The Republic of Indonesia
Directorate General of Spatial Planning, Ministry of Public Works

The Study
on
Formulation of Spatial Planning
for
GERBANGKERTOSUSILA (GKS) Zone
in
East Java Province, the Republic of Indonesia

Final Report

Volume 2: Main Text

February 2011

JAPAN INTERNATIONAL COOPERATION AGENCY

Value Planning International, Inc.
Oriental Consultants Co., Ltd.
Yachiyo Engineering Co., Ltd.

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11-002

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PREFACE

In response to a request from the Government of Indonesia, the Government of Japan decided to conduct a study on "The Study on Formulation of Spatial Planning for GERBANGKERTOSUSILA (GKS) Zone in East Java Province, the Republic of Indonesia", and entrusted to the study to the Japan International Cooperation Agency (JICA).

JICA selected and dispatched a study team, headed by Dr. Katsuhide NAGAYAMA of Value Planning International, Inc between May 2009 and December 2010. The study team consists of Value Planning International, Inc., Oriental Consultants Co., Ltd. and Yachiyo Engineering Co., Ltd.

The team held discussions with the officials concerned of the Government of Indonesia, and conducted field surveys at the study area. Upon returning to Japan, the team conducted further studies and prepared this final report.

I hope that this report will contribute to the legal process for approval of the GKS Zone Spatial Plan in accordance with the Law No.26/2007 for Spatial Planning, and to the enhancement of friendly relationship between two countries.

Finally, I wish to express my sincere appreciation to the officials concerned of the Government of Indonesia for their close cooperation extended to the study.

February 2011

Motofumi Kohara

Chief Representative
Indonesia Office
Japan International Cooperation Agency

February 2011

To: Mr. Motofumi Kohara

Chief Representative
Indonesia Office
Japan International Cooperation Agency

Dear Sir,

Subject: Letter of Transmittal

We are pleased to formally submit herewith the final report of the Study on Formulation of Spatial Planning for GERBANGKERTOSUSILA (GKS) Zone in East Java Province, the Republic of Indonesia.

This report compiles the results of the study which was undertaken both in Indonesia and Japan from May 2009 to December 2010 by the Team, comprising of Value Planning International, Inc., in corporation with Oriental Consultants Co., Ltd., and Yachiyo Engineering. CO., Ltd.

We acknowledge many government officials and stakeholders involved in intensive research, investigations and discussions in the course of the study. We would like to express our sincere appreciation and special gratitude to those who extended their extensive assistance and cooperation to the study team, in particular Directorate General of Spatial Planning, Ministry of Public Works, and Department of Public Work, Human Settlement and Spatial Planning, East Java Province.

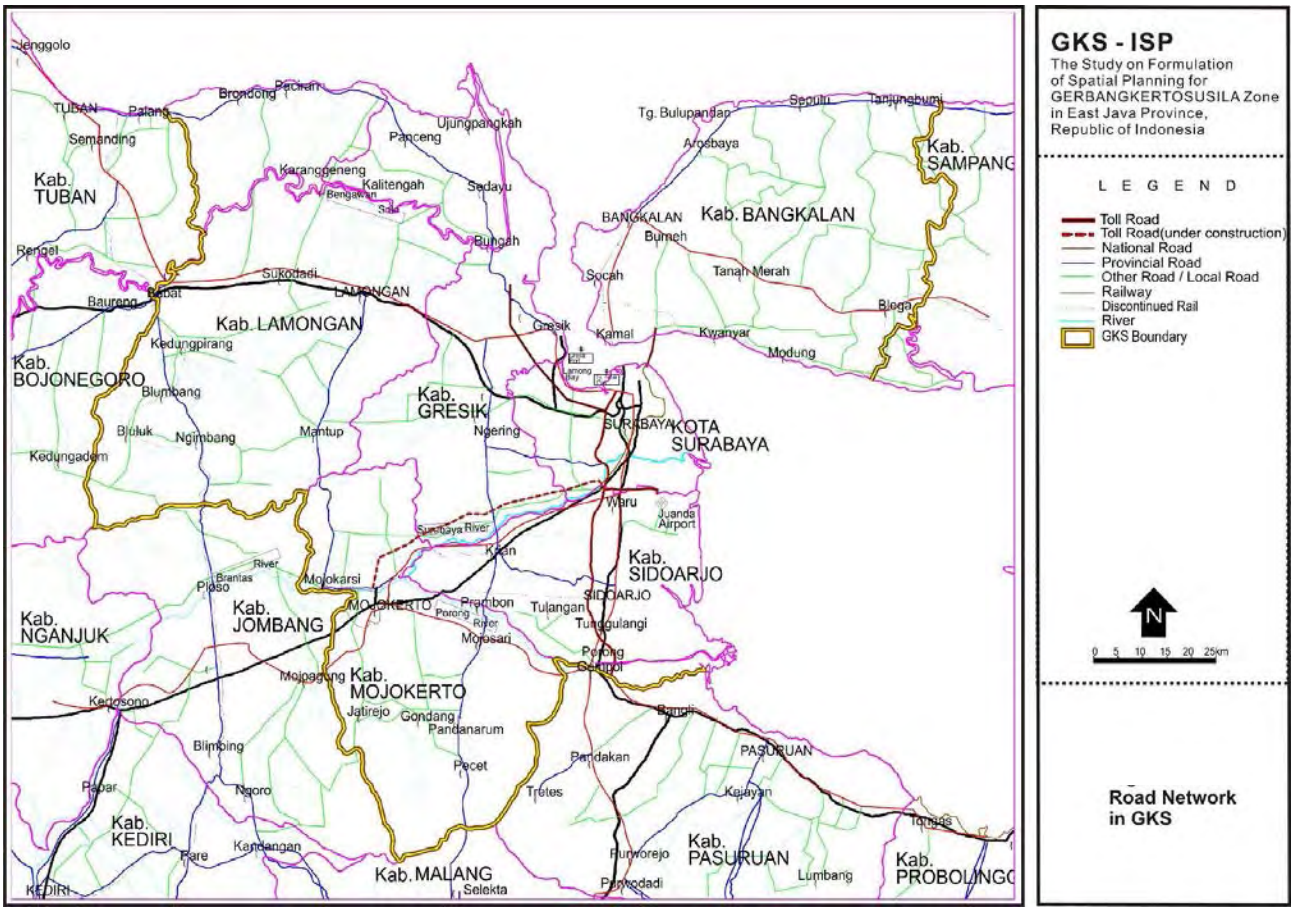
We also acknowledge the program officers of your agency, JICA Indonesia Office, and the Embassy of Japan in Indonesia for their kind supports and valuable advice in the course of the Study.

We hope the report would contribute to the long-term development of the GKS Zone that is endowed with great potentials for sustainable and environmentally balanced growth as the second largest leading economy in Indonesia.

Faithfully yours,

Katsuhide NAGAYAMA, Ph.D.

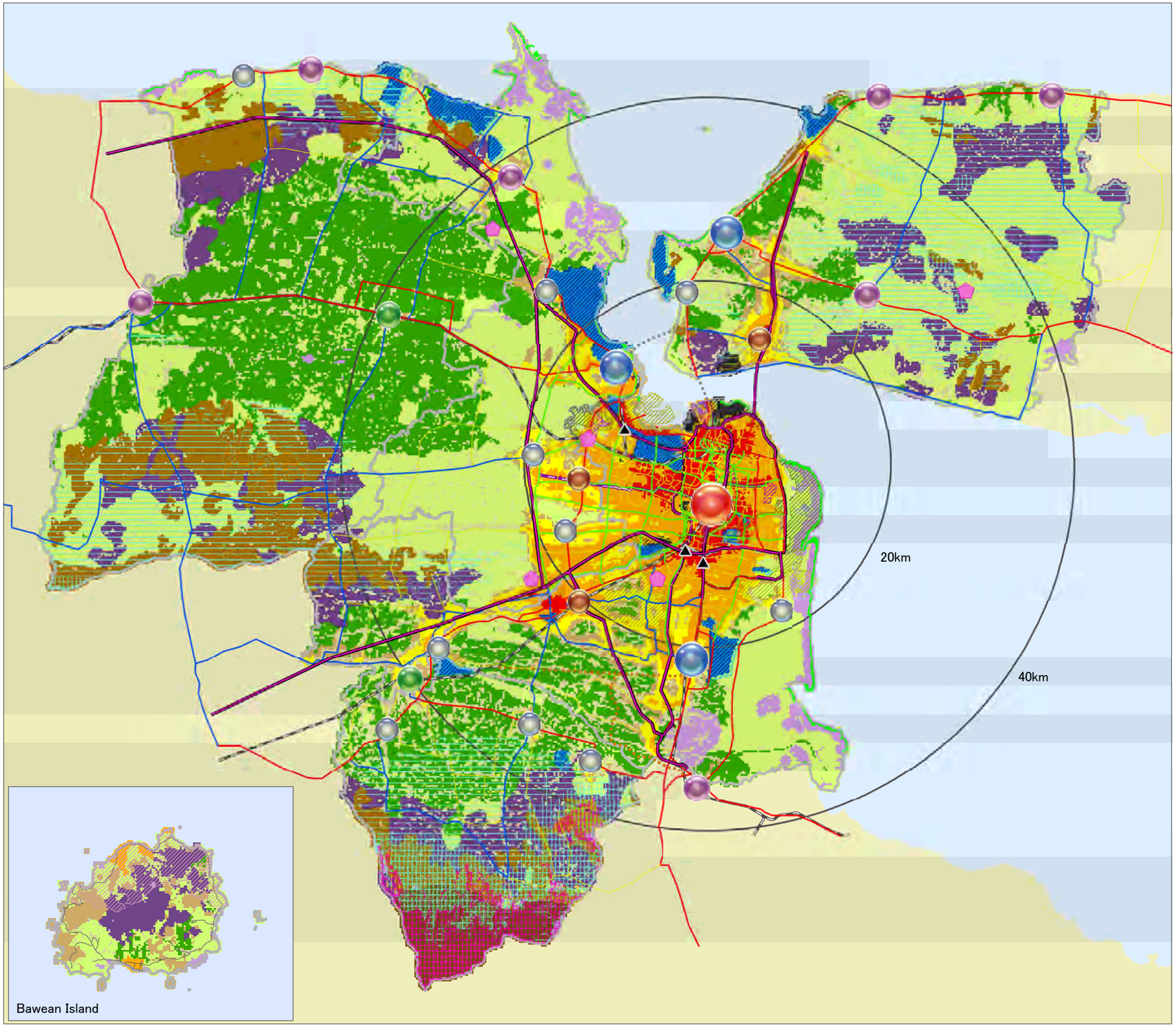
Team Leader,
The Study on Formulation of Spatial Planning for GERBANGKERTOSUSILA (GKS) Zone in East Java Province, the Republic of Indonesia



Study Area Map

C08
GKS Spatial Plan 2030

Legend



Land Use Plan (2030)
- Protected area
- Conservation area
- Agriculture (Irrigated)
- Agriculture
- Protected Forest
- Production Forest
- Conservation Forest
- Buffer
- Urban Development area (high)
- Urban Development area (mid)
- Urban Development area (low)
- Kampong
- Industrial area
- Spacial Zone (Military)

Proposed Environmental Sensitive Zone
- Mangrove Ecosystem

Land Stability
- Preservation Zone
- Conservation Zone
- Restoration Zone

Forest Ecosystem
- Presrvation zone
- Conservation zone
- Restoration zone

Strategic Projects
- Project Identified by GKS-ISP
- Commercial area
- Green Area
- Public Facilities
- Industrial Zone
- Military Zone
- Other Strategic Projects

Urban Center
- Regional Center
- GKS Sub-Centers
- SMA Level Centers
- SMA Sub-Centers
- GKS Kab.Centers
- Other Kab.Sub-Centers
- Intermodal Gateway

Road Network
- Toll
- Arterial
- Collector
- Secondary Arterial
- Local
- Ferry

Railway
- Proposed Railway Network (Passenger)
- Freight SProposed Railway Network (freight)
- Railway (under Construction)
- New Mass Transit Corridor (NMTC)

N W E S

0 5 10 20 30km

GKS-ISP
The Study on
Formulation of Spatial Planning
for GKS Zone

The Study
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The Republic of Indonesia

Final Report

Main Text

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11 THE WAY FORWARD

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- ABBRIVIATIONS -

3Rs	Reduce, Reuse, and Recycle
AGT	Automated Guideway Transit
AKDP	Antar Kota Antar Propinsi, or Inter-Provincial Intercity
AM	Automated Mapping
APBD I	Anggaran Pendapatan Belanja Daerah Provinsi, or Revenue and Expenditure of Province
APBD II	Anggaran Pendapatan Belanja Daerah Kabupaten/Kota, Revenue and Expenditure of Kabupaten/Kota
APBN	Anggaran Pendapatan Belanja Negara, National Revenue and Expenditure
ARSDS-GKS	Study for Arterial Road System Development in Surabaya Metropolitan Area
ATCS	Area Traffic Control System
BAKOSURTANAL	Badan Koordinasi Survei dan Pemetaan Nasional, or National Coordinating Agency for Survey and Mapping
BAPPEDA	Badan Perencanaan Pembangenan Daerah, or Local Planning and Development Board
BAPPEKO	Badan Perencanaan Pembangunan Kota, or Planning and Development Board of Municipality (Kota)
BAPPEPRO	Badan Perencanaan Pembangunan Propinsi, or Planning and Development Board of Province
BAT	Best Available Technology
BII	Indonesia International Bank
BKPRD	Badan Koordinasi Penataan Ruang Daerah, or Coordination Board of Local Spatial Plan
BKTRN	Badan Koordinasi Penataan Ruang Nasional, or Coordination Board of National Spatial Plan
BNI	Bank Nasional Indonesia or Indonesia National Bank
BPLS	Badan Penanggulangan Lumpur Sidoarjo, or Agency for the Mitigation of Sidoarjo Mud
BRI	Bank Rakyat Indonesia
BRT	Bus Rapid Transit
BTN	Bank Tabungan Negara, or National Saving Bank
BWK	Bagian Wilayah Kota, or Urban Area Section
Bank JATIM	East Java Bank
C-KIP	Comprehensive Kampong Improvement Program
CBD	Central Business District

CCTV	Closed Circuit Television
CDM	Clean Development Mechanism
CHP	Combined Heat and Power Production
CIS	Customer Information System
CPR	Medium Term Development Program and Policies (Five years)
DAOP	Daerah Operasi, or Operation Area
DAS	Automotic Distribution System
DCC	Distribution Control Center
DD	Detail Design
DKL program	Energy Demand and Load Forecast Program
DLLAJ	Dinas Lalu Lintas dan Angkutan Jalan, or Traffic and Road Transport Agency
DPRD	Dewan Perwakilan Rakyat Daerah, or Local People Representative Council
DSM	Demand Side Management
EIA	Environmental Impact Assessment
EJIIZ	East Java Integrated Industrial Zone
EMS	Energy Management System
EMU	Electric Multiple Unit
EPR	Extended Producer Responsibility
ERR	East Ring Road
FM	Facility Management
FS	Feasibility Study
GDP	Gross Domestic Product
GERBANGKERTOSUSILA	Gresik-Bangkalan–Mojokerto(Kota/Kabupaten)–Surabaya–Sidoarjo-Lamongan
GIS	Geographic Information System
GKS	GERBANGKERTOSUSILA-Gresik-Bangkalan-Mojokerto (Kota/Kabupaten)-Surabaya-Sidoarjo-Lamongan
GKS Plus	GKS + Kabupaten Pasuran, Bojonegoro, Jombang, Tuban, and Kota Pasuruan
GOI	Government of Indonesia
GOJ	Government of Japan
GPRS	General Packet Radio Service
GPS	Global Positioning System
GRDP	Gross Regional Domestic Product
GWh	Gigawatt-hour
HIPPAM	Community-initiative water supply and sanitation program in rural

	area
IBRD	International Bank for Reconstruction and Development
IE	Industrial Estate
IFC	International Finance Corporation
IGES	Institute for Global Environment Startegies
IKK	Ibu Kota Kecamatan, District Capital
IPAL	Sewage Treatment Plant
IPLT	Septic Sludge Treatment Plant
IPP	Independent Power Producer
ISLF	Integrated Solid Waste Landfill
ISWM	Integrated Solid Waste Management
ITS	Institut Teknologi Sepuluh Nopember, or Sepuluh Nopember Institute of Technology
ITS	Intelligent Transport System
ITU	International Telecommunication Union
JABODETABEK	Jakarta Metropolitan Area : Jakarta – Bogor – Depok – Tangeran – Bekesi
Jamali	Jawa-Bali Madura
JBIC	Japan Bank for International Cooperation
JICA	Japan International Cooperation Agency
KAPET	Kawasan Pengembangan Ekonomi Terpadu, or Integrated Economic Development Area
KIP	Kampong Improvement Program
KKJS	Kawasan Kaki Jembatan Suramadu, or (Industrial&Mixuse) Development Zone at the Foot of Surabmadu Bridge
KKN	Korupsi, Kolusi, Nepotisme, or Corruption, Collusion, and Nepotism
kms	kilo meter span
KP Ruko	Kredit Pemilikan Rumah Toko, or Credit for Store and House Ownership
KPR	Kredit Pemilikan Rumah, or Loan for House Ownership
KPR BCA Xtra	Kredit Pemilikan Rumah dari Bank Central Asia Ekstra, or Extra Home Ownership Loan through Bank Central Asia
KPR Multiguna	Multfuncion Home Ownership Loan
KPR Syariah	Kredit Pemilikan Rumah Syariah, or Credit for House Ownership through Muslim Role
Kredit Swa Griya	Loan for Self-built House
Kredit Swadana	Loan for Self-fund
kWh	Kilowatt-hour

L/sec	Liter per second
LARAP	Land Acquisition and Resettlement Action Plan
LDF	Load Density Factor
LF	Load Factor
LIS / LISB	Lamongan Integrated Shorebase
LLF	Loss Load Factor
LRT	Light Rail Transit
LV	Low Voltage
Lcpd	Liter per capita day
MENDAGRI	Menteri Dalam Negeri, or Ministry of Home Affair
MERR	Middle East Ring Road
MV	Medium Voltage
MVA	Mega-volt-ampere
MW	Megawatt
MWRR	Middle West Ring Road
NIP	Ngoro Industrial Persada
NIP	Ngoro Industrial Persada, Mojokerto
NRW	Non-Revenue Water
NUSSP	Neighborhood Upgrading Shelter Sector Program
OD	Origin and Destination
OPLT	Time at Peak Load
P2KP	Program Penanggulangan Kemiskinan di Perkotaan, or Urban Poverty Alleviation Program
P2MPD	Program Pemberdayaan Masyarakat dan Pemerintah Daerah, or Community and Local Government Empowerment Program
PAD	Local Government Revenue
PBB	Pajak Bumi Bangunan, or Building and Land Tax
PCU	Passenger Car Unit
PDAB	Perusahan Daerah Air Bersih, Provincial Clean Water Public Corporation
PDAM	Perusahaan Daerah Air Minum, or Local Water Enterprise
PDAM	Perusahan Daerah Air Minum, Regional Water Supply Public Corporation
PDM-DKE	Pemberdayaan Daerah dalam Mengatasi Dampak Krisis Ekonomi, or Local Empowerment to Countermeasure Economic Crisis Impact
PERDA	Peraturan Daerah, or Local (Municipal/Regency/Province) Decree
PJT1	Perum Jasa Tirta 1, River Management Public Corporation no.1
PKK	Family Prosperity Empowerment

PKL	Pusat Kegiatan Local, or Local Activity Centre
PKN	Pusat Kegiatan Nasional, or National Activity Centre
PKW	Pusat Kegiantan Wilayah, or Regional Activity Centre
PLN	Perusahaan Listrik Negara, or National Electric Company
PLTGU	Combined Cycle Power Plant
PLTU	Steam Power Plant
PNPM Mandiri	Program Nasional Pemberdayaan Masyarakat Mandiri, or National Program for Independent Community Empowerment
PPP	Public-Private Partnership
PTKA	PT Kereta Api, or Railway Company
PU	Public Works
PUCKTR	Public Works, Human Settlement & Spatial Planning Department, East Java Province
RAPERDA	Rancangan Peraturan Daerah, or Draft of Local Decree
ROW	Right-Of-Way
RP4D	Rencana Pembangunan dan Pengembangan Perumahan dan Permukiman Daerah, or Housing and Settlement Development and Improvement Plan
RPJM	Rencana Pembangunan Jangka Menengah, or Mid-term Development Plan
RPJP	Rencana Pembangunan Jangka Panjang, or Long-term Development Plan
RT	Rukun Tetangga or Smallest neighborhood unit under RW
RTRW	Rencana Tata Ruang Wilayah, or Spatial Plan
RUPTL	Rencana Usaha Penyediaan Tenaga Listrik, or Electrical Power Supply Business Plan
RW	Rukun Warga, or Neighborhood unit under Desa/ Kelurahan
Rusunami	Rumah Susun Sederhana Milik, or Owned Simple Walk-up Flat
Rusunawa	Rumah Susun Sederhana Sewa, or Rental Simple Walk-up Flat
SAIDI	System Average Interruption Duration Index
SAIFI	System Average Interruption Frequency Index
SCADA	Supervisory Control and Data Acquisition
SD	Sekolah Dasar, or Primary School
SDA2006	Strategic Initiatives Water Resources Management to Overcome Flood And Drought Island In Java issued by Directorate of River & Irrigation, State Ministry Of National Development Planning & National Development Planning Agency in December 2006
SIER	Surabaya Indutrial Estate Rungkut, Surabaya
SKPD	Satuan Kerja Perangkat Daerah, or Guidelines for Local Government Offices/Institutions

SMA	Sekolah Menengah Atas, or Senior High School
SMA	Surabaya Metropolitan Area
SME	Small and Medium Sized Enterprise
SMP	Sekolah Menengah Pertama, or Junior High School
SNCF	Société Nationale des Chemins de fer Français
SRRTS	Surabaya Regional Rail Transport System
SSO	Automatic Vacuum Gas Pole Switch Sectionaliser
SSWP	Sub Satuan Wilayah Pembanguan, or Area Development Sub Unit
SUDP	Surabaya Urban Development Project
SULAM	Surabaya – Lamongan Commuter
SUMO	Surabaya – Mojokerto Commuter
SUPAS	Survei Penduduk Atar Sensus, or Population Survey between Censuses
SUSI	Surabaya – Sidoarjo Commuter
SUTT network	70-150 KV network
SWM	Solid Waste Management
SWP	Satuan Wilayah Pembanguan, or Area Development Unit
TAZ	Traffic Analysis Zone
TID	Telemetering
TK	Taman Kanak-kanak or Kindergarten School
TOD	Transit Oriented Development
TPA	Tempat Pembuangan Akhir, or Final Disposal Site
TRAFO	Transformer
TS	Transfer Station
UGR	Unit Waste Generation
UNEP	United Nations Environment Programme
UP	Unit Pengembangan, or Development Unit
USO	Universal Service Obligation
V/C	Volume-Capacity
VMS	Variable Message Signboard
WPUT	Wilayah Pelayanan Universal Telekomunikasi, or Telecommunications Universal Service Area
WRR	West Ring Road
WTE	Waste to Energy

1. INTRODUCTION

1.1 Background

GERBANGKERTOSUSILA (GKS) in East Java province is the second largest economic zone in Indonesia. It is composed of five *kabupaten* (district or regency) and two *kota* (city), namely, Kabupaten Sidoarjo, Kabupaten Mojokerto, Kabupaten Lamongan, Kabupaten Gresik, Kabupaten Bangkalan, Kota Mojokerto, and Kota Surabaya. A regional development master plan for the GKS Zone was formulated with the assistance of JICA in 1983.

In Indonesia, the Spatial Planning Law, which was amended in April 2007, stipulates that the national, provincial, kabupaten, and city governments, must prepare a spatial plan. The National Spatial Plan was formulated in March 2008 based on which the provincial governments formulated their own spatial plans. Subsequently, kabupaten and kota governments are supposed to prepare their spatial plans by April 2010 based on the provincial spatial plans. A spatial plan for a metropolitan area like the GKS, when needed, can be formulated because GKS is one of Indonesia's national strategic zones, and the planning work is supposed to be conducted through the initiative of the Directorate General of Spatial Planning, Ministry of Public Works.

1.2 Objectives of the Study

The objectives of the Study, which were mentioned in the Scope of Work agreed upon by both governments, are threefold, as follows:

- To formulate the GKS Spatial Plan 2030;
- To prepare an action plan for urban transportation in the area; and
- To strengthen the capacity of the counterpart personnel and institutions in the course of the Study.

The Study has formulated long-term visions (on a two-decade time horizon) with which the GKS national strategic zone should pursue a sustainable social and economic development and has identified priority short-term projects and programs for implementation within a five-year framework in line with the strategies to achieve the visions.

The spatial plan, as stipulated in the 2007 Spatial Planning Law, should ensure balanced land use, or spatial pattern, with sufficient considerations given to environmental preservation and conservation. The spatial plan should also depict the most economically efficient and functionally rational infrastructure network which will support the people's social and economic activities, and should include a comprehensive transportation system, water supply system, drainage and sewerage systems, power and telecommunications network, solid waste management, etc.

Guidelines on implementing the spatial plan and managing the planned growth are the other focal issues which should be carefully addressed by the GKS spatial plan. For this purpose, the East Java provincial government should be empowered, in terms of budgetary and enforcement capacities. Moreover, coordination between the central and local governments is highly required.

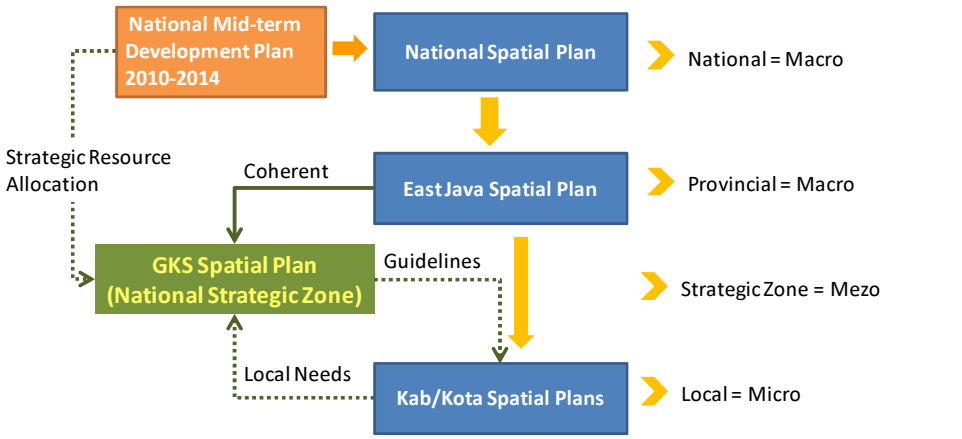


Figure 1.2.1 Overall Structure of Spatial Planning System

The outcomes of the Study are compiled with a set of separated volumes of reports as follows:

- Volume 1: Summary (English, Indonesian and Japanese)
- Volume 2: Main Text (English and Indonesian)
- Volume 3: GIS Atlas: Key Maps and Drawings for GKS Spatial Plan (English)
- Volume 4: Development Action Plan for Transportation Sector (English)

Notes: The reports in English are official and referable, when Indonesian expressions and words are neither clear nor correct.

1.3 Objective of Spatial Plan for GKS Zone

A spatial plan for the GKS Zone, one of the national strategic areas, with a target year of 2030 aims to:

- Provide a roadmap to achieve the long-term vision for the zone;
- Facilitate social and economic development of the country as a leading growth zone;
- Realize a balanced land-use system in consideration of environmental conservation;
- Plan a functionally rational infrastructure network that will include (1) transportation system, (2) water supply system, (3) drainage and sewerage systems, (4) power and telecommunications network, (5) solid waste management, and other infrastructure; and
- Identify short-term projects and programs within a five-year framework (2015).

