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INTERMEDIATE CITIES IN THE RESOURCE FRONTIER: A CASE STUDY OF SAMARINDA AND BALIKPAPAN, EAST KALIMANTAN, INDONESIA

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INTERMEDIATE CITIES IN THE RESOURCE FRONTIER:
A CASE STUDY OF SAMARINDA AND BALIKPAPAN,
EAST KALIMANTAN, INDONESIA

A DISSERTATION SUBMITTED TO THE
GRADUATE DIVISION OF THE UNIVERSITY OF HAWAI'I
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY
IN GEOGRAPHY
MAY 1985

By
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ABSTRACT

This dissertation focuses on the functions and roles of two intermediate cities within an international economic system. Wallerstein's "world systems" model is used as a framework for studying the changes that occur in a resource frontier region and its two cities as demand for regional resources increases on the world market. The cities, Samarinda and Balikpapan, are located in East Kalimantan, a resource-rich province of Indonesia. East Kalimantan's involvement in the world economy is paralleled by the Indonesian government's interest in provincial resources. Samarinda, the provincial capital and center of timber processing, and Balikpapan, the regional petroleum refining center, experienced rapid economic and demographic growth during the 1970s as they became centers of political and economic control over regional resources. A qualitative "urban system" model, adapted from Nijkamp, is used to analyze urban changes catalyzed by the arrival of multi-national timber and petroleum corporations and the dominant role of the national government. The study concludes that the future of resource frontier cities, such as Samarinda and Balikpapan, is more dependent upon world market demand for regional resources and government policies aimed at resource management and marketing than it is upon explicit urban and regional development policies.
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When we look at the explosion of growth and change in the twentieth century city, the first question must surely be how and why mankind ever came to reach this extraordinary upheaval in all traditional scales and types of settlement. What process of history brought him here? How did he make the quantum jump from settlements of 2,000 to the megacity of twenty million? -- Ward, 1976:11

This study is concerned with the historical processes that determine the evolution of intermediate-size cities in resource frontier regions. These cities have rapidly growing populations, inflated economies, infrastructural shortages and little control over their futures. Why? What are the key factors that determine the development of these cities? How can policy makers in these cities cope with the "quantum jump" from village to city? This study attempts to answer these questions through the empirical analysis of two intermediate cities in a resource frontier region.

The last two decades have seen a growing emphasis on the study of urban and regional development, especially in
Third World countries. Part of the reason for this trend is the perceived failure of economic growth strategies during the Development Decade of the 1960s. The growing concern with primacy, regional inequality, population distribution and rural development is indicative of a more spatial orientation in development studies and underscores the complexity as well as the interrelatedness of current development issues. This dissertation will focus on only a small corner of the field of urban and regional development, that concerned with rapidly growing intermediate cities in a resource frontier region. Many other related issues, however, will be addressed because no urban and/or regional phenomenon can be studied in isolation if any semblance of reality is to be maintained.

Resource frontier regions and their towns and cities are not a new research topic in geography (Bowman, 1931; Pelzer, 1945; James, 1946). Indeed, every country has had, at one time or another, a "resource frontier" which can be broadly defined as a region with a low population density and unexploited resources (Hackenberg, 1983:70). Resource frontiers are often quickly occupied by pioneers who wish to settle permanently in a new "land of opportunity" and transitory fortune hunters intent on quick profits from the resources and/or the other settlers. As the resource frontier's resources are exploited by arriving settlers, resource frontier towns and cities lose their "boomtown"
characteristics and become established regional centers. The settlement of resource frontiers thus represents the first stage in a regional development process.

In this study "resource frontier" is given a narrower definition than the one quoted above. I define a resource frontier as a relatively unpopulated peripheral region that has natural resources sold on the world market. My definition emphasizes the role of the world market because I wish to study how the interaction between the world economy and resource exploitation affects the urban and regional development process. Consequently, a "resource frontier city" is defined as an intermediate-size city directly involved in the extraction, processing and/or export of regional resources. The resource frontier cities analyzed here are closely associated with all aspects of resource extraction, processing and export activities.

Urban studies in Third World countries have usually centered on primate cities and on national urban systems. This study is centered on intermediate cities and on an international urban system. Regional studies usually emphasize intra-national and intra-regional linkages. In this study the emphasis is on international linkages which requires a fundamentally different academic perspective; theories of national development are inadequate for a study with an international orientation. The theoretical
framework used here is based on world-systems theory, a rather abstract but thought-provoking perspective on the history of global capitalism (Wallerstein, 1979).

A major stumbling block in any urban study is the availability and quality of data. Research on Third World cities has been severely handicapped by poor data, so much so that most researchers have been forced to generate their own data base through surveys. This has the advantage that the researcher has some control over the types of questions asked, how the survey is conducted and the accuracy of tabulations. The main drawbacks of a survey are that it is usually narrow in focus, deals with a particular population or topic and removes the researcher from the decision-making context of most Third World urban planners and policy-makers, who are forced to use a poor data base and yet have to consider the wide ranging implications of any action they take.

My methodology has tried to confront this dilemma by using only the statistical data available to government officials and by incorporating a simple integrated systems model that treats the city in a holistic manner. The main problem with this approach is that it has made my research somewhat dependent upon data that I have had little control over (see Appendix A). The adverse effects of questionable data have been minimized by using an "integrated systems"
approach oriented towards a qualitative rather than a quantitative assessment (Nijkamp 1983).

**HYPOTHESES**

The three main hypotheses of this study are: 1) the growth of intermediate size cities within a resource-rich frontier is dependent upon the world market demand for resources extracted from the region, rather than on existing regional and national linkages; 2) the structure, role, function and growth of an intermediate city in a resource frontier region is dependent upon the type of resource extraction activity it is associated with; and 3) the regional and national functions of an intermediate city change as it becomes incorporated into the world economy.

My objective in formulating these three overlapping hypotheses is to study the changes that occur in an intermediate city as it begins to have an increasingly important function in regional resource extraction activities and as it begins to play a larger role in the world economy and international hierarchy of cities (Figure 1.1). Intermediate cities in a resource-rich region are simultaneously intertwined in three levels of economic networks: the region, the nation state and the world. Each of these networks makes different demands upon the
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**FIGURE 1.1:** Urban hierarchies within regional, national, and international economic systems.
intermediate city. My interest is in observing how the city changes as it interacts with the world economy.

To test these hypotheses an intermediate city was needed which was located in a resource frontier region. In addition, historical data was required that would show how the city changed as the region's economic prospects grew. These requirements do not necessarily complement each other; cities with comprehensive historical records are generally not located in recently developed resource frontier regions.

Uncertainty about data reliability lead me to choose a rather broad conceptual framework and a qualitative methodology with which to answer my hypothesis. The conceptual framework of the research is Wallerstein's world-systems theory (1979) and the methodology for carrying out the research is based on Nijkamp's integrated systems approach to qualitative impact assessment (1983). I will discuss in detail these theoretical contributions to my study in Chapter 2 of this dissertation.

DEFINITIONS

Urban and regional development, like many other current disciplines, is filled with jargon that misleads as often as
it clarifies. Before continuing with my research focus, some key terms that will be used throughout my paper need to be discussed. Some of these terms have definitions which are accepted by almost everyone studying development issues while others are still hotly debated. I will begin with the most obvious and perhaps also the most controversial.

**Development:** during the Development Decade of the 1960s the world was divided into "developed" countries and those referred to as alternatively "undeveloped", "underdeveloped" and "developing". Rostow's influential work (1961) gave credence to the idea that with the right amounts of foreign aid, technology, and sound capitalistic management, the economy of an "undeveloped" country would one day "take off" and become "developed". Frank (1969) responded to this paradigm with his "development of underdevelopment" theory in which he argued that capitalistic development in the Third World requires greater dependency upon First World capital and technology, thereby leading to greater economic polarity within the Third World country (ie. "the rich get richer.."). In my study, I have attempted to use Brookfield's definition: "development is the whole process of change brought about by the creation and expansion of an interdependent world system...development is the modern dynamic" (1975:xi). Development, be it beneficial or not, is thus an inevitable product of the world capitalist system. This definition is the most free of ideological overtones
and fits in well with my world-systems framework.

**Third World**: a rather ambiguous but convenient descriptive category associated with the more than one hundred countries in Asia, Africa and Latin America that share some common interests, including histories of colonial domination, widespread poverty, rapid urbanization and high population growth rates. The term "Third World" is often used to distinguish poor, "non-aligned" countries from the "First World" (consisting of wealthier countries in Western Europe, Japan and North America) and the "Second World" (made up of the "socialist-bloc" countries).

**Planning**: the public process of rationalizing and influencing socio-economic and political options in a society. Although many government agencies refer to their work as "planning", often only a small proportion of their time is engaged in an activity resembling my definition.

**Region**: a subnational area defined by a political boundary, such as a province, and under the jurisdiction of a national state.

**Resource Frontier**: a region containing renewable or non-renewable natural resources in high demand by the domestic and/or world market. Resources extracted from resource frontier region are usually exported outside of the region and sold in the international marketplace. My
definition of a resource frontier thus emphasizes the function of a resource frontier within the context of a world economic system.

**Regional Exogenous Integration**: the incorporation of a region within the world economic system. This process is accelerated in resource frontier regions.

**Peripheral Capitalism**: the economic process in states which participate in the world economic system but have little control over the dynamics of that system. Peripheral economies are characterized by a spatial concentration of economic activities, an economic dominance by merchant capitalists (as opposed to the principal role of industrial capitalists in states of the core), and a decline in reciprocal and redistributive economies (Douglass, 1984a).

**Primate City**: a term coined by Jefferson (1939), it refers to a city that dominates an urban hierarchy and usually has more than twice the combined population of the second, third and fourth largest cities in the hierarchy. Many national-level policy makers are concerned with rapid population growth and lack of adequate physical infrastructure in their primate cities.

**Intermediate City**: a city of lower rank in a national urban hierarchy. An intermediate or secondary city is usually the principal city of a sub-national region and has
a key function between the primate city at the national level and smaller cities and towns within a region. This type of city usually has a population of more than 100,000 and less than 500,000 (Rondinelli 1983).

**Resource Frontier City**: an intermediate city located in a resource-rich region and/or involved in the extraction, processing and/or export of natural resources.

**Urbanization**: the transition of a society from a rural to an urban base. In demographic terms, the rate of urbanization is the increase in the percentage of a given region's population residing in an urban area. This rate is dependent upon both an urban-rural population ratio and the rates of urban and rural population growth. Thus, "urbanization is a redistribution, rather than a growth, process" (Williams 1983:122).

**REGIONAL FOCUS**

The field research for this dissertation was, for the most part, conducted in the Republic of Indonesia, an archipelagic country of 13,000 islands that stretch out for 2,500 miles athwart the equator. By far the largest country in Southeast Asia, it covers about two million square kilometers of land. Almost eighty-five percent of this land
area, however, is on just four islands, Kalimantan, Sumatra, Sulawesi and Java. Indonesia's 1984 population is about 162 million and had an average population growth rate during the 1970s of 2.3 percent (Proyeksi Penduduk Indonesia 1980-2000: table 3.3). The economy of the country is based on agricultural production; over 60 percent of the population engages in some type of agricultural activity; the most important being sawah, or "wet rice", cultivation which is practiced intensively in Java and Bali.

One of the most striking characteristics about Indonesia is the wide disparity in population densities between the Inner Islands of Java and Bali and the Outer Islands of Sumatra, Kalimantan, Sulawesi, Maluku and Irian Jaya. Java, for example, has a 1984 average density of over 730 persons per square kilometer while Kalimantan has about thirteen. The capital city of Jakarta, located in West Java, has a 1984 population of almost eight million and has a projected population of 16 million by the year 2000. For over seventy years, successive government administrations have attempted to ease the problems generated by this highly concentrated population distribution by encouraging landless Javanese and Balinese peasants to "transmigrate" to the Outer Islands. So far these efforts have failed to significantly influence population distribution in the archipelago (MacAndrews, 1978; Jones, 1979).
The percentage of Indonesia's population residing in "urban" areas is officially estimated at a relatively low 22 percent but this figure probably underestimates the actual number of people who live around urban areas and/or are dependent upon urban jobs, services and facilities. Since the turn of the century the urban population has been increasingly concentrated in the country's largest cities located along the coasts and major rivers of Java and Sumatra. Between 1960 and 1980, for example, the number of cities with over 500,000 people has jumped from three to eight (Hugo, 1981:65). A number of factors have influenced the growth of Indonesia's largest cities, including: 1) high natural growth rates of urban populations; 2) increased access to services concentrated in urban areas, such as secondary schools and hospitals; 3) improved transportation linkages between urban and rural areas; 4) greater trading activities between port cities; 5) decreasing labor demands in the agricultural sector due to the "green revolution"; and 6) rising consumer demand for goods produced or traded by urban based enterprises (Douglass, 1984b:10-11). The rapid growth of Indonesia's largest cities, particularly those in Java, has resulted in a myriad of extremely complicated problems, most notably a lack of adequate housing, severely strained public infrastructure (such as waste disposal facilities) and increasing air and water pollution. National policy makers are thus studying
strategies to promote a more regionally balanced pattern of urbanization (Douglass, 1984b:84-85). Intermediate-size cities in the Outer Islands play a central role in the urbanization strategies being considered.

Traditionally, the Outer Islands have been the resource frontier of Indonesia. During the last century of Dutch colonialism, the Outer Islands contributed the lion's share of revenue with their cash crop plantations, oil fields and mines (Boeke 1946). After independence in 1949, the Jakarta based government became heavily dependent upon the national revenue earnings of the Outer Islands. Little of this revenue, however, was returned to the regions that generated it. This unequal relationship created resentment among Outer Islands peoples that manifested itself in frequent regional rebellions (Drake, 1980). Indonesia's unbalanced pattern of natural resource availability and population distribution continues to have a major effect on the country's economic development.

Indonesia's principal source of foreign exchange earnings is its oil deposits located in and around the Outer Islands (Riva, 1983). An indication of the economic importance of Indonesia's oil export earnings becomes evident in a comparison of the country's per capita Gross Domestic Product with oil revenues taken into account, US$430.00, to its per capita Gross Domestic Product without
Oil revenues, US$300.00. Oil revenues account for 64.2 percent of Indonesia's total domestic revenues in the 1983/84 fiscal year (American Embassy, 1984:8). In 1981 over eighty-two percent of Indonesia's export earnings came from petroleum and gas products (Indikator Ekonomi, April 1983). During the 1970s and early 1980s economic development activities of the national government have been heavily subsidized by oil exports. Although the national government has legal and managerial authority over petroleum resources in Indonesia, the industry is very dependent upon the skills, capital and technology of large multi-national petroleum companies.

One of Indonesia's greatest renewable resources is its forests. Indonesia's 122 million hectares of forest land includes dryland forest, peat swamp forest, freshwater swamp forest, mangrove forest, secondary forest and grasslands (alang-alang) (Kartawinata, 1981). In contrast to the sawah farmers of Java and Bali, who have continuously farmed the same piece of land for generations, the shifting cultivators of the Outer Islands have based their agro-ecosystems on the regenerative capacity of their forests. Within the past two decades some of these forests have been ruthlessly exploited by the timber industry. Large scale destruction of ecologically rich forests and land use conflicts between shifting cultivators and loggers has serious consequences for the future of Indonesia's Outer Islands.
The region I have chosen to study is the province of East Kalimantan, Indonesia. This Outer Island province has recently undergone rapid economic growth because of the exploitation of two of its natural resources, petroleum and timber. In many ways East Kalimantan epitomizes the type of region which Indonesia's foreign trade depends so heavily upon. As the earnings from exploitation of the province's resources grew in value on the world market, the country became more reliant upon the province.

Within East Kalimantan, the two key points of economic and political activity are the cities of Samarinda and Balikpapan (Figure 1.2). Samarinda is the provincial capitol and center for most timber industries. Balikpapan is the center of the region's oil industry. The focus of my research is the changes that have occurred in these two cities as East Kalimantan's natural resources have been sold on the world market and as the national government's interest in the province has increased.

DESCRIPTION OF FIELD RESEARCH

The field research for this dissertation took place in the Spring of 1984 and was funded by the Population Institute of the East-West Center. The research within
Indonesia was sponsored by Lembaga Ilmu Pengetahuan Indonesia (L.I.P.I.) and the Departamen Planologi, Institut Teknologi Bandung.

Before arriving in Indonesia library research was carried out at the University of Hawaii, the University of Sydney and the Australian National University. At the former two I found only scattered articles or papers on certain aspects of East Kalimantan's history, geography and economy. At the latter, though, I was fortunate enough to be allowed to use the reference collection of the Department of Economics, Research School of Pacific Studies. This reference collection contained economic data collected by Daroesman who wrote an article on East Kalimantan for the Department of Economic's Bulletin of Indonesian Economic Studies (1979).

Upon arrival in Indonesia several days were spent taking care of government formalities. During this time I made use of the statistical data kept by the Biro Pusat Statistik in Jakarta. I was also able to talk with people who had worked in East Kalimantan and who provided some important leads. While still in Java I went to Bandung, in West Java, to meet with my local sponsor, Dr. Budhy T. S. Soegijoko of the Departamen Planologi, Institut Teknologi Bandung.

Once in East Kalimantan I moved to Samarinda, the
provincial capital. My first contact in East Kalimantan was with Mr. Gottfried Roelke, Regional Planner for the German Agency for Technical Cooperation (known locally as T.A.D.). Mr. Roelke and other researchers at T.A.D. helped me with gathering information on the province, suggesting local contacts to meet, as well as allowing me to use some of T.A.D.'s facilities.

Samarinda, being the provincial capital, contained many of the government offices overseeing resource extraction activities and regional development planning and so I was able to obtain most of the provincial level data I needed while living in this city. During my stay in Samarinda I worked closely with BAPPEDA (Badan Perencanaan Pembangunan Daerah - Office of Area Planning and Development) within the administration of the Municipality of Samarinda (Tingkat II, Kotamadya Samarinda). I was greatly aided by Ir. Razak Rahim, Chief of BAPPEDA, who provided me with statistical data, insights into government operations, and assistance in collecting information from other government agencies.

After six weeks in Samarinda I moved to Balikpapan, located almost three hours drive to the south. Again, I was

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1. T.A.D. formerly stood for Transmigration Area Development but this has been recently changed to Technical Assistance Development. T.A.D. researchers have gathered data and conducted basic land use surveys in East Kalimantan's interior since 1977.
very fortunate to be assisted by the local BAPPEDA Chief (now Sekretarius, or City Manager for the Municipality), Drs. Haji Moesmin Soehondo. Drs. Soehondo and his staff (including the present BAPPEDA Chief, Drs. Edy Topo Ashari) helped me considerably in carrying out my research.

My main sources of information on socio-economic factors were the statistical yearbooks compiled by the provincial and municipal planning offices since the mid-1970s. These sources were supplemented with publications written by T.A.D. researchers, documents by other government agencies, and miscellaneous unofficial reports and papers. I also met with and interviewed a wide variety of people living in Balikpapan and Samarinda. Some of the interviews were with government officials but others were with knowledgeable private citizens.

ORGANIZATION OF DISSERTATION

There are three major aspects to this dissertation. The first is the theoretical framework and methodology used in carrying out the study. In brief, Wallerstein's World-Systems Theory provides the context for the field observations while Nijkamp's integrated systems approach for qualitative impact assessment is the methodological tool for collecting and analyzing the observations. The second part
of the dissertation is the observations themselves, which consist of a mixture of quantitative and qualitative descriptions organized into designated categories. The final part of the dissertation is the analysis of the two intermediate cities using the theoretical perspectives and empirical observations described in the first two parts.

After this introductory chapter comes a chapter on the theoretical framework which includes both the theory and the methodology. Both of these are discussed in depth because neither, as far as I know, has been used to carry out the type of research described here. From the highly theoretical I move to an empirical description of the history, geography and economy of East Kalimantan. Chapter three focuses on the recent development of the region's major natural resources, timber and petroleum, and the region's incorporation into the world economy. The next two chapters, four and five, consist of my use of Nijkamp's methodology to describe Samarinda and Balikpapan's recent changes. This methodological organization is supplemented with some historical, cultural and political background on these cities. Chapter Six compares the urban system components of Samarinda and Balikpapan. Finally, the last chapter concludes with a review of the major observations and a discussion of policy implications.
CHAPTER TWO

WORLD-SYSTEMS THEORY IN THE STUDY OF
THIRD WORLD URBANIZATION

TRADITIONAL APPROACHES TO THIRD WORLD URBANIZATION

Third World urbanization, until recently, has been studied within the constraints of regional and national boundaries. Most urbanization studies have been of a descriptive nature, either describing the socio-economic conditions of urban dwellers or documenting the rapid growth of urban populations. Explanations of why Third World urbanization is taking its present form have been sketched in terms of a lack of industrialization, rural poverty, educational opportunities, cultural attractions, political control and commercial activity (Todaro and Stilkind, 1981). These reasons have helped policy-makers understand why some people have moved to urban areas and why some cities are having great difficulty in coping with their new residents.
The study of Third World urbanization has been less successful, however, in building a cohesive theoretical base that explains why nearly all Third World countries are simultaneously experiencing the same phenomenon.

Third World urbanization (although not known as such) began to be actively studied in the 1950s and 1960s as a subset of world-wide urbanization trends (Hauser and Schnore, 1965; Davis, 1969; Berry, 1973). Early concerns centered around "over-urbanization" and "optimal" city size (Scoyani, 1964). One interesting tangent that arose early in the field focussed on the morphology of cities and the distinction between industrialized and "pre-industrialized" cities (Sjoberg, 1960). The observed trends of urban primacy in many Third World countries also prompted academic concern (El-Shakhs, 1972). A few pioneering studies concentrated exclusively on Third World urbanization (Breese, 1966; McGee, 1971) and the relationship between urbanization and national development (Jakobson and Prakash, 1971). Another major work introduced the neglected aspect of spatial organization to the study of Third World cities and regions (Johnson, 1970).

In the 1970s the field of Third World urbanization grew as more empirical research was conducted and the dimensions of the issues involved began to be realized. One outcome of this work was the study of cities within a regional
A large literature on "growth poles" and "growth centers" quickly sprang up that seemed to offer a First World solution to the related Third World problems of primacy and regional stagnation (Darwent, 1969; Boudeville, 1972; Kuklinski, 1972; Hansen, 1972). The practical and theoretical limitations to this approach soon became apparent and researchers were forced to dig deeper into the problems of both urbanization and regional development (Richardson, 1973).

General reviews of Third World urbanization underlined the importance of multi-disciplinary approaches to current urban issues (Dwyer, 1974; Abu-Lughod and Hay, 1977). A wide range of Third World research was opened up, including the study of urban poverty and squatter settlements (Roberts, 1978; Gilbert and Gugler 1982), urban housing (Drakakis-Smith, 1980), urban labor markets (McGee, 1980) and rural to urban migration (Amin, 1974; Hugo, 1979). Other studies claimed that cities were unfairly benefitting from government policies at the expense of rural areas (Lipton, 1977; Todaro and Stilkind, 1981). A few researchers focussed on government policies affecting urban management and suggested ways of directing growth away from the primate city (Richardson, 1977; Linn 1979). From the broad field of Third World urbanization came the more specific study of intermediate cities. Recent interest in intermediate cities has come about because of frustrations in managing the
rapidly growing populations of primate cities and the desire to stimulate economic growth in peripheral and rural regions.

Concern with intermediate cities grew out of the realization that the serious problems of primate cities could never be solved in isolation (Richardson, 1977). Unfortunately, much less is known about intermediate cities than primate cities. Primate cities have been in the spotlight of academic studies for a number of reasons: they are often the national capitals and thus are of immediate interest to national leaders; their sheer size and uncontrolled growth rates demand attention from urban planners; their cultural role within their respective countries molds them into "showpieces" which citizens identify with and which leaders measure the success of their regimes by; they have relatively good socio-economic and demographic data; and they are relatively easier to study than intermediate cities located far from convenient government offices. Academics began to work on strategies for using policy mechanisms to direct economic growth away from primate cities and towards less-developed regions without adversely affecting the national economy (Rondinelli and Ruddle, 1978; Richardson, 1981). The rationalization of these strategies was in part based on expected roles and functions of intermediate cities within the revised "development" process (Osborn, 1974; Hackenberg, 1980, 1982;
Rondinelli, 1983; Meyer, 1984). The literature on intermediate cities has concentrated almost exclusively on regional and national linkages. In my research I have tried to demonstrate the importance of international economic linkages to the growth of intermediate cities and to the development of the regions they are located in.

During the 1950s geographers began to study large Southeast Asian cities, which were already experiencing rapid population growth (Fryer, 1953; Ginsburg, 1955; Hoselitz, 1958). These essentially descriptive studies opened the door for McGee's study, The Southeast Asian City (1967), in which he argued that Southeast Asian cities had unique urban morphologies and could be classified by socio-economic and spatial patterns. In the 1970s the rapid socio-economic changes occurring in Southeast Asian cities attracted a wide variety of academic studies (see, for example, the collection in Yeung and Lo, 1976). Topics of particular interest included squatter settlements (Jackson, 1974) and "informal" sector activities (McGee and Yeung, 1977).

The late 1950s and early 1960s saw a number of detailed studies of cities within Indonesia (Kroef, 1956; Keyfitz, 1961; Withington, 1962, 1963; Milone, 1964; Wertheim, 1964; Gontiang 1965). Some academics chose to study the historical evolution of individual cities in Indonesia, in particular
Jakarta (Milone, 1966; Cobban, 1976), Medan (Withington, 1962) and Yogyakarta (Fryer, 1959) while others studied certain aspects of Indonesian urban life, such as kinship networks (Bruner, 1961, 1963), migration patterns (Evers, 1972) and changing social systems (Geertz, 1963). Urban research in Indonesia dropped off after the country's political crisis in 1965 and only began to be reestablished a decade later with studies of the urban "informal sector" (Jellinek, 1977), urban poverty (Papanek, 1975) rural-urban socio-economic linkages (Forbes, 1978) and rural-urban "circular" migration (Hugo, 1979, 1980). Other studies underscored the poor correlation between urbanization and manufacturing in Indonesia (Fryer and Jackson, 1977: Chapter 7).

WORLD SYSTEMS THEORY

The framework with which I have chosen to study Third World cities explicitly rejects the analytical constraints of regional and national boundaries and replaces them with a world-systems perspective. World-systems theory offers an international explanation for the current dilemmas of Third World urbanization. Before discussing the relevance of world-system theory to Third World cities I will briefly discuss its theoretical foundations.
World-systems theory, as described by its principal advocate, Wallerstein (1974, 1978, 1979), uses a multi-disciplinary approach to study the history of world capitalism. World-systems theory is concerned with large scale events over a relatively long time period (Braudel's "longue durée"); in particular it focuses on the expansion and contraction of the capitalist world economy over the last few centuries. According to Wallerstein, the capitalist world-economy took shape in sixteenth-century Europe. As Europe increased its military control over other parts of the world it brought along its capitalist economy and capital-labor conflicts. What was once a European phenomena became, very quickly, a global one.

The dynamics of the world-economic system have involved periods of growth followed by periods of stagnation followed by periods of renewed growth. World-system theorists have hypothesized that these cyclical patterns are due to inherent contradictions of capital accumulation that limit both expansion and contraction (Hopkins and Wallerstein, 1982:112). These cyclical economic patterns have interacted with international shifts in political power, which result in the rise and decline of various hegemonic states (notably, Spain in the 16th century, the United Provinces in the 17th century, Great Britain in the 19th century, and the USA in the two decades following World War Two). The rise and fall of political states within the single world
economic system is tied to internal conflicts between capital accumulation and labor in these states. These internal conflicts are also partly responsible for the internationalization of capitalism and, indirectly, the rapid growth of Third World cities.

