

8-3-3 Environmental Impact Analysis

(1) Prediction and Evaluation of Major Impacts

Major environmental impacts/ factors due to the implementation of housing and settlement development in P. Panjang and Jatiasih in each project stage; namely pre-construction, construction and post-construction stage, are given in Article 8-3-2 Table 8-3-1 the environmental examination matrix. Prediction and evaluation of these impacts/ factors are described in the following articles. While, some of potential environmental impacts due to the project activities are shown in Figure 8-3-4 (for P. Panjang) and Figure 8-3-5 (for Jatiasih), respectively, which are described on the F/S plan.

1) Pre-Construction Stage

Major environmental impacts on pre-construction stage due to housing/ settlement development are represented to the *social friction/ unrest* on the rural communities and/or inhabitants due to urbanization, and *resettlement/ relocation* in P. Panjang/ KASHIBA site and Jatiasih/ *Land Consolidation* site.

- **Social Friction/ Unrest due to Urbanization**

Urbanization of the community or conversion of the community from rural to urban is inevitable sooner or later in the suburban area of DKI Jakarta, i.e. BOTABEK area, including P. Panjang and Jatiasih. The urbanization pattern in the suburban area of DKI Jakarta can be classified into two patterns, that is, *spontaneous urbanization* and *project-led urbanization*, and housing/ settlement development in P. Panjang and Jatiasih is correspond to the latter.

The project-led urbanization due to the housing/ settlement, manufacturing and commercial development are to encroach on the rural areas, bringing about mixture of the rural and urban communities in the certain rural area. The rural area/ communities neighboring to the project site will socially and/or economically influenced by the adjacent urbanized estates, resulting to the change of the community's characteristic from rural to urban.

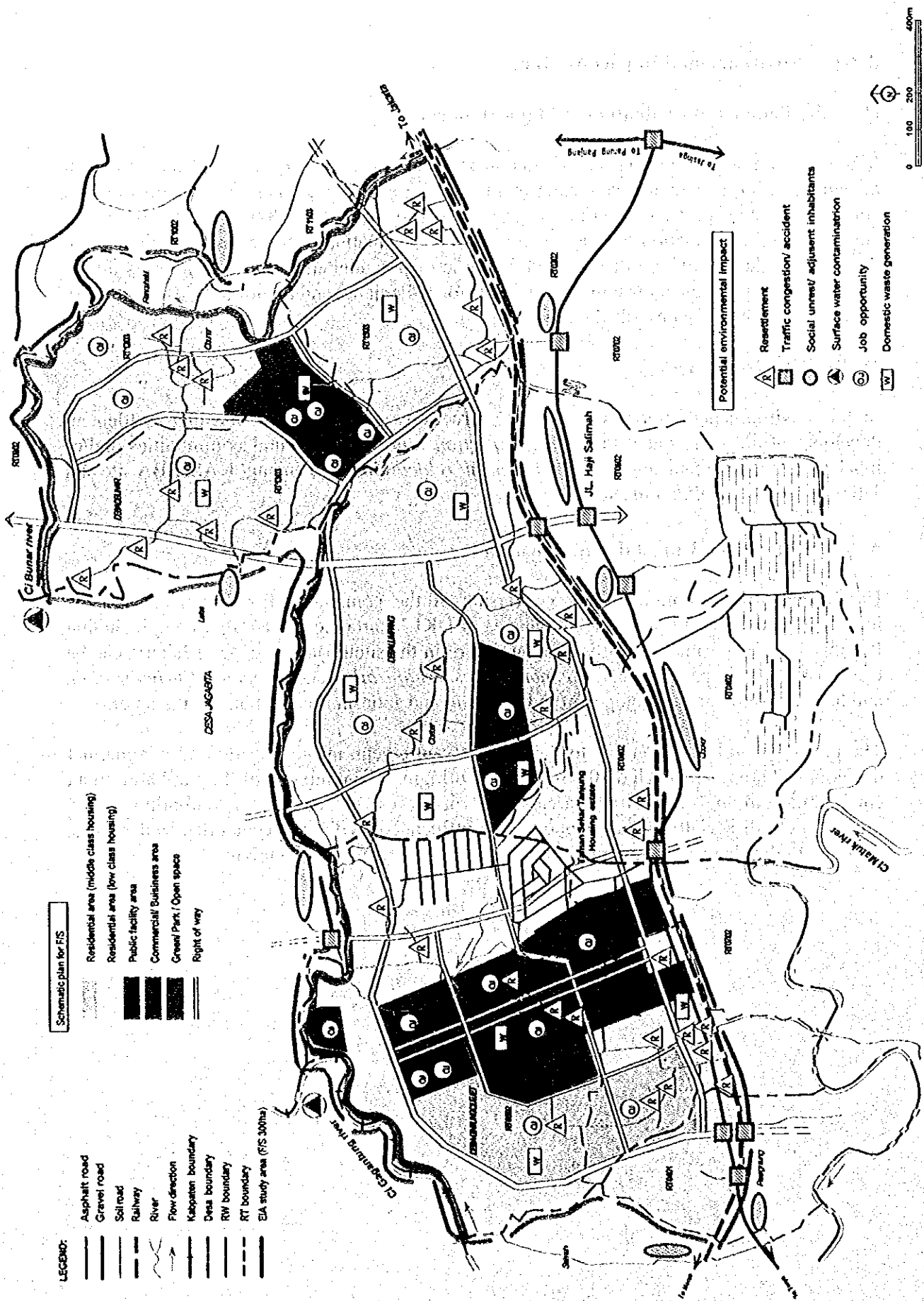
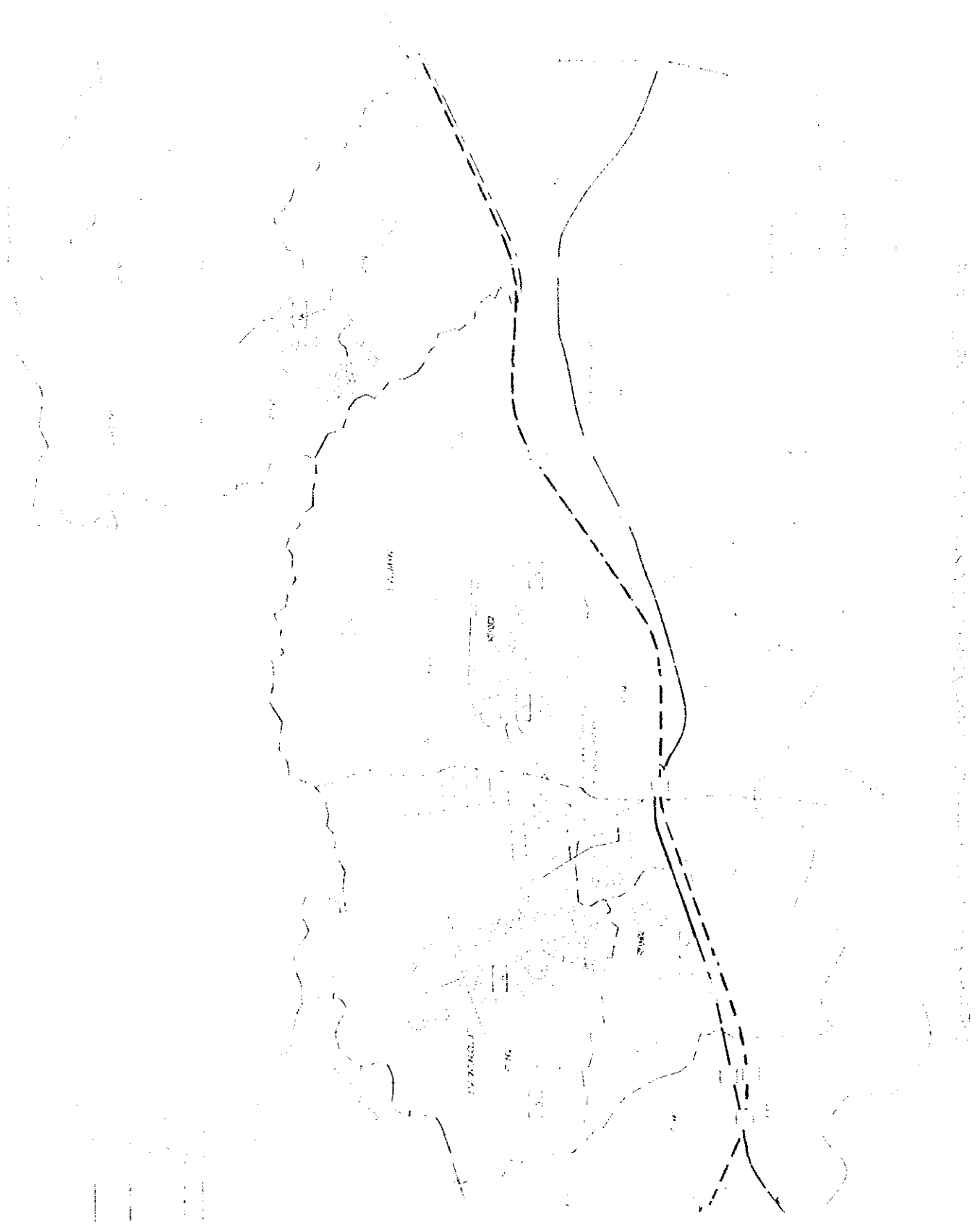