According to the 2007 amended Spatial Planning Law, the spatial plan for East Java province was supposed to be approved by April 2009, and those for the kabupaten and kota by April 2010. The current status of approval of spatial plans is shown in Table 1.3.1.

Table 1.3.1 Current Approval Status of Kabupaten/Kota Spatial Plans

	Planning Years	Approval Status
East Java	2009–2029	Evaluation by the central government
Kota Surabaya	2010–2030	Consultation between provincial and central governments
Kota Mojokerto	2007–2027	Evaluation by provincial and central governments
Kab. Gresik	2007–2027	Evaluation by the central government
Kab. Bangkalan	2008–2028	Final approval (Perda No. 10/2009)
Kab. Sidoarjo	2009–2029	Final approval (Perda No. 6/2009)
Kab. Mojokerto	2007–2027	Evaluation by the provincial government

1.4 Relevant Basic Laws and Regulations

Spatial plans should comply with existing laws and regulations in terms of infrastructure development, agricultural land conservation, and environmental resources protection, as shown below. They should also provide a legal basis for project management and institutional setting for intergovernmental coordination and cooperation.

1) Law Number 5, 1960: On the basic regulation of agrarian affairs (State Gazette of the Republic of Indonesia, 1960, Number 104, Additional State Gazette of the Republic of Indonesia Number 2043);
2) Law Number 5, 1984: On industry affairs (State Gazette of the Republic of Indonesia 1984, Number 22, Supplementary State Gazette of the Republic of Indonesia Number 3274);
3) Law Number 5, 1990: On the conservation of natural resources and ecosystems (State Gazette of the Republic of Indonesia 1990, Number 49, Supplementary State Gazette of the Republic of Indonesia Number 3419);
4) Law Number 4, Gazette 1992: On housing and settlements (State Gazette of the Republic of Indonesia 1992, Number 23, Supplementary State Gazette of the Republic of Indonesia Number 3469);
5) Law Number 5, 1992: On cultural properties (State Gazette of the Republic of Indonesia 1992, Number 27, Supplementary State Gazette of the Republic of Indonesia Number 3470);
6) Law Number 12, 1992: On plant cultivation systems (State Gazette of the Republic of Indonesia 1992, Number 46, Supplementary State Gazette of the Republic of Indonesia Number 3478);
7) Law Number 36, 1999: On telecommunications (State Gazette of the Republic of Indonesia 1999, Number 154, Additional State Gazette of the Republic of Indonesia Number 3881);

8) Law Number 41, 1999: On forestry (State Gazette of the Republic of Indonesia, 1999, Number 167; Additional State Gazette of the Republic of Indonesia Number 3888) as amended by Law No. 19, 2004, concerning the determination of Government Regulation No. 1, 2004, regarding the amendment to Law Number 41, 1999 on the forestry (State Gazette of the Republic of Indonesia, 2004 Number 86, Supplementary State Gazette of the Republic of Indonesia Number 4412);

9) Law Number 22, 2001: On oil and gas (State Gazette of the Republic of Indonesia 2001, Number 136, Additional State Gazette of the Republic of Indonesia Number 4152);

10) Law Number 3, 2002: On defense (State Gazette of the Republic of Indonesia, 2002, Number 3, Gazette of the Republic of Indonesia Number 4169);

11) Law Number 28, 2002: On buildings (State Gazette of the Republic of Indonesia, 2002, Number 134, Additional State Gazette of the Republic of Indonesia Number 4247);

12) Law Number 27, 2003: On geothermal energy (State Gazette of the Republic of Indonesia, 2003, Number 115, Additional State Gazette of the Republic of Indonesia Number 4327);

13) Law Number 7, 2004: On water resources (State Gazette of the Republic of Indonesia 2004, Number 32, Supplementary State Gazette of the Republic of Indonesia Number 4377);

14) Law Number 18, 2004: On plantations (State Gazette of the Republic of Indonesia, 2004, Number 84, Supplementary State Gazette of the Republic of Indonesia Number 4411);

15) Law Number 31, 2004: On fisheries (State Gazette of the Republic of Indonesia 2004, Number 118, Supplementary State Gazette of the Republic of Indonesia Number 4433) as amended by Law Number 45, 2009 regarding the amendment to Law Number 31, on fisheries (State Gazette of the Republic of Indonesia, 2009 Number 154, Gazette of the Republic of Indonesia Number 5073);

16) Law Number 32, 2004: On local governments (State Gazette of the Republic of Indonesia Year 2004 Number 125, Supplementary State Gazette of the Republic of Indonesia Number 4437) as amended several times, most recently by Law Number 12, 2008, on the Second Amendment of Law Number 32, 2004 on regional administration (Statute Book Republic of Indonesia, 2008, Number 59, Supplementary State Gazette of Republic of Indonesia Number 4844);

17) Law Number 38, 2004: On roads (State Gazette of the Republic of Indonesia, 2004, Number 132, Supplementary State Gazette of the Republic of Indonesia Number 4444);

18) Law Number 17, 2007: On the National Long Term Development Plan for 2005 - 2025 (State Gazette of the Republic of Indonesia 2007, Number 33, Supplementary State Gazette of the Republic of Indonesia Number 4700);

19) Law Number 23, 2007: On railways (State Gazette of the Republic of Indonesia 2007, Number 65, Supplementary State Gazette of the Republic of Indonesia Number 4722);

20) Law Number 24, 2007: On disaster management (State Gazette of the Republic of Indonesia 2007, Number 66, Supplementary State Gazette of the Republic of Indonesia Number 4723);

21) Law Number 25, 2007: On capital investments (State Gazette of the Republic of Indonesia 2007, Number 67, Supplementary State Gazette of the Republic of Indonesia Number 4724);

22) Law Number 26, 2007: On spatial planning (State Gazette of the Republic of Indonesia 2007, Number 68, Supplementary State Gazette of the Republic of Indonesia Number 4725);

23) Law Number 27, 2007: On coastal zones and small islands' management (State Gazette of the Republic of Indonesia 2007, Number 84, Supplementary State Gazette of the Republic of Indonesia Number 4739);

24) Law Number 30, 2007: On energy (State Gazette of the Republic of Indonesia 2007, Number 96, Supplementary State Gazette of the Republic of Indonesia Number 4746);

25) Law Number 17, 2008: On shipping (State Gazette of the Republic of Indonesia 2008, Number 64, Supplementary State Gazette of the Republic of Indonesia Number 4849);

26) Law Number 18, 2008: On solid waste management (State Gazette of the Republic of Indonesia 2008, Number 69, Supplementary State Gazette of the Republic of Indonesia Number 4851);

27) Law Number 1, 2009: On aviation (State Gazette of the Republic of Indonesia 2009, Number 1, Supplement to State Gazette of the Republic of Indonesia Number 4956);

28) Law Number 4, 2009: On mineral and coal mining (State Gazette of the Republic of Indonesia 2009, Number 4, Gazette of the Republic of Indonesia Number 4959);

29) Law Number 10, 2009: On tourism (State Gazette of the Republic of Indonesia 2009, Number 11, Supplementary State Gazette of the Republic of Indonesia Number 4966);

30) Law Number 18, 2009: On animal husbandry and animal health (State Gazette of the Republic of Indonesia 2009, Number 84, Supplementary State Gazette of the Republic of Indonesia Number 5015);

31) Law Number 22, 2009: On road traffic (State Gazette of the Republic of Indonesia 2009, Number 96, Supplementary State Gazette of the Republic of Indonesia Number 5025);

32) Law Number 30, 2009: On Electrical Power (State Gazette of the Republic of Indonesia 2009, Number 133, Additional State Gazette of the Republic of Indonesia Number 5052);

33) Law Number 32, 2009: On environmental protection and management (State Gazette of the Republic of Indonesia 2009, Number 140, Additional State Gazette of the Republic of Indonesia Number 5059);

34) Law Number 41, 2009: On sustainable food and agricultural land protection (State Gazette of the Republic of Indonesia 2009, Number 149, Additional State Gazette of the Republic of Indonesia Number 5068);

35) Law Number 45, 2009: On changes in Law Number 31 Year 2004 about fisheries;

36) Government Regulation Number 69, 1996: On the implementation of rights and obligations, and the forms and procedures for community participation in spatial planning (State Gazette of the Republic of Indonesia 1996, Number 104, Additional State Gazette of the Republic of Indonesia Number 3660);

37) Government Regulation Number 10, 2000: On map accuracy levels for spatial planning (Statute Book Republic Of Indonesia 2000, Number 20, Supplementary State Gazette of the Republic of Indonesia Number 3934);

38) Government Regulation Number 63, 2002: On city forests (State Gazette of the Republic of Indonesia 2002, Number 119, Additional State Gazette of the Republic of Indonesia Number 4242);

39) Government Regulation Number 16, 2004: On land utilization arrangement (State Gazette of the Republic of Indonesia 2004, Number 45, Supplementary State Gazette of the Republic of Indonesia Number 4385);

40) Government Regulation Number 15, 2005: On toll roads (State Gazette of the Republic of Indonesia 2005, Number 32, Supplementary State Gazette of the Republic of Indonesia Number 4489) as amended by Government Regulation No. 44 2009, regarding the amendment to Government Regulation Number 15 2005, on toll road (State Gazette of the Republic of Indonesia 2009, Number 88, Supplementary State Gazette of the Republic of Indonesia Number 5019);

41) Government Regulation Number 16, 2005: On the development of clean water supply system (State Gazette of the Republic of Indonesia 2005, Number 33, Supplementary State Gazette of the Republic of Indonesia Number 4490);

42) Government Regulation Number 36,2005: On the implementing regulation of Law No. 28 2002, about buildings (State Gazette of the Republic of Indonesia 2005, Number 83, Supplementary State Gazette of the Republic of Indonesia Number 4532);

43) Government Regulation Number 20, 2006: On irrigation (State Gazette of the Republic of Indonesia 2006, Number 46, Supplementary State Gazette of the Republic of Indonesia Number 4624);

44) Government Regulation Number 34, 2006: On roads (State Gazette of the Republic of Indonesia 2006, Number 86, Supplementary State Gazette of the Republic of Indonesia Number 4655);

45) Government Regulation Number 60, 2007: On the conservation of fish resources (State Gazette of the Republic of Indonesia 2007, Number 134, Supplementary State Gazette of the Republic of Indonesia Number 4779);

46) Government Regulation Number 21, 2008: On disaster reduction implementation (State Gazette of the Republic of Indonesia 2008, Number 42, Supplementary State Gazette of the Republic of Indonesia Number 4828);

47) Government Regulation Number 26, 2008: On national spatial plan (State Gazette of the Republic of Indonesia Year 2008 Number 48, Supplementary State Gazette of the Republic of Indonesia Number 4833);

48) Government Regulation Number 42, 2008: On water resources management (State Gazette of the Republic of Indonesia 2008, Number 82, Supplementary State Gazette of the Republic of Indonesia Number 4858);

49) Government Regulation Number 43, 2008: On soil water (State Gazette of the Republic of Indonesia 2008, Number 83, Supplementary State Gazette of the Republic of Indonesia Number 4859);

50) Government Regulation Number 45, 2008: On guidelines for granting incentives and ease investment in local areas (State Gazette of the Republic of Indonesia 2008, Number 88, Supplementary State Gazette of the Republic of Indonesia Number 4861);

51) Government Regulation Number 24, 2009: On industrial areas (State Gazette of the Republic of Indonesia 2009, Number 47, Supplementary State Gazette of the Republic of Indonesia Number 4987);

52) Government Regulation Number 34, 2009: On urban area management guidelines (State Gazette of the Republic of Indonesia 2009, Number 68, Supplementary State Gazette of the Republic of Indonesia Number 5004);

53) Government Regulation Number 10, 2010: On forest zone allocation and functions amendment procedures;

54) Government Regulation Number 11, 2010: On neglected land control and utilization;

55) Government Regulation Number 15, 2010: On spatial planning implementation;

56) Government Regulation Number 22, 2010: On mining zones;

57) Government Regulation Number 23, 2010: On mineral and coal business activities;

58) Government Regulation Number 24, 2010: On forest zone utilization;

59) President Regulation Number 36, 2005: On the procurement of land for development to promote public interest, as amended by Presidential Regulation Number 65 2006, on the amendment of Presidential Regulation No. 36 2005, concerning the procurement of land for development to promote public interest;

60) President Regulation Number 5, 2006: On national policy on energy;

61) President Decree Number 32, 1990: On protection zone management;

62) Ministry of Home Affairs Regulation Number 8, 1998: On the implementation of local spatial planning;

63) Ministry of Home Affairs Regulation Number 9, 1998: On procedures for public participation in spatial planning process in local area;

64) Minister of State for Agrarian Affairs Regulation Number 2, 1999: On location permits;

65) Ministry of Public Work Regulation Number 392, 2005: on toll road services standards;

66) Ministry of Environment Regulation Number 11, 2006: On types of business plans and/or activities mandatory to complete environmental impact assessment;

67) Ministry of Public Work Regulation Number 21/PRT/M/2007: On spatial planning guidelines for zones prone to volcanic eruptions and earthquakes;

68) Ministry of Public Work Regulation Number 22/PRT/M/2007: On spatial planning guidelines for landslide-prone zones;

69) Ministry of Home Affairs Regulation Number 1, 2008: On urban area planning guidelines;

70) Ministry of Maritime and Fisheries Affairs Regulation Number 16, 2008: On coastal zones and small islands management plans;

71) Ministry of Public Work Regulation Number 11/PRT/M/2009: On the substance

agreement guidelines of the stipulation draft local regulation on the provincial spatial planning and the municipality/regency spatial planning, along with detailed plans;

72) Ministry of Public Work Regulation Number 15/PRT/M/2009: On the formulation of guidelines for provincial spatial planning;

73) Ministry of Forestry Number P.28/Menhut-II/2009: On the procedures of consultation for issuing approval for forestry substance toward draft of local regulation about local spatial plan;

74) Ministry of Home Affairs Regulation Number 50, 2009: On local spatial planning coordination guidelines;

75) Ministry of Enegy Mining Resource Decree Number 1457.K/20/MEM/2000: On the technical guidelines for environmental management in the mining and energy sectors;

76) Ministry of Settlement and Regional Infrastructure Decree Number 375/KPTS/M/2004: On classifying primary roads into arterial and collector roads;

77) Ministry of Industry Decree Number 41/M-Ind/Per/6/2008: On the procedures for issuing industrial licenses, expansion permits, and industrial registries;

78) East Java Province Regulation Number 11 Year 1991: On the determination of protected areas in East Java province (Gazette of East Java Province in 1991 No. 1, Series C);

79) East Java Province Regulation Number 8, 2002: On the R. Soeryo Forest Park management (East Java Province Gazette Year 2002 Number 4, Series C);

80) East Java Province Regulation Number 4, 2003: On forest management in East Java province (East Java Provincial Gazette 2003, Number 1, Series E);

81) East Java Province Regulation Number 6, 2005: On production forest control in East Java province (East Java Provincial Gazette 2005, Number 2, Series E);

82) East Java Province Regulation Number 1, 2009: On the East Java Province Long Term Development Plan for 2005–2025 (East Java Provincial Statute Book 2009, Number 1, Series E).

1.5 GKS's Socio-eocnomic Profile

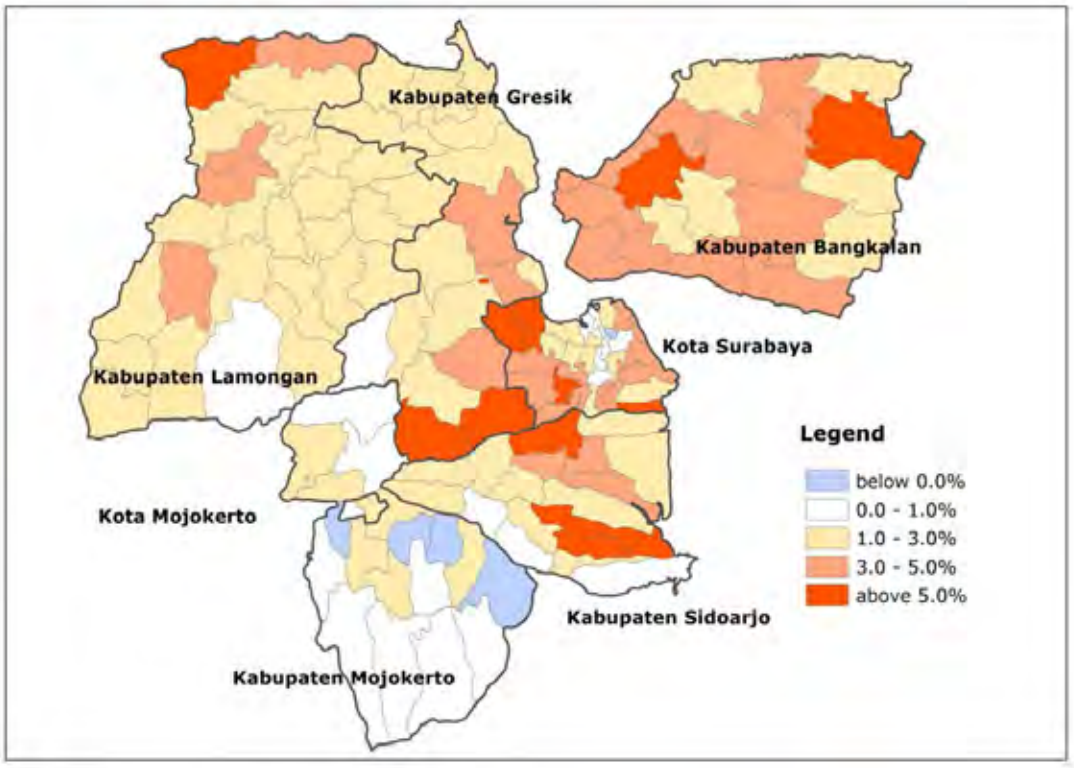
1.5.1 Population

During 1980 to 1990, population growth rate in urban areas of GKS especially Sidoarjo and Kota Surabaya registered high ratios, more than 3.00%. The highest population growth between 2000 and 2008 was registered at Kabupaten Bangkalan and Kabupaten Sidoarjo at more than 2% annual growth rate. Meanwhile, Kota Surabaya seems to have peaked out in terms population growth. Population and population growth by kabupaten from 1980 to 2008 are shown in Table 1.5.1. Annual population growth rate in GKS by kecamatan between 2000 and 2007 is illustrated in Figure 1.5.1.

Table 1.5.1 Population and Population Growth by Kabupaten/Kota, 1980 – 2007

Kabupaten/Kota	Population				Annual Growth Rate of Population (%)		
	1980	1990	2000	2008	1980-90	1990-00	2000-08
GKS	6,123,895	7,278,701	8,155,673	9,345,665	1.74%	1.14%	1.37%
Kab. Sidoarjo	854,180	1,167,467	1,563,015	1,920,312	3.17%	2.96%	2.08%
Kab. Mojokerto	705,596	786,943	908,004	1,074,879	1.10%	1.44%	1.70%
Kab. Lamongan	1,049,956	1,143,431	1,181,660	1,302,605	0.86%	0.33%	0.98%
Kab. Gresik	729,039	856,853	996,608	1,169,347	1.63%	1.52%	1.61%
Kab. Bangkalan	688,362	750,780	797,426	990,711	0.87%	0.60%	2.19%
Kota Mojokerto	68,849	99,955	109,164	123,566	3.80%	0.89%	1.25%
Kota Surabaya	2,027,913	2,473,272	2,599,796	2,764,245	2.01%	0.50%	0.62%

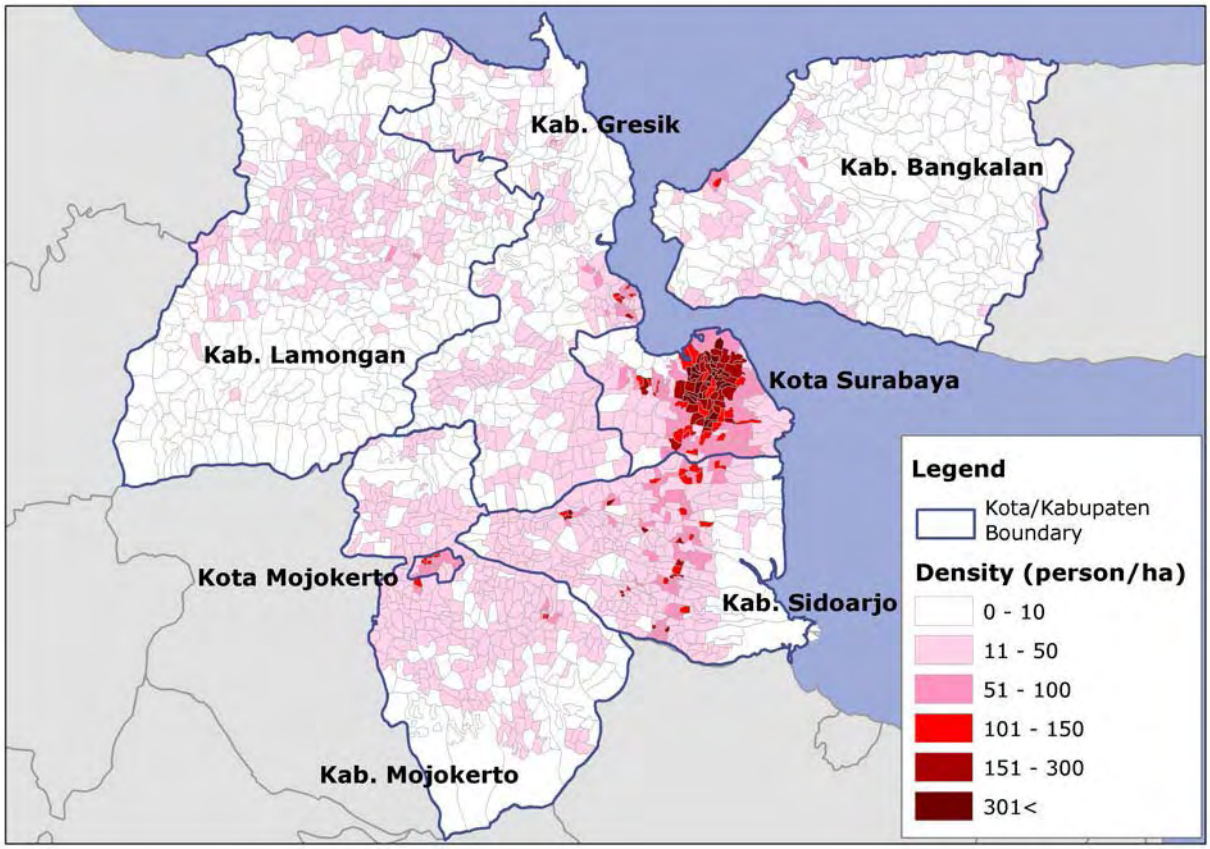
Source: Census Population Data, Statistical Yearbook of Indonesia 2008, and Provinsi Jawa Timur Dalam Angka 2008, BPS, and PODES for data of 2008



Source: Dalam Angka 2000 and 2008

Figure 1.5.1 Annual Population Growth by Kecamatan between 2000 and 2007

Figure 1.5.2 shows population density by desa/kelurahan in GKS in 2008. The desa/kelurahan of high density tends to be located in the city centers. In particular, kelurahan of Kota Surabaya had shown a remarkably high density of more than 1,000 persons/ha. On the other hand, there are quite low density desa in less water resource areas such as the northern part of Kabupaten Mojokerto and the eastern part of Kabupaten Bangkalan, and mountain areas such as southern part of Kabupaten Lamongan.



Source: Podes 2008

Figure 1.5.2 Population Density by Desa/Kelurahan in 2008

As shown in Table 1.5.2, the population density of the urbanized area by desa /kulurahan is about 130 persons/ha when an urbanized area ratio exceeds 60%; an urbanized area ratio is the ratio of a total area of housing, commercial, industry and public facilities altogether to the total area of desa/kulurahan. When the urbanized area ratio is less than 60%, population density is around 60 persons/ha.

Table 1.5.2 Population Density of Urbanized Area by Urbanized Area Ratio

Urbanized Area Ratio	60%	50%	40%	30%	20%	10%	0%
Population	3,223,421	643,391	457,382	791,575	921,054	1,499,911	1,519,931
Area (ha)	24,545	8,474	8,048	13,341	15,232	22,915	15,045
Density (persons/ha)	131	76	57	59	60	65	101

Source: Podes 2008 and GIS data base of JICA Study Team

Population density of the urbanized areas by desa/kelurahan and Kota/Kabupatenis shown in Table 1.5.3. An average density in desa is about 68 persons/ha while that in keurahan is about 136 persons/ha.

Table 1.5.3 Population Density of Urbanized Area by Desa/Kelurahan and Kab/Kota

	Desa	Kelurahan	Total
BANGKALAN	42.8	97.5	44.8
GRESIK	81.0	111.6	83.2
LAMONGAN	96.1	114.5	97.1
MOJOKERTO (Kota/Kab)	61.6	103.7	64.3
SIDOARJO	74.1	117.2	77.9
SURABAYA	-	142.9	142.9
GKS Total	68.3	135.9	84.2

Source: Podes 2008 and GIS data base of JICA Study Team

1.5.2 Employment Status

1) Working Population in the Formal Sector

The total working population in the GKS Zone in the formal sector was approximately 4.1 million in 2007. It grew from 3.6 million in 2000 at an average annual rate of 1.7%, which was slightly faster than the population growth rate of 1.64% for the same period. Share percentages of working population in the formal sector to the total population were on average 44.5% in 2000 and 44.8% in 2007, respectively.

Table 1.5.4 Working Population in Formal Sector in GKS

Kabupaten/ Kota	2000		2007		Annual Growth Rate 2000-2007
	Working Population	% to Total Population	Working Population	% to Total Population	
GKS	**3,626,926**	**44.5%**	**4,095,000**	**44.8%**	**1.7%**
Sidoarjo	703,674	45.0%	795,443	42.6%	1.8%
Mojokerto	418,717	46.1%	505,891	48.6%	2.7%
Lamongan	572,952	48.5%	608,876	47.5%	0.9%
Gresik	431,171	43.3%	533,554	46.7%	3.1%
Bangkalan	383,707	48.1%	401,777	41.6%	0.7%
Kota Mojokerto	45,711	41.9%	51,219	43.0%	1.6%
Kota Surabaya	1,070,994	41.2%	1,198,240	44.1%	1.6%

Source: Labor Force Situation in Jawa Timur Province August/2007, BPS and Hasil Survei Sosial Ekonomi Nasional Tahun 2000 Propinsi Jawa Timur, BPS

2) Labor Force Structure

(1) Formal and Informal Sector Employment

A significant feature of the employment structure in the GKS Zone is the large contribution of the informal sector to employment. In GKS in 2007, there were 4.1 million people formally employed and almost 2 million with informal employment out of the total 6.5 million working population. On average, informal sector employment in GKS accounts for around 30% of the total labor force, and 33 % of the total employed in the formal and informal sectors.

As shown in Tables 1.5.5, the informal sector is more prevalent in the rural than the urban

areas. As a result, this pattern of large informal employment is found more significant in Kabupatens with large rural areas, such as Lamongan and Bangkalan with more than 40% informal sector share, as compared to highly urbanized Surabaya with only around 20% informal employment. Formal employment accounts for around 74% of the total employed in the urban area while the rate is only 42% in the rural area. This labor distribution clearly shows the magnitude of informal sector employment in the rural area.