The basic argument about the internal conflicts of capitalism put forth by Marxists and neo-Marxists is that the growth of capitalism requires capital accumulation, which is partly dependent upon low wages paid to workers; but capital growth is also dependent upon an expanding market, which is dependent upon greater spending by consumers, or the working class population. If wages are low there might be more capital with which to invest in production but there will also be less demand for the goods produced. If wages are high there is less money for investment but more demand for goods. One way that multi-national corporations have found to avoid this dilemma has been by locating factories in poor countries with cheap labor pools. The corporations then sell the goods produced in these factories to high wage workers in rich countries. Corporations have also sidestepped the "inherent contradiction" of capitalism by importing low wage workers from Third World countries to work in factories located in First World countries. In brief, fundamental problems of continuous capital accumulation within a given nation-state and competition in the international marketplace have forced
large corporations to internationalize their economic networks and to become the principal agents of world capitalism.

Essentially, world-systems theorists adopt a neo-Marxist critique of capitalism. Their main contribution to understanding the structure of capitalism has been their holistic orientation and their ability to synthesize seemingly disparate fields of study, such as 16th century European economics and current Third World development, within an encompassing theoretical framework (Bach, 1982). World-systems theory owes a large debt to earlier neo-Marxist critiques of capitalist development. In particular, the dependency theorists who conducted research for the United Nations Economic Commission on Latin America in the 1950s helped to highlight the importance of historical approaches to understanding contemporary relationships between rich and poor countries within the world economic system (the most widely read being Frank's work on the "development of underdevelopment", 1967). The intricacies of world-systems economics and the continuing involuted debates about various neo-Marxian interpretations of recent events are far beyond the scope of this dissertation. Rather, I will focus on one aspect of world-systems theory, the relationship between core and periphery within the world economy. The words core (or center) and periphery are commonly used in development
studies. Wallerstein (in Hopkins and Wallerstein, 1982:91-92) traces the origins of the words to the work done by the United Nations Economic Commission on Latin America but goes on to show that their meaning and use has varied considerably, from describing spatial patterns and economic processes to classifying political states. He prefers to use core and periphery in terms of a "related set of production processes which are unequal." (p.92). This definition leads to the study of unequal economic exchanges between rich countries and poor ones which, according to Emmanuel (1972), relates to the formation of core and peripheral states.

Emmanuel's basic thesis is that unequal wages result in unequal development, and not vice versa. It refutes Ricardo's famous argument of comparative advantage by showing how high wages force capitalists to make capital intensive investments which result in demand for more highly skilled laborers and for more technological innovations. The result is the transfer of "surplus value" from the low wage country with its raw material exports to the high wage country with its finished product exports. Frank (1979:103-110), in his discussion of Emmanuel's theory, agrees to a point but argues that wage levels to begin with are determined by the unequal development of capitalist production. The main point to be gleaned from this theoretical debate is that the "development" process,
defined as being capital and technology intensive in the First World and labor and resource intensive in the Third World, leads to growing inequity between core and periphery (Amin, 1976).

For the most part, there is a good correlation between core and peripheral economic activities and core and peripheral political states but there are also peripheral activities in core states and vice versa (Wallerstein, 1982:93). Finally, semi-peripheral activities and states have appeared that share characteristics of both core and periphery. The important element here is that all these activities and states are dynamic and take place in relation to each other within a single world economic system (Portes and Walton, 1981). For example, periodic conflicts within core states stemming from overaccumulation of capital sometimes lead to a "switching crisis" in which money capital is moved from one sector to another, from one circuit of capital to another, or from one state to another (McGee, 1984:6).

A general understanding of core-periphery relationships helps to put the study of Third World urbanization into its proper perspective. A better term than "Third World" urbanization, with all of its political ambiguity (see Reitsma, 1982), might be " peripheral" urbanization. World-system theorists argue that problems of "Third World"
cities are due, in large measure, to their historical role in the unequal core-peripheral relations between "Third World", or peripheral, states and "First World", or core, states (Chase-Dunn, 1983). The problems of peripheral urbanization have become most closely identified with the primate cities of countless Third World countries. These rapidly growing cities, with their "teeming millions", share little in common with the primate cities of the core states, such as Paris or London. The "peripheral primate cities are nodes on a conduit which transmits surplus value to the core and domination to the periphery, while primate cities in the core receive surplus value and transmit domination" (Chase-Dunn, 1983: 43).

Throughout history the points of interaction between core and peripheral states have been their cities. These cities, especially but not only those in positions of primacy, can be conceptualized as part of an international urban system that can be studied separately from regional and national urban systems. Friedmann and Wolff (1982) have called these principal urban areas "world cities" because they are the spatial focal points of a growing world-wide capitalist network. McGee (1984) has also underlined the importance of understanding international economic systems in relation to Third World cities, particularly in Southeast Asia.
Both Friedmann and Wolff (1982) and McGee (1984) emphasize very large (more than a million population) national or transnational metropolitan centers as the main hubs of world capitalism - McGee, for example, discusses the role of Singapore in relation to Southeast Asia. For the most part, these large cities have been slowly integrated into the expanding world-capitalist system for many decades, since their early functions as colonial ports. Within the last couple of decades, however, the rate of integration has accelerated. In addition, it is only within the last decade or so that development theorists have voiced any serious concern about the implications of capitalistic integration on urban and regional planning in Third World countries (Friedmann and Weaver, 1979).

In contrast to the studies cited above, my research focusses on the rapid integration of smaller urban areas, namely secondary or intermediate cities, within the world economic system. The intermediate cities which are being integrated at the fastest rate are those located in "resource frontiers". These resource frontier cities are experiencing rapid rates of economic and demographic growth because they serve as a critical linkage between the regional resource base and the world economy. If "world cities" are the foci of world capitalism, then intermediate cities in the resource frontiers are the cutting edge. The intermediate city in the resource frontier is where the
dynamic interaction between world capitalism and Third World urbanization can be studied in its rawest form.

MODEL OF REGIONAL INTEGRATION WITHIN THE WORLD ECONOMY

The basis of my study on intermediate cities and regional development is derived from the world-systems model of Wallerstein (1979) in which there is an inherent duality between a single world economy and a multi-centric system of political states. The single world economy and the political states both act upon a given city and/or region through the mechanisms of trade, capital transfer and labor mobility on one hand and government agencies on the other. The world economy and the political states do not operate in isolation from each other but instead interact with each other, sometimes in harmony but sometimes in conflict. A hypothetical scenario will help to clarify these interactions between a region, the world economy, and the state (Figure 2.1).

If a given region has few exploitable resources (natural or human), it will probably struggle along in benign neglect from the world economy. In contrast, the political state under whose jurisdiction the region is located is obliged to provide at least a minimum amount of infrastructural support. If the region has some resource
FIGURE 2.1: Conceptual model of interactions between world economic system, peripheral state and resource frontier region.
that is in demand by the world economy and/or the state, these two forces move from their position of relative apathy towards a more active involvement. In the case of a resource frontier, such as East Kalimantan, the demand by the world economy for the region's resources triggers not only its own active involvement in the region but also the increased involvement of the ruling political state, (in this case the Indonesian Government). As the potential demand for the resources in a given region are realized, the world economy and the state can follow three paths: 1) they can begin to compete for control over the region; 2) they can work together to exploit the region; or 3) they can ignore the potential profits to be accrued (an unlikely option unless the region is beyond the state's control). It should be noted that following a particular path does not preclude the use of another path later on (if the two forces disagree over sharing the spoils they might easily go from a path of mutual cooperation to one of competition). Each of these paths is influenced by numerous factors, including: 1) the stability of demand for resources within the world economy; 2) the macro conditions of the world economy (whether or not it is in an expanding or contracting phase); 3) the level of technology available to exploit the resource profitably; 4) the transportation linkages from the resource locale to the points of demand; 5) the political stability of the state; and 6) the relative political and economic
strength of the state within the world economy.

A resource frontier region's interactions with the world economy and the ruling states can be conceptualized within a core-periphery continuum (Douglass, 1981). Before the region's resources are in demand, it plays only a peripheral role in both the state and the world economy; the region is isolated from the managerial and financial centers of the world economy and far removed from the political center of the state. The discovery and demand for regional resources pushes the region from its peripheral position on this hypothetical core-periphery continuum towards what might be termed a semi-peripheral position. The state reacts to this change by intervening in the economic linkages between the region and the world economy; it begins to take a greater interest in the administration of the region and may invest some of its own resources in improving regional infrastructure. During this time the region's resources are being channeled into the world market and profits are being distributed between the state, the local and multinational corporations carrying out resource exploitation and influential bureaucrats and politicians. The state will also be actively engaged in negotiations with the principal agents of the world market, the multi-national corporations, about the proportional distribution of profits from the province. As the region grows in economic importance to the nation state it also undergoes a political
change and becomes more closely supervised by the national government. If the concept of the core-periphery continuum is used again, the region can be seen as moving from the political periphery of the state towards a semi-periphery status.

In summary, this model points out that the economic integration of a given region within the world economy leads to greater political control of the region by the nation state. This simple model can be used to understand the reasons behind recent proposals for agropolitan development (Friedmann and Douglass, 1978) and selective regional closure (Lo, Salih and Douglass, 1978) which aim at decreasing national and international control over a region's development. The model is less helpful in predicting what will happen to a resource frontier if its natural resources are used up or if demand for the resources on the world market falls. Will the state disentangle itself from the exploited region and concentrate on other more promising regions or will it be politically obliged to maintain the regional facilities and services it has instituted? In the case of East Kalimantan, for example, it is still too early to say what will happen to the relationship between the region and the state as a result of the recent decline in the region's timber resources.
In brief, my model can be broken down into the following formula:

\[ \Delta IC = f(RI + NI) \]

Where: \( \Delta IC \) stands for changes in the regional intermediate city;
RI means integration of the region into the world economy; and
NI means national government involvement in the region.

From this general statement I define two variables, economic integration of the region into the world economy and national government involvement in the region. It should be noted that these two variables are not independent of each other. The effects of the world economy and the national government overlap; sometimes they work together towards a common goal (which may or may not be in the best interest of the region) and sometimes they are in conflict with each other (as in some recent attempts by left-leaning governments to "de-link" from the world economy). An increase in both the RI and NI variables would suggest that the region is simultaneously moving towards the center along two hypothetical center-periphery continuums, an economic continuum within the world capitalist economy and a political continuum within the country, or state. The
region in my model is at the mercy of both contending, but not exclusionary, forces. For the purposes of my study I will analyze these two variables separately before looking at their cumulative effects upon the urban system.

I have defined external economic integration (between the region and the world market) in terms of Gross Domestic Product (GDP) from resource extraction activities (REA) (particularly timber and petroleum) and foreign investments (FI).

\[
RI = f[(\text{GDP from REA} / \text{Total GDP}) + (\text{FI/TI})]
\]

Where: RI is the index of integration into the world economy;

GDP from REA is gross domestic product from resource extraction activities;

Total GDP is the sum of recorded economic activities in a region or nation state;

FI is the foreign investments in a region or nation state; and

TI is the total investments in region or nation state.

This economic integration formula can be used as a tool for making comparisons between a given region and the nation state that rules over it. The formula can help to compare regions and states for different levels of economic integration into the world market. If a given region has a higher percentage of its GDP derived from resource
extraction activities and has a higher percentage of foreign investments than does the nation state, an argument can be made that the region is a "resource frontier" and is relatively more integrated into the world economy. This crude comparison can then be used with other data and/or observations to describe the exogenous integration process of a given region.

My other major variable, national government involvement (NI), can be analyzed in terms of:

\[ NI = f(\frac{NS}{TB}) \]

Where: NS is the national government's share of the regional budget;

TB is the total regional government budget (includes regional government's own receipts)

The assumption behind this equation is also quite simple. If a state's share of a region's budget is increasing (represented by an increasing percentage of national government sources in regional government incomes), it is likely that the state is also increasing its political and economic interests in that region. Other actions by the national government, such as political appointments of key persons in the regional government, can be used along with this equation to show how the nation state attempts to dominate the region.
These two formulas can be used to describe two processes: the integration of the region into the world economy and the nation state's response to that integration. The underlying assumption is that the state's involvement in the region will increase because of the region's growing importance in the world market. These equations are not intended conclusively to prove causality; there are too many other unquantifiable variables that affect the relationship between a nation state and its regions. My purpose in using these equations is to help illustrate the interactions between a nation state and its "resource frontier" region as they both become involved in a growing world capitalist system.

The main problem I encountered in using these simple equations was the lack of accurate data to employ in them. I will discuss this problem more in Chapter Three when I describe East Kalimantan's regional integration process and attempt to apply the model. Before discussing the specific case of East Kalimantan, though, I will describe the methodology that will be used in analyzing the formula's dependent variable, the intermediate city.
URAL SYSTEMS METHODOLOGY

The method of data collection used in my field research attempts to sketch a series of "pictures" based on crude quantitative and qualitative data that are available for the two intermediate cities of Balikpapan and Samarinda. Originally three years, 1961, 1971 and 1980, were chosen as convenient dates to present a changing urban profile (a national census was taken during each of these years). These urban profiles or pictures, taken at roughly ten year intervals, would help to illustrate the changes taking place within the two cities as the surrounding region became incorporated into the world economic system. Unfortunately, the quality of data for each of the cities is poor prior to 1980 and, in many cases, is non-existent prior to 1975. The poor data base forced me to amend my original time frame somewhat so as to concentrate my data collection activities within the years 1975 and 1983; some data prior to that period has been included but, apart from some census data, it is primarily of a qualitative nature.

A longitudinal approach to the study of intermediate cities was chosen for several reasons. First, a
longitudinal, or historical, study focusses on process and transformation. Process deals with the mechanics of change while transformation compares the before with the during and the after. Both help to identify the forces affecting an urban system and the way those forces work. Second, a longitudinal study gives some perspective to the seemingly entrenched current problems of Third World cities. Finally, an historical analysis complements spatial and economic analyses of Third World urbanization; together they do not paint a complete picture, but they do offer a rough sketch of a complex phenomenon.

The emphasis in my methodological framework is the collection of a variety of qualitative data and the cautious use of some selected quantitative data. There are three reasons for this approach: 1) quantitative data at this level is often either unavailable or suspect; 2) urban systems are dynamic and complex - sophisticated quantitative analyses of those systems, such as the use of Isard's input-output tables, require accurate data, a high level of statistical expertise and computer time, but are often out of date before they are completed; and 3) relatively simple models can be copied and/or utilized by policy makers and planners in Third World countries who are short of time, expertise and money. An underlying purpose of my research method is to develop a way of studying cities that can
bridge the wide schism between academic interest and practical application.

The data collection system here is inspired by Nijkamp's (1983) efforts at qualitative impact assessment and model building. Before discussing his model, Nijkamp reviews traditional spatial models, such as Von Thunen, as well as more recent and complex models, such as Todaro's migration decision-making model and Friedmann and Douglass's "agropolitan development" scenario (pp.46-51). The problem with these models is that they are highly normative and/or demand data that is rarely available in most policy contexts. Nijkamp calls his model an "integrated systems approach to qualitative assessment" and recommends it as an alternative method for studying policy impacts on spatial patterns. He bases his model on "multi-dimensional profiles" of infrastructural and policy characteristics with which he builds a "simplified spatial system" of a hypothetical urban area. Each "profile" corresponds to an urban system component and each urban "integrated system" consists of six components: employment, transport and traffic, demographic structure and housing, entrepreneurial activities, quality of life, and physical infrastructure. These components interact with each other and are affected in different ways by government policies. The effects of a given policy can then be traced through the "integrated system" to determine possible consequences on the urban area. With this model, Nijkamp shows how a qualitative
"policy impact system" can be constructed and analyzed. He refers to this type of data collection and analysis within a general systems framework as "soft econometrics" (Nijkamp, 1982).

I have used Nijkamp's integrated systems approach but have modified his system components and "profiles". I have tried to retain the same logic he uses in my use and analysis of the model, but this has also been affected by our different goals. His concern is with the spatial effects of government policies; mine is with the effects of both regional exogenous integration and national government policies on the whole urban system. His focus is on the use of the model in determining the impacts of future policy options while mine is on the effects of events and policies that have already occurred.

I will refer to my model as an "urban system" approach to distinguish it from the spatial orientation of Nijkamp's "integrated system". The title "urban system" is somewhat confusing because of the extensive literature on urban hierarchies and systems of cities. I am concerned here with an intra-city system, not an inter-city system; thus my two urban systems are the two intermediate cities of Samarinda and Balikpapan. In Chapters four and five I will show how these two urban systems have evolved over the last century.

Very few studies have attempted to study Third World
urban changes at a city-wide level. Urban planning reports tend to be ahistorical or give only lip service to socio-economic factors beyond the boundary of the city, being, for the most part, interested in physical infrastructure and possible future developments within the city (an example of the theoretical orientation of many planning documents can be seen in Meier, 1978). Historical monographs of Third World Cities tend to be anecdotal or focus only on major socio-economic and political events (Cobban, 1976; Reed, 1976). Since the early 1970s there has been an increase in detailed studies of urban poor and of the "informal" sector but these are, by definition, focussed on only a segment, albeit a large one, of the urban population. For Southeast Asia, the most noteworthy of these "informal" sector or "everyday life"-type of urban studies have been carried out by McGee and Yeung (1977), Jellinek (1977) and Forbes (1978). These latter studies have been important in highlighting the complexity and inequality of urban economic systems as well as the resourcefulness of various impoverished entrepreneurs. Most of these studies are pessimistic in their conclusions about the future of poor urban residents but they offer few ideas to government officials about what can be done to improve the lives of these people.

This study attempts to study cities as whole interacting systems. The major objectives of this "urban
system" orientation are to: 1) provide a fairly simple, relatively objective way of documenting urban changes; 2) help describe how cities react to and affect socio-economic developments in their surrounding regions; and 3) set up a framework for analyzing relationships between cities, especially those in the international urban hierarchy.

There are some inherent drawbacks to the use of a simple model, such as the "urban system", to study a complex phenomena. The "systems" model tends to be broad brush in that it covers obvious categories of study but misses more subtle, but possibly critical, areas. The urban system approach here attempts to synthesize elements from the planning, historical and informal sector type of Third World City studies. An attempt to integrate these different perspectives will undoubtedly gloss over important contributions from each one but this deficiency will ideally be made up by the construction of a more holistic framework for studying urban change. An urban system approach will not offer easy answers to urban policy-makers but it can offer a way of grappling with the complex and interacting issues they are faced with. In essence, the urban systems approach merely simplifies and classifies urban phenomena, thereby making the city more understandable to the people who study and/or administer it.

One of the main conceptual insights, and one of the analytical hurdles that the "systems" approach creates, is in
the cliche, "everything is related to everything else". Once the six system components are established and data is collected and pigeon-holed under the appropriate category, it becomes apparent that there is a great deal of overlapping and an infinite number of possible interconnections between factors within one component and factors within another. There seems to be no way of clarifying all the connections without becoming hopelessly confused. Even an intermediate-sized city of a quarter million individuals is so dynamic and complex that a true understanding of its character is impossible. The urban researcher is reluctantly forced to simplify the reality to make it manageable. But once this is done, a new reality has been created in the researcher's mind which may or may not resemble the original. This new reality is manifested in a model such as the urban system model used here. The best that can be hoped for in a model such as this is that it will point to some basic insights in the operations of the city.

Each city's urban system consists of six system component, all of which consist of a number of indicators that describe how that component is functioning. These components indicators have been chosen for their relative ease of data collection as well as for the quality of information they give. The relative merits of each indicator can be debated but their utility within the model
should be judged by how well they help to sketch an overall profile or picture.

My observations of the changes taking place in the two intermediate cities will be through component "windows" (Figure 2.2). For each city-wide urban system there are six component "windows": 1) demographic, 2) housing and transportation (private), 3) physical infrastructure (public), 4) employment and entrepreneurial activities, 5) local government activities, and 6) quality of life. Each of these components affects and/or is affected by other subsystems within the urban system. Changes within the subsystems at different points in time will help to illustrate the effects of economic integration of a region within the world economy (as measured by my index) upon the two intermediate cities in my study. [See following list].

1. These components include the same type and number of categories as Nijkamp; I have just regrouped three of the categories to better suit my objectives.
FIGURE 2.2 Urban system model (adapted from Nijkamp, 1983).
URBAN COMPONENTS AND INDICATORS

1) Demographic

Population
Population Density
Migration
Sex Ratio
Ethnic Composition - Chinese, Javanese, Dayak, Foreign, etc.

2) Housing and Transportation

Housing Stock
Transportation stock
Spatial layout of residential and business areas and transportation networks

3) Physical Infrastructure

Roads
Quality of ports and airports
Accessibility to running water
Sewage facilities
Availability of electricity
Extent of spatial growth of city

4) Employment and Entrepreneurial Activities

Official employment data
Labor force in different sectors
"Informal sector"
Per capita income
Income distribution
Manufacturing and processing plants
Wholesalers and retailers
Financial institutions
Jobs tied to resource activity
Local versus foreign owned firms
5) **Local Government**

- Number of civil servants
- Relationship with central government
- City government budget
- Provincial government expenditures
- Local revenues

6) **Quality of Life**

- Health facilities
- School enrollment
- Recreational facilities and open space
- Real cost of "food basket" (i.e. kg of rice)
- Air pollution
- Noise pollution
- Water quality

Complete information on the indicators listed above would only be available under ideal conditions. In the reality of Third World cities most of the measurements needed are non-existent. In my study I use the indicators above as a checklist. If reliable data for an indicator is available, all the better; if not, then I give a general description; if that too is not possible, I do not use that indicator. The emphasis, again, is not the reliability of a particular indicator or the construction of an ideal model, but rather the utility of the indicators available in describing the urban system during a given period. The final assessment will have to be qualitative but it will provide a basis for discussing policy implications at the urban, regional and national levels.
CHAPTER THREE
EAST KALIMANTAN AND THE WORLD ECONOMY

GEOGRAPHY AND HISTORY

East Kalimantan, during the last two decades, has become a major supplier of resource commodities on the world market. In this chapter I will describe how East Kalimantan's major resources, timber and petroleum, have been exploited and how this process has affected the region's development and that of its two intermediate cities, Samarinda and Balikpapan.

The province of East Kalimantan covers an area of approximately 202,440 square kilometers (about 10.5% of Indonesia's land area). It is located in the eastern half of the island of Borneo and straddles the equator (Figure 3.1). The climate is equatorial with an average rainfall of between 1800 and 2700 mm, a relative humidity between sixty and ninety percent, and a short relative dry season June and October (Leighton, 1984:2). Throughout the year the
FIGURE 3.1: Regency (Kabupaten) and municipality (Kotamadya) boundaries of East Kalimantan Province.
temperature remains about 26 degrees celsius. In brief, East Kalimantan's climate is hot and humid.

East Kalimantan's terrain varies from flat along the coast and rivers to hilly near the Malaysian border. The terrain and abundant rainfall have contributed to an extensive network of over 160 rivers, the most important being the Mahakam River that meanders through the central part of the province. The province's soils consist of yellow podzols, alluvium and some scattered peaty podzols. These soils, with the exception of some alluviums, are of generally low fertility and are at best marginally suitable for agricultural production. Until recently over eighty percent of the province was covered with broadleaf evergreen and swamp forest.

East Kalimantan's population of 1.3 million consists of a number of ethnic groups, both from within the Indonesian archipelago as well as outside of it. The indigenous peoples of the interior are shifting cultivators collectively called Dayaks, although they represent a variety of distinct language and cultural groups (Vayda, et.al., 1979; Colfer, 1981). Along the Mahakam river the Kutai people and their kingdom have been the dominant group. Over the last several hundred years waves of Bugis

1. These comments are based on discussions with T.A.D. researchers working in the central part of the province.
and Banjarese migrated from their homelands in South Sulawesi and set up small farming and fishing communities along the coast and rivers. The Chinese, a small but important group who migrated to East Kalimantan during the last few centuries, were attracted by the prospect of trading in forest products collected by Dayaks (Peluso, 1983:13-42). This century has seen another wave of migrants, this time from Java, who have been seeking land to farm. These have been settlers in Indonesia's transmigration programs, or employees of resource related industries. Another recent migrant group has been that of transient foreigners, who manage and operate the larger resource extraction industries in the area.

The demographic impact of migrant groups to East Kalimantan is reflected in census statistics. East Kalimantan's population more than doubled between 1961 and 1980, from 550,764 to 1,218,016, and had an average annual growth rate of 5.7 percent during the 1970s (Buku Saku Statistik Indonesia 1982: table II.1.2). Of East Kalimantan's 1980 population, over 24 percent were born outside of the province (Mantra, 1983: table 4). About 83 percent of Indonesian in-migrants to East Kalimantan come from just four provinces: South Sulawesi (29 percent), East Java (27 percent), South Kalimantan (14 percent) and Central Java (13 percent). In contrast, according to the 1971 census, only 6 percent of East Kalimantan residents were
born outside of the province, of whom 29 percent were from South Kalimantan, 26 percent were from South Sulawesi, 19 percent were from East Java and 7 percent were from Central Java (Mantra, 1983: table 3). During the 1970s, then, East Kalimantan not only experienced a sharp increase in in-migration from other provinces but also a significantly greater concentration of migrants from East and Central Java.

Prior to Indonesian independence, East Kalimantan consisted of a few scattered sultanates, of which Kutai was the largest and most powerful. The kabupaten presently known as Kutai consists of two earlier sultanates, the older being Kutai Martapura (located inland near the middle Mahakam River area) and the newer being Kutai Kertanegara (established around the thirteenth century and located near the coast in the Mahakam River delta). These kingdoms had a belligerent relationship for centuries due to competition in coastal trade; hostilities ended with the annexation of the former by the latter in the seventeenth century. Kutai Kertanegara played an important role in trading networks between China, the Sulu Sultanate (located in the southern islands of the Philippines) and the Javanese kingdom of Majapahit. Dutch interest in trade with Kutai led to trade treaties with the Sultan of Kutai Kertanegara as early as 1635 but these contracts were mutually ignored. Towards the end of the eighteenth century the Sultan of Banajarmasin,
located in what is today South Kalimantan, ceded the region of East Kalimantan to the Dutch but this agreement was not honored by the Sultan of Kutai until he was defeated in battle by the Dutch in 1844 (Boyce, 1983:C-5-9).

There is evidence that Bugis migrants had already subverted much of the Kutai power base before the Dutch forcefully established themselves in the 19th century (Peluso, 1983:32). Attempts by European adventurers to carve out economic monopolies or mini-empires (as Rajah Brooke managed to do in Sarawak) were thwarted by the Bugis who fiercely defended their local interests. One such character, a Scotsman named Murray, attempted to scare the Sultan of Kutai with his firepower but instead was himself killed as his ships came under attack by local Bugis (Boyce, 1983:24-25). The most significant result of Murray's foolhardy expedition was a decision by the Dutch colonial administration in Batavia to strengthen its political control over the region. Thus only after 1844 did the Dutch begin to take a more active interest in East Kalimantan, and even after their military conquest, the Dutch still maintained a Resident in Banjarmasin and merely administered East Kalimantan via an Assistant Resident in Samarinda.

In 1863 the Sultan of Kutai formally recognized Dutch sovereignty. Forty years later the Dutch administration, perhaps in pursuit of the new "ethical policy", granted
self-government status to the Sultanate of Kutai for all areas except for Samarinda which was directly controlled by the Dutch. In 1938 Samarinda was also returned to the jurisdiction of the Sultan (Boyce, 1983:C-11-12). The arrival of the Japanese in early 1942 terminated this gradual trend towards local autonomy.

The first government to be formed in East Kalimantan after the Dutch transfer of sovereignty, was called the United Sultanates of East Kalimantan, the chairman of which was the Sultan of Kutai. In 1950 this political body was incorporated into the United Republic of Indonesia and was administered through a Governor of Borneo, who lived in Banjarmasin. The area of Kutai was first designated a swapraja, or "autonomous region" and then a daerah istemewa, or "special region". In 1957 the capital of the Kutai "special region" was moved from Samarinda back to Tenggarong, where the Sultan's palace was located, and Samarinda became the center of East Kalimantan's government administration. In the same year East Kalimantan was given provincial status and the "special region" designations were abolished. Kutai then became a kabupaten (regency) within the province of East Kalimantan, on equal standing with the other sub-provincial regions (known at that time as kabupaten and kotapraja) (Figure 3.1). Finally, in 1960, the remaining political powers of the Sultanate were eliminated by the national government (Boyce 1983:C-13). The transfer
of power from the Sultanates of East Kalimantan to the national government also allowed other groups in the region, most notably the Banjarese of South Kalimantan, to become politically influential in the provincial government (Magenda in Peluso, 1983:136).

