m^3$  is divided into four rate groups in accordance with quantity of water consumption per month;  $0 m^3 - 10 m^3$ ,  $11 m^3 - 20 m^3$ ,  $21 m^3 - 30 m^3$  and over  $30 m^3$ , based on the standard tariff structure indicated in Table 3.3.1. But, these rates are not constant for all the BPAM/PDAM and varies according to social and economic conditions in respective Kabupatens (See Table 3.3.2). An average rate of the water supply tariffs for household which are being adopted at the 14 BPAMs and the 7 PDAMs is as follows:

Average Rate of Water Supply Tariff for  
Household at 14 BPAMs and 7 PDAMs (Rp/ $m^3$ )

	Nos.	Water Consumption ( $m^3$ /month)			
		0-10	11-20	21-30	over 30
BPAM	14	144	210	277	409
PDAM	7	129	192	265	420
Whole	21	139	204	273	413

Regarding the water supply tariff, almost all of BPAMs and PDAMs adopt a minimum consumption system so as to be regarded as 10 m<sup>3</sup> for water consumption less than 10 m<sup>3</sup> per month. Besides the water supply tariff, the BPAM/PDAM impose maintenance cost of meters and administration cost on customers, at the rate of approximately Rp.500/month per customer, respectively (See Table 3.3.2).

Table 1.1.1 GROSS DOMESTIC PRODUCT (GDP) AT CURRENT MARKET PRICES  
BY INDUSTRIAL ORIGIN, INDONESIA, 1986-1988

Industrial Origin	Gross Domestic Product (GDP) (Billion RPS.)			Percentage Distribution of GDP (%)			Average Annual Growth Rate (%) (1986-1988)
	1986	1987	1988	1986	1987	1988	
1. Agriculture, Forestry & Fishery	24,750.5	29,016.0	33,597.8	24.1	23.3	24.1	16.51
2. Mining & Quarrying	11,502.8	17,266.8	16,184.9	11.2	13.9	11.6	21.92
3. Manufacturing Industries	17,184.7	21,150.4	25,821.0	16.8	17.0	18.5	22.58
4. Electricity, Gas & Water Supply	647.1	746.9	836.9	0.6	0.6	0.6	13.74
5. Construction	5,313.8	6,087.4	6,988.4	5.2	4.9	5.0	14.68
6. Trade, Hotel & Restaurant	17,083.4	20,870.2	24,167.2	16.7	16.8	17.3	18.98
7. Transportation & Communication	6,406.9	7,414.1	8,059.3	6.2	6.0	5.8	12.21
8. Banking & Other Financial Intermediaries	4,058.8	4,823.7	5,263.4	4.0	3.9	3.8	13.98
9. Ownership of Dwelling	2,976.0	3,349.1	3,736.0	2.9	2.7	2.7	12.04
10. Public Administration & Defence	8,307.3	8,911.8	9,446.2	8.1	7.2	6.8	6.64
11. Services	4,314.6	4,902.5	5,351.0	4.2	3.9	3.8	11.39
G D P	102,545.9	124,538.9	139,452.1	100.0	100.0	100.0	16.71

Source : Statistical Year Book of Indonesia, 1987 & 1988, Biro pusat Statistik.

Table 1.1.2 TRENDS OF GDP, GNP AND NATIONAL INCOME, INDONESIA, 1986-1988

Description	at Current Market Prices		Average Annual at 1983 Constant Market Prices		Average Annual			
	1986	1987	1988	(1986-1988)	1987	1988	(1986-1988)	
1. GDP (Billion Rps.)	102,546	124,539	139,452	16.71	90,014	94,302	99,697	5.24
2. Per Capita GDP (Rps.)	616,417	733,229	804,152	14.31	541,032	555,209	574,902	3.08
3. GNP (Billion Rps.)	98,353	118,522	132,715	16.24	86,211	90,054	96,319	5.71
4. Per Capita GNP (Rps.)	591,215	697,802	765,300	13.85	518,228	530,200	555,423	3.53
5. National Income (Billion Rps.)	86,697	105,112	117,631	16.58	78,265	80,789	84,959	4.20
6. Per Capita Income (Rps.)	521,150	618,849	678,321	14.18	470,418	475,538	489,977	2.06

Source : Statistical Year Book of Indonesia, 1987 & 1988, Biro pusat Statistik.

Table 1.1.3 TREND OF EXTERNAL TRADE OF INDONESIA, 1980-1989

Unit: Million US\$

Year	Including Petroleum and Gas			Excluding Petroleum and Gas		
	Exports (2)	Import (3)	Balance (4)=(2)-(3)	Exports (5)	Import (6)	Balance (7)=(5)-(6)
1980	23,950.4	10,834.4	13,116.0	6,188.8	9,085.9	-2,897.1
1981	25,164.5	13,272.1	11,892.4	4,501.3	11,550.4	-7,049.1
1982	22,328.3	16,858.9	5,469.4	3,929.2	13,314.1	-9,384.9
1983	21,145.9	16,351.8	4,794.1	5,005.3	12,207.0	-7,201.7
1984	21,887.8	13,882.1	8,005.7	5,869.7	11,185.3	-5,315.6
1985	18,586.7	10,259.1	8,327.6	5,868.8	8,987.5	-3,118.7
1986	14,805.0	10,718.4	4,086.6	6,528.4	9,632.0	-3,103.6
1987	17,135.6	12,370.3	4,765.3	8,579.5	11,302.3	-2,722.8
1988	19,218.5	13,248.5	5,970.0	11,536.9	12,339.4	- 858.7
1989	22,025.6	15,921.5	6,104.1	13,579.5	15,066.4	-1,486.9

Table 1.1.4 EXPORTS BY COMMODITY GROUP OF INDONESIA, 1984-1989

Unit: Million US\$

Commodity Group	1984	1985	1986	1987	1988	1989
1. Food stuff & live animals	1,368.5	1,383.1	1,773.8	1,683.8	2,000.6	2,185.3
2. Beverages & tobacco	43.5	48.7	68.7	71.9	69.2	127.4
3. Raw materials in edible	1,761.9	1,403.1	1,473.1	1,925.9	2,660.9	2,440.0
4. Mineral fuels, lubricants & related materials	16,044.6	12,757.3	8,309.6	8,581.9	7,723.2	7,879.3
5. Animals & vegetable oils & fats	174.9	414.1	165.7	290.2	539.4	963.4
6. Chemicals	169.7	210.0	260.3	251.0	345.7	617.5
7. Manufactured goods	1,565.3	1,804.4	1,984.4	3,267.2	4,281.0	5,733.5
8. Machinery & transport equipment	223.2	98.0	62.6	57.1	126.2	180.4
9. Miscellaneous articles manufactured	372.2	437.1	678.0	731.8	1,154.3	1,558.9
10. Commodities not classified	164.0	30.9	28.8	274.8	318.0	339.9
<b>Total</b>	<b>21,887.8</b>	<b>18,586.7</b>	<b>14,805.0</b>	<b>17,135.6</b>	<b>19,218.5</b>	<b>22,025.6</b>

Source: Statistical Year Book of Indonesia, 1988 &amp; 1989, Biro Pusat Statistik

Table 1.1.5 IMPORTS BY COMMODITY GROUP OF INDONESIA, 1984-1989

Unit: Million US\$

Commodity Group	1984	1985	1986	1987	1988	1989
1. Food stuff & live animals	676.2	556.1	610.0	623.8	642.0	1,007.7
2. Beverages & tobacco	29.1	20.9	28.1	32.6	34.4	45.2
3. Raw materials in edible	883.4	729.0	830.1	990.6	1,205.0	1,628.5
4. Mineral fuels, lubricants & related materials	2,705.1	1,287.7	1,106.9	1,144.0	959.0	976.1
5. Animals & vegetable oils & fats	51.7	35.5	17.9	96.9	176.7	218.6
6. Chemicals	2,137.4	1,916.6	1,909.7	2,325.9	2,541.2	2,908.4
7. Manufactured goods	1,885.1	1,717.9	1,668.3	1,784.9	2,061.8	2,669.0
8. Machinery & transport equipment	5,036.9	3,617.0	4,117.5	4,818.7	5,096.0	5,788.7
9. Miscellaneous articles manufactured	378.6	331.9	389.3	469.6	451.4	679.2
10. Commodities not classified	98.6	46.5	40.6	83.3	81.0	0.1
Total	13,882.1	10,259.1	10,718.4	12,370.3	13,248.5	15,921.5

