PART II
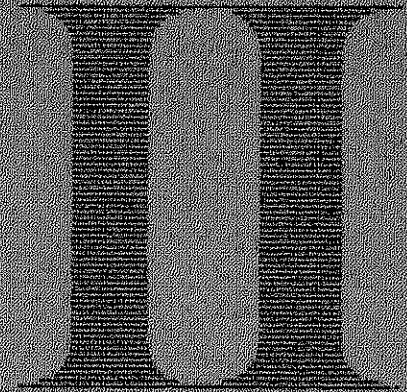
REGIONAL DEVELOPMENT PLAN

CHAPTER 3 CONCEPTS OF REGIONAL DEVELOPMENT

3.1 INTRODUCTION

Part II (Chapter 3 to 6) deals with the regional structure plan of GKS and the general development of the rural area around Surabaya.

This Structure Plan solves many problems by identifying the problem but many will still remain, and it is recommended that all relevant authorities, and local and national autonomies operating in the area, discuss the plan and promote a continuous study of it.

The frontpiece to this summary is in fact the end product of Part II of the Study. In this summary it is used as a reference to show how each part of the Structure Plan discussed in the main Report, fits into the pattern of the overall development recommended by the Study Team.

3.2 EXISTING DEVELOPMENT POLICIES

It is necessary to first look at the National Development Policies to see how they are reflected in the Regional development Concept. The seven aspects of the Pelita III era (the so-called "5F and 2'") outline the basic concepts which are the principles of the development programmes.

The East Java Development area has six priority programmes with three supporting programmes, which have the over-all objective of attaining the National Development Strategy of "Trilogi Pembangunan".

The study gives details of the economic and social-cultural objectives.

3.3 URBAN DEVELOPMENT

The problems to be solved in the urban area, especially in SMA are identified as:

— To activate and utilize the existing accumulation of urban economic activities
— To encourage and modernize the industrial sector
— To establish an effective urban transportation network
— To obtain the urban amenity
— To develop the urban facilities serving the rural area as hinterland
— To educate and train high quality man-power

3.4 RURAL DEVELOPMENT

Basically, rural development consists of the problems agricultural development and maintenance of access to the regional centre and village community.

— GKS is an advanced agricultural area especially for rice
— Vegetable & fruit production is low and land productivity for these products must be advanced
— Multilateral agricultural system is in development, but must be expanded for demand and for employment opportunities.
— Increase in productivity by improved breeding stock and agricultural soil, and promotion of agricultural technology
— Increase in productive land
— Encouragement of livestock & meat production
— Establishment of consistent production systems including agro-industry
— Promotion of factories relevant to food production
— Rationalization of shipping systems and modernization of facilities.

— Development of infrastructures.
— Immoderate mechanization should be avoided. While mechanization can increase labour productivity, excess mechanization will produce surplus labour forces in the agricultural sector. The rate of adoptation of mechanization in the agricultural sector should take into account the social structure of the rural area.
— Higher level educational facilities such as vocational centres, colleges and university should be oriented to produce the many agricultural engineers and agricultural managers needed.
— Youths should be encouraged to contribute to their own agricultural developments.
— Improvement of the village environment is also required. Social welfare, medical, primary education and commercial facilities, as well as electricity and water supply system, should be extensively provided.

3.5 MUTUALLY SUPPORTING SYSTEM

The economic and industrial progress is carried out with the formation of appropriate relationships between the urban and the rural areas. The basic policy of balanced development of each sector is the most important function of regional development.

A balanced usage of available resources is essential for regional development. Taking a note of the system on goods production and their distribution, it is indispensable to ensure a consistent mutually supporting structure between the urban and the rural areas. The Study Team's approach is based on this concept.
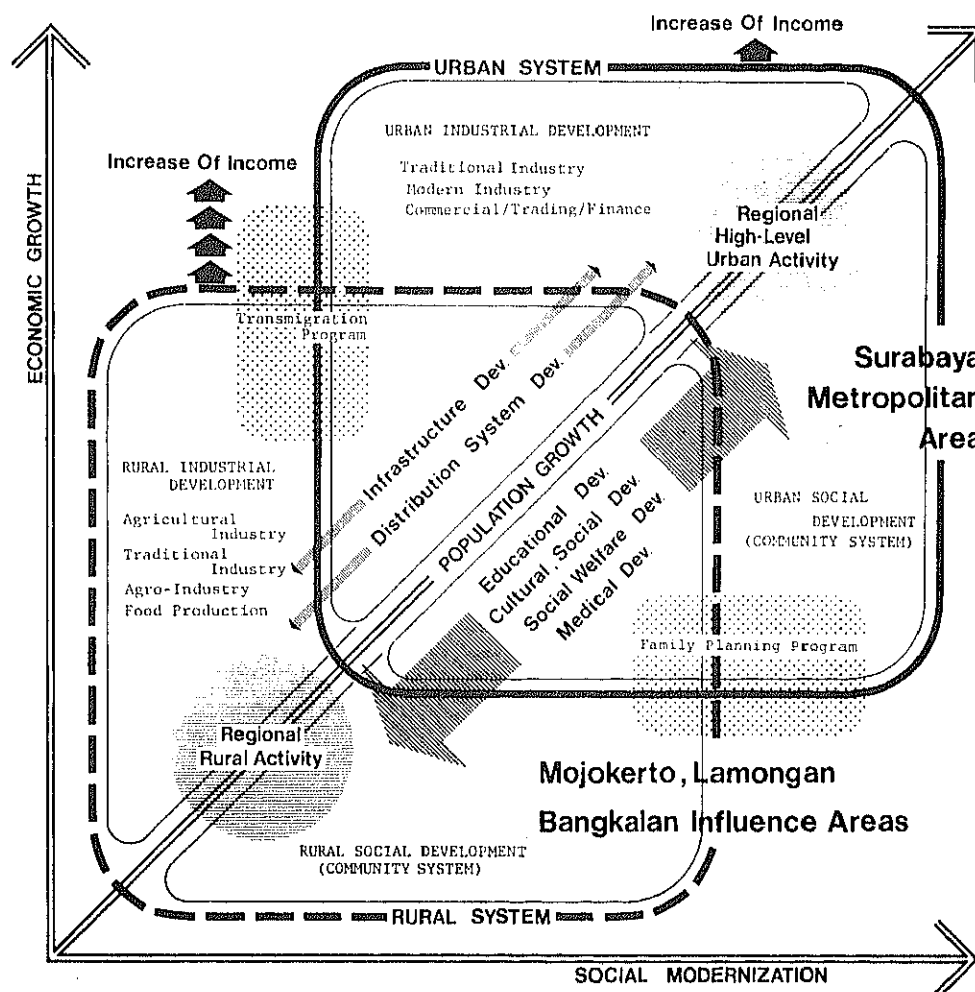

Fig. 7.2.1 GKS TOTAL DEVELOPMENT SYSTEM

CHAPTER 4 STRUCTURE OF GKS REGION

4.1 DESCRIPTION OF GKS REGION

The GKS region consists of 10 WPP as listed below:

- Surabaya
- Sidoarjo
- Krian
- Mojokerto
- Gresik
- Lamongan
- Babat (Kedungpring)
- Sukowati (Paciran)
- Bangkalan
- Sapuluh

Among them, the influence areas of Sidoarjo, Mojokerto, Babat and Sapuluh are divided by the boundary of GKS region, and the partial areas are excluded from the Study Area. Discussions are necessary to adjust the difference between the administrative boundaries and the boundary of WPP.

4.2 ACTIVITY CENTRE

A system of activity centres was studied in order to establish an organical development structure in GKS region.

The function level of activity centre is defined to consist of four levels.

The first and second level (Surabaya only) influences the whole of East Java and GKS region respectively, and the third level are the cities of Sidoarjo, Gresik, Bangkalan, Lamongan and Kod. Mojokerto and administrative area. These third level centres also function as the daily major activity centre.

The centres with fourth level support the third level as well as function themselves as a community centres.

Fig. 7.3.2 shows the proposed composition. All of the centres of WPP belong to the centres proposed, however, some were evaluated on the extent of anticipated urban area and the planning considerations. They are Waru, Porong, Cerme, Sedayu, Mojosari and Kamal, of which all are situated as the fourth level.

An activity centre comprises not only commercial functions but also social, industrial and working functions, and these activity centres should be developed in conjunction with the population in their influence areas as well as with their own levels.

Intercommunication between activity centres is effected by an ordering system to identify the functional level to be developed. Accordingly, it is first necessary to evaluate the level of regional centres. All centres are redefined to consist of 5 levels.