Table 1.5.5 Working Population by Employment Status and Area

Kabupaten/ Kota	Area	Employed		Unemployed	Total
		Formal	Informal		
GKS	Urban	2,571,928	881,985	325,964	3,779,877
	Rural	1,523,072	1,096,610	112,464	2,732,146
	Total	4,095,000	1,978,595	438,428	6,512,023
Sidoarjo	Urban	684,470	230,887	103,526	1,018,883
	Rural	110,973	46,728	11,882	169,583
	Total	795,443	277,615	115,408	1,188,466
Mojokerto	Urban	197,180	102,735	16,689	316,604
	Rural	308,711	185,292	19,524	513,527
	Total	505,891	288,027	36,213	830,131
Lamongan	Urban	91,078	42,018	6,795	139,891
	Rural	517,798	403,800	34,207	955,805
	Total	608,876	445,818	41,002	1,095,696
Gresik	Urban	274,891	100,190	24,209	399,290
	Rural	258,663	160,595	23,100	442,358
	Total	533,554	260,785	47,309	841,648
Bangkalan	Urban	74,850	43,405	10,702	128,957
	Rural	326,927	300,195	23,751	650,873
	Total	401,777	343,600	34,453	779,830
Kota Mojokerto	Urban	51,219	18,998	6,948	77,165
	Rural	0	0	0	0
	Total	51,219	18,998	6,948	77,165
Kota Surabaya	Urban	1,198,240	343,752	157,095	1,699,087
	Rural	0	0	0	0
	Total	1,198,240	343,752	157,095	1,699,087

Source: Labor Force Situation in Jawa Timur Province August/2007, BPS

(2) Labor Force Participation Rate

The labor force participation rate, which measures the ratio of all formal and informal employment as well as unemployment to the total population, is summarized in Table 1.5.6. When informal sector employment and unemployment are included, the participation rate is much higher than that accounted for by formal sector employment alone, at 40%. The higher total labor force participation rates are recorded in Lamongan and Bangkalan, at around 90%, while the lowest is around 65% in Surabaya. The rate is much higher in the rural area than the urban area, due to the prevalence of informal sector employment in the former.

Table 1.5.6 Labor Force Participation Rate

Kabupaten/ Kota	Labor Force Participation Rate		
	Urban	Rural	Total
GKS	68.4%	89.4%	75.8%
Sidoarjo	70.1%	69.6%	70.0%
Mojokerto	78.8%	90.5%	85.6%
Lamongan	76.7%	95.1%	92.3%
Gresik	69.6%	81.2%	75.2%
Bangkalan	66.4%	93.6%	87.7%
Kota Mojokerto	69.0%	-	69.0%
Kota Surabaya	65.1%	-	65.1%

Source: Labor Force Situation in Jawa Timur Province August/2007, BP

(3) Unemployment

With regard to unemployment in GKS, urban and suburban areas such as Kota Surabaya, Kota Mojokerto, and Kabupaten Sidoarjo registered notably very high rates, more than 9.0%, as previously shown in Table 1.5.7. In contrast, average unemployment rate in rural areas was only 4%. Evidently, unemployment structures in urban and rural areas are different.

Table 1.5.7 Number of Unemployed by Area in GKS, 2007

Kabupaten/ Kota	Number of Unemployed			Percentage of Unemployed Population (%)	
	Urban	Rural	Total	Urban	Rural
East Java Province	751,499	615,004	1,366,503	55.0%	45.0%
GKS	325,964	112,464	438,428	74.3%	25.7%
Kab. Sidoarjo	103,526	11,882	115,408	89.7%	10.3%
Kab. Mojokerto	16,689	19,524	36,213	46.1%	53.9%
Kab. Lamongan	6,795	34,207	41,002	16.6%	83.4%
Kab. Gresik	24,209	23,100	47,309	51.2%	48.8%
Kab. Bangkalan	10,702	23,751	34,453	31.1%	68.9%
Kota Mojokerto	6,948	0	6,948	100.0%	0.0%
Kota Surabaya	157,095	0	157,095	100.0%	0.0%

Source: Labor Force Situation in Jawa Timur Province August/2007, BPS

(4) Employment Structure by Sector

Table 1.5.8 shows formal employment by sector in 2007. With respect to the industry by sector in GKS, the primary sector industries are led by agriculture such as rice production and fishery. The industry sector mainly consists of steel, electronic appliance, and cement industries, while the tertiary sector industry is driven by trade and service.

The composition of formal employment by sector has changed in line with economic growth. Between 2000 and 2007, a recognizable trend is that employed people have been concentrated in the industry (manufacturing) sector in Gresik and Sidoarjo, most probably as

a result of their rapid industrialization that is a spill over from Surabaya, where the urban manufacturing sector is almost saturated. Meanwhile, other areas with large agricultural sectors such as Lamongan and Bangkalan have large segments of their workforce belonging to primary sector industries.

As shown in the 2000-2007 growth of employment by sector in Table 1.5.9, the employed working population of the agriculture sector has increased in Sidoarjo (1.7%) and Bangkalan (0.2%), markedly decreased by 14.6% in Surabaya, and slightly decreased in the rest of the kabupatens and kotas. Employment in the industry (manufacturing) sector declined the most in Bangkalan (by 13.1%) and Surabaya (by 0.2%) but increased by 5.6% in Kabupaten Gresik and by 6.0% in Mojokerto, while improving slightly in the other kabupatens. Employment in the rest of the other sectors, mainly composed of the tertiary industries including Trade and Services sectors, has grown in all the GKS area by an average rate of 10.0%.

Table 1.5.8 Formal Employment by Sector (2007)

Kabupaten/ Kota	Primary (Agriculture, Forestry, Hunting and Fishery)	Industry	Wholesale Trade, Retail Trade, Restaurants, and Hotel	Community Social and Personal Services	Others*	Total
GKS	972,148	857,268	1,061,531	595,431	608,622	4,095,000
Sidoarjo	67,824	275,432	204,706	124,055	123,426	795,443
Mojokerto	149,497	133,469	107,240	46,637	69,048	505,891
Lamongan	349,601	42,446	117,634	50,997	48,198	608,876
Gresik	132,500	174,820	106,437	54,649	65,148	533,554
Bangkalan	263,552	8,715	64,244	30,425	34,841	401,777
Kota Mojokerto	1,487	13,824	18,010	10,493	7,405	51,219
Kota Surabaya	7,687	208,562	443,260	278,175	260,556	1,198,240
Share (%)						
GKS	23.7%	20.9%	25.9%	14.5%	14.9%	100.0%
Sidoarjo	8.5%	34.6%	25.7%	15.6%	15.5%	100.0%
Mojokerto	29.6%	26.4%	21.2%	9.2%	13.6%	100.0%
Lamongan	57.4%	7.0%	19.3%	8.4%	7.9%	100.0%
Gresik	24.8%	32.8%	19.9%	10.2%	12.2%	100.0%
Bangkalan	65.6%	2.2%	16.0%	7.6%	8.7%	100.0%
Kota Mojokerto	2.9%	27.0%	35.2%	20.5%	14.5%	100.0%
Kota Surabaya	0.6%	17.4%	37.0%	23.2%	21.7%	100.0%

Source: Labor Force Situation in Jawa Timur Province August/2007, BPS

Notes: Others* includes the other secondary and tertiary industries such as: Mining and Quarrying, Electricity, Gas & Water, Construction, Transportation, Storage, and Communication, Financing, Insurance, Real Estate and Business Service

Table 1.5.9 Growth Rate of Employment by Sector (2000-2007)

Kabupaten/ Kota	Total	Agriculture	Industry (Manufacturing)	Other Industries
GKS	1.7%	-0.3%	0.7%	10.0%
Sidoarjo	1.8%	**1.7%**	0.3%	8.7%
Mojokerto	2.7%	-0.1%	**5.0%**	10.9%
Lamongan	0.9%	-0.4%	0.3%	9.7%
Gresik	3.1%	-0.2%	**5.6%**	12.4%
Bangkalan	0.7%	**0.2%**	**-13.1%**	10.5%
Kota Mojokerto	1.6%	-2.2%	0.5%	6.2%
Kota Surabaya	1.6%	**-14.6%**	-2.8%	10.4%

Source: JICA Study Team based on Labor Force Situation in Jawa Timur Province August/2007, BPS and Hasil Survei Sosial Ekonomi Nasional Tahun 2000 Propinsi Jawa Timur, BPS

1.5.3 Economy

1) Economic Structure (GRDP)

The ratio of contribution of the industrial sector to GRDP in GKS is approximately 34% followed by the wholesale trade, retail trade, restaurant and hotel which registering about 33% of the total domestic product output. In terms of area contribution to GRDP, Kota Surabaya, Sidoarjo and Gresik registered among the highest contributors accounting for a combined total of 94% (60.7%, 18.4% and 9.8% respectively. Table 1.5.1010 shows the contribution of GKS kabupaten and kota to GRDP by area.

Table 1.5.10 Sector Contribution to GRDP in GKS by Area

(Unit: Million Rp)

Area	Sub-sector Type					Total	%
	1	2	3	4	5		
GKS	9,920,672	71,785,696	69,724,115	13,615,042	46,041,144	211,086,669	100.0%
Sidoarjo	1,352,164	19,133,352	10,140,723	1,909,680	6,449,031	38,984,950	18.47%
Mojokerto	1,946,123	3,200,358	2,396,890	777,342	1,303,279	9,623,992	4.56%
Lamongan	2,643,252	369,954	2,221,828	809,149	753,346	6,797,531	3.22%
Gresik	2,182,765	9,932,033	4,531,470	235,068	3,928,513	20,809,849	9.86%
Bangkalan	1,634,620	223,581	1,338,770	791,345	1,213,304	5,201,620	2.46%
Kota Mojokerto	16,268	227,137	344,384	231,918	650,861	1,470,568	0.70%
Kota Surabaya	145,480	38,699,280	48,750,050	8,860,540	31,742,810	128,198,160	60.73%

Source: Sidoarjo, Mojokerto, Lamongan, Gresik, Bangkalan, Kota Mojokerto, Kota Surabaya, DALAM ANGKA

Notes: 1: Agriculture, Forestry, Hunting and Fishery
2: Industry
3: Wholesale Trade, Retail Trade Restaurants and Hotel
4: Community, Social and Personal Services
5: Mining and Quarrying, Electricity, Gas & Water, Construction, Transportation, Storage

Regarding GKS, the annual growth rate between 2000 and 2007 has marked 9.4%. In terms of GRDP dynamic by sector, secondary sector industries such as manufacturing industry and tertiary sector industries such as trade, hotel and restaurant have been expanded between 2000 and 2007 (see Table 1.5.11). Kabupaten Sidoarjo, Kota and Kabupaten Mojokerto have contributed very much to the economic development of GKS (see Table 1.5.11).

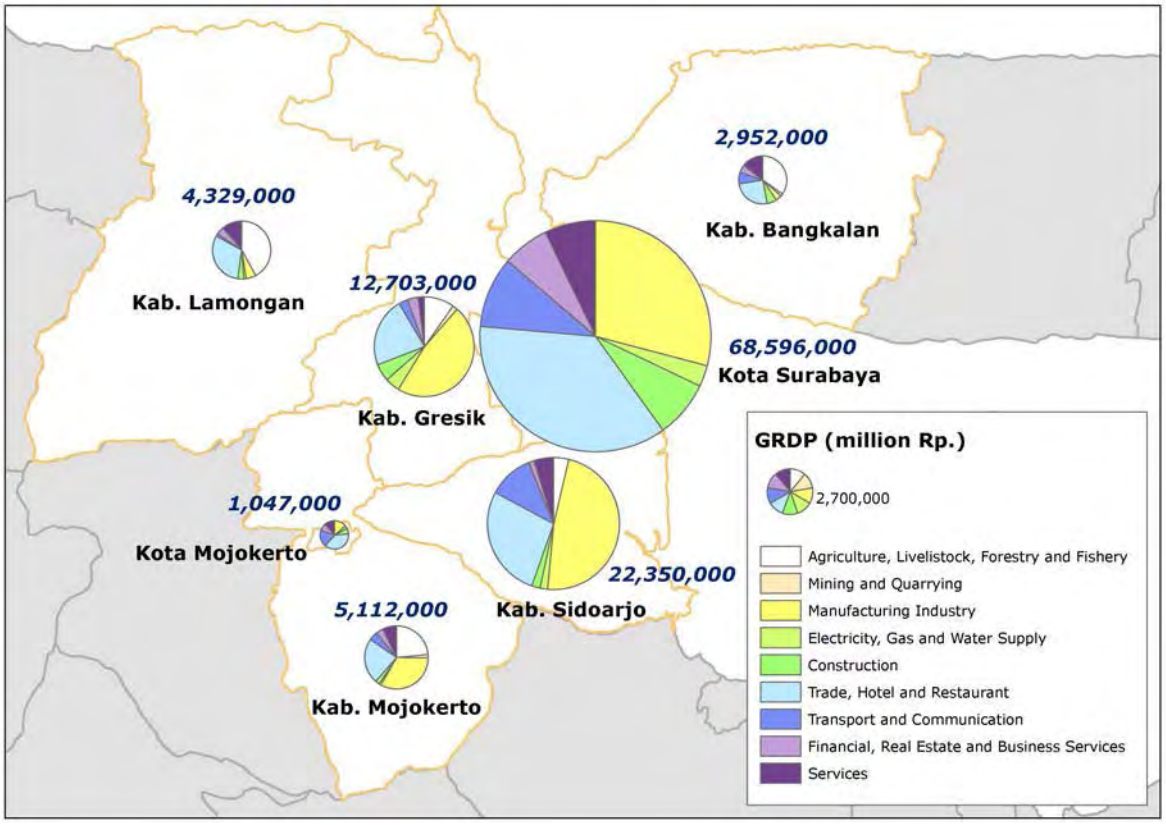
Table 1.5.11 GRDP by Kabupaten/Kota in 2000 and 2007 (2000 constant price)

(Unit: billion Rp.)

Kab./Kota	2000	2007	Growth Rate
East Java Province	**169,767**	**287,815**	**7.8%**
GKS	**62,479**	**117,086**	**9.4%**
Sidoarjo **	9,549	22,350	11.2%
Mojokerto	2,756	5,112	9.2%
Lamongan	2,825	4,329	6.3%
Gresik *	9,077	12,703	5.8%
Bangkalan	1,636	2,952	8.8%
Kota Mojokerto **	483	1,047	10.2%
Kota Surabaya **	36,156	68,596	8.3%

Notes: * data is based upon 2006, ** data is based upon 1999
Source: Dalam Angka 2000 and 2008

The GRDP of GKS made up more than 44.6% of that of East Java Province in 2007. Notably Kota Surabaya and Kabupaten Gresik and Sidoarjo are large contributors with a collective 88.8% share of the GRDP in GKS. In these aforementioned kabupten and kota, their economies are driven by secondary and tertiary sector industries (see Figure 1.5.3).



Note: Kab. Gresik figure is based on 2006 data.
Source: JICA Study Team based on Provinsi Jawa Timur Dalam Angka 2008, BPS

Figure 1.5.3 GRDP by Kabupaten/Kota, 2007

2) GRDP per Capita

Regarding the GRDP per capita, Kota Surabaya and Kabupaten Gresik and Sidoarjo also registered high numbers, while the areas led by primary industries such as Kabupaten Bangkalan and Lamongan indicated low numbers of GRDP per capita that is one eighth of Kota Surabaya (see Table 1.5.12).

Table 1.5.12 GRDP and GRDP per Capita by Kabupaten/Kota, 2007

Kabupaten/Kota	GRDP (million Rp.)	%	GRDP per Capita (thousand Rp.)
GKS	128,234,873	100.0%	13,859.2
Kab. Sidoarjo	24,811,843	19.3%	13,273.0
Kab. Mojokerto	5,620,623	4.4%	5,268.4
Kab. Lamongan	4,526,193	3.5%	3,488.6
Kab. Gresik*	14,264,594	11.1%	12,286.0
Kab. Bangkalan	3,074,323	2.4%	3,127.0
Kota Mojokerto	1,142,281	0.9%	9,336.8
Kota Surabaya	74,795,018	58.3%	27,173.4

Source: Analisa Pnyunsunan Kinerja Makro Ekonomi dan Sosial Jawa Timur 2008

3) Poverty Situation

The poverty ratio of GKS also has been slightly reduced between 2006 and 2007. During the last decade, poverty in rural areas tended to decrease faster than in urban areas in general. However, in GKS, the poverty ratio in rural areas has not improved drastically and still registered high values such as Kabupaten Lamongan and Kabupaten Bangkalan.

Table 1.5.13 Population Living in Poverty in GKS, 2006 and 2007

Kabupaten/Kota	2006			2007			Annual Growth Rate (%)
	Population	No. Living in Poverty	%	Population	No. Living in Poverty	%	
GKS	9,042,570	1,540,806	17.04%	9,253,414	1,448,969	15.66%	-5.96%
Kab. Sidoarjo	1,838,666	162,156	8.82%	1,869,350	155,871	8.34%	-3.88%
Kab. Mojokerto	1,027,871	148,422	14.44%	1,066,854	144,371	13.53%	-2.73%
Kab. Lamongan	1,274,194	391,426	30.72%	1,297,986	365,657	28.17%	-6.58%
Kab. Gresik	1,120,541	209,933	18.73%	1,161,044	195,806	16.86%	-6.73%
Kab. Bangkalan	945,863	336,317	35.56%	983,150	328,655	33.43%	-2.28%
Kota Mojokerto	118,464	10,548	8.90%	122,432	10,462	8.55%	-0.82%
Kota Surabaya	2,716,971	282,004	10.38%	2,752,598	248,147	9.02%	-12.01%

Source: Baseline Survey on Spatial Planning Formulation for GERBANGKERTOSUSILA (GKS) Zone in Indonesia, Data Makro Sosial dan Ekonomi Jawa timur Tahun 2003-2007

4) Industrial Structure

In terms of industrial structure, the ratio of SMEs and large industries indicates that large enterprises are concentrated in Kota Surabaya, Sidoarjo and Gresik. The ratio of large enterprise in Kabupaten Sidoarjo is approximately 47%, while 43% in Kota Surabaya and 27.8% in Kabupaten Gresik. Table 1.5.14 shows the number of industries in GKS by type of industries.

Table 1.5.14 Number of SME & Large Enterprise in GKS (2008)

Area	SME Industry		Large Enterprise		Total	%
Gresik	196	72.1%	75	27.8%	272	10.7%
Bangkalan	321	99.4%	2	0.6%	324	12.8%
Mojokerto	412	76.4%	127	23.5%	540	21.3%
Kota Mojokerto	101	79.5%	26	20.3%	128	5.0%
Kota Surabaya	381	56.9%	289	43.1%	671	26.4%
Sidoarjo	131	52.6%	118	47.2%	250	9.8%
Lamongan	348	99.1%	3	0.9%	352	13.9%
GKS	1890	74.5%	640	25.3%	2,535	100.0%

Source: Department of Industry and Trade, Jawa Timur

The contribution of the industry sector to employment in GKS is shown in Table 1.5.15. From this data, it shown that among the highest employment generator is from agriculture, forestry, hunting and fishery, registering about a total of 1.8 million individuals all over GKS area. This is followed by the wholesale trade, retail trade, restaurants and hotel which registered a total of 1.6 million people employed.

Table 1.5.15 Employment Generation by Sector in GKS (2007)

Area	Sub-sector Type					Total	%
	1	2	3	4	5		
GKS	1,892,014	995,998	1,611,704	717,374	856,505	6,073,596	100.0%
Sidoarjo	124,573	305,154	311,199	155,809	176,323	1,073,059	17.67%
Mojokerto	291,307	166,584	165,514	58,044	112,469	793,919	13.07%
Lamongan	679,203	57,927	183,308	58,853	75,403	1,054,695	17.37%
Gresik	254,400	205,268	172,870	65,144	96,657	794,340	13.08%
Bangkalan	527,104	13,669	109,286	39,384	55,934	745,378	12.27%
Kota Mojokerto	2,780	15,490	29,143	12,494	10,310	70,218	1.16%
Kota Surabaya	12,647	231,906	640,384	327,646	329,409	1,541,993	25.39%

Source: Labor Force Situation in Jawa Timur Province August/2007, BPS

Notes: 1: Agriculture, Forestry, Hunting and Fishery
2: Industry
3: Wholesale Trade, Retail Trade, Restaurants and Hotel
4: Community, Social and Personal Services
5: Mining and Quarrying, Electricity, Gas & Water, Construction, Transportation, Storage

Kabupaten Sidoarjo, Gresik, and Kota Mojokerto generated a combined employment of an approximately 75% of the total employment generated in GKS, while the combined total of employment generated from in Kabupaten Lamongan and Bangklan in industry sector is only 7.2% However, Kabupaten Lamongan and Bangkalan generated an approximately 70% from agriculture, forestry, hunting and fishery sub-sector. The data showed that Kabupaten Lamongan and Bangkalan structure of employment and its contribution to GRDP are generated by agriculture sub-sector.

The ratio of SME and large enterprise in manufacturing industry of Kabupaten Gresik and Kota Mojokerto indicates that the enterprise of approximately 75% is SME. From this point, SME contribute more to employment in industry sector than large enterprise.

2. REVIEW OF NATIONAL AND PROVINCIAL DEVELOPMENT POLICIES AND STRATEGIES FOR GKS ZONE

2.1 National Spatial Planning Policies and Strategies

2.1.1 National Medium-term Development Plan

The national spatial plan as stipulated in the long-term development direction 2005–2025 mentions in its attachment subchapter IV.1.5 (10), should be "used as a spatial policy reference for development in every sector, across sectors, and regions so that spatial utilization can be synergistic, harmonious, and sustainable. Spatial plans are prepared hierarchically. In order to optimize spatial planning, it requires the improvement of (a) the competence of human resources and institutions in the spatial planning sector, (b) the quality of spatial plans, and (c) the effectiveness of implementation and law enforcement in the preparation, utilization, and control of spatial plans."

According to Presidential Regulation No.05, 2010, Chapter 2.9, the **National Medium-term Development Plan** (RPJMN) for 2010 to 2014 should be carried out in order to reduce regional disparities and should be implemented through three policy directions and strategies, to wit:

1) *Control and implementation of spatial plans:* These are commonly carried out through
   - Strengthening of the database and spatial information and their analysis, as well as mapping of the entire national territory; and
   - Implementation of a sustainable spatial plan.
2) *Coordination and integration of both urban and rural areas, as well as among priority areas (strategic zones, lagging zones, border zones, and disaster-prone zones):* These are implemented through:
   - Promotion of growth centers, increased attractiveness of the rural areas, and establishment of linkages between urban and rural areas;
   - Acceleration of the development of priority areas, such as strategic zones which serve as centers of national economic growth, lagging zones, and border areas; and
   - Mainstreaming of disaster risk reduction and disaster management across rural and urban areas.
3) *Decentralization and local governance management, which will be implemented in 12 priority sectors:* The overall implementation of regional development should be supported by the following:

- Agrarian reform policies as an integral approach to land management;
- Coordination policies between the provincial government and regency/municipality; and
- Enhanced policy-making capabilities for local government officials and financial capacities for local governments.

2.1.2 Target Indicators of the National Development Plan

The policy direction in ensuring sustainable spatial planning is toward the improvement of the quality of spatial plans, optimization of the role of institutions, and use of spatial plans as references for development implementation.

To this end, the target indicators of the National Medium-term Development Plan 2010–2014 are shown in Table 2.1.1.

Table 2.1.1 National Medium-term Development Goals (2010–2014)

No.	Development Aspect	Goal (2010–2014)	
1.	**Economic**		
a)	Economic Growth	Annual average: 6.3–6.8%	
b)	Inflation	Annual average: 4–6%	
c)	Unemployment Rate	5–6% by the end of 2014	
d)	Poverty Rate	8–10% by the end of 2014	
2.	**Education**		
		2008	2014
a)	Average number of years of schooling for populations aged 15 and older *(no. of years)*	7.50	8.25
b)	Illiteracy rate among populations aged 15 and older *(%)*	5.97	4.18
c)	Elementary/Exceptional (SD/ SDLB/MI/Paket A) school enrollment *(%)*	95.14	96.00
d)	Junior/Exceptional high (SMP/ SMPLB/MTs/Paket B) school enrollment *(%)*	72.28	76.00
e)	Senior/Exceptional high (SMA/ SMALB/MA/Paket C) school enrollment *(%)*	64.28	85.00
f)	Undergraduate/University enrollment among 19-23 *(year)*	21.26	30.00
g)	Declining disparity in participation and educational quality among areas, genders, socioeconomic classes, and service providers organized by government and community		
3.	**Health**		
a)	Life expectancy *(no. of years)*	70.70	72.00
b)	Maternal mortality / 100,000 live births	228.00	118.00
c)	Infant mortality / 1,000 live births	34.00	24.00
d)	Malnutrition among under-5s *(%)*	18.40	< 15.00
4.	**Food Stock**		
a)	Paddy rice production	Annual growth: 3.22 %	

No.	Development Aspect	Goal (2010–2014)
b)	Corn production	Annual growth: 10.02 %
c)	Soybean production	Annual growth: 20.05 %
d)	Sugar production	Annual growth: 12.55 %
e)	Beef production	Annual growth: 7.30 %
5.	**Energy**	
a)	Electric generator capacity	3,000 MW/annum
b)	Electrification rate	80 %
c)	Petroleum production	1.01 million barrel/day
d)	Geothermal energy utilization	5,000 MW
6.	**Infrastructure**	
a)	Causeway developments in Sumatera, Java, Kalimantan, Sulawesi, West Nusa Tenggara, East Nusa Tenggara, and Papua	Up to 19,370 km until 2014
b)	Infrastructure network development and integrated intermodal and interisland transportation services provision in accordance with National Transportation System and Multimodal Transportation Blueprint	Will be completed
c)	Fiber optic network development in Eastern Indonesia	Will finish before 2013
d)	Transportation network improvement in four metropolises (Jakarta, Bandung, Surabaya, and Medan)	Will be completed

Source: Document of National Medium-term Development Plan 2010-2014, Presidential Regulation No.05/2010-Attachment-1.

2.2 Java–Bali Spatial Planning Policies and Strategic Directions

The purpose of the Java–Bali Islands Spatial Plan is to implement the national spatial plan (RTRWN) and realize the unity and balance among such disparate factors as economic, social, cultural, environmental, and infrastructure developments in an area encompassing the Java–Bali island ecosystems. The Java–Bali Islands Spatial Plan aims for the following:

1) Maintain the islands of Java and Bali as national food baskets;
2) Control the physical development of urban zones and urban sprawl;
3) Develop Java–Bali as the center for processing industries;
4) Utilize minerals, oil, and gas available in the area in a sustainable and appropriate manner;
5) Promote Java–Bali as a tourism and services center;
6) Maintain at least 30% of the area as a protected marine zone;
7) Accelerate the development of the southern coastal region of Java island, taking into account the existence of protected areas and disaster-prone areas;
8) Encourage the development of an intermodal transportation infrastructure to strengthen the competitiveness of Java–Bali; and
9) Enhance synergistic linkages between Java–Bali and other islands.