Source : Statistical Year Book of Indonesia, 1988, Biro Pusat Statistik

Table 1.1.6 RECEIPT AND EXPENDITURE OF CENTRAL GOVERNMENT, INDONESIA

Unit : Rp Billion

Year	Receipt		Expenditure			
	Routine	Development Total	Routine	Development Total		
1985/86	19,252	3,572	22,824	11,951	10,873	22,824
1986/87	16,141	5,751	21,892	13,559	8,332	21,891
1987/88	20,803	6,158	26,961	17,482	9,477	26,959
1988/89	23,004	9,991	32,995	20,739	12,251	32,990

Source : Statistical Year Book of Indonesia, 1988 & 1989, Biro Pusat Statistik



Table 1.2.1-1 GROSS REGIONAL DOMESTIC (GRDP) AT CURRENT PRICES  
BY INDUSTRIAL ORIGIN, CENTRAL JAVA PROVINCE, 1985-1987

Industrial Origin	Gross Regional Domestic Product (Billion Rps.)			Percentage Distribution of GRDP (%)			Average Annual Growth Rate (%) (1985-1987)
	1985	1986	1987	1985	1986	1987	
1. Agriculture, Forestry & Fishery	3,034.1	3,560.4	4,064.8	33.1	34.0	33.9	15.76
2. Mining & Quarrying	50.4	57.2	68.5	0.5	0.5	0.6	16.62
3. Manufacturing Industries	1,283.5	1,481.8	1,692.9	14.0	14.2	14.1	14.85
4. Electricity, Gas & Water Supply	65.0	83.6	98.4	0.7	0.8	0.8	23.16
5. Construction	517.7	543.0	588.6	5.6	5.2	4.9	6.64
6. Trade, Hotel & Restaurant	1,769.0	2,004.9	2,352.7	19.3	19.2	19.6	15.34
7. Transportation & Communication	391.5	442.2	498.6	4.3	4.2	4.2	12.85
8. Banking & Other Financial Intermediaries	151.4	179.4	228.1	1.6	1.7	1.9	22.82
9. Ownership of Dwelling	346.5	365.6	392.9	3.8	3.5	3.3	6.49
10. Public Administration & Defence	1,269.3	1,421.2	1,617.4	13.8	13.6	13.5	12.89
11. Services	298.1	325.7	373.7	3.2	3.1	3.1	12.00
G R D P	9,176.5	10,465.0	11,976.6	100.0	100.0	100.0	14.24

Source : Central Java in Figures, 1989, Statistical Office of Central Java Province

Table 1.2.1-2 GROSS REGIONAL DOMESTIC PRODUCT (GRDP) AT CURRENT MARKET PRICES  
BY INDUSTRIAL ORIGIN, EAST JAVA PROVINCE, 1985-1987

Industrial Origin	Gross Regional Domestic Product (Billion Rps.)			Percentage Distribution of GRDP (%)			Average Annual Growth Rate (%) (1985-1987)
	1985	1986	1987	1985	1986	1987	
1. Agriculture, Forestry & Fishery	4,308.9	4,669.9	5,432.1	30.7	29.5	29.4	12.35
2. Mining & Quarrying	62.8	67.5	73.2	0.4	0.4	0.4	7.96
3. Manufacturing Industries	2,350.4	2,732.3	3,447.6	16.7	17.3	18.7	21.21
4. Electricity, Gas & Water Supply	130.0	137.6	148.0	0.9	0.9	0.8	6.70
5. Construction	704.4	712.1	781.2	5.0	4.5	4.2	5.40
6. Trade, Hotel & Restaurant	2,836.4	3,427.5	4,080.6	20.2	21.7	22.1	19.95
7. Transportation & Communication	960.9	1,059.4	1,233.3	6.8	6.7	6.7	13.33
8. Banking & Other Financial Intermediaries	289.7	362.9	443.6	2.1	2.3	2.4	23.75
9. Ownership of Dwelling	284.1	300.6	329.1	2.0	1.9	1.8	7.64
10. Public Administration & Defence	1,312.7	1,493.1	1,508.4	9.3	9.4	8.2	7.38
11. Services	811.9	861.6	980.5	5.8	5.4	5.3	9.96
G R D P	14,052.2	15,824.5	18,457.6	100.0	100.0	100.0	14.63

Source : East Java in Figures, 1988, Statistical Office of East Java Province

Table 1.2.1-3 GROSS REGIONAL DOMESTIC PRODUCT (GRDP) AT CURRENT MARKET PRICES  
BY INDUSTRIAL ORIGIN, BALI PROVINCE, 1985-1987

Industrial Origin	Gross Regional Domestic Product (Billion Rps.)			Percentage Distribution of GRDP (%)			Average Annual Growth Rate (%) (1985-1987)
	1985	1986	1987	1985	1986	1987	
1. Agriculture, Forestry & Fishery	652.2	777.6	851.0	45.3	45.9	43.5	14.33
2. Mining & Quarrying	8.1	5.3	6.2	0.6	0.3	0.3	-8.79
3. Manufacturing Industries	56.4	71.9	96.0	3.9	4.2	4.9	30.50
4. Electricity, Gas & Water Supply	13.8	15.4	19.3	1.0	0.9	1.0	18.46
5. Construction	75.2	78.2	86.1	5.2	4.6	4.4	7.05
6. Trade, Hotel & Restaurant	229.8	282.4	344.8	16.0	16.7	17.6	22.49
7. Transportation & Communication	117.9	132.6	171.9	8.2	7.8	8.8	21.05
8. Banking & Other Financial Intermediaries	26.1	33.1	39.2	1.8	2.0	2.0	22.62
9. Ownership of Dwelling	10.8	11.9	13.6	0.7	0.7	0.7	12.24
10. Public Administration & Defence	115.0	129.5	146.5	8.0	7.6	7.5	12.87
11. Services	135.1	155.3	179.7	9.4	9.2	9.2	15.33
G R D P	1,440.4	1,693.2	1,954.3	100.0	100.0	100.0	16.49

Source : Statistical Year Book of Bali, 1989, Statistical Office of Bali Province

Table 1.2.2-1 TRENDS OF GROSS REGIONAL DOMESTIC PRODUCT (GRDP) AND REGIONAL INCOME, CENTRAL JAVA PROVINCE, 1, 1985-1987

Description	at Current Market Prices		Average Annual at 1983 Constant Market Prices		Average Annual			
	1985	1986	1987	(1985-1987)	1985	1986	1987	(1985-1987)
1. GRDP (Billion Rps.)	9,177	10,465	11,977	14.24	8,034	8,495	8,905	5.28
2. Per Capita GRDP (Rps.)	341,368	384,830	435,512	12.95	299,861	312,381	323,806	4.09
3. Regional Income (Billion Rps.)	8,213	9,228	10,342	12.22	7,161	7,441	7,626	3.20
4. Per Capita Income (Rps.)	305,511	339,345	376,057	10.95	266,387	273,630	277,323	2.03

Source : Central Java in Figures, 1989, Statistical Office of Central Java Province

Table 1.2.2-2 TRENDS OF GROSS REGIONAL DOMESTIC PRODUCT (GRDP) AND REGIONAL INCOME, EAST JAVA PROVINCE, 1985-1987

Description	at Current Market Prices			at 1983 Constant Market Prices			Average Annual Growth Rate (%) (1985-1987)
	1985	1986	1987	1985	1986	1987	
1. GRDP (Billion Rps.)	14,052	15,824	18,458	12,131	12,894	13,514	5.55
2. Per Capita GRDP (Rps.)	450,932	501,138	577,033	389,288	408,337	422,488	4.18
3. Regional Income (Billion Rps.)	13,115	14,620	17,076	11,326	12,040	12,613	5.53
4. Per Capita Income (Rps.)	420,851	462,985	533,851	363,456	381,274	394,320	4.16