I.	Centre of SWP	: First Order City (Surabaya)
II.	Center of Intermediate Regional Unit	: Major Second Order City (8 cities)
III.	Major Centres of WPP	: Central City of Kod./Kab.
IV.	Other Centres of WPP	: Major Activity Centre of the third level and over
V.	Other Centres	: Activity Centre of the fourth level

4.3 ACTIVITY CENTRE CONNECTORS

While, the connectors of these centres are basically classified into three categories such as arterial, collector and local levels, the arterial level, is recommended to classify into two categories:

- I. Major arterial
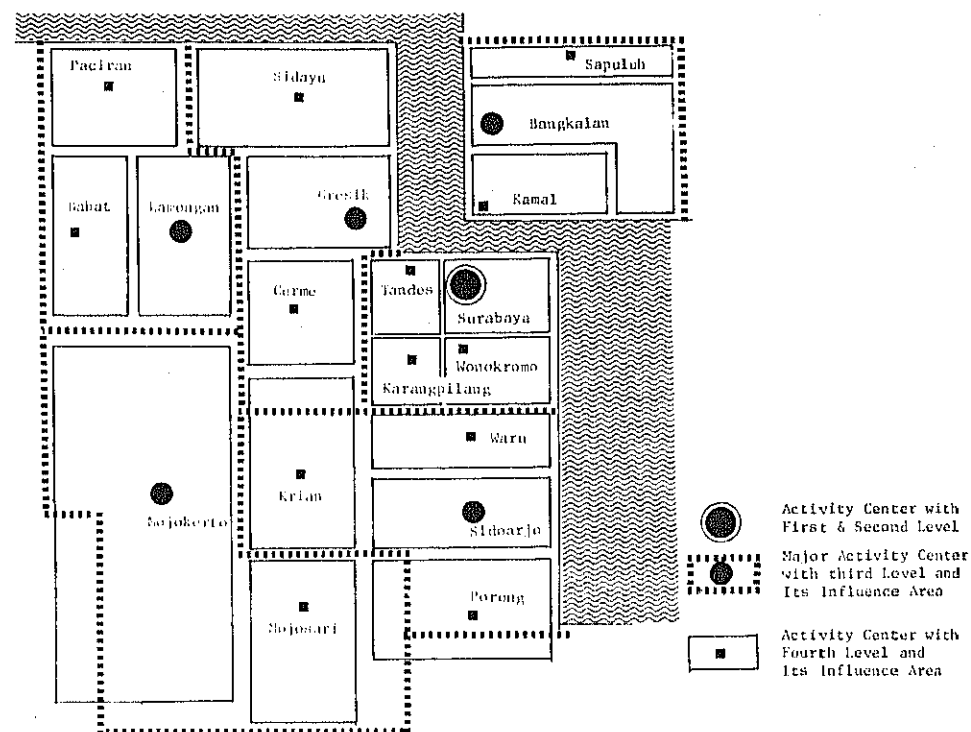- II. Arterial
- III. Collector
- IV. Local

Fig. 7.3.2 ACTIVITY CENTRES AND INFLUENCE AREAS

The function of each level is defined as follows;

- The major artery is a connector between the primary city (Level-I) and 8 major second order cities (Level-II).

- The artery is a connector between the centre of Level-II and the major centre of WPP (Level-III) as well as between Level-II centres.

- The collector is a connector between Level-III and the other centres of WPP (Level-IV) as well as between Level-III centres.

- The local is a connector between the centres of Level-IV and Level-V as well as among the centres of Level-IV.

The relationship between the levels of centres and connectors is shown diagramatically in Fig. 7.3.4.

The primary network system in GKS region is illustrated in Fig. 7.3.5. The structure proposed mostly coincides with the primary system planned by the Ministry of Public Works, but attention is required to;

(i) There are two alternative major arterial roads towards the west connecting with Semarang and Jakarta. One is the south-western route through Mojokerto and the other is the northern coastal route through Babat. At present the first route has the prime function but further study is necessary before deciding which route should be more encouraged.

(ii) A direct link to connect Sidoarjo with Mojokerto is evaluated as a collector level. The existing route of Sidoarjo-Krian-Mojokerto should be encouraged as a collector road.

(iii) A collector route between Gresik and Bangkalan does not exist at present. A ferry between the two centres should be studied. The ferry route between Surabaya and Kamal should be encouraged at arterial level.
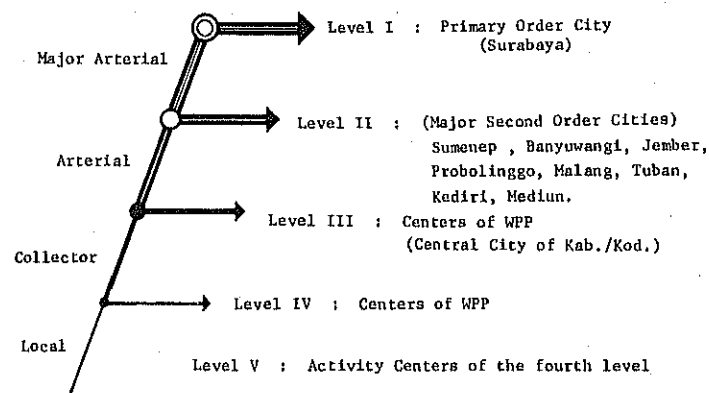
Level I : Primary Order City
(Surabaya)

Level II : (Major Second Order Cities)
Sumenep , Banyuwangi, Jember,
Probolinggo, Malang, Tuban,
Kediri, Mediun.

Level III : Centers of WPP
(Central City of Kab./Kod.)

Level IV : Centers of WPP

Level V : Activity Centers of the fourth level

Major Arterial

Arterial

Collector

Local

Fig. 7.3.4 RELATION BETWEEN LEVELS OF CITIES AND PRIMARY ROAD SYSTEM

Major Arterial
Arterial
Collector
Local
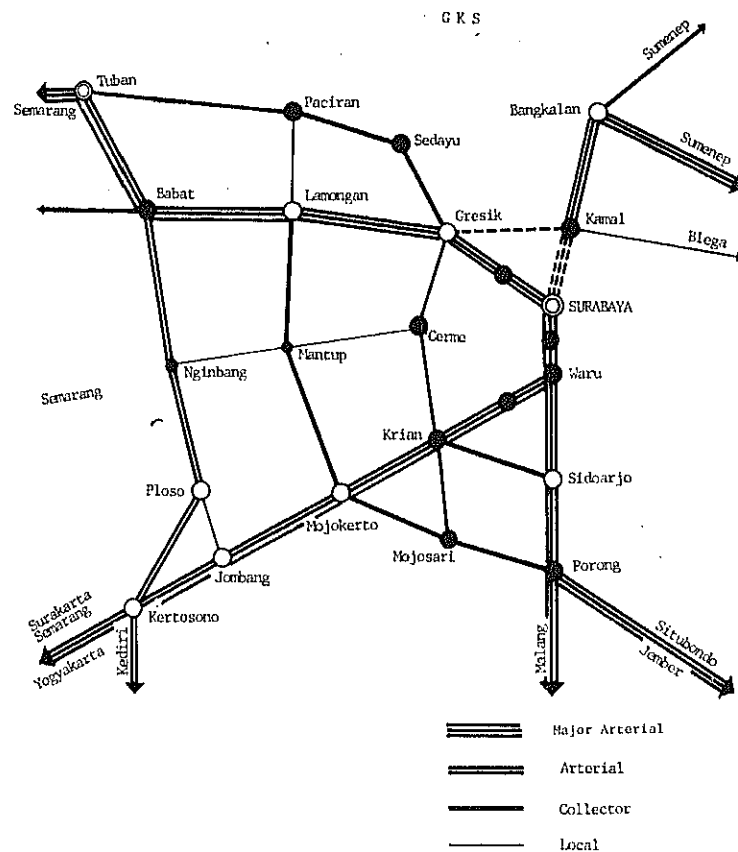
Fig. 7.3.5 PROPOSED PRIMARY ROAD SYSTEM IN GKS

Fig. 7.3.6 CONCEPTIONAL COMPOSITION OF FOUR DEVELOPMENT UNITS IN GKS

4.4 SPATIAL STRUCTURE OF GKS

The spatial structure in GKS region consists of 4 areas:

- Surabaya Metropolitan Area (SMA),
- Mojokerto Influence Area,
- Lamongan Influence Area, and
- Bangkalan Influence Area.

The Surabaya Metropolitan area is to be developed as an urban area and the other areas and the other areas as rural areas. Fig. 7.3.6 shows the scheme. The direct influence area of Surabaya is assumed to cover some centres such as Waru, Sidoarjo, Krian, Cerme and Gresik and also their influence areas.