Economically, East Kalimantan has never been completely isolated. For hundreds of years it produced commodities held in high value by other cultures, particularly the Chinese. East Kalimantan's forests yielded rattan, damar (a resin), reptile skins, bird's nests and other exotic products that could bring a high price in distant lands. Chinese and Bugis traders actively roamed along the coast and major rivers trading porcelain, opium, tools, salt, slaves, weapons and cloth with Dayaks in exchange for forest products. Some of these traders set up permanent stores in the larger villages and market towns along the coast and major rivers (Peluso, 1983:80).

Although East Kalimantan had extensive trading networks it had almost no industrial activity, apart from the Anglo-Dutch controlled petroleum industry. A 1964 Industrial Census showed fewer than five thousand persons engaged in "manufacturing" and only four "industries" (all of which were in food, wood or leather processing) employed more than fifty persons (Daroesman, 1979:44). In the twenty years since that census was taken the province has undergone
some profound changes, many of which are directly attributed to petroleum and/or timber.

PETROLEUM

Oil and gas exploration began in East Kalimantan in 1888 when the Sultan of Kutai gave permission to a Dutch geologist, J. H. Meenten, to carry out some preliminary surveys. In 1897 the first drilling well began production near Balikpapan Bay. A year later a rudimentary distilling and processing plant was in operation. On the shores of the bay De Bataafsche Petroleum Mij (known as B.P.M., or "the Shell") built a refinery and some small factories for the production of petroleum-related substances (paraffin, lubricating oil and kerosene) and others such as sulphur, saltpeter, nitric acid and refined sugar (Encyclopaedie van Nederlandsche-Indie 1917:128). Preliminary explorations around Balikpapan Bay and in the Kutai region were promising. At this time, B.P.M. was competing with another colonial enterprise, the Royal Dutch Company, for control over drilling rights for the relatively heavy oil discovered in the Kutai region. These two companies soon worked out agreements to process the abundant oil reserves in the region and in 1907 merged into Royal Dutch-Shell, an English-Dutch multi-national corporation (Gerretson,
Other multinational companies that became involved in the region's burgeoning oil industry were the Standard Oil Company of New Jersey, which established a local company in 1912, and the Borneo Oil Company (financed by Japanese capital), which began business in 1930 (Furnivall, 1944:311).

In succeeding decades several new fields were discovered and drilled in the province, including an especially large field in the far north, near the town of Tarakan. Royal Dutch Shell's Borneo oil reserves were being developed at a time when a major technological change was taking place in maritime transportation, the transition from coal fueled ships to oil fueled ships. The Royal Navy's fleet, the world's largest at the time, was especially affected by the technological improvements of oil fuel and began to convert their ships to oil prior to World War I. This transition required a whole new network of fueling stations to replace the old coaling stations and made the fleet dependent upon a reliable source of heavy oil, which was produced in sufficient quantity in only two places, Texas and East Kalimantan (Gerretson, 1958:vol.II, 330). The relative importance of East Kalimantan's oil resources reached a peak in 1928 when it accounted for about 66% of Indonesia's crude oil production. In the 1930s other areas in the archipelago were exploited and East Kalimantan's
share of oil exports dropped to 22% by 1940 (Daroesman, 1979:50).

Dutch oil exploration, drilling and refining continued uninterrupted until World War II when the Japanese took over this strategic resource. The refineries and many of the storage facilities were heavily damaged during the war. After the war, the Dutch were forced to rebuild much of the infrastructure. In 1949 the Dutch were again driven out and the oil fields fell under jurisdiction of the new Indonesian government, although still managed by Royal Dutch Shell. Administrative confusion at both the national and local levels forced a decline in petroleum activities throughout the 1950s.

The Indonesian government went into the petroleum business in the early 1960s via the army controlled company, Permina (later this name was changed to Pertamina). Pertamina, under the guidance of General Ibnu Sutowo, operated with an almost free hand in the archipelago. In 1966 Shell sold its East Kalimantan operations to Pertamina. Balikpapan was made the headquarters for Pertamina's Area IV (which extends beyond East Kalimantan into parts of Sulawesi). Lacking necessary capital and technology, Pertamina was forced to contract out drilling activities to large foreign oil companies.

At the national level, the mid-1970s saw a temporary drop in oil production due to a major financial and
management reorganization of Pertamina. Production sharing contracts with foreign petroleum companies had to be renegotiated under new joint operation arrangements which were aimed at encouraging further exploration of Indonesia's offshore oil fields. The result was an accelerated rate of crude oil production and export earnings after 1978 (see Figure 3.2). Indonesia's proven oil reserves are about 9.8 billion barrels with recoverable reserves of between 44 and 90 billion (American Embassy, 1983:21). Cumulative production over the last 100 years equals 10.4 billion barrels (Wijarso, 1983:8). Prospects for Indonesia's future petroleum development range from optimistic (Wijarso, 1983) to pessimistic (Riva, 1983:155).

The two major importers of Indonesia's crude and condensate oil in the 1970s were Japan and the United States. Between 1972 and 1976 Japan's Indonesian oil imports dropped from 69.5 percent to 43.5 percent before increasing again to 48.0 percent by 1983 while the United States imports increased rapidly between 1972 and 1976, from 19.6 percent to 40.3 percent, and then declined to 27.0 percent by 1983 (Asia Trade News, 1980:76; American Embassy, 1984:32). As of 1983 Indonesia's oil production capacity was over 1.6 million barrels per day and its natural gas capacity was almost 3 trillion cubic feet per year (American Embassy, 1984:3).
The major factor affecting Indonesia's oil export earnings has been the price of oil. The price of Indonesian crude jumped from an average of US$13.6 per barrel in 1978 to US$36.0 in 1981. The increased earnings allowed the Indonesian government to maintain its domestic fuel subsidy which, in turn, sustained the annual 12 percent increase in domestic oil consumption (American Embassy, 1981:A-31, 4-5). The high earnings of oil exports are also used by the Indonesian government to finance a wide range of development projects.

East Kalimantan has two major oil basins, Kutai and Tarakan. The Kutai basin has two recently discovered giant offshore fields (Attaka and Handil) and a possible giant onshore field (Sanga-Sanga) that has been intermittently worked for almost ninety years. The Kutai basin produces 23 percent of Indonesia's oil production and contains 23 percent of the country's reserves. In addition, this basin also produces natural gas which is collected and liquefied in Bontang, an area north of Samarinda. The prospects for additional oil discoveries are considered good and gas production is expected to increase. In contrast, the Tarakan basin, which was first worked in 1905, is much smaller, producing only 1 percent of Indonesia's oil and containing only about 1 percent of its reserves. Oil output from the Tarakan basin is expected to decline (Riva, 1983:145-6).
East Kalimantan's share of national oil production declined in the 1960s as Pertamina took over the operations of the Balikpapan refinery from Royal Dutch Shell and as Caltex increased crude oil exports from its fields in Central Sumatra. This trend, however, was reversed abruptly in 1973 when offshore drilling began in Area IV. East Kalimantan's oil exports quadrupled in five years. By 1978 Area IV accounted for 25% of national oil production, or about 409,000 barrels per day (Daroesman 1979: 50).

After 1973 the three largest "service contractors" in the oil fields of East Kalimantan were the American-based companies, Union Oil and Roy M. Huffington Company (called Huffco.), and the French Government-owned company, Total Indonesia. Union's Attaka and Sepinggan fields, processed at separate terminals, had a combined productive capacity of 130,000 barrels per day. Total's field in the Mahakam delta had a capacity of 40,000 barrels per day. Huffco, in 1972, discovered a large natural gas reserve in Bontang which had a capacity of over 184 million cubic feet (Petunjuk Perdagangan dan Industri Kotamadya Balikpapapn, 78-83). Liquid natural gas (LNG) was exported by 1977 and a large fertilizer plant was constructed near the Bontang site.

Between 1973 and 1978 oil production jumped from 27.7 million barrels to 123.7 million barrels per year (Table 3.1). The majority of the region's oil was produced by Union
Oil and Total Indonesia (Kalimantan Timur Dalam Angka 1977: 77). Pertamina took advantage of all this activity by increasing the capacity of its Balikpapan refinery in the late 1970s and adding a hydrocracker facility. The refinery expansion cost an estimated US$1 billion and was contracted out to Bechtel, an American-owned engineering company (American Embassy, 1982:69).

Since 1897 the Kutai basin has contributed about 12 percent of the total oil produced in Indonesia. This share, however, could drop in the near future. Oil discoveries in the Kutai basin have slumped since the peak year of 1974 when five new fields were discovered. The three other most important years for oil field discoveries were, in order of importance, 1970, 1897 and 1972; these four years (including 1974) account for 89 percent of the total in-place reserves discovered in the region (Energy Information Administration, 1984:25). Thus, despite widespread exploration activities, new discoveries have not been forthcoming. Without new discoveries the region's oil industry could quickly stagnate.
<table>
<thead>
<tr>
<th>Year</th>
<th>Crude Oil Production (1000 barrels)</th>
<th>LNG Production (1000 cubic meters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971</td>
<td>7,220</td>
<td>-</td>
</tr>
<tr>
<td>1972</td>
<td>7,011</td>
<td>-</td>
</tr>
<tr>
<td>1973</td>
<td>33,606</td>
<td>-</td>
</tr>
<tr>
<td>1974</td>
<td>46,829</td>
<td>-</td>
</tr>
<tr>
<td>1975</td>
<td>58,121</td>
<td>-</td>
</tr>
<tr>
<td>1976</td>
<td>92,243</td>
<td>-</td>
</tr>
<tr>
<td>1977</td>
<td>151,574</td>
<td>1,680</td>
</tr>
<tr>
<td>1978</td>
<td>150,112</td>
<td>7,250</td>
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<tr>
<td>1979</td>
<td>140,160</td>
<td>7,125</td>
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<tr>
<td>1980</td>
<td>131,410</td>
<td>9,000</td>
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<tr>
<td>1981</td>
<td>126,655</td>
<td>-</td>
</tr>
<tr>
<td>1982</td>
<td>104,317</td>
<td>-</td>
</tr>
<tr>
<td>1983</td>
<td>103,222</td>
<td>-</td>
</tr>
</tbody>
</table>

**Source:** 1971 - 1980 data from Kalimantan Timur Statistical Guide: tables 8.3.1 and 8.3.5, compiled by TAD, Samarinda; 1981 - 1983 data from Indonesia's Petroleum Sector, annual reports compiled by the American Embassy, Jakarta.
TIMBER

East Kalimantan's forests have been the reason for the province's participation in two separate international markets. The region's Chinese entrepreneurs exported exotic forest products for several hundred years in one international market. In the mid-1960s East Kalimantan entered another market because of a much more common product, trees.

Lumber production did not suddenly begin in the 1960s. For many years small sawmills operated in the larger towns throughout the archipelago, but their products were usually consumed locally. Timber production in the Outer Islands (under the supervision of Heads of the Provincial Civil Service) was mostly carried out under license by "natives" and Chinese "panglongs" who ran small scale timber cutting operations along the coasts and rivers. The main foreign market for the timber was Singapore. Timber exports, however, were never very significant during the colonial period for a number of reasons, including "the multifarious composition of forests, the difficulties of transport, the shortage of labour and the often poor knowledge of the technical qualities of the different kinds of timber" (Handbook of the Netherlands East-Indies 1930: 235).
In the 1960s, however, the demand for tropical hardwood logs by Japan, Taiwan and South Korea began to escalate (perhaps due to the lack of adequate reserves in their own lands). East Asian buyers went to places such as East Kalimantan and began to pay top prices for raw logs. The result was literally a flood of logs on the major rivers as local entrepreneurs cut down trees and floated them down to the ports. This system, called banjir kap, proved very profitable for all concerned. Banjir, meaning flood, refers to the way the logs were transported, while the meaning of kap varies: one account states that kap is short for kapal, or ship, thereby referring to the practice of lashing together logs into large rafts which are then manoeuvred downstream; another interpretation of kap is that it refers to a popular gambling game in which the winner takes all. Through production sharing agreements, East Asian buyers (mostly Japanese) provided most of the capital required to carry out the banjir kap within concession areas controlled by Perhutani, the Indonesian State Forestry Enterprise (Manning 1971:36).

While timber was increasing the fortunes of many entrepreneurs in East Kalimantan, a lop-sided administrative battle was taking place between the province and the central government. In 1957 Indonesia's forests were under the complete control of provincial governments. By 1967 the
provincial forestry authority still had to give its approval for timber concessions within their jurisdiction and retained the power to grant concessions of up to 10,000 hectares. In 1970 the central government restricted the provinces to granting concessions of not more than 100 hectares, thereby effectively eliminating them from the decision-making process. The reasons given by the national government for this take-over included concern over rapid deforestation and skepticism about the provinces' ability to control numerous concessionaires (Manning 1971:37).

The national government's control over the timber concessions heralded a major shift in the scale of timber activities. From a relatively low technology, small-scale industry, timber production became very large scale, high technology and capital intensive. Banjir kap practices were outlawed and foreign timber firms were encouraged to bid for large timber concessions. American companies, such as Weyerhauser and Georgia-Pacific, moved in and began intensively to log large tracts of East Kalimantan's forests.

The value of East Kalimantan's timber exports jumped from $0.06 million in 1967 to $525 million in 1978 while the volume increased from 143,000 tons to 7,474,000 tons in the same period (Table 3.2). The per capita product of the province was reported to be six times the national average.
<table>
<thead>
<tr>
<th>Year</th>
<th>Volume (1000 cubic meters)</th>
<th>Value (million US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1967/68</td>
<td>-</td>
<td>0.1</td>
</tr>
<tr>
<td>1968/69</td>
<td>0.1</td>
<td>4.0</td>
</tr>
<tr>
<td>1969/70</td>
<td>2,665.3</td>
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<td>1970/71</td>
<td>4,574.8</td>
<td>71.7</td>
</tr>
<tr>
<td>1971/72</td>
<td>4,601.2</td>
<td>79.7</td>
</tr>
<tr>
<td>1972/73</td>
<td>6,305.5</td>
<td>123.1</td>
</tr>
<tr>
<td>1973/74</td>
<td>7,603.7</td>
<td>316.9</td>
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<td>1974/75</td>
<td>6,927.8</td>
<td>309.4</td>
</tr>
<tr>
<td>1975/76</td>
<td>6,542.6</td>
<td>254.0</td>
</tr>
<tr>
<td>1976/77</td>
<td>8,795.1</td>
<td>423.2</td>
</tr>
<tr>
<td>1977/78</td>
<td>8,657.7</td>
<td>467.2</td>
</tr>
<tr>
<td>1978/79</td>
<td>9,238.6</td>
<td>512.2</td>
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<tr>
<td>1979/80</td>
<td>6,688.4</td>
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</tr>
<tr>
<td>1980/81</td>
<td>3,117.5</td>
<td>390.3</td>
</tr>
<tr>
<td>1981/82</td>
<td>1,505.0</td>
<td>-</td>
</tr>
</tbody>
</table>


These prosperous times, however, did not last. Indonesia's timber exports dropped in value by fifty percent between 1981 and 1982 and East Kalimantan's timber production fell into a slump (Quarterly Economic Review of Indonesia, Second Quarter 1982:11). At the time of my field work in the Spring of 1984 the timber industry's prospects were even more bleak. What happened?

Ironically, the three factors that accounted for East Kalimantan's timber boom also accounted for its rapid decline. These three factors, world market demand, national government intervention and resource abundance all underwent drastic changes. These almost simultaneous changes have had a crippling effect on East Kalimantan's timber industry.

The early high demand for timber products by the world market can be clearly seen in the escalating exports of logs throughout the 1970s. Raw hardwood logs were what the market demanded and received through large multi-national and Indonesian timber enterprises. An example of the rapid involvement of multi-national corporations is Weyerhauser, an American based forestry corporation with subsidiaries in sixteen countries. Weyerhauser's Indonesian subsidiary, International Timber Corporation Indonesia, only began
production in East Kalimantan in 1971 but by 1977 was exporting US$66 million worth of raw logs per year. Weyerhauser's "joint venture" in East Kalimantan worked a concession area of 1.75 million acres along the Mahakam River near Samarinda (Grossman and Siegel, 1977:1-3).

High profits were made from log exports to countries such as Japan, Taiwan and Korea. These countries, in turn, processed the wood and either exported the finished product to other countries or used it domestically. The peak of log exports was in 1978/1979 with 9.24 million cubic meters.

After 1979, however, national government regulations came into effect which forcibly curbed the export of logs and encouraged the export of processed timber products, such as veneer and plywood. According to these regulations all exports of raw logs were to end by 1984. Log exporters strongly protested against the government regulations, arguing that plywood exports were unprofitable and that plywood production needed to be subsidized by the profits earned from continued log exports. Timber companies became anxious as quotas were imposed on their lucrative raw exports while processed exports, which represented a substantial investment in fixed assets, failed to sell.

2. Weyerhauser's Indonesian partner, who owns 35 percent of the "joint venture", was reportedly P.T. Tri Usaha Bhakti, a holding company controlled by Indonesian army generals
Many smaller enterprises, especially those without a concession, went bankrupt. Both Georgia-Pacific and Weyerhauser sold their concessions and factories to Indonesian-owned businesses and withdrew. The only enterprises remaining are those with large concessions (obtained at a low price) who can afford to ride out the difficult times.

There are three factors which make East Kalimantan's plywood a poor risk. First, supply is rapidly surpassing demand. Over eighteen factories are producing 848,000 cubic meters of plywood with plans to increase production to 1.9 million cubic meters within five years (Jakarta Post, 14.4.1984). An industry executive I interviewed expressed doubt that the local timber industry would be able to profitably sell all this plywood in a world market with limited prospects for growth.

Second, East Kalimantan's plywood industry is geared to a specific market that is undergoing substantial changes beyond the control of the local industry. Ninety percent of the plywood produced is of interior grade. Most of this type of plywood is exported to other countries where it is laminated with thin outer layers and sold as indoor

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3. Some of these enterprises represented influential Indonesian businessmen who could perhaps "bend the rules" of log export quotas if necessary.
panelling. I was told that synthetic substitute backings are coming out on the market which do a better job than the plywood at about the same price (indoor plywood is now selling for about $275.00 per cubic meter while the substitutes are available for about $280.00 per cubic meter). My source predicted that plywood production costs will increase in the near future. In addition, fumes from the glue used in the plywood has drawn concern from health officials in the United States (which is the largest consumer of the plywood).

Third, the local market is poor and is unlikely to compensate for the falling demand by the international market. Currently the local market only absorbs low quality "rejects" that cannot be exported overseas. The combination of small scale construction projects in Indonesia and the almost daily rains makes any increases in the domestic demand for East Kalimantan's interior-grade plywood (which is not water resistant) an unlikely prospect.

The national government's role in the timber industry has also undergone a substantial change in relation to the world market. In the early 1970s the national government could be treated as a force helping to make East Kalimantan's resource base more accessible to more powerful forces.

4. I was told this from an industry consultant working in East Kalimantan.
corporations of the world market. The government did this by taking over the management of concessions, squeezing out smaller entrepreneurs through regulatory controls and encouraging "joint ventures" between influential Indonesians and large multi-national corporations. After 1979 the government's role changed as it came under some criticism for poor forest management and for the low multiplier effect generated from the export of raw logs. The national government issued regulations designed to encourage reforestation and local processing of logs into finished or semi-finished products. Both of these regulations came under attack from timber industry interests because of the high costs they would impose on the industry (Long and Johnson, 1981). Some timber enterprises responded to the government regulations by simply cutting back in production so that their export quotas could be met with existing facilities (Daroesman, 1979:49). These regulations, particularly those concerning the deadline for stopping log exports, were later modified to make the transition easier. In addition, there is some question as to how strictly the new regulations will be enforced.

One of the consequences of the government's timber regulations was to increase competition between timber enterprises within the country. After 1979 many log exporters throughout the archipelago began to invest in plywood factories. By late 1983 there were over
seventy-five plywood factories in production and forty-six more planned (Jakarta Post, 27.12.1983). All these factories, including those in East Kalimantan, are essentially competing for the same limited—and possibly dwindling—market. These factories represent substantial investments in relatively fixed assets. A government consultant I interviewed suggested that many enterprises have gone bankrupt because they could not pay back loans taken out to build the factories. Thus, the government's role has changed from one that has ensured the profits of large timber concerns to one that has contributed to their financial downfall.

The final factor that is affecting East Kalimantan's timber industry is the one that made it all possible in the first place, the forest. East Kalimantan's rich forest ecosystem, of which tropical hardwoods make up only a small portion, has supported the region's population for centuries. For twenty years large sections of this forest have been logged to provide the raw material demanded by the world market. The extent of damage to the environment has been difficult to determine because of the vastness of the area and the shortage of trained ecologists working there. Some effects brought up by Indonesian environmentalists include soil erosion, landslides and floods due to the destruction of ground cover (Wirakusumah, 1974; Kartawinata, 1980; Adicondro, 1980). Selective logging methods and
shifting cultivation change the forest profile from a primary forest with a high canopy and sparse groundcover to a secondary forest with a mixed canopy and thick undergrowth.

In 1982-83 the world eco-system experienced some far reaching effects due to the El-Nino Southern Oscillation. El-Nino, which is the name given to an unusually warm body of water that moves across the Pacific and thereby disrupts normal weather patterns, caused both severe droughts and record rainfalls in parts of the tropical zone. East Kalimantan, during this time, experienced a ten-month drought, the severest since 1877 (Leighton, 1984:28).

Disaster struck in the form of forest fires in October-November 1982 and March-April 1983. These fires are believed to have been started by shifting cultivators who underestimated the combustibility of the dry forest biomass. Fires were scattered throughout East Kalimantan but were concentrated in the Kutai region. The slow burning fire caused severe air pollution in the province, the deaths of countless animals and plants, but miraculously little, if any, loss of life.

Smoke from the fires drastically affected visibility as

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5. Leighton has also demonstrated a very high correlation since 1940 between El-Nino occurrences and droughts in East Kalimantan.
far away as Singapore (1400km to the east) and made aerial observations of ecological damage almost impossible (Asiaweek, 5.13.1984). As of this writing (July 1984) the extent of the fire has still not been accurately determined but German foresters who did a cursory survey of the damage estimate that 3.1 million hectares were affected with a timber value of about $3.6 billion (Lennertz and Panzer, 1983). Foresters working in the region reported that the fire did serious ecological damage to swamp forests around the Mahakam River as the fire smoldered underground for many months in the carbon-rich peat layer. Secondary forests and areas that had been selectively logged suffered from much greater damage than primary forests because the former had more groundcover biomass to burn (Leighton, 1984:8). I personally observed extensive damage to the secondary forests along the 115 km road between Balikpapan and Samarinda. One source has claimed that the fire was "perhaps the most severe environmental disaster the earth has suffered in centuries" (New York Times, 4.24.1984:C1).

Government forestry officials first claimed only 300,000 hectares of forest land had been affected and the Governor of East Kalimantan was quoted as saying the fire was "nothing serious" (Jakarta Post). The fire, however, was very serious for the region's economy. Approximately fifty percent of the growing stock in primary forests and about sixty percent of the remaining stock in selectively logged
areas were destroyed (Lennertz and Panzer, 1983:2). One of the main reasons concession areas were so badly hit by the fire is because of logging practices which entail stripping the logs where they are felled; logging litter in the long drought turned into dry kindling, thereby adding fuel to the fire. The long term effect of the fire for East Kalimantan's timber industries is obvious, a drastic decline in the supply of logs.

In the year between the fire and my field research in East Kalimantan, most of the major sawmills and plywood factories were still in operation. These enterprises had not yet felt the full impacts of fire for several reasons. First, the larger enterprises still had sections of their concessions that were not burned. The government also allowed salvage logging of damaged trees so that the wood could be processed before it became too badly decomposed. Second, the government's quota on log exports had also created a temporary surplus of unprocessed logs. Some of these logs were stockpiled in the sawmills and logging camps while others were left floating in the rivers. Third, because of low demand as well as supply many of the factories were not operating at full production capacity.

The final reason many plywood factories and sawmills had managed to survive was perhaps the most ironic. The reason many timber industries had located near Samarinda was
because of the abundance of logs. Now, however, for the first time, the area around Samarinda was not only a log exporter but also possibly a log importer. While in Samarinda I heard (but was unable to verify) that logs were being barged in from the northern part of the province which was not badly affected by the fire. This somewhat surprising trend is mirrored at the national level; Indonesia, for the first time, is importing logs from Sabah, Malaysia to supply local plywood factories that do not have access to timber concessions (*The Jakarta Post*, 12.27.83).

The importation of logs into the Samarinda area is an ironic twist for the local economy because it removes the main justification for locating factories there. The plywood factories themselves are relatively footloose; their location and construction is such that, without too much expense, the machinery can be dismantled and shipped elsewhere, leaving behind the empty buildings (which are usually constructed out of relatively cheap steel girders and aluminum siding). If the costs of importing logs proves to be too high, timber factories could easily justify a hasty relocation to a more profitable site in another region.
Chapter Two describes an "urban systems model" in which two major variables affect the development of a regional intermediate city ($AIC = f[RI + NI]$). These two variables, regional integration into the world market and national government involvement in the region, help to set the stage for observing changes in East Kalimantan's two intermediate cities. In this section I test the economic integration variable to East Kalimantan and in the next section I will turn to the national government involvement variable.

The use of foreign investment and Gross Domestic Product (GDP) as indicators of economic integration within the world economic system works better in theory than it does in practice. According to my model, East Kalimantan, in the late 1970s, should have been experiencing greater external integration, in relation to Indonesia, than ever before. My observations from living there and interviewing people would tend to support my initial assumptions. The problem arises, however, in trying to quantify the integration process.
Theoretically, modified location quotients can be used to compare East Kalimantan's integration process into the world economy with Indonesia's integration process. If the location quotients become more skewed in favor of the region (East Kalimantan) rather than the nation state (Indonesia), a good case could be made for claiming that the region is a true "resource frontier" for both the world and national economies. The two location quotients of exogenous economic integration of the region within the world market (RI) are percentage of GDP derived from resource extraction activities and percentage of total investments arising from foreign sources.

\[ RI = f\left(\frac{\text{GDP from resource extraction activities}}{\text{total GDP}} + \frac{\text{foreign investments}}{\text{total investments}}\right) \]

The above formula can be calculated for both East Kalimantan and Indonesia at different points in time. These figures can then be compared to show which one was more integrated into the world economy. This is, admittedly, a rather crude model but it has the advantage of being relatively simple and easily understood. My field research has forced me, not to abandon the integration model, but rather to qualify its use in East Kalimantan and Indonesia. The problems of using the integration formula can be broken down into those concerning the GDP and those concerning foreign investments.
Gross Domestic Product has long been used by economists as a measure of economic growth. As the GDP rises, so does the general economy, at least in theory. The use of GDP as a measure of economic development came under heavy attack in the late 1960s and 1970s for a number of reasons: it measured only "formal sector" activities, thereby ignoring subsistence and "informal" economies; it was too often considered or positively correlated with quality of life, despite empirical research in some countries which showed opposite trends; and the data it was based on, especially in the Third World, were notoriously inaccurate (Todaro, 1981). I attempted to avoid the first two criticisms by only using GDP as an indicator of exogenous regional integration. The use of GDP can be better justified as a measure of exogenous integration than it can as a measure of economic growth because most major integration activities fall within the realm of the quantifiable "formal" sector, such as resource extraction industries, while most economic activities in a typical Third World country probably do not, such as subsistence farming.