Figure 8-3-4 Environmental Impact Map of EIA Study Area for Parung Panjang



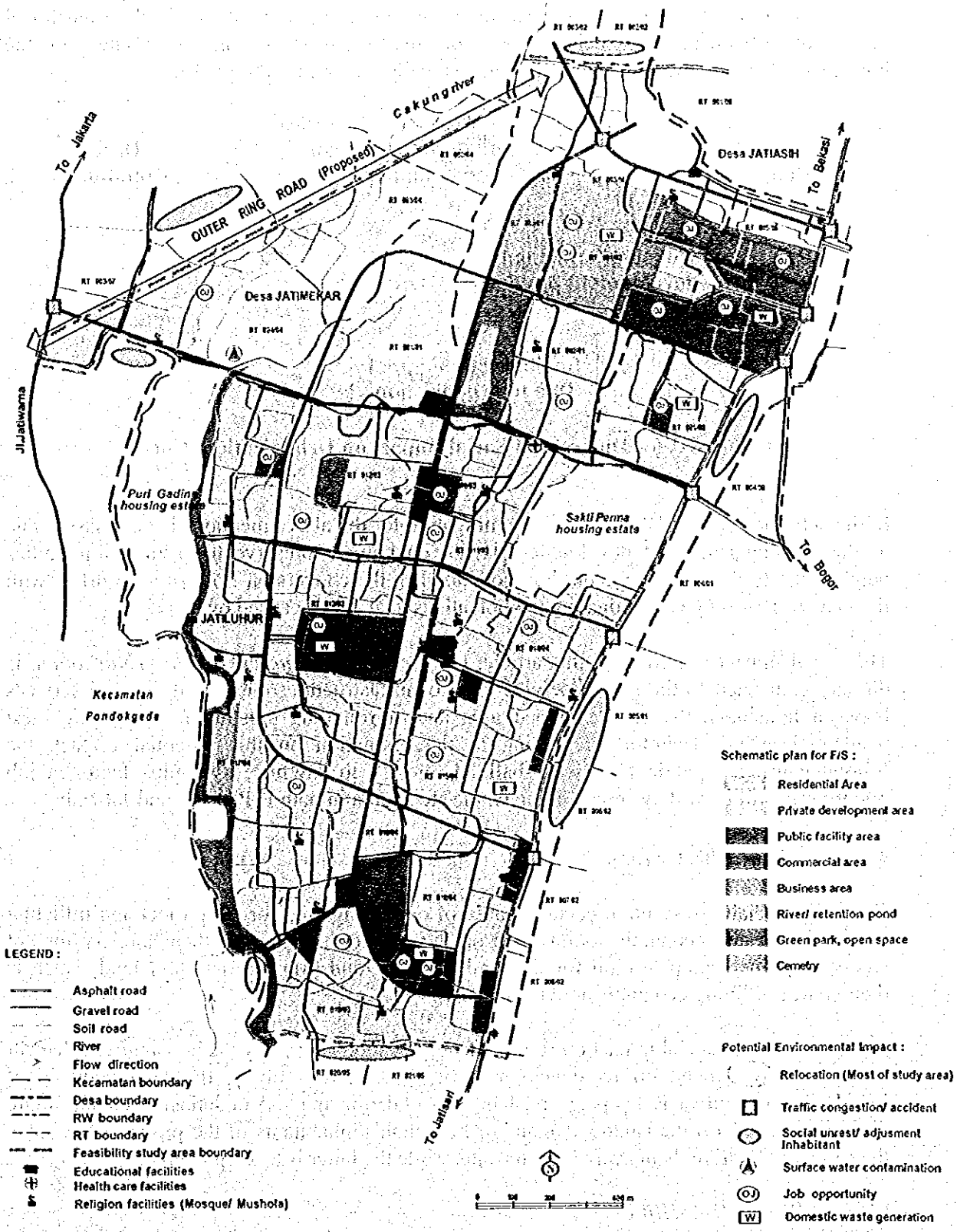


Figure 8-3-5 Environmental Impact Map of EIA Study Area for Jatiasih



Figure 8-3-5 Environmental Impact Map of EIA Study Area for Jirish

Accordingly, it can be said that the potential social impact due to this project-led urbanization process is social friction/unrest between the rural and urban communities in the transitional period of urbanization. Social impact on this urbanization process related to the housing/settlement development can be schematically drawn in Figure 8-3-6.

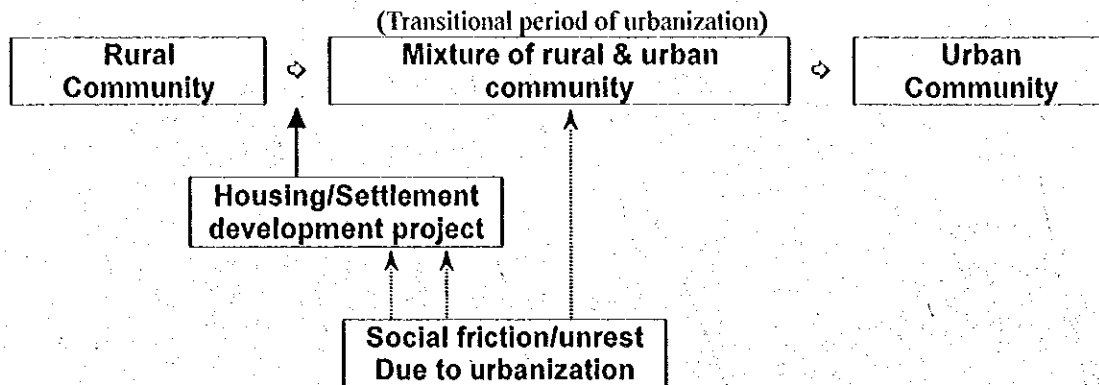


Figure 8-3-6 Diagram of Social Impact on Urbanization Process

In the suburban area of DKI Jakarta, the mitigation for the above mentioned social issues due to the housing/settlement development is not on how to preserve the rural communities neighboring to the project site but how to smoothen the conversion from rural to urban with the view of lessening and mitigating the potential social issues caused by it.

The social impact described in this article; i.e. *social friction/unrest due to urbanization*, is directly connected to the gap of service level of infrastructures/public utilities and services between housing/settlement developed area and surrounding existing rural communities/residential area. Therefore, regarding to the mitigation on this potential impact, the following article "public facilities" shall be referred to. While, as a plus factor, a job opportunity will be widely spread in the whole study area in both P. Panjang and Jatiasih.

- **Resettlement/Relocation**

Generally, social unrest might occur because of occupying land for the project and inflicting loss of living and economic foundations on the people, and causing them anxiety for not receiving proper compensation for the land, building and prime-agricultural land which is their source of living/economic activities.

The magnitude of social impact on resettlement/relocation caused by the housing/resettlement activities may depend on its development method. Accordingly, the land acquisition/KASHIBA method in P. Panjang and land consolidation method in Jatiasih generate quite different impacts on the landowners and/or households/inhabitants of the project sites, since the former is to drive them away from the site, while the latter is to keep them on.

[Parung Panjang/KASHIBA]

In the study area of P. Panjang, resettlement may occur on a large-scale due to land occupancy/acquisition by the KASHIBA housing development. Disruption of livelihood through land occupancy by the project would be the main cause of potential social impact

brought about on landowners and households, including small landholders, tenant farmers and less productive people who might be comparatively seriously affected, in the project site. Generally, poor resettlement operation may cause the impoverishment, resulting in the production of jobless and land-less/homeless people. Therefore, it can be evaluated that the resettlement/relocation and social unrest due to it, as the result of the project activities of the KASHIBA housing development in P. Panjang are categorized as having significant potential impacts.

[Jatiasih/Land Consolidation]

In Jatiasih, even if some readjustment/relocation may be carried out for existing housing lots by the project activities, impacts on it may be rather small compared with the land acquisition/KASHIBA development in P. Panjang, because the basic concept of the project in Jatiasih is land consolidation; i.e. "preservation and continuation of land right/value/utility". Therefore, it can be evaluated that the resettlement/relocation as the result of land consolidation in Jatiasih is categorized as having a minor potential impact.

2) Construction Stage

Main activities of the construction stage for the housing/settlement development are the land clearance, infrastructure development: such as road, water supply, power supply, telecommunication system, waste-water drainage, storm-water drainage, solid waste management, etc. and building/housing construction. These activities may possibly create environmental impacts mainly on the *hydrological situation* and *soil erosion*.

- **Hydrological situation/soil erosion**

A disturbance of the present natural hydrology/drainage system mainly during rainy season; i.e. change of river-bed and/or river-flow condition due to washing out of top-soil and turbid water/demolished waste flow into rivers, may cause the soil erosion of the project sites and floods/inundation in the down stream area of the region.

The past experience on flooding, in construction stage, at the housing development project in *Bumi Serpong Damai* which located at approx. 14km north-east of P. Panjang site, is reported in the IBRD report in 1990, as follows.