(1) SURABAYA METROPOLITAN AREA

- As the centre of not only GKS Region, but also East Java and beyond, the commercial, financial, trading, information, administrative, social and medical functions should be strengthened.

- Simultaneously the port, Tg. Perak and its supporting area should be encouraged as a distribution function for commodities and industrial raw materials and products including agricultural products.

- In the manufacturing sector, the modern industries and the traditional industries should be developed in harmony.

- Housing Development for the increased population, also development of recreation facilities.

(2) MOJOKERTO INFLUENCE AREA

- A high agricultural potential exists in this area. Increased rice and food crop production should be encouraged.

- Food processing industries, so-called agro-industries, should be encouraged.

- A policy for advancing the existing traditional industries such as clothing, leather products, brass products and brick making, should be established.

- Intensive agriculture should be encouraged by multilateral management.

- The development of distribution facilities for agricultural products is desirable.

- The development of educational facilities for agricultural technology and some research/experiment institutes for the improvement of soil and breedstock should be implemented by the government.

(3) LAMONGAN INFLUENCE AREA

- The improvement of soil and irrigation systems should be given a high priority.

- Meat production of chicken and sheep etc. should be encouraged, and a primary processing industry should be developed.

— The inducement of the manufacturing sectors such as:

- Food manufacturing
- Manufacture of wood and wood products
- Manufacture of furniture and fixtures
- Manufacture of pottery china and clay products
- Manufacture of agricultural machinery and equipment
- Manufacture of electrical machinery, apparatus, appliances and supply
- Manufacture of electrical machinery, apparatus, appliances and supply
- Others

— Fishery and fishing ports especially between Paciran and Brondong, should be improved. The fishery activities in the inland area should be more intensive. Also a processing distribution system should be established.

— Traditional industry should be encouraged as a particular local industry.

(4) BANGKALAN INFLUENCE AREA

— Intensive agriculture is needed. Land productivity should be improved by production of food crops harvested in the dry field.

— Multilateral management complex with production of livestock and food crops.

— A consistent production system from original food crops up to industrial products is urgently required such as cattle meat processing.

— The northern coastal area may have a high potential for fishery development.

— Transportation and distribution problems are serious. An efficient distribution system should be established in this area.
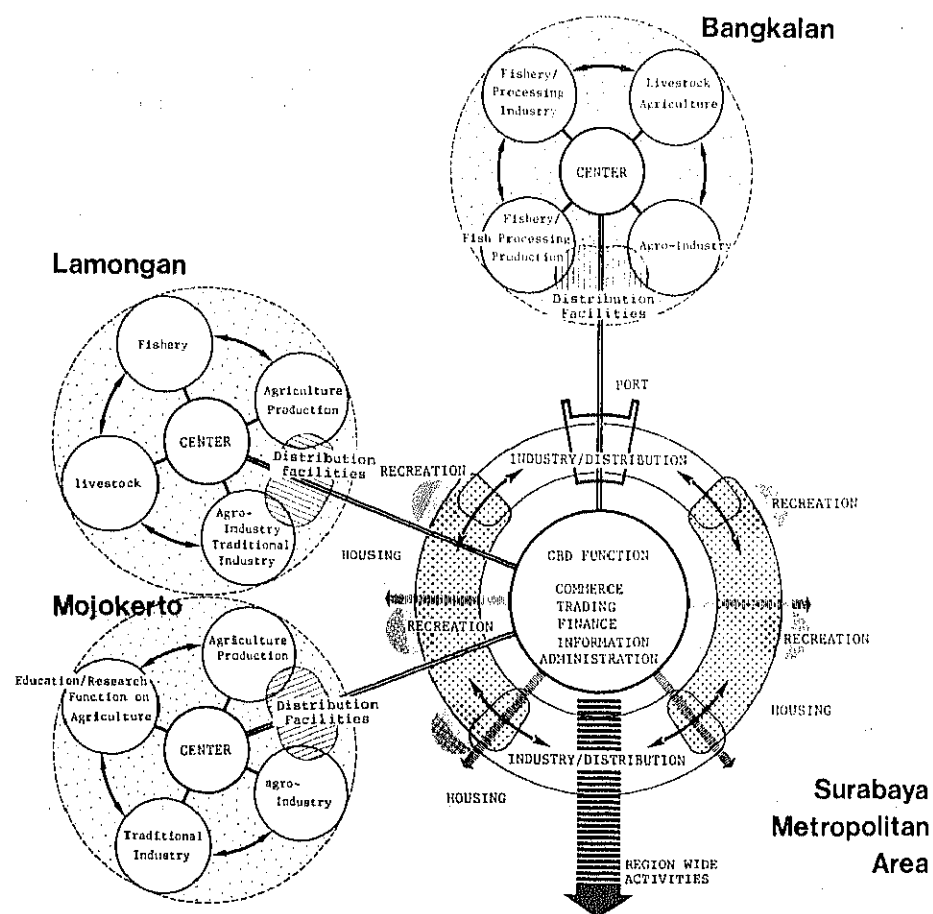
Fig. 7.3.7 FUNCTIONAL COMPOSITION OF REGIONAL DEVELOPMENT IN GKS REGION

4.5 PERIMETERS OF SURABAYA METROPOLITAN AREA

The boundary for Surabaya Metropolitan Area should be defined and the following conditions were established.

— The boundary should be fixed at about 1 hour by vehicle from the CBD under the present conditions.

— Within the SMA, all citizens should be able to reach major activity centres within 30 minutes.

— The minimum extent to accommodate the required facilities is an area of at least 20 km radius.

— To maximize the benefits caused by the accumulation of facilities, the area should be less than 30 km radius.

In order to achieve the optimum urbanization, the following considerations should be given;

— Physical constraints such as geographic and geological conditions should be taken into account.

— A suitable balance between the area to be urbanized and the agricultural land should be kept.

— Area to be developed in any corridor of the Surabaya urban area should be within the metropolitan area.

The boundary of SMA is defined by considering the relationship to the natural conditions as follows:

— South boundary was assumed to lie in the agriculture area between Sidoarjo and Porong.

— In terms of the south-west direction, the outer area of Krian was assumed to be the limit.

— Toward the west a line, about 20 km from the central area of Surabaya was assumed the boundary.

— For the extent in the north-west direction, no conclusive factor from the analysis of the urbanization potential was found, so that the area involving the city of Gresik was included, considering the anticipated urban area as well as the 1 hour travel distance.

— North boundary was assumed using the 1 hour travel boundary.

The current conditions of SMA defined herein are;

— Area   ; approximately 1,000 km,
— Population in 1980   ; approximately 2.9 million,
— Gross Density   ; 29 person/ha,

For reference and comparison, the present condition of DKI Jakarta are as shown in Table 8.2.1. The scale rate to DKI Jakarta of area, population and gross density are approximately 166%, 45% and 26% respectively.

Table 8.2.1 COMPARISON OF SMA AND DKI JAKARTA

	S.M.A.	DKI Jakarta
Area	1,000 km²	590 km²
Population in 1980	2.9 million	6.5 million
Gross Density	29 persons/ha	110 persons/ha

PRESENT CONDITIONS OF S.M.A.
DEFINED TENTATIVELY HEREIN

POPULATION: Approximately
2.9 million
(1980)