Moreover, policies that will realize the national spatial structure and the spatial pattern in the Java–Bali area will be conducted through the following principles:

- Preserve agricultural lands;
- Control agricultural land conversion;
- Develop and control water infrastructure network to increase agricultural land areas;
- Encourage vertical and compact development in metropolises and large urban areas;
- Control urban sprawl and improve linkages between urban and rural areas;
- Develop environmentally friendly, space-saving, and labor-intensive industries and services, as well as integrate industrial activities into the development of industrial zones and industrial estates;
- Control the utilization of natural resources such as minerals, oil, and gas;
- Develop service centers;
- Develop an integrated tourism zone based on the uniqueness of local nature, culture, and economy;
- Maintain protected zones and revitalize degraded protected zones;
- Control spatial developments in upstream river areas and rehabilitate degraded upstream and infiltration areas to ensure sustainable water supply in the long term;
- Accelerate the development of GKS zone in eastern Java and the interconnection between the southern coastal region and the central as well as northern coasts of Java;
- Encourage the development of the southern crossroad network and southern coastal road network on Java island, and the northern crossroad to Bali to improve

accessibility in lagging and isolated zones within the limits of the area's environmental carrying capacity;

- Encourage the development of new growth centers/urban areas in the southern coast of Java, taking account of the area's vulnerability to disasters;
- Encourage the development of intermodal infrastructure to promote economic competitiveness and provide interisland access (including small islands);
- Encourage nationwide interisland connections based on a special approach to regional development; and,
- Maintain small peripheral islands to assert sovereignty claims of the Unitary Republic of Indonesia.

The operational strategies needed to realize the national urban system in the Java–Bali area will be undertaken through the following:

- Manage the excessive development of residential, business/commercial, and industrial facilities in the suburban buffer areas and/or along primary arterial or collector roads;
- Relocate industrial activities from urban areas to industrial zones;
- Encourage the development of an urban zone based on sustainable marine and fishery development;
- Develop Greater Jakarta and GERBANGKERTOSUSILA (GKS) as world-class centers for higher education, finance, and health;
- Develop the Greater Bandung and Yogyakarta urban zones as centers of higher education;
- Develop Jakarta, Bandung, Yogyakarta, Surakarta, Surabaya and Denpasar as centers of tourism;
- Enhance mutually beneficial linkages and synergy between urban and rural areas; and
- Mitigate urban disasters and the negative impacts of global warming.

2.3 East Java Spatial Planning Policies and Strategies

The main objective of the East Java Province Spatial Plan is to determine the basis of the visions and missions of the East Java Long-term Development Plan 2005–2025.

The visions and missions which are envisioned in the committed spatial plans of each kota/kabupaten, as well as that of the East Java province are summarized in Tables 2.3.1 and 2.3.2.

The East Java spatial plan addresses a number of strategic issues as follows:

- Land capability/carrying capacity and land conversion;
- Economic disparity, infrastructure and services, and human resources;
- Natural disasters and vulnerability;
- The Lapindo mudflow disaster and its socioeconomic implications;
- Conversion of forests and agricultural lands, particularly irrigated ones;
- Lack of integration in the agricultural sector and between production and distribution systems, taking into account the need to promote value-added agricultural production;
- Globalization, urbanization, and urban growth leading to urban sprawl and megacities, especially in the major cities in East Java;
- Food security; and
- Potential development of strategic infrastructure for transportation, energy and telecommunications, including the Suramadu Bridge; port developments in Tuban, Lamongan, Gresik up to Situbondo; and the development of alternative energy sources and their processing.

In order to address the above-identified development issues, the development targets should be as follows:

1) East Java as an agribusiness center, globally competitive, sustainable, and leading the prosperity of East Java as a whole;
2) Well-structured spatial and physical conditions, especially those that will ensure optimal balance of spatial utilization between green/open spaces and built-up areas; as well as spatial balance of land use and transportation;
3) Major growth centers which will be regionally and nationally functional;
4) Protected water and forest resources, as well as air and soil quality from the negative impacts of development, and reduced technical irrigation;
5) Globally competitive human resources especially to respond to the requirements for globalization so that East Java will be ready to become part of the global economy;
6) Stable food supply area, which will embody the great potential of East Java as food provider in support of national objectives on food security; and
7) Balanced and equitable development across East Java.

Considering the above targets, the East Java spatial plan's objective can be expressed thus: "To create provincial spatial areas which are highly competitive and sustainable through the

development of agropolitan and metropolitan systems." The development policies and strategies for East Java rea are defined and shown in Table 2.3.1.

Table 2.3.1 Development Policies and Strategies in East Java Provincial Spatial Plan

Policy	Strategy
Area Development	
Strengthening of the PKN urban system as an urban metropolis in East Java	• Promote area's economic development based on city marketing strategy. • Consolidate the functions of trade and services on a national and international scale. • Develop world-class transportation and telecommunication infrastructure. • Increase ease of investments in metropolitan infrastructure development through deregulation schemes. • Increase accessibility of goods, services, and information between the metropolis and other cities. • Promote ecology-based metropolitan development or eco-metropolis. • Revitalize historic city areas and/or old cities in PKN cities as valuable cultural and tourist destinations.
Improvement of linkages between main production centers in East Java with the processing and marketing centers as an agropolitan development core	• Strengthen the leading agricultural production centers to support agribusiness and agro-industries. • Develop infrastructure and facilities from agricultural production to marketing and open access to export markets. • Strengthen agricultural superstructure consisting of peasant organizations and financial institutions. • Develop agricultural and rural areas based on eco-regions.
Spatial Structure	
Formation of an urban system	• Establish centers of activities hierarchically by forming PKN, PKW, and PKL which are included in GERBANGKERTOSUSILA and Malang Urban, and regional activity centers in each regency/city center. • Revitalize and accelerate the development of major growth centers in East Java to be supported by provincial growth centers and local growth centers. • Develop urban areas in accordance with their functions and roles.
Development of a rural system	• Strengthen and stabilize rural–urban linkages through the stabilization of an agropolitan system. • Develop growth centers in the rural areas as core agropolitan areas. • Develop rural-based agropolitan zones that can be implemented by the regency. Or, a provincial economic strategic zone if it will be implemented by the province or by two or more regencies. • Improve infrastructure quality and quantity especially on roads to support an agropolitan system.
Completion and improvement of regional infrastructure (transportation, energy, telecommunication, water supply, infrastructure network) in terms of scale of services, distribution, interconnectivity, and integration between types of infrastructure and served	• Increase the role of the transportation sector in promoting the acceleration and equitable distribution of local development activities and improve the integration of the sector with the development of activity centers, strategic zones, mainstay zones, underdeveloped zones, and the entire archipelago. • Develop power, petroleum, natural gas, and geothermal supply and distribution systems to meet service standards with regard to the principles of efficiency and sustainability. • Develop telecommunications networks both terrestrial and satellite to improve telecommunications service. • Based on the principle of sustainability, balance, public benefit, integrity, harmony, justice, and water reliability to meet the demand for irrigation water, industry raw water, and drinking water, develop flood control

Policy	Strategy
areas	facilities jointly supported by central, provincial, and regency/municipal governments. • Enhance environmental conditions in East Java province by attending to waste management and hazardous-waste disposal, determining the exact locations of waste disposal, and increasing community participation and inter-local cooperation.
Spatial Pattern	
Preservation and maintenance of environmentally protected zones and natural/manmade resources, minimizing risks, reducing disaster vulnerability, and reducing the effects of global warming through participation-based principles, respect for local wisdom, and support to tourism, research, and education.	• Delineate clearly the boundaries of protected forests and increase preservation and conservation efforts to maintain their areas and minimize damage. • Widen the protected zones; protect buffer areas, water catchments covering water infiltration zones and peat moss zones; and strictly manage their surrounding zones, such as by setting restrictions on new-building construction. • Prepare spatial or zoning plans for local protected zones covering beaches, rivers, lakes, reservoirs, springs, and other areas of spiritual and local importance by securing the area and restricting activities unrelated to protection. • Develop a network of protected areas and natural reserves, promote conservation and cultural preservation, protect the ecosystem, develop cultural values, and promote scientific research through development coordination, conservation zones and regional development, cooperation among regencies/municipalities, and increased awareness of the communities around these protected areas. • Identify areas prone to natural disasters, landslides, tidal waves, and flood; regulate such zones and their surrounding areas; and apply disaster mitigation measures. • Designate geologically sensitive zones (consisting of geologic reserves, disaster-prone zones, and zones providing protection for cultivation of groundwater resource and their surrounding areas, as well as consolidated management zones, along with improvements in disaster mitigation efforts. • Preserve the ecosystem in other protected areas such as biospheres, Ramsar areas, germ plasma protection zones, wildlife refuges, coral reefs, mangroves, and corridors for marine wildlife with strict supervision and management of zones in cooperation with the communities.
Development of cultivation zones in accordance with the area's characteristics and carrying capacities to support the consolidation of the metropolitan and agropolitan systems in enhancing societal welfare, growth, and equitability	• Designate production forest zones for the community's sustainable use, ensuring no conversion to non-forest activities through regular monitoring of the zones. • Designate community forest zones and develop participatory activities. • Designate East Java as a national food basket by maintaining irrigated lands and preventing the conversion of paddy fields and productive agriculture lands into other uses, as well as the optimization processes and the need to add value to wetland agricultural production, dry land farming, and horticulture, through agropolitan development. • Develop superior plantation commodities in each area, optimize product processing, and increase value of agricultural products through agropolitan development. • Develop superior farm commodities of poultry in each area, optimize product processing, and increase the value of livestock through agropolitan development. • Improve the quality of fishery and aquaculture products by establishing processing centers and increasing the value of fishery products through the development of: (i) breeding centers for fish; (ii) improved guidance, counseling, and training on aquaculture development; (iii) improved facilities and infrastructure for fishing and environmentally friendly fishing technology; and (iv) coastal area and small islands spatial plan based on their carrying capacities in ensuring the sustainability of ecosystems in the area.

Policy	Strategy
	• Develop mining areas for minerals, coal, oil and gas using environmentally friendly technologies and sustainable development directions. • Promote large-scale industrial development in the main centers in East Java, develop high-tech and environmentally friendly industries in urban areas, develop small and medium industrial technical assistance, and develop integrated industries with potential resources within East Java. • Develop tourist centers for ecotourism, cultural tourism, and parks/recreation; spatially integrate other tourism destinations; and promote tourism development that considers the advantages and global competitiveness of regional economic development and the improvement of community welfare. • Develop urban settlements, especially with modern, efficient housing and sustainable, integrated transportation systems (transit-oriented development) in the metropolitan area; • Develop rural centers which underpin the development of an agropolitan system in the rural areas; and • Increase housing supply, in accordance with demand in a participatory society, and provide housing and infrastructure services to be in favor of the economically weak through the development of efficient and sustainable settlements. • Integrate cultivated zones and strategically important areas such as electrical, military, and other installations, into the strategic zones.
Coastal Zones and Small Islands	
Protection of ecosystems in coastal areas and small islands, as well as the protection of subordinate zones, local conservation zones or nature reserves.	• Maintain the sustainability of ecosystems. • Restrict activities that cause disruption of ecosystems in the coastal areas and small islands. • Preserve the variety of life, especially endangered animals.
Optimization of the development of coastal areas and small islands	• Optimize coastal areas of small islands as settlement areas, ports or sites of industries. • Protect coastal ecosystems that are vulnerable to changes in the function of the area. • Increase tourism and research activities in the coastal areas and small islands.
Increased maintenance and preservation of coastal ecosystems	• Increase cooperation between governments and local communities in maintaining the coastal ecosystems of the small islands. • Improve economic values of protected zones such as mangroves and coral reefs as sources of income through sustainable and environmentally friendly methods. • Make the protected areas and coastal ecosystems in the small islands tourist attractions and research sites. • Avoid the use of mangrove forests for activities that cause damage to the areas.
Realization of the development potential through superior marine and fishery products	• Optimize the utilization of fishery and aquaculture resources in a sustainable manner through the development of fishery activity centers which are integrated with collection and distribution centers. • Increase the value of fishery products by providing integrated information, fish processing facilities, and access to markets. • Develop trade and marketing partnership with producers in other areas and promote international trade cooperation.
Development of coastal city in East Java province	• Improve access to main coastal cities in East Java. • Develop support services for small and large international trade activities. • Develop supporting infrastructure and services for the community's socioeconomic activities.

Policy	Strategy
	• Develop economic activities through maximum use of local resources. • Improve industries in coastal cities in accordance with environmentally friendly and sustainable ways. • Improve the competitiveness of coastal cities according to their potential and minimize causes of underdevelopment.
Provincial Strategic Zones: **Strategic Economic Zones**	
Creation of high-tech industrial park economic zones, special economic zone, agropolitan zone, metropolitan corridor zone, regional cooperation and lagging zones. Improvement and stabilization of the function and role of industrial parks, high-tech economic zones, special economic zones, agropolitan zones, corridors of metropolitan areas, and regional cooperation zones in East Java	• Optimize regional development by improving the economic value of zones. • Increase competitive commodities, facilities, and infrastructure to support production processes. • Improve the quality and quantity of human resources both for experts and supporting staff. • Accelerate technology transfer in a more efficient and effective manner. • Support policies through the provision of incentives, among others, in the form of tax reliefs and tax holidays. • Cooperate with investors, related to loans/venture capitals. • Trace the zones' potential or strategic subsectors that can be developed, and establish new special economic zones. • Increase cooperation among regencies/municipalities to optimize the growth of border areas of regencies/municipalities in East Java and the province itself.
Acceleration of the development and advancement of lagging zones in the province of East Java	• Trace zone potential, or strategic subsectors, so that the lagging zones can be developed. • Provide strategic infrastructure to drive zone growth. • Provide strategic infrastructure as drivers of growth areas. • Improve the quality of human resources both for experts and supporting staff. • Provide policy support through incentives such as tax reliefs and improve the strategic development programs.
Strategic Defense and Security Zones	
Maintenance of the function and role of strategic zones from the point of defense and security interests in East Java	• Limit built-up areas with nonbuilt-up areas around strategic defense and security zones to obtain clear boundaries for distinct management purposes. • Determine strategic zones which have safe distances from other land uses, particularly housing. • Grant property rights to the public, or the government, based on cooperation and in accordance with the agreed benefits for both parties. • Ensure tight control of neighboring areas.
Strategic Sociocultural Zones	
Improvement and stabilization of the function and role of social and cultural zones, namely maintaining high historical and cultural value as well as original values with the management of these values appreciation through tourism	• Optimize zone development through increased economic values, such as tourist asset utilization, research and education. • Control land development in built-up areas. • Preserve surrounding areas and providing figures of relief, or description, of the history of the object/site. • Foster local communities to participate in maintaining the zones' history and heritage. • Increase tourism activities, such as festivals, or arts events. • Preserve and promote traditional/indigenous knowledge. • Ensure tight control of the surrounding areas.

Policy	Strategy
Strategic Natural Resource and High-tech Zones	
Improvement and stabilization the function and role of strategic zone to utilize natural resources and/or high technology optimally	• Optimize zone development through the improvement of economic values, among others, development of supporting activities and/or derived activities from the utilization of resources and/or high technology. • Improve resource utilization and/or high-technology-related activities together with supporting activities and/or derivatives. • Prevent negative impacts on the environment and public safety from the use of natural resources and/or high technology.
Strategic Environmental Zones	
Improvement and stabilization of the function and role of environmental protection and ecosystem strategic zone	• Restrict and prevent the utilization of the zone in ways that may endanger it. • Prohibit conversion of protected zones to other uses. • Restrict the development of infrastructure and facilities in and around the protected zones. • Rehabilitate degraded protected zones from the impact of the spatial utilization growth within and around the protected zones. • Optimize zone development by increasing the economic value of protected zones through tourism, education, research, and/or use of mangroves and coral reefs in environmentally friendly and sustainable ways. • Increase cooperation between governments and local communities in maintaining the coastal ecosystem. • Restore activities that encourage environmental protection. • Enhance conservation areas. • Strictly control the area around protected ecosystems.
Strategic High Control Zone	
Establishment and development of specific zone and limiting its utilization, to maintain its carrying capacity, prevent negative impacts, and ensuring sustainable development process	• Develop a regional trade zone surveillance to prevent negative multiplier effects and avoid informal construction. • Supervise the Suramadu Bridge foot zone both in Bangkalan and Surabaya City, including specific zones/fair grounds, interchange access, and/or reclamation plans to minimize the negative environmental and social impacts of accelerated zone development. • Supervise watershed zones, water sources, and river banks to conserve other zones that need protection from pollution, sedimentation, erosion, and cultivation. • Monitor protected zones, including water catchments or water sources, conservation areas, mangroves, etc., • Monitor areas around transportation infrastructure, such as roads, railways, ports, airports, arterial roads/highways, to ensure a smooth, safe, convenient, accurate, and secure flow of transportation/persons/ goods and minimize the impact of non-transportation activities. • Monitor areas around key infrastructure such as those around gas pipe network, high-voltage wires, etc., and integrate solid waste management to ensure safe limits for cultivation and settlements as well as minimize disruption to the sustainability of infrastructure. • Supervise disaster-prone areas as part of disaster mitigation strategies. • Supervise priority protected zones and other regional-level mining to harmonize with cultivated zones and ensure environmental sustainability.

Source: East Java Spatial Plan (RTRW) 2009-2029.

2.4 Development Visions and Missions of Spatial Plans for GKS Regencies

All the spatial plans prepared for each regency in the GKS zone address their visions through long-term perspectives and through the proper consideration of their own development potentials and resources, as summarized in Table 2.4.1. These visions are traslated into missions in the spatial plans, as shown in Table 2.4.2.

Table 2.4.1 Visions of Spatial Plans for East Java Province and Its Regencies

East Java	Kota Surabaya	Kota Mojokerto	Kab. Gresik	Kab. Bangkalan	Kab. Sidoarjo	Kab. Mojokerto	Kab. Lamongan
2009–2029	2009–2029	2007–2027	2007–2027	2008–2028	2009–2029	2007–2027	2008–2028
Perda /2009				Perda No.10/2009	Perda No.06/2009		
A province that provides sustainable agribusiness and commercial services that are globally competitive	A city that provides services which are convenient, world-class, cultured, and equitable	A society characterized by prosperity, peace, and competitiveness within the Unitary State of Indonesia Republic	An area that accommo-dates culture, investment friendliness, and environmental sustainability	The Madura gateway area with strong urban functions of industrial, tourism, and services.	An area with developed industrial areas, trade, agriculture, and settlements characterized by harmony and sustainability	A spatially productive, responsive, integrated, and environmentally friendly area with improved living conditions anchored on participation and partnership	A regency marked by justice, equity, prosperity, and competitiveness

Source: Spatial Plans of East Java Province and Regencies of GKS Zone

Table 2.4.2 Missions of Spatial Plans for East Java Province and Its Regencies

East Java	Kota Surabaya	Kota Mojokerto	Kab. Gresik	Kab. Bangkalan	Kab. Sidoarjo	Kab. Mojokerto	Kab. Lamongan
Year 2009–2029	Year 2006–2010	Year 2007–2027	Year 2007–2027	Year 2008–2028	Year 2009–2029	Year 2007–2027	Year 2008–2028
Perda ... /2009				Perda No.10/2009	Perda No.06/2009		
Protect and conserve natural and artificial resources.	Improve the quality of urban city planning and infrastructure to ensure public accessibility.	Develop Mojokerto into a regional growth center.	Realize a spatial plan that accommodates improvements of man-made resources.	Realize sustainable spatial patterns consistent with the Bangkalan community cultures which have paternalistic religious (Islamic) practices and are able to improve the welfare of society.	Support the spatial plan through the development of infrastructure to support economic and dynamic regency development.	Enhance programs and review development actions that guarantee the existence and sustainability of the environment, preservation of resources and reduction of environmental damage.	Create a secure legal environment for businesses in compliance with the spatial plan and encourage productive investment opportunities.
Provide regional facilities and infrastructure fairly and hierarchically, as well as with high added value.	Improve public access, awareness, participation, and control in policy formulation and implementation of public services.	Realize good and clean governance.	Realize a spatial plan that accommodates environmental management improvement.	Optimize human resources by providing facilities and infrastructure in urban and rural areas to improve the quality, productivity,independence, and competitiveness of human resources with the involvement of the community.	Develop good governance to realize the regency spatial plan.	Improve public welfare by leveraging resources in environmentally sound areas, such as by creating opportunities for enterprises, and expand employment opportunities to reduce poverty.	Provide facilities and infrastructure in urban and rural areas to improve the quality, productivity, independence, and competitiveness of human resources.
Provide various facilities for local investment development and increase regional cooperation.	Develop cultural wisdom and empower the citizens.	Make Mojokerto beautiful and sustainable.		Create a secure legal environment for businesses in compliance with the spatial plan and encourage productive investment opportunities.		Encourage participation from and develop partnerships with all stakeholders, i.e. public, private and other institutions, in implementing the spatial plan.	
Integrate development programs supported by all stakeholders; Balance development and economic growth within the province.	Ensure just law enforcement and provide conducive and equitable business climate.	Realize a civilized society devoted to God Almighty.		Formulate terms of spatial utilization and control that consist of general zoning regulations, permit conditions, incentives and disincentives, and sanctions.			

Source: Spatial Plans of East Java Province and Regencies of GKS Zone

3. DEVELOPMENT VISIONS AND STRATEGIES FOR GKS ZONE

3.1 Vision and Missions

3.1.1 Vision

As a national strategic area, the spatial plan for the GKS Zone has the following vision:

"The realization of GKS as a global and sustainable growth center through the creation of a logistical and economic world window, as well as an intelligent and green metropolitan zone."

This vision can be expressed in the short catchphrase: **Global, Green, Growing GKS.**

3.1.2 Missions and Objectives

The above vision is underpinned by key concepts which are interpreted into the corresponding missions:

Table 3.1.1 Missions and Objectives of GKS Development

Key Vision Concept	Mission and Objective
Global / World Window	• Create a brand for GKS to attract world recognition, attention, and investments.
Sustainable	• Preserve resources based on carrying capacities and resources. • Sustain society by protecting them through good governance, participative citizenry, and effective disaster management.
Growth Center	• Develop GKS as a national growth center with rapid economic growth and a high-standard built environment through the provision of proper infrastructure, housing, and social services.
Logistics	• Provide an efficient transportation network.
Economic	• Accelerate economic growth by attracting investments and vitalizing local economic activities in a balanced way.
Intelligent	• Create a knowledgeable society and develop skilled human resources.
Green	• Develop and maintain sustainable agricultural bases. • Create a green and eco-friendly region.

Source: JICA Study Team

3.1.3 Major GKS Development Strategies

To achieve its stated vision, or "The Four Gs," eight long-term strategies have been formulated, as follows:

- Strategy 1: Explore newly emerging development potentials, such as the "Suramadu Bridge" and "Cepu Oil Field," as strategic stimuli for the creation of a globally competitive economy.
- Strategy 2: Enhance the international logistics functions of the zone's ports and airports.
- Strategy 3: Further develop the industrial sector as the leader in economic diversification.
- Strategy 4: Promote value-farming and value-fishery, including processing industries and post-harvest enterprises.
- Strategy 5: Promote tourism through the diversification of tourism products.
- Strategy 6: Enhance human resource development to sustain subsequent industrialization.
- Strategy 7: Strengthen agropolitan development which will link urban and rural areas and the value it will add to the economy.
- Strategy 8: Develop a metropolitan-wide green network comprising green streets, green riversides, open spaces, parks, recreational facilities, agricultural land, and forests.

Figure 3.1.1 shows the interrelationships between the components of the vision and the relevant strategies needed to achieve them. Strategies 1 and 2 are important to achieve the vision of a "Global GKS," and Strategies 3 through 7 are relevant in achieving the vision of a "Growing GKS." The vision for a "Green GKS" will require the exploration of Strategies 5 to 8, including tourism and agriculture-related strategies.

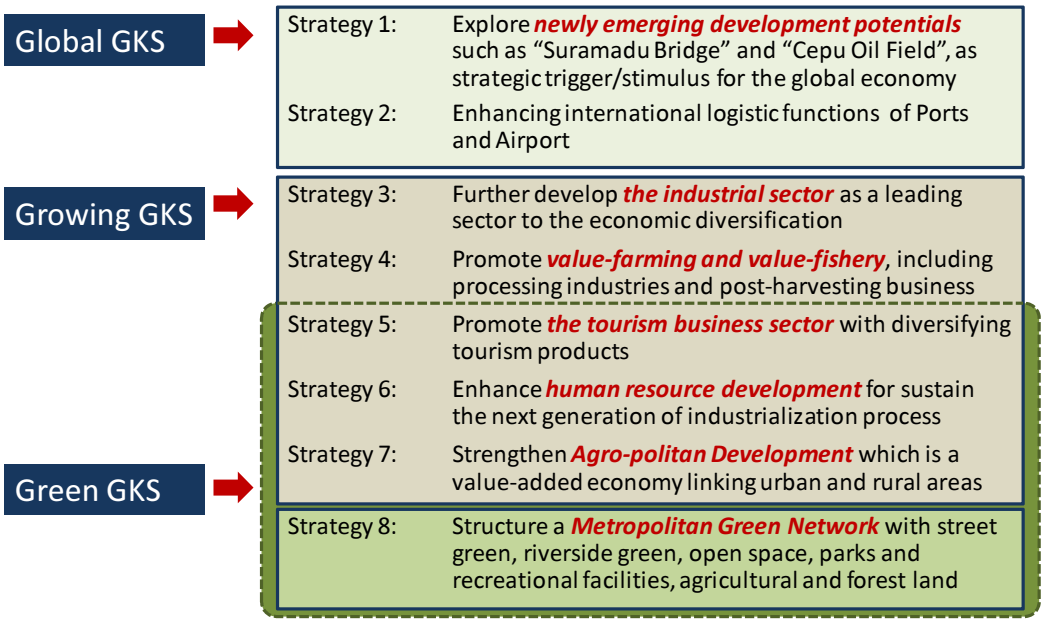


Figure 3.1.1 Vision and Key Strategies for GKS Development

The GKS is the leading area that will spur economic activity in East Java province. The major issue in the economic sector is the need to uplift the stagnant rural economy, resulting in scarce employment opportunities and high level of poverty in the rural areas, which, in turn, has triggered migration into the urban areas. Urban migration has caused some of the urban problems such as traffic congestion, environmental degradation, massive unemployment, and so on.

Indonesia has joined Vietnam, South Africa, Turkey, and Argentina, collectively called as "VISTA," as the fastest-growing countries in the world following BRIC (Brazil, Russia, India, and China). Indonesia's improving investment's climate for foreign investors is expected to attract further investors. With competition from the Jakarta-led JABODETABEK, the GKS, with Surabaya as the economic leader, should offer a more competitive package to attract as much investment as possible.

Surabaya, being the urban center, not only in the GKS, but of East Java province, is expected to lead the economy of both the GKS and East Java province; therefore, the former should be developed as one coherent zone, led by Surabaya. The economic development of the GKS will be realized by strengthening its economic competitiveness and the objectives of GKS' economic development are, as described in the visions and missions in the RPJM, RPJP, and RTRW under revision, twofold:

- **Sustainable economic growth**: Uplift GKS' economic status globally and nationally by improving the competitiveness of the whole GKS in a sustainable manner; and
- **Equitable economic growth**: Achieve a balanced economic growth between the urban and rural areas within the GKS.

Table 3.1.2 summarizes opportunities, constraints, measures, and strategies with respect to each strategy addressed in Figure 3.1.1.