The original land use in the *Bumi Serpong Damai* site was a rubber plantation which has a run-off coefficient of about 0.3 to 0.4. With the clearing of this land, the coefficient could increase to 0.7 to 0.8, or almost double the original rate. Assuming the maximum rainfall intensity is 10mm/h, then for a 100ha parcel of land during the construction phase there could be a run-off between 7,000 to 8,000m³/h or about 2.0 to 2.25m³/sec. This increase in the amount of run-off might hamper the downstream areas or the lower areas of the project since the existing drainage capacity is not capable of handling this much run-off and thus there could cause local flooding.

[Parung Panjang]

Land reclamation (cut and fill) will be carried out in large scale due to the housing development in P. Panjang site. In case the implementation plan/ process/ schedule is not sufficient, some impact on the soil erosion of the project site and disturbance of surrounding rivers; such as Cigagantung and Cibunar River, may occur.

[Jatiasih]

In Jatiasih, Cakung river flows along the west end of the study area from south to north, and then flow into Jawa sea through Buarau and Cakung river which are located in the east part of DKI Jakarta. Along these rivers, several flood and/or inundated areas have been found in northern part of DKI Jakarta. Therefore, it can be predicted that the housing/settlement development in Jatiasih may have a potential impact on the acceleration of this flood.

3) Post-Construction Stage

In post-construction stage, there are no specific activities by the project except management/monitoring of infrastructures, which are implemented at the construction stage of the project. However, several potential negative impacts are predicted/evaluated on the environmental factors of *traffic/transport, public facilities, groundwater, hydrological situation/flood, wastewater and solid waste*. Details are discussed in the following articles.

- **Traffic/Transportation**

Due to the drastic increase of population by the housing/settlement development, an increase of the traffic load on the existing transportation system/facilities may cause the worsening of local traffic congestion and may increase the traffic accident in the region and/or surrounding area of the project sites.

[Parung Panjang]

In the study area of P. Panjang, Jl. K.H. Salima (Desa road), its width is 4-6m and asphalt paved, passes along the south border of the study area and connects to Jl. P. Panjang (Kabupaten road). Other roads connect to the study area are narrow and mostly unpaved. While, several internal local roads cross the railway Jakarta-Merak, however, no railway gates/fences are found at the road crossing points. Due to a drastic increase of population in the study area, potential negative impacts on the traffic congestion and/or accident of the present connected roads to the study area including railway passing are predicted.

[Jatiasih]

In Jatiasih, due to the project activity of a land consolidation, population of the study area will not increase drastically like P. Panjang site but gradually. Existing main roads; i.e. two Kabupaten roads and two Kecamatan roads, are of sufficient width and asphalt paved and cover most of the project site and surroundings. In addition, a proposed toll road (outer-ring road) will pass through the northern part of the study area in the near future. Therefore, in Jatiasih, impacts on the traffic issues in the region and surroundings are evaluated as minor.

- **Public Facilities**

At present, in P. Panjang and Jatiasih study area, including its surroundings, the service level of public utilities and services are quite low. While, sufficient infrastructures for human needs will be settled/implemented in both P. Panjang and Jatiasih site by the project activities.

Due to housing/settlement developments, a gap in the service level of public infrastructures/services; such as electricity supply, water supply, telephone lines, road/traffic conditions,

waste collection/transport/disposal, wastewater treatment, storm-water drainage, etc., between the housing/settlement development area and surrounding existing community/residents, may happen. This gap may create potential negative impact on social and economic unrest and/or jealousy of the surrounding communities/residents of the project sites of P. Panjang and Jatiasih.

- **Groundwater**

Depletion of groundwater resources and drying up of wells may happen due to the over-drafting of groundwater resources in accordance with population increase and commercial/industrial development at the region and surroundings by the housing/settlement development.

A large-scale pavement of ground surface causes less rain water seepage, resulting in the lowering of the groundwater table. The lowering of the groundwater sometimes causes the land subsidence. In DKI Jakarta, land subsidence caused by over-drafting of groundwater resources has been reported mainly in the northern part of DKI Jakarta. The depth of land subsidence ranged from 20cm to 100cm based on the monitoring results carried out by DKI Jakarta between 1974/78 to 1993/94. Generally, land subsidence might be occurred in the alluvial and clay soil areas due to the lowering of the groundwater table. Special attention should be paid in case the land subsidence due to the lowering of the groundwater table has already progressed in the objected region.

[Parung Panjang]

A drastic increase of population in the study area will occur due to the project in P. Panjang. However, no significant commercial/industrial activities which may consume much amount of groundwater is found in the region and surroundings. Further, no drying-up of wells is reported in the study area, even in the dry season. Therefore, the impact on the groundwater resources in the study area and surroundings by the project can be predicted as minor.

[Jatiasih]

In the study area of Jatiasih, dry up of wells, due to over-drafting of groundwater resources caused by a number of housing estates already built in this region in recent years, may pose a problem. The population increase ratio by the land consolidation project in Jatiasih will be gradual compare with the drastic increase in P. Panjang project. However, dry up of shallow digging wells and groundwater turbid in the dry season has been reported in the study area. Therefore, the impact on an acceleration of this issue in the study area by the project may be predicted.

- **Hydrological Situation/Flood**

Increased runoff due to the increased impervious area by pavement, removal of trees/vegetation, improved storm-water collection/removal and disruption of natural drainage patterns by the housing/settlement development in P. Panjang and Jatiasih sites may have the potency to cause flood/inundation at the study area and down stream of the region, especially in the rainy season.

As described in "Construction stage/Hydrological situation" of this report, several flood and/

or inundated areas have been found in northern part of DKI Jakarta due to overflow of Buarau and Cakung river which are the down-flow area of Jatiasih region. While, developments of a number of housing estates in recent years are found in Jatiasih region. Therefore, it may be predicted that the project activity in Jatiasih may have a potential impact on the acceleration of the flood in the northern part of DKI Jakarta.

- **Wastewater**

["*cubluk*" and septic tank]

An impact on the groundwater contamination, due to the usage of *cubluk* (traditional digging toilet) and/or outflow of septic tanks which used for toilets in large numbers, may be predicted. In a densely populated area where inhabitants are fairly much reliant on shallow-wells for drinking, the usage of *cubluk* may have the potency to lead to a generalized contamination of soil and groundwater and further to negative impact on public health of local/surrounding inhabitants. In the study area of P. Panjang and Jatiasih, approx. 70% of the households are using *cubluk* for their toilet. The impact on groundwater contamination due to it may increase in case a *cubluk* is settled lower than the groundwater table and/or at the fissure of weathered rock.

As such, groundwater contamination may result due to the type of septic tank installed. In case a septic tank allows for even limited percolation of effluence into the soil and the soil characteristic has high permeability, then pollutants may flow into the groundwater table. Lack of de-sludging and/or emptying of septic tanks is one of the main reasons for the outflow of septic tanks which leads groundwater contamination.

[Wastewater/gray water]

According to the opinion poll survey conducted by the JICA Study Team, more than 70% of the inhabitants in the study area of P. Panjang and Jatiasih, wastewater produced at MCK (traditional place for bathing, washing and toilet) due to domestic activities/wastes directly discharged to ditches and/or rivers without any treatment. An impact on the river and groundwater contamination, due to free discharge of untreated waste-water/gray water (laundry, bathing, kitchen, etc.) which may contain chemicals and bacteria, may occur in both P. Panjang and Jatiasih.

On the public health and sanitation aspects, in case people in the region are using shallow well water and/or river water for living activities, especially for drinking, special attention should be paid on this issue.

- **Solid waste**

Due to a large increase of population in the study area of P. Panjang and Jatiasih, waste amount generated will also increase. Should the generated waste volume exceed the capacity of waste collection/transport/disposal services provided by the local government, such an uncollected waste may illegally dumped into ditches, rivers, open spaces, etc. Illegally dumped waste which contains high BOD load and bacteria as *leachate* form may cause water contamination, offensive odor, vector generation, etc. and creating a negative impact on the health and sanitation conditions in the region.

In general, the basic issues related to solid waste management are mainly caused by insufficiency of waste collection/transport/disposal services, lack of environmental awareness of local people/community and insufficient financial resources of the local government.

[Parung Panjang]

At present, in the study area of P. Panjang, no waste collection/transport service is provided by the local government, this is because the population density in this region is low. However, drastic increase of population will occurred due to the project activities in the study area resulting the production of concentrated waste generation area. Therefore, a potential negative impact on this issue is predicted.

[Jatiasih]

In Jatiasih, the waste generation amount will not be drastically increased by the project itself, because of the project being the land consolidation. Taking into account the short time period, no significant impact will be predicted on this issue, even the waste collection service is not provided in the study area by the local government. However, in the near future, the concentration of population in the project site will lead to the generation of additional amounts of wastes. Therefore, a potential negative impact on the waste management is predicted in the study area and surroundings.

(2) Environmental Mitigation Measures

It is essential that the mitigation measures be incorporated into the project plans and later in the project implementation to minimize any potential impacts that could arise with the housing/settlement development.

This article describes a direction for the environmental mitigation measures for each environmental factors which evaluated to have potential negative impacts on the study area and surrounding environs due to the housing/settlement development activities.

