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SEARCHING NEW STRATEGIES FOR MANAGING AND CONTROLLING URBAN LAND GROWTH: A PRELIMINARY OUTLOOK ON INDONESIA

by
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ABSTRACT

This article is a result of an intensive study of literatures concerning urban growth management. It tries to examine the specific character of existing techniques for managing and controlling urban land growth and tries to match them to the Indonesian situation. The techniques can be categorized into two major types, i.e. urban and rural (urban-rural) orientation. Indonesian urban sprawl can be distinguished into two models, i.e. the Java and Outer Islands model. Java model is characterized by leap-frog (see for example Jakarta, Bandung, Yogyakarta, Surakarta, Surabaya) and ribbon development (see for example Padang in Sumatra, Banjarmasin in Kalimantan, Kendari in Sulawesi). The physical, social, historical background are responsible for this conditions. The urban-rural oriented strategy is highly recommended for managing and controlling urban land growth on the island of Java whereas urban oriented techniques are suggested for managing and controlling urban land development on the outer islands.

INTRODUCTION

In recent decades we all have witnessed tremendous growth of cities. The increase of urban population and human activities has led to the increase of living needs in many sectors. Consequently there is an everly increasing demand for space where man lives and works.

One of the realizations of this phenomena is the extension of urban land in the urban fringe areas. In the sixties, environmentalists started giving special attention to these areas, because the horizontal extension of cities frequently occurred hazardously and this phenomenon had encroached upon agricultural lands in the country-sides and concomittantly absorbed agricultural lands.

Without intelligent intervention by the government and the awareness of the citizens the loss of these valuable agricultural resources can not be dammed and will jeopardize the local, regional or even the national economy. In order to avoid further detrimental impacts on the environment, land use planning plays an important role in managing and directing physical development plan of urban fringe areas.

As an agriculturally based country, Indonesia is quite concerned with agricultural resources and this time is facing the afore mentioned problem. And the following discussion is trying to find out new strategies for managing and controlling urban land growth on the one hand and preserving agricultural lands on the other. Since this article is merely preliminary in character, further elaboration is urgently needed in the future.

NATIONAL PROBLEMS

While endeavors have been undertaken to be self-sufficiency in food production, the negative consequences of unmanage urban land growth in the fringe areas and exacerbated by the high rate of population growth have gone unnoticed. In a short period, the negative impact of the loss of agricultural lands in any urban fringe areas has not been very pronounced, but in my estimation, in the long run the ever ceasingly loss of agricultural lands in the fringe areas could jeopardize the national economy. And consequently the economic stability will be threatened. This is the important problem that is now being faced by the government of Indonesia, especially since it affects Java, the fertile territory most immediately.

An attending problem is no thing more than the so-called unman aged urban land growth. This is particularly caused by the tremendous increase of spatial demands in the cities and the other important thing is the absence of strict control and management concerned with the urban land use dynamics in the fringe areas.

Urbanization on the island of Java is higher than that on the other islands (Suharso and Speare, 1982) and consequently the process of urban sprawl into surrounding countrysides is clearly faster on the island of Java than that on the rest of the is lands. A nation increasing its population so rapidly must naturally be concerned with agricultural output. Both intensification and extension of agricultural lands have been carried out for a considerable period of time. Intensification is particularly applied on the island of Java because the agricultural lands on this island can no longer be extended. Extension is mostly executed on the other big islands, where lands are still extensively available.

The land area of Indonesia is about 192.6 million hectares (Hadiwigeno, 1988) and 30 percent of these areas is agricultural lands (Central Bureau of Statistics, 1985). Statistical records show that rice fields (sawahs) is 7,612,759 hectares and about 3,560,531 hectares are located on the island of Java. The irrigation networks on this island is much better that that on the other islands. Of the total, 72,4 percent sawahs on Java are irrigated and only 41,2 percent on the other islands (Asnawi, 1988).

Soils on the other islands are predominantly poor and less suitable than

exploited by shifting cultivation consist of podsolc soils or highly organic peat soils. Both are prone to heavy nutrient leaching in high rainfall climate (Djojohadikusumo, 1977).

The island of Java has still greater potential for developing agricultural activities, especially food production. This island contributes 64 percent to the national product of rice, although this island has no only less than 50 percent of the national rice fields. Nevertheless, Indonesia is able to achieve self-sufficiency in rice production. In my estimation, this achievement could not be retained for a considerable period of time, if there is no concrete action programs for managing and controlling agricultural land encroachment by the unmanaged growth of urban land development. The application of special techniques for controlling and managing urban sprawl is expected promptly in Indonesia for this reason. Since the island of Java has tremendous growth of cities, this island should have a special attention in order that the encroachment of urban land extension does not bring about more detrimental impacts on the environment and on the national economy as well.