Table 3.1.2 Opportunities and Constraints of Economic Development Strategies

Strategies	Opportunities	Constraints	Measures/Strategies against Constraints
Strategy 1: (Promotion of New Economic Opportunities)	• Economic impacts of the Suramadu Bridge. • Landing of oil/gas from Cepu oil fields.	• Weak interindustrial linkages. • Nearly full capacity of Tg. Perak Port and Juanda International Airport. • Insufficient infrastructure to ensure stable water and power supplies. • Weak capacity of small and medium scale enterprises (SMEs). • Lower wage-competitiveness of labor force compared to newly emerging economies in Asia.	• Strategic support for SMEs in terms of technologies and finance. • Strategic industrial estate development with infrastructure, eco-oriented operation, tax incentives, etc. • Investment promotion policies for strategic subsectors. • Provision of subsidy for R&D by local enterprises.
Strategy 2: (Development as International Logistics Center)	• Strategic position of the second largest economic agglomeration in Indonesia. • Existence of a sizable port, Tg. Perak Port, and an international airport to/from world markets. • Potentials for foreign direct investments (FDIs) in the mining, manufacturing and service sectors.		
Strategy 3: (Development as Leading Industrial Center)			

Strategies	Opportunities	Constraints	Measures/Strategies against Constraints
Strategy 4: (Promotion of Value Farming & Value Fishery)	• Vast and fertile agricultural lands. • Availability of traditional and suitable farming technologies. • Industrial farmers and labor force in the agricultural sector.	• Unstable water availability and lack of intersectoral and interregency coordination in water management. • Lack of market-oriented farming experiences. • Inadequate marketing of agro-products. • Fewer incentives for agro-processing industries.	• Improvement of agricultural productivity. • Promotion of businesses related to distribution and marketing. • Diversification of market-oriented products. • Promotion of collective efforts for post-harvest activities. • Adoption of environmentally sound farming practices. • Strengthening of linkages with urban services and agro-processing products:
Strategy 5: (Tourism Promotion)	• Existence of marine resources for tourism in Bawean Island. • Potentials for city tourism with cultural and historical assets in Surabaya. • Possibility of new tourism attraction for Suramadu Bridge.	• Weak inter-tourism assets linkages. • Weak promotion for attractiveness of East Java tourism.	• Formulation of tourism circuits in the GKS. • Introduction of eco-tourism and village tourism. • Encouragement of public relations for Asian markets. • Development of new urban attractions such as Suramadu towns.
Strategy 6: (HRD)	• Availability of massive relatively educated labor force. • Existence of a number of higher educational and vocational institutions.	• Weak organization of vocational and skill-training facilities. • Insufficiency in social and adult education.	• Strengthening vocational education. • Development of socialized education through public education using primary school facilities.
Strategy 7: (Agropolitan Development)	• Existence of rich agricultural/rural activities and urban economies. • Sizable consumer market with a population of more than 10 million in GKS.	• Weak intersectoral linkages. • Weak information infrastructure. • Insufficient farm-to-market road networks. • Fewer young entrepreneurs.	• Introduction of a market information system in the rural areas. • Implementation of the agropolitan program to connect agroproducts with metropolitan markets. • Promotion of new “business incubators.”
Strategy 8: (Promotion of Metropolitan-wide Green Network)	• Availability of ample green and environmental resources. • Well-maintained agricultural lands. • Government efforts at improving the urban landscape.	• Weak awareness of the need for a hygienic environment and solid waste management. • Occurrence of floods and landslides.	• Promotion of “clean eco-town” concept. • Networking of available green and ecological resources. • Development of parks and recreational facilities.

Source: JICA Study Team

3.2 GKS SWOT Analysis

A SWOT analysis (strength, weakness, opportunity, and threat) looked into the overall feature of the socioeconomic activities in the GKS Zone. The summary of the analysis is described in Table 3.2.1. The weak factors inherent in the GKS should be mitigated, while its strong assets should be further enhanced, based which the GKS should take advantage of its opportunities and neutralize future threats. All considerations are integrated in the visions for development as envisioned in the preceding chapter.

Table 3.2.1 SWOT Analysis of GKS Zone

Strength	Weakness
• Second largest economic agglomeration in Indonesia as another potential growth center • Rich agricultural and fishery potentials with vast irrigated agricultural land • Functional port and airport linked with the world market • Strengthened gateway function to Madura Island with the Suramadu Bridge • Availability of well-educated persons and skilled labor force in a variety of cottage industries • Expectation of national government's special polices for infrastructure provisions	• Susceptible water resource • Chronic water shortage problems in dry season • Heavy traffic congestions in Surabaya and its vicinities, thereby leading to a massive daily economic loss • Overall water-related environment being degraded due to lack of sewerage systems • Many areas suffering from disasters such as floods and land sliding • Port logistic function, which is the lifeline of Surabaya Economy, reaching to the max capacity level, and unstable supply of electric power • Weak governance for legal enforcement and investment administration
Opportunity	**Treat**
• Be a world-recognized commercial, industrial and logistic center where attracts both domestic and international investors • Be a leading area for advanced food supply activities, agribusiness, and agro-processing industries • Be a human resource center to support value-added types of economies through trading, financing and tourism services • Be one of the Asian port, given a well functioning deep-sea port for sufficient container terminals.	• Disorderly and/or illegally land conversion from forest and agricultural land to housing and urban land use • Critical damage on water resource capacity and water supply crisis on agricultural , industrial and urban activities • Rapid urbanization, resulting in uneven distribution of people, proliferation of slums, and shortage of public service facilities • Increasing diseconomies of "agglomeration", due to congestions and environmental degradation, thereby loosing the growth opportunity

Source: JICA Study Team

3.3 GKS Functions and Roles

Based on the SWOT analysis, the expected functions and roles of the GKS Zone is to be a national activity center[1] with the following characteristics:

1) An outstanding and leading center of economic growth in Indonesia;
2) A regional logistics center and ideal goods' distribution and export-import gate, representing East Java province; and
3) Reputable economic center for agriculture, industry, and tourism.

At the provincial level, the GKS will function as the growth center of East Java which will encourage and spur its neighboring areas to reach higher social and economic growths as parts of a whole. At the local level, the GKS will create new local demand for agricultural, industrial, commercial, tourism, and consumer activities, as well as spur economic growth.

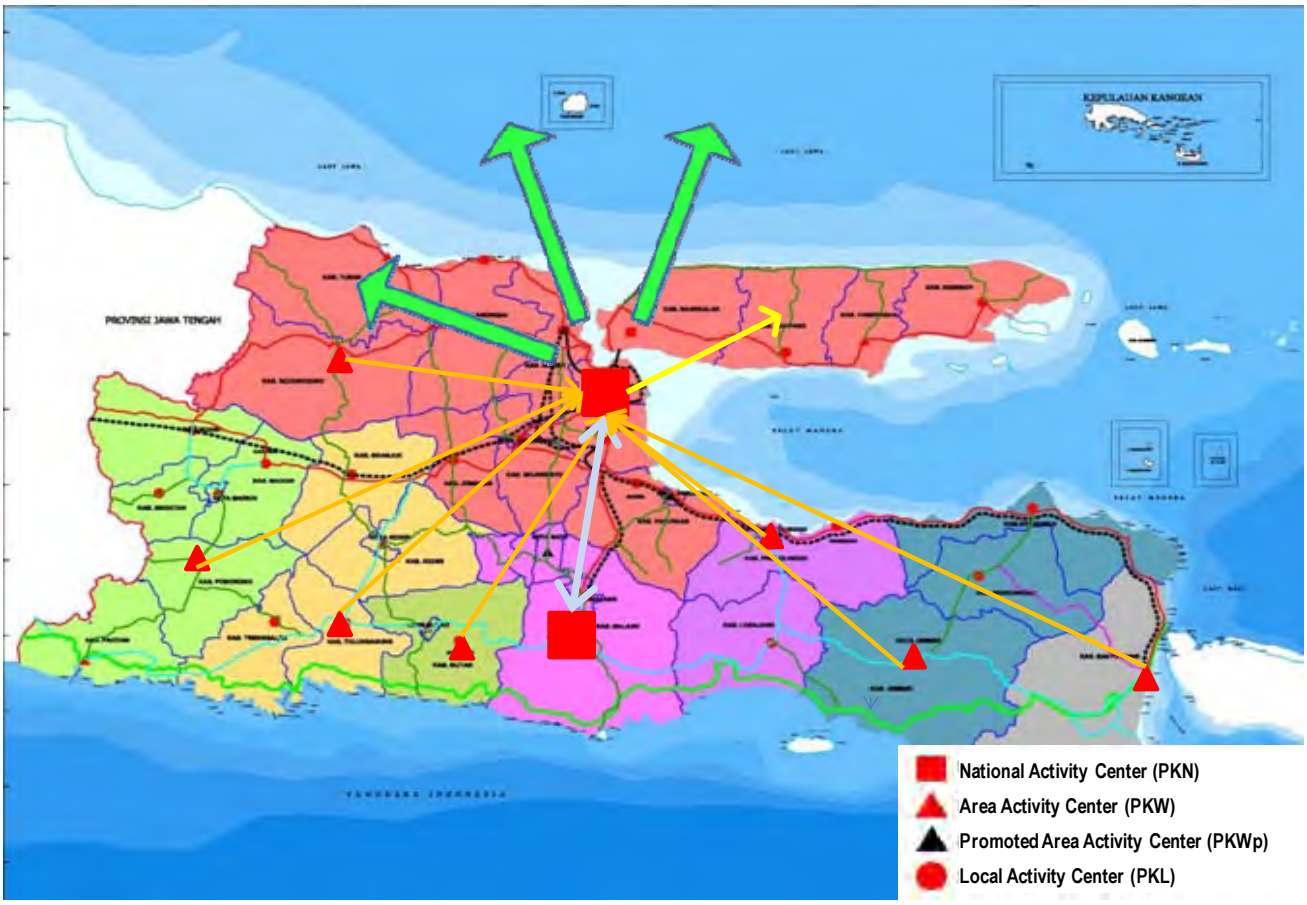


Figure 3.3.1 Strategic Position of GKS Zone in East Java Province

[1] A national activity center (Government Regulation No. 26/ 2008) is defined as one which can become an export-import activity node or international gateway and a major transportation hub, and has the potential for large-scale industrial activities.

3.4 Development Issues, Policies, and Strategies in GKS Spatial Plan

Development issues were identified through the SWOT analysis, as well as a series of baseline sanitary, utility, and transportation surveys, specifically in the aspects of social, economic, environmental, and infrastructural. The policies and strategies in the spatial plan for the GKS was set based on the recognition of these issues, as enumerated below. These policies and strategies are relevant to the realization of the vision and missions mentioned earlier.

3.4.1 Regional Economic and Social Development

1) Development Issues

- Increasing economic disparities between the urban and rural areas;
- High unemployment rates, particularly among the educated;
- Increasing urbanization;
- Poverty in the rural areas, and limited economic activities in the rural areas, lagging agricultural products and processing industries; and
- High cost of industrial activities in the urban center due to traffic congestion, and environmental degradation.

2) Policies and Strategies

The GKS should have a robust and sustainable economy being a major national growth center with key policies as follows:

Policy 1: Strengthening of economic activities and the urban function of Surabaya as center of the metropolitan area

Strategies:

- Enhance the business environment for services and trade, industries, MICE functions, logistics, and other urban amenities;
- Develop the urban economy, making the best use of local resources to attract investments and people;
- Develop an infrastructure network at the international, national, and regional levels;
- Promote an eco-oriented region; and
- Introduce high-tech industries and related R&D and human resource development.

Policy 2: Equitable development among parts of the GKS through the development of an agropolitan and agri-based rural economy

Strategies:

- Develop agriculture, agri-based industries, and their activity centers;
- Strengthen the economic linkage between the rural economy and urban economy through agropolitan activities;

- Develop physical infrastructure and services for agriculture and agri-business for production, marketing, financing, trading, and transportation, etc.;
- Develop infrastructure and services for agricultural production and marketing centers to open access to export markets; and,
- Strengthen institutional capacities for agricultural development, including farmers' cooperatives, organizations, and financing.

3.4.2 Spatial Structure Development

1) Development Issues

There is a need to develop the GKS spatial structure to accommodate anticipated economic and social activities in the long term. In this aspect, the following are the spatial planning issues that should be tackled:

- Overconcentration of economic resources and activities in the city of Surabaya, thereby requiring a hierarchical human settlement system to efficiently distribute economic resources and development benefits to other local communities all over the GKS Zone;
- The increasing economic disparities between the urban and rural areas, thereby increasing the need to formulate a mechanism for "coexistence and co-prosperity" between urban and rural communities; and
- The expansion of disorderly urbanization and conversion of irrigated farm lands into housing and urban uses, which require controlled urbanization with minimal disorderly land conversion.

2) Policies and Strategies

Spatial structure should reflect the above regional development policies and strategies. The basic policies on spatial structure are stated below.

Policy 1: Establishment of an attractive and efficient urban system

Strategies:

- Establish centers through a hierarchy of activities in the regional, regency, and district centers, not only in the GKS but throughout East Java province, including Malang, as well as create activity centers and regional centers in each district/city;
- Revitalize and accelerate the development of the metropolitan area as a major growth center in East Java which will be supported by regional and local growth centers; and,
- Develop urban centers and areas in accordance with their functions and roles.

Policy 2: Development of a rural–urban linkage system

Strategies:

- Strengthen rural–urban linkages through an agropolitan system;
- Develop growth centers in key rural areas; and

- Improve the quality and quantity of infrastructure, especially roads, to support an agropolitan system.

Policy 3: Creation of a compact, eco-oriented region

Strategies:

- Control urban sprawl and guide urbanization under a proper land-use zoning system;
- Facilitate the integration of urban development and public transportation;
- Appropriate management and control of urban development in the urban fringe and urban redevelopment in built-up areas for more compactness; and
- Create green and water-friendly spaces in built-up areas.

3.4.3 Transportation Development

1) Development Issues

The establishment of a comprehensive and efficient transportation network is a key component in the GKS spatial framework. Development issues relative to this are varied and include the following:

- Increasing vehicle numbers, resulting in increased traffic congestion;
- Lack of a metropolitan road network capable of accommodating the anticipated traffic demand;
- Lack of a comprehensive public transportation network to increase people's mobility;
- Nearly full capacity of Tg. Perak Port, thereby affecting sustainable economic growth;
- Limited capacity of airport facilities (runway and terminal); and
- Poor freight transportation system.

2) Policies and Strategies

Policy 1: Mitigation of road traffic congestion through a structured and functional road network

Strategies:

- Identify bottlenecks that cause traffic congestion and mitigate them with traffic demand and enforcement measures;
- Improve the metropolitan road network to meet future traffic demand;
- Develop a regional trunk road network;
- Develop an intra-urban expressway system (i.e., toll roads) in Surabaya Metropolitan Area; and
- Expand the inter-city expressway system (i.e., toll roads) and integrate them with economic growth centers.

Policy 2: Improvement of people's mobility through a well-functioning public transportation system

Strategies:

- Further improve and strengthen the "Commuter Rail System" through the improvement of the existing railway in Surabaya Metropolitan Area;
- Improve the inter-modal system and integrate it with the bus and rail systems; and
- Encourage "Transit-oriented Development" in association with the Commuter Rail System.

Policy 3: Development of a functional freight transportation system

Strategies:

- Designate the freight corridors in association with the development of the regional trunk road networks.
- Strengthen the capacity of major freight attractions/generation facilities related to port and railway systems; and
- Relocate goods' distribution centers/facilities along with improving the Metropolitan tollway network.

Policy 4: Strengthening of port functions to support the growing international and local businesses in the GKS Zone

Strategies:

- Study alternative feasible solutions to strengthen port capacity for containers to meet long-term demands and identify the best solutions; and
- Implement a new port development based on the identified best solution.

Policy 5: Strengthening of airport functions to support the growing international and local businesses in the GKS Zone

Strategies:

- Study feasible solutions that will expand airport capacity to meet long-term demand and identify the best solution to create a second runway and related terminals at the vicinities of Juanda Airport;
- Implement the airport expansion project based on the identified best solution; and
- Further study an alternative international airport in the GKS Zone (i.e., Lamongan) to meet long-term demand.

3.4.4 Infrastructure Development for Utility Services

1) Development Issues

Infrastructure for overall water management and utility/sanitary services are, needless to say, important to support all kinds of human activities. A limit on their carrying capacities

implies a limit on economic growth. Among various water management and utility issues, the following have been noted:

Water

- Weak management of water resources;
- Poor management of water supply systems with substantial water losses due to leakages; and
- Shortage of clean water mostly in urban areas during the dry season.

Wastewater and Urban Drainage

- Water pollution in rivers caused by domestic and industrial wastes;
- Absence of a permanent water quality monitoring system for the rivers; and
- Occurrence of floods during the rainy season in several rural areas and along the Bengawan Solo River.

Solid Waste Management

- Absence of comprehensive long-term strategies to meet the increasing demand for solid waste treatment;
- Lack of land to serve as final disposal sites; and
- Weak public awareness of the serious problems regarding solid waste management (SWM), thereby leading to weak participation in the 3Rs movement (Reduction, Reuse and Recycle).

Power and Energy

- Lack of stable and quality power supply, and
- Expected increase in the demand for power supply.

Telecommunications

- Lack of a fair market and sound operation by private providers.

2) Policies and Strategies

These are the policies and strategies for infrastructure development which aim to improve overall service levels and networks to support socioeconomic activities, taking account of the supply–demand balance through an environment-friendly manner. They cover the key sectors of transportation, water supply, wastewater and drainage, power and energy, telecommunications, and solid waste management.

Water Supply

Policy: Provision of sufficient water for non-irrigation and irrigation uses

Strategies:

- Expand water supply facilities;
- Improve service coverage and water accessibility to 76% by 2030 from 47% in 2006;
- Ensure proper water management to keep demand–supply balance by establishing a river management public corporation, imposing charges for river water use, and allowing privately financed water projects, etc;
- Manage groundwater including wells and springs;
- Reduce water losses in the water supply sector, which is more than 30% through the following measures:
  - Save water through recycling and efficient water use;
  - Promote demand side management to conserve water resources; and
  - Introduce inter-provincial, or inter-regency, water source diversions from the Solo River and Umbulan.
- Enhance water management through administrative reforms, such as establishing an Inter-regency Infrastructure Development and Maintenance Regulatory Board, and introducing a performance indicator system (PIS) for the PDAMs and other water management bodies.

Wastewater and Urban Drainage

Policy: Promotion of a healthier environment in rural and urban areas

Strategies:

- Properly manage sanitation and wastewater, especially since there is no public wastewater disposal system except for septic sludges;
- Improve the monitoring capacity for pollution control, especially for industrial wastewater and river water quality;
- Improve the urban drainage system by enhancing the capacities of drain channels and properly maintaining them, and improve emergency response capacities; and
- Improve the service coverage in urban and rural areas.

Solid Waste Management

Policy: Create a sustainable material-recycling society and economy to reduce waste and build a well-organized solid waste management system

Strategies:

- Enhance institutional capacities for better waste management, including administration, financing, information management, etc.;
- Improve the physical and technical aspects of waste management, including waste containers, storage, transportation equipment, landfill capacities management systems, and transportation time;
- Enforce a paradigm shift from an “end-of-pipe” approach to the 3Rs;

- Introduce appropriate SWM technologies, including a recycling system and other advanced technology;
- Upgrade SWM quality and services, including rehabilitation of infrastructure, improvement of regulation and institutional capacities, and management of an education curriculum;
- Improve the data management system to help attain an efficient and effective waste management; and
- Introduce new technologies on waste reduction including incineration, taking into account the limited availability of landfill sites.

Power and Energy

Policy: Creation of an energy-saving society

Strategies:

- Promote energy conservation and saving;
- Improve and reinforce the network of stable power supply, including transmission and distribution networks;
- Facilitate a "demand-side management"; and
- Tighten controls on non-technical losses (irregular/illegal connections, revamping kWh meters, etc.

Telecommunications

Policy: Provision of support to telecommunications services by private operators

Strategies:

- Facilitate the growth of private telecommunications providers, and
- Implement a program on telecommunications universal service area (WPUT).

3.4.5 Environmental Management

1) Development Issues

One ultimate goal in spatial planning is to strike a balance between economic development and environmental conservation. Since the GKS is endowed with invaluable environmental assets, an appropriate management of these is indispensable to ensure sustainable use of its water, forest, agricultural land, and coastal resources. The following are the development issues in this area:

- Weak management of water resources;
- Weak legal enforcement to protect environmental resources, ecosystems, and protected areas such as forests, mangroves, and other ecologically important resources;
- Weak disaster management, leading to floods and landslides;

- Economic, settlement, and environmental problems from the Porong mud flows; and
- Risk of vast land areas becoming submerged due to sea level rise as a result of global warming in the long term.

2) Policies and Strategies

Policy: Identification of environmentally sensitive areas (ESA) and provision of measures against disorderly urban and industrial development

Strategies:

- Review concepts and analysis of ESAs depicted in this Study (see Section 5.3 in this report);
- Formulate management guidelines for the usage of land and resources within the ESAs and the administration of permits;
- Prepare a legal basis for ESAs related to the spatial planning law as well as for environment- and forest-related laws; and
- Develop the enforcement capacities of local government officials against violators of environment-related laws and regulations.

4. SOCIOECONOMIC FRAMEWORK FOR SPATIAL PLAN IN GKS ZONE 2030

4.1 Alternative Growth Scenarios

Two alternative scenarios are examined for the socioeconomic framework for the spatial plan for the GKS zone, targeting the year 2030.

Scenario A (Moderate Growth): Expansion to suburban areas and maintaining a conservative population growth in Surabaya (based on estimates from BAPPEDA Java Timur) and linked with Economic Scenario A, wherein the GKS will keep a moderate economic growth at par with that of the country.

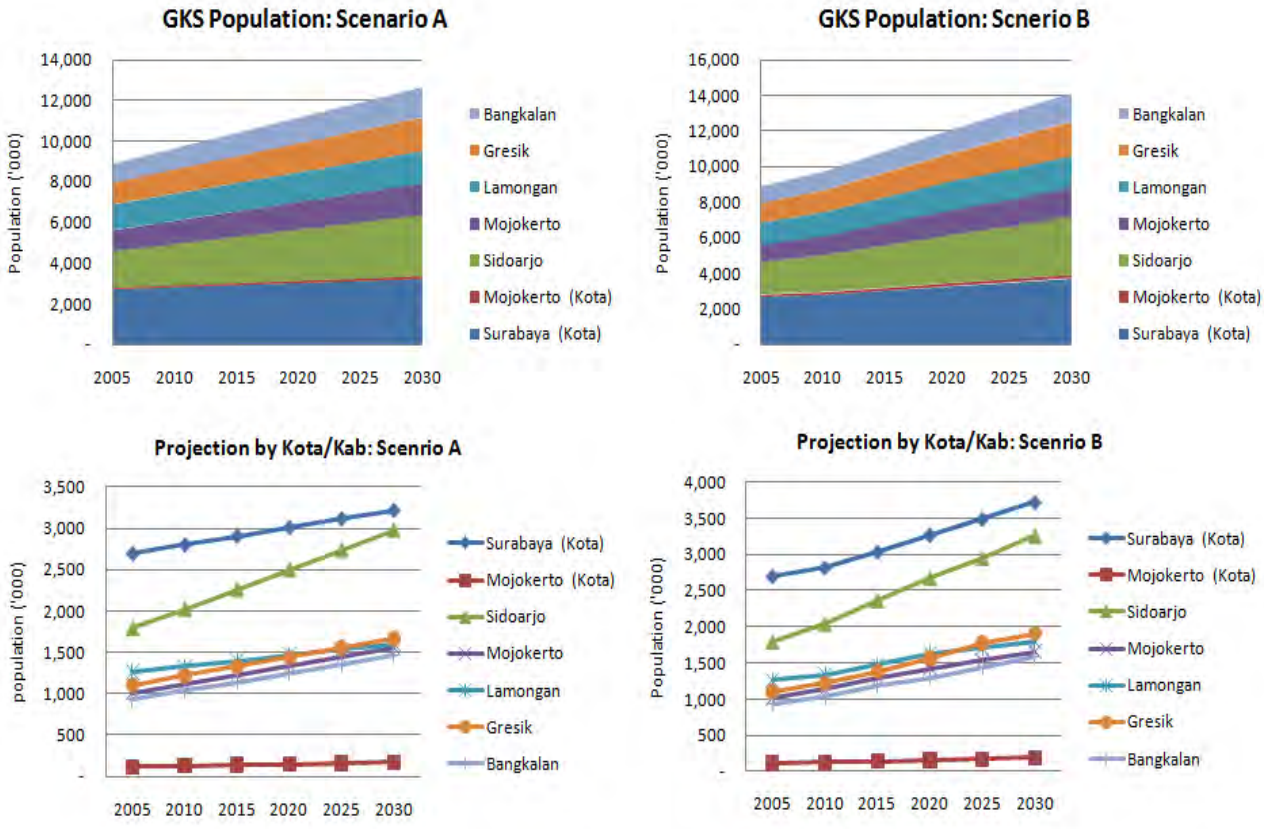
Scenario B (Pushed Growth): Managing an intensive urbanization process in strategic growth areas in the Surabaya Metropolitan Area, attracting social migrants from other areas (based on the JICA Study Team's analysis) and linked with Economic Scenario B, wherein the GKS becomes the leading engine of national economic growth and performing at a high growth rate. This scenario was defined based on the national concept that regional economies should be further strengthened to mitigate economic disparities between Jakarta and other provinces.

4.2 Population Framework

Scenario A (Moderate Growth) indicates that the population in the GKS by 2030 will be 12,645,000, out of which Surabaya's population will account for 3,212,900, followed by Sidoarjo at 2,977,400. Population increment in the GKS from 2008 to 2030 will be about 3.3 million. In this scenario, the population of Surabaya will increase at a minimal 0.6–0.7% p.a. rate, which is lower than the national average, portending the onset of social decline, or out-migration.

Scenario B (Pushed Growth) indicates that the GKS population will be 14,117,500 by 2030, out of which Surabaya will have 3,723,700, followed by Sidoarjo at 3,257,400. The two will be the predominant urban areas in the metropolis. The population increase in the GKS from 2008 to 2030 will be 4.8 million. In this scenario, Surabaya's population will increase by 1.3–1.5% p.a., minimizing its social decline and maintaining an encouraging growth.

The population framework as discussed above is shown in Figure 4.2.1 and Table 4.2.1.