• Resettlement/Relocation and Social Unrest

To those who have to be resettled/relocated, both permanent and temporary, an explanation about necessity of the resettlement/relocation, its program and compensation, must be given to the people affected by the project with the following considerations:

- ⇒ Any involuntary resettlement/relocation shall be carried out in accordance with the proper standards, legislation and/or guidelines
- ⇒ Selection of the proper alternate sites for resettlement/relocation
- ⇒ Sufficient compensation for the affected people shall be taken into account
- ⇒ Resettle action plan (RAP), its basic concept is prescribed in Table 8-3-9, shall be established in P. Panjang/KASHIBA (land acquisition) site
- ⇒ In addition, extension of the project benefit which brings about the regional development; i.e. increasing of goods flow, public services, working opportunities, etc. shall be taken into account for the positive impact (plus factor) caused by the project.

Social unrest due to loss of bases of economic activities caused by resettlement/relocation shall be settled with the following considerations:

- ⇒ Management of the social unrest have to be carried out by giving extension to local people/communities/societies concerning the planned activities of housing/settlement development in connection with a regional planning policies (i.e. proper trade-off between land values for housing and those of current other uses, such as farm-land or other land uses, as a hole).
- ⇒ Management to the loss of people's livelihood as a result of changing the land appropriation: giving work opportunity to the people who are affected by land occupancy/consolidation, by giving priority to those who have lost their livelihood.
- ⇒ Improvement of the living, social and economic situations of the relocated people.

- **Traffic/Transportation**

A traffic demand forecast based on the traffic census is recommended to be carried out in the planning stage of the project in both P. Panjang and Jatiasih site, including its surroundings and connected residential/commercial/industrial area. Based on its result, necessary countermeasures shall be taken in order to mitigate the potential impacts on traffic congestion and/or accident by improving the existing traffic system/facilities and services with the close corporation of the local government concerned, in connection with a regional planning policies.

In P. Panjang site, fence, gate and sign board shall be installed at the road crossing points along with Jakarta-Merak railway which pass through the southern-end of the study area.

Table 8-3-9 Basic Concept of Resettlement Action Plan (RAP)

BASIC CONCEPT OF RESETTLEMENT ACTION PLAN (RAP)

[PROJECT FRAMEWORK]

OBJECTIVES AND POLICY

- ⇒ Describe the purpose and objectives of resettlement and its legal commitments (by laws, guidelines and policies), and identify the financing agency's policy.

SCOPE OF LAND ACQUISITION AND RESETTLEMENT

- ⇒ Describe the mechanism of land acquisition / resettlement and key effects on affected people (assets, livelihoods and new settlement)

[PROJECT IMPLEMENTATION AND MANAGEMENT]

SOCIO-ECONOMIC AND CULTURAL INFORMATION

- ⇒ Identify the socio-economic and cultural component, including all losses for people, affected by the project to specify the significant impact on

CONSULTATION, PARTICIPATION AND GRIEVANCE REDRESS

- ⇒ Identify the potential supporting organizations (local institutions, NGOs, and other community based organizations) and procedures to redress of grievances by people affected

HOUSEHOLD INCOME RESTORATION STRATEGY

- ⇒ Develop the household income restoration strategy (Identify the livelihoods at risk and specify job opportunities) and job creation plan of people affected

RELOCATION OF HOUSING AND SETTLEMENT

- ⇒ Identify the new settlement sites by carefully consideration in which safe guarding income, livelihood, community integration, environmental risks and gender issues

INSTITUTIONAL FRAMEWORK

- ⇒ Develop the institutional system (main tasks, responsibilities) in which the role of supporting organization take into apart in planning, negotiating, consulting, implementing, financing, monitoring and evaluating

RESETTLEMENT BUDGET AND FINANCING

- ⇒ Develop the budget and financing flow of the resettlement and source of funding must be identified

IMPLEMENTATION SCHEDULE

- ⇒ Identify the implementation schedule of resettlement which showing start and finishing dates for major resettlement tasks

MONITORING AND EVALUATION

- ⇒ Preparation of internal monitoring plan of the resettlement targets and key indicators of progress and preparation of evaluation plan of objective achievement

- **Public Facilities**

The distribution of public infrastructures and/or services; i.e. water supply, electric supply, telephone line, road network, drainage, waste collection/disposal, wastewater treatment, etc. to the surrounding residential area and/or communities shall be taken into considered in the negotiation level, under some circumstances, to prevent the potential social unrest due to gap of its service level between housing development area and surroundings.

In the past practices of housing development projects carried out by Perum Perumnas (National Urban Development Corporation), in order to settle this issue, in some cases, Perum Perumnas was obliged to install infrastructures and provide public services not only in the housing development area but also in the surrounding residential area.

- **Groundwater**

In the study area of Jatiasih, dry up of shallow digging wells and groundwater turbid in the dry season has been reported. These issues are directly connected to secure the adequate and/or safety groundwater for residents' livelihood. Accordingly, hydro-geological survey and water quality analyses in the dry season are recommended to be carried out in the planning stage of the project. Based on the result of the survey, the following measures shall be taken into account:

- ⇒ Planing of groundwater usage by the regional level with a regional planning policies
- ⇒ Ensure that projected usage of groundwater is within capacity of natural groundwater system to replenish itself
- ⇒ Improvement of water supply system based on alternative water sources

- **Hydrological Situation/Flood**

[Construction stage]

Each housing/settlement project in P. Panjang and Jatiasih is to be developed for the period over approx. four to five years. During this period, it will be feared that the exposed land will be kept remained for a long time. Therefore, it is necessary to plan for and organize a proper implementation plan/process, to prevent the soil erosion of the project sites which has an impact on the hydrological situation of surrounding rivers including flood, that shall prepare for the construction activity shall be carried out by following it. Special attention shall be paid to:

- ⇒ The working area for construction shall be kept to a minimum and/or divided in phases to avoid excessive soil erosion and sedimentation.
- ⇒ The timing of construction activities has to take into consideration the rainfall pattern so as to reduce exposed land to erosion consequences.
- ⇒ During construction, compaction of exposed land shall be carried out as soon as possible after land clearance.
- ⇒ Exposed cleared lands should be worked on and/or recommended to be turfed/re-vegetated within the shortest practical time.
- ⇒ Sediment traps are recommend to be constructed to prevent sediments getting into surrounding river or drain. Where sediment traps are not constructed prior to and during earthworks, the condition of exposed soil must be monitored and necessary

measures shall be taken.

[Planning stage]

Housing/settlement development activity may cause flooding at the surroundings of the study area and also downstream of the region due to the increased impervious area by pavement, removal of trees/vegetation, improved storm-water collection/removal and disruption of natural drainage patterns, which leading to a increased runoff.

In case the river receiving the outflow from the development area does not have enough capacity to absorb the increased run-off discharge, or the river has potential impacts on flood of downstream area like Jatiasih site, flood control measures shall be taken into account for the project plan, such as:

- ⇒ Retention pond facilitated at the outlet point of storm-water collected from the housing/settlement development area to rivers
- ⇒ Water-flow retention devices along with the storm-water drainage

• **Wastewater**

[Treatment of human waste]

Taking into account the securing of safety domestic water especially for drinking purpose, the treatment of human waste/night soil shall be planned considering the soil conditions of the housing development site; i.e. permeability/infiltration capacity of the soil. In the study area of P. Panjang and Jatiasih and its surroundings, the water supply is rely on the shallow well, therefore, soil test is required to be carried out in order to understand the soil infiltration capacity of the site, prior to the detailed plan/design of the human waste treatment method for the project. In general, the soil with the highest infiltration capacity is sand, with more than 80% sand particles by weight. Somewhat less permeable are silt and loam. The least permeable is clay, with more than 35% clay particles. In case the permeability coefficient of the soil is less than 10^{-5} , it can be judged that its permeability is low enough.

In the case of applying a septic tank for on-site treatment of human waste by the project in P. Panjang and Jatiasih, the following items shall be taken into account in order to keep the safety of public sanitation and human health:

- ⇒ "Cubluk" shall not be installed anymore, in the surroundings of the project site also
- ⇒ Distance between shallow well and septic tank shall be more than 10m and depth of the well shall be more than 12m (recommended by World Bank report)
- ⇒ Septic tank needed to be de-sludged/emptied once every two years to prevent the outflow of septic tank which lead the groundwater contamination
- ⇒ Proper type of septic tank shall be selected: i.e. out-flow filter, two-compartment tank
- ⇒ Installation of deep well with piping distribution network/system, in order to prevent the water contamination issues against shallow well water caused by a septic tank (availability/capacity of deep groundwater shall be assessed through the field pumping tests and hydro-geological surveys, in advance to the detailed project plan)

[Treatment of wastewater/gray water]

Waste-water/gray water shall be properly handled/treated in order to keep the safety domestic water, life and human health, taking into account the following considerations:

- ⇒ Usage of septic tank (on-site system) in each dwelling and/or communal level, for the combined treatment of both night soil and gray water
- ⇒ Usage of sewage collection pipe network and/or covered ditches conveying the wastewater into a sewage treatment plant before releasing it into the river (off-site system/separate sewer system)
- ⇒ Usage of sewage collection pipe network and/or covered ditches conveying both wastewater and storm-water into a sewage treatment plant before releasing it into the river (off-site system/combined sewage system)

• Solid Waste

[Solid waste management in post-construction stage]

Proper solid waste management shall be introduced and carried out by the responsible local government in each study area of P. Panjang and Jatiasih, including its surroundings, taking into account the following aspects:

- ⇒ Primary waste collection from households: door to door, bell system, communal container system, etc.
- ⇒ Setting of temporary storage site of waste (TPS) as a transfer station, if necessary
- ⇒ Secondary waste collection/transport from TPS to final disposal site (TPA), if necessary
- ⇒ Waste transport and discharge to TPA
- ⇒ Institutional/organizational/financial strength of local authorities which response to serve the waste management in each study area and surroundings of P. Panjang and Jatiasih
- ⇒ Social education on the environmental awareness at the RT/RW and Desa/Kulurahan level, as well as in the regional community as a whole
- ⇒ Publicity and promotional activities in order to reduce/recycle the household waste

[Surplus soil and demolished waste treatment in construction stage]

Surplus soil and demolished waste which are produced by the earth work of the project and demolish work of existing houses, roads, etc. by the project activity in P. Panjang and Jatiasih have to be well managed as the following manner:

- ⇒ Excavated soil (surplus soil) should not be dumped or left as it is, to prevent flow into surrounding rivers which may cause interruption of its flow and flood.
- ⇒ Dump sites of the surplus soil and demolished waste shall be properly settled in the construction plan and properly discharged.