Most traders and businessmen I have talked to in East Kalimantan and in other parts of Indonesia take it as a matter of course to tell the government as little as possible about their financial affairs. Many of these traders and businessmen are of Chinese ancestry and are very
aware of the long history of hostile envy that their relative wealth has caused. Thus, discretion about financial matters is highly valued. When questioned, these people claim very modest profits, despite outward signs of wealth. Some of the more powerful businessmen, it seems, have well placed partners in the government that ensure matters run smoothly (Rowley, 1983). Many of the activities of these traders and businessmen would be classified as "formal" and hence should be included in any GDP calculations. This state of affairs has lead me to regard any GDP data from Indonesia with a high degree of skepticism.

Despite this mistrust of GDP data I have gone ahead and used the GDP in my integration formula. I do not, however, intend that the GDP figures used here be taken as an absolute indicator but rather only as a crude relative indicator. My assumption is that the relative accuracy of the GDP will not vary greatly between years and that differences recorded will approximate real changes in formal sector activities.

A comparison of Indonesia's and East Kalimantan's gross domestic products from resource extraction activities shows a clear trend. The percentage of Indonesia's GDP derived from resource extraction activities rises from 15% in 1971 to a high of 18% in 1973 and then declines to a low of 11%
by 1981 (Table 3.3). East Kalimantan's GDP percentage from resource extraction activities goes from a low of 34% in 1971 to a high of 79% in 1977 down to 67% by 1981 (Table 3.4). In brief, while Indonesia's national GDP has become less reliant upon resource extraction activities, East Kalimantan's regional GDP has become more reliant on its natural resource base (Figure 3.2).

Much of East Kalimantan's increasing GDP can be attributed to petroleum which jumped from $118 million in 1971 to $1.7 billion by 1977. This increase, however, gives a somewhat misleading picture of East Kalimantan's economy and underscores one of the major problems of using gross domestic product as an indicator. Much of the revenue from the petroleum industry never reaches the province and thus has had little effect on local economic growth. Nonetheless, the GDP trends shown in the tables do support the argument that East Kalimantan is indeed a "resource frontier" and that, during the 1970s, it became increasing integrated into the world economic system.

The use of foreign investments as an exogenous integration indicator also has complications unanticipated in my model. Just as the use of GDP meets severe academic criticism, the use of foreign investments as an indicator of economic vitality has also come under attack. The World Bank, on one hand, favors the lowering of restrictions
<table>
<thead>
<tr>
<th>Year</th>
<th>GDP</th>
<th>GDP MINING &amp; QUARRYING</th>
<th>GDP R.E.A.</th>
<th>GDP TOTAL</th>
<th>GDP % FROM R.E.A.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971</td>
<td>612.83</td>
<td>1,308.79</td>
<td>1,921.62</td>
<td>13,170.31</td>
<td>15</td>
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<tr>
<td>1972</td>
<td>655.58</td>
<td>1,600.95</td>
<td>2,256.53</td>
<td>14,411.40</td>
<td>16</td>
</tr>
<tr>
<td>1973</td>
<td>843.23</td>
<td>1,973.87</td>
<td>2,817.10</td>
<td>16,041.33</td>
<td>18</td>
</tr>
<tr>
<td>1974</td>
<td>771.97</td>
<td>2,040.38</td>
<td>2,812.35</td>
<td>17,266.03</td>
<td>16</td>
</tr>
<tr>
<td>1975</td>
<td>650.36</td>
<td>1,966.98</td>
<td>2,617.34</td>
<td>18,125.42</td>
<td>14</td>
</tr>
<tr>
<td>1976</td>
<td>735.87</td>
<td>2,262.00</td>
<td>2,997.86</td>
<td>19,373.63</td>
<td>15</td>
</tr>
<tr>
<td>1977</td>
<td>794.54</td>
<td>2,541.57</td>
<td>3,336.10</td>
<td>20,809.98</td>
<td>16</td>
</tr>
<tr>
<td>1978</td>
<td>835.15</td>
<td>2,491.21</td>
<td>3,326.37</td>
<td>22,723.28</td>
<td>15</td>
</tr>
<tr>
<td>1979</td>
<td>802.14</td>
<td>2,486.70</td>
<td>3,288.84</td>
<td>24,144.66</td>
<td>14</td>
</tr>
<tr>
<td>1980</td>
<td>730.64</td>
<td>2,457.48</td>
<td>3,188.12</td>
<td>26,530.17</td>
<td>12</td>
</tr>
<tr>
<td>1981</td>
<td>533.49</td>
<td>2,539.43</td>
<td>3,072.92</td>
<td>28,544.89</td>
<td>11</td>
</tr>
</tbody>
</table>

Note: All figures in 1973 constant US million dollars.
These figures were calculated from tables using 1973 constant Rupiahs (X 1 billion). A 1973 exchange rate of 421 Rp. = $US 1.0 was used. GDP Forestry includes both forestry and hunting. GDP Mining & Quarrying includes both oil and gas drilling, other types of mining and rock quarrying, the latter two being negligible. GDP R.E.A. stands for resource extraction activities and is the sum of GDP Forestry and GDP Mining & Quarrying. GDP Total is the sum of all recorded economic activities in the country. GDP % from R.E.A. is GDP R.E.A. divided by GDP Total.
## TABLE 3.4
EAST KALIMANTAN GDP
DERIVED FROM RESOURCE
EXTRACTION ACTIVITIES
(in million US dollars)

<table>
<thead>
<tr>
<th>Year</th>
<th>GDP Forestry</th>
<th>GDP Mining</th>
<th>GDP Refining</th>
<th>GDP Petroleum</th>
<th>GDP R.E.A.</th>
<th>GDP Total</th>
<th>GDP % From R.E.A.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971</td>
<td>77.15</td>
<td>79.07</td>
<td>39.07</td>
<td>118.15</td>
<td>195.30</td>
<td>577.29</td>
<td>34</td>
</tr>
<tr>
<td>1972</td>
<td>105.82</td>
<td>70.29</td>
<td>37.70</td>
<td>107.98</td>
<td>213.80</td>
<td>683.47</td>
<td>31</td>
</tr>
<tr>
<td>1973</td>
<td>127.72</td>
<td>369.36</td>
<td>40.59</td>
<td>409.95</td>
<td>537.67</td>
<td>1,011.12</td>
<td>53</td>
</tr>
<tr>
<td>1974</td>
<td>110.48</td>
<td>511.54</td>
<td>37.53</td>
<td>549.07</td>
<td>659.55</td>
<td>1,041.83</td>
<td>63</td>
</tr>
<tr>
<td>1975</td>
<td>107.01</td>
<td>629.52</td>
<td>51.69</td>
<td>681.21</td>
<td>788.22</td>
<td>1,152.38</td>
<td>68</td>
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<tr>
<td>1976</td>
<td>134.44</td>
<td>1,001.59</td>
<td>61.16</td>
<td>1,062.76</td>
<td>1,197.20</td>
<td>1,616.79</td>
<td>74</td>
</tr>
<tr>
<td>1977</td>
<td>135.53</td>
<td>1,666.29</td>
<td>70.00</td>
<td>1,736.29</td>
<td>1,871.83</td>
<td>2,354.77</td>
<td>79</td>
</tr>
<tr>
<td>1978</td>
<td>144.56</td>
<td>1,652.19</td>
<td>86.08</td>
<td>1,738.27</td>
<td>1,882.83</td>
<td>2,426.96</td>
<td>78</td>
</tr>
<tr>
<td>1979</td>
<td>128.55</td>
<td>1,549.38</td>
<td>85.49</td>
<td>1,634.87</td>
<td>1,763.42</td>
<td>2,472.87</td>
<td>71</td>
</tr>
<tr>
<td>1980</td>
<td>87.58</td>
<td>1,473.18</td>
<td>94.99</td>
<td>1,568.17</td>
<td>1,655.75</td>
<td>2,396.22</td>
<td>69</td>
</tr>
<tr>
<td>1981</td>
<td>72.59</td>
<td>1,430.62</td>
<td>94.96</td>
<td>1,525.58</td>
<td>1,598.17</td>
<td>2,398.81</td>
<td>67</td>
</tr>
</tbody>
</table>

Note: All figures in 1975 constant US million dollars.
Sources: Pendapatan Regional Propinsi Kalimantan Timur 1971 - 1976: 16-18; Pendapatan Regional Propinsi Kalimantan Timur 1975 - 1981: 21-23. These two tables were compiled using 1971 and 1975 constant Rupiah (x 1000). A 1975 exchange rate of 421 Rupiah = $US 1. was used. Inconsistencies between the two tables required some manipulation of the 1975 constant value between different columns. GDP Forestry represents value earned from both forestry and hunting activities but the latter is negligible. GDP Mining represents both oil and gas drilling. GDP Refining represents petroleum refining. GDP Petroleum is the sum of GDP Mining and GDP Refining. GDP R.E.A. stands for Resource Extraction Activities and is the sum of GDP Forestry and GDP Petroleum. GDP Total is the sum of all officially accounted economic activities in the province. GDP % From R.E.A. is GDP R.E.A. divided by GDP Total.
FIGURE 3.2: Comparison of GDP Percentages from Resource Extraction Activities During 1970s: East Kalimantan and Indonesia
against foreign investments by multi-national corporations and advocates government non-intervention in "market activities" in Third World countries, such as Indonesia (Sacerdoti, 1981). Neo-Marxist writers, such as Amin (1976), on the other hand, oppose this strategy and argue that non-intervention leads to greater economic dependence on multi-national corporations. The "free market" debate is sidestepped in this study of East Kalimantan by my use of foreign investments as an indicator of exogenous economic integration only, thereby avoiding arguments on whether or not unrestricted investments by multi-national corporations are beneficial to the countries involved (Biersteker, 1981).

The major obstacle with the use of foreign investment data in Indonesia is not necessarily its recorded accuracy but rather the changing channels by which foreign capital finds its way into Indonesia and East Kalimantan. Since 1965 the "New Order" government has strongly encouraged foreign investors to go into partnership with Indonesian firms. These new "joint ventures" have included partnerships between large multi-nationals and wealthy Indonesian businessmen (many of whom are of Chinese ancestry), government-owned firms, and politically powerful government officials. Typically, in these joint ventures, a large share of capital is provided by the multi-national, as well as technology, highly skilled or specialized labor, and foreign marketing networks. The local "partner" provides
the necessary "connections", "know-how" and perhaps a smaller share of capital to implement the project within the country (Fryer and Jackson, 1977:224). "Joint ventures" have become, for many foreign investors, the only realistic way to make a profit from the exploitation of Indonesia's resources. I heard, but could not confirm, that the lion's share of reported profits from "joint venture" deals is increasingly going to the local partner.

The rise of "joint ventures" makes it difficult to differentiate between domestic and foreign capital investments in East Kalimantan. A thorough investigation of each "joint venture" operating in the region is far beyond the scope of my research but without such a study I can only make tentative conclusions about the trends of foreign investments in East Kalimantan and Indonesia. Besides "joint ventures", another possible hidden channel of foreign investments is through domestic firms. Some domestic firms, for example, are owned and operated by ethnic Chinese who have long established international linkages that might serve as convenient channels of capital transfer (Rowley, 1983:44-56). Thus, it is difficult to even speculate how much "domestic" investment has domestic origins.

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1. The expansive growth of Chinese "multinational" companies throughout Southeast Asia contradict the notion that all multinational corporations originate in the First World.
The "domestic" or "foreign" status of capital investments in East Kalimantan, however, is not critical to the dependency process taking place. In reference to Latin American countries with similar investment patterns, Cardoso states that, "whether or not industrial firms are owned by foreigner or national, in either case they are linked to market investment, and decision-making structure located outside the dependent country" (in Chilcote, 1980:307). The external determination of East Kalimantan's timber and petroleum market is the principal factor, not whether the investment originates in Jakarta or from beyond national boundaries.

Both Indonesia's and East Kalimantan's investment patterns in the 1970s are confusing (see Table 3.5). The fluctuating pattern of foreign investments between 1977 and 1981 can be attributed to the rise of "joint ventures" and the unreliability of data. If a comparison is made between foreign investments as a percentage of total investments for the years 1967 - 76 and 1967 - 1981, a general decline can be seen for both Indonesia and East Kalimantan; the former goes from 85 percent to 64 percent and the latter from 77 percent to 38 percent.

The decline in the percentage of government sanctioned foreign investments would tend to weaken my argument about East Kalimantan's regional integration into the world
### TABLE 3.5

**FOREIGN AND DOMESTIC INVESTMENTS IN EAST KALIMANTAN**

<table>
<thead>
<tr>
<th></th>
<th>FOREIGN INVESTMENTS</th>
<th>DOMESTIC INVESTMENTS</th>
<th>TOTAL INVESTMENTS</th>
<th>% OF TOTAL BY FOR. SOURCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1967-76</td>
<td>320.30</td>
<td>96.83</td>
<td>417.13</td>
<td>77</td>
</tr>
<tr>
<td>1977</td>
<td>9.30</td>
<td>28.63</td>
<td>37.93</td>
<td>25</td>
</tr>
<tr>
<td>1978</td>
<td>-8.30</td>
<td>22.98</td>
<td>14.68</td>
<td>-57</td>
</tr>
<tr>
<td>1979</td>
<td>26.20</td>
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<td>76.15</td>
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<td>1980</td>
<td>5.60</td>
<td>248.18</td>
<td>253.78</td>
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</tr>
<tr>
<td>1981</td>
<td>6.20</td>
<td>148.33</td>
<td>154.53</td>
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</table>

**FOREIGN AND DOMESTIC INVESTMENTS IN INDONESIA**

<table>
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<tr>
<th></th>
<th>FOREIGN INVESTMENTS</th>
<th>DOMESTIC INVESTMENTS</th>
<th>TOTAL INVESTMENTS</th>
<th>% OF TOTAL BY FOR. SOURCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1967-76</td>
<td>11,793.40</td>
<td>2,018.04</td>
<td>13,811.44</td>
<td>85</td>
</tr>
<tr>
<td>1977</td>
<td>-34.40</td>
<td>574.54</td>
<td>540.14</td>
<td>-06</td>
</tr>
<tr>
<td>1978</td>
<td>558.20</td>
<td>761.82</td>
<td>1,320.02</td>
<td>42</td>
</tr>
<tr>
<td>1979</td>
<td>1,069.40</td>
<td>688.63</td>
<td>1,758.03</td>
<td>61</td>
</tr>
<tr>
<td>1980</td>
<td>813.90</td>
<td>2,780.40</td>
<td>3,594.30</td>
<td>23</td>
</tr>
<tr>
<td>1981</td>
<td>261.00</td>
<td>1,404.20</td>
<td>1,665.20</td>
<td>16</td>
</tr>
<tr>
<td>1967-81</td>
<td>14,461.50</td>
<td>8,227.63</td>
<td>22,689.13</td>
<td>64</td>
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</tbody>
</table>

Note: The figures in these two tables are in US million dollars. Sources: Statistik Indonesia 1982: tables IX.2.27 and IX.2.29. These figures exclude oil, insurance and banking sectors. 1967-1976 figures include the transfer of liquidated foreign investments to domestic investments plus additional capital.
The economy as it shows a decline in the importance of foreign capital during the 1970s, a period of rapid growth in both Indonesia's and East Kalimantan's resource extraction industries (my model would suggest that the process of economic integration within the world market--through resource exploitation--would lead to an increase in foreign investments). I do not place too much weight on these investment figures, however, for reasons explained in the preceding paragraphs.

Aggregated government data (which do not differentiate between foreign and domestic sources) show a marked increase in investments in East Kalimantan between 1976 and 1982, from about US$398 million to US$1,527 million (see Figure 3.3). These data are collected by a Regional Investment Coordinating Board which, as the graph's presentation suggests, encourages investments in East Kalimantan's non-petroleum resource extraction activities. The existence of a Regional Investment Coordinating Board is a good example of one way that the state and the world market work together to maximize their mutual benefit from a region's resources.
YOUR GUIDE TO
INVESTMENT IN
EAST KALIMANTAN
THE MONEY MAKER
IN INDONESIA

Graph: Investments in East Kalimantan under the coordination of BKPMO in 1,000 million Rupiahs (or approx. in million USD)

FIGURE 3.3
THE FORMULA FOR NATIONAL GOVERNMENT INVOLVEMENT APPLIED TO EAST KALIMANTAN

My national government involvement formula is measured by the share of regional government receipts coming from the national government (NI = f[NS/TB]; where NI is national government's interests in a region, NS is the national government's share of the regional budget and TB is the total regional budget). If the national government's contribution to the regional government's budget is increasing, it is likely that the national government's involvement in the politics and economics of the region is also increasing. If the national share of the regional budget remains the same or even declines it indicates that the relationship between the nation state and the region is not undergoing any major changes. This formula, though, is a very rough indicator and only has value when used with other observations about the nature of the nation state and region, especially in a rapidly changing relationship such as that between Indonesia and East Kalimantan.

Between 1973 and 1983 a rather remarkable change took place in East Kalimantan's provincial budget (see Table 3.6). The national government's share of provincial budget receipts climbed from 15 percent in 1973 to almost 80
## Table 3.6

**Provincial Government Income from National Government Receipts**

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<tbody>
<tr>
<td>1973-74</td>
<td>3.3</td>
<td>21.4</td>
<td>15.4</td>
</tr>
<tr>
<td>1974-75</td>
<td>4.4</td>
<td>20.9</td>
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</tr>
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<td>1975-76</td>
<td>13.0</td>
<td>22.1</td>
<td>58.8</td>
</tr>
<tr>
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</tr>
<tr>
<td>1979-80</td>
<td>31.1</td>
<td>89.6</td>
<td>34.7</td>
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<td>1980-81</td>
<td>55.4</td>
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<td>1981-82</td>
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</tr>
<tr>
<td>1982-83</td>
<td>89.0</td>
<td>156.4</td>
<td>56.9</td>
</tr>
</tbody>
</table>

**Sources:** Statistik Keuangan Pemerintah Daerah 1977/78: table 20 and a mimeograph table compiled by TAD staff members. These figures were derived from data using Rp (X 1,000) and include both current receipts and development receipts. For the years 1973 - 1977 an exchange rate of 421 Rp = US$ 1.0 was used; for the year 1977/78 an exchange rate of 634 Rp. = US$ 1.0 was used; for 1978/79 a rate of 634 Rp = US$1.0; for 1979/80 a rate of 632 Rp = US$1.0; for 1980/81 a rate of 634 Rp = US$1.0; for 1981/82 a rate of 643 Rp = US$1.0; and for 1982/83 a rate of 692 Rp = US$1.0.
percent in 1978 before erratically declining to about 57 percent by 1983. During this same period the provincial budget increased by an average of 63 percent per annum. If this information is taken along with the accounts of timber and petroleum activities given earlier in this chapter, it suggests that the national government's increasing contribution to the provincial budget was, at least partly, in response to the rapid escalation of regional resource extraction activities. Control over the provincial government's budget, however, is just one channel that the national government has used to exert its influence over the regional integration process.

The rise of "joint ventures" and direct government involvement in resource extraction activities is perhaps the most explicit way by which the Indonesian government, acting as a state in my model, has intervened in the integration process between the resource frontier region and the world economy. Government involvement in the resource extraction activities, timber and petroleum, differ markedly. Investments in timber activities, for example, are monitored by the provincial government which, in turn, receives some direct revenue from the timber industry. Investments in petroleum activities located in East Kalimantan, on the other hand, are only monitored by the national government which receives all the government revenues from that industry. At the Provincial Investment Coordination Office
data can be obtained on timber activities but not on petroleum activities. Thus, although the national government controls resource extraction policies of both the timber and petroleum industries, it includes the provincial government in the local timber industry while excluding the provincial government from the petroleum industry.

The consequences of different types of government control over resource extraction activities in East Kalimantan are difficult to estimate. Despite different mechanisms of control over the timber and petroleum industries, the national government in both cases has almost complete authority. The national government has such a firm administrative control over the provincial government that it would be unthinkable for the provincial government to go against the wishes of the national government. An example of the subservient role of the province is the fact that the highest authority in the province, the Governor, is directly appointed by the President of Indonesia. Thus, even if the provincial government had a voice in the local petroleum industry, it would only act as an extension of the national government. In the timber industry the provincial government has little power by itself and acts mainly as a monitor for the national level Ministry of Forestry (Manning 1971). The national government's total control of petroleum revenues and dominant share of timber revenues allows it to
redistribute East Kalimantan's wealth among poorer regions and thereby decrease regional income inequalities but it also limits the regional development potential of East Kalimantan.

EAST KALIMANTAN WITHIN A WORLD SYSTEMS PERSPECTIVE

If two sets of figures, the percentage of the provincial GDP from resource extraction activities and the percentage of the provincial budget from central government sources, are taken to represent the two variables, economic integration into the world market and national government involvement in the region, a rough sketch of the region's major economic and political trends can be drawn for the 1970s (see Table 3.4 and Table 3.6). Both sets of percentage figures show a marked increase, the central government's share of East Kalimantan's budget increasing from 15 percent in 1973/4 to 80 percent in 1977/8, and the share of the total provincial GDP from resource extraction activities rising from 53 percent in 1973 to 79 percent in 1977. Even if these figures are of questionable accuracy, a clear trend emerges. This trend suggest that the region has become more closely integrated with both the world economy and the state. If this integration trend could be presented on a set of center-periphery continuums, one representing the
world economy and the other the political state, East Kalimantan would be seen to be simultaneously moving away from the peripheries towards the centers.

The economic integration process described in this chapter provides some empirical testing of Wallerstein's world-systems theory. East Kalimantan fulfills the role of a peripheral region that has become integrated into a world capitalist system by virtue of its natural resources. As East Kalimantan's resources grew in value on the world market, the national government chose to work with the principal agents of the world economic system (large multi-national oil and timber corporations) to exploit the resources for their mutual profit. During this period of growing demand for the region's resources, the national government consolidated its control over the provincial government and ensured that it would always receive the major share of benefits from the region's resources. In turn, the national government allocated a percentage of the national revenues earned by the sale of the region's resources back to the region in order to build up basic infrastructure required for further economic development.

This rather simplistic account of East Kalimantan's integration within the world market and the national government's response to that process fits in well with the core-periphery dynamics of world systems theory, but it also
tends to obscure some characteristics that make East Kalimantan's integration process unique. A closer reading of East Kalimantan's history brings out some points that world-systems theory has either ignored or missed. My cursory reading of the region's economic history shows that it is more complex than would be expected from a peripheral region that has been only recently included in a Euro-centric world system (Peluso, 1983). A comprehensive historical review of the region is not the purpose of this dissertation, but a brief discussion of part of the region's history, that dealing with the Chinese population, will help to highlight some of the shortcomings in using a world systems theory to study a region.

Long before European capitalists had even heard of Borneo or the other islands in the Indonesian archipelago, Chinese traders had extensive trading networks between Indonesian kingdoms and the Asian mainland. Some evidence suggests that the Chinese were already importing exotic plants and medicines from Indonesia in the third century A.D. (Peluso, 1983:13). For centuries East Kalimantan has served as a peripheral "resource frontier" by supplying forest products in what can only be called a capitalistic structure. The core of this system was not industrial Europe but rather agricultural China. If the argument that an international and capitalistic core-periphery relationship existed before European expansion is accepted,
then Wallerstein hypothesis that the world-economic system had its origins in sixteenth century Europe needs to be qualified or changed.

The early trade in forest products helped to create another phenomenon usually attributed to modern capitalism, economic class divisions. Chinese and Bugis traders provided capital while local Dayak groups provided labor in the collection of forest products. The Kutai rulers of East Kalimantan played only a marginal role in these early international trade activities while Bugis entrepreneurs, who controlled local and inter-island trade, played an increasingly important role (Peluso 1983:24).

In comparison with the volume of current petroleum and timber exports, the trade in forest products is negligible. The small scale of activities, though, is compensated by its historical timing. The trade in forest products brought many Chinese migrants to East Kalimantan. These migrants and their offspring set up international linkages with relatives or clansmen in other ports. International linkages among Chinese migrants in different ports of Southeast Asia acted as channels of skill, technology and capital.

The Chinese quickly adopted new transportation technologies, such as square-rigged sailing vessels and later steamships, that gave them an advantage over the Bugis who still rely upon their traditional perahu. Other
advantageous strategies included diversifying investments, and gaining favor with the colonial administration, who were obliged to offer protection against "pirates" (Peluso, 1983:81-7). Later some Chinese traders even became agents for European firms that supplied needed raw materials to industrializing Europe (Peluso, 1983:101).

International linkages which helped Chinese in East Kalimantan become established also helped them to make the best of a difficult period in the early 1960s and take full advantage of a prosperous period in the late 1960s. In 1959 a government proclamation, Peraturan Presiden 10, banned all "aliens" from living in the hinterland areas of Indonesia in order to encourage priabumi, or "native", enterprises. Many Chinese had to leave their stores and warehouses in the interior of East Kalimantan and migrate to coastal ports, such as Samarinda and Balikpapan, where they had to begin their businesses all over again (Peluso, 1983:147). Support and funds from relatives and clansmen in other countries sometimes helped to make this forced transition possible. In the late 1960s the rising world market demand for logs stimulated local demands for all types of consumer goods and services, which Chinese traders quickly provided through their "multi-national" trading networks. Many of these traders became quite wealthy from the side effects of the timber boom.
This short overview of the Chinese in East Kalimantan illustrates why care has to be taken in using global theories, such as Wallerstein's. If a core-periphery continuum is used in discussing a region's integration into the world economy, it is important to distinguish what core-periphery relationship and what integration process is under discussion. In addition, it is necessary to consider the unique historical interaction between the region under study and the world economy (Rauch, 1984:213). East Kalimantan, for example, has had several distinct core-periphery relationships with the world economy. An early core-periphery relationship was with China through the forest products trade, a later one was with Japan, Taiwan and South Korea through the timber boom, and the most recent has been with the United States and Europe through the petroleum industry. Each of these core-periphery relationships has had a different resource base as its integration catalyst. The regional integration process can also occur more than once with the same resource base. At the turn of this century, East Kalimantan's petroleum reserves were processed and sold on the world market by Dutch colonialists. After Indonesia's independence a multinational corporation, Royal Dutch Shell, processed and sold the province's oil under the jurisdiction of the Indonesian government. Finally, in the early 1970s a number of oil companies, including one owned by the Indonesian
government, exported the region's oil and natural gas reserves on an unprecedented scale. In one sense all of East Kalimantan's varied integration processes can be included in the same world capitalist system theory; but each of these processes also contains basic structural differences that are important for understanding the region's history yet are often overlooked by such a global theory.

This chapter has presented an overview of East Kalimantan using world systems theory as a contextual framework. Within this framework, a regional integration formula and a national government involvement formula have been used to describe what has happened within the province due to the development of its petroleum and timber resources. From the broad perspective of the region, I will now focus on the province's two principal cities, Samarinda and Balikpapan. Throughout my discussion of these two cities I refer back to events and processes mentioned in this chapter because, as my urban systems model (ΔIC = f[RI + NI]) implies, recent socio-economic changes in Samarinda and Balikpapan are closely tied to changes in East Kalimantan and in the world economic system.
CHAPTER FOUR

SAMARINDA

Samarinda, in the east of the Residency, is still more prosperous, although it contains only 4,730 inhabitants, of whom 1,160 are Chinese. It is built on the delta of the Mahakkam, or Kutei, which is there over 1,000 yards in width; it contains a European quarter, a palace, and a shadowy Sultan, and Chinese, Malay, Bugi, Dyak, and Bandjarese kampongs. The Bandjarese, or natives of Bandjarmasin, have outrivalled even the Chinese in the exportation of rubber and rattan. A dirty town of small squat-houses with atap roofs, perched upon piles as usual, Samarinda expects, none the less, to become a considerable city, as the coal mines and petroleum fields in the neighbouring district are now in process of development. -- Cabaton, 1911:21-2

GEOGRAPHY AND HISTORY

The Municipality of Samarinda straddles a bend in the 400 kilometer long Mahakam River. The river has played a central role throughout the history of the city and has served as the main transportation and communication channel between the city and its extensive hinterland. The river's width, depth and generally meandering current has made Samarinda, which is located 60 kilometers from the sea, an
excellent port for inter-island shipping and local trading activities.