Source : East Java in Figures, 1988, Statistical Office of East Java Province



Table 1.2.3 CONSUMER PRICE INDEXES OF MAJOR CITIES RELATED TO THE STUDY AREA,  
1985-1989 (April 1977 - March 1978 = 100)

City	Sector	Year					Average Annual Rise Rate (%) (1985-1989)
		1985	1986	1987	1988	1989	
Jakarta	General	229.9	242.5	264.3	283.8	301.0	6.98
	Food	206.2	224.0	246.3	277.3	300.9	9.92
	Housing	268.7	278.5	293.2	308.1	324.2	4.81
	Clothing	193.3	201.2	221.7	229.6	240.0	5.59
	Micellaneous	240.1	249.0	279.7	289.5	299.6	5.76
Semarang	General	253.9	270.4	295.7	321.1	341.6	7.71
	Food	215.6	236.1	263.5	289.0	327.4	11.02
	Housing	292.6	307.0	322.0	337.8	357.3	5.12
	Clothing	284.1	303.4	344.4	367.8	388.1	8.16
	Micellaneous	271.3	280.6	306.2	318.1	328.3	4.91
Yogyakarta	General	271.3	288.8	317.6	344.0	363.0	7.56
	Food	239.9	259.5	293.4	337.3	365.4	11.13
	Housing	333.0	352.1	372.5	391.0	402.3	4.85
	Clothing	223.4	238.3	271.7	284.8	297.6	7.50
	Micellaneous	280.9	294.2	320.9	330.9	338.8	4.83
Surabaya	General	273.3	288.3	317.1	342.5	368.0	7.73
	Food	254.6	276.4	309.1	343.9	373.4	10.06
	Housing	293.7	302.9	322.1	338.7	370.0	5.97
	Clothing	238.9	248.8	287.5	304.9	321.0	7.76
	Micellaneous	296.0	307.8	338.5	352.5	373.9	6.04
Denpasar	General	284.3	314.6	352.8	394.1	427.6	10.75
	Food	302.7	349.7	401.8	480.0	535.8	15.38
	Housing	280.6	294.1	314.6	324.6	339.8	4.91
	Clothing	234.6	259.1	322.5	331.7	340.3	10.09
	Micellaneous	265.1	279.1	294.7	299.8	313.9	4.33

Source : Statistical Year Book of Indonesia 1989, Biro Pusat Statistik.

Table 1.2.4 AVERAGE RETAIL PRICES OF NINE ESSENTIAL COMMODITIES  
IN SOME TOWNS IN THE STUDY AREAS, 1988

Town	Rice (Rp/Kg)	Salted fish (Rp/Kg)	Cooking oil (Rp/l)	Sugar (Rp/Kg)	Salt (Rp/Kg)	Kerosene (Rp/l)	Washing soap (Rp/Pcs)	Textile (Rp/m)	Batik (Rp/Pcs)
Cilacap	479	1,500	650	744	300	200	498	954	4,500
Purworejo	421	2,500	850	738	300	210	344	938	6,000
Klaten	489	1,355	1,115	740	300	200	300	1,650	4,000
Wonogiri	407	1,088	691	755	300	200	325	1,300	3,750
Pati	495	2,175	809	757	175	198	-	1,250	4,900
Kudus	386	1,900	910	744	417	200	225	1,375	3,700
Semarang	440	1,256	884	731	246	193	128	1,369	3,366
Kendal	537	1,600	655	752	500	190	300	1,040	3,400
Denpasar	650	3,333	721	729	271	225	354	1,354	9,000
Average	478	1,856	809	743	312	202	309	1,248	4,735

Sources: \* Central Java in Figures 1989, Statistical Office of Central Java Province.

\* Statistical Year Book of Bali 1989, Statistical Office of Bali Province.



Table 1.2.5 AVERAGE MONTHLY INCOME PER HOUSEHOLD IN 30-IKK

NO.	IKK	Master Plan Stage		Feasibility Study Stage			Monthly Income to be applied for Feasibility Study (Rp)
		Monthly Income (Rp.)	Monthly Expenditure (Rp)	Monthly Income (Rp)			
				Low	Medium	High	
<b>(1) CENTRAL JAVA PROVINCE</b>							
1	Bulakamba	54,312	47,872	75,000	137,500	187,500	137,500
2	Jeruklegi	109,167	94,167	51,567	107,166	174,569	107,166
3	Kemiri	60,934	58,744	75,000	150,000	300,000	150,000
4	Madukora	116,667	91,667	30,000	100,000	200,000	100,000
5	Punggelan	112,917	87,917	40,000	60,000	80,000	112,917 *
6	Karanggayam	79,167	79,167	37,500	52,500	262,500	79,167 *
7	Petanahan	109,167	109,167	45,500	80,000	105,000	109,167 *
8	Sukorejo	97,917	97,917	70,000	-	200,000	97,917 *
9	Jepon	139,167	119,167	70,000	160,000	310,000	160,000
10	Batangan	97,917	82,917	50,000	200,000	300,000	200,000
11	Gondang	86,667	71,667	-	37,500	147,000	86,667 *
12	Jenar	78,042	74,542	45,000	67,000	104,000	78,042 *
13	Giriwoyo	94,167	84,167	60,000	143,000	187,500	143,000
14	Bawen	79,167	74,167	96,000	155,000	300,000	155,000
	Average of (1)	93,955	83,803	57,351	111,513	204,148	122,610
<b>(2) EAST JAVA PROVINCE</b>							
1	Balen	131,728	-	87,250	125,500	160,770	131,728 *
2	Baureno	135,812	-	105,000	120,000	145,000	135,812 *
3	Jenu	110,526	100,526	60,000	81,000	105,000	110,526 *
4	Kembangbahu	110,526	105,526	49,775	107,245	159,715	110,526 *
5	Diewk	82,895	-	35,000	175,000	325,000	175,000
6	Jiwan	118,421	-	84,250	168,500	337,000	168,500
7	Kutorejo	102,632	-	80,000	105,000	128,000	105,000
8	Tempeh	63,158	55,658	60,000	80,000	120,000	80,000
9	Kunir	94,737	74,737	40,000	50,000	195,000	94,737 *
10	Tempursari	120,789	117,789	104,750	150,750	199,000	150,750
11	Banyuanyar	86,842	86,842	132,600	145,560	174,820	145,560
12	Sumberasih	98,684	-	119,200	147,650	170,250	147,650
	Average of (2)	104,729	90,180	79,819	121,350	184,963	129,649
<b>(3) BALI PROVINCE</b>							
1	Tampak Siring	59,831	-	75,000	115,000	200,000	115,000
2	Ketewel	113,263	98,263	135,000	180,000	270,000	180,000
3	Menanga	77,221	-	105,000	140,500	225,000	140,500
4	Sibetan	99,748	84,748	53,000	145,000	241,000	145,000
	Average of (3)	87,516	91,506	92,000	145,125	234,000	145,125
	Average of Whole	97,406	86,242	71,427	120,220	200,454	128,428

Note : The medium income, except incomes marked (\*) which are quoted from data at the master plan stage, is adopted to the feasibility study.

Table 2.1.1 POPULATION, NUMBER OF HOUSEHOLD AND HOUSEHOLD SIZE IN THE 1980  
1990 CENSUSES OF INDONESIA, CENTRAL JAVA, EAST JAVA AND BALI

Region	Population ('000)		Average Annual Growth Rate (%)	Number of Household ('000)		Average Household Size (Persons/HH)	
	1980	1990	1980-1990	1980	1990	1980	1990
Indonesia	147,490	179,322	1.97	30,372	39,689	4.9	4.5
Province	57,012	63,787	1.13	12,250	14,860	4.7	4.3
Central Java	25,373	28,522	1.18	5,286	6,414	4.8	4.4
East Java	29,169	32,488	1.08	6,479	7,845	4.5	4.1
Bali	2,470	2,777	1.18	485	601	5.1	4.6

Source : Hasil Sensus Penduduk 1990, Indonesia.