8-3-4 Environmental Management

(1) Environmental Management Plan

Environmental management is important in each stage of the project, i.e. pre-construction,

construction and post-construction stage. This includes not only the management of environmental issues related to the project, but also those related to environmental improvement in the whole JABOTABEK area. The outline of the environmental management plan is described in the following articles.

1) Organization for environmental management

Under the project head office, there should be a branch office located at the construction site with at least one acting officer in charge of environmental management. This environmental branch shall make plans for environmental protection and improvement, and manage all activities related to the environment. A good coordination among the project head office, branch office, local government and related environmental agencies is very important.

2) Management of land acquisition and resettlement

Land acquisition and resettlement have very sensitive social impacts and have to be well managed. Large numbers of households in P. Panjang will be involved in the resettlement program due to the project implementation. Careful inventory of their houses, lands and properties, economic activities, hearing of their opinion and desires are indispensable. Besides compensation, provision of locations for them to get new houses and economic activities are also very important. While, the practical status of the housing/settlement development that concerned to enhancement of regional economy shall be well managed.

3) Environmental surveillance of construction work

Construction work should follow environmental regulations settled by the Government. This needs a well organization of the work and also surveillance during the construction work. Disputes may occur with local residents on environmental related issues, or complaints may come to the project office or local government. These issues need to be resolved on the basis of environmental laws and regulations.

4) Environmental education

For an effective environment management, environmental and sanitary education is indispensable for raising public awareness of the importance of environment protection. The creation of a comfortable and beautiful environment should become the target of all the communities/residents in the study area, surroundings and also in the whole JABOTABEK area. This needs a long-term education program for people of all ages and strong administrative measures such as proposing new regulations including strict penalties for environmental contamination, etc.

(2) Environmental Monitoring Plan

Environmental monitoring is important for understanding the environmental conditions before, during and after the project. At the pre-construction stage, environmental monitoring aims at understanding the environmental settings of the study area as what has been done in the initial environmental examination (IEE) and environmental impact assessment (EIA) for the project. At the construction stage, monitoring shall be carried out for controlling the impacts on the environment, and at the post-construction stage, monitoring shall be continued for proper operation and maintenance of infrastructures/facilities implemented by the project and

expanding the effect of the project. Outline of the environmental monitoring plan is described in the following articles:

1) Traffic volume monitoring

At the pre-construction stage, the traffic volume to access the project site in P. Panjang and Jantiasih should be monitored in order to evaluate the impact on the existing regional transportation system and making a proper transportation plan for its mitigation measure, and post-construction stage; further monitoring is still necessary to check the project impacts.

2) Groundwater level and quality

Especially in dry season, in order to secure the safety of domestic water, mainly for drinking purpose, groundwater level and quality in the project site and surroundings shall be periodically monitored in pre-construction and post-construction stages. Special attention shall be paid in the Jantiasih site, because the dry-up of shallow digging wells and groundwater turbid in the dry season has been reported.

3) Hydrological situation related to the flood and soil erosion

At the construction stage, in order to prevent the soil erosion of the project sites of P. Panjang and Jantiasih, disturbance of the hydrological situation of surrounding rivers and flood in the downstream area, implementation plan/schedule/process shall be monitored and proper instruction/advice shall be given to the contractors. While, at the post-construction stage, monitoring of the hydrological situation is still necessary to check the project impacts on flood in the region and/or the downstream area.

4) Post Resettlement Survey

Resettlement is a sensitive issue related to social impacts. The impacts are not only significant until people relocate to a new place but also continue for a long period of time. Whether people are satisfied with their new living conditions, what kind of problem they are facing and what they want for the government to do for them should be understood. The post-resettlement survey shall be conducted to investigate people's living conditions after the resettlement is completed in order to obtain their opinion and requests. The information should be reported to the related governmental organizations.

PART III

OVERALL CONCLUSIONS OF KASIBA AND L/C STUDIES

THE UNIVERSITY OF CHICAGO

Chapter 9 Overall Conclusions of KASIBA and L/C Studies

This study has produced the proposals for system improvement of KASIBA and L/C respectively. KASIBA is based on Law No. 4/1992 on Housing and Human Settlement, followed by the government regulation, which was finally issued on September 30 1999. Subsequently, the ministerial decree stipulated in the government regulations shall be issued to start the actual implementation of KASIBA projects. In Indonesia land consolidation projects have been executed based on the existing government regulations of the BPN. In response to the proposal for the improvement of the traditional L/C in these study activities, the BPN has started drafting a new L/C Law. In parallel with these legal arrangements for KASIBA and L/C, this study was carried out with the overall conclusion on the following 3 points, combining the results of the KASIBA study and L/C study.

1. Applicability of the urban development systems examined through the case studies.

In the case studies of KASIBA and L/C, those two systems were technically and financially examined, resulting in the conclusion with the general applicability of KASIBA and L/C in the outskirts of Jakarta and the peripheral area of the Jakarta built-up area respectively. Based on the study conclusion, it is recommended that KASIBA and L/C, as urban control and development measures, should be incorporated into the development master plan of the Jabotabek area, or the Jakarta Metropolitan area, which must be reviewed in the recent context of changing socio-economic situation of Indonesia.

2. Strengthening and improvement of city planning system

It is widely admitted that the Indonesian city planning or Spatial planning including the development permit system, and practices thereof are in need of improvement to great extent. (Its importance is increasing in accordance with the advancement of the decentralization policy). KASIBA and L/C shall be institutionalized and managed so as to improve the Indonesian city planning and development system. KASIBA and L/C are the concepts and systems of development benefit capturing for cost recovery, which will bring about innovation and progress in the existing urban and infrastructure development system. Furthermore, they are featured with different urban and land management systems (land acquisition method vs. land replotting method), which should be selectively applied responsively to the different situations of the site and projects. This may thus a lead to higher flexibility and implementability of the city planning of Indonesia.

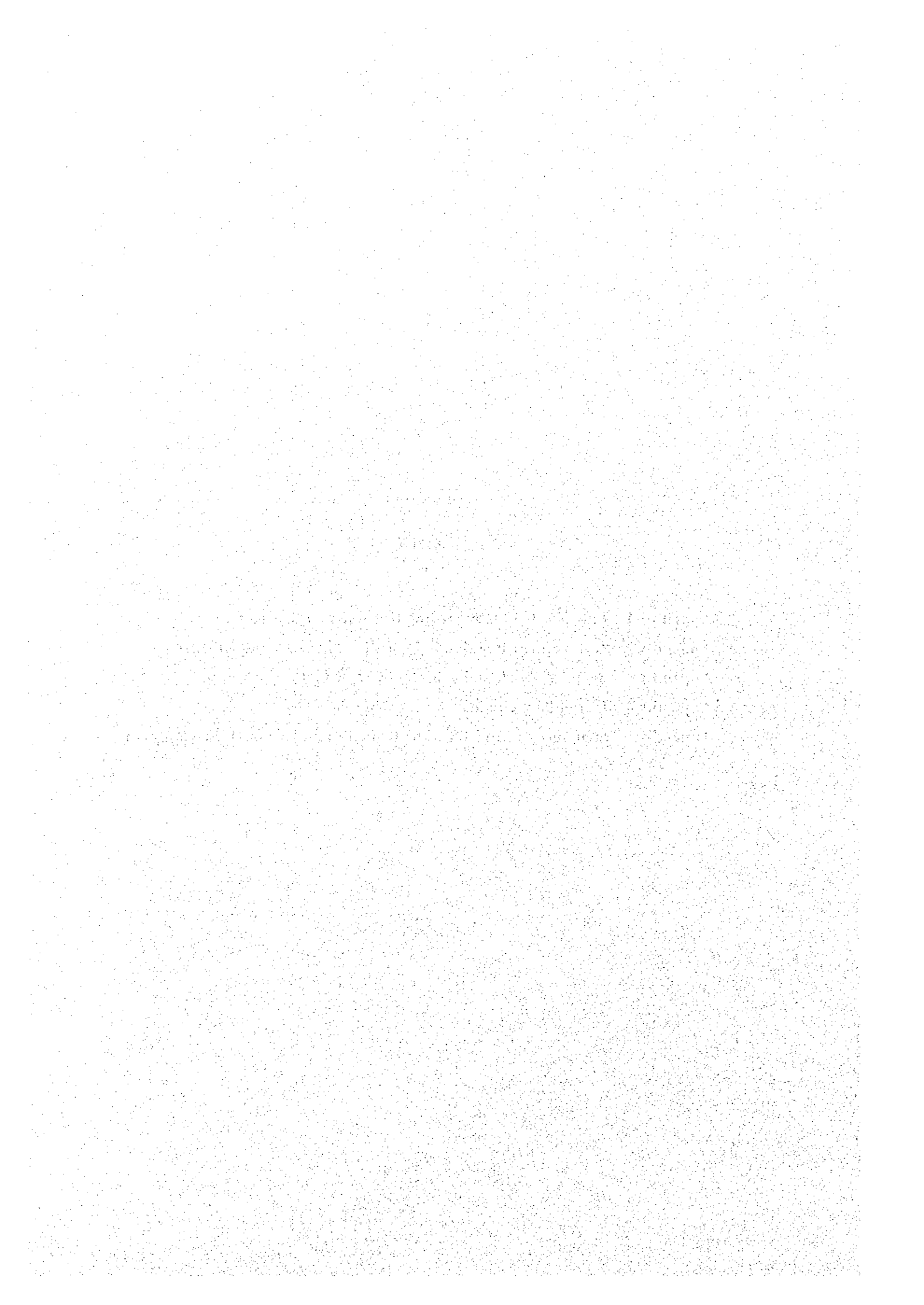
3. Coordination with the government reformation activities.