A SHORT NOTE ON THE LAND CONSERVATION ISSUES IN INDONESIA

So far, there is no accurate research concerned with the national loss of agricultural lands in the urban fringe areas, in Indonesia. Nevertheless, some estimations concerning this matter have been offered by some experts and following descriptions are few examples.

- (1) Minister of Agriculture stated that in order to be able to retain the self-sufficiency state in food production the Government must be able to create new rice fields (sawahs) for at least 200,000 hectares per annum in the Five year Development Plan the V and VI (Wardoyo, 1984).
- (2) Wardoyo (1988) further stated that the loss of agricultural lands of class I and II for non agricultural purposes reaches more or less 35,000 hectares per annum.
- (3) According to the prediction launched by the Department of Agriculture of Indonesia that up to the year of 2000, the loss agricultural lands would reach more or less 2,2 million hectares and more over the extension of sawahs in the outer islands of Java can not substitute the loss of agricultural lands on Java (Soetatwo Hadiwigeno, 1988). Some factors are responsible for this situation, they are among others: (a) the condition of soils, (b) the condition of irrigation facilities, (c) the condition of productive facilities, (d) the condition of labour force.
- (4) A minor example can also be presented here, that is a research done by Sutanto and associates (1988) in the urban fringe areas of the city of Yogyakarta. By comparing aerial photographs of the study area and the topographical map they found out that from the year of 1964 to 1981 the urban fringe area of the city of Yogyakarta lost 900 hectares agricultural lands.
- (5) According to the Department of Agriculture of the city of Yogyakarta, from 1958 to 1987 within its administrative boundaries this city lost more or less 345 hectares agricultral lands.

(6) The city of Banjarmasin lost its agricultural lands 237 hectares only in 3 years (1984-1987) (Kompas, 20 June 1988). This proves that the loss of agricultural lands does not merely occur on the island of Java.

The above statements underlie the necessity of concrete action programmes for controlling and managing urban land development in the near future, particularly in the urban fringe areas since these areas are suffering the greatest pressure of urban land intrusion. And prior to this effort a detailed study concerned with land use dynamics in the urban fringe areas should be carried out.

TECHNIQUES FOR CONTROLLING AND MANAGING URBAN SPRAWL IN THE URBAN FRINGE AREAS

The following discussion is trying to present some techniques for managing urban land use extension that have been applied in Anglo-American countries. The main aim is to get an outline description concerned with various techniques that have been applied for that purpose. Since there is a pronounced difference in political, economic, social and cultural background between those countries and Indonesia, an accurate selection and elaboration is needed. If necessary, some modifications and or adaptations for Indonesian situation should be done.

Techniques for controlling and managing urban sprawl in the fringe areas have been established for two sprawl in the fringe areas have been established for two different perspectives. The first is concerned with the interests of urban areas and the second is concerned with agricultural protection. Urban oriented techniques are designed in such away to control and manage urban sprawl in the favour of urban interests with out paying any attention to the interests of agricultural sectors. According to this group unmanaged growth will be a detriment to the life of the city. If necessary, the sacrifice of agricultural lands is tolerated. Being aware or not some countries have adopted this type of urban land development.

There are at least 7 different techniques in this group. They are (1) Large Lot Zoning (LLZ), (2) Extra Territorial Zoning (ETZ), (3) Utility Extension Policy (UEP) or sometimes called Adequately Public Facilities Ordinances (APFO), (4) Planned Unit Development (PUD), (5) Tax Deferral and Abatement Laws (TDA), (6) Development Moratoria (DM) and (7) Land Banking (LB) (Isberg, 1975; Fischman, 1975; Brower, 1976).

These techniques can be outlined as follows:

- LLZ : this technique employs "large lot size" as a tool for zoning, because the cost of large lots tends to discourage development (Isberg, 1975). The minimum size of a lot will vary from place since the physical and socio cultural background in the fringe areas also vary in character.
- ETZ : this technique entails legislation that authorizes cities and towns to extend the application of their zoning ordinances and subdivisions regulations beyond their municipal boundaries.
- APFO: this techniques explicitly controls the pace of urban development by limiting the issuance of building permits to those areas adequately served by public facilities (Brower, 1976). By tying the ordinance to long range plan each

property owner can know when he will be able to develop his land. It is not necessarily anti-growth rather it seeks to channel the growth itself, into those areas in which it can be best accommodated.