Table 2.1.2 POPULATION, NUMBER OF HOUSEHOLD AND AVERAGE HOUSEHOLD SIZE OF KABUPATEN  
RELATED TO THE STUDY AREA IN THE 1980 AND 1990 CENSUSES

Kabupaten	Census Population		Average Annual Growth Rate (%)	Number of Household ('000)		Average Household Size (Persons/HH)	
	1980	1990	1980-1990	1980	1990	1980	1990
(1) Central Java	9,778,070	10,803,430	1.00	2,050	2,462	4.8	4.4
1. Brebes	1,264,078	1,521,835	1.87	272	335	4.7	4.5
2. Cilacap	1,333,395	1,487,308	1.10	275	335	4.8	4.4
3. Purworejo	697,301	700,788	0.05	149	165	4.7	4.2
4. Banjarnegara	676,751	771,774	1.32	138	169	4.9	4.6
5. Kebumen	1,032,226	1,120,982	0.83	209	242	4.9	4.6
6. Kendal	702,074	799,117	1.30	152	184	4.6	4.3
7. Blora	696,523	767,292	0.97	146	180	4.8	4.3
8. Pati	975,521	1,064,115	0.87	211	262	4.6	4.1
9. Sragen	758,461	825,517	0.85	163	193	4.7	4.3
10. Wonogiri	935,453	958,892	0.25	187	217	5.0	4.4
11. Semarang	706,287	785,810	1.07	148	180	4.8	4.4
(2) East Java **	6,864,784	7,536,051	0.94	1,517	1,794	4.5	4.2
1. Bojonegoro	999,066	1,103,944	1.00	208	252	4.8	4.4
2. Tuban	871,739	977,614	1.15	183	222	4.8	4.4
3. Lamongan	1,049,808	1,143,344	0.86	213	249	4.9	4.6
4. Jombang	941,789	1,048,682	1.08	199	242	4.7	4.3
5. Madiun	622,243	633,873	0.19	140	159	4.4	4.0
6. Mojokerto	688,997	786,943	1.34	156	190	4.4	4.1
7. Lumajang	874,263	924,856	0.56	207	238	4.2	3.9
8. Probolinggo	816,879	916,795	1.16	211	242	3.9	3.8
(3) Bali	620,443	680,151	0.92	122	141	5.1	4.8
1. Gianyar	306,129	336,738	0.96	57	65	5.3	5.2
2. Karangasem	314,314	343,413	0.89	65	76	4.8	4.5
(4) Total	17,263,297	19,019,632	0.97	3,689	4,397	4.7	4.3

Source : \* Hasil Sensus Penduduk 1990, Indonesia.

Note : \*\* Population in the East Java Province excludes persons without permanent residences.

Table 2.1.3 POPULATION OF THE STUDY AREA AND 30 IKKs

NO. KABUPATEN	IKK	Average Annual Growth Rate (%) 1990-2000	1990 Population		2000 Population		Ratio (2)/(1) or (4)/(3) (%)	
			Study Area (1)	IKK Area (2)	Study Area (3)	IKK Area (4)		
(1) CENTRAL JAVA PROVINCE		1.05	168,115	154,317	186,600	171,360	92	
1	BREBES	Bulakamba	0.35	18,444	18,444	19,100	19,100	100
2	CILACAP	Jeruk legi	1.57	15,720	15,720	18,370	18,370	100
3	PURWOREJO	Kemiri	1.75	12,493	12,493	14,860	14,860	100
4	BANJAR NEGARA	Madukora	1.09	6,568	6,568	7,320	7,320	100
5		Punggelan	1.37	9,066	5,630	10,390	6,450	62
6	KEBUMEN	Karanggayam	1.19	6,707	4,371	7,550	4,920	65
7		Petanahan	0.32	9,521	8,155	9,830	8,420	86
8	KENDAL	Sukorejo	0.66	14,054	14,054	15,010	15,010	100
9	BLORA	Jepon	1.56	12,549	12,549	14,650	14,650	100
10	PATI	Batangan	0.93	9,207	9,207	10,100	10,100	100
11	SRAGEN	Gondang	0.99	19,554	18,423	21,580	20,330	94
12		Jenar	0.96	11,658	7,180	12,830	7,900	62
13	WONOGIRI	Girilwoyo	0.25 *1	6,953	5,902	7,130	6,050	85
14	SEMARANG	Bawen	1.36	15,621	15,621	17,880	17,880	100
(2) EAST JAVA PROVINCE		0.85	186,709	151,701	203,330	165,080	81	
1	BOJONEGORO	Balen	1.00 *1	15,122	13,489	16,700	14,900	89
2		Baureno	1.00 *1	11,539	11,235	12,750	12,410	97
3	TUBAN	Jenu	1.15 *1	9,584	9,584	10,740	10,740	100
4	LAMONGAN	Kembangbahu	0.86 *1	5,891	5,891	6,420	6,420	100
5	JOMBANG	Diewk	1.08 *1	18,324	12,891	20,400	14,350	70
6	MADIUN	Jiwan	0.19 *1	19,737	18,716	20,110	19,070	95
7	MOJOKERTO	Kutorejo	1.34 *1	20,161	14,139	23,030	16,150	70
8	LUMAJANG	Tempoh	0.56 *1	20,239	13,385	21,400	14,150	66
9		Kunir	0.56 *1	22,396	18,179	23,680	19,220	81
10		Tempursari	0.56 *1	14,673	10,856	15,510	11,480	74
11	PROBOLINGGO	Banyuanar	1.16 *1	19,401	14,547	21,770	16,330	75
12		Sumberasih	1.16 *1	9,642	8,789	10,820	9,860	91
(3) BALI PROVINCE		0.93	30,497	30,497	33,450	33,450	100	
1	GIANYAR	Tampak Siring	0.96 *1	7,932	7,932	8,730	8,730	100
2		Ketewel	0.96 *1	8,404	8,404	9,250	9,250	100
3	KARANGASEM	Menanga	0.89 *1	5,270	5,270	5,760	5,760	100
4		Sibetan	0.89 *1	8,891	8,891	9,710	9,710	100
(4) TOTAL		0.95	385,321	336,515	423,380	369,890	87	

Source: \* IKK Population Survey in 1990 and 1991, JICA Study Team and Local Consultant ENCONA.

Note: \*1: Population Growth Rate of Kabupatens concerned.