The Municipality of Samarinda (Kotamadya Samarinda) consists of seven districts (kecamatan): Samarinda Ilir, Samarinda Ulu, Samarinda Seberang, Palaran, Sanga-Sanga, Muara Jawa and Samboja (Figure 4.1). Each of these districts consist of a number of villages or neighborhoods (desa or kelurahan). I refer to this level of municipal administration as a village in rural areas and as a neighborhood in urban areas. The total area of the Municipality is 2,727 square kilometers but most of this area is devoted to agricultural production or uncleared jungle. In this chapter I will focus on the first three districts, Samarinda Ilir, Samarinda Ulu and Samarinda Seberang, as they are the only ones that can be considered "urban".

The earliest recorded evidence of people living near present day Samarinda is a fifth century A.D. stone inscription dedicated to a Hindu shrine commemorating a gift of cattle (Wheatley, 1983: 299) (Figure 4.2). There are also historical linkages between the area around Samarinda (Kutai Kertanegara) and the Majapahit kingdoms of fourteenth century Java (Boyce, 1983:C-3). The original settlement of

1. I discuss my classification method for determining rural and urban areas in the next section.
FIGURE 4.1: Districts (Kecamatan) of Municipality (Kotamadya) of Samarinda.
FIGURE 4.2: Early archaeological sites in Southeast Asia, including one near present day Samarinda, East Kalimantan (Source: Wheatley, 1983, p.235).
the present city was located on the shores of the Mahakam in what is today called Samarinda Seberang. A group of 200 Bugis from South Sulawesi were the original settlers, arriving in 1668 (Dachlansjahrani, 1981:11-12). The village at that time fell under the authority of the Sultan of Kutai Kertanegara. Sixty-two years after arriving some of the settlers moved across to the confluence of the Mahakam and one of its tributaries, the Karangmumu.

The origin of the name "Samarinda" has different interpretations but the most interesting one attributes the name to the Bugis migrants who left behind a highly structured social hierarchy. "Samarinda", according to this theory, comes from sama (meaning the same) and rendah (meaning low or humble); combining the two words could then mean that "everyone here is of the same low or humble status". A related explanation attributes (sama-rendah) to an order by the Sultan of Kutai that all Bugis houses be the same height as house size symbolizes social status (Dachlansjahrani, 1981:2). Another explanation argues that (sama-rendah) is a description of the flat land adjacent to the river.

For the next two hundred years the Buginese village of Samarinda slowly grew in importance as a local trading
center, especially in the export of exotic forest products. Although the Sultan of Kutai had traditional authority over all trading activities in his kingdom, successive generations of sultans slowly lost control to powerful Buginese traders and shahbandars ("harbormasters") (Peluso 1983:30-35). Chinese merchants regularly stopped at the small port of Samarinda to buy forest products that were in high demand in China and to sell porcelain, beads and cloth. Another important trading linkage was set up by Banjarese (from present day South Kalimantan) who engaged in coastal shipping.

The Dutch colonial administration, which was expanding its rule over the Indonesian archipelago from its base in Batavia, became interested in the eastern Borneo region in the mid-1800s. In 1844 the Sultan's army was defeated in a battle with the Dutch near the Sultan's palace in Tenggarong. As a result a contract between the Raja and the Dutch set up the position of Assistant Resident to oversee Dutch interests in the region. The first Dutch Assistant Resident arrived in Samarinda in 1846 and began to build the legal and administrative infrastructure for greater colonial control over the Sultan's kingdom. For the next hundred years Dutch influence within Samarinda grew but rarely extended beyond the city limits, where the Raja's authority, though declining, still reigned supreme. A few isolated
Dutch garrisons were located in the interior but their influence was minimal.

The Japanese occupied Samarinda less than three months after they had attacked Pearl Harbor and began their explosive drive through Southeast Asia. The Japanese civil administration for the region was centered in Samarinda but, like the Dutch before them, had little direct involvement in the interior. In August 1945 Australian and Dutch armies took control over the region and on January 1, 1946 returned it to the authority of the Kutai Regency. A Dutch Assistant Resident soon returned to the city.

In the immediate post war period, the East Kutai area was divided into five administrative areas. The town of Samarinda was divided into two districts, Samarinda Kota (the "city") and Samarinda Seberang (the "other side"). After independence from the Dutch, the Regency of Kutai became a special sub-provincial area, with Samarinda as its capital. Indonesian Borneo at this time became one large province, called Kalimantan. The Sultan still retained his traditional authority during the transition from Dutch colony to Indonesian republic.

In 1956 a local political assembly was created in the Kutai Regency by pressure from the national government. A

2. Unless otherwise noted, the historical information in this section comes from Monografi Kotamadya Daerah Tingkat II, Samarinda 1979.
year later the Kutai Regency capital and the recently formed political assembly were moved upriver from Samarinda to the small town of Tenggarong, where the Sultan's palace was located. In 1959 the "special" status of the Kutai Regency was abolished and it became a sub-provincial region (kabupaten) under the authority of the newly designated province of East Kalimantan. Samarinda's political status then jumped a notch as it was named capital for East Kalimantan. The city of Samarinda became a kotapraja, or "king city", and then a (kotamadya), or municipality, with the same administrative status as the Kabupaten of Kutai.

The boundaries of Samarinda were soon redrawn at the expense of the Kutai Regency which had lost most of its traditional power base in the political shuffling of the late 1950s. The district of Samarinda Kota was subdivided into two: Samarinda Ilir and Samarinda Ulu. Some new territory was added to the municipality giving it an area of 167 square kilometers. In 1969 Samarinda's boundary was revised again and extensively expanded to its present size of 2,727 square kilometers. Four districts (kecamatan) that were under the jurisdiction of the Kabupaten of Kutai, Palaran, Sanga-Sanga, Muara Jawa and parts of Samboja, were transferred to the Kotamadya of Samarinda.

The first mayor of Samarinda, Kapten Soedjono, took over the city administration in 1958 from his previous
position with Komando Daerah Militar IX Mulawarman, the local military battalion stationed in Balikpapan. After serving for twenty months he was replaced by another military officer, Letkol. Ngoedijo Behk, from Balikpapan. In 1966 this mayor instituted a political assembly, Dewan Perwakilan Rakyat Daerah, similar to the one created in the Kutai Regency ten years earlier. The following year the assembly had its first elections and elected a government official from Balikpapan, M. Kadrie Oening, as the first civilian mayor. In the same year a high ranking military man, Brigjen. A Wahab Syahranie, was appointed Governor of East Kalimantan by Soeharto, the general who became President as a result of the 1965 Gestapu.

Two major events affected the social composition and economic growth of Samarinda in the 1960s. The first was the direct result of a national government policy and the second was the impact of the world market. Both these events helped to set the general character of the city for the 1970s, the decade that will be the focus of my urban system model.

In 1959 the Sukarno administration issued PP10, a presidential proclamation that made it illegal for "aliens" to live or conduct business outside of any city in Indonesia. Until this proclamation was issued the Chinese had played a major role in buying and processing produce
from farmers, in selling household goods, farming supplies and packaged foods, and in extending credit. The result of the proclamation was an exodus of Chinese from rural areas, where many had small shops, trading routes and/or rice mills, to urban areas. Many Chinese lost all of their fixed assets in this forced migration but some managed to continue financing trading activities and kept old contacts through trusted _pribumi_ middlemen (Peluso 1983:148-9).

In East Kalimantan Chinese traders who had lived for decades in small Dayak and Buginese villages along the rivers had quickly to relocate to either Samarinda or Balikpapan. Fortunately, some of these traders had relatives, clansmen or business associates already in the city who could assist them in starting over. Those that could bought land or shophouses near other Chinese in the downtown area. The forced migration thus reinforced an urban economic core dominated by Chinese traders. A few years later PP10 was rescinded but by that time many of the Chinese had already settled into their urban areas with no intention of moving back into the interior (Peluso, 1983:150). These Chinese, it turned out, were in the ideal location to take advantage of the second major event to hit Samarinda in the 1960s, the "timber boom".

In the later 1960s East Asian buyers arrived in Samarinda offering high prices for tropical hardwood logs.
Local entrepreneurs quickly responded by cutting down trees and floating the cut logs down to the port where they were loaded onto ocean-going ships. Many Dayaks and local Buginese earned relatively high wages in the new timber industry. Chinese businessmen invested in these relatively small enterprises and made big profits. Traders bought hardware needed by local loggers, such as outboard motors, chainsaws and trucks, while shopkeepers stocked their shelves with a wide variety of consumer goods, such as portable stereos, western style clothing and household supplies which local customers could finally afford. All of this economic activity was centered in the few city blocks along the river that were owned and operated by the Chinese. It was around this "downtown" area that Samarinda changed from being a sleepy market town into a bustling intermediate city.

THE URBAN SYSTEM MODEL APPLIED TO SAMARINDA

The urban system model described in Chapter Two attempts to set up a framework with which a city can be studied. One of the most promising aspects of using an integrated model, such as this one derived from Nijkamp's work (1983), is that it can, if applied in a consistent manner, be used to compare different cities and/or the same
city at different periods; both will be attempted for Samarinda (and in the next chapter, Balikpapan). The time period that the model will be applied to is the decade between 1971 and 1981, although some data from before and after this period will also be used.

The urban system model consists of six components: demographic, housing and transportation, physical infrastructure, employment and entrepreneurial, local government, and quality of life. Each of these subsystems will be discussed in the following sections but first a couple of common problems in their application need to be addressed.

The first problem is that the quality of data for the different components varies widely. The demographic component, for example, has much more basic data than does the quality of life component. In addition, the data in the demographic component lends itself to reasonably accurate quantification, a situation that does not hold for the other components. I handle this problem by trying to obtain some quantifiable data for each component and then supplementing that data with qualitative observations. Despite this effort, a reading of the following component descriptions will show that some are covered in greater depth than others.

The second problem is not with the model but with the
city. The Municipality of Samarinda covers a large area that cannot be considered urban under any criterion; these areas are agriculturally based, have low population densities, and lack immediate access to urban-type amenities such as piped water, electricity, and paved roads. Out of the whole municipality I deem three districts (kecamatan) to be urban, Samarinda Ilir, Samarinda Ulu and Samarinda Seberang. I chose a criterion of 500 persons per square kilometer, based on the 1980 population density, because it was the easiest to apply and the least confusing. The boundaries of the intermediate city of Samarinda, as opposed to the Municipality of Samarinda, would thus enclose these three districts (see Figure 4.1). Out of this urban area I deem twelve neighborhoods (desa) to be the city proper or "urban core": Karang Mumus, Pasar Pagi, Kampung Jawa, Telok Lerong Ilir, Telok Lerong Ulu, Kampung Bugis, Pelabuhan, Sungei Pinang Luar, Sungei Pinang Dalam, Sudomulyo and Sidodadi (see Figure 4.3). For this third level a 1981 population density of 1,500 persons per square kilometer was used. These twelve neighborhoods all have important urban functions within their boundaries; much of their land area is covered by shops, warehouses, marketplaces, government offices, schools and religious institutions. Much of my discussion about Samarinda's urban components will focus on this urban core with some references to the larger urban
area. The non-urban areas of the municipality will be ignored.

THE DEMOGRAPHIC COMPONENT

Information on Samarinda's demographic subsystem was relatively easy to obtain as every statistical yearbook had pages of population-related data. Basic demographic data is supposed to be collected every year at the desa level, checked for accuracy and passed on to the kecamatan level, where it is supposed to be checked again and passed on to the kotamadya level. Unfortunately, this system is not foolproof and numerous errors creep into the tables. Basic demographic data such as birth rates and death rates are also unavailable from official statistical yearbooks.

Samarinda's population in 1905 was reported to be 4730 (Encyclopaedie van Nederlandsch-Indie 1919: 681). A 1920 survey of what is roughly Samarinda Ilir and Samarinda Ulu reported 6,895 people, of which 5,207 were Indonesian, 1,413 were Chinese, 120 were other "easterners", and 155 were Europeans. Ten years later, in 1930, the population had increased by 61 percent to 11,086, with 8,411 Indonesians, 2,201 Chinese, 204 "easterners" and 270 Europeans (Dachlansjarhani, 1983:15). By 1961 the population had jumped to 69,715 (Sensus Penduduk Indonesia 1961). During the 1960s the population almost doubled so that in 1971 it
reached 139,124 (Laporan Hasil Sementara Sensus Penduduk 1971, Propinsi Kalimantan Timur). Taken at face value these figures show a remarkable population growth rate, in fact a higher growth rate than any of the other twenty-five largest cities in Indonesia between 1930 and 1971 (Peta Pembangunan Sosial Indonesia 1930-1978: table 14). These figures are somewhat misleading, however, because Samarinda's boundary has also grown at a remarkable rate, from less than 167 square kilometers before 1961 to 2,727 in 1969.

Between 1971 and 1980 (the two latest census years), there were no boundary changes made to the municipality of Samarinda. Nonetheless, the municipality's population went from 137,918 to 264,012 (Table 4.1). This is an average annual population growth rate of 7.8 percent. If only the urban area of the municipality is considered (the districts of Samarinda Ilir, Samarinda Ulu and Samarinda Seberang), this trend does not change significantly; from 105,290 to 207,637 or an average annual population growth rate of 7.3 percent. There is a slightly lower population growth rate if the boundaries of the population is restricted to what I have identified as the urban core (the neighborhoods of Pelabuhan, Pasar Pagi, Sungei Dama, Sidomulyo, Karang Mumus, Selili, Sungei Pinang Luar, Sidodadi, Kampung Bugis, Telok Lerong Ulu, Kampung Jawa and Telok Lerong Ilir - see Figure 4.3). The population of the urban core, between 1971 and 1980 goes from 77,014 to 131,803, or an average annual
### TABLE 4.1

POPULATION TOTALS BY KECAMATAN
DISTRICTS DURING 1970S IN
MUNICIPALITY OF SAMARINDA

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<td>40,646</td>
<td>49,850</td>
<td>60,385</td>
<td>72,936</td>
<td>74,168</td>
</tr>
<tr>
<td>SAM. SEBERANG</td>
<td>9,547</td>
<td>12,755</td>
<td>12,219</td>
<td>15,918</td>
<td>20,750</td>
<td>21,120</td>
<td>21,496</td>
</tr>
<tr>
<td>PALARAN</td>
<td>5,263</td>
<td>5,804</td>
<td>7,170</td>
<td>8,475</td>
<td>9,833</td>
<td>11,695</td>
<td>13,579</td>
</tr>
<tr>
<td>SANGA-SANGA</td>
<td>9,182</td>
<td>9,941</td>
<td>9,465</td>
<td>10,085</td>
<td>10,459</td>
<td>10,957</td>
<td>11,118</td>
</tr>
<tr>
<td>MUARA JAWA</td>
<td>6,784</td>
<td>8,031</td>
<td>7,382</td>
<td>8,610</td>
<td>9,334</td>
<td>11,429</td>
<td>13,134</td>
</tr>
<tr>
<td>SAMBOJA</td>
<td>11,399</td>
<td>13,662</td>
<td>16,165</td>
<td>17,828</td>
<td>19,971</td>
<td>22,294</td>
<td>23,081</td>
</tr>
<tr>
<td>TOTAL</td>
<td>137,918</td>
<td>159,154</td>
<td>167,051</td>
<td>190,393</td>
<td>215,677</td>
<td>264,012</td>
<td>267,077</td>
</tr>
<tr>
<td>URBAN AREA</td>
<td>105,290</td>
<td>121,716</td>
<td>126,869</td>
<td>145,395</td>
<td>166,080</td>
<td>207,637</td>
<td>206,165</td>
</tr>
<tr>
<td>% URBAN</td>
<td>76</td>
<td>76</td>
<td>76</td>
<td>76</td>
<td>77</td>
<td>79</td>
<td>77</td>
</tr>
</tbody>
</table>

Source: 1971 - 1981, mimeographed sheet, Perkembangan Penduduk Kotamadya Samarinda, Kantor BAPPEDA Tingkat II, Kotamadya Samarinda. Note: These figures have been cross-checked with other sources (mainly statistical year books).
FIGURE 4.3: Neighborhoods (Desa & Kelurahan) within the urban core of Municipality of Samarinda.
population growth rate of 6.2 percent. These rates show that Samarinda's urban area and urban core are sharing in the municipality's rapid population growth.

In general, population densities in the municipality are low, 98 persons per square kilometer, but rise significantly in the urban area; Samarinda Ilir and Samarinda Ulu have densities of over 1,0000 persons per square kilometer. Population densities in the urban area almost doubled between 1971 and 1981, from 630 persons per square kilometer to 1,235 (Table 4.2). Within the urban core, there is a wide variation in population densities. Generally, those neighborhoods to the north (Sidodadi, Pelabuhan and Sungei Pinang Luar) and to the east (Kampung Jawa, Telok Lerong Ulu and Telok Lerong Ilir) of the "downtown" area (Pasar Pagi and Karang Mumus) have the highest population densities. The "downtown" area itself does not have very high densities, despite the high proportion of ethnic Chinese who live above and/or behind their shops.

The "downtown" area and the two neighborhoods to the north of it (Pelabuhan and Kampung Bugis) had either very

3. The following generalizations need to be qualified by the fact that they are based on some questionable data due to the uncertainty of boundaries.
# Table 4.2

## Population Densities by Kecamatan Districts in Municipality of Samarinda

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SAMARINDA ILIR</td>
<td>928</td>
<td>1,058</td>
<td>1,073</td>
<td>1,154</td>
<td>1,231</td>
<td>1,646</td>
<td>1,601</td>
</tr>
<tr>
<td>SAMARINDA ULU</td>
<td>488</td>
<td>554</td>
<td>625</td>
<td>767</td>
<td>929</td>
<td>1,122</td>
<td>1,141</td>
</tr>
<tr>
<td>SAM. SEBERANG</td>
<td>289</td>
<td>387</td>
<td>370</td>
<td>482</td>
<td>629</td>
<td>640</td>
<td>651</td>
</tr>
<tr>
<td>PALARAN</td>
<td>42</td>
<td>46</td>
<td>57</td>
<td>67</td>
<td>78</td>
<td>93</td>
<td>108</td>
</tr>
<tr>
<td>SANGA-SANGA</td>
<td>23</td>
<td>24</td>
<td>23</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>27</td>
</tr>
<tr>
<td>MERAJA JAWA</td>
<td>11</td>
<td>12</td>
<td>11</td>
<td>13</td>
<td>14</td>
<td>18</td>
<td>20</td>
</tr>
<tr>
<td>SAMBOJA</td>
<td>8</td>
<td>9</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>16</td>
<td>17</td>
</tr>
<tr>
<td>TOTAL</td>
<td>51</td>
<td>58</td>
<td>61</td>
<td>70</td>
<td>79</td>
<td>97</td>
<td>98</td>
</tr>
<tr>
<td>URBAN AREA</td>
<td>630</td>
<td>729</td>
<td>760</td>
<td>871</td>
<td>994</td>
<td>1,243</td>
<td>1,235</td>
</tr>
<tr>
<td>RURAL AREA</td>
<td>14</td>
<td>14</td>
<td>16</td>
<td>18</td>
<td>19</td>
<td>22</td>
<td>24</td>
</tr>
</tbody>
</table>

Note: All density figures refer to persons per square kilometer. The high jump in both tables between 1979 and 1980 most likely does not represent a sudden population increase but rather underenumeration in inter-censal years (the census years are 1971 and 1980). Source: mimeographed sheet, Perkembangan Penduduk Kotamadya Samarinda per Kecematan from HAPPEDA, tingkat II, Kodya Samarinda. This source was cross-checked with various other statistical yearbooks.
slight increases or actual declines in population density (Pasar Pagi) (Table 4.3). If this is compared to the rapid increase in population densities in the outer neighborhoods of the urban core (Sidodadi and Sungei Pinang Luar), a suburbanization pattern begins to emerge. The "downtown" area is increasingly being covered with buildings that do not house families. The families that used to live in the "downtown" areas and the families that are arriving in the city for the first time are increasingly looking to the outer fringes of the urban core for their new homes.

The "downtown" area, as I have mentioned earlier, has the highest concentration of ethnic Chinese in the city. It is difficult to estimate the actual number of Chinese in Samarinda because many have become Indonesian citizens. After the government sanctions against "aliens" in the early 1960s many Chinese gave up their Chinese nationality or else made their children become Indonesian citizens. Some adopted Malay names while others converted to Islam. They did not, however, give up their economic ties or the roles they played in the region's growing economy. A clue to the dominant role of ethnic Chinese in the "downtown" area can be gleaned if one looks for the percentages of "foreigners" (defined here as permanent residents) in different neighborhoods. Most neighborhoods in 1979 had less than one percent of their populations listed as "foreigners" (the
### TABLE 4.3
POPULATION TOTALS AND DENSITIES FOR URBAN CORE NEIGHBORHOODS IN MUNICIPALITY OF SAMARINDA

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pelabuhan</td>
<td>11,738</td>
<td>3,913</td>
<td>14,004</td>
<td>4,668</td>
</tr>
<tr>
<td>Pasar Pagi</td>
<td>7,252</td>
<td>2,901</td>
<td>7,084</td>
<td>2,834</td>
</tr>
<tr>
<td>Sungei Dama</td>
<td>6,723</td>
<td>2,689</td>
<td>8,337</td>
<td>3,335</td>
</tr>
<tr>
<td>Sidomulyo</td>
<td>5,427</td>
<td>1,337</td>
<td>15,510</td>
<td>3,878</td>
</tr>
<tr>
<td>Karang Mumas</td>
<td>8,283</td>
<td>2,761</td>
<td>9,695</td>
<td>3,232</td>
</tr>
<tr>
<td>Selili</td>
<td>4,966</td>
<td>2,483</td>
<td>4,934</td>
<td>2,467</td>
</tr>
<tr>
<td>Sungei Pinang Luar</td>
<td>9,248</td>
<td>3,083</td>
<td>16,265</td>
<td>5,422</td>
</tr>
<tr>
<td>Sidodadi</td>
<td>2,821</td>
<td>868</td>
<td>19,403</td>
<td>5,970</td>
</tr>
<tr>
<td>Kampung Bugis</td>
<td>4,516</td>
<td>1,806</td>
<td>5,094</td>
<td>2,038</td>
</tr>
<tr>
<td>Telok Lerong Ulu</td>
<td>7,179</td>
<td>5,522</td>
<td>14,257</td>
<td>10,967</td>
</tr>
<tr>
<td>Kampung Jawa</td>
<td>5,767</td>
<td>2,884</td>
<td>9,568</td>
<td>4,784</td>
</tr>
<tr>
<td>Telok Lerong Ilir</td>
<td>3,094</td>
<td>2,063</td>
<td>7,652</td>
<td>5,101</td>
</tr>
<tr>
<td>TOTAL</td>
<td>77,014</td>
<td>-</td>
<td>131,803</td>
<td>-</td>
</tr>
</tbody>
</table>

**NOTE:** All density figures refer to persons per square kilometer. The density calculations are based on areas given in statistical tables with the exception of the area for Kampung Bugis which was so far from being realistic that I assumed an error in the transcription - I gave it an area of 2.5 sq.km. as opposed to the official figure of 0.25. The density figures should only be used as approximates because no accurate survey of neighborhood boundaries has been carried out. In addition different sources sometimes gave different area sizes; in such a case I chose the size that I considered to be the most reasonable (see Appendix B). Sources: 1971 - Laporan Hasil Sementara Sensus Penduduk 1971. Propinsi Kalimantan Timur; 3, 4, 5; 1980 - Sensus Penduduk 1980. Pencacanan Potensi Desa Kotamadya Samarinda 1980. Hasil Pencacanan Lencana: areas - Tingkat perkecamanan LMKD dan PPK Propinsi Daerah Tingkat I. Kalimantan Timur.
whole kecamatan of Samarinda Seberang had none). Three
neighborhoods had between one and five percent (Sungei Dama,
Sidomulyo and Karang Assam) and three had more than five
percent of their populations listed as "foreigners":
Pelabuhan with 24 percent, Karang Mumus with 25 percent and
Pasar Pagi with 14 percent (Monografi Samarinda 1979: tables
III.1.8, III.1.11, III.1.12). Clearly, the "foreigners" of
Samarinda are heavily concentrated in the "downtown" area.
The term "foreigner" here is almost synonymous with
"Chinese" as 99 percent of "foreigners" are of Chinese
ethnicity, with the remaining one percent mostly made up of
ethnic Indians (Monografi Samarinda 1976: table III.1.9.).
These statistics are confirmed by my observations of the
area's shops which are almost all run by ethnic Chinese.

A breakdown of Samarinda's Indonesian population along
ethnic categories is not possible because no official ethnic
data is collected. It is thus not possible to show how
different local ethnic groups have evolved within the city.
From my casual observations in the city and from reading
1980 provincial level census data I argue that the last
decade has seen an a rapid increase in the number of
migrants from other islands in the Indonesian archipelago.
An important trend is the growing percentage of Javanese,
particularly from East Java, moving into the city. An older
but still significant migrant stream of Buginese from South Sulawesi is also helping to shape the ethnic composition of the city.

Sex ratios of three kecamatan in Samarinda's urban area confirm the stereotype of boom towns as being dominated by men. Samarinda Ilir and Samarinda Seberang both have sex ratios of 108 and Samarinda Ulu has a sex ratio of 114 (Kotamadya Samarinda Dalam Angka 1981: table III.1.2.). The high proportion of men is not surprising considering that the labor demands of the resource extraction activities, such as logging and oil drilling, are male oriented.

THE HOUSING AND TRANSPORTATION COMPONENT

A) HOUSING: The housing and transportation component referred to here concerns only the housing stock and transportation modes that are within the private sector. Most of the information collected on Samarinda's housing and transportation component came from my own observations and unofficial sources. I gained first hand knowledge about the housing market through my search for a place to live during my stay in the city and I learned about the transportation system through my daily use of privately owned mini-buses and river boats.

The Bugis kampung that formed the core of Samarinda's physical growth was located at the confluence of the Mahakam River and its tributary, the Karangmumus. This kampung slowly spread out along the banks of the Mahakam. During the
1950s most shops were located in the present urban core area bordered by Jalan Abdul Hasan, Jalan Diponegoro and Jalan Palabuhan (see Figure 4.4). These shops were constructed of wood, bamboo and atap and were apparently owned by a mixture of Chinese and Bugis traders. In 1957 a fire burned down most of the ramshackle shops in this area. These simple shops were slowly replaced by two storey shophouses, made of concrete and brick. Typically these two storey shophouses are divided into two main areas: the downstairs area facing the street where goods are sold and the back and upstairs areas where the proprietor and his family reside. These new shophouses were built by Chinese, some of whom were forced to migrate to Samarinda in 1959 (by PP10, the government order which made it illegal for "aliens" to work in rural areas). The predominance of Chinese owned and operated two storey shophouses in this part of the city gives it the appearance of a small "Chinatown", similar to those found in larger cities in Southeast Asia (Jackson, 1975).

Along the main roads leading to the "downtown" area are a mixture of shops, schools, government offices and the more permanent dwellings (usually made out of concrete and brick and occupied by the local elite). Within the street grids, off the main streets, are the more impermanent structures (usually made out of wood and occupied by poorer families). Apart from these, there are only a few residential areas of the city which are relatively homogeneous. There are two
FIGURE 4.4: Built-up area of Samarinda about 1960.
residential areas which appear to be much poorer than other areas. The first is a crowded squatter settlement of wooden dwellings which lines each bank of the Karangmumus on its course through the city. The other is a large number of makeshift dwellings clustered on the hill to the west of the "downtown" area (in the neighborhood called Kampung Jawa). At the other extreme, the most noticeable residential area devoted to middle class and "luxury" housing is located on the other side of the Karangmumus from the "downtown" area, near the airport (see Figure 4.5).

The recent increased wealth of some of Samarinda's residents has made for a collage of housing types throughout the city. Even in poorer neighborhoods there are some substantial houses. I observed construction projects on a variety of houses, from the simplest shelters to small villas. One of the reasons for the active building industry is that home construction and/or improvement is a popular method of investing income for those residents who own property. The relatively cheap supply of wood and other building supplies makes house construction an inexpensive enterprise. Until recently house building was also extremely profitable.