AREA: Approximately 1,000km²

GROSS DENSITY: 29 persons/ha
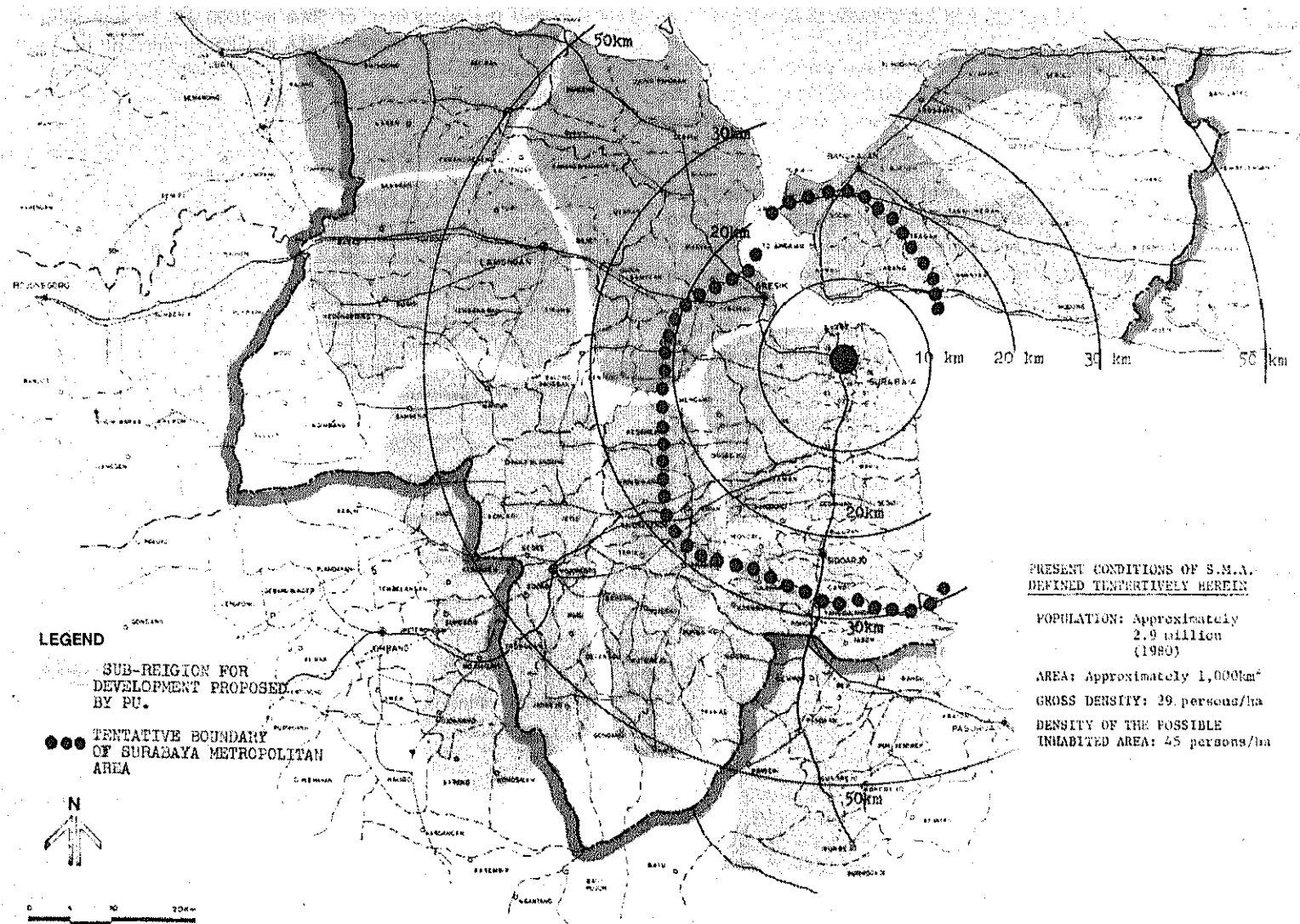
DENSITY OF THE POSSIBLE
INHABITED AREA: 45 persons/ha

Fig. 8.2.2   DEFINITION OF SURABAYA METROPOLITAN AREA

CHAPTER 5 SOCIO-ECONOMIC FRAMEWORK OF GKS

5.1 ECONOMIC FRAMEWORK

In the case of NO CHANGE, income differentials of this area as compared with the national average are expected to increase. Accordingly, it is most important to raise the percapita income and to prepare job opportunities in accordance with the increased population.

In case of the economy before commencing development and at commencement, the most effective way to raise income level is by promoting industrialization. The promotion of industrialization with a proper method will increase job opportunity and consumption in the area and in proportion to these, will enlarge the production of commerce, enterprise services, private services and so on. The increase of job oportunity and production by every industry will increase tax revenues of the central and local governments. The increased tax revenues will enable the infrastructure to be enlarged and expenditures for welfare raised.

Based upon this premise, the study team prepared the framework of GKS Region and SMA up to 2000.

5.2 POPULATION GROWTH

Population growth is only slightly affected by economic growth, but population distribution is heavily influenced by many factors. 4 categories of population framework will be considered for GERBANGKERTOSUSILA region:

Case 1 — Past trends.
Case 2 — Past trends plus substantial economic growth (Active Type)
Case 3 — Existing masterplans
Case 4 — Recommended Regional Structure

The population frameworks from Case 1 to Case 3 are forecast on the assumed economic growth rates for GKS Region. The framework for Case 4, is based on consideration results from Case 1 to Case 3.

According to the results of the forecast, the population of SMA will increase from 2.9 million in 1980 to 6.1 million in 2000. This is an increase of 2.1 times the 1980 population and the population of SMA in 2000 will be equivalent to that of GKS region at present. Hence, the share of SMA in GKS Region will increase from 47.5% in 1980 to 56.9% in 2000.
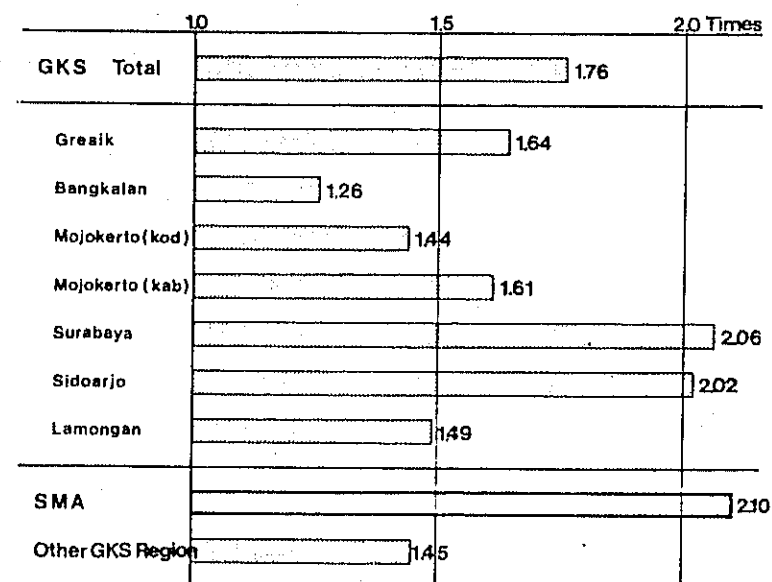
Fig. 9.3.1 EXPANSION RATE OF POPULATION (2000/1980)

Table 9.3.1 FORECASTED POPULATION BY REGION (KOTAMADYA/KABUPATEN) FOR CASE 4

(person)

	Actual		Forecast		Average Annual Growth Rate (%)			
	1971	1980	1990	2000	1980/1971	1990/1980	2000/1990	2000/1980
GKS	5,041,529 (100.00)	6,111,935 (100.0)	8,009,287	10,759,722	2.16	2.74	3.00	2.87
Gresik	610,944 (12.12)	728,570 (11.92)	928,153	1,199,560	1.98	2.45	2.60	2.52
Bangkalan	631,455 (12.53)	688,291 (11.26)	772,314	867,550	0.96	1.16	1.70	1.16
Mojokerto (Kod)	60,013 (1.19)	68,507 (1.12)	82,017	98,975	1.48	1.82	1.90	1.86
Mojokerto (Kab)	596,185 (11.83)	705,547 (11.54)	888,851	1,134,706	1.89	2.34	2.47	2.40
Surabaya	1,566,255 (31.07)	2,017,527 (33.0)	2,861,618	4,163,917	2.85	3.36	3.82	3.69
Sidoarjo	667,639 (13.24)	853,685 (13.97)	1,198,970	1,725,727	2.77	3.45	3.71	3.55
Lamongan	909,038 (18.03)	1,049,808 (17.18)	1,277,364	1,569,288	1.61	1.98	2.08	2.03
SMA	–	2,905,414 (47.5)	4,186,574 (52.3)	6,119,364 (56.9)	–	3.71	3.87	3.79
GKS outside SNA	–	3,206,521 (52.5)	3,822,713 (47.7)	4,640,358 (43.1)	–	1.77	1.96	1.87

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5.3 ECONOMIC GROWTH

— Case 1 (Trend type)

Annual growth rate of GRDP of GKS region was 4.3% between 1971 and 1980. In case 1, this trend will continue in future. The ratio of per capita GRDP in GKS to that of the Indonesia average will further decrease and will be only 62% in the year 2000.

— Case 3 (Moderate type)

In case 3, the average annual growth rate of GRDP in GKS region will be 6.5% until the year 2000. This value is the same as the target of Pelita III. In case 3, the ratio of per capita GRDP in GKS to that of the Indonesian average will remain almost constant. In the year 2000, per capita GRDP of GKS region will be 89.1% of that of the Indonesian average.

— Case 4 (Active Investment type)

In case 4, it is assumed that by promoting active investment, the average annual growth rate of GRDP in GKS Region will be 6.9% in 1990 and 7.4% in 2000. In the year 2000 per capita GRDP of GKS region will be 98.2% of that of the Indonesian average.