Table 3.2.1 EXISTING CONDITION OF FINANCE OF BPAM/PDAM RELATED TO 30 IKKS

NO.	BPAM or PDAM	Name of IKK belong to Kabupaten	Estab-lishment Year	Number of Employee	Number of IKK with H-Supply System already	Capital and Fund Reserved (1000 Rps.)	Profit and Loss Statement (in Thousand Rps.)							
							1987/88	1988/89	1989/90					
						Profit	Loss	Balance	Profit	Loss	Balance			
<b>(1) CENTRAL JAVA PROVINCE</b>														
1	BPAM RREBES	Bulakamba	-	104	7	-	-	-	-	-	-	-		
2	BPAM CILACAP	Jeruklegi	1983	60	3	5,847,740	-	-	240,056	228,009	12,047	398,637	784,771 (386,134)	
3	PDAM PURWOREJO	Kemiri	1974	69	1	2,357,934	356,438	289,283	67,155	586,555	514,796	71,759	645,202	576,586
4.1	BPAM BANJAR NEGAR	Madu. & Pung.	1983	35	3	-	97,095	63,054	34,041	115,773	81,624	34,149	144,737	215,486
4.2	PDAM BANJAR NEGAR	Madu. & Pung.	1990	35	3	1,127,002	-	-	-	-	-	-	-	-
5	BPAM KEBUMEN	Karan. & Petan.	1987	32	2	-	-	-	-	-	-	-	-	-
6	PDAM KENDAL	Sukorejo	1986	56	4	691,265	148,573	174,488	(25,915)	318,918	275,706	43,212	353,360	280,635
7	BPAM BLORA	Jepon	1983	53	6	2,631,816	168,232	249,769	(81,537)	173,787	275,497 (101,710)	-	-	-
8	BPAM PATI	Batangan	1981	52	5	1,032,498	-	-	-	-	-	-	-	-
9.1	BPAM SRAGEN	Gond. & Jen.	1983	38	4	1,349,994	96,658	181,816	(85,158)	103,055	204,382 (101,326)	211,749	245,203	(33,454)
9.2	PDAM SRAGEN	Gond. & Jen.	1990	38	4	1,515,754	-	-	-	-	-	-	-	-
10.1	BPAM WONGIRI	Giriwoyo	1976	57	4	-	141,895	182,492	(40,597)	174,599	199,598 (24,999)	283,983	274,918	9,065
10.2	PDAM WONGIRI	Giriwoyo	1990	57	4	665,600	-	-	-	-	-	-	-	-
11	PDAM SEMARANG	Bawen	1980	499	3	-	-	-	-	-	-	-	-	-
<b>(2) EAST JAVA PROVINCE</b>														
12	BPAM BOJONEGORO	Balen & Baur.	1982	40	3	1,044,692	144,220	195,385	(51,165)	193,132	243,552 (50,420)	266,346	361,938	(95,592)
13.1	BPAM TUBAN	Jenu	1985	40	8	-	105,671	168,284	(62,613)	216,417	225,223 (8,806)	195,958	284,177	(88,219)
13.2	PDAM TUBAN	Jenu	1992	40	8	938,034	-	-	-	-	-	-	-	-
14.1	BPAM LAMONGAN	Kembangbahu	1984	80	5	-	-	-	-	-	-	-	-	-
14.2	PDAM LAMONGAN	Kembangbahu	1991	80	5	1,692,884	-	-	-	-	-	-	-	-
15	BPAM JOMBANG	Diwik	1981	48	5	1,613,728	157,824	178,604	(20,780)	162,825	181,667 (18,842)	201,997	250,130	(48,133)
16	BPAM MADIUN	Jiwan	1989	33	8	3,167,830	-	-	-	-	-	-	62,858	206,909 (144,051)
17	PDAM MOJOKERTO	Kutorejo	1980	51	1	649,195	127,451	115,262	12,189	206,387	180,569	25,818	-	-
18	PDAM LUMAJANG	Tem, Kun & T-sa	1983	59	3	1,815,350	-	-	-	-	-	-	-	-
19	BPAM PROBOLINGGO	Bany. & Sumbe.	1989	48	7	-	-	-	-	-	-	-	-	-
<b>(3) BALI PROVINCE</b>														
20	BPAM GIANYAR	Tem-Si, & Ken.	1980	63	6	1,666,588	-	-	-	-	-	-	-	-
21	PDAM KARANGASEM	Mena. & Sibe.	-	52	6	481,827	-	-	-	89,951	104,913 (14,962)	134,264	139,653	(5,389)

Source: Financial Data of BPAM and PDAM.

Note : Figures in ( ) shows minus.

Table 3.3.1 STANDARD TARIFF STRUCTURE

Water Consumption (m <sup>3</sup> ) Per Month	Customer Groups													
	I			II			III			IV			V	
	A	B		A	B		A	B		A	B		A	B
0 - 10	1a	0.8a		1a	1a	2.5a	4a	4a	3a	3a	5a	15a		
11 - 20	0.8a	1a	1.5a	1.5a	2.5a	4a	4a	3a	3a	5a	15a			
21 - 30	-	1.5a	2a	2a	5a	8a	8a	6a	6a	10a	15a			
more than 30	-	2a	3a	3a	5a	8a	8a	6a	6a	10a	15a			

(1) Small and Medium Cities (500,000 population and less)

(2) Large City and Metropolis (more than 500,000 population)

0 - 15	1a	0.8a	1a	1.5a	4a	5a	4.5a	6a	20a
16 - 30	0.8a	1.5a	2a	2.5a	4a	5a	4.5a	6a	20a
31 - 50	-	2a	3a	4a	8a	10a	9a	12a	20a
more than 50	-	3a	5a	6a	8a	10a	9a	12a	20a

Source : Joint Decree (No.5/1984, No.28/KPTS/1984) of Ministry of Home Affairs and Ministry of Public Works.

Note : Coefficient "a" is given by dividing the total cost of operation and maintenance by the total quantity of water consumption (Rps./M<sup>3</sup>).

Remarks : CUSTOMER GROUPS

Group I : Social

A. General - public tap, public bath room and public toilet

B. Special - public health service, official clinic and hospital, and religious facilities

Group II : Non-Commercial

A. Household

B. Government office and facilities

Group III : Commercial

A. Small commercial

B. Large commercial

Group IV : Industry

A. Small industry

B. Large industry

Group V : Special - Harbor and Air Port

Table 3.3.2 WATER SUPPLY TARIFF OF BPAM AND PDAM FOR HOUSEHOLD

BPAM or PDAM NO.	KABUPATEN	Name of IKK belong to Kabupaten	Estab- lishment Year	Number of Employee	Number of IKK with W-Supply System already	(1) Water Supply Tariff (Rp./m <sup>3</sup> )			(2) Maintenance Adminis- tration Cost of Water (1/2 <sup>rd</sup> ) Cost		(3) -	(4) Total	(5) Remarks
						0 - 10 (m <sup>3</sup> )	11 - 20 (m <sup>3</sup> )	21 - 30 (m <sup>3</sup> )	over 30 (m <sup>3</sup> )	(Rp/month)			
<b>(1) CENTRAL JAVA PROVINCE</b>													
1	BREBES	Bulakamba	-	104	7	125	175	225	300	-	-	-	IKK:2500
2	CILACAP	Jeruklegi	1983	60	3	100	150	200	300	250	10%	-	Min:10m <sup>3</sup>
3	PURWOREJO	Kemiri	1974	69	1	100	150	200	300	400	150	550	Min:1000
4.1	BANJAR NEGARA	Madu. & Pung.	1983	35	3	160	200	250	350	250	10%	-	Min:10m <sup>3</sup>
4.2	BANJAR NEGARA	Madu. & Pung.	1990	35	3	-	-	-	-	-	-	-	-
5	KEBUMEN	Karan. & Petan.	1987	32	2	125	185	250	375	300	20%	-	Min:10m <sup>3</sup>
6	KENDAL	Sukorejo	1986	56	4	160	240	395	790	500	500	1,000	-
7	BLORA	Jepon	1983	53	6	150	225	300	450	500	10%	-	Min:10m <sup>3</sup>
8	PATI	Batangan	1981	52	5	150	225	300	450	300	200	500	Min:10m <sup>3</sup>
9.1	SRAGEN	Gond. & Jen.	1983	38	4	150	225	300	450	-	500	-	Min:10m <sup>3</sup>
9.2	SRAGEN	Gond. & Jen.	1990	38	4	-	-	-	-	-	-	-	-
10.1	WONGGIRI	Giriwoyo	1976	57	4	165	245	330	495	-	500	-	Min:10m <sup>3</sup>
10.2	WONGGIRI	Giriwoyo	1990	57	4	-	-	-	-	-	-	-	-
11	SEMARANG	Bawen	1980	499	3	140	210	275	410	750	250	1,000	Min:1000
<b>(2) EAST JAVA PROVINCE</b>													
12	BOJONEGORO	Balen & Baur.	1982	40	3	125	187.5	250	375	250	550	800	Min:10m <sup>3</sup>
13.1	TUBAN	Jenu	1985	40	8	135	202.5	270	405	250	400	650	Min:10m <sup>3</sup>
13.2	TUBAN	Jenu	1992	40	8	-	-	-	-	-	-	-	-
14.1	LAMONGAN	Kembangbahu	1984	80	5	200	300	400	600	750	500	1,250	Min:10m <sup>3</sup>
14.2	LAMONGAN	Kembangbahu	1984	80	5	1890	(specific rate per month)	-	300	300	310	2500	for IKK
15	LAMONGAN	Kembangbahu	1991	80	5	-	-	-	-	-	-	-	-
16	JOMBANG	Diekw	1981	48	5	160	200	225	275	250	500	750	Min:10m <sup>3</sup>
17	MADIUN	Jiwan	1989	33	8	125	187.5	250	375	250	500	750	Min:10m <sup>3</sup>
18	MOJOKERTO	Kutorejo	1980	51	1	100	150	200	300	-	-	-	Min:1000 (1983 tariff)
19	LUMAJANG	Tem, Kun & T-sa	1983	59	3	160	240	320	480	1,000	0	1,000	Min:1000 (1991 tariff)
20	PROBOLINGGO	Bany. & Sumb.	1989	48	7	125	187.5	250	375	500	300	800	Min:10m <sup>3</sup>
<b>(3) BALI PROVINCE</b>													
21	GIANYAR	Tem-Si, & Ken.	1980	63	6	150	225	300	450	900	-	-	Min:10m <sup>3</sup>
21.1	KARANGASEM	Mena. & Sibe.	-	52	6	120	180	240	360	500	-	-	Min:10m <sup>3</sup>
21.2	KARANGASEM	(Selat)	1987	52	6	75	115	150	225	500	-	-	-
21.2	KARANGASEM	(Kubu, Rendang, Mangis)	-	52	6	250	375	500	750	500	-	-	-