Source: JICA Study Team

Figure 4.2.1 Population Projections in GKS by Growth Scenario

Table 4.2.1 Population Projections in GKS by Growth Scenario

Scenario A: Modearte Growth

NO	Kob/Kota	Number of Population (Actual)				Population Projection (Projection)					Increse 2030-2008
		2005	*2006*	*2007*	*2008*	*2010*	*2015*	*2020*	*2025*	*2030*	
1	Surabaya (Kota)	2,698,972	2,716,971	2,752,508	2,764,245	2,805,000	2,907,000	3,009,000	3,110,900	3,212,900	448,700
2	Mojokerto (Kota)	116,383	118,464	122,342	123,566	128,000	139,100	150,200	161,300	172,400	48,800
3	Sidoarjo	1,787,771	1,838,666	1,869,350	1,920,312	2,021,900	2,260,800	2,499,700	2,738,500	2,977,400	1,057,100
4	Mojokerto	1,008,740	1,027,871	1,066,854	1,074,879	1,122,200	1,230,800	1,339,400	1,448,000	1,556,600	481,700
5	Lamongan	1,261,972	1,274,194	1,297,427	1,302,605	1,331,800	1,398,800	1,465,800	1,532,800	1,599,900	297,300
6	Gresik	1,101,000	1,120,541	1,161,044	1,169,347	1,218,500	1,331,000	1,443,600	1,556,100	1,668,700	499,400
7	Bangkalan	926,560	945,863	983,150	990,711	1,036,500	1,141,600	1,246,800	1,352,000	1,457,100	466,400
	GKS	**8,901,398**	**9,042,570**	**9,252,675**	**9,345,664**	**9,663,900**	**10,409,100**	**11,154,500**	**11,899,600**	**12,645,000**	**3,299,300**
8	Pasuruan (Kota)	182,072	184,591	189,660	190,927	197,000	211,300	225,600	239,900	254,200	63,300
9	Pasuruan	1,464,297	1,485,342	1,529,363	1,540,234	1,592,200	1,714,900	1,837,700	1,960,400	2,083,100	542,900
10	Bojonegoro	1,238,811	1,251,051	1,274,986	1,281,129	1,310,100	1,378,600	1,447,100	1,515,600	1,584,100	303,000
11	Tuban	1,095,795	1,104,538	1,122,425	1,127,023	1,148,600	1,199,300	1,250,000	1,300,700	1,351,500	224,500
12	Jombang	1,199,958	1,212,876	1,238,576	1,245,086	1,276,100	1,349,200	1,422,200	1,495,300	1,568,400	323,300
	Plus Area	**5,180,933**	**5,238,398**	**5,355,010**	**5,384,400**	**5,524,000**	**5,853,300**	**6,182,600**	**6,511,900**	**6,841,300**	1,456,900
	GKS Plus	**14,082,331**	**14,280,968**	**14,607,685**	**14,730,064**	**15,187,800**	**16,262,400**	**17,337,000**	**18,411,500**	**19,486,100**	4,756,000
	East Java	37,070,731	37,478,737	38,286,258		39,540,400	41,753,500	44,133,000	46,695,000	48,916,800	48,916,800

Source: Analysis & Fact of East Java Spatial Plans

Scenario B: Pushed Growth

NO	Kob/Kota	Number of Population (Actual)				Population Projection (Projection)					Increse 2030-2008
		2005	*2006*	*2007*	*2008*	*2010*	*2015*	*2020*	*2025*	*2030*	
1	Surabaya (Kota)	2,698,972	2,716,971	2,752,508	2,764,245	2,819,800	3,037,700	3,272,500	3,490,800	3,723,700	959,500
2	Mojokerto (Kota)	116,383	118,464	122,342	123,566	128,600	142,000	156,800	173,100	191,100	67,500
3	Sidoarjo	1,787,771	1,838,666	1,869,350	1,920,312	2,037,300	2,361,800	2,672,200	2,950,300	3,257,400	1,337,100
4	Mojokerto	1,008,740	1,027,871	1,066,854	1,074,879	1,140,300	1,290,100	1,424,400	1,534,500	1,653,100	578,200
5	Lamongan	1,261,972	1,274,194	1,297,427	1,302,605	1,333,100	1,471,900	1,625,100	1,708,000	1,795,100	492,500
6	Gresik	1,101,000	1,120,541	1,161,044	1,169,347	1,224,500	1,385,400	1,567,500	1,773,500	1,910,600	741,300
7	Bangkalan	926,560	945,863	983,150	990,711	1,041,800	1,178,700	1,301,400	1,436,900	1,586,500	595,800
	GKS	**8,901,398**	**9,042,570**	**9,252,675**	**9,345,664**	**9,725,400**	**10,867,600**	**12,019,900**	**13,067,100**	**14,117,500**	**4,771,800**
8	Pasuruan (Kota)	182,072	184,591	189,660	190,927	197,500	211,300	226,100	241,900	258,800	67,900
9	Pasuruan	1,464,297	1,485,342	1,529,363	1,540,234	1,597,800	1,718,800	1,849,000	1,989,000	2,139,600	599,400
10	Bojonegoro	1,238,811	1,251,051	1,274,986	1,281,129	1,311,700	1,375,300	1,442,000	1,511,900	1,585,200	304,100
11	Tuban	1,095,795	1,104,538	1,122,425	1,127,023	1,149,800	1,196,900	1,245,900	1,297,000	1,350,100	223,100
12	Jombang	1,199,958	1,212,876	1,238,576	1,245,086	1,278,100	1,346,900	1,419,400	1,495,800	1,576,300	331,200
	Plus Area	**5,180,933**	**5,238,398**	**5,355,010**	**5,384,400**	**5,534,900**	**5,849,200**	**6,182,400**	**6,535,600**	**6,910,000**	**1,525,600**
	GKS Plus	**14,082,331**	**14,280,968**	**14,607,685**	**14,730,064**	**15,260,300**	**16,716,800**	**18,202,300**	**19,602,700**	**21,027,500**	**6,297,400**
	East Java	37,070,731	37,478,737	38,286,258		39,540,400	41,753,500	44,133,000	46,695,000	48,916,800	48,916,800

Source: Projected by ICA Study Team

4.3 Economic Projections

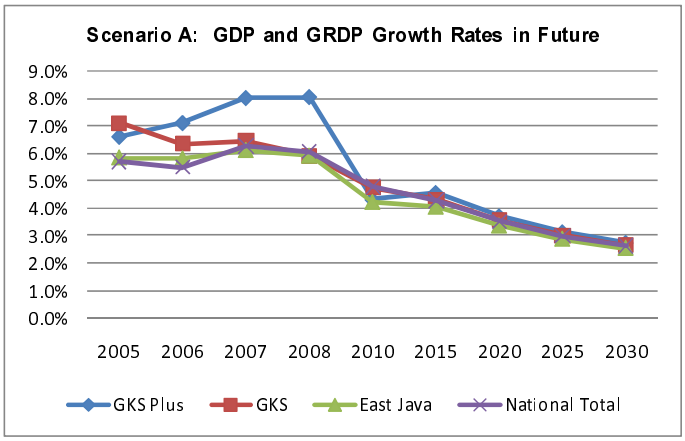
4.3.1 National and Regional Economic Framework

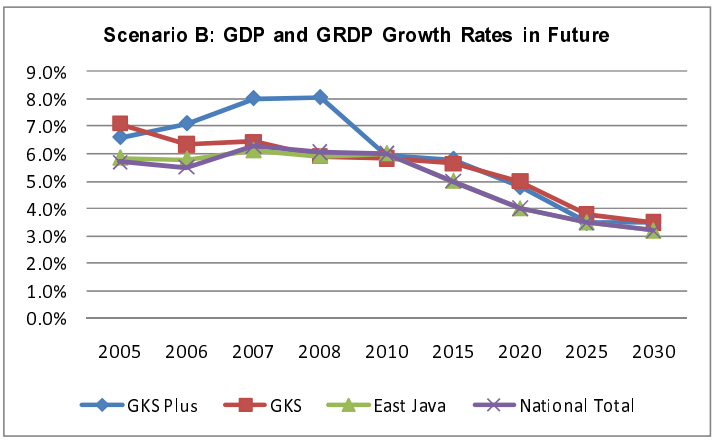
The long-term perspective on economic growth is projected in two scenarios. The estimated growth rates for the GKS, GKS Plus, East Java, and the national total are shown in Figure 4.3.1 and Table 4.3.1. In spite of the recent global financial crisis, the Indonesian economy has enjoyed a relatively high growth. However, looking at the long term, the country will not be able to sustain its robust rates but will gradually peter out at a certain level, say, 2.0–3.0% p.a.

The economic position of the GKS as against the national economy will be different in each scenario. The GKS's comparative positions, represented by its shares in the national GDP, are shown in Table 4.3.2.

Scenario A (Moderate Growth Scenario): The GKS's growth will not significantly change even in the future and remain constant over time at the current position which represents the GKS's share of the national GDP of 6.5%.

Scenario B (Pushed Growth Scenario): The GKS's comparative position against the national economy will increase to 7.0% from the current share of 6.5%, even though this scenario assumes a slightly higher growth rate in the national economy than Scenario A. This means that the GKS economy will function as a strategic growth center of the country under Scenario B.





Source: JICA Study Team

Figure 4.3.1 Projected Growth Rates of GKS, East Java, and Indonesia

Table 4.3.1 Projected Growth Rates of GKS, East Java, and Indonesia

Scenario A: Moderate Growth (Getting along with the National Growth)

	2005	*2006*	*2007*	*2008*	*2010*	*2015*	*2020*	*2025*	*2030*
GKS	**7.1%**	**6.3%**	**6.4%**	**5.9%**	**4.7%**	**4.3%**	**3.5%**	**3.0%**	**2.7%**
GKS Plus	6.6%	7.1%	8.0%	8.0%	4.3%	4.6%	3.7%	3.1%	2.7%
East Java	5.8%	5.8%	6.1%	5.9%	4.2%	4.0%	3.4%	2.9%	2.5%
Rest of Java	5.8%	5.8%	6.1%	5.9%	3.7%	3.7%	3.1%	2.7%	2.4%
National Total	**5.7%**	**5.5%**	**6.3%**	**6.1%**	**4.8%**	**4.3%**	**3.5%**	**3.0%**	**2.6%**

Scenario B: Pushed Growth (Leading Economy of the National Growth)

	2005	*2006*	*2007*	*2008*	*2010*	*2015*	*2020*	*2025*	*2030*
GKS	**7.1%**	**6.3%**	**6.4%**	**5.9%**	**5.8%**	**5.6%**	**5.0%**	**3.8%**	**3.5%**
GKS Plus	6.6%	7.1%	8.0%	8.0%	5.9%	5.8%	4.8%	3.5%	3.5%
East Java	5.8%	5.8%	6.1%	5.9%	6.0%	5.0%	4.0%	3.5%	3.2%
Rest of Java	4.6%	5.1%	5.5%	5.5%	6.2%	5.4%	4.2%	3.6%	3.5%
National Total	**5.7%**	**5.5%**	**6.3%**	**6.1%**	**6.0%**	**5.0%**	**4.0%**	**3.5%**	**3.2%**

Source: JICA Study Team

Table 4.3.2 GRDP Shares to the National Total

Scenario A: Moderate Growth

	2008	*2010*	*2020*	*2030*
GKS	6.5%	6.5%	6.5%	6.5%
GKS Plus	1.3%	1.3%	1.3%	1.3%
Rest of East Java	6.8%	6.7%	6.3%	6.2%
East Java	14.6%	14.5%	14.2%	14.0%
National Total	100.0%	100.0%	100.0%	100.0%

Scenario B: Pushed Growth

	2008	*2010*	*2020*	*2030*
GKS	6.5%	6.5%	6.8%	7.0%
GKS Plus	1.3%	1.3%	1.4%	1.5%
Rest of East Java	6.8%	6.9%	6.9%	6.9%
East Java	14.6%	14.7%	15.1%	15.4%
National Total	100.0%	100.0%	100.0%	100.0%

Source: JICA Study Team

4.3.2 GKS Economic Framework: Growth Rates and GRDP at Constant (Year 2000) Prices

Economic growth is related to industrial activities and the accumulation of urban services. Thus, the degree of industrialization is one criterion with which to evaluate economic growth and potentials.

Projected growth rates under **Scenario A** are implied in the quote "Analisa Penyusunan Kinerja Makro Ekonomi dan Sosial Jawa Timur, 2008" which briefly translates to moderate growth. For **Scenario B**, the growth rates in each kabupaten/kota were examined by the JICA Study Team, taking into account the potential endowments for agro-processing and value-farming promotion, as well as further industrialization potentials. In this regard, it was assumed that the three economies of Surabaya, Gresik, and Sidoarjo would continuously enjoy relatively high growth rates, followed by Mojokerto, where agro-processing activities are expected in the future. The GRDP rates of each kabupaten/kota in the GKS were assumed in the long term and shown in Table 4.3.3. In 2007–2008, Gresik had the highest growth rate at 6.8% p.a., followed by Surabaya (6.3%), Lamongan (5.9%), and Mojokerto (5.5%).

Figure 4.3.2 indicates the long-term projections of GRDP at constant (year 2000) prices in the GKS under the two scenarios.

Table 4.3.3 Projections of Economic Growth in GKS by Scenario

Scenario A (Moderate Growth)

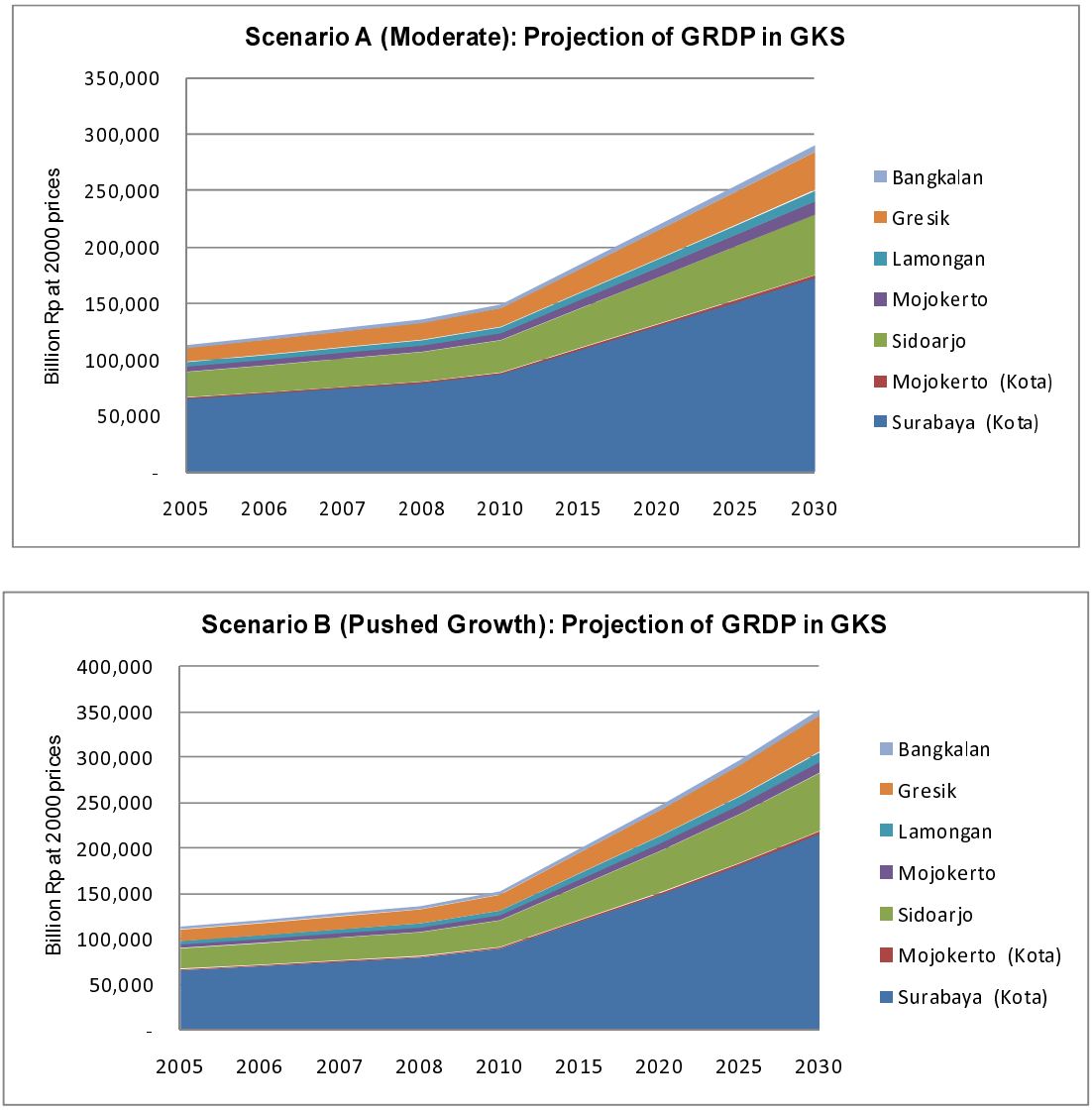
	2008	2010	2015	2020	2025	2030
Surabaya (Kota)	6.3%	4.9%	4.4%	3.6%	3.1%	2.7%
Mojokerto (Kota)	5.2%	4.6%	4.1%	3.4%	2.9%	2.6%
Sidoarjo	4.5%	4.7%	4.0%	3.4%	2.9%	2.5%
Mojokerto	5.5%	4.4%	4.0%	3.3%	2.8%	2.5%
Lamongan	5.9%	3.9%	3.9%	3.2%	2.8%	2.5%
Gresik	6.8%	4.9%	4.5%	3.7%	3.1%	2.7%
Bangkalan	4.5%	3.7%	3.5%	3.0%	2.6%	2.3%
GKS	5.9%	4.7%	4.3%	3.5%	3.0%	2.7%

Source: Book of "Analisa Penyusunan Kinerja Makro Ekonomi dan Sosial Jawa Timur", 2008

Scenario B (Pushed Growth)

	2008	2010	2015	2020	2025	2030
Surabaya (Kota)	6.3%	6.0%	5.9%	4.5%	4.0%	3.6%
Mojokerto (Kota)	5.2%	5.5%	5.0%	3.7%	3.2%	3.0%
Sidoarjo	4.5%	5.7%	5.0%	4.0%	3.5%	3.5%
Mojokerto	5.5%	4.8%	4.4%	3.7%	3.1%	2.8%
Lamongan	5.9%	5.4%	5.0%	3.6%	3.1%	3.0%
Gresik	6.8%	6.3%	5.6%	4.4%	3.7%	3.4%
Bangkalan	4.5%	4.8%	4.2%	3.5%	3.1%	3.0%
GKS	**5.9%**	**5.8%**	**5.6%**	**4.3%**	**3.8%**	**3.5%**

Source: JICA Study Team

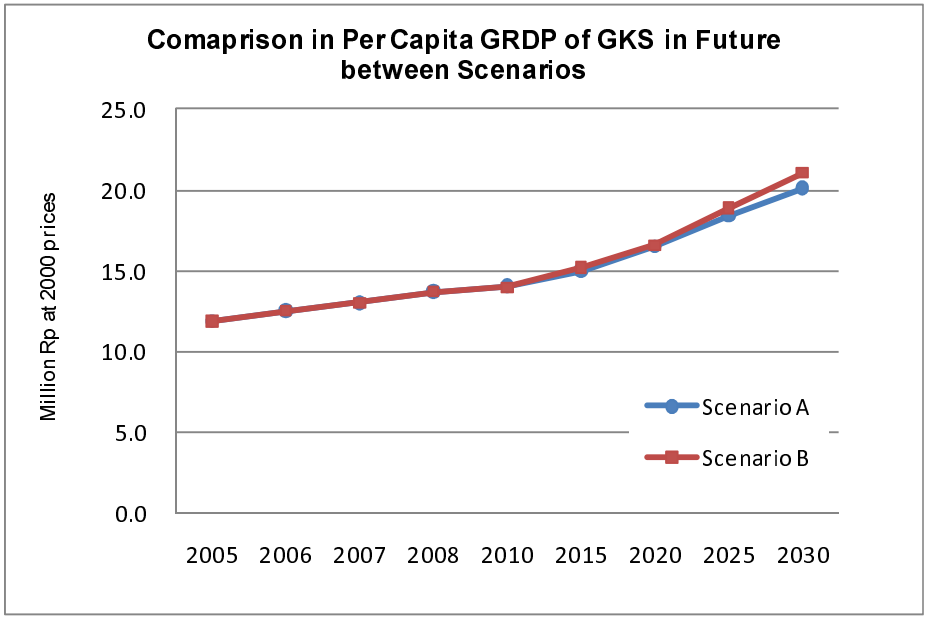


Source: JICA Study Team

Figure 4.3.2 Projections of Economic Growth in GKS Zone by Scenario

4.3.3 Per Capita GRDP Growth in GKS

Changes in "per capita GRDP at 2000 constant prices" as an affluence index were examined in the time horizon up to 2030. As of 2008, the current per capita GRDP in the GKS was Rp.13.7 million. For 2030, under Scenario A, this will increase to Rp.20.1 million and to Rp.21.0 million under Scenario B. No significant differences between both scenarios were found, because the population increase would take place along with enhanced economic activities in Scenario B, as shown in Figure 4.3.3. People's affluence level in 2030 will rise 1.53 times compared with its 2008 level.



Source: JICA Study Team

Figure 4.3.3 Changes in Per Capita GRDP in GKS by Scenario

4.3.4 Coherence of Spatial Planning Framework

Spatial planning was conducted based on the socioeconomic growth scenarios discussed above. Demand for transportation network, land use, infrastructure, utilities, and public services were all examined under the two alternative scenarios: moderate growth and pushed growth.

The higher economic growth scenario will naturally mean people's better living conditions and employment stability; however, if proper measures are not undertaken, the scenario will bring more environmental loads, diseconomies, such as traffic congestion, and social costs for public service provision to the local society. Thus alternative spatial structures should be evaluated in terms of such economic and environmental impacts that could potentially befell the public.

As a result of such analysis as summarized in Table 4.3.1, **Scenario B** or **Pushed Growth Scenario** was applied in the socioeconomic framework in spatial planning, simply because the GKS Zone shall be a leading economy in Indonesia, which is coherent with the crucial policy issue to achieve equitable national growth. The GKS is the second largest economy with great potential for social and economic development, as the regional center of not only East Java, but also the eastern part of Indonesia. This latent potential shall be stimulated to achieve a long national goal to realize a balanced and equitable development structure. For the sake of this goal, Scenario B is assessed most suitable for the spatial planning framework.

Table 4.3.4 Comparison and Evaluation of Alterative Scenarios

	Scenario A (Moderate Growth)	**Scenario B (Pushed Growth)**
Economic Position of the GKS Zone over the Nation in 2030	Comparatively same as the current position	To be a leading economy of the nation with a higher growth than the national average
Urbanization Process	Keeping continuous urbanization process with the same pace as before (sub-urbanization)	Controlled urbanization with intensification of built-up areas and minimizing urban sprawl (a compact city concept)
Economic Growth	Moderate	Slightly progressive
Environmental Burden	Increasing along with development pressures and urbanization process.	Need to establish a more practical management system to lessen environmental negative impacts

Source: JICA Study Team

5. SPATIAL STRUCTURE PLAN FOR GKS ZONE

5.1 Plan for Urban Systems: Human Settlements

5.1.1 Structure and Spatial Patterns

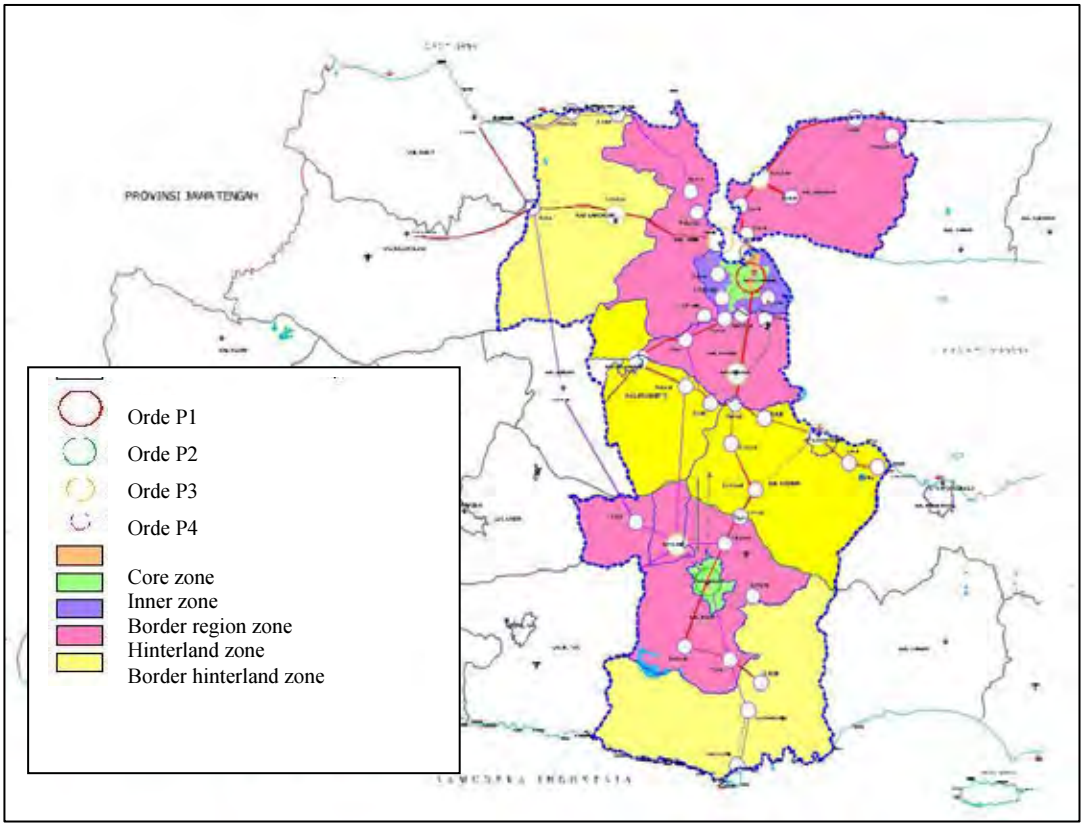
1) Megapolitan and Urban Settlement Structure

In East Java, Level P1 is MEGASUMA the megapolitan area of GKS Plus and the Greater Malang Metropolitan Area. PASGERBANGKERTOSUSILA (GKS and Pasuruan) and Greater Malang Metropolitan Area are classified as Level P2 urban areas or metropolises. Comprising Level P3 are large urban areas such as the Surabaya Metropolitan Area (SMA) and the Malang Urban Area. Classified as Level P4 are cities such as Surabaya and Malang.

The Level P1 urban system, which is MEGASUMA, and Level P2 are clearly not consistent with the nine development zones (SWP), of which GERBANGKERTOSUSILA PLUS (GKS Plus) is one.

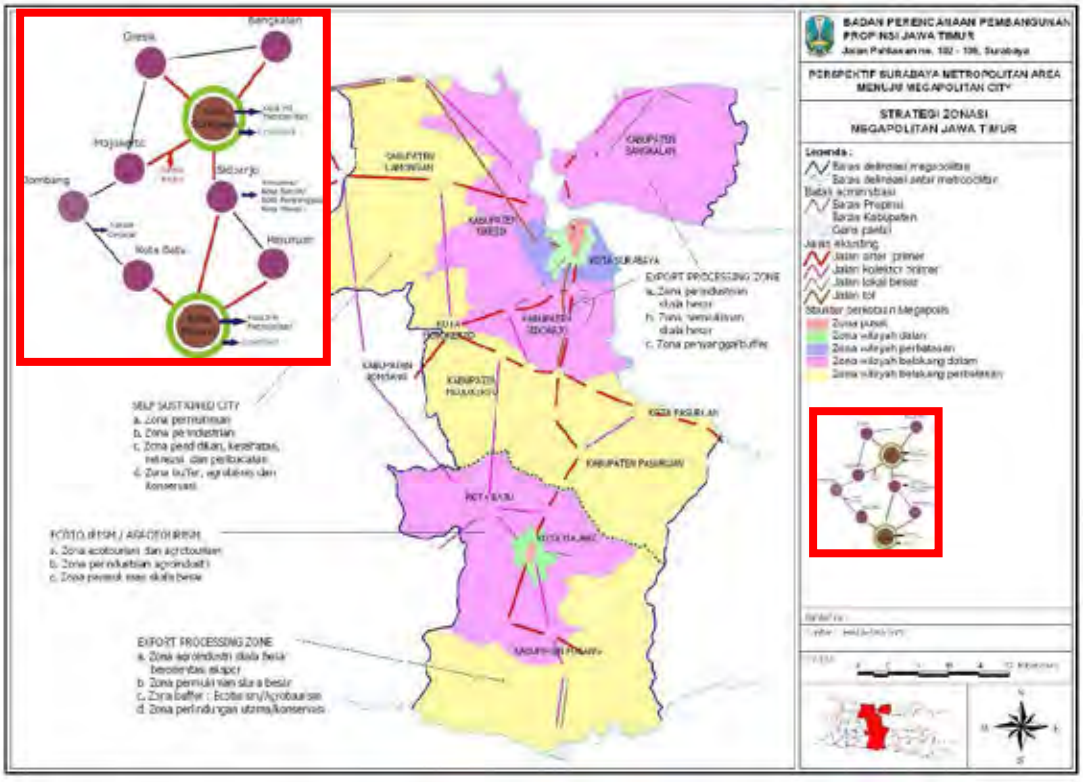
2) Megapolitan (MEGASUMA) Structure

As described in the spatial plan (RTRW) of East Java, MEGASUMA lies in the north-south direction, with Surabaya and Malang as its center, as shown in Figure 5.1.1.