Table 9.2.10 FORECAST OF PER CAPITA GRDP IN GKS

(1975 constant price)

		Population		GRDP		Per Capita GRDP		Ratio to Indonesia Average (%)
		(Thousand)	Annual Growth Rate (%)	(Million-Rp) 1975 Price	Annual Growth Rate (%)	(Rp) 1975 Constant Price	Annual Growth Rate (%)	
Case 1	1980	6,111.9		642,889		105,186		85.8
	1990	7,886.4	2.6	979,443	4.3	124,194	1.7	68.8
	2000	10,092.0	2.5	1,492,183	4.3	147,858	1.8	62.0
Case 3	1980	6,111.9		642,889		105,186		85.8
	1990	7,958.1	2.7	1,206,791	6.5	151,643	3.8	84.1
	2000	10,559.9	2.9	2,265,314	6.5	214,520	3.6	89.1
Case 4	1980	6,111.9		642,889		105,186		85.8
	1990	8,009.3	2.7	1,251,270	6.9	156,227	4.2	86.6
	2000	10,759.7	3.0	2,543,716	7.4	236,411	4.4	98.2

Source : Study Team

Table 9.3.5 GRDP FORECAST BY REGION

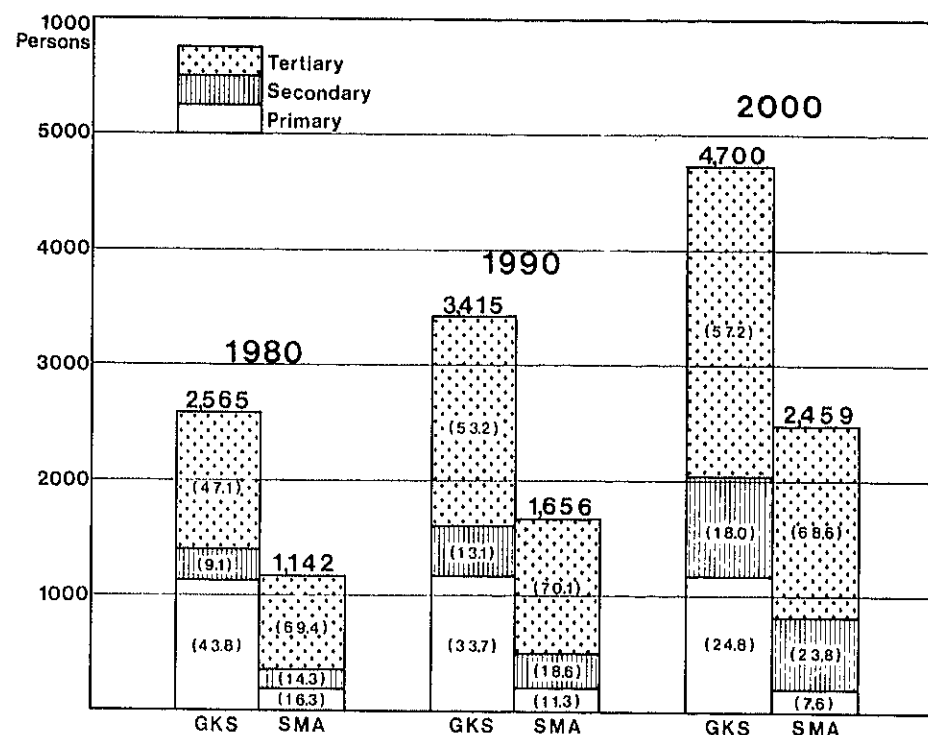(Unit: Million Rp. at 1975 constant Price)

		1980	Share (%)	1990	Share (%)	2000	Share (%)	Average Annual Growth Rate (%) 1990/1980	2000/1990	2000/1980
G K S	Primary	139,870	21.8	180,129	14.4	232,996	9.2	2.56	2.61	2.58
	Secondary	139,061	21.6	336,629	29.3	956,616	37.6	10.18	10.07	10.12
	Tertiary	363,958	56.6	704,511	56.3	1,354,105	53.2	6.83	6.75	6.79
	Total	642,889	100.0	1,251,270	100.0	2,543,717	100.0	6.89	7.35	7.12
Gresik	Primary	18,609	35.5	23,942	19.0	30,938	9.2	2.55	2.60	2.57
	Secondary	13.036	24.9	48,673	38.6	172,554	51.2	14.08	13.49	13.79
	Tertiary	20,785	39.6	53,351	42.4	133,844	39.6	9.89	9.63	9.76
	Total	52,430	100.0	125,966	100.0	337,336	100.0	9.16	10.35	9.76
Bangkalan	Primary	17,795	50.7	22,917	38.1	29,641	27.2	2.56	2.61	2.58
	Secondary	1,881	5.4	5,585	9.3	15,782	14.5	11.50	10.95	11.22
	Tertiary	15,421	43.9	31,579	52.6	63,355	58.3	7.43	7.21	7.32
	Total	35,097	100.0	60,081	100.0	108,778	100.0	5.52	6.12	5.82
Kod. Mojokerto	Primary	90	2.1	115	1.6	147	1.3	2.45	2.49	2.47
	Secondary	1,007	23.7	1,850	26.2	3,252	28.3	6.27	5.80	6.04
	Tertiary	3,151	74.2	5,098	72.2	8,101	70.4	4.93	4.74	4.83
	Total	4,248	100.0	7,063	100.0	11,500	100.0	5.22	5.00	5.11
Kab. Mojokerto	Primary	22,605	44.2	29,087	24.5	37,591	18.6	2.55	2.60	2.58
	Secondary	8,909	17.4	25,102	25.5	67,358	33.3	10.92	10.37	10.64
	Tertiary	19,683	38.4	44,295	45.0	97,562	48.1	8.45	8.22	8.33
	Total	51,197	100.0	78,484	100.0	202,511	100.0	6.76	7.48	7.12
Surabaya	Primary	16,224	4.4	20,611	3.0	26,292	2.0	2.42	2.46	2.44
	Secondary	82,783	22.6	186,166	26.9	399,674	30.9	8.44	7.94	8.19
	Tertiary	266,886	72.9	486,410	70.1	869,622	67.1	6.19	5.98	6.08
	Total	365,893	100.0	693,187	100.0	1,295,588	100.0	6.60	6.45	6.53
Sidoarjo	Primary	26,421	35.3	34,039	20.4	44,045	11.0	2.57	2.61	2.59
	Secondary	24,371	32.5	76,722	46.0	229,746	57.2	12.15	11.59	11.87
	Tertiary	24,152	32.2	56,154	33.6	127,740	31.8	8.80	8.57	8.68
	Total	74,944	100.0	166,915	100.0	401,531	100.0	8.33	9.17	8.75
Lamongan	Primary	38,125	64.5	49,418	49.6	64,343	34.5	2.63	2.67	2.65
	Secondary	7,074	12.0	22,530	22.6	68,249	36.6	12.28	11.72	12.00
	Tertiary	113,881	23.5	27,625	27.8	53,880	28.9	7.12	6.91	7.02
	Total	59,080	100.0	99,573	100.0	186,472	100.0	5.36	6.47	5.92
S M A	Primary	39,931	9.0	51,141	5.8	65,780	3.6	2.51	2.55	2.53
	Secondary	107,528	24.3	275,441	31.2	708.179	38.9	9.86	9.90	9.88
	Tertiary	294,384	66.6	556,831	63.0	1,047,463	57.5	6.58	6.52	6.55
	Total	441,843	100.0	883,413	100.0	1,821,422	100.0	7.17	7.53	7.34
Other GKS	Primary	99,939	49.7	128,988	35.1	167,216	23.2	2.58	2.63	2.61
	Secondary	31,533	15.7	91,188	24.6	248,437	34.4	11.20	10.54	10.87
	Tertiary	69,574	34.6	147,680	40.1	306,642	42.4	7.82	7.58	7.70
	Total	201,046	100.0	369,856	100.0	722,295	100.0	6.23	6.98	6.60

5.4 EMPLOYMENT FORECAST BY REGION AND FOR SMA

Table 9.3.11 gives employment forecast by area. The change in employment is the share of the primary sector will decrease, while that of the tertiary sector will being increase. However, in Surabaya, the share of the tertiary sector will decrease slightly while that of the secondary sector will expand. Fig. 9.3.6 shows the change of total number of employment and the structure by sector for GKS Region and SMA. The employment of SMA will increase from 1.14 million in 1980 to 2.46 million in 2000 which is a growth factor of 2.15 and this is far bigger than the equivalent figure for GKS Region which is 1.85.

Casual or temporary employments in the tertiary sector in SMA, should be absorbed in the secondary sector in the process of industrialization.