Source: Tariff Tables of BPAM and PDAM

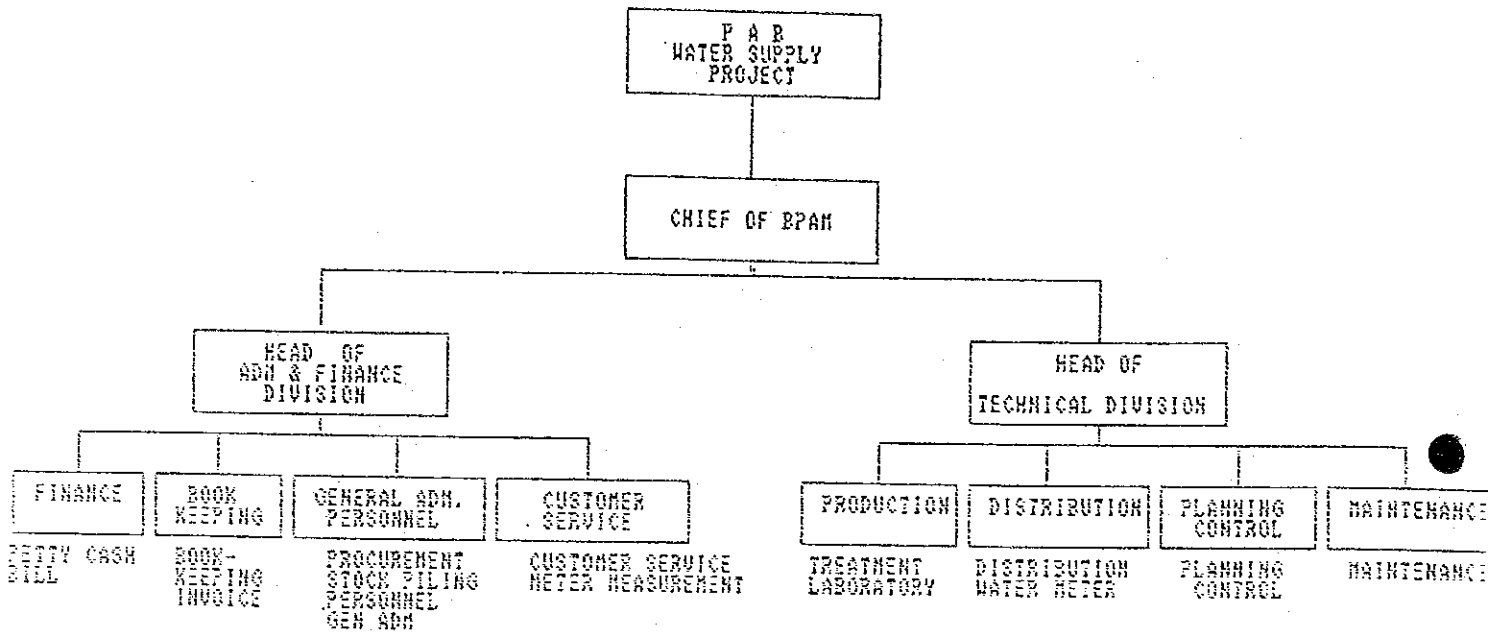


Fig. 3.2.1 ORGANIZATION STRUCTURE OF BPAM, TYPE A



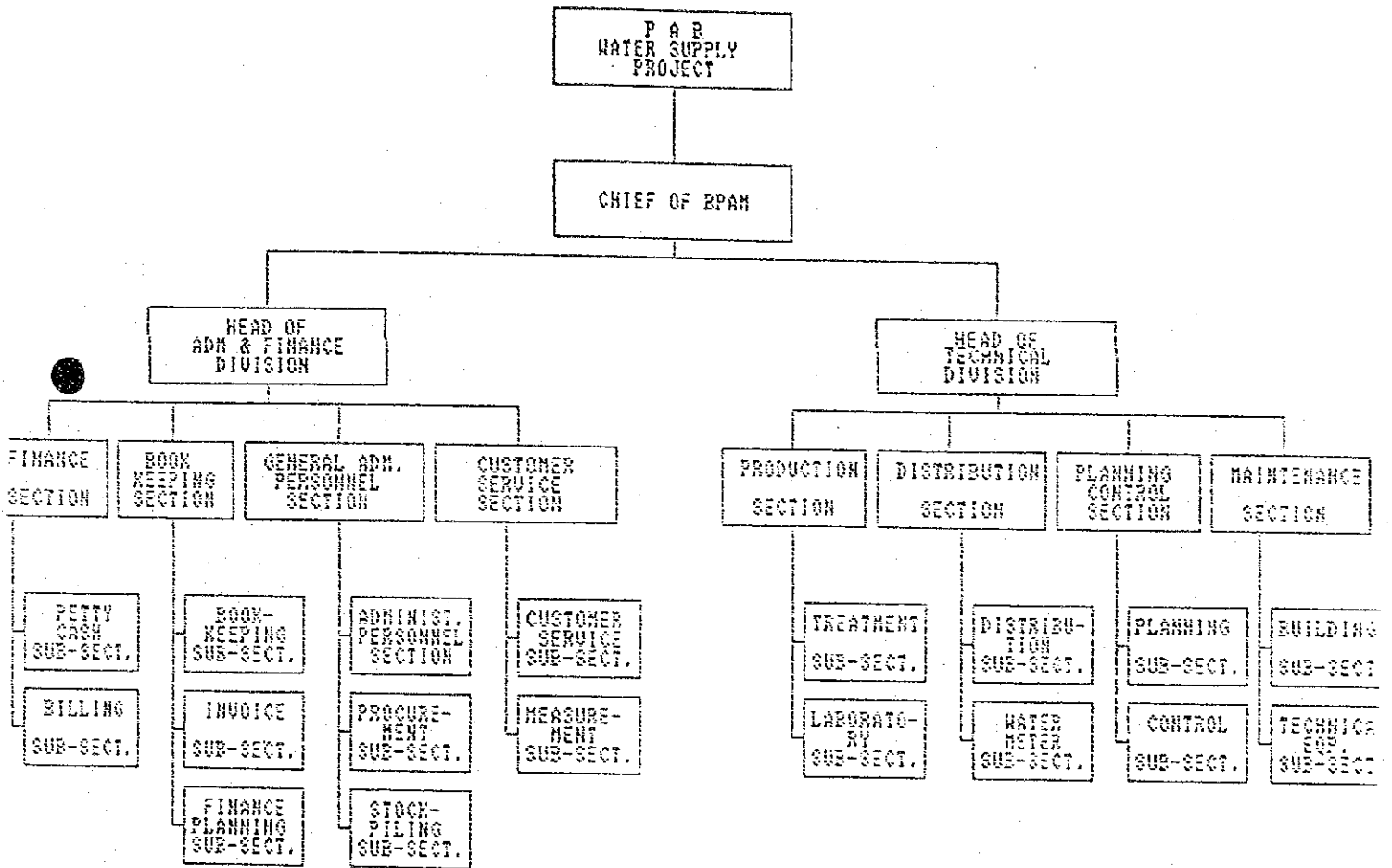