Source: East Java Province RTRW (2009–2029)

Figure 5.1.1 Spatial Structure of MEGASUMA



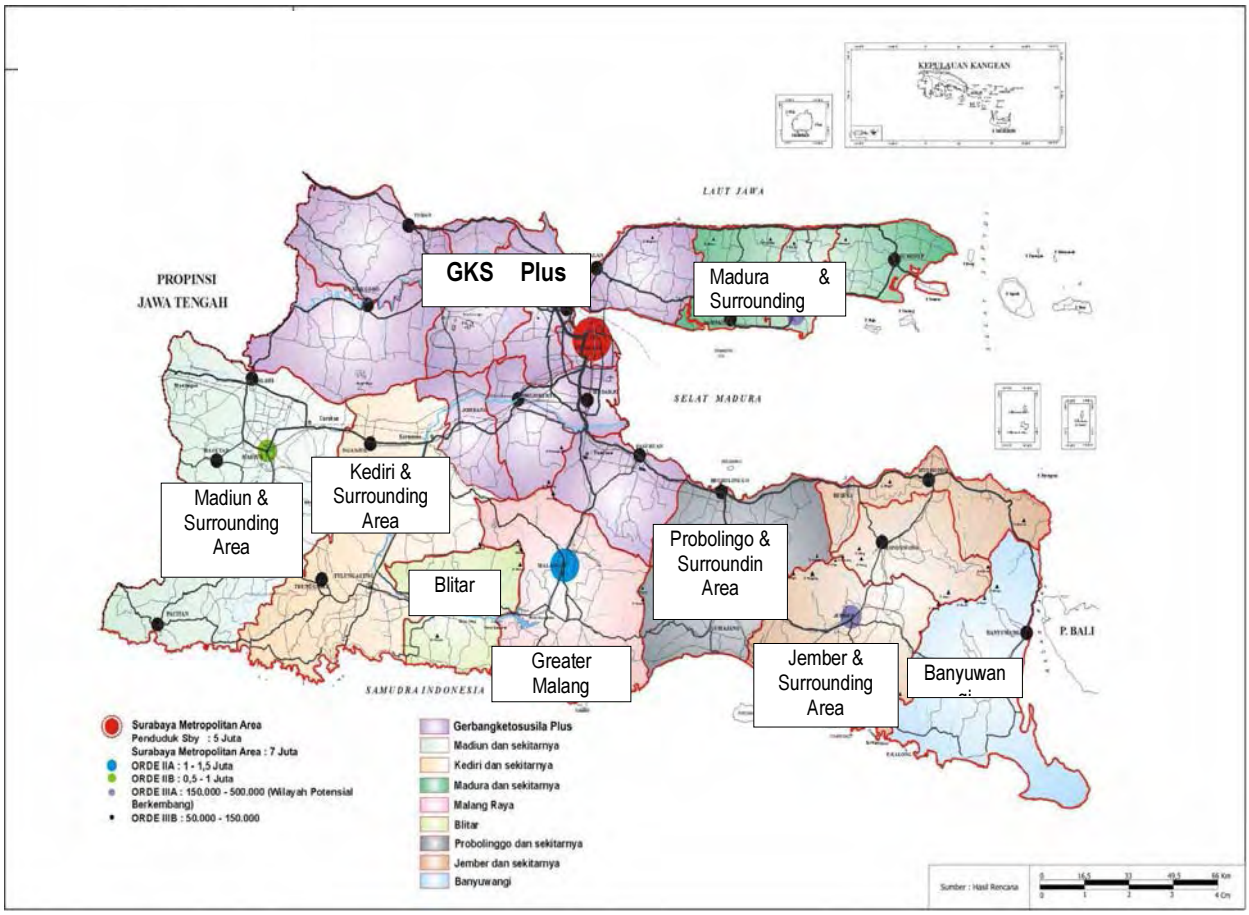
Source: East Java Province RTRW (2009–2029)

Figure 5.1.2 Urban Functions of MEGASUMA

3) Regional Development Zones

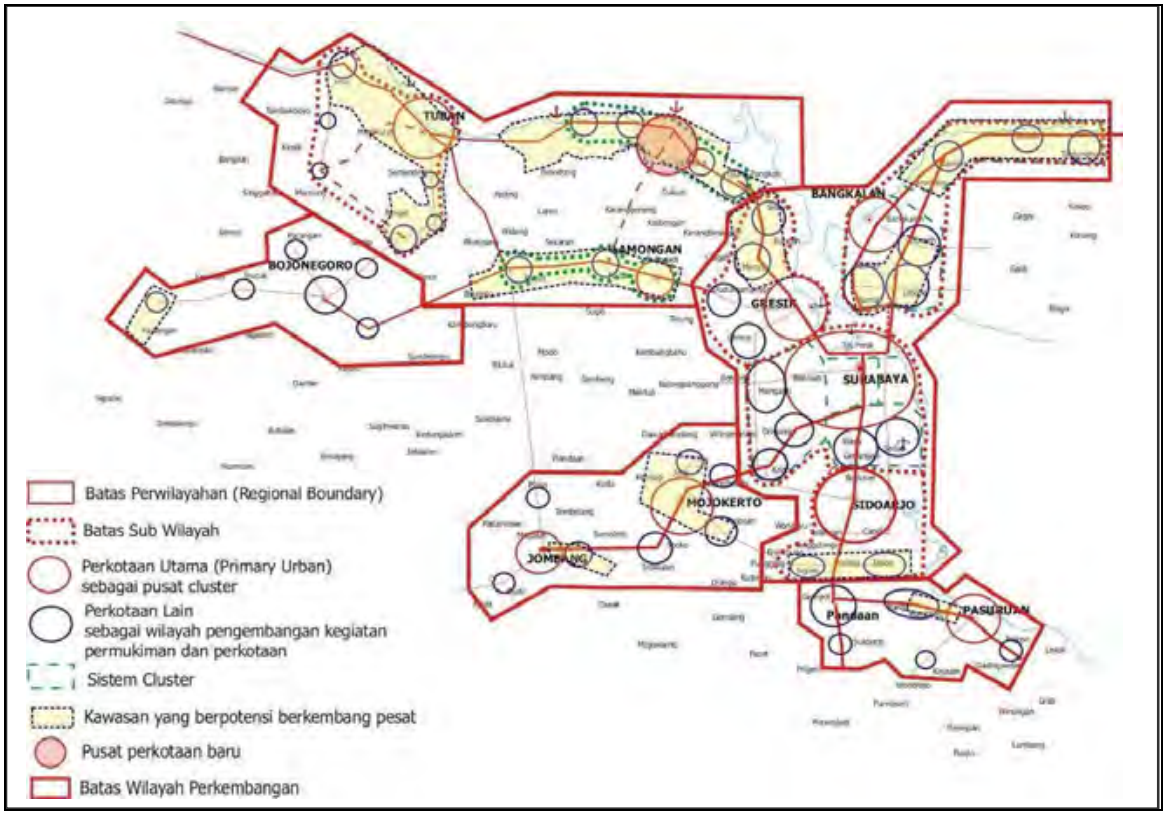
East Java province is divided into nine regional development zones, as shown in Figure 5.1.3. The GKS Plus development zone is structured as illustrated in Figure 5.1.4.

Figures 5.1.5 to 5.1.7 show the spatial structure of East Java with respect to the GKS Zone. Surabaya Metropolitan Area (SMA) is still the focal center in the province, supported by the Lamongan–Tuban, Mojokerto–Jombang and Pasuruan development zones. Research by the provincial government of East Java show that the Pasuruan area has an intensive economic and transportation connections to SMA. Since this situation influences the spatial structure in the GKS Plus, the shift to PASGERBANGKERTOSUSILA zoning was proposed. On the other hand, there will be a new urban center in the district of Paciran in the Lamongan–Tuban area.



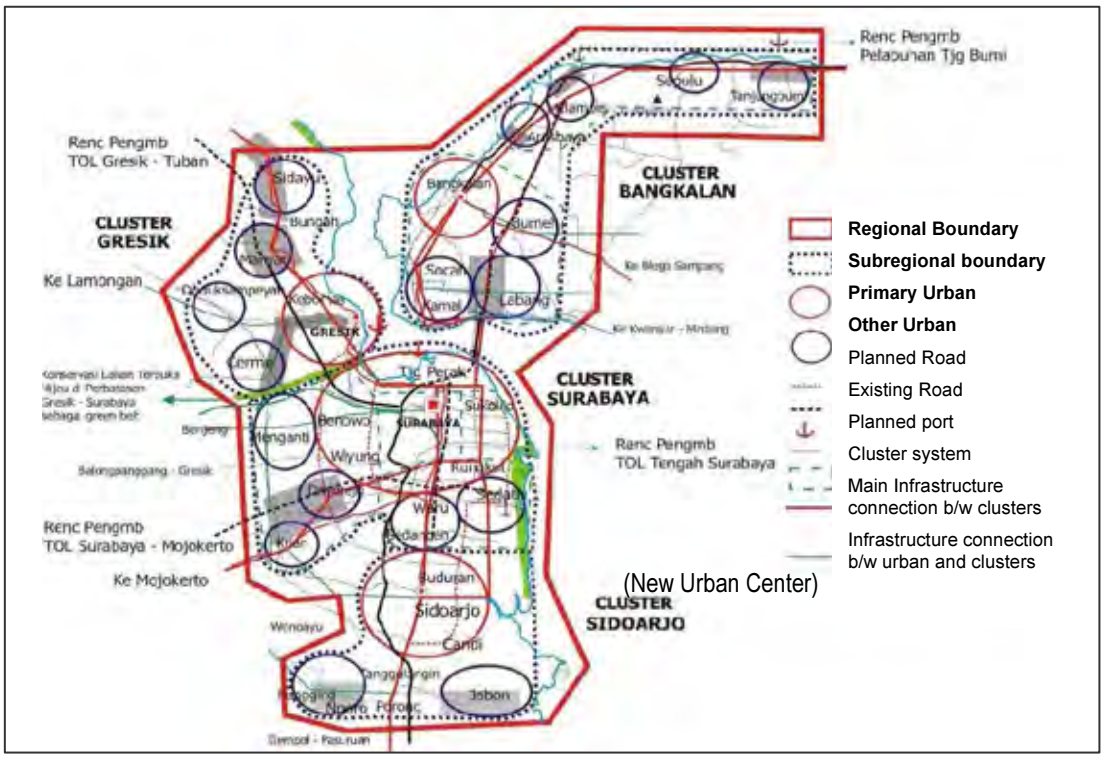
Source: East Java Province RTRW (2005–2020) and RTRW (2009–2029)

Figure 5.1.3 Development Zones (SWP) in East Java Province



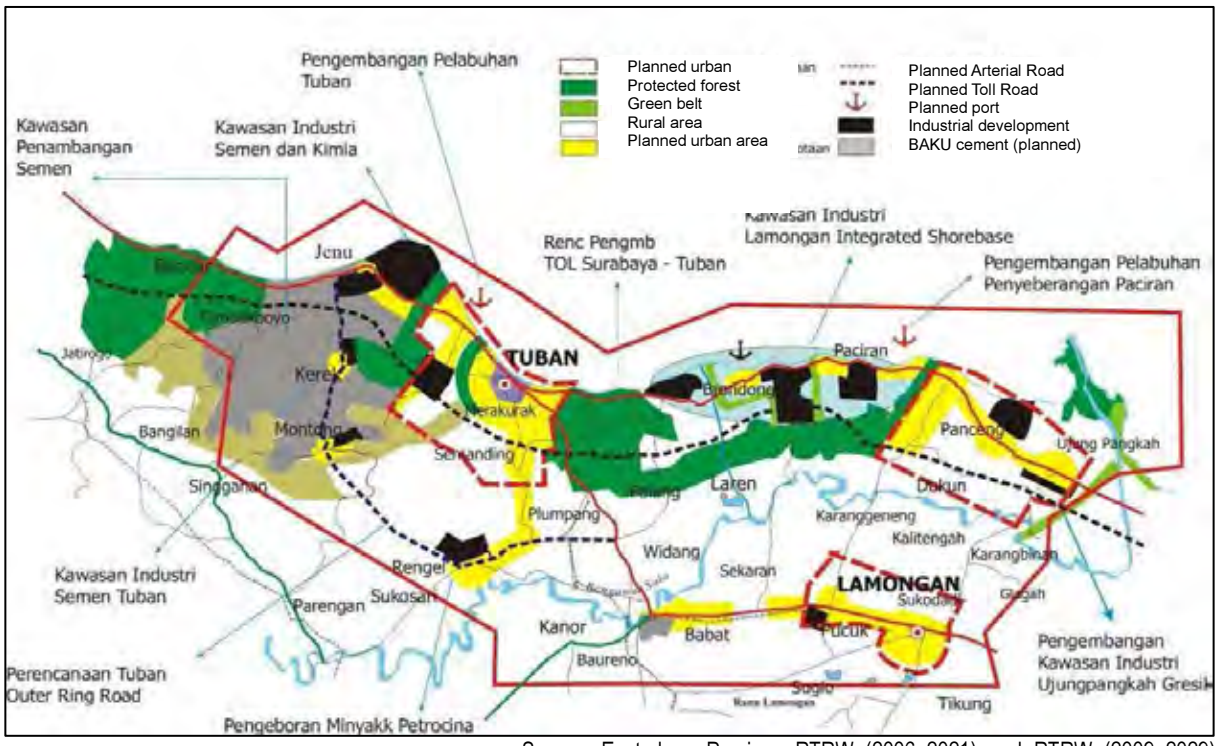
Source: East Java Province RTRW (2005–2020) and RTRW (2009–2029)

Figure 5.1.4 Spatial Structure in GKS Plus



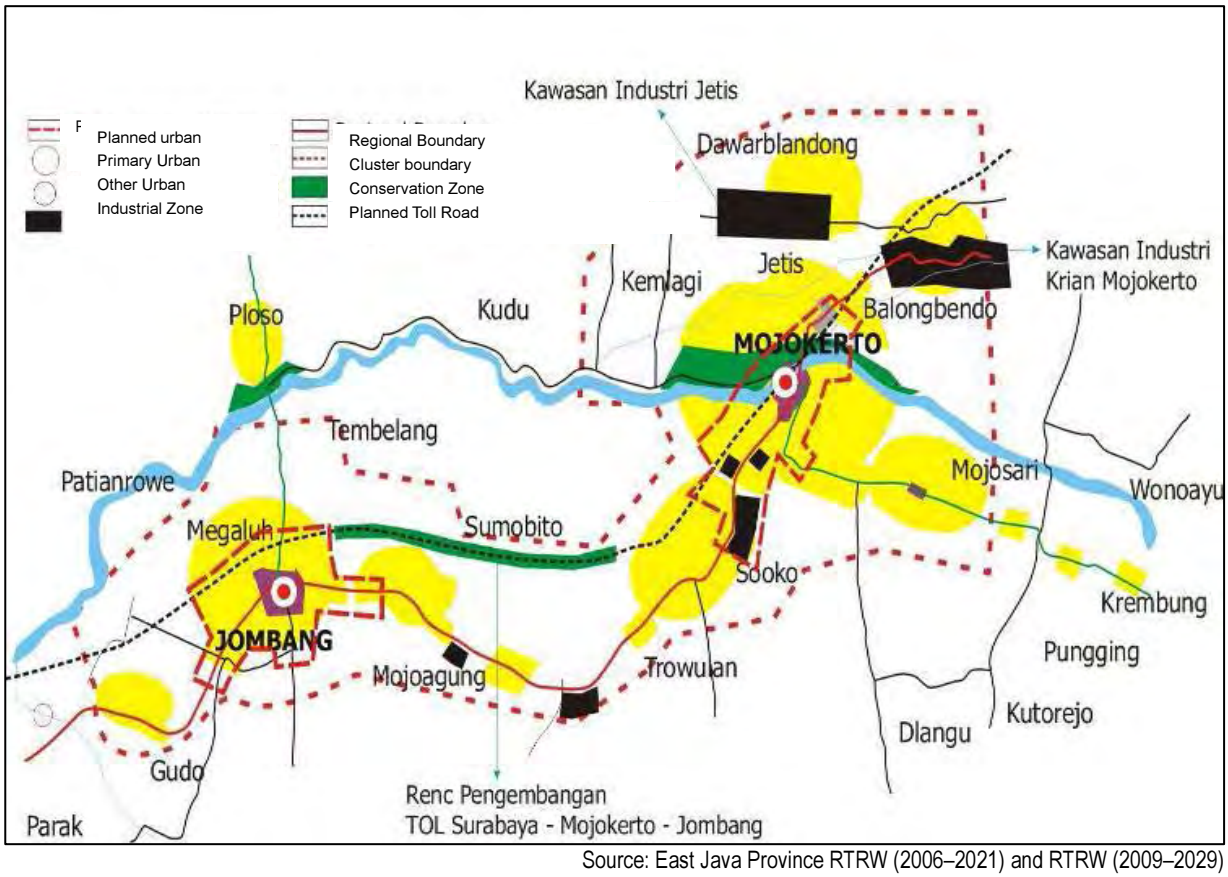
Source: East Java Province RTRW (2005–2020) and RTRW (2009–2029)

Figure 5.1.5 Spatial Structure of Surabaya Metropolitan Area



Source: East Java Province RTRW (2006–2021) and RTRW (2009–2029)

Figure 5.1.6 Settlement System in Lamongan–Tuban Area



Source: East Java Province RTRW (2006–2021) and RTRW (2009–2029)

Figure 5.1.7 Land Use Plan for Mojokerto–Jombang Area

5.1.2 Regional Spatial Structure

1) Introduction

Basically, the broad regional spatial structure envisioned in the East Java RTRW was adopted as the higher plan which the GKS spatial plan conformed to, even though the GKS has no regional zoning except for the Surabaya Metropolitan Area (SMA) and GKS Plus.

The basic idea of a spatial structure for East Java is to be polycentered with Surabaya as the focal and Malan (Malang?) as the secondary core, forming a large conurbation with peripheral regional centers in a hierarchical urban–rural settlement pattern.

Originally the gateway port city for East and Central Java, Surabaya has been the center of the area and is expected to further lead it in various ways. In the future, it will further strengthen its role as a gateway city in synthesis with the GKS's kabupaten and kota. The characteristics and attractiveness of the entire region will be envisioned by foreigners along the uniqueness of Surabaya's culture and vibrancy.

It is through regional development that the best use of Surabaya's assets can be made to achieve the development vision and missions of the GKS Zone. Its spatial structure is expected to realize this vision and missions through regional development.

2) Goals and Objectives

The following are the goals and objectives of the regional spatial structure and urban development of the GKS:

- To form a spatial structure that will balance development in the GKS Zone with positive relationships among the centers;
- To make clear delineations of protected and cultivation areas for sustainable resource and land utilization in the GKS Zone; and
- To manage urban growth and avoid uncontrolled urbanization.by creating compact and ecology-oriented cities

3) Regional Spatial and Settlement Structures

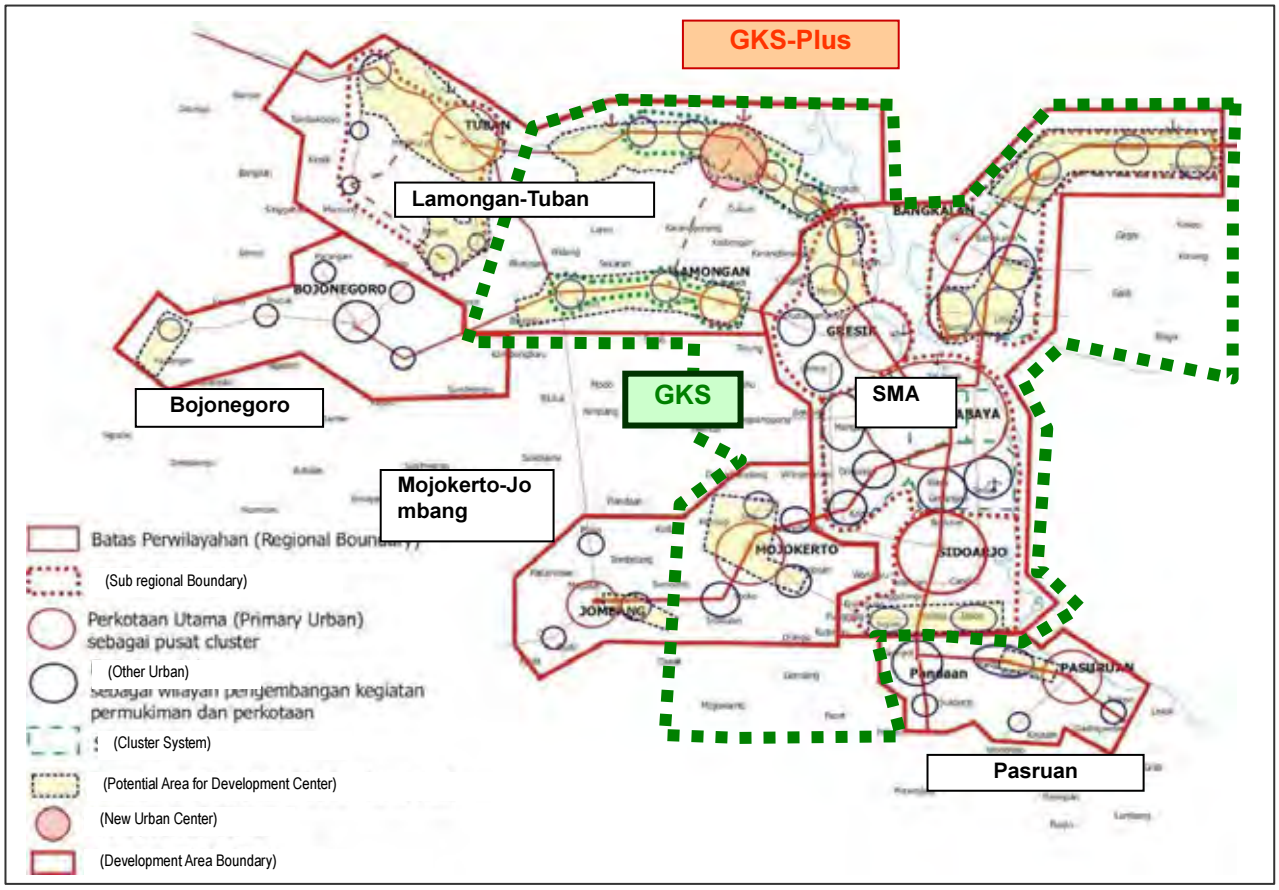
The East Java RTRW and each GKS kabupaten and kota have several zone combinations, as shown in Figure 5.1.8, which indicate their relationships with other development zones. The GKS Zone is part of the GKS Plus Zone, and the hierarchy of centers in the GKS is categorized, as follows:

Level 1: Surabaya (service center, trade, industry, settlement, education, etc.)

Level 2: Sidoarjo, Gresik, Bangkalan (subcenters in SMA as service center, trade, industry, settlement, education, service center)

Level 3: Lamongan (agricuture, industry, tourism)

Kabupaten Mojokerto (service, agriculture, trade)
Kota Mojokerto (trade, service, government)

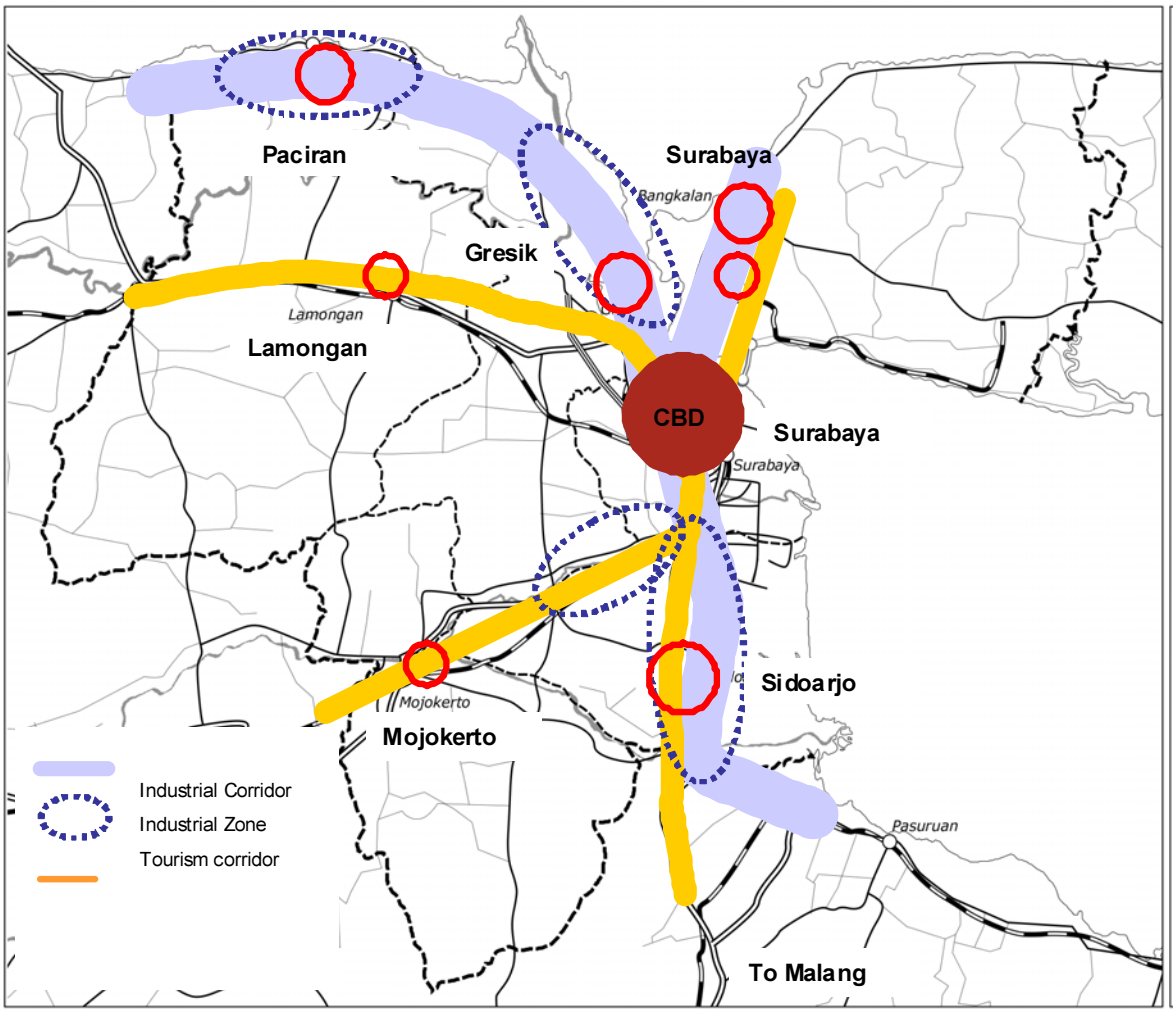


Source: JICA Study Team Based on RTRW of East Java Province under revision

Figure 5.1.8 Interrelationship of GKS Zone with GKS Plus

4) Development Directions

Table 5.1.1 summarizes the development direction of each kabupaten and kota in the GKS, as stated in East Java's RTRW 2009–2029. The growth of the kabupaten and kota are directed toward strategic main sectors, such as industrial development, tourism development, and agropolitan development, which are reflected in the development concept of spatial distribution and corridors. The plan shows several other development ideas, although the focus is on industrial development, especially along the industrial corridors shown in Figure 5.1.9. These developments are concentric-based with specific functions for the centers. The GKS Zone has a strong industrial development potential, which is reflected in the spatial structure concept. In addition to industrial development, tourism corridors are planned—two of which have Surabaya as the center—in the GKS Zone, as illustrated in Figure 5.1.9.