In 1974 the Indonesian government outlawed local banjir kap timber activities and contracted with multi-nationals to take over the provincial timber industry. Suddenly teams of
FIGURE 4.5: Urban core of Municipality of Samarinda land use pattern.
foreign timber experts converged on Samarinda in desperate search for western style housing. Their arrival stimulated a thriving market in western style "luxury" housing. Many of these foreign experts and their families had their housing paid for by the corporations that brought them out; they could thus afford to pay top prices for suitable accommodations. Indonesian law forbids property ownership by non-Indonesians so foreigners were forced to sign two to three year leases. In addition, Indonesian landlords demanded and received all of the rent money for the lease period in advance.

Indonesians who had property in Samarinda or had money to invest quickly took advantage of this situation by building the desired type of housing and charging up to US$5,000.00 a month for two to three year leases. Many of these developers took their instant profits and built more "luxury" houses for themselves as well as for the new waves of foreigners, most of whom were employed in the timber industry. A person I informally interviewed typifies what happened to property owners during the luxury housing boom. This man's family owned two small lots adjacent to one of the main roads in town. He borrowed money to build a luxury house on one of the lots and managed to lease it immediately.

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1. This practice of foreigners paying at least a year's rent before even moving into a house is also common in other Indonesian cities, especially in Jakarta.
for three years to a European family that had just arrived. With the profits he made on this one lease, he paid off his debt and built a similar house for himself on the next lot.

Unfortunately, the supply of wealthy foreigners dropped off sharply after 1980 because of the depressed timber market and the fact that foreign experts were not so badly needed now that the timber industry was already firmly established. By 1984, when I was in the city, many of the luxury houses were vacant, and appeared to have been so for quite awhile. The owners of these houses apparently did not want to sign a lease to an Indonesian family at a much lower price because of the chance that foreigners might suddenly come back into the area and need housing. Many of these luxury house owners had already become quite wealthy from their properties and other transactions during the 1970s and thus felt little pressure to rent out their houses.

The property buying market in Samarinda works on a network of social associations. As far as I could tell, no property is advertised for sale in the city's newspapers. Instead, the accepted method is to let it be known through acquaintances that you are either interested in buying or selling some property and then sit back and wait. One old man I talked to wanted to sell his small three bedroom house for US$40,000.00 (which my friends considered a good buy) but had not found a willing buyer in the last six months.
He told me he was in no hurry.

An example of rising land prices in Samarinda was given to me by a young developer. He bought a 4,000 square meter plot of swampland on the outskirts of the city for US$15,000.00 in 1982. Fortunately for him, this area was picked as the site for many new government offices which has helped to drive up land values. After filling in and leveling his lot he expects to sell it for US$60,000.00.

B) TRANSPORTATION: Public transportation in and around Samarinda is almost exclusively by "colt" mini-buses (although there are a few private taxis for hire by the hour or day at some of the "first class" hotels). The mini-buses hold a maximum of ten to twelve passengers and follow a flexible route (within a defined boundary) which is determined by the destinations of the passengers. The "colts" come by every thirty seconds or so along the major roads and cost about twenty cents, regardless of distance travelled. The driver does have the final word on whether or not it is worthwhile going to a particular destination. During peak hours (7 - 8 am and 4 - 6 pm) the mini-buses are packed with passengers.

The mini-buses are privately owned; usually a company will own ten to twenty buses which it keeps operational. The mini-buses in the urban core of Samarinda operate out of a central bus terminal next to the waterfront while those
that run to more rural areas or between cities operate from a terminal across the river in Samarinda Seberang. Individual buses are rented out to drivers on a day by day basis, for between US$9.00 - 11.00 per twenty-four hour period (depending on the condition of the bus).

The mini-buses are playing an increasingly important role in Samarinda as the city continues to expand in area. Most of the city residents cannot afford the high cost of an automobile and so are reliant on mini-buses or use a motorcycle. A 1976 survey showed that there were more than five times as many motorcycles as passenger cars (5,503 to 929) in Samarinda (Monografi Samarinda 1976). Motorcycles are an important means of transportation for those residents who live in urban fringe areas which are not serviced (or only infrequently so) by mini-buses due to poor road conditions and low population densities.

Traditionally, the main mode of transportation in and around Samarinda has been by riverboats and canoes. Large diesel driven riverboats connect Samarinda with small towns and villages along the Mahakam and its tributaries. Small outboard motor-driven canoes take passengers from waterfront kampungs in Samarinda's urban area to points within the urban core. These riverboats and canoes are also used by passengers to transport goods and produce to and from marketplaces in Samarinda. In 1976 over 3,000 boats were
registered in Samarinda but this perhaps less than half of the actual number. Similarly, cargo and passenger estimates are probably underestimated as the majority of berths near Samarinda are privately operated and are ignored in official statistics (Peluso, 1983:160). The riverboats are still the only reliable transportation linkage between Samarinda and its vast hinterland.

The transportation component has grown in volume and area served since the 1960s. As the boundaries of the "urban core" have expanded and as the number of urban residents have increased, the transportation component has become a necessity rather than just a convenience. The "mini-bus" network now plays an integral role in the daily lives of a wide spectrum of urban residents, from students to market vendors.

THE PHYSICAL INFRASTRUCTURE COMPONENT

Prior to 1960 the built-up area of Samarinda extended to the north as far as Jalan Diponegoro, several blocks from the waterfront. Beyond this built-up area was a small rubber plantation owned by the Sultan of Kutai and beyond that was some small plots of mixed agriculture and jungle (see Figure 4.4). After 1960 the area that used to contain rubber trees gave way to kampungs, residential bungalows,
shops, schools, government offices and roads.

The physical growth of Samarinda follows two main channels from the urban core area (Figure 4.6). The first channel is along Jalan Mohammed Yamin to Sempaja in the north and the second is along Jalan Kakatua towards Temindung in the northeast. In addition to these two channels, a smaller channel has recently emerged to the west of the urban core towards Lokbahu, an official transmigration site. The two main growth corridors provide some interesting contrasts.

The growth corridor along Jalan Mohammed Yamin is based, to a large degree, on government investments such as the main campus of the provincial university and the housing estate for the university staff and faculty, many provincial level government offices (for example, Industry, Finance and Immigration), a large government housing estate for upper level government employees, locally referred to as "Vorfo". In contrast, the growth corridor along Jalan Kakatua appears to be based on private investments in "luxury" and middle-class housing. This apparent contrast between government-led versus private-led growth is somewhat misleading because, as I found out when looking for a house

2. I was told this by one of the few middle-aged persons I met who was born and raised in the city.
FIGURE 4.6: Built-up area of Samarinda, 1984.
to rent, some of the "private" investors in the Jalan Kakatua area are high ranking provincial and municipal government officials. Apparently there is a lively land speculation market along these corridors that influential public employees have taken advantage of.

One of the main problems that the rapid growth of these corridors has caused is the lack of adequate public infrastructure. Several of the residential roads in both areas are impassable to vehicles without four wheel drive and become badly flooded whenever there is heavy downpour (at least four times during my stay of two months). Ironically, some of the "luxury" houses in the Jalan Kakatua area have air conditioners but no piped water because the Department of Public Works has not yet extended the city's water lines that far from the urban core.

Most of Samarinda's road and footpath system within the urban area is adequate for the needs of the population. The main primary arterials, such as Jalan Abdul Hasan, Jalan Agus Salim, Jalan Kesuma Bangsa and Jalan Pahlawan, can easily handle four lanes of traffic while the major secondary roads, such as Jalan Diponegoro, Jalan Basuki Rakmat, Jalan Panglima Batur and Jalan Yas Sudarso can handle three lanes (see Figure 4.5). In addition new road building projects are underway in the urban fringe areas. Many of the city's roads, including those recently paved,
are potholed. A survey conducted in the late 1970s estimated that only 20 percent of the municipal roads were in "good shape", 50 percent were in "mediocre" condition and 30 percent were in "bad shape" (FENCO Consultants, 1979:III-4). I was told that the recently improved condition of the city's roads is the result of a visit in 1983 by President Suharto prior to which road repair went on non-stop for two weeks.

The only times when the road system fails completely is when there are floods from heavy rains. Along all the major roads are large sewage canals that should act as effective drains during rainstorms but they are poorly planned and often become quickly clogged with debris that is thrown into them when they are not filled (FENCO Consultants, 1979:III-6). Water levels on the main roads (which can be up to two feet after a particularly heavy rain) usually drop within a few hours after the rain has stopped but other areas of the city, especially those in slight depressions, sometimes remain flooded for days. Floods in Samarinda will continue to be a problem, despite occasional improvements to the sewage canals, simply because of the severity of local downpours (several inches within a few hours is not uncommon).

A much heralded and relatively successful physical infrastructure project carried out in the 1970s and
early 1980s was Samarinda's Kampung Improvement Project. The Kampung Improvement Project is a national government funded project to improve urban kampungs by building paved sidewalks and supplying simple drainage lines to areas off of main roads. In Samarinda the project was centered on the urban core area which was densely populated and had only rudimentary infrastructure.

The biggest public infrastructure project that the city is undertaking is the construction of a bridge that will span the Mahakam River (to be completed by July 1985), thereby linking Samarinda with the main road to Balikpapan. Presently transportation between the urban core of the city, in Samarinda Ilir and Samarinda Ulu, and the other main urban area, in Samarinda Seberang, is limited to a fleet of riverboats that criss-cross the river at frequent intervals. Some of these boat operators will probably be driven out of work as the public mini-bus system extends over the bridge. The bridge will also prevent large ships from going further up the Mahakam so sawmills and coal plants located above the bridge will have to transport their goods to a point below the bridge before they can be loaded.

Another big public works project is the construction of a paved road from Samarinda north to Bontang, where a large liquid natural gas and a fertilizer plant have been built.
Bontang, once a rural kampung of 2,000 is now a town of over 25,000 thanks to its gas fields. The only present connection between Samarinda and Bontang is by four wheel jeep, boat or helicopter.

Samarinda's shipping is handled by four wharves and over 1,000 laborers. The largest is for inter-island and international shipping, the second is for intra-provincial shipping along the coast and the Mahakam river, and the last two are for assorted "local" boats. The first two wharves have large warehouses and specialize in bulk cargo while the latter takes mostly passengers and their belongings. Vessels up to 10,000 DWT can be accommodated by the port. The river, however, requires annual dredging to maintain its depth (T.A.D. Report No. 7, Transportation:36) Future plans for shipping in the area include the construction of a modern wharf downriver on the coastal delta.

The other main transportation infrastructure is the airport. Twice daily a Merpati Airlines flight leaves the city for Balikpapan but most of the users of the airport are non-commercial planes. The Missionary Air Service, for example, uses Samarinda's airport as its provincial base for flights into interior Dayak villages (the larger of which

3. There is some controversy about this road because it will go through a nature reserve area but this will probably not affect its completion.
have crude landing strips) and the German TAD group has a plane docked there. Other occasional users include a few of the timber companies. In general, though, the airport is underutilized considering the size of the city and its role as provincial capital.

THE EMPLOYMENT AND ENTREPRENEURIAL ACTIVITIES COMPONENT

Samarinda's entrepreneurial activities cover the whole spectrum of economic scales, from large modern plywood factories to makeshift stalls selling bananas. The data on these enterprises is collected sporadically. Even for formal sector activities, such as plywood factories, it is difficult to estimate basic economic factors such as labor demands because some of the factories are located just outside of the municipality boundaries (but hire workers who live within the city) or else do not report the number of employees to the municipal government. "Informal" sector enterprises are so often temporary and dispersed that the municipal government's ability to account for their activities is also questionable. Thus, the tables I use here should be taken as relative indicators of change. In actuality the data here probably underestimate both the number of enterprises within the city and the number of persons employed by those enterprises.
Samarinda's most significant entrepreneurial activity is the timber industry. As of 1984, nineteen plywood factories and twenty-seven sawmills are centered in and around the Municipality of Samarinda (see Figure 4.7 for some of their locations). The earliest plywood factory was built in 1978, another was added in 1979, and the remaining seventeen between 1980 and 1982. In contrast, the earliest sawmill was built between 1974, with another five added before 1980. The busiest year of construction for both plywood factories and sawmills was 1981 when eight plywood factories and nine sawmills were built (mimeograph sheets, Dinas Kehutanan Propinsi Daerah Tingkat I, Kalimantan Timur). The increase in construction of plywood factories and sawmills in the early 1980s coincides with the imposition of national government quotas on the export of raw logs (Daroesman, 1979:48-50).

I was not able to determine how many people living in Samarinda were currently employed by the plywood factories and sawmills. A large factory, such as Georgia-Pacific's, might employ several hundred factory workers (most of whom, I was told, were women), while a small sawmill might only employ a dozen men. In 1981 approximately 5,092 workers were employed but this figure only represents a portion of the current potential employment capacity since most of the factories and sawmills were built during and after this year (Kotamadya Samarinda Dalam Angka 1981: table VI.1.6). Even
FIGURE 4.7: Locations of sawmills, plywood factories, and other industries in urban area of Samarinda. (Source: mimeographed map by BKPMD, Kal Tim; types of industries and locations checked with staff of BAPPEDA, Tingkat II, Samarinda).
with this qualification, 5,092 workers represents a substantial increase from the 723 workers classified as being in the timber industry in 1971 (Statistik Tahunan Kota Samarinda 1973): table 2.5-2.12).

Samarinda's growing involvement with the timber industry is paralleled by the increase in exports and imports to and from the city's docks (see Table 4.4). The role of the city as a transshipment point of natural resources from the province's interior is highlighted by the lopsided dominance of exports over imports. Although both exports and imports increased greatly during the 1970s, the volume percentage of imports over combined imports and exports in 1981 was barely one percent. This is not an accurate portrayal of their relative importance, however, because exports were dominated by raw logs which have a relatively low value per unit while imports were dominated by machinery and finished goods which have a relatively higher value per unit. There is some evidence that in 1981 (the year when many factories and sawmills were being built), the value of imports actually surpassed the value of exports due to the import of required machinery and the forced reduction of log exports (Statistik Indonesia 1982).

The official data on the value of exports and imports is so erratic and at variance with other variables that I could not use it as a reliable indicator. For example, in
**TABLE 4.4**

VOLUME OF EXPORTS AND IMPORTS
FROM PORT OF SAMARINDA
( X 1000 metric tons )

<table>
<thead>
<tr>
<th></th>
<th>TOTAL EXPORTS</th>
<th>TOTAL IMPORTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1969</td>
<td>1,219.5</td>
<td>6.1</td>
</tr>
<tr>
<td>1970</td>
<td>1,840.6</td>
<td>14.3</td>
</tr>
<tr>
<td>1971</td>
<td>2,250.7</td>
<td>15.3</td>
</tr>
<tr>
<td>1972</td>
<td>3,233.0</td>
<td>19.4</td>
</tr>
<tr>
<td>1973</td>
<td>4,723.0</td>
<td>37.6</td>
</tr>
<tr>
<td>1974</td>
<td>4,652.5</td>
<td>25.4</td>
</tr>
<tr>
<td>1975</td>
<td>4,025.0</td>
<td>26.1</td>
</tr>
<tr>
<td>1976</td>
<td>6,873.7</td>
<td>18.0</td>
</tr>
<tr>
<td>1977</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>1978</td>
<td>15,732.9</td>
<td>31.7</td>
</tr>
<tr>
<td>1979</td>
<td>12,353.5</td>
<td>26.9</td>
</tr>
<tr>
<td>1980</td>
<td>9,894.5</td>
<td>145.7</td>
</tr>
<tr>
<td>1981</td>
<td>12,711.2</td>
<td>143.3</td>
</tr>
</tbody>
</table>

1981 exports from Samarinda are said to have been US$14.7 million with imports US$343.7 million compared to exports of US$1,440.0 million and imports of US$32.6 in 1978. A reversal of this magnitude in three years seems unlikely. In addition, export volume only decreased by 19.2 percent, compared to the above value decline of 99.0 percent during the same period.

An overview of Samarinda's labor force shows that employment in all major economic sectors rose greatly in the late 1970s (Table 4.5). The largest absolute increase was in farming but this was probably due to the in-migration of farmers to non-urban areas in the municipality. Of urban oriented sectors, industry, trade and construction showed the biggest increases. This trend confirms other observations about this time period, such as the increase in log exports, the new demand for luxury houses and plywood factories, and the increased wealth of the local population (which would stimulate local trading activities).

Another indicator of the boom in Samarinda's entrepreneurial activities is the rise in the number of trading enterprises; from 147 registered traders in 1967 to 1,407 in 1979, an almost ten-fold increase (see Table 4.6). This general trend of increasing commercial activity is probably the result of the increased buying ability of the local population (which is most likely due to the multiplier
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Farming</td>
<td>10,878</td>
<td>12,370</td>
<td>15,540</td>
<td>20,399</td>
</tr>
<tr>
<td>Mining &amp; Quarrying</td>
<td>1,075</td>
<td>1,223</td>
<td>1,536</td>
<td>2,016</td>
</tr>
<tr>
<td>Industry</td>
<td>8,718</td>
<td>9,913</td>
<td>12,453</td>
<td>16,348</td>
</tr>
<tr>
<td>Electricity, Gas &amp; Water</td>
<td>1,713</td>
<td>1,948</td>
<td>2,448</td>
<td>3,213</td>
</tr>
<tr>
<td>Construction</td>
<td>7,592</td>
<td>8,633</td>
<td>10,846</td>
<td>14,237</td>
</tr>
<tr>
<td>Trade</td>
<td>8,230</td>
<td>9,359</td>
<td>11,757</td>
<td>15,434</td>
</tr>
<tr>
<td>Transport &amp; Communication</td>
<td>2,316</td>
<td>2,634</td>
<td>3,309</td>
<td>4,344</td>
</tr>
<tr>
<td>Banking &amp; Finance</td>
<td>2,095</td>
<td>2,383</td>
<td>2,993</td>
<td>3,929</td>
</tr>
<tr>
<td>Others</td>
<td>7,630</td>
<td>8,674</td>
<td>10,896</td>
<td>14,305</td>
</tr>
<tr>
<td>Total</td>
<td>50,247</td>
<td>57,137</td>
<td>71,778</td>
<td>94,225</td>
</tr>
</tbody>
</table>

% Growth in Workforce: 14, 26, 31

TABLE 4.6
TRADING ENTERPRISES IN MUNICIPALITY OF SAMARINDA
BY SIZE CLASSIFICATION

<table>
<thead>
<tr>
<th></th>
<th>SMALL TRADERS</th>
<th>MEDIUM TRADERS</th>
<th>LARGE TRADERS</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1967</td>
<td>77</td>
<td>49</td>
<td>21</td>
<td>147</td>
</tr>
<tr>
<td>1969</td>
<td>96</td>
<td>64</td>
<td>29</td>
<td>189</td>
</tr>
<tr>
<td>1971</td>
<td>209</td>
<td>67</td>
<td>76</td>
<td>352</td>
</tr>
<tr>
<td>1973</td>
<td>520</td>
<td>217</td>
<td>120</td>
<td>857</td>
</tr>
<tr>
<td>1975</td>
<td>730</td>
<td>210</td>
<td>101</td>
<td>1,041</td>
</tr>
<tr>
<td>1977</td>
<td>346</td>
<td>208</td>
<td>149</td>
<td>703</td>
</tr>
<tr>
<td>1979</td>
<td>348</td>
<td>608</td>
<td>451</td>
<td>1,407</td>
</tr>
<tr>
<td>1981</td>
<td>1,014</td>
<td>809</td>
<td>367</td>
<td>2,190</td>
</tr>
</tbody>
</table>

Note: I was unable to determine from official publications the criterion for the different size classifications but I was told that "small" refers to 0-5 employees, "medium" to 6-15 employees, and "large" to more than 15 employees. Source: years 1967 - 1977, Monografi Kotamadya Daerah Tingkat II, Samarinda 1978: table XII.1.3; year 1979, Monografi Kotamadya Daerah Tingkat II, Samarinda 1979: table XII.1.1.
effect of the timber industry). An interesting aspect of this rise in trading activities is the apparent increase of medium and large traders at the expense of small traders in 1977 and 1979. The relatively slow growth of small firms, however, might be due to the lack of official data on small enterprises, which are harder to keep track of than larger enterprises, or the possibility that some small firms became medium or large firms during this period.

A division of Samarinda's urban area into its three kecamatan illustrates the distribution of urban-oriented industrial enterprises (Table 4.7). Samarinda Ulu and Samarinda Ilir, the two kecematans which encompass the urban core, have the majority of enterprises and laborers. The labor demands of the plywood and veneer factories dominate the industrial work force in both kecematans, despite there being only one factory in each. These two factories account for the major increase in industrial employment in the urban area with a combined employment of 2,844 in 1980 out of a registered total of 3,554.

Changes in the "informal" sector of the city's economy are much more difficult to determine. Some people in the urban core and in the market place buy and sell foodstuffs on a daily basis, while others sell a small selection of cheap goods out of a portable case or work as daily laborers. Some residents in the city that I talked to had
<table>
<thead>
<tr>
<th>YEAR</th>
<th>ENTERPRISES</th>
<th>WORKFORCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1973</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>1973</td>
<td>12</td>
<td>58</td>
</tr>
<tr>
<td>1975</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>1975</td>
<td>11</td>
<td>68</td>
</tr>
<tr>
<td>1977</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>1977</td>
<td>12</td>
<td>483</td>
</tr>
<tr>
<td>1979</td>
<td>1</td>
<td>1</td>
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<tr>
<td>1979</td>
<td>12</td>
<td>160</td>
</tr>
<tr>
<td>1980</td>
<td>1</td>
<td>6</td>
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<tr>
<td>1980</td>
<td>16</td>
<td>1600</td>
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<td>1973</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>1975</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>1975</td>
<td>11</td>
<td>4</td>
</tr>
<tr>
<td>1977</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>1979</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>1980</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>1980</td>
<td>497</td>
<td>1244</td>
</tr>
<tr>
<td>1973</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>1975</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1975</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>1977</td>
<td>1</td>
<td>11</td>
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<tr>
<td>1979</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>1980</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>1980</td>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>

**TABLE 4.7**

**DISTRIBUTION OF ENTERPRISES AND WORKFORCE WITHIN URBAN AREA OF MUNICIPALITY OF SAMARINDA**

<table>
<thead>
<tr>
<th>MILLS</th>
<th>VENEER &amp; PLYWOOD</th>
<th>PRINTING</th>
<th>REPAIR SHOPS</th>
<th>BOAT REPAIR</th>
<th>ICE MAKING</th>
<th>OTHERS</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1600</td>
<td>1600</td>
<td>1600</td>
<td>1600</td>
<td>1600</td>
<td>1600</td>
<td>1600</td>
<td>1600</td>
</tr>
</tbody>
</table>

**SOURCE:** mimeographed sheets, Kantor Statistik, Kotamadya Samarinda.
more than one job. One resident, for example, worked part-time as a waiter in one of the hotels and part-time as a bartender in another. Another resident, a Dayak from upriver, went to school part-time and then spent the rest of his hours making "authentic primitive handicrafts". After having studied the available employment and entrepreneurial data on Samarinda, I doubt if more than a small fraction of these "informal" sector activities is accounted for. Nonetheless, the number of persons engaged in "informal" activities probably outnumbers those in "formal" activities, especially among recent in-migrants.

Wages for most workers, whether in the formal or informal sector, are generally low (but probably still higher than other parts of Indonesia). In 1976 the average wage in the province was about US$41.00 per month versus a national average of about US$9.50 (Daroesman, 1979:76-77). From my discussions of urban wages with residents, it would seem that incomes have not increased since 1976 and might have even decreased in real value. A month's wages for a semi-skilled motorcycle mechanic, for example, is about US$30.00 plus a "free lunch" of rice and vegetables and free cigarettes. Day laborers make between 80 cents and US$1.25 per day, depending upon age, sex and strength. Even college educated government officials rarely make more than US$75.00 per month, although they also receive a monthly allotment of rice and senior level officials are given a small house in
one of the government housing project.

Another aspect of Samarinda's economy that is difficult to quantify is the role of the Chinese. Chinese economic associations (arisan) and closely knit business alliances (kongsi) clearly played an important role in the early timber boom and in the forest products trade in the 1960s and 1970s (Peluso, 1983:151-155). My observations of the "downtown" area would also suggest that ethnic Chinese play a dominant role in the city's import/export businesses and in the wholesaling and retailing of nearly all consumer goods.

THE LOCAL GOVERNMENT COMPONENT

The local government components for the two municipalities of Samarinda and Balikpapan are similar. I will thus discuss the role and function of the municipal government within the provincial and national governments only once and will concentrate my discussion of both components on some of their individual characteristics. Unlike other provinces where all government activities are centered in the provincial capital, East Kalimantan has some key government activities located in Balikpapan rather than Samarinda.

The government hierarchy in Indonesia is based on a firmly established chain of command. All development plans
and implementation strategies are determined by a "top-down" orientation. Requests for government action are passed up the administrative hierarchy and funding and approval, or no funding and disapproval, are passed down. Appointments for key government positions are usually decided by the head of the next higher authority. This "top-down" orientation makes for a highly centralized government system, despite the stated decentralization goals of the national government's recent Repelita III. A simple flow chart of administrative authority illustrates the "top-down" nature of government decision-making:

President of the Republic (Republik) ↓
Governor of the Province (Propinsi) ↓
Mayor of Municipality/Regency (Kotamadya/Kabupaten) 1↓
Chief of District/Unchartered City (Kecematan/Kota Administratif) 2↓
Chief of Village/Neighborhood (Desa/Kelurahan) 3↓
Various village societies (Rukun Tetangga, Rukun Warga, Rukun Lingkungan) 4↓

1. East Kalimantan has four kabupaten and two kotamadya.
2. The only Kota Administratif in East Kalimantan is the small city of Tarakan which will soon become a municipality.
3. The major difference between the kelurahan and the desa is that the chief of the former is appointed and the latter is elected. Samarinda has 49 kelurahan and only 3 desa.
4. These village level organizations are not well established in East Kalimantan.
The main counter-balance to the centralized orientation of the government administration are the representative bodies (Dewan Perwakilan Rakyat Daerah - DPRD) that sit at both the provincial and the kabupaten/kotamadya levels. The representative assemblies have both elected and appointed members; their job is to approve all development budgets and ensure that "the interests of the people" are carried out. Rarely, however, does the assembly go against the wishes of the government administration.

A hypothetical example of how development funds are approved will help to illustrate the government decision-making process at work in the municipalities of Samarinda and Balikpapan. If a village (desa or kelurahan) within a municipal district (kecamatan) decides that it needs a new road, the village headman (Pak Lurah) must first write up a formal proposal, along with a budget, which he submits to the kecamatan office. The kecamatan then comments on the proposal, disapproves or approves it, and passes it, along with the proposals of other villages, to the planning office (BAPPEDA, Tingkat II) of the kotamadya/kabupaten. This planning office investigates the proposals, ranks them according to guidelines outlined under a program called Konsultasi Interim Bappeda (KIB), and submits them all to the provincial planning office (BAPPEDA, Tingkat I). At this point the size of the project determines what happens to it. The province can fund, under its own
authority, a proposed project if the project budget is under a designated level, about US$100,000, but this figure changes. If the project costs more than this the review process carried out at the lower levels is repeated and the proposals are submitted to the national planning board (BAPPENAS) which checks to see that there are no irregularities and that the proposals coincide with national development objectives. If the village road proposal makes it past this stage, and theoretically it can be denied at any level, it is sent to the Ministry of Finance which releases funds through different channels, such as Instruksi Presiden (InPres) and Bantuan Desa (BanDes), either to the provincial government or to the appropriate kabupaten or kotamadya. The province or the kabupaten/kotamadya is then responsible for contracting out the project to a private firm. The BAPPEDA office coordinates the funding of the project while other departments, such as Pekerjaan Umum (Public Works), oversee the actual implementation. All projects must be completed within two years or the funding is rescinded. If all goes well, the processing time at each level only takes one or two months and the whole process can be completed in about a year. Most large projects, however, take somewhat longer.