Fig. 3.2.2 ORGANIZATION STRUCTURE OF BPAM, TYPE B

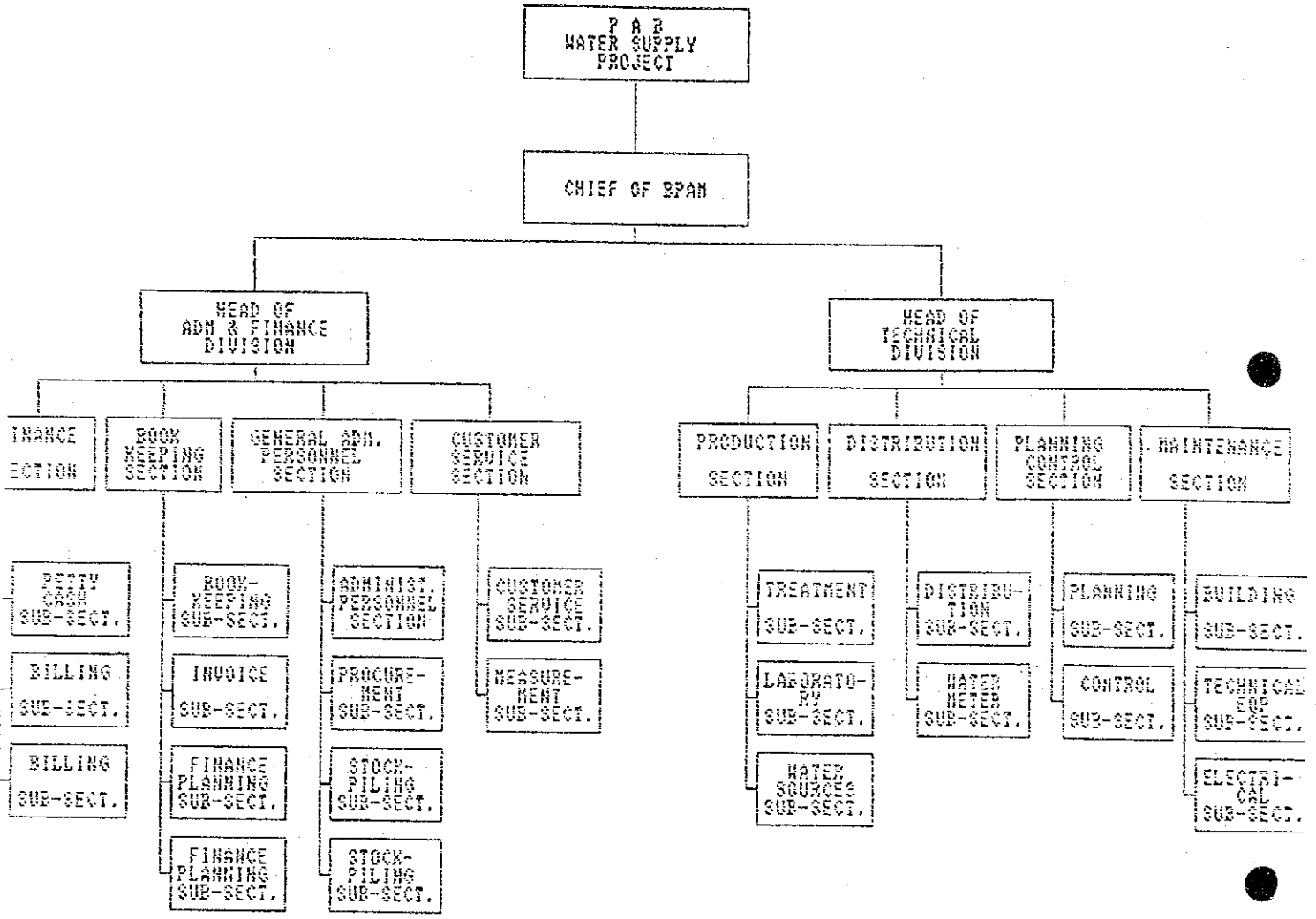


Fig. 3.2.3 ORGANIZATION STRUCTURE OF BPAM, TYPE C

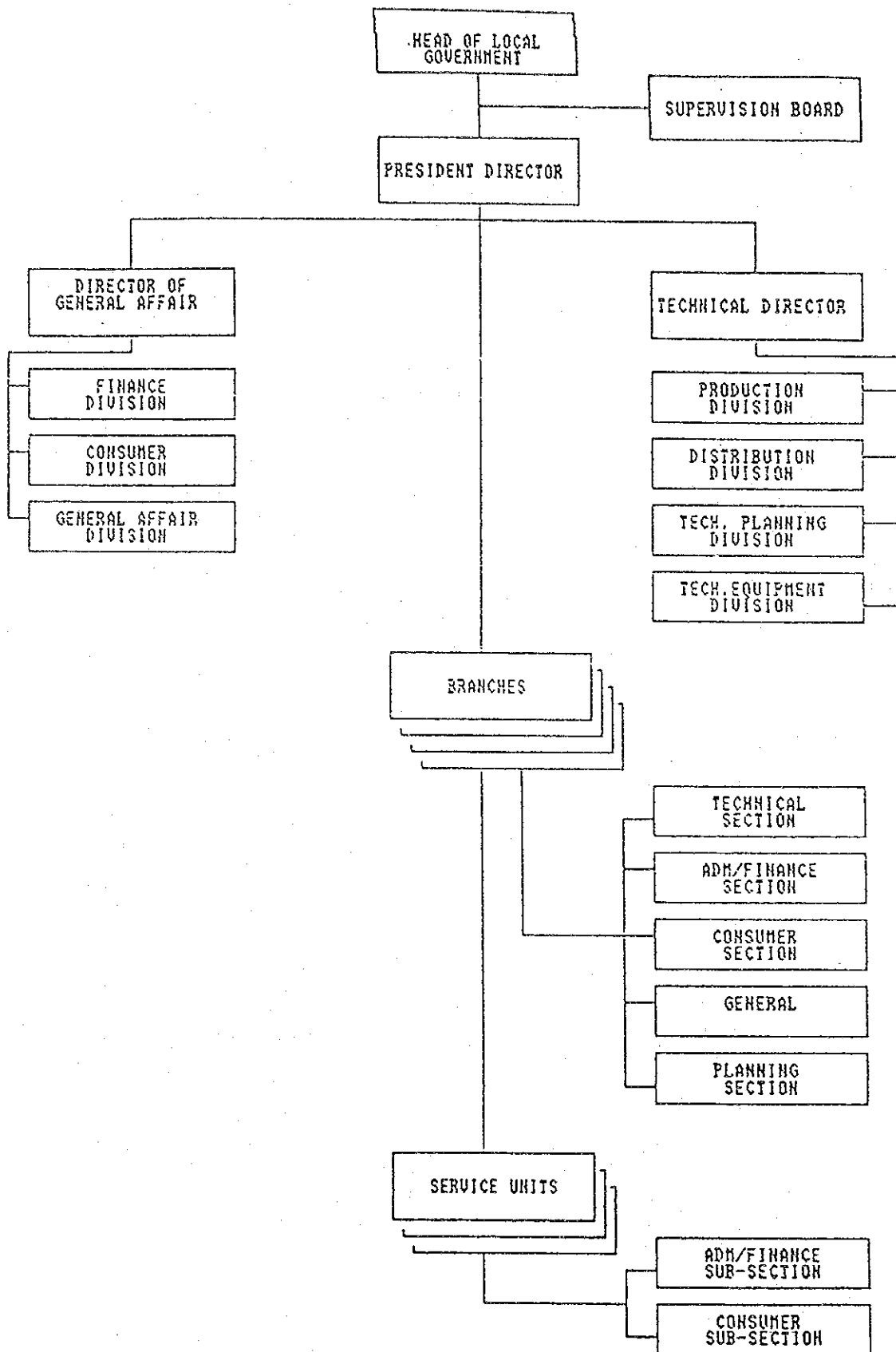


Fig. 3.2.4 ORGANIZATION STRUCTURE OF PDAM, TYPE A