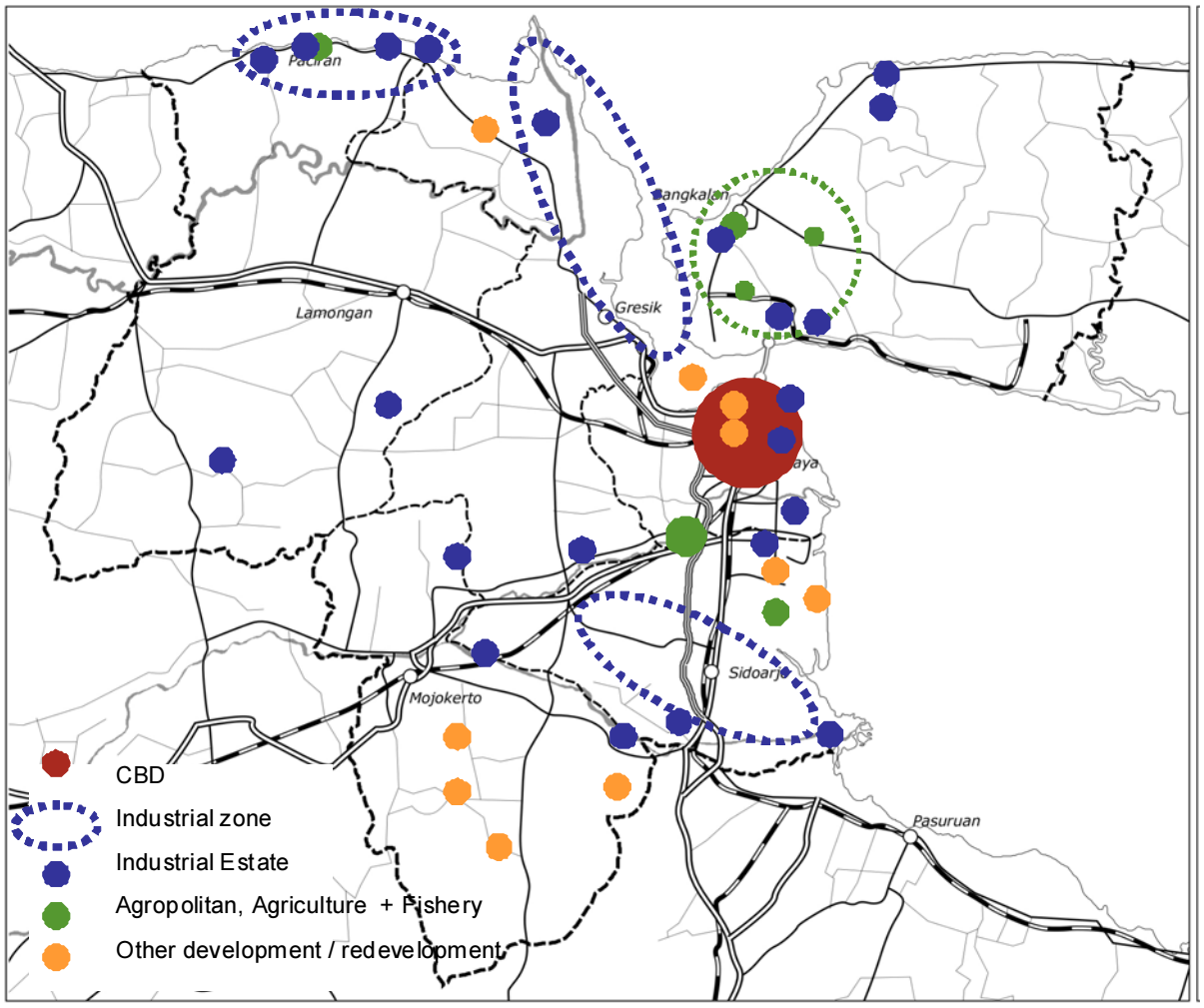


Source: East Java Province RTRW (2009 – 2029) under revision

Figure 5.1.9 Strategic Development Corridors of GKS as Planned in RTRW of East Java Province

5) Development Ideas for Kabupaten and Kota in the GKS

All parts of the kabupaten and kota with envisioned industries and the other core areas have their own development ideas, which more or less reflect the development potential of the GKS Zone. Figure 5.1.10 shows the kabupaten/kota development ideas, such as industrial estate development, agropolitan, and fishery development.



Source: JICA Study Team based on RTRW of Kabupaten and Kota of GKS

Figure 5.1.10 Strategic Areas in Kabupaten and Kota RTRW in GKS Zone

Table 5.1.1 Summary of Development Plans in RTRW of East Java Province

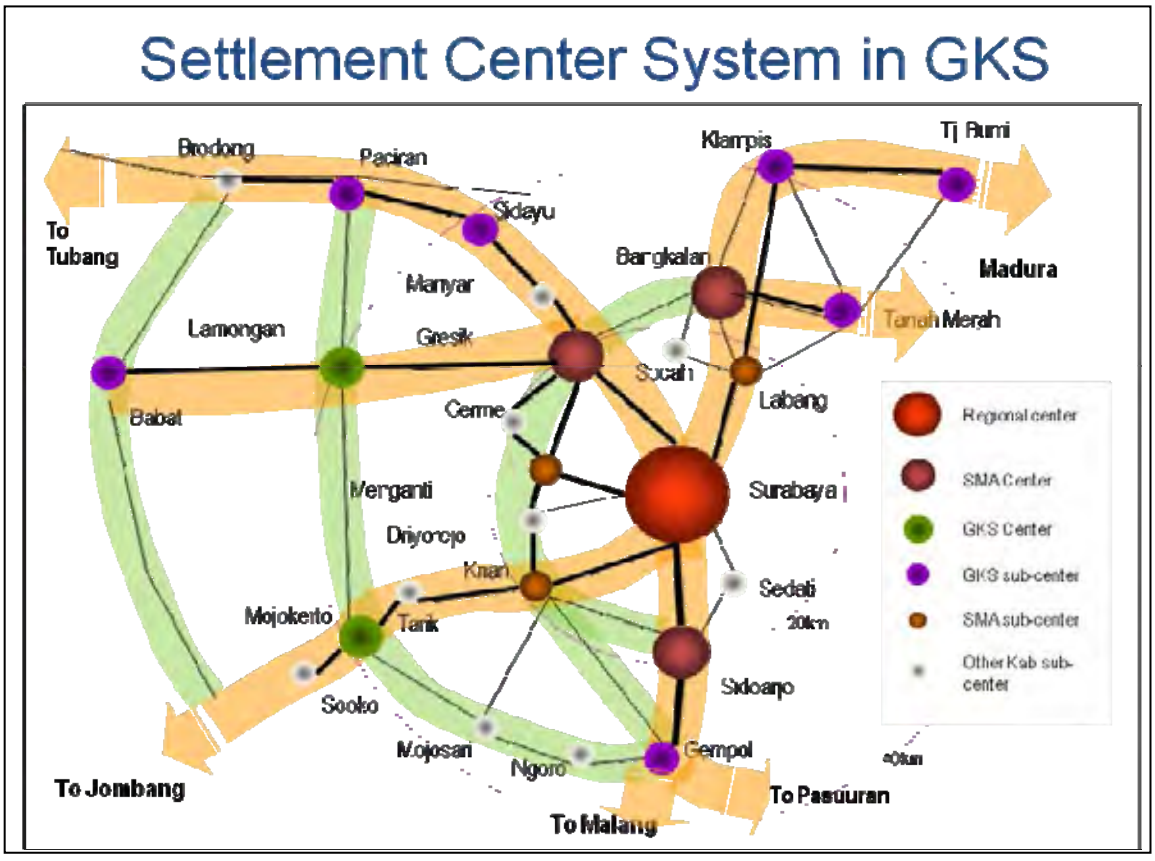
Area	Strategic Development Sector	Main sector	Industrial	Agropolitan	Tourism	Other Strategic Area
Surabaya	• Development at the foot of Suramadu Bridge • Port development	• Suramadu Bridge: Warehousing	• SIER (Surabaya Industrial Estate Rungkut) • Surabaya Hi-tech Industrial Zone	• Main Outlet	• International Gateway • Corridor A Service Center • High Growth	• Surabaya metropolitan CBD • Center for national & international market including at the foot of Suramadu Bridge
Sidoarjo	• *EJIIZ*: Polluting industry (Jabon), city cargo terminal • Agri-business terminal development	• Industrial area • Commercial area • Fishery	• Sidarjo Industrial Zone (hi-tech) • Bebek Industrial Zone	• Agri-business terminal development	• Corridor A	• Porong–Gempol Zone • Puwodadi–Lawang Commercial Zone
Gresik	• *EJIIZ*: Heavy industry, industrial port + bonded zone, industrial estate, bonded zone, city cargo terminal (2), EPZ	• Fishery • Industrial area	• Gresik Industrial Zone • Gresik Hi-tech Industrial Zone (west of Surabaya)		• Corridor A • High growth	-
Kota Mojokerto	-	• Commercial and service for local needs	-	-	• Corridor B	-
Mojokerto	-	-	-	-	• Corridor B	-
Bangkalan	• Madura Island's poverty alleviation • *EJIIZ*: International port and bonded zone • Development at foot of Suramadu Bridge	• Industry and transportation, warehousing at Suramadu Bridge	• Local resource integrated industry =local resource (technology and material) based industry for industrial linkage for Madura Island	• Regional distribution and connection center (RDCC) at Bangkalan, to cover all of Madura Island	• Corridor A • Gate (Suramadu Bridge)	• Center for national & international market at Suramadu Bridge
Lamongan	• *EJIIZ*: Paciran: fishery industry, and non-polluting processing industry, port development, industrial estate, oil and gas industry development	• Industry, shore-base, fishing port, fishery at north coastal area	• Integrated industry = local resource (technology and material) based industry for industrial linkage & FTZ & Port	-	• Corridor A • Gate and service center (Paciran)	• FTZ

Notes: EJIIZ, stands for "East Java Integrated Industrial Zone"
Tourism Development: **Corridor A** = 3 routes, i.e., Lamongan–Gresik–Surabaya, Surabaya–Bangkalan, and Surabaya–Sidoarjo–Malan for religious tourism.
Corridor B = Surabaya–Mojokerto–Jombang-Madiun for historical tourism.

6) Spatial Structure and Direction of Development

Based on the spatial structure indicated in the East Java spatial plan, the spatial structure for the GKS Zone was formed as a multicentered area with the following hierarchical development centers:

Level 1	Regional Center	Surabaya
Level 2	SMA Center	Sidoarjo, Gresik, and Bangkalan (20-km radius from Surabaya)
Level 3	GKS Kab. Center	Mojokerto, Lamongan, (40-km radius from Surabaya)
Level 4	GKS Subcenter	Paciran, Babat (Lamongan); Sidayu (Gresik); Gempol (Sidoarjo); Tanah Merah, Klampis, Tj. Bumi (Bangkalan)
Level 5	SMA Subcenter	Menganti (Gresik); Krian (Sidoarjo); Labang (Bangkalan)
Level 6	Other Kabupaten Subcenter	Brondong (Lamongan); Manyar, Cerme, Driyorejo (Gresik); Tarik, Sedati (Sidoarjo); Sooko, Mojosari, Ngoro (Mojokerto); Socah (Bangkalan)
Other	Intermodal center	Tambakoso Wilangon (Greik); Sepanjang & Waru (Sidoarjo)



Source: JICA Study Team

Figure 5.1.11 Spatial Structure of GKS Zone

The area within a 20-km radius from the center of Surabaya forms the SMA (Surabaya Metropolitan Area). The linkage with the center spreads out to areas within a 40-km radius

from Surabaya, reaching Lamongan, Mojokerto, Bangkalan, and even Pasuran outside the GKS Zone. This area is called the Greater Surabaya Economic Integration Area.

The outer area, which has some strategic projects, likewise has centers, such as the GKS subcenters, SMA subcenters, and kabupaten subcenters which are strategically located on transportation nodes or along corridors within the GKS. Furthermore, there are intermodal centers to be established on the fringe nodes that will connect Surabaya with Gresik, Mojokerto, and Sidoarjo.

Each urban center has its own role and function in the regional context, as summarized in Table 5.1.2.

Table 5.1.2 Roles and Functions of Major Urban Centers in GKS

Major Urban Center		Role and Function
Regional Center	Surabaya	• Primary urban center, gateway and model city of the region for those outside the GKS, especially foreign countries. • Regional center for political, administrative, economic and social activities, providing higher functions for business, services, as well as for commercial, administrative, and cultural aspects.
SMA Centers (20 km from Surabaya)	Sidoarjo	• Subregional center for industrial and commercial services. • Subcenter of southern GKS. • Strong linkage with Surabaya and Pasuran to enhance the economy.
	Gresik	• Subregional center of northern SMA and industrial and commercial activities. • Strong linkage with Surabaya, Lamongan and Paciran/Brondong economic zones.
	Bangkalan	• SMA center of Madura Island. • Core urban center of Madura Island to accommodate the island's economy.
GKS Kabupaten Centers (40 km from Surabaya)	Kota Mojokerto	• Subcenter of GKS to accommodate Mojokerto and Jombang Zones. • Strong linkage with Jombang, and Surabaya through a highway. • Center of district industrial and commercial activities.
	Lamongan	• Subcenter of the GKS to accommodate agricultural-based district economies. • Strong linkage with Surabaya, Paciran/Brondong, Babat, Bojonegor.
GKS Subcenters	Sidayu (Gresik)	• GKS subcenter as a waterfront city with industrial development along the Solo River.
	Paciran (Lamongan)	• Subcenter as special economic zone composed of industrial, port, logistics and tourism development with environment countermeasures.
	Babat (Lamongan)	• Subcenter in the middle of Lamongan and on the border to Tuban.
	Gempol (Sidarjo)	• Subcenter located on the corridor to Pasuruan and Malang.
	Tanah Merah (Bangkalan)	• Subcenter for agricultural activities, especially livestock and poultry, and with an agropolitan function.

Major Urban Center		Role and Function
	Klampis (Bangkalan)	• An international port in Tj. Bulupandan Port which is planned to play an important role in cargo transportation in the long run, along with hinterland development.
	Tj. Bumi (Bangkalan)	Subcenter as sea transportation, trade, services, local industries, and also connecting the eastern part of Madura island.
SMA Subcenter	Labang (Bangkalan)	• SMA subcenter with a trade and service area development at foot of Suramadu Bridge.
	Menganti (Gresik)	• Human settlement development center in suburban areas along railway transportation and truck roads.
	Krian (Sidoarjo)	• Center for industries and settlements for the Siborian industrial development.
Other Kabupaten Subcenters	Brodong (Lamongan)	• Center with a national fishing port.
	Manyar (Gresik)	• Center with a large industrial development.
	Cerme (Gresik)	• Kabupaten subcenter with human settlement to accommodate increasing population in the suburban areas along trunk roads.
	Driyorejo (Gresik)	• Kabupaten subcenter with settlements and industries.
	Socah (Bangkalan)	• Kabupaten subcenter with port and hinterland development.
	Tarik(Sidoarjo)	• Center of a new waterfront residential town development.
	Sedati (Sidoarjo)	• A new town for Gem-polis (marine city) which is planned close to the Juanda International Airport.
	Sooko (Mojokerto)	• Non-polluting industries and settlements center.
	Mojosari (Mojokerto)	• Center for industries and settlements.
	Ngoro (Mojokerto)	• Center with an industrial estate development.

In addition to the above subcenters, there are intermodal centers as follows:

Intermodal Centers	Roles and Functions
Tambakoso Wilangon (Gresik)	Intermodal gateway connecting Lamongan and Surabaya.
Waru (Sidoarjo)	Intermodal gateway connecting Sidoarjo and Surabaya.
Sepanjang (Sidoarjo)	Intermodal gateway connecting Mojokerto and Surabaya.

Source: JICA Study Team

7) Central Business District (CBD): Center of Surabaya

Surabaya's CBD is the gateway of the GKS Zone. The CBD offers a variety of metropolitan services that are at par with international standards. The CBD has been made more attractive and vivid through the rearrangement of the congested urban areas. To this end, the congested built-up areas should be redeveloped into an even more attractive urban center. Such redevelopment, together with the Suramadu Bridge, will help Surabaya become an international tourism destination, complete with MICE amenities (meeting, incentive, convention and event/exhibition).

Traffic congestion will be worse off without the proper transportation improvement plan including traffic management, traffic calming, etc. In addition to the improvement of the business environment, raising the living conditions in the central area of Surabaya is also important.

8) Existing Built-up Areas around the CBD

The existing built-up area in Surabaya is highly populated and lacks urban facilities such as, educational facilities, green open spaces, parks, and even wide access or feeder roads.

In this area, the improvement of living conditions should be top priority, especially by creating green open spaces and providing educational facilities. For this purpose, some **redevelopment or land readjustment projects** should be planned through a bottom-up and participatory approach.

9) Suburban Development Zone

This development is a **front-line urbanization** project and needs careful control and guidance of new developments to avoid sprawl, provide sufficient public facilities and good living environment, as well as to make the urban area as compact as possible.

This zone encompasses Sidoarjo, Gresik, and Mojokerto, areas **within a 20-kilometer radius from Surabaya,** and is within commuting distance to Surabaya. **New-town developments** are also expected to provide quality residential areas and work places together with nearby industrial developments.

Planned to be set up at the fringe of the zone is a kind of a **buffer zone-cum-green belt** that will prevent uncontrolled development along the new trunk road network.

The zone is also expected to serve as a transportation node that will provide **logistics and intermodal exchange functions**.

10) GKS and SMA Subcenters

After Surabaya, the GKS subcenters have very important roles in providing urban services like business, commercial, and trade, to the subregional levels, thereby linking Surabaya and other urban centers with their hinterlands. These subcenters will function as significant parts of the Greater Surabaya integrated economy and should be linked with a well-formed transportation network.

11) Industrial Zones

Existing Industrial Areas: It is necessary to mitigate adverse environmental impacts through (i) the clustering of industries that would allow dealing with them in a collective way and/or (ii) relocating polluting industries from built-up areas.

New Industrial Areas: Industrial estates are being planned in some kabupaten and kota, based on the latter's land-use plans (RTRW) and many of them are located on existing industrial corridors and along a ring road that runs along an arc within a 20-km radius from the center. Thus, to accommodate these industries, a good road network and logistical

bases should be developed properly, together with other infrastructures and utilities. W**ater supply** is especially crucial in this aspect.

In setting up industrial estates, as Bangkalan, Gresik and Lamongan are considering to do, local resource-based industries, i.e., agriculture and fishery, local technology and human resources should be selected for better economic impact.

5.2 Urban–Rural Linkages

5.2.1 Rural Structure

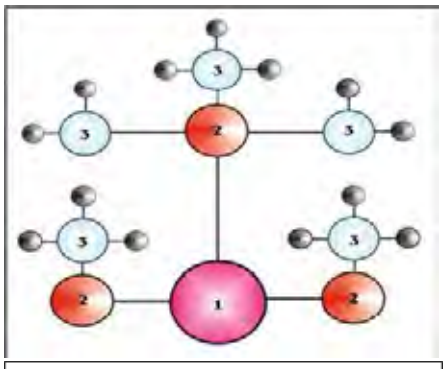
Relatively backward rural areas in the GKS will be strengthened by linking them with centers and urban areas through socioeconomic activities. For this, there is a plan to form close linkages with the rural areas in a hierarchical manner, which will need an efficient infrastructure network. East Java's spatial plan, which encompasses the province rural areas, indicates a three-tier village hierarchy, as follows:

- Inter-village service centers (PPL);
- Service center in each village (PPD); and
- Service center for one or several hamlets or groups of settlements (PPDs).

The hierarchy of the rural service centers shows a relationship with the district service center being the nearest urban area, which are themselves centers of the sub-WP (regional development) in each district capital. This structure of rural space is an effort to accelerate the growth effects of WP centers. The plan for the rural spatial structure can be seen in Figure 5.2.1.

Rural structure, formed according to service coverage,, consists of:
- Between village service centers
- Within village service centers
- Hamlet service centers

Service centers will connect:
- District service centers in the nearest urban area
- Urban area of sub-SWP (subcenter of regional development units)
- Capital city of each regency



1. SWP (dev't zone) center
2. SSWP center
3. District capital
4. DPP (Village service center)

Source: East Java Province RTRW (2009–2029)

Figure 5.2.1 Rural Spatial Structure in East Java Province

The management of rural systems is a tool to accelerate rural growth. The concept is consistent with the "***agropolis villages***." The agropolitan system in East Java comprises the following five systems as indicated in the provincial spatial plan:

- Madiun system (System Agropolitan Willis);
- Probolinggo system (Bromo– Tengger–Semeru agropolitan system / BTS);
- Bondowoso system (System agropolitan Ijen);
- System Madura (Madura agropolitan system); and
- North coast agropolitan system.

Rural development will be achieved through the aropolitan system, wherein rural–urban interactions would be made through a system of settlement centers in accordance with East Java's spatial structure and economic development patterns, which are in turn designed to trigger regional development based on primary sectors. The GKS Zone was planned along this idea, as shown in the table below.

Table 5.2.1 Role of GKS Zone in Regional Development

Area	Role
Surabaya	Serve as a collection center, as well as a distribution and manufacturing subcenter.
Lamongan	Serve as a collection and distribution subcenter, subcenter for processing industries in LIS (Lamongan Integrated Shorebase) in Paciran district and for tourism development in Paciran.
Gresik	Serve as a collection and distribution, as well as industrial processing subcenter.
Sidoarjo	Serve as a collection and distribution, as well as manufacturing subcenter.
Mojokerto	Serve as a collection and distribution, as well as industrial processing subcenter.
Bangkalan	Serve as a subcenter for collection and distribution (in Bangkalan), trade and services (in Labang at the foot of Suramadu Bridge), industries (in Kamal, Labang, Tragah, Burneh and Socah), and tourism development (in southern coastal Bangkalan).

Source: East Java RTRW

As described in the East Java spatial plan, the development of rural settlement centers will be developed through their economic characteristics, namely (1) agricultural villages and (2) industrial villages.

Agricultural villages in general are characterized by pure agricultural activities (basic sector). The central function of settlements in rural areas is directed toward services that center around the farm (***village farm*** type).

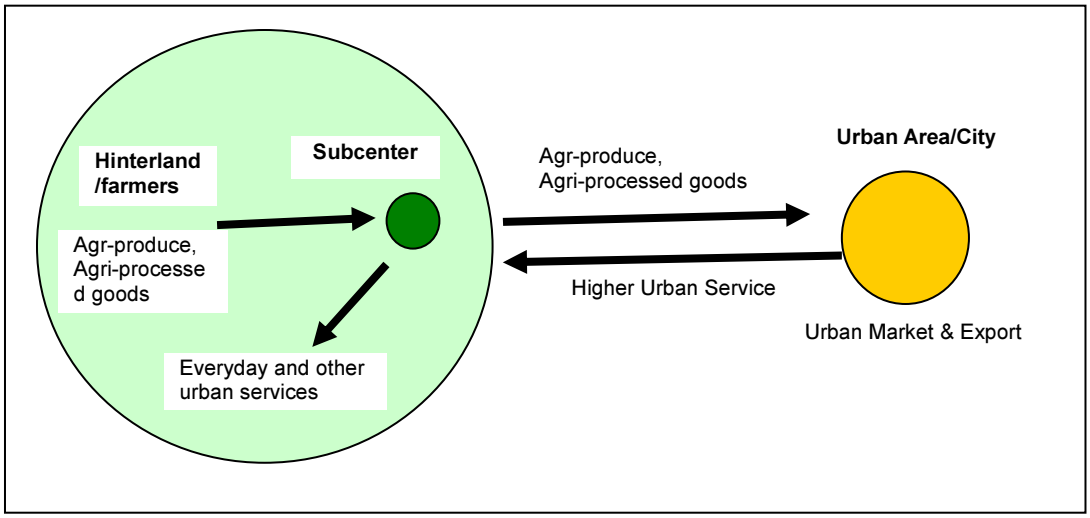
Industrial villages will grow through ***agriculture-based industrial activities***, and more prospective industries will be developed to ***become the village growth center***. A central system of settlement can be directed to serve as rural settlement centers. Hierarchically, the center of industrial villages is higher than that in agricultural villages.

Centers of industrial villages will be connect with each other and structurally directed to interact with towns in their respective vicinities. Settlement centers could also host agricultural processing industries, as well as trade activities as a collection and production center for adjacent agricultural villages. Each service center will be developed through the provision of various socioeconomic facilities which will encourage rural development.

The existence of village centers makes possible population concentration, as well as non-agricultural activities, which are far more intensive than the agricultural activities in village settlements. The pattern of rural settlement centers shows synergy and balanced land use.

These concepts in the East Java spatial plans were followed in the GKS rural spatial structure.

The agropolitan concept addressed in the East Java RTRW attempts to strengthen the rural subcenter city, or town, to act as a vital bridge between rural and urban areas. In Figure 5.2.2, district capitals (kecamatan capital) play such a role. They are the providers of various urban services, such as commercial and business services to the hinterlands, and they also function as logistical and transaction centers for agricultural products and processed goods for city markets, and even for exports.



Source: JICA Study Team

Figure 5.2.2 Interrelationships of Rural Areas, Subcenters, and Urban Areas

5.2.2 Enhancement of Rural Economic Activities

1) Improvement of Agricultural Productivities

The vitalization of the rural economy not only includes the vitalization of subcenters but also requires the development of the *desa* (village). To this end, the dynamic diverse desa economy (3D economy) is pursued. To enhance rural economies through proper economic strategies, the following are needed:

- Enhancement of farmers cooperatives;
- Provision of financial support;
- Provision of information and technical advice; and
- Improvement of seed productivity, irrigation, fertilizer use, post-harvest activities, etc.

2) Diversification of Agri-business

Diversification is essential in addition to improvement of agricultural productivity. There are two examples that can be cited in the Japanese agri-business diversification experience. One is “one village one product” (*satu desa satu produk*) and the other is roadside stations (*michi-no-eki, or jalan stasium*).

One Village One Product: To sell the locality to outside markets, it has to feature a main sales product. Such product must be developed through marketing and strong sales promotion. This activity to promote economic development of villages is an endogenous process of local development. Major local products must be identified and their marketing and sales campaign must be conducted. In Japan's cases, strong leaders and community participation promoted such product development.

To ensure success, the experience in Japan tells that the collaboration among (1) local people (farmers, farmers' associations, and local community), (2) government, (3) NGOs, and (4) the private sector is important. Thus, facilitation of such collaborative relation should be enhanced.

Roadside Stations: Since 1993 in Japan, rest facilities called roadside stations have been established along general roads. The roadside station functions not only as a rest area for drivers but also as an information transmission base, as well as a location to interact with local people through local products and events. It is highly regarded and recognized communication space where local initiatives can be utilized. Currently, there is close to 800 roadside stations in Japan.

Table 5.2.2 summarizes the concept of roadside stations in Japan. Like the one village one product concept collaboration between the local community and government is important. This idea, together with commercial and tourism promotion activities, is recommended for agricultural areas to diversify their agri-businesses.

Table 5.2.2 Roadside Station Concept

Items	Description
Objective / outline	A facility that integrates a parking area, restrooms, information facilities, and community facilities provided by local governments. In addition, this facility provides information on the geography, cultural and natural resources, tourist attractions, local major products, etc., of the locality. This facility is expected to help vitalize local socioeconomic activities.
Function	**Refreshment**: Rest for drivers and passengers. **Information**: Exchange of information among users and the local community. **Collaboration** among stakeholders: Local communities and the government.
Location	Strategic location taking account of the roadside station network and other facilities
Facilities	Parking Restroom / toilet Local information counter Various services
Operator	Government

Source: http://www.mlit.go.jp/road/road_e/contents01/1-3-4.html