5. I learned about this process from an official in the BAPPEDA, Tingkat II office.
The 1970s saw a major increase in the size and budget of Samarinda's municipal government. The number of municipal government employees (as opposed to provincial or national government employees) almost doubled from 668 in 1976 to 1,236 in 1981 (Monografi Kotamadya Samarinda Dalam Angka 1976: table II.3; Statistik Keuangan Pemerintah Daerah Tingkat II). Less than half of the employees in 1981, however, were actual civil servants, the majority of employees on the payroll were "honor" officials (545 to 691).

The budget of the municipality increased dramatically between 1969 and 1983 (see Table 4.8). Total income from different sources increased from about US$0.38 million in the fiscal year 1969/70 to US$8.40 million in 1982/83. Total expenditures went from US$0.10 million in 1969/70 to US$7.25 million in 1982/83. Interestingly, every year there was a budget surplus that increased along with the size of the budget. Less than 65 percent of the budget was designated for development-type activities, such as providing clean drinking water or sewage treatment, with the remainder going to routine activities, such as the government payroll.

During the 1970s the municipal government income increasingly relied upon subsidies from provincial government sources (Table 4.9). Municipal sources increased
TABLE 4.8

MUNICIPALITY OF SAMARINDA
GOVERNMENT BUDGET
(in million US dollars)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1969/70</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.38</td>
<td>0.10</td>
<td>0.16</td>
<td>0.26</td>
</tr>
<tr>
<td>1971/72</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.61</td>
<td>0.31</td>
<td>0.14</td>
<td>0.45</td>
</tr>
<tr>
<td>1972/73</td>
<td>0.62</td>
<td>0.94</td>
<td>1.56</td>
<td>0.50</td>
<td>1.02</td>
<td>1.52</td>
<td>0.04</td>
</tr>
<tr>
<td>1975/76</td>
<td>0.81</td>
<td>1.27</td>
<td>2.08</td>
<td>0.98</td>
<td>1.06</td>
<td>2.04</td>
<td>0.04</td>
</tr>
<tr>
<td>1977/78</td>
<td>1.44</td>
<td>2.44</td>
<td>3.88</td>
<td>1.35</td>
<td>2.22</td>
<td>3.58</td>
<td>0.30</td>
</tr>
<tr>
<td>1979/80</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1981/82</td>
<td>3.17</td>
<td>4.41</td>
<td>7.58</td>
<td>2.96</td>
<td>3.30</td>
<td>6.26</td>
<td>1.33</td>
</tr>
<tr>
<td>1982/83</td>
<td>3.19</td>
<td>5.21</td>
<td>8.40</td>
<td>3.14</td>
<td>4.11</td>
<td>7.25</td>
<td>1.15</td>
</tr>
</tbody>
</table>

NOTE: All figures have been converted into US dollars from Indonesian rupiahs according to yearly exchange rates. Dashes in the table represent data which were not obtained. Sources: years 1969/70 - 1977/78, Monografi Kotamadya Samarinda Dalam Angka 1978: tables X.1, X.2; years 1981/82 and 1982/83, mimeographed sheets, Statistik Keuangan Pemerintah Daerah Tingkat II, Kotamadya Samarinda.
### TABLE 4.9

**SOURCES OF GOVERNMENT INCOME IN MUNICIPALITY OF SAMARINDA**

(in millions of US dollars)

<table>
<thead>
<tr>
<th>Year</th>
<th>Municipal Funds</th>
<th>Cent. Govt. Subsidy</th>
<th>Subsidy by loan</th>
<th>Subsidy by Prov. Govt.</th>
<th>Cent. Govt. Bank Loan</th>
<th>Foreign Bank Loan</th>
<th>Total Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>1969/70</td>
<td>0.22</td>
<td>-</td>
<td>0.08</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.30</td>
</tr>
<tr>
<td>1971/72</td>
<td>0.28</td>
<td>-</td>
<td>0.24</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.52</td>
</tr>
<tr>
<td>1973/74</td>
<td>0.51</td>
<td>-</td>
<td>1.05</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1.56</td>
</tr>
<tr>
<td>1975/76</td>
<td>0.84</td>
<td>-</td>
<td>1.23</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2.07</td>
</tr>
<tr>
<td>1977/78</td>
<td>1.01</td>
<td>0.14</td>
<td>1.77</td>
<td>0.67</td>
<td>-</td>
<td>-</td>
<td>3.60</td>
</tr>
<tr>
<td>1979/80</td>
<td>1.13</td>
<td>-</td>
<td>1.66</td>
<td>0.04</td>
<td>-</td>
<td>-</td>
<td>2.84</td>
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<td>1981/82</td>
<td>1.70</td>
<td>0.03</td>
<td>1.70</td>
<td>0.49</td>
<td>0.52</td>
<td>-</td>
<td>4.45</td>
</tr>
<tr>
<td>1983/84</td>
<td>1.39</td>
<td>-</td>
<td>2.00</td>
<td>0.02</td>
<td>0.13</td>
<td>-</td>
<td>3.54</td>
</tr>
</tbody>
</table>

**NOTE:** Dashes in the table represent zeroes. The Central Government funds spent in the municipality of Samarinda were under the Instruksi Presiden (Inpres) program. Foreign bank loans were used to improve footpaths and drainage canals in urban kampungs (the Kampung Improvement Program). Source: Mimeographed sheet produced by BAPPEDA, TK. II, Kotamadya Samarinda, October 1984.
in absolute terms but decreased in proportion to the other sources. For example, municipal funds accounted for about 73 percent of the total municipal income in the fiscal year 1969/70 but only 40 percent in 1979/80. The growing dependency upon provincial government funds highlights the increasing inability of the municipal government to generate enough revenue to pay for public works projects required by a growing urban population.

In the early 1970s a group of "planners" from Gajah Mada University in Java wrote a Master Plan for Samarinda. This plan attempted to set up guidelines for future land use in the urban area. Unfortunately, the plan did not correctly assess the economic changes or population increases in the city. The land use designations were virtually ignored by developers, as well as by the government (which owns large tracts of land in the urban fringe). In addition, the local planning office lacked the manpower to implement the plan or the political authority to enforce it (FENCO Consultants, 1979:II-17).

6. The municipal budget figures in Table 4.8 and Table 4.9 do not correspond because different government sources were used.
THE QUALITY OF LIFE COMPONENT

The quality of life component is perhaps the most tenuous and subjective of all the components described here. I have tried to confront this problem by focussing on specific indicators such as the cost of basic staples, availability of adequate health care, and access to drinking water and sanitation facilities. In this objective I have been only partially successful as the data available is such that I can only give brief sketches of the indicators. The term "quality of life" here is not meant to be to used in the context of an improvement or worsening in lifestyles; I am only interested in documenting the changes that have taken place, not in commenting whether the changes are good or bad.

The public health care system within the municipality seems to be well organized. As of 1983 there were five hospitals, ten clinics, thirteen mother-child health centers (where nutrition and basic child care is monitored and taught to mothers), seven pharmacies and fifteen small stores that sell non-prescription drugs. These facilities are very basic but appear to be adequate. Many doctors work in government hospitals or clinics in the daytime (7:30 a.m. to 2:30 p.m.) and then work in their own practices in the evenings (five p.m. to nine p.m.). Medical costs to patients (except for drugs) is free in government health
facilities. Between 1970 and 1981 the number of major health facilities (hospitals and clinics) within the urban area increased from five to fifteen; all but two of these facilities are located in the urban core within the kecematans of Samarinda Ilir and Samarinda Ulu (Monografi Kotamadya Samarinda Dalam Angka 1975: table XIX.1.2; Monografi Kotamadya Samarinda Dalam Angka 1981: table IV.2.1).

In addition to the western health system, there is an informal network of traditional health practitioners who sell herbal medicines (jumu). Every morning ladies travel throughout the city selling "health tonics" which are drunk as a preventative of ill health (such as fatigue, indigestion, and menstrual cramps) by residents in all walks of life. Most residents I talked with see no conflict of interest between traditional jamu and western medicines.

One of the major public health crises I heard about while I was in Samarinda was an outbreak of cholera in 1983. The ten-month drought in that year reduced the water level and flow of the Mahakam River and its tributaries. Many people in the poorer areas of the city rely upon the water system for drinking water, sewage and bathing. The low water levels and flow rates meant that diseases with high risk of contamination, such as cholera, could spread quickly. I heard that there were over 700 cases, at least
Another problem caused by the drought and the accompanying forest fires was a rise in the number of malaria cases in the area. The absence of absorptive ground cover in newly cleared agricultural lands around the urban area and the lack of hard rains (to flush out the bodies of water) left stagnant pools which proved to be ideal breeding grounds for malaria-carrying mosquitos.

The city sanitation system is rudimentary. Households are responsible for collecting refuse and depositing it in cement bins located at intervals along the main roads. Every few days a garbage truck collects the refuse and takes it to a dump on the outskirts of town. In addition, there are numerous garbage bins within the urban core but these fill up rapidly and are often overfilled. Some litter and refuse is dumped in rain gutters, sewage canals or in open space which prevents water from running off and contributes to the rapid flooding in the city.

The city's growing population is creating a potentially serious health risk, the disposal of human wastes. Only 30 percent of the households in the municipality have their own septic tanks, 48 percent share some type of public waste

---

7. I learned of this epidemic second hand from a European who knew a local doctor in one of the hospitals. The government, as far as I know, chose not to document this outbreak.
facility, and 22 percent do not use any type of waste disposal system (Penduduk Propinsi Kalimantan Timur: table 49.3). Local soil conditions hamper the effective disposal of excreta which often end up, untreated, in the city's already burdened drainage system (FENCO Consultants, 1979:III-12). As population densities in the urban core area increase, there will be greater pressure on the carrying capacities of the urban sanitation system.

There are four main sources of drinking water within the city, rivers, private wells, city water mains and collected rainfall. Most of the people who live along the rivers use it for all of their water needs. Poorer households within kampungs off of the main roads share wells while better off households usually have their own wells. Houses along the main roads usually have piped water from the city mains, although some "luxury" houses on the outer fringes of the city sometimes are without any regular supply of water. Small, isolated homesteads away from the urban area or rivers collect rainwater in a variety of ways. The greatest single source of drinking water in the municipality is the river, which is used by 38 percent of all households, followed by piped water (29 percent) and wells (27 percent) (Penduduk Propinsi Kalimantan Timur: table 46.3).

The problem with using access to drinking water and sanitation as indicators of "quality of life" is that they
are difficult to document, especially over a period of time. The cost of basic food stuffs such as rice and salted fish as indicators are much easier to quantify (Table 4.10). The price of uncooked rice (beras) went from about twelve cents a liter in 1971 to about thirty-three cents a liter in 1981. Similarly, the cost of salted fish (ikan asin) went from sixty-three cents a liter to two dollars. The reason that the price of rice did not rise as rapidly as that of salted fish can be attributed to the national government controls over the rice market. In contrast to these basic staples, some local produce has remained at a very low price due to a high supply from the growing number of near-subsistence farmers in the area. A small bunch of bananas, for example, cost about twenty cents, almost the same as it did ten years ago, according to a long-term resident.
**TABLE 4.10**

PRICE OF BASIC STAPLES IN MUNICIPALITY OF SAMARINDA (in US dollars per liter)

<table>
<thead>
<tr>
<th>Year</th>
<th>UNCOOKED RICE</th>
<th>SALTED FISH</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971</td>
<td>0.12</td>
<td>0.63</td>
</tr>
<tr>
<td>1973</td>
<td>0.29</td>
<td>0.58</td>
</tr>
<tr>
<td>1975</td>
<td>0.29</td>
<td>1.05</td>
</tr>
<tr>
<td>1977</td>
<td>0.34</td>
<td>0.83</td>
</tr>
<tr>
<td>1979</td>
<td>0.29</td>
<td>1.02</td>
</tr>
<tr>
<td>1981</td>
<td>0.38</td>
<td>2.29</td>
</tr>
</tbody>
</table>

Note: All figures have been converted into US dollars from Indonesian Rupiahs based on yearly conversion rates. Source: Kotamadya Samarinda Dalam Angka 1981: table IX.4.1.
CHAPTER FIVE

BALIKPAPAN

'Where and what is Balik Papan?' is a question with which I would undertake to puzzle examinees in any country. Yet, it is going to be, if it is not already, the chief source of power and light in the East. It is the true Oriental oleopolis. Here, as we lie at the wharf, less than a degree south of the Equator, our steamer is getting filled with oil at the rate of a hundred tons an hour. Two or three coolies made the connections, and through the ten-inch tube the green fluid, which they used to run into a hole and burn, is silently and inoffensively storing the bunkers of the Van Kloom, a steamer of 4000 tons, with enough fuel, not only to take her two months' round, but to supply other steamers that call at Batavia, but do not call here... It [Balikpapan] is now a town of oil tanks, refineries, and wharfs stretching a mile along the beautiful bay, the largest steamer being able to tie up and fill with fuel from the pipes, whilst in an adjacent bay are the old native village, and the residence of the 8000 coolies--Hindu, Javanese, Bugis, Malays--who do the work of the place, whilst the 200 Europeans superintend them. -- Brown, 1914: 41-2

In many ways Balikpapan is not one but two cities. The first "city" consists of crowded kampongs and pot-holed roads lined with two-storey shophouses. This "city" is where most of Balikpapan's population lives and works. The other "city" consists of spacious bungalows and well-maintained asphalt streets leading to modern industrial
complexes. This other "city" is where Balikpapan's economy has been integrated into the world economy. Balikpapan's two "cities", in a general sense, can be thought of as representing a classical dualistic society because they do meet the criteria of being two maturing social systems, seemingly distinct from each other, yet co-existing within the same locale (Boeke, 1953: 3). Balikpapan's two "cities", however, are more complex than this model allows as their socio-economic histories are intimately intertwined with each other.

GEOGRAPHY AND HISTORY

The municipality (kotamadya) of Balikpapan is located around its namesake, Balikpapan Bay and is surrounded to the north, south and west by the regencies (kabupaten) of Pasir and Kutai and the municipality (kotamadya) of Samarinda (Figure 5.1). The municipality consists of four districts (kecamatan), Balikpapan Barat, Balikpapan Timur, Balikpapan Utara and Balikpapan Seberang and has a total area of 2,560 square kilometers. Balikpapan's terrain is flat immediately adjacent to the bay but becomes very hilly only a few hundred yards inland.

Until the late 1890s, Balikpapan was little more than a small Bugis fishing village. There is some evidence that
FIGURE 5.1: Districts (Kecamatan) of Municipality (Kotamadya) of Balikpapan.
the village engaged in some coastal trade of bird's nest (sarang burung). A map of 1724 shows a place called "Bilipapan" at the site of the present city. The name "Balikpapan", according to one story, comes from an offering in the mid-1700s of wood planks (papan) by local villagers to the Sultan of Kutai for the construction of a new palace. The planks were floated up to the Sultan's palace by sea but some of the planks mysteriously returned (balik) to their place of origin. The village of Balikpapan fell under the exclusive jurisdiction of the Kingdom of Kutai until the mid-1850s when the Dutch colonial administration, which had established a Resident in the town of Banjarmasin (located in South Kalimantan) and an assistant-resident in Samarinda, began to take an interest in the region.

The discovery of oil near Balikpapan radically changed the economy and social structure of the village. Oil drilling began in 1897 and was soon followed by the construction of a small refinery and some factories. The Bataafsche Petroleum Mij (BPM) made the village of Balikpapan its headquarters for petroleum-related activities in the area and imported skilled laborers, engineers and managers from other parts of the archipelago. Other multi-national companies soon came to Balikpapan to take

1. This historical information has been translated from an unpublished paper in Bahasa Indonesia written by Drs. M. Soehondo, Sekratarius, Kotamadya Balikpapan.
advantage of the rich natural resources, such as *Nederlandsch Indische en Handelmaatchappij*, which was beginning to mine coal, and Samuel and Company, which was involved in oil drilling (Soehondo, 1983:16).

In 1899 Balikpapan became an official administrative unit, *Havendepartement Balikpapan*. The following year, the Sultan of Kutai sectioned off an area of land adjacent to the bay and turned it over to the Dutch who built on it a new wharf and headquarters for the Port of Balikpapan *Gedung Kantor Pelabuhan Balikpapan*. Other building activities included godowns (warehouses), residences for dockworkers, bungalows for European engineers and managers, administrative offices, and a variety of small stores (Soehondo, 1983: 18).

Balikpapan continued to grow in size and importance to its Dutch managers throughout the interwar period. The outbreak of World War Two ended the Dutch control of the region's resources and their presence in Balikpapan. Japanese Armed Forces controlled the port and its valuable energy-resources until 1945 when it was taken back by Dutch and allied forces. The refineries and storage tanks in and around Balikpapan were heavily damaged during the war and the Dutch were forced to invest heavily in restoring the productive capacity of the refineries in the post war period. Dutch reconstruction efforts, though, were
disrupted by Indonesia's war of independence that ended in the withdrawal of Dutch colonialists for the second time in a decade (Petunjuk Perdagangan dan Industri Kotamadya Balikpapan).

Although the Dutch colonial rulers were no longer in power, in Balikpapan the city still was under the influence of the Dutch-English multinational corporation, Royal Dutch Shell, which operated the refineries until the mid-1960s. A large portion of the city area was owned and administered by the petroleum industry (Figure 5.2). In 1966 the Indonesian government-owned petroleum company, Pertamina, bought Shell's operations in Balikpapan and kept direct control over land holdings in the city. Balikpapan soon became Pertamina's Unit IV regional headquarters.

In the early 1970s foreign petroleum companies such as Total, Union Oil and Roy M. Huffington Company, were given exploration and drilling rights in the East Kalimantan area. These companies made Balikpapan their base of operations and brought in hundreds of foreign petroleum experts to work and live in the city. The rapid growth of oil production in East Kalimantan during the 1970s led to a substantial expansion of Pertamina's Balikpapan refinery which, although only running at about 60 percent capacity, has made Balikpapan one of the principal oil refining centers of Asia and a rival to more established refining
FIGURE 5.2: Urban core of Municipality of Balikpapan land use pattern.
centers, such as Singapore (Kulkarni, 1984:91). These recent
developments in Balikpapan's petroleum industry have
generated some major effects on the city's urban
subsystems.

Balikpapan's colonial and multi-national history has
been rather dramatically summarized in the following terms:

Within a few years, the Amalgamation [the
Royal Dutch Company and Shell] raised Balik
Papan...to the status of oil metropolis and most
important factory town of the Netherlands
Indies...the Amalgamation, which elevated Balik
Papan to the position of oil capital of the
Archipelago, degraded the Archipelago from an
independent region of production to a mere
province--although the most important province--of
the oil empire which the Royal Dutch was now about
to establish: in proportion as the town increased
in size, its significance as a factor in the whole
concern diminished...[But] it [Balikpapan] too is
doomed. One day its well will turn to water; then
the town will be abandoned. Silence will resume
its sway and, on the lonely strand, only the
foundations covered over with rank forest and weed
will mark the spot where once stood Balik
Papan...But what matter? The creation may perish:
the creator lives--the people of Holland. --
Getretson, 1958:348-9

Regardless of the validity of this ethnocentric
prophecy, Balikpapan is a good example of the strained
linkages between an oil rich region and the industry that
attempts to "develop" it. Whether the oil industry is
dominated by a multi-national corporation, such as Royal
Dutch Shell, or a nationally owned company, such as
Pertamina, the conflicts remain the same. The main purpose
of any oil enterprise is to exploit oil reserves as
efficiently as possible, not to improve socio-economic conditions in the affected region. As a result, an oil rich region is often poorly prepared to deal with the rapid changes brought about by the arrival of the oil industry, particularly if the region is located in a poor country dependent upon oil exports. A recent study of an oil exporting region in Mexico, for example, argues that the oil industry helps to polarize the local economy between those employed by the oil industry and those not; other problems brought about by the discovery of oil include shortages of adequate food, housing and infrastructure due to the rapid in-migration of job seekers and inflationary prices (Sanchez, 1983). Balikpapan reflects many of these conflicts and problems.

THE URBAN SYSTEM MODEL APPLIED TO BALIKPAPAN

The same qualifications used in applying Nijkamp's integrated systems model in Samarinda apply in Balikpapan. The temporal focus is the decade from 1971 to 1981. The areal focus has been narrowed down from the whole municipality to just the urban area. A criterion of 500 persons per square kilometer is used to determine whether a district (kecamatan) is urban or rural while a minimum of 1,500 persons per square kilometer is used to determine if a
neighborhood (kelurahan/desa) is in the urban core. Based on these criteria (determined from the 1980 census) two districts (Balikpapan Barat and Balikpapan Timur) were deemed to be urban and six neighborhoods (Kampung Baru Ilir, Perapatan, Kelandasan Ilir, Gunung Sari Ilir, Karang Rejo, Karang Jati and Gunung Samarinda) were deemed to be part of the urban core (see Figure 5.1). Interestingly, three of the urban neighborhoods are in Balikpapan Utara, a district which I classified as rural because of a low overall population density. This apparent conflict underlies an analytical problem due to the fact that district boundaries within the municipality are not based on any functional classification and that kecamatan districts encompass both urban and rural areas. My classification scheme, it should be emphasized, is only an analytical device for focussing on changes in the intermediate city of Balikpapan rather than in the whole municipality.

Some of the same problems with data quality occurred in Balikpapan as in Samarinda. In addition, the compilation of official statistical data for the municipality only began about 1976 in Balikpapan, three years later than for the provincial capital of Samarinda. One of the best sources of data on the city before the 1970s is not the city government, but the archival records of Pertamina, which has documented the history of the oil industry and indirectly the city (especially through its map collection).
Problems with data quality and consistency have lead to problems in comparing the urban systems of Balikpapan and Samarinda (see Chapter Six). I have tried to be consistent in building tables that could be used to compare individual components but this, as will become apparent, was not always possible. As in Samarinda, some of the following descriptions of components are based on questionable statistical data and/or only qualitative observations and discussions with residents.

THE DEMOGRAPHIC COMPONENT

The population of Balikpapan in 1915 was about 6,000, of which 100 were European (Encyclopaedie van Nederlandsch- Indie, 1917: 128). No accurate population surveys were done before this time so it is speculative to say what percentage of this population were migrants attracted to the burgeoning petroleum industry. It would be safe to argue, however, that almost all of the Europeans were in Balikpapan because of the petroleum-related industries and that at least ten times as many Indonesians were brought in to work on various projects. By 1930 Balikpapan's recorded population had jumped to 29,843 (Hugo, et.al., 1981:table 38), an increase which can only be explained by the growth of petroleum-related industries.
The 1961 census gave Balikpapan a population of 91,706, three times what it was thirty years earlier (Sensus Penduduk 1961: 12). During the 1960s the municipality's population continued to climb so that by 1971 it had reached 137,340 (Sensus Penduduk 1971). Part of this growth, though, can be attributed to an expansion of the municipal boundaries. In 1969 the municipal land area increased (under the same law that increased Samarinda's land area) from 946 square kilometers to 2,560 square kilometers, at the expense of the bordering regencies of Kutai and Pasir.

Between the 1971 and 1980 censuses the population of Balikpapan more than doubled, from 137,340 to 280,750 (see Table 5.1). The 1971 - 1980 population increase, with an average annual growth rate of 8.2 percent, is more significant than the increase between 1961 and 1970 because there were no boundary changes in the municipality during the 1970s. The population of Balikpapan's urban area, which I have defined as Balikpapan Barat and Balikpapan Timur, rose from 76,768 to 135,797, with an average annual growth rate of 6.5 percent (a rate of growth somewhat less than for the municipality as a whole).

According to the table, the percentage of urban residents out of the total municipal population dropped from 56 percent to 48 percent. If these figures are taken along with the slower growth rate for the urban area than for the
<table>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>B. BARAT</td>
<td>35,255</td>
<td>43,902</td>
<td>45,810</td>
<td>49,099</td>
<td>51,250</td>
<td>54,354</td>
<td>55,685</td>
</tr>
<tr>
<td>B. TIMUR</td>
<td>41,513</td>
<td>47,922</td>
<td>62,010</td>
<td>74,626</td>
<td>74,849</td>
<td>81,443</td>
<td>84,339</td>
</tr>
<tr>
<td>B. UTARA</td>
<td>42,049</td>
<td>53,390</td>
<td>73,312</td>
<td>78,541</td>
<td>83,788</td>
<td>98,879</td>
<td>103,357</td>
</tr>
<tr>
<td>B. SEBERANG</td>
<td>18,523</td>
<td>21,269</td>
<td>23,053</td>
<td>35,878</td>
<td>38,290</td>
<td>46,074</td>
<td>49,051</td>
</tr>
<tr>
<td>TOTAL</td>
<td>137,340</td>
<td>166,483</td>
<td>204,185</td>
<td>238,144</td>
<td>248,177</td>
<td>280,750</td>
<td>292,432</td>
</tr>
<tr>
<td>URBAN AREA</td>
<td>76,768</td>
<td>91,824</td>
<td>107,820</td>
<td>123,725</td>
<td>126,099</td>
<td>135,797</td>
<td>140,024</td>
</tr>
<tr>
<td>% URBAN</td>
<td>56</td>
<td>55</td>
<td>53</td>
<td>52</td>
<td>51</td>
<td>48</td>
<td>48</td>
</tr>
</tbody>
</table>

municipal area, it would seem to indicate that the municipality's rural population had become a majority and was growing at a faster rate than was the urban population. This is inaccurate, though, because of the location of kecamatan boundaries, which are not based on any rigorous division between urban and rural areas, and because of my classification scheme which defines urban or rural residents by the population density of their kecamatan districts. During the 1970s, three neighborhoods, Karang Rejo, Karang Jati and Gunung Samarinda, located in the kecamatan of Balikpapan Utara, which is classified as rural, had such high densities that they qualified as urban core areas (Table 5.2). Although the 1980 density for Balikpapan Utara (221 persons per square kilometer) remained much lower than Balikpapan Barat (811 persons per square kilometer) and Balikpapan Timur (522 persons per square kilometer), some parts of it were densely populated, and therefore, by my classification scheme, part of the urban core (Table 5.3). Thus, the tables' differentiation between Balikpapan's urban and rural populations should only be used as a rough indicator of urbanization within the municipality.

The questionable accuracy of the yearly data figures in the tables makes it difficult to estimate population fluctuations caused by changes in Balikpapan's principal industry, petroleum. From one official I learned that in the early 1980s between 5,000 and 10,000 workers were
<table>
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<th></th>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>B. BARAT</td>
<td>526</td>
<td>655</td>
<td>684</td>
<td>733</td>
<td>765</td>
<td>811</td>
<td>831</td>
</tr>
<tr>
<td>B. TIMUR</td>
<td>266</td>
<td>307</td>
<td>398</td>
<td>478</td>
<td>480</td>
<td>522</td>
<td>541</td>
</tr>
<tr>
<td>B. UTARA</td>
<td>90</td>
<td>114</td>
<td>157</td>
<td>168</td>
<td>179</td>
<td>212</td>
<td>221</td>
</tr>
<tr>
<td>B. SEBERANG</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>19</td>
<td>20</td>
<td>25</td>
<td>26</td>
</tr>
<tr>
<td>TOTAL</td>
<td>54</td>
<td>65</td>
<td>80</td>
<td>93</td>
<td>97</td>
<td>110</td>
<td>114</td>
</tr>
<tr>
<td>URBAN AREA</td>
<td>344</td>
<td>412</td>
<td>483</td>
<td>555</td>
<td>565</td>
<td>609</td>
<td>628</td>
</tr>
</tbody>
</table>

### TABLE 5.3

**POPULATION TOTALS AND DENSITIES BY NEIGHBORHOODS IN URBAN CORE AREA OF MUNICIPALITY OF BALIKPAPAN**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>KAMPUNG BARU ILIR</td>
<td>23,499</td>
<td>1,237</td>
<td>35,197</td>
<td>1,852</td>
</tr>
<tr>
<td>PERAPATAN</td>
<td>13,286</td>
<td>1,329</td>
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<td>13,995</td>
<td>3,110</td>
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<td>8,308</td>
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<td>-</td>
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<tr>
<td>GUNUNG SAMARINDA</td>
<td>-</td>
<td>-</td>
<td>19,227</td>
<td>2,403</td>
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<tr>
<td>URBAN CORE AREA</td>
<td>43,617</td>
<td>-</td>
<td>121,507</td>
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</table>

brought in to help build Pertamina's billion-dollar hydrocracker facility. According to this official, most of these workers were single men imported from Java and housed in a large compound of barrack-like accommodations; these barracks, as of May 1984, stood empty. When the major construction work on the project was over, most of the unskilled workers were paid off and told to leave their temporary housing. These workers had a number of choices at this time; they could go back to their families in Java; they could go to another "resource frontier" region where they might find work; they could go to another part of Kalimantan Timur (such as homesteading in the interior); or they could remain in Balikpapan in the hope that more work might turn up. Fortunately for some of these laborers, Balikpapan's construction industry was, and is, quite active and could, to a limited degree, absorb a growing labor force for reasons I will explain in the next section. If the construction industry drops off, the unskilled laborers will be the first to be discharged. The city's other economic sectors, including the "informal" sector, are unlikely to absorb the laid-off workers.