PUD : this technique is characterized by unified site design for clustering buildings and providing common open spaces, building density increases and a mixture of building type and land use.

TDA : the basic principle of this technique is to encourage a farmer to stay on his land longer than he normally would and thereby encourage orderly urban expansion (Isberg, 1975). This technique permits owner of agricultural land to apply a special classification that allows his land to be taxed on its value for agricultural production rather than its market value.

DM : this technique intended to retard or stop the conversion of land from rural to urban uses within a jurisdiction. This technique is executed by blocking development at key points for a certain period of time.

LB : this technique is executed by purchasing lands in a certain area by the government and then after the area is considered ripe for future development, these lands are leased or sold for private use. This technique is usually done after the application of other technique can not be effective.

URBAN-RURAL ORIENTED TECHNIQUES (URRAL TECHNIQUES)

This group does not merely direct the purpose of management systems on the urban interests but the systems are also trying to protect the existing prime agricultural lands from the voracious encroachment of urban land extension. For the country like Indonesia where its economy relies mostly on agricultural output, an endeavour to protect existing agricultural lands is an obligatory action.

Such action was firstly sounded by American scientists and environmentalists in the late sixties. They saw, in that period, that American agricultural abundance was in jeopardy. Alarmed at an accelerating rate of agricultural land loss, the researchers warned that continued transfers of farmland to other uses could threaten the national future food and fibre producing options. Accordingly, there should exist certain techniques for protecting agricultural lands from the encroachment of urban uses and at the same time controlling and managing urban land extension (Furuset, 1982).

In Anglo American countries these techniques can be categorized into three mechanism, namely (1) Financial Compensation Mechanism, (2) Police Power Mechanism and (3) Comprehensive Mechanism (Coughlin and Associates, 1981; Furuset, 1982). In brief, these three mechanisms can be explained as follows.

Financial Compensation Mechanism

There are two techniques belong to this group, i.e. Tax Policies (TP) and Transfer of Development Rights (TDR). These techniques provide direct or indirect financial benefits for maintenance of agricultural uses. Consequently, they can retard or stop ongoing process of urban land use development in the fringe areas.

Tax policies can take the form of tax relief which is used as a tool for protecting agricultural lands. It is based on the fact that taxes, especially property taxes constitute a major cost to farmers. Under certain conditions, property taxes are reduced to provided benefits for selected tax payers. The effect of the reduction is expected to give incentives for agricultural activities and thus protect farmlands.

Transfer of Development Rights are intended to keep designated land for open uses and compensate the owners of the preserved lands for the loss of their right to develop their lands (Coughlin and Associates, 1981). Transfer Zones are created where a certain density bonus will be allowed if development rights are purchased. In this case, development rights are assigned to land owners in the preservation area and they would not be allowed to develop it but instead they may sell their development rights to owners of land in development districts.

Police Power Mechanism

The main point of police power mechanism is to enforce the laws, ordinances and other regulations of political jurisdictions (Domouchel, 1975). The most common use of this mechanism is in enforcing ordinances. In this case, they tell the land owner what he may not do with his land and in turn tell him what he may do with it. This mechanism comprises two strategies for controlling and managing urban sprawl and at the same time protecting agricultural lands. They are agricultural zoning and provincial police power.

Agricultural Zoning (AZ) can be defined as a legally binding designation of the use to which land may be put, including the type, amount and location of development. Frequently this technique is applied as one part of a larger local program (Keene, 1981).

Provincial Police Power (PPP) has been applied in Canada. It comprises land use planning guidelines formulated in the provincial level. The province maintains the right to review and veto the local plan if the municipalities indicate an intention to deviate from the official plan.

Comprehensive Mechanism

The implementation of this mechanism is directed toward the achievement of long range plans for agricultural land use. That is why the endeavours for protecting agricultural lands should be geared to the entire system of land use and development planning programmes within a region. The application of this mechanism is not merely directed to solve the local problems like other techniques, but also designed to enhance the general welfare of the community over a broader scale of the region, thus it should consider the policies of other sectors.

This mechanism can be divided into two different techniques. The first is Integrated Provincial/State Programmes (IP/SP) and the second is Agricultural Districting (AD) (Furuseth and Pierce, 1982). IP/SP is implemented at the provincial level or state level. This makes it possible to develop specific comprehensive policies for agricultural lands on a large scale basis. The regulatory aspects of this programme focus on controlling urban land use development and protecting

agricultural lands through agricultural zoning, complemented by financial incentives (Keene, 1981).