Fig. 9.3.6 EMPLOYMENT STRUCTURE IN GKS AND SMA

Remarks : ( ) is share of each Sector

Table 9.3.11 EMPLOYMENTS FORECAST BY REGION FOR CASE 4

(person)

| | Sector | 1980 | Share (%) | 1990 | Share (%) | 2000 | Share (%) | Average Annual Growth Rate (%) | | |
								1990/1980	2000/1990	2000/1980
GKS	Primary	1,123,649	43.8	1,150,265	33.7	1,165,196	24.8	0.23	0.13	0.18
	Secondary	233,613	9.1	448,783	13.1	848,991	18.0	6.75	6.56	6.65
	Tertiary	1,207,760	47.1	1,816,063	53.2	2,688,463	57.2	4.16	4.00	4.08
	Total	2,565,022	100.0	3,415,111	100.0	4,700,850	100.0	2.70	3.25	3.08
Gresik	Primary	161,358	53.8	164,695	38.1	166,324	25.0	0.20	0.10	0.15
	Secondary	30,774	10.2	73,129	16.9	164,431	24.7	9.04	8.44	8.74
	Tertiary	108,111	36.0	194,435	45.0	335,741	50.3	6.05	5.61	5.83
	Total	300,243	100.0	432,254	100.0	666,499	100.0	3.71	4.43	4.07
Bangkalan	Primary	174,593	66.0	178,374	56.3	180,306	46.4	0.21	0.11	0.16
	Secondary	3,772	1.4	7,754	2.4	15,068	3.9	7.74	6.87	7.17
	Tertiary	86,009	32.6	130,937	41.3	193,074	49.7	4.29	3.96	4.13
	Total	264,373	100.0	317,064	100.0	388,449	100.0	1.83	2.05	1.94
Kod. Mojokerto	Primary	568	2.3	578	2.0	577	1.7	0.17	0.02	0.08
	Secondary	2,601	10.7	3,307	11.3	3,998	11.6	2.43	1.92	2.17
	Tertiary	21,229	87.0	25,505	86.7	29,788	86.7	1.85	1.56	1.71
	Total	24,398	100.0	29,390	100.0	34,363	100.0	1.88	1.58	1.73
Kab. Mojokerto	Primary	143,006	48.2	145,920	35.7	147,382	25.3	0.20	0.10	0.15
	Secondary	20,974	7.1	40,916	10.0	75,490	13.0	6.91	6.32	6.61
	Tertiary	132,632	44.7	221,904	54.3	359,229	61.7	5.28	4.94	5.11
	Total	296,612	100.0	408,740	100.0	582,110	100.0	3.26	3.60	3.43
Surabaya	Primary	24,257	3.2	24,443	2.3	24,368	1.7	0.08	0.03	0.02
	Secondary	105,310	13.8	170,306	16.0	271,451	18.5	4.92	4.77	4.85
	Tertiary	631,163	83.0	867,107	81.7	1,168,457	79.8	3.08	3.02	3.13
	Total	760,729	100.0	1,061,850	100.0	1,464,276	100.0	3.39	3.27	3.33
Sidoarjo	Primary	153,176	42.3	156,508	28.8	158,270	18.5	0.22	0.11	0.16
	Secondary	56,593	15.6	123,370	22.7	254,045	29.8	8.10	7.49	7.80
	Tertiary	152,697	42.1	263,887	48.5	441,209	51.7	5.62	5.27	5.45
	Total	362,466	100.0	543,766	100.0	853,525	100.0	4.14	4.61	4.38
Lamongan	Primary	466,871	83.9	479,747	77.1	488,170	68.6	0.27	0.17	4.22
	Secondary	13,589	2.4	30,000	4.8	62,493	8.8	8.24	7.61	7.43
	Tertiary	75,919	13.7	112,288	18.1	160,967	22.6	3.99	3.67	3.38
	Total	556,379	100.0	622,035	100.0	711,630	100.0	1.12	1.35	1.24
SMA	Primary	186,593	16.3	187,609	11.3	186,794	7.6	0.05	-0.04	0.01
	Secondary	162,959	14.3	308,029	18.6	584,770	23.8	6.57	6.62	6.60
	Tertiary	792,216	69.4	1,160,570	70.1	1,687,739	65.6	3.89	3.32	2.0
	Total	1,141,768	100.0	1,656,208	200.0	2,495,303	100.0	5.38	6.57	5.97
GKS outside SMA	Primary	937,056	65.8	962,656	54.9	978,602	43.7	0.27	0.16	0.22
	Secondary	70,654	5.0	140,754	8.0	262,221	11.7	7.14	6.42	6.78
	Tertiary	415,544	29.2	655,493	37.3	1,000,674	44.6	4.66	4.32	4.49
	Total	1,423,254	100.0	1,758,903	100.0	2,241,897	100.0	2.14	2.45	2.30

CHAPTER 6 REGIONAL DEVELOPMENT STRUCTURE

6.1 DISTRIBUTION OF POPULATION

As is evident from Table 10.1.1, the rural areas have to accommodate a large population. It is found that the encouragement of industrial activities, especially in the agricultural sector, is indispensable to support the population increase.

Table 10.1.1 DISTRIBUTION OF POPULATION

		1980	1990	2000
(1~27)	SMA	2,867,477	4,187,000	6,119,000
28.	KEDAMEAN	200,862	272,000	331,000
29.	BALONGBENDO	217,970	221,000	251,000
30.	SEDAYU	214,376	289,000	353,000
31.	PORONG	132,598	147,000	205,000
32.	MOJOKERTO	68,507	82,000	99,000
33.	TROWULAN	132,288	167,000	213,000
34.	KEMLAGI	129,669	163,000	209,000
35.	BANGSAL	192,554	243,000	310,000
36.	PACET	250,849	316,000	403,000
37.	LAMONGAN	46,159	57,000	76,000
38.	BABAT	64,619	79,000	96,000
39.	KARANG GENENG	212,189	258,000	316,000
40.	LAREN	345,744	420,000	515,000
41.	SUGIO	231,379	281,000	344,000
42.	SAMBENG	149,718	182,000	222,000
43.	BANGKALAN	47,427	61,000	82,000
44.	GALIS	541,177	584,000	615,000
	Outside of SMA	3,244,458	3,822,000	4,640,000
GKS	Total	16,111,935	8,009,000	10,759,000

Notes; The detailed SMA framework is shown in the section
5.1.3 of Part III.

6.2 DISTRIBUTION OF WORK PLACES

The estimated result for work places is shown in Table 10.1.2 and the employments in the resident base are estimated as shown in Table 10.1.3. Moreover, Fig. 10.1.2 and Fig. 10.1.3 show the relationship between the number of jobs and the employment in the resident base in 1980 and in 2000 respectively. It is deduced from these results that the central areas such as Mojokerto, Lamongan, Babat etc. should possess large in-dustrial functions to accommodate the anticipated demand for jobs.

6.3 DEVELOPMENTS REQUIRED

(1) GENERAL

The regional structure plan should integrate the basic concepts and ensure the socio-economic framework and simultaneously the GKS regional development should contribute to the establishment of a mutually supporting system with the urban area, SMA and the other areas.

Several developments should be ensured, the development of working places and the communication system are very significant for the regional development.

(2) ROAD DEVELOPMENT

		Existing Primary Level	Level Proposed
(i)	Surabaya — Drijorejo — Langudi — Mirip	Local	Collector
(ii)	Langudi — Krian	Local	Collector (New Substitutional Route)
(iii)	Gresik — Kanal	—	Collector
(iv)	Paciran — Lamongan	—	Local
(v)	Sidarjo — Krian	—	Collector
(vi)	Langudi — Cerme — Manyar	—	Collector

(3) RAILWAY SYSTEM DEVELOPMENT

The railway system will become more important with the enlargement of inter-regional relationships and hence the existing railway system should be improved to cope with increasing demand, and commuter service to SMA.

— Surabaya — Lamongan (Northern Line),
— Surabaya — Mojokerto (Southern Line), and
— Surabaya — Porong (Surabaya — Malang Line).

Moreover, the following links should be improved to ensure the regional connections between work places and workers' residence;

— Lamongan — Babat (Northern Line)
— Mojokerto — Jombang (Southern Line)
— Sidoarjo — Mojokerto (to be rehabilitated)

(4) BUS SERVICE NETWORK SYSTEM

The bus service system should be encouraged in order to support the railway system as well as to serve residents' daily activities.

It is recommended that the inter-connections between major work places are ensured by the bus services.