After the political change in 1998, many new laws and government regulations under the government reformation policy have been enacted and the reformation schemes are also set forth in the urban and land management sector by the government agencies concerned. (Transfer of the authority to the local government in urban and housing development, review of the development permit system, establishment of urban area management and administration system, review of the basic Agrarian Law and so on). It may not be said that they are well coordinated even with KASIBA and L/C. They must be well coordinated with the other reformation schemes and play important roles in the reformation activities, especially decentralization programs. KASIBA and L/C are deeply related to the local society, economy and culture and are regarded as the essential tools for improving the lives and environment of

local people, which are the ultimate goals of the social and government administration reformation movement.

APPENDIX

- Appendix 1 Law No. 4/ 1992 regarding Housing and Settlements**
- Appendix 2 Government Regulation regarding KASIBA and LISIBA**
- Appendix 3 Scope of Work and Minutes of Meeting for the Study**
- Appendix 4 List of Participants**
- Appendix 5 Structure of Ministry of Settlements and Regional Development**



Appendix 1 Law No. 4/ 1992 regarding Housing and Settlements

Articles of Law		Government Regulation
Chapter I General Provisions		
Article 1	Terms reference: 1. House, 2. Housing, 3. Settlement, 4. A unit of settlement environment, 5. Environmental infrastructure, 6. Environmental facilities, 7. Public utilities, 8. KASIBA (Kawasan Siap Bangun) – Ready-to-develop area: A piece of land where the physical conditions have been already prepared for construction of housing on a large scale. Basic requirements are a. comprising one or more environments ready for construction. b. implementation in stages. c. equipped beforehand with primary and secondary environmental facilities. d. in conformity with spatial master plan determined by the second level Regional Government. 9. LISIBA (Lingkungan Siap Bangun) – Smaller ready-to-develop area : A piece of land both comprising parts of KASIBA and being independent with environmental facilities already developed. 10. Pieced land ready for use, and 11. Land consolidation : Efforts for rearranging land use and ownership by landowners through collective efforts for developing LISIBA.	
Article 2	Ordering/management of housing and settlements in integrated and coordinated manner.	
Chapter II Principle and Aim		
Article 3	Principle of benefit, just and equity, solidarity and togetherness within own's scope to purchase and conserve living environment.	
Article 4	Aims : a. meet need of housing for greater equity of well-being of people. b. proper housing and settlement with healthy, harmonious and orderly. c. direct rational regional growth and population distribution. d. supporting economic, social, cultural development	
Chapter III Housing		
Article 5	Rights and obligation/responsible of every citizen for housing and settlement.	
Article 6	1. Housing on right of land in conformity with law and regulation. 2. Construction of house by non-landowner on the basis of approval of the landowner in a written agreement.	
Article 7	Requirements of construction and housing : a. compliance with technical, ecological and administrative requirements. b. monitoring of environment. c. management of environment.	Implementation of article 7
Article 8	Utilization of house , and management/maintenance of house in proper manner.	
Article 9	Construction of house for special needs of the Government and social/ religious entities.	
Article 10	Control on use, management, and transfer of status and rights on house by the Government	Implementation of article 10
Article 11	Data collection by the Government on houses for formulating policies of housing and settlements.	Procedure of data collection in art. 11
Article 12	Rent-leasing house : 1. Use of house by non owner based on approval or consent of owner. 2. The use of house on the basis of rent-lease and non rent-lease. 3. The use of house based on rent-lease and non rent-lease done by written agreement. 4. Compliance with expiration of time limit on written agreement. 5. Declaration of invalidity and unrightfulness of use of house after expiration of agreement. And Government assistance to rectify the matter. 6. Ending of rent-leasing of house either with or without time limit within 3 years after effectuation of this law.	Implementation of article 12
Article 13	Government control on rent price of houses obtained from the Government	Implementation of article 13
Article 14	Settlement of dispute on ownership and utilization of houses through court body.	
Article 15	Collateral and mortgage 1. Loan collateral on house ownership. 2. Fiduciary burdening on house by authentic deed through notary. Mortgage on house and land title by deed of Land deed.	
Article 16	Transfer of house ownership by the way of inheritance and transfer of other rights pursuant to legal regulation in force, which is conducted by authentic deed.	
Article 17	Transfer of property right on compendium based on the legal regulation in force.	
Chapter IV Settlements		
Article 18	Large scale settlement zone composed of Units of settlement environment in conformity with the spatial master plan	
Article 19	Determination of one or more of settlement zone as KASIBA by the regional government 1. Requirement : a. Detailed spatial master plan. b. Data of the site. c. Primary/secondary network.(Section -2) 2.Regional and infrastructure dev. program directed for supporting KASIBA(section-3)	Implementation of article 19 (Section -4)
Article 20	Management of KASIBA by the Government 1.Management by SOE and other entities formed by the Government 2.Cooperation with public and private enterprises, not eliminating the authority and responsibility of the KASIBA SOE and other entities.	Formation & designation of SOE Sec -3 Requirements & procedure of cooperation (S-6)

Article 21	Management of Stand-alone LISIBA, which is not developed by landowners, carried out by business enterprises designated by the Government.	Designation of enterprises. Sec. - 2
Article 22	Land provision 1. Promotion of L/C (Provision of information/guideline/assistance to landowners by the Government) 2. Relinquishment of land rights on the bases of agreement of landowners in KASIBA area 3. Relinquishment of land rights on the bases of agreement of landowners in Stand-alone LISIBA area, which is not developed by landowners 4. Relinquishment of land rights in KASIBA area carried out only by the Government through the SOE and other entities of KASIBA	Procedure of relinquishing land rights (Section-5)
Article 23	Construction of housing made by business enterprises only in KASIBA and Stand-alone LISIBA	
Article 24	Development of LISIBA by business enterprises a. Prepare land and put in order land use, land ownership b. Construct and maintain infrastructure until transfer to the Regional government c. Coordination for public utilities d. Assistance to landowners (who do not wish to relinquish land rights) in Land Consolidation. f. Land provision for environment facilities g. Construction of houses	
Article 25	Development of LISIBA by L/C of landowners a. Land preparation b. Putting in order land use and ownership c. Provision of environment infrastructure (Land and construction) d. Replanting e. Land provision for environment facilities	Implementation of article 25
Article 26	Land selling in LISIBA 1. Prohibition of selling land without houses 2. Exception of small and medium sized land for selling without houses 3. Exception of small, medium and large land for selling without houses in L/C area	
Article 27	Government's guidance and facilities for enhancing quality of settlement in the following fields; a. Repair or rehabilitation b. Renovation c. Management and maintenance	Implementation of article 27
Article 28	Determination of Slum area (Section-1). Renovation of slum area by the Government with general public (S-2)	Implementation of Art. 28Sec. 3
Chapter V Participation of the General Public		
Article 29	1. Same rights/opportunity and widest participation of citizen in housing and settlement. 2. Individual and joint undertaking participation of general public.	
Chapter VI Guidance		
Article 30	1. The Government guidance in housing and settlement (Issuance of regulation and guidance, assistance and facilities, research and dev, planning and implementation, and supervision and control) S-1 2. The Government guidance to business entities in housing/settlements Sec.-2	Implementation of article 30 (Section-3)
Article 31	Development of housing and settlements on the bases of spatial master plan determined by the Regional Government.	
Article 32	Land provision by a. Utilization of State land b. Land consolidation by landowners c. Relinquishment of land rights by landowners pursuant to law in force.	Use of state land & L/C
Article 33	Fund mobilization by the Government in the form of housing credits	
Article 34	The Government guidance in technique and technology, industrial construction materials, construction services, design and construction plan.	
Article 35	Transfer to the Regional Government, of part of affairs in housing and settlement (Sec.-1)	Implementation of article 3 5sec.2
Chapter VII Penal Provision		
Article 36	1. Violation of Article 7 (1), Art. 24 and 26 (1) subject to penal prosecution of imprisonment of no longer than 10 years and/or one hundred mil. Rupiah. 2. Negligence of Art. 7 (1) subject to penal prosecution of imprisonment of no longer than 1 year and/or 10 mil. Rupiah.	
Article 37	Violation of Maximum rent in Art. 37 subject to penal prosecution of imprisonment of no longer than 2 years and/or one twenty mil. Rupiah.	
Chapter VIII Other Provision		
Article 38	Penal provision of Article 36 does not eliminate obligation of this law	
Article 39	Revocation of operating permit of business entities not being obliged to Article 38	
Article 40	All the other regulations remain in force as far as not contravening this law.	
Article 41	Law No. 1, 1964 is no longer effective.	
Article 42	Effective since its promulgation	Enforcement stipulated by Government regulation within no longer 2 years