Agricultural Districting (AD) can be defined as the designation of specific tracts of land for long term agricultural uses. They are usually coupled with benefits include financial incentives through specific tax assessment, protection from ordinances hindering agricultural operations and so forth. The theory behind this technique is that if farmers are provided with incentives to join in the creation of protected districts where agricultural is the only activity, they will be able to keep their land in agricultural use. The establishment of agricultural districts is voluntary in nature that is initiated by the awareness of farmers about the future of their lands.

THE PRESENCE OF TECHNIQUE FOR CONTROLLING AND MANAGING URBAN LAND EXTENSION IN INDONESIA: A NECESSITY

In general, urban land use development in the urban fringe areas can be categorized into three different types, namely: (1) low density, continuous development or concentric development; (2) ribbon or axial development or sectoral development and (3) leap frog development (Catanese and Snyder, 1979; Wallace, 1980). These three patterns of urban sprawl rarely exist individually. Due to regional variations, these three patterns can form a combination of two three at the same time.

Indonesia is the largest archipelago in the world. It consists of five big islands and thousands of small ones. As a whole this country has 13,677 islands and isles of which about 6,000 are inhabited. The Indonesian population is not evenly distributed over these archipelago. About 60 percent of the population is concentrated on the island of Java, an island comprising only 6 percent of the land area of the whole territory.

Accordingly the island of Java has much greater density of population as compared to other islands. The Javan history shows that this island has been inhabited for hundreds of years. High fertility of soils and good irrigation facilities have created better agricultural activities as compared to other islands. Many activity centers developed in such away and they then were transformed into present towns and cities. It is not surprising, of course, that urban networks on the island of Java are more densely intertwined (Figure 1).

Concerning the development of urban land in the fringe areas and agricultural activities, the island of Java has some peculiarities, i.e. ((1) higher fertility of soils, (2) good irrigation networks, (3) agricultural lands can no longer be extended, (4) intensification of agricultural production, (5) small ownership pattern, (6) great pressure of urban land intrusion on these small plots of land in the fringe areas, particularly along the transformation routes and also near activity centers, (7) leap frog and ribbon development are predominating the urban land extension in the fringe areas.

Based on the above background, it is more appropriate if the island of Java adopts the so-called "urban-oriented strategy" for controlling and managing its urban sprawl processes. In order to be able to select which techniques can be applied on this island there should be an elaborate study concerned with regional and local