(5) INDUSTRIAL FACILITIES

Creation of job opportunities is produced by an intentional industrial development. Basically the primary sector should be given the main task to create those opportunities.

Recommended are:

— Efficient Fishing Port
— Agricultural Distribution Centre

It is desirable that the ports possess the necessary warehousing and distribution facilities.

Recommended sites are:

— Paciran or Sukowati ; as a core of northern coastal fishery.
— Klampis ; as a core of Bangkalan fishery.

The size and characteristics of the distribution centre facilities should vary with of agricultural productions. The recommended sites for the agricultural distribution centres are:
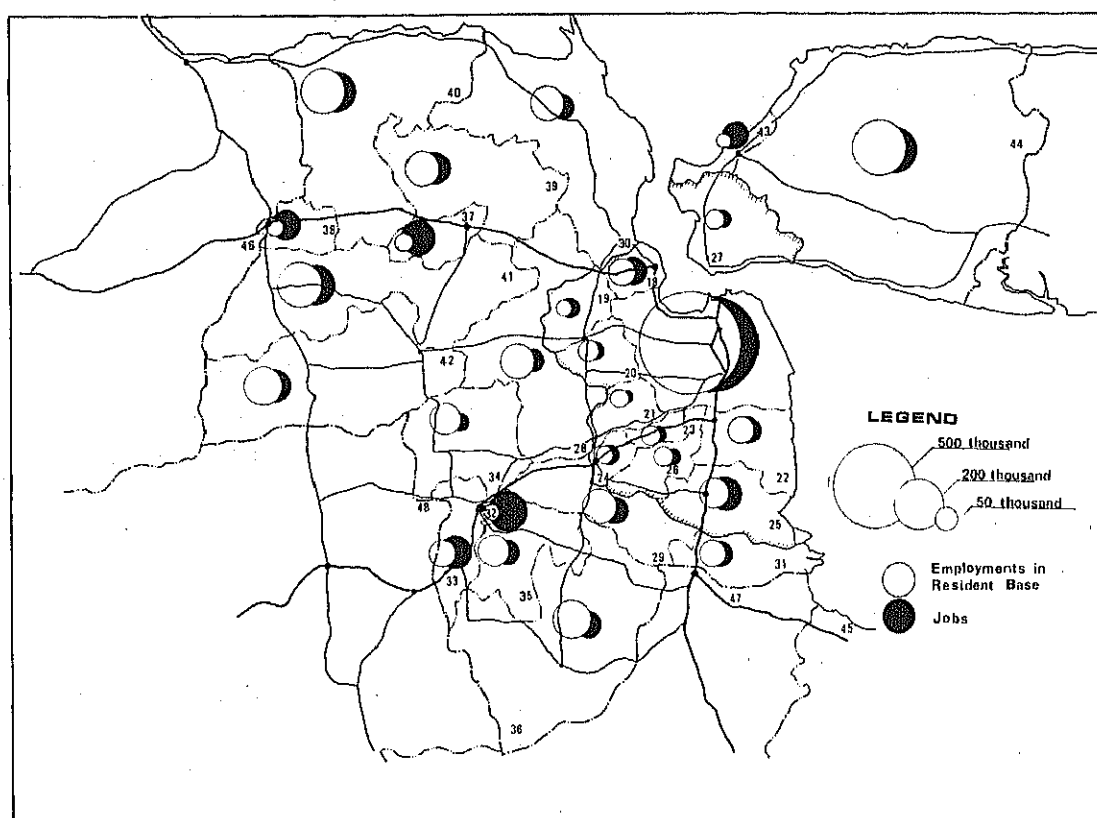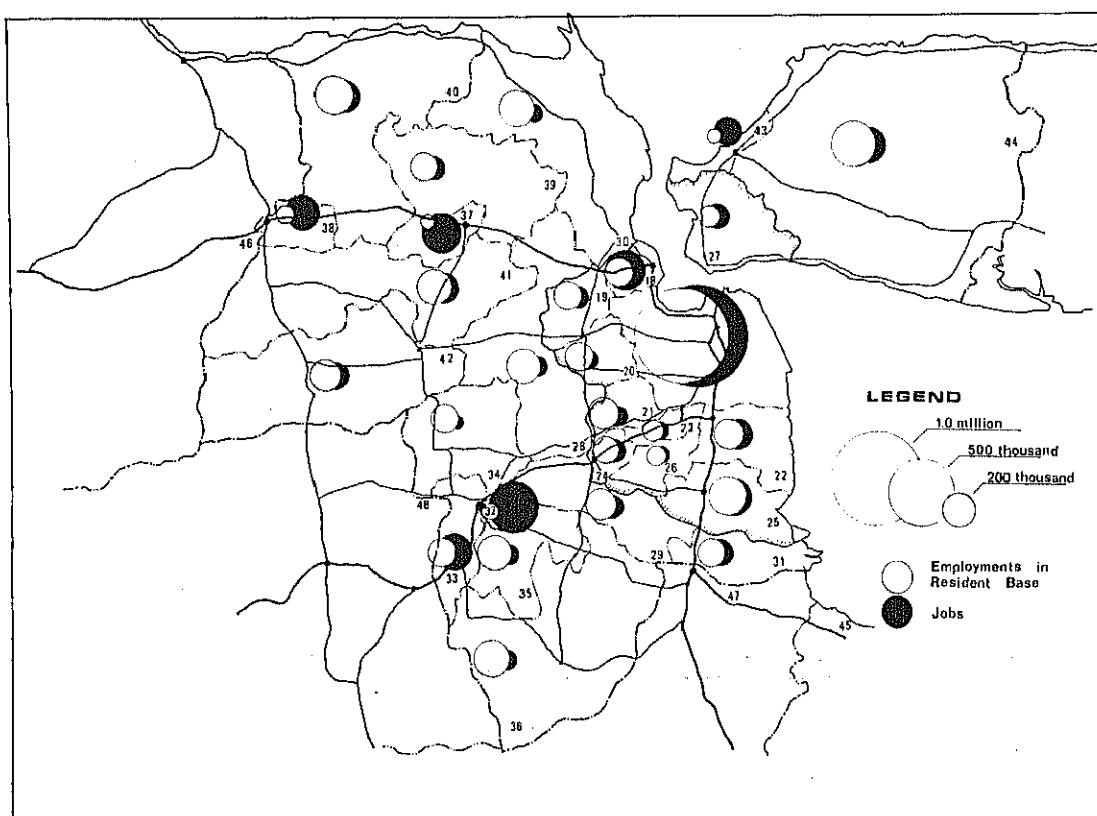
Fig. 10.1.2 GKS JOBS/EMPLOYMENTS 1980

Fig. 10.1.3 GKS JOBS/EMPLOYMENTS 2000

Table 10.1.2 NO. OF JOBS IN GKS REGION

		1980			2000		
		Primary Sector	Secondary and Tertiary Sector	Total	Primary Sector	Secondary and Tertiary Sector	Total
(1~27)	SMA	186,593	955,175	1,141,768	186,794	2,272,559	2,459,353
28.	KEDAMEAN	50,205	31,643	81,848	52,020	121,468	173,488
29.	BALONGBENDO	39,348	49,525	88,873	42,680	88,877	131,557
30.	SEDAYU	47,921	39,433	87,354	49,654	135,365	185,019
31.	PORONG	23,920	30,145	54,065	25,945	81,502	107,447
32.	MOJOKERTO	565	23,833	24,398	577	33,786	34,363
33.	TROWULAN	26,681	28,948	55,629	27,641	81,533	109,174
34.	KEMLAGI	26,152	28,375	54,527	27,093	79,918	107,011
35.	BANGSAL	38,836	42,135	80,971	40,234	118,674	158,908
36.	PACET	50,594	54,712	105,306	52,414	154,603	207,017
37.	LAMONGAN	13,799	10,664	24,463	14,504	16,785	31,289
38.	BABAT	21,005	13,242	34,247	22,078	21,725	43,803
39.	KARANG GENENG	78,187	12,381	90,568	82,182	33,658	115,840
40.	LAREN	133,203	21,091	154,294	140,007	57,341	197,348
41.	SUGIO	121,411	19,225	140,636	127,614	52,265	179,879
42.	SAMBENG	96,838	15,333	112,171	101,785	41,686	143,471
43.	BANGKALAN	1,584	18,005	19,589	1,648	24,806	26,454
44.	GALIS	166,807	47,508	214,315	170,526	118,903	289,429
	Outside of SMA	937,056	486,198	1,423,254	978,602	1,262,895	2,241,497
	GKS Total	1,123,649	1,441,373	2,565,022	1,165,393	3,535,454	4,700,850