Appendix 2 Government Regulation regarding KASIBA and LISIBA
Article 19 and 32 of Law No. 4 1992 Regarding Housing and Settlements

Articles of Regulation		Government Regulation
Chapter I General Provisions		
Article 1	Terms reference: 1. Settlement area, 2. Settlement, 3. Environmental infrastructure, 4. Environmental facilities, 5. Public utilities, 6. Layout, 7. Spatial plan 8. KASIBA, 9. LISIBA, 10. Stand alone LISIBA, 11. Developed land plot, 12. Land supply for housing /settlement, 13. Land consolidation, 14. Corporate body, 15. Managing agencies, 16. Developer, 17. Local administration, 18. Head of Region.	
Chapter II Purpose		
Article 2	1. KASIBA management : to provide one or more LISIBA already furnished with primary and secondary network 2. Management of LISIBA and stand-alone LISIBA : to provide developed land plots and houses under proportional, proper & affordable settlement pattern.	
Chapter III Organization of KASIBA and LISIBA/Stand-alone LISIBA		
Article 3	1. KASIBA to be managed by the Government through a managing agency 2. Managing agency : a. Existing BUMN/BUMD, b. Other agencies established by the Government.	
Article 4	Requirements for BUMN/BUMD to be a managing agency.(Section-1) a. Operating housing and settlement construction, b. Administrative, technical, financial ability and experts, c. Filling a request to manage KASIBA with implementation plan and program to Head of Region, d. Participating in competition	Managing agency stipulated by Ministry for housing
Article 5	Managing agency (a and b in article 3) to be established by Government in case of no existence of requesting BUMN/BUMD.	Other agency-art. 3, b stipulated
Article 6	1,2. Stand-alone LISIBA to be managed by landowners or corporate body(Sec.-1), association of landowners (Sec.-2), 3. Stand-alone LISIBA to be organized by corporate body (developer) in case when not managed by the landowners, 4. Developer be appointed by Head of Region through competition, 5 Corporate body to file application for appointment with implementation plan and program	Appointment of corporate body stipulated by Minister for housing
Chapter IV Site Designation and Land Procurement		
Part One General		
Article 7	Designation of KASIBA and Standalone LISIBA 1. Large scale settlement area to be designated as KASIBA site in urban and/or rural areas and/or particular area, pursuant to spatial plan. 2. Not large scale settlement area to be designated as stand-alone LISIBA in urban and/or rural areas and/or particular area, pursuant to spatial plan.	
Article 8	Consideration for site preparation by Local administration 1. KASIBA and LISIBA sites a. Total house units in KASIBA : 3,000 (at least) to 10,000 (at most), b. Total house units in LISIBA : 1,000 (at least) to 3,000 (at most), 2. Stand-alone LISIBA site a. Already served with primary and secondary network of environment infrastructure, b. Already served with social, public, and economic facilities equal to sub-district level. c. Total house unit in stand-alone LISIBA : 1,000 (at least) to 2,000 (at most), Local administration may hold public hearing to relevant communities in designating KASIBA and Stand-alone LISIBA.	
Part Two Site designation		
Article 9	1. KASIBA site to be designated by Head of Region 2. Site designation to serve as "land acquisition permit" 3. Preparation by managing agency for KASIBA site designation a. Detailed spatial plan, b. Data on site pursuant to dev. phase in implementation plan and program c. Completion of primary and secondary network of environment infrastructure functioning at least 25 % of extent of KASIBA pursuant to prevailing legislation 4. Managing agency to designate sites of LISIBA pursuant to detailed spatial plan	Criteria, technical requirements for detailed spatial plan stipulated by Minister for spatial plan.
Article 10	1. Stand-alone LISIBA site to be designated by Head of Region, 2. Site designation to serve as "land acquisition permit", 3. Preparation by developer for Stand-alone LISIBA site designation, (a. Spatial technical layout, b. Data on site pursuant to dev. phase in implementation plan and program, c. Estimated extent of LISIBA pursuant to prevailing legislation)	Criteria, technical requirements for spatial technical layout stipulated by Minister for spatial plan.
Article 11	Data inventory with assistance with Regional land board 1. Managing agency to make inventory in KASIBA site on Art. 9 sec. 3, b (Data collection) with assistance of Regional land board. 2. Managing agency to make inventory in Stand-alone LISIBA on Art. 9 sec. 3, b (Data collection) with assistance of Regional land board.	

Part Three Land Procurement	
Paragraph 1 General	
Article 12	Land procurement on state land and/or private land
Article 13	<i>No people removal outside the relevant environment in land acquisition for KASIBA and stand-alone LISIBA</i>
Paragraph 2 State land	
Article 14	1. Managing agency or developer to directly request for title of land with no user on state land in KASIBA or Stand-alone LISIBA sites. 2. Managing agency or developer to acquire title of land on state land controlled by traditional community law, with compensation, in terms of construction of environment infrastructure and facilities, and/or public utilities, and/or other beneficial to surrounding people. 3. Manager or developer to acquire title of titled land on state land used by any individuals or corporate bodies, pursuant to prevailing legislation.
Paragraph 3 Titled land	
Article 15	<i>Managing agency or developer to settle titled land controlled and/or used by any individuals or corporate ?.</i>
Article 16	Settlement in Article 15 to be made by either of a, Land consolidation, b. Sale, c. Exchange, and Right relinquishment or land submission.
Article 17	Eligible participant in Land consideration a. Individual land title holder, b. individual state land users with the following requirements 1. Title holder of land used by own or any other parties, whose title has already been expired provided that request for extension or renewal has been filed within one year after the expiration date. 2. User of state land with consent of relevant agency, 3. User of state land with no admonition from government or any objection from surrounding communities to the land usage for more than 20 years upon designation of KASIBA and Stand-alone LISIBA. a. Religious and social entities stipulated in Government regulation no.38 of 1963 regarding Appointment of corporate bodies. b. Government agencies or corporate bodies provided that the land is used for their employees' housing.
Article 18	1. Rearrangement of land, land use, and ownership in L/C to be made in pursuant to spatial technical plan, 2. L/C participants to submit <i>their developed land</i> to managing agency or developer and receive back the developed land plots either with or without houses and/or flat units at least at equal price of land and object erected, pursuant to <i>control status thereof</i> . 3. Extent, location, and types of rights on the following land developed in L/C to be adjusted to <i>original land control status</i> and spatial technical plan (a. Developed land plot, b. Developed land plot with houses c. Flat units), 4. Civil right to land ownership of participants not to be diminished in L/C
Article 19	1. Managing agency and Local government to provide counseling, consultation, assistance and facilities to title holders and land users for preparation and implementation of L/C. 2. L/C to be resolved amicably between participants and KASIBA managing agency/Stand-alone LISIBA developer with assistance of Head of Region. 3. Managing agency or developer to acquire relevant land through sale, exchange, right relinquishment, or otherwise pursuant to prevailing legislation, in case of objection of title holder to land or land user (article 17-participant) and disagreement with resolution (2)
Article 20	Further provision on L/C in the framework of land procurement for housing and settlements to be stipulated by the Ministry responsible for agrarian affairs
Article 21	Land acquisition to be made pursuant to prevailing legislation
Article 22	Compensation for relinquishment and land submission 1. Relinquishment of right or land submission to be made with proper compensation so that the relevant land shall become state land, which can subsequently be provided with land right to KASIBA managing agency or Stand-alone LISIBA developer. <i>(Is this related to article 19, section 3 ?)</i> , 2. Proper compensation to be provided to: a. Land title holder, b. Proxies of donated land, c. Individuals/corporate bodies using state land stipulated in article 17 point b. d. Individuals/corporate bodies entitled to buildings, plants, and other objects. 3. Proper compensation to be provided for : a. Land right, b. Land use in article 17 point b. c. Building, plants, and other objects. 4. Proper compensation to be in terms of : a Money, b. Substitute land, c. Resettlement, d. Combination of either a, b, and c, e. Others approved by relevant parties.
Article 23	The amount of proper compensation to be calculated based : a. Land value based on selling value of property tax, b. Building selling value based on criteria and procedure of appraisal of building value c. Plant selling value based on criteria and procedure of appraisal of plant value, d. Other object selling value based on criteria and procedure of appraisal of other object value. The value calculation to comply with prevailing legislation
Article 24	Form and amount of proper compensation to be agreed amicably between concerned eligible parties.
Article 25	Further provision on procedure of land procurement in article 22, 23 , and 24 to be stipulated by Minister for agrarian affaires.