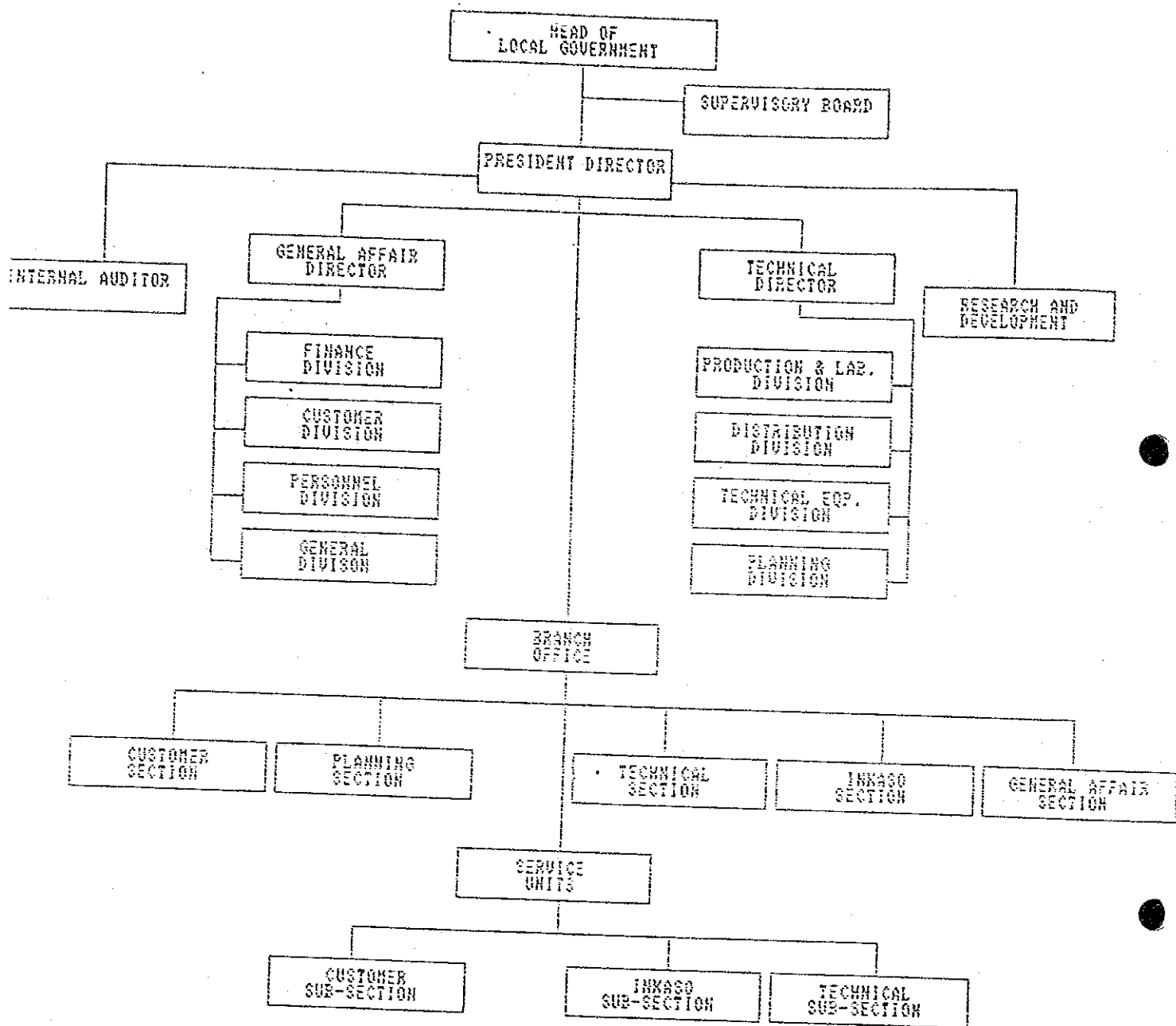


Fig. 3.2.5 ORGANIZATION STRUCTURE OF PDAM, TYPE B

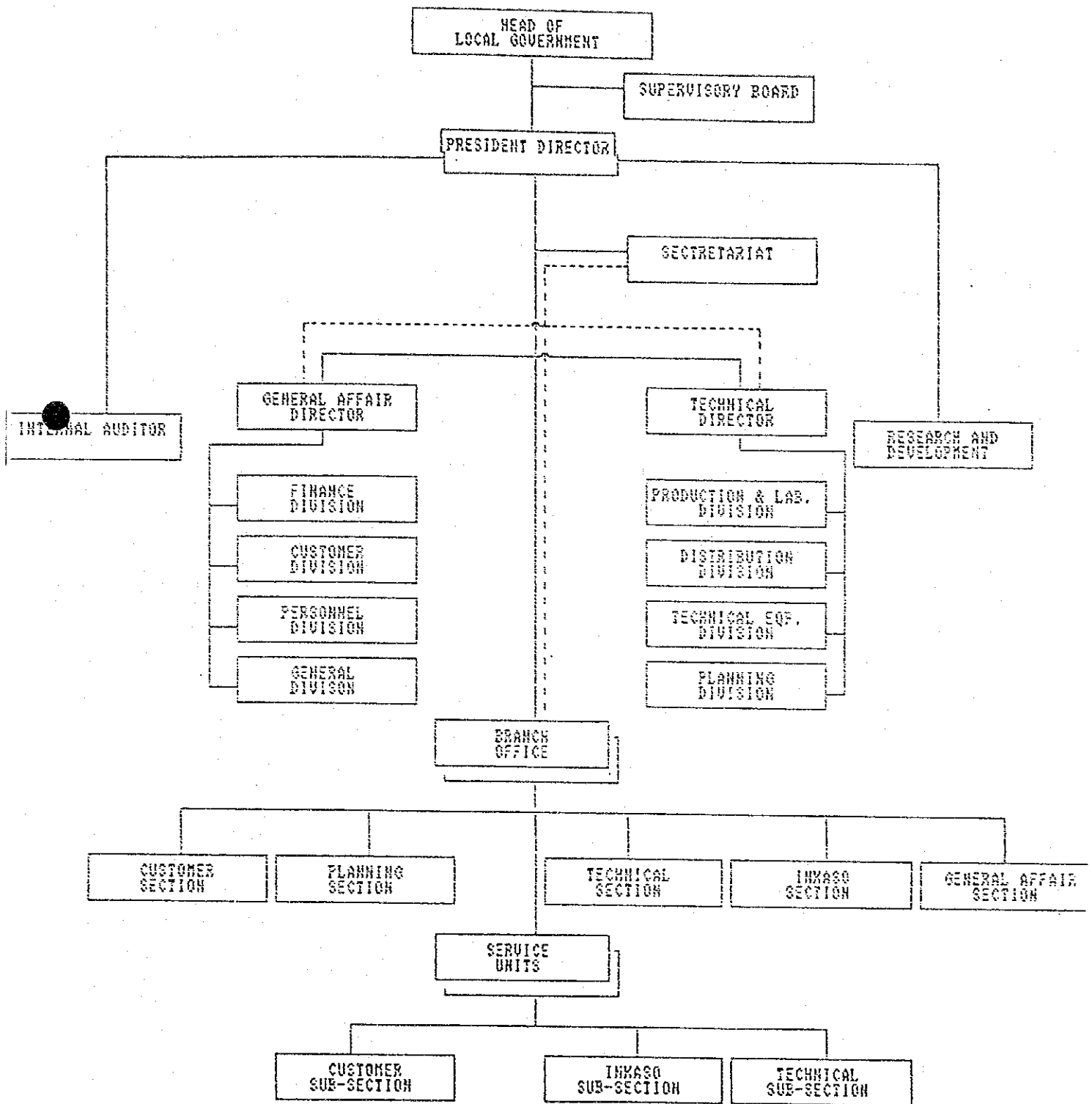


Fig. 3.2.6 ORGANIZATION STRUCTURE OF PDAM, TYPE C