Table 10.1.3 EMPLOYMENTS IN RESIDENT BASE IN GKS REGION

		1980			2000		
		Primary Sector	Secondary and Tertiary Sector	Total	Primary Sector	Secondary and Tertiary Sector	Total
(1~27)	SMA	186,593	959,160	1,145,753	186,794	3,418,795	2,605,589
28.	KEDAMEAN	50,205	1,612	51,917	52,020	4,015	56,035
29.	BALONGBENDO	39,348	19,200	58,548	42,680	43,719	86,395
30.	SEDAYU	47,921	1,118	49,039	49,654	2,379	52,033
31.	PORONG	23,920	25,718	49,638	25,945	70,675	96,620
32.	MOJOKERTO	565	135,130	135,695	577	322,176	322,753
33.	TROWULAN	26,681	63,329	90,010	27,641	147,646	175,287
34.	KEMLAGI	26,152	2,048	28,160	27,093	3,891	30,984
35.	BANGSAL	38,836	11,223	50,059	40,234	25,657	65,891
36.	PACET	50,594	1,769	54,383	52,414	7,350	59,764
37.	LAMONGAN	13,799	85,474	99,173	14,504	201,819	216,323
38.	BABAT	21,005	61,225	82,230	22,078	143,406	165,484
39.	KARANG GENENG	78,187	1,315	79,722	82,182	3,242	85,424
40.	LAREN	133,203	2,806	136,009	140,007	6,054	146,061
41.	SUGIO	121,411	5,442	126,853	127,614	10,810	138,424
42.	SAMBENG	96,838	1,309	98,147	101,785	2,955	104,740
43.	BANGKALAN	1,584	55,498	57,082	1,648	109,289	110,937
44.	GALIS	166,807	5,777	172,584	170,526	11,676	182,202
	Outside of SMA	937,056	482,213	1,419,269	978,602	1,116,659	2,095,261
	GKS Total	1,123,649	1,441,373	2,565,022	1,165,396	3,535,454	4,700,850

- Mojokerto
- Lamongan
- Bangkalan

Similarly, manufacturing development is recommended to be carried out in the major activity centres such as Mojokerto, Lamongan, Babat and Bangkalan.

(6) PUBLIC FACILITIES

A development standard for public facilities should be authorized as soon as possible. Regarding educational, medical and social-welfare facilities, the service level per resident should be regulated from a sociological point of view. Each Kod./Kab. should establish a prepared development programme as soon as possible, and the actions should be initiated according to that regulated standard.
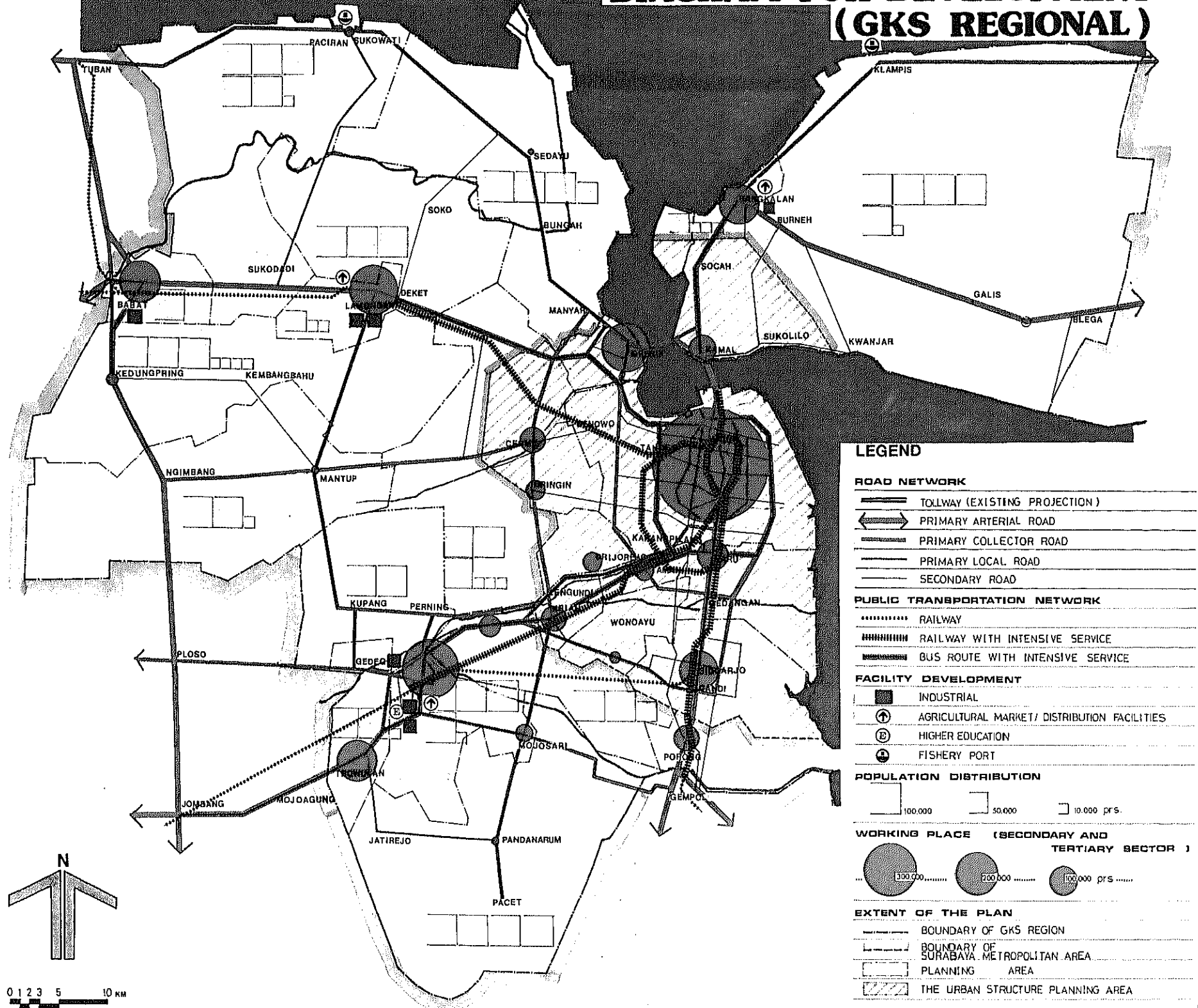
Higher educational facilities are necessary and should be established in the GKS Region. Especially, facilities concerning modern agricultural knowledge, technology, and management.

It is recommended that every Kod./Kab. has such a school, however, a facility with a central function of information should be aggressively developed in Mojokerto area.

Fig.10.3.1

DIAGRAM FOR DEVELOPMENT (GKS REGIONAL)

TUBAN
PACIRAN SUKOWATI
KLAMPIS
SEDAYU
SOKO
BUNGAH
SUKODADI
DEKET
MANGKALAN
BURNEH
SOCAH
BABAT
MANYAR
GALIS
KEDUNGPRING
KEMBANGBAHU
SUKOLILO
KWANJAR
BLEGA
NGIMBANG
MANTUP
TAMAL
BENOWO
CERME
BERINGIN
TANDE
KARANG PILANG
KUPANG
PERNING
BRIJORO
PANDI
NGUNDI
KEDINGAN
PLOSO
GEDEG
WONOAYU
SIDOARJO
MOJOSARI
POMOSO
JOMBANG
MOJOAGUNG
GEMPOL
JATIREJO
PANDANARUM
PACET

LEGEND

ROAD NETWORK
- TOLLWAY (EXISTING PROJECTION)
- PRIMARY ARTERIAL ROAD
- PRIMARY COLLECTOR ROAD
- PRIMARY LOCAL ROAD
- SECONDARY ROAD

PUBLIC TRANSPORTATION NETWORK
- RAILWAY
- RAILWAY WITH INTENSIVE SERVICE
- BUS ROUTE WITH INTENSIVE SERVICE

FACILITY DEVELOPMENT
- INDUSTRIAL
- AGRICULTURAL MARKET / DISTRIBUTION FACILITIES
- HIGHER EDUCATION
- FISHERY PORT

POPULATION DISTRIBUTION
100,000 50,000 10,000 prs.

WORKING PLACE (SECONDARY AND TERTIARY SECTOR)
300,000 200,000 100,000 prs.

EXTENT OF THE PLAN
- BOUNDARY OF GKS REGION
- BOUNDARY OF SURABAYA METROPOLITAN AREA
- PLANNING AREA
- THE URBAN STRUCTURE PLANNING AREA

0 1 2 3 5   10 KM

N

URBAN DEVELOPMENT PLANNING STUDY ON GERBANGKERTOSUSILA (SURABAYA METROPOLITAN AREA)