Chapter V Land title and Registration	
Article 26	1. Managing agency or developer to <i>arrange the right of land acquired and traditional right of community for L/C participants</i> , 2.KASIBA managing agency to be provided with <i>concession</i> pursuant to prevailing legislation. 3.Concession not to include land in L/C, 4. Managing agency or developer to settle arrangement of right accrued from L/C in the name of L/C participants and to issue certificate/title deed. 5.LISIBA developer to be provided with building concession or use right on the concession pursuant to prevailing legislation, 6.Stand-alone LISIBA developer to be provided with <i>building concession or use right</i> . 7. .Concession and land rights to be registered in director or local land/agrarian affair office.
Article 27	1. Managing agency to deliver parts of land with concession to LISIBA developer. 2. Parts of land with concession delivered to LISIBA developer to include building concession or use right. 3. Building concession or use right to be registered in land/agrarian affair office. 4.Building concession or use right on concession already transferred to a third party to be forfeited upon registration
Chapter VI Implementation of KASIBA and LISIBA	
Part One General	
Article 28	KASIBA and LISIBA to be developed through phases of construction planning, construction implementation, and construction control.
Part Two Construction planning	
Article 29	1. Plan and program of KASIBA to comply and be integrated with regional and sectoral dev. program of environment infrastructure, facilities, and public utilities. 2.Managing agency responsible for spatial technical plan, phased land acquisition, phased physical construction and work schedule.
Article 30	1. <i>Plan and program of LISIBA to comply and be integrated with those of relevant KASIBA.</i> 2. LISIBA developer to prepare spatial technical plan, phased land acquisition plan, and phased physical construction and work schedule
	Plan to serve as reference for land & housing dev. pursuant to prevailing legislation.
Article 31	Technical Requirement for plan and program in art. 29 and 30 stipulated by Ministry for spatial plan
Part Three Construction of KASIBA and LISIBA	
Paragraph 1 General	
Article 32	1. Construction of KASIBA/LISIBA to comply with plan and program in art. 29 and 30. 2.Change of construction plan subject to approval of Head of Region after hearing consideration of relevant agencies, 3. Change of LISIBA subject to approval of managing agency.
Paragraph 2 Construction of KASIBA	
Article 33	1.KASIBA to be constructed by one managing agency, 2.Managing agency to cooperate with corporate bodies in construction of KASIBA, 3.Managing agency to notify Head of Region entering into cooperation, 4.Construction of KASIBA to include land acquisition, construction/ maintenance of primary and secondary network of environment infrastructure and public facilities. 5.Terms and procedure for cooperation to be provided pursuant to prevailing legislation, 6.Construction of primary and secondary network by managing agency to start within not later than one year and <i>cover 25 % at least in three years ?</i> .
Paragraph 3 Construction of LISIBA	
Article 34	1.Land acquisition by LISIBA developer to be made by requesting for concession to managing agency to prevailing legislation, 2.Construction to start within one year after designation and be completed within seven years..
Article 35	1.LISIBA to be constructed by one developer, 2.Construction of houses, environment infra. and facilities and public utilities to comply with prevailing legislation. 3.Construction of houses on developed land plots to be made <i>horizontally and/or vertically</i> for proportioned settlement pattern pursuant to prevailing legislation
Part Four Control over construction of KASIBA and LISIBA	
Paragraph 1 General	
Article 36	Control over construction of KASIBA and LISIBA to include supervision and order of land acquisition and physical construction.
Article 37	1.Construction of KASIBA to be controlled by Head of Region, 2.Construction of LISIBA to be controlled by Managing agency responsible to Head of Region, 3.Community to participate in controlling the construction by suggesting to Head of Region
Paragraph 2 Supervision	
Article 38	1.Supervision on land acquisition and KASIBA construction to be made routinely and periodically evaluated. 2.Supervision on land acquisition and LISIBA construction to be made routinely and periodically evaluated. 3.Land acquisition and physical construction of KASIBA and LISIBA to be controlled through <i>periodic and hierarchical reporting system</i> . Further provision on procedure for reporting to be stipulated by Minister responsible for housing and settlements.

	1.Managing agency to submit monthly report to Head of Region. (Progress of construction, land title acquisition and construction permit, problems for immediate solution, and possible /anticipated issues), 2.Head of Region to sent progress report quarterly to Minister responsible for housing	
Paragraph 3 Order		
Article 39	1.Orderliness in land acquisition and construction of KASIBA and LISIBA to be maintained based on the reporting system, 2.LISIBA developer who fails to meet the term in article 34 (start in 1 year and complete in 7 years) to be forfeited with acquired land being transferred to another managing agency with compensation equal to cost of land acquisition.	
Chapter VII Implementation of Stand-alone LISIBA		
Part one General		
Article 40	Stand-alone LISIBA to be implemented through planning, implementation and control.	
Part Two Planning of Stand-alone LISIBA construction		
Article 41	1.Organization plan and program of stand-alone LISIBA to comply with and be integrated to regional and sectoral development program of environment infrastructure, facilities and public utilities. 2.LISIBA developer to prepare and be responsible for spatial technical plan, phased land acquisition, construction and work schedule to be submitted to Head of Region. 3.Plan set above to serve as reference for land development and housing construction pursuant to prevailing legislation.	
Article 42	Technical requirement for planning and program preparation to be stipulated by Minister for public works	
Part Three Construction of Stand-alone LISIBA		
Article 43	1.Construction of stand-alone LISIBA to comply with plan and program in article 41. 2.Any change of construction plan in article 41 subject to approval of Head of Region after hearing consideration of relevant agencies	
Article 44	1.Land acquisition by developer to start in one year after designation, complete 50% in 3 years and 100% in 5 years. 2.Construction of environment infrastructure and land plot with or without houses to be started in 3 years after designation and fully completed in 10 years.	
Article 45	1.Stand-alone LISIBA to be constructed by one developer. 2.Construction of Houses, infra., facilities and public utilities pursuant to prevailing legislation. 3.Construction of houses to be made horizontally and/or vertically with proportional settlement pattern pursuant to prevailing legislation.	
Part Four Control over construction of stand-alone LISIBA		
Paragraph 1 General		
Article 46	Control over construction of stand-alone LISIBA to include supervision and orderliness of land acquisition and construction.	
Article 47	1.Control of construction to be made by Head of Region, 2.Community to participate in controlling construction by suggesting to Head of Region	
Article 48	1.Control over land acquisition to include supervision and orderliness of transfer of land title. 2.Control over construction to include infrastructure, facilities, utilities and land developed pursuant to plan and program in article 41. 1.Control over construction to include building permits of either infrastructure, facility and utilities or houses in the framework of building orderliness and safety. 2.Building permits to be issued by Head of Region to developer of stand-alone LISIBA. 3.Building permit to comply with prevailing legislation.	
Paragraph 2 Supervision		
Article 49	1.Supervision on land acquisition and construction to be made routinely and periodically evaluated pursuant to plan and program in article 41. 2.Land acquisition and physical construction of Stand-alone LISIBA to be supervised through periodic and hierarchical reporting system. 3.Local government to submit monthly report to Head of Region (Progress of construction, land title change/acquisition and construction permit, problems for immediate solution, and possible/anticipated issues), 4.Head of Region to report construction progress quarterly to Minister responsible for housing and settlement	
	Further provision on procedure for reporting to be stipulated by Minister responsible for housing and settlements	
Paragraph 3 Orderliness		
Article 50	1.Orderliness in construction of Stand-alone LISIBA to be maintained based on the reporting system, 2.Stand-alone LISIBA developer who fails to meet the term in article 44 (start in 1 year and complete 50% in 3years, and 100% in 7 years) to be forfeited with acquired land being taken over by the state through relevant local government to be offered to other developer with compensation equal to cost of land acquisition	
Chapter VIII Promotion		
Article 51	Local government in cooperation with developer of LISIBA and stand-alone LISIBA to provide counseling to community for conducive atmosphere for success of KASIBA /Stand-alone LISIBA.	

Article 52	1. Government to promote management of KASIBA and LISIBA. 2. Promotion to include a. Technical promotion on construction by Minister responsible for public works, b. on land/agrarian affairs by Minister for land/agrarian affairs, c. Housing/settlement construction coordination and promotion by Minister for housing/settlement, d. general promotion of administration by Minister of home affairs.	
Chapter IX Miscellaneous		
Article 53	1. Environment infrastructure and facilities completed in KASIBA and Stand-alone LISIBA to be transferred to local government. Transfer of infra. be stipulated pursuant to prevailing legislation	
Chapter X Transitional Provision		
Article 54	1. Development permit still owned by corporate bodies pursuant to prevailing legislation prior to the effectiveness hereof to remain effective pursuant to given effective terms. 2. Land undeveloped including infra. and buildings, of developer who failed to start and complete housing/settlement to be controlled by the state through local government to be transferred to other developer	
Article 55	A part of a developed area	
Chapter X Closing Provision		
Article 56	Existing legislation on housing/settlement not being contradictory to this regulation to remain effective until amended by virtue thereof.	
Article 57	This regulation to become effective as of date of promulgation.	