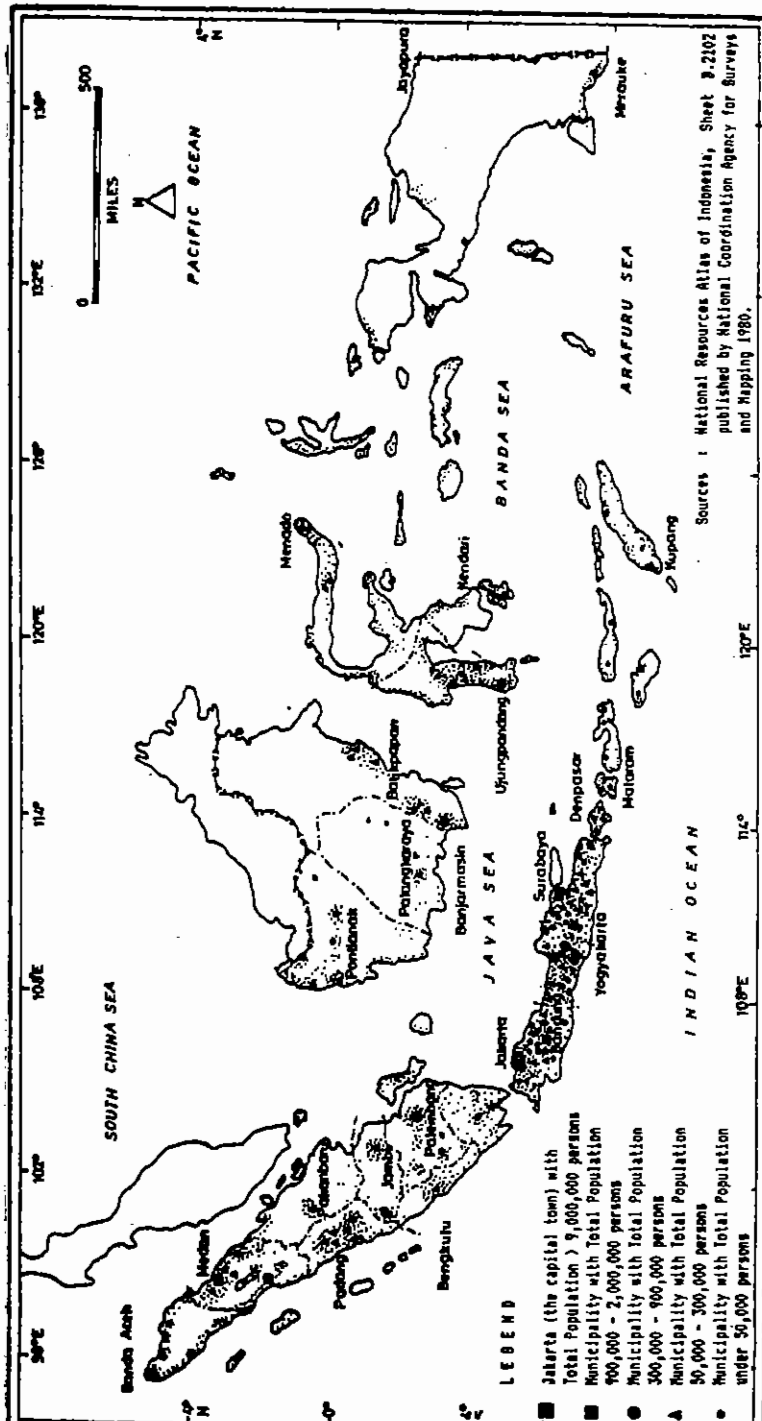


Figure 1. Urban Centers Distribution in Indonesia

conditions of economic, social, cultural, technological and physical conditions of the respective cities. As a matter of fact, various geographical conditions of the urban peripheries claim various combination of the existing techniques.

The outer islands show different pattern of urban land use development. Since the development of urban land directly affects the urban fringe areas, a detailed study of these areas is seriously expected. A selection of combination of technique can not be executed without a comprehensive knowledge of the areas, particularly the areas that are located around the city. In general, the conditions of surrounding countryside of outer island's cities outlined as follows (1) lower fertility of soils (podsollic and highly organic peat soils), (2) as compared to Java their irrigation facilities are deficient and inferior, (3) available reserved lands for urban and agricultural extension, (4) lower pressure from urban land use development in the fringe areas as compared to the island of Java and (5) relatively larger owner ship pattern of land.

The extension of either urban or agricultural lands on the outer islands can be executed more easily due to the available reserved lands and accordingly the application of the urban oriented strategy can be tolerated. Nevertheless, the protection of prime agricultural lands should also be placed at a higher priority in every land use planning actions. And once again, the writer does not suggest swallowing all those Anglo-American models rather than reviewing and adapting them to the Indonesian situation. For this purpose, an interdisciplinary and inter departmental actions are needed in anticipating future growth of urban lands and at the same time selecting the appropriate techniques.

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FORMAL RURAL CREDIT FOR RURAL DEVELOPMENT IN BANTUL DISTRICT, SPECIAL PROVINCE OF YOGYAKARTA : PROVISION, USE AND NEEDS

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ABSTRACT

After outlining the shift in interpretation of the concept and objectives of rural development since the mid-1960s, the main consequences of the new role assigned to formal credit in the desired rural transformation process are explored. Against this background, some general characteristics of rural credit provision in Indonesia are summarized. Subsequently, the study deals with the present-day role of formal rural credit in the process of rural development in a densely populated, but internally heterogeneous district south of Yogyakarta city. The credit supply system in the area, the actual use of credit by the house holds in the various agro-physical zones, and the appraised needs for credit in these subdivisions are presented. The text concludes with recommendations for a policy of rural credit provision which is better attuned to the socio-economic circumstances as present in the geographical setting of this part of central Java, Indonesia.

FORMAL CREDIT AND RURAL DEVELOPMENT

Since the 1960s, the concept and objectives of rural development have been recurrent topics of extensive discussions, both at congresses and in literature. The concept itself proved to be elusive : Many different definitions have been formulated, reflecting a divergence in views. The various ways of thinking about rural development over time largely parallel the changes in ideas regarding development problems in general. For more than two decades after the Second World War, growth economics has dominated the development scene. The most important indicator of development was the Gross National Product per capita. Similarly, rural development was mainly seen as a process of increase were to be promoted through various government-initiated intervension efforts. The attainment of rural development was thus considered to be a sectoral, technological challenge. The actual dis-

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