Foreigners in Balikpapan can be divided into temporary workers and permanent residents. Temporary workers include foreign oil engineers and managers while permanent residents are dominated by ethnic Chinese who control the city's commercial activities. No municipal data was available on
the yearly population of temporary workers, who often work beyond the municipal boundaries. The 1971 total of permanent resident status foreigners registered in Balikpapan was 8,963 of which 8,545 (95 percent) were of Chinese ancestry and 418 (5 percent) were of Indian ancestry (Sensus Penduduk 1971: table 10). The total number of foreign permanent residents declined to 7,013 by 1980, but it should be noted that this apparent drop obscures the number of Chinese who had become Indonesian citizens (Penduduk Kalimantan Timur dan Sulawesi Menurut Propinsi dan Kabupaten/Kotamadya, 1980: table 3). In 1981 the total permanent foreign population was 7,253 but another 1,336 were designated as "Indonesians of Chinese Ancestry", making a total of 8,589, a sum slightly less than the 1971 total (Monografi Kotamadya Balikpapan Dalam Angka 1981: 5). All but 38 of these "foreigners" resided in the urban area of Balikpapan Barat, Balikpapan Timur and in the urban core area within Balikpapan Utara (Table 5.4).

The sex ratio of Balikpapan's population has been dominated by males. In 1961, for example, the sex ratio was 113 and in 1980 it was 111 (Sensus Penduduk 1961:12; Penduduk Kalimantan dan Sulawesi Menurut Propinsi dan Kabupaten/Kotamadya 1980:88-9). Within Samarinda, the kecamatan districts with urban neighborhoods had much higher sex ratios (between 115 and 121) than the rural district (106) (mimeographed sheet, Kantor Statistik).
TABLE 5.4
FOREIGNERS REGISTERED
BY KECAMATAN DISTRICTS
IN MUNICIPALITY OF BALIKPAPAN

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<td>Chines</td>
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<td>1,109</td>
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<td>-</td>
<td>-</td>
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<td>667</td>
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<td>-</td>
<td>-</td>
<td>38</td>
<td>-</td>
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<td>10,339</td>
<td>8,002</td>
<td>7,013</td>
<td>8,456</td>
<td>7,253</td>
<td>1,336</td>
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Sources:
THE HOUSING AND TRANSPORTATION COMPONENT

A) HOUSING: The distribution of houses in Balikpapan is, in many ways, similar to Samarinda's in that generally the more substantial homes are located along the major roads while the more modest dwellings are located along alleyways off of the main roads. Balikpapan's housing market can be divided into three different tiers of supply and demand, poor, middle class and "luxury". Deciphering the changes in these different markets is difficult because there is no official data on land values in the municipality. Some of the information used here comes from an unofficial source, namely a land speculator and developer I met while living in the city. This person owned a variety of properties, ranging from vacant land on the outskirts of the city to a several "luxury" houses within the city. I will discuss each tier of the housing market separately, using my informant's properties as examples (see Figure 5.2 for general locations of housing classes).

Housing that I have classified as "poor" based on my observations and discussions with officials in the local BAPPEDA office, can be found throughout Balikpapan but especially in the following areas: behind Jalan MayJen. Sutoyo around Kelurahan Gunung Sari Ilir; along the waterfront behind the market on Kelandasan Ilir (while I was there, these huts were being torn down to make way for a new
government-built marketplace and a waterfront esplanade; north of the Pertamina area in Kelurahan Baru Tengah; and to the west of the major road leading from Balikpapan to Samarinda. Most of the houses in these urban neighborhoods are made of wood, bamboo and atap plus whatever scrap pieces of corrugated iron happen to be available. I was told that there are numerous clusters of squatter houses throughout Balikpapan but especially around the outskirts of the urban core area. The main problem associated with this housing, according to a government official, is that it is uncontrolled and contributes to the already severe problems of soil erosion and flooding.

Another serious consequence of densely packed housing, constructed of wood and atap, is fire. The combustible construction materials, combined with poor fire fighting facilities and limited access (many of these houses are off of the roads and can only be reached by footpath) resulted in a tragic fire in November 1984. Over eight hectares burned in the area north of Pertamina's refineries, Kelurahan Baru Tengah and Kelurahan Baru Ulu, with 697 houses destroyed and 896 families made homeless.

An example of how "poor" housing has been affected by

1. I learned of this fire, which occurred after the completion of my field work, from personal correspondence with Drs. Haji Moesmin Soehondo, Sekretarius, Kotamadya Balikpapan.
economic growth in the city can be drawn from the case of my informant. He bought a plot of land in the Damai neighborhood and in 1978 built a small wooden house, consisting of one bedroom, a living room/dining room, a small kitchen area and an outdoor toilet, for about US$2,750.00. The house is connected to the city's electrical system but has no running water. He has charged US$50.00 a month rent and estimates the current value (1984) at about US$6,000.00, or more than double the value six years ago.

Middle class housing covers a broad range, from large, older homes off of the main roads in the city to small, newer homes built in housing developments on the fringe of the urban core. They can be found throughout the city but especially along Jalan May. Jen. D. I. Penjaitan, Kebun Sayur, and in the large Pertamina complex for junior grade employees and the 585 unit Perumahan Nasional, (Perumnas, the Government housing project) complex for junior grade government employees, both north of Rapak, off the main road to Samarinda. Shophouses along major roads are classified as "middle class", despite the likelihood that many of the Chinese occupants are relatively wealthy, because these dwellings are generally old and somewhat rundown. Many of these shophouses, however, are undergoing major renovations caused by the government's current road expansion project, and should soon have more modern-looking exteriors. The location of these shophouses makes them far more valuable
than their appearances might suggest. A plot of land, adjacent to a row of shophouses along one of the main arterials, Jalan Penjaitan, was reportedly being sold for US$100.00 per square meter. The land value can be compared with that of a similar plot on the outskirts of the city (accessible by dirt road) for about US$6.00 per square meter.

Unfortunately, I did not meet anyone who owned middle-income properties and thus I do not have any data on prices for middle-income housing. In any case, the wide variety of "middle-class" housing would probably make any single example somewhat misleading. For example, some of the large, older homes have been owned by the same family for a several generations and are lived in by members of the extended family (one house I visited had at least four related families living together). Most of these houses are very sturdy, being made from durable tropical hardwoods, particularly kayu ulin, which reportedly will last for more than a hundred years. Indeed, some of these houses seem to be in better shape than many of the newer houses being built out of less durable materials. In this type of "middle-class" household the house is already paid for and

2. These figures were given to me by a local businessman who was thinking of investing in the above mentioned real estate but was backing out because the price was too high; I did not learn the size of the plot.
the occupants contribute only upkeep, and possibly support for the parents and/or grandparents.

At the other extreme, small detached houses built by Pertamina or Perumnas are usually occupied by a single couple who might pay rent or hold a long-term, low interest mortgage with the government. Houses in the Perumnas complex, for example, sit on 126 square meter plots (of which the house occupies roughly one-third) and have electricity, piped water and indoor toilets. In addition, there is an elementary school at the complex and asphalt roads. The 585 houses are priced at between US$5,000.00-6,000.00 but can be paid off with low interest rate loans. Residents, who must be either active or retired government employees with at least five years of local service (although ten percent of the houses are designated for non-government employees), can pay as little as US$26.00 per month for fifteen to twenty years before gaining ownership.

The "luxury" housing market has gone hand in hand with Balikpapan's oil industry. The Nederlandsch Indische en Handelmaatschappij and successive petroleum-related corporations always had to contend with the problem of housing their hundreds of European managers and engineers in

3. I learned of this from two young government officials who resided in the Perumnas complex.
suitable accommodations. The oil companies built large bungalows amidst manicured lawns on the hills overlooking the refineries and provided other amenities such as movie theaters, tennis courts, swimming pools and restaurants. The use of these facilities was, and still is, limited to oil company employees. During the 1970s when Union Oil, Huffco., and Total began major operations in Balikpapan, they too were forced to build housing complexes. The main areas of these "luxury" housing complexes are on the hills east of Pertamina's wharves and off of the road leading to the airport.

The "luxury" housing complexes described above were not enough to house the increasing numbers of foreign oil-related families who came to Balikpapan during the 1970s. Smaller contractors, in particular, had to rely on the local housing market to house their employees. As a result, inflationary rents for "luxury" houses were accepted as part of the costs for doing business in Balikpapan. Local developers quickly capitalized on this period of high demand. My informant, for example, built a "luxury" house overlooking Balikpapan's shoreline in 1978 at a total cost of US$33,000.00. The house was promptly rented out to an American family employed by an oil company for a two year period for about US$38,000.00. From this money, about US$8,000.00 had to be paid as a "tip" to an Indonesian employee of the oil company who helped to arrange the deal.
The family stayed for about four years and then moved out in the early 1980s, as did many others, because of the decline in oil exploration activities. By the time of my stay in the city (1984), the house had been empty for over a year. Nonetheless, my informant believed he could sell it for as much as US$45,000.00.

Some side effects of the housing boom in the late 1970s and early 1980s are soil erosion and flooding. Silt from construction sites and from poorly landscaped house sites (some of which are built on very steep slopes) flows down with the almost daily rains to fill up drainage canals. As a consequence, floods in the city are frequent. In addition, soil erosion has lead to the partial collapse of some houses and buildings within the city.

B) TRANSPORTATION: Balikpapan's main public transportation system operates along flexible routes within defined boundaries and final destinations. The city has over 1,500 privately owned mini-buses, most of which are kijangs, a mini-bus assembled in Surabaya with Toyota engines, but there is also a small fleet of modified World War Two vintage Willys Jeeps. Passengers pay fifteen cents and can be picked up and dropped off anywhere along the route.

An "informal", or unregulated, public transportation system that operates around Balikpapan's market places is
called "kojak". The "kojaks" are young males who offer rides on their motorcycles to people who live off of the paved roads (and thus cannot be reached by the mini-buses). They charge about fifty cents to a location within the urban area and more for destinations beyond. Most of the time, however, the "kojaks" just hang around waiting for potential customers.

Private transportation consists of mostly motorcycles and, to a lesser degree, Japanese made jeeps. In 1976 there were 8,260 motorcycles to 4,089 passenger cars and 3,088 goods vehicles (Kotamadya Balikpapan Dalam Publikasi Angka 1976: table VII.4). The growing number of vehicles on the narrow roads within the urban core has lead to a problem of traffic congestion, particularly in the mornings (7 A.M. to 8 A.M.), afternoons (4 P.M. to 5 P.M.) and evenings (6 P.M. to 8 P.M.). Traffic congestion is especially bad during heavy rains when the streets tend to flood. Fortunately, a major road expansion project is underway within the urban core which should increase the number of traffic lanes and thus decrease the congestion.

THE PHYSICAL INFRASTRUCTURE COMPONENT

Balikpapan's main commercial district follows the cities main roads of Jalan May. Jen. D.I. Panjaitan, Jalan
May. Jen. Sutoyo, Jalan Pangeran Antasari, Jalan Kelandasan Ulu and Jalan Kelandasan Ilir. The development pattern resembles an inverted "T" (see Figure 5.3). This commercial core district is where most of the major shops, restaurants, hotels and government offices are located. Presently all of the two storey shophouses that line these connecting roads are being set back and completely renovated as a result of a government road widening project that, in many cases, would have gone through the front portion of the roadside buildings.

The oldest part of the urban area of Balikpapan is the area to the immediate north of the Pertamina refineries. This area of Kampung Baru, Kabun Sayur and Parakesit is today one of the poorest areas of the city. The main roads, for the most part, have not been covered in asphalt but are made of only sand and gravel while the side roads consist of pounded earth. These roads have many large potholes and are often completely flooded. Garbage collection here seems to be sporadic as large piles of refuse pile up in open spaces. The main roads in this area are lined with two storey shophouses, most of which seem to be run by Chinese.

Northeast of this old part of the city is an area of more recent development. This area, beginning in Rapak and along the intercity road towards Samarinda is one of the new growth corridors of the city. This area is the site of a
FIGURE 5.3: New growth corridors.
new government financed development project (under construction in 1984) that will include an inter-city bus terminal, a shopping center, a gas station and other attractions. The government sponsored housing developments (Perumnas) and some new private housing projects are also located in this area. As Balikpapan's housing demands increase, it is likely that more developments will be built in this corridor along the road to Samarinda.

The other major growth corridor in the municipality is in the kecamatan district of Balikpapan Timur, along the coastal road beyond the airport. This area, although outside of the urban core, is experiencing rapid population growth. One neighborhood area, Manggar, has already been subdivided into two desas. The local government has stimulated development in this area by relocating several groups there, such as a fishing village and victims of a flood. This area has a fairly good road system and is served by public transportation but is still without electricity or piped water.

The municipal government is currently involved in a major road construction project that will eventually link the two growth corridors (see Figure 5.3). Three "ring roads" will eventually be completed and paved (only one is now being prepared for paving). These "ring roads" are expected to "open up" Balikpapan's urban fringe for
surburban development. Land values along the proposed roads have already begun to rise under the influence of speculators. My informant, for example, was in the process of selling two properties along the closest ring road (which is currently only passable by four-wheel drive vehicles), a 6 hectare section for US$180,000.00 (US$3.00 per square meter) and a 1,500 square meter plot for US$9,000.00 ($US6.00 per square meter). These properties were purchased before the plans for the road were well known in 1979 for about 35 cents per square meter and 80 cents per square meter respectively.

Balikpapan has the only airport in East Kalimantan capable of handling large commercial airplanes. Currently turboprop airplanes, such as DC 3s and Fokker 27s, and small jets can be accommodated. The Indonesian airlines Garuda, Bouraq and Merpati all have daily flights in and out of Balikpapan to various destinations in the archipelago, especially to and from Jakarta, Surabaya, Banjarmasin and Ujung Padang. Pertamina and the foreign oil companies also maintain small fleets of turboprop airplanes and helicopters which are used to ferry personnel between project sites and the main offices. The airport is now undergoing a major expansion project (a couple of years behind schedule) so that it will soon be able to accommodate larger passenger jets, such as the Boeing 747s.
Balikpapan's harbor facilities are divided between those controlled by Pertamina and those controlled by the local Harbor Administration. The former handles all petroleum-related transshipments while the latter takes care of loading and unloading general cargo. The Pertamina wharves can accommodate two to three large oil tankers at any one time (with three or four more tankers standing by) while the general cargo wharves usually handle smaller inter-island ships. In addition, the wharves are used by a weekly passenger ferry service that runs between Balikpapan, Ujung Padang, Banjarmasin, Surabaya and Jakarta. There also seems to be a few privately-owned wooden jetties which handle local shipping carried by perahu (small wooden sailing ships, usually manned by Bugis sailors). All the wharves are serviced by numerous godowns (warehouses) along the waterfront.

THE EMPLOYMENT AND ENTREPRENEURIAL ACTIVITIES COMPONENT

Balikpapan's principal entrepreneurial activity is, of course, the petroleum industry. Determining the extent of the petroleum industry's influence on the city of Balikpapan is difficult, however, because the city has very little information about Pertamina's local activities. The city has little, if any, input into major petroleum projects that
could have major local consequences. The employment effects of the petroleum industry, for example, are only known through the number of persons who register with the local Kantor Dirjen Perbinaan dan Pengunaan Tenaga Kerja (Office of Construction and Work Force Utilization). An official in this office told me that a large project, such as the construction of Pertamina's new hydrocracker facility, might bring in thousands of laborers from outside the municipality for one or two years; after the project is over, though, some workers inevitably stay in Balikpapan and add to the city's employment problems. Another problem is that workers in the petroleum-related projects are accustomed to much better wages than they could earn from local employment opportunities and thus tend to wait for another lucrative petroleum-related project to come by. Similarly, large projects sometimes provide workers with the opportunities to learn specific skills, such as driving a bulldozer, that might not be in high demand on local small-scale construction projects.

Despite these problems, some workers who were brought in to work on large scale resource extraction projects and were laid off have managed to find employment in the local construction industry, which is actively engaged in the renovation of numerous shophouses along Balikpapan's major roads. Other local development projects which have high labor demands are the airport expansion and the construction
of the new inter-city bus terminal complex. All of these local employment generating activities are the result of government actions, either indirectly, such as the shophouse renovations caused by the road expansion program, or directly in the case of the airport and bus terminal. Unfortunately for the workers involved, these projects, too, are only temporary.

Some data collected by the Kantor Dirjen Perbinaan dan Pengunaan Tenaga Kerja might indicate some of the local effects of petroleum activities. Between 1980 and 1982, for example, the number of persons registered as looking for work (pencari kerja) went from 3,225 to 15,049 (Laporan dan Evaluasi Kegiatan Kantor Departemen Tenaga Kerja 1983: 21). This time period coincides with the completion of the major construction work on Pertamina's hydrocracker facility. An indication of the incidence of unemployment in the petroleum industry can be seen in 1982/3 data in which 3,501 persons listed themselves as being unemployed petroleum workers out of a total of 3,852 persons listed for all sectors, or about 91 percent (Laporan Tahun Angaran 1982/3: table 2. The use of these figures, however, needs two qualifications. First, they only relate to workers who bothered to register and ignore those who have moved into more "informal" type of economic activities. Second, they could represent the improved record-keeping by the local government office in registering unemployed petroleum workers.
The number of enterprises and work force employed in Balikpapan's formal sector, defined here as those monitored by the local government more than tripled between 1976 and 1981; the number of enterprises increasing from 81 to 277 and the workforce increasing from 990 to 3,645 (see Figure 5.5). In each of the three kecamatan districts that extend into the urban core area, over 70 percent of the work force was employed in enterprises that were classified as small, in contrast to the rural kecamatan of Balikpapan Seberang where only 5 percent of the work force was employed in small enterprises (the other 95 percent working in large enterprises). The workforce in medium-sized enterprises was concentrated in Balikpapan Barat (64 percent) while Balikpapan Utara and Balikpapan Timur share the majority of the workforce in small enterprises (37 percent and 36 percent respectively). Balikpapan Seberang showed some employment characteristics that were not expected in light of its predominantly low population density and rural classification; for example, it had seven of the municipality's eleven large enterprises (most of which were related to timber rather than oil production) and the highest percentage of the municipality's total workforce (36 percent). Five years earlier, in 1976, Balikpapan Seberang had no large enterprises and only 6 percent of the municipality's total workforce. These statistics help to underline the effects resource extraction industries have
Table 5.5

Enterprises and work force by size and kecamatan district in municipality of Balikpapan

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<td>- total</td>
<td>81.0</td>
<td>990.0</td>
<td>82.0</td>
<td>1,053.0</td>
<td>277.0</td>
<td>3,665.0</td>
</tr>
<tr>
<td>- small</td>
<td>69.0</td>
<td>658.0</td>
<td>69.0</td>
<td>658.0</td>
<td>256.0</td>
<td>1,925.0</td>
</tr>
<tr>
<td>- medium</td>
<td>11.0</td>
<td>228.0</td>
<td>12.0</td>
<td>287.0</td>
<td>10.0</td>
<td>297.0</td>
</tr>
<tr>
<td>- large</td>
<td>1.0</td>
<td>104.0</td>
<td>1.0</td>
<td>104.0</td>
<td>11.0</td>
<td>1,423.0</td>
</tr>
</tbody>
</table>

NOTE: Dashes in the table represent zeroes.

had on the spatial distribution of Balikpapan's labor force.

The relationship between Balikpapan's petroleum industry and the city's other entrepreneurial activities is also difficult to determine. Most of the hardware required by the petroleum industry is imported directly by Pertamina rather than through local middle-men. Perhaps the greatest side effect of the industry is the increased demand for consumer goods by petroleum industry employees. In a study of the economic effects of Indonesia's petroleum industry, one researcher concludes that the industry has a greater impact on the "modern" sector than it has on the "traditional" sector and thus exacerbates economic polarization (Arief, 1982). Balikpapan's entire economic history is so intertwined with the petroleum industry it is not possible to say whether the industry has polarized the economy; the economy itself is a product of the industry.

THE LOCAL GOVERNMENT COMPONENT

Balikpapan's municipal government has the same basic organization and functions as the municipal government in Samarinda. Both municipal governments serve as
intermediaries between the kecamatan districts within their jurisdictions and the provincial level government. The municipal government is in charge of administering government sponsored projects within its boundaries, determining the needs of the local population and channeling government funds to the appropriate recipients.

Balikpapan's government, as does Samarinda's, operates under a highly centralized, "top-down" planning framework.

A characteristic of Balikpapan's government that makes it somewhat unique is that it has little control over the most important area within its boundaries, the property owned and controlled by Pertamina, the state-owned oil company. Land use decisions affecting Pertamina property do not have to be approved by the municipal government. Any major projects on Pertamina land, such as road construction, are carried out and paid for by Pertamina, not the local public works department. Indeed, it is the city which sometimes has to go to Pertamina to request equipment for special projects, such as removing silt from drainage canals. All this, however, is not surprising given Balikpapan's history as a "company town". Jurisdictional and political problems are only now beginning to emerge as the non-petroleum sectors of the local economy and the non-Pertamina controlled areas of the municipality begin to grow in importance.
The annual budget of Balikpapan's municipal government has increased greatly since 1970 (Table 5.6). Total income jumped from US$0.45 million in the fiscal year 1969/70 to US$8.59 million in 1981/82. Similarly, total expenditures of the government rose from US$0.28 million to US$7.27 million in the same period. These figures reflect the growing administrative responsibility of the local government which now oversees a wide spectrum of public agencies as well as development projects. Both the government bureaucracy (as measured by "routine expenditures") and the number and size of development projects (as measured by "development expenditures") are almost equal (in 1982/3 the former was US$3.41 million and the latter US$3.57 million) and have grown at about the same rate, which suggests that administrative efficiency in carrying out government operations has not necessarily improved over the decade.

Sources of municipal government income come from either its own efforts, the provincial government, the central government, or, in some years, from banks (Table 5.7). The funds from each source vary from year to year, but generally all increased their contributions through the 1970s. During the early 1980s the municipal government's contribution to its own budget increased in absolute terms, from US$0.17 million in 1969/70 to US$2.33 million in 1982/83, but declined in relative terms, from about 39 percent of the total to 25 percent. Similarly, the subsidy from the
<table>
<thead>
<tr>
<th></th>
<th>INCOME (ROUTINE)</th>
<th>INCOME (DEVELOP.)</th>
<th>INCOME (TOTAL)</th>
<th>EXPEND. (ROUTINE)</th>
<th>EXPEND. (DEVELOP.)</th>
<th>EXPEND. (TOTAL)</th>
<th>BUDGET SURPLUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1969/70</td>
<td>0.18</td>
<td>0.27</td>
<td>0.45</td>
<td>0.16</td>
<td>0.12</td>
<td>0.28</td>
<td>0.17</td>
</tr>
<tr>
<td>1971/72</td>
<td>0.38</td>
<td>0.66</td>
<td>1.04</td>
<td>0.29</td>
<td>0.48</td>
<td>0.78</td>
<td>0.27</td>
</tr>
<tr>
<td>1973/74</td>
<td>0.61</td>
<td>1.02</td>
<td>1.62</td>
<td>0.49</td>
<td>0.80</td>
<td>1.29</td>
<td>0.34</td>
</tr>
<tr>
<td>1975/76</td>
<td>0.98</td>
<td>1.44</td>
<td>2.42</td>
<td>0.92</td>
<td>1.09</td>
<td>2.01</td>
<td>0.41</td>
</tr>
<tr>
<td>1977/78</td>
<td>1.54</td>
<td>2.04</td>
<td>3.58</td>
<td>1.56</td>
<td>1.91</td>
<td>3.47</td>
<td>0.11</td>
</tr>
<tr>
<td>1979/80</td>
<td>-</td>
<td>-</td>
<td>5.12</td>
<td>1.94</td>
<td>1.90</td>
<td>3.85</td>
<td>1.27</td>
</tr>
<tr>
<td>1981/82</td>
<td>-</td>
<td>-</td>
<td>8.59</td>
<td>3.70</td>
<td>3.57</td>
<td>7.27</td>
<td>1.32</td>
</tr>
<tr>
<td>1982/83</td>
<td>-</td>
<td>-</td>
<td>8.05</td>
<td>3.41</td>
<td>3.32</td>
<td>6.73</td>
<td>1.32</td>
</tr>
</tbody>
</table>

Note: All figures have been converted into US dollars from Indonesian rupiahs according to yearly exchange rates. Dashes in the table represent data which were not obtained.

### TABLE 5.7

**MUNICIPALITY OF BALIKPAPAN**

**SOURCES OF GOVERNMENT INCOME**

(in million US dollars)

<table>
<thead>
<tr>
<th>Year</th>
<th>Municipal Funds (US$)</th>
<th>Central Govt. Loan (US$)</th>
<th>Subsidy - Prov. Govt. (US$)</th>
<th>Subsidy - Cent. Govt. (US$)</th>
<th>Bank Loan (US$)</th>
<th>Total Income (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1969/70</td>
<td>0.17</td>
<td>0.12</td>
<td>0.13</td>
<td>-</td>
<td>0.02</td>
<td>0.44</td>
</tr>
<tr>
<td>1971/72</td>
<td>0.41</td>
<td>0.07</td>
<td>0.29</td>
<td>0.02</td>
<td>0.03</td>
<td>0.81</td>
</tr>
<tr>
<td>1973/74</td>
<td>0.72</td>
<td>0.15</td>
<td>0.45</td>
<td>0.05</td>
<td>-</td>
<td>1.36</td>
</tr>
<tr>
<td>1975/76</td>
<td>1.07</td>
<td>0.19</td>
<td>0.70</td>
<td>0.18</td>
<td>-</td>
<td>2.14</td>
</tr>
<tr>
<td>1977/78</td>
<td>1.30</td>
<td>0.45</td>
<td>1.13</td>
<td>0.60</td>
<td>0.14</td>
<td>3.63</td>
</tr>
<tr>
<td>1979/80</td>
<td>1.18</td>
<td>0.60</td>
<td>1.20</td>
<td>0.64</td>
<td>0.13</td>
<td>3.74</td>
</tr>
<tr>
<td>1981/82</td>
<td>2.15</td>
<td>0.85</td>
<td>2.30</td>
<td>0.84</td>
<td>-</td>
<td>6.14</td>
</tr>
<tr>
<td>1982/83</td>
<td>2.33</td>
<td>1.02</td>
<td>1.69</td>
<td>4.03</td>
<td>0.29</td>
<td>9.35</td>
</tr>
</tbody>
</table>

**Note:** All figures have been converted into US dollars from Indonesian rupiahs according to yearly exchange rates. Dashes in the table represent zeroes. Source: mimeographed sheet, Kantor Pajak Tingkat II, Kotamadya Balikpapan.
provincial government increased from US$0.13 million to US$1.69 million while its percentage of the total declined from roughly 30 percent to 18 percent. In contrast the central government's subsidy increased in both absolute and relative terms, from US$0.02 million (2 percent) in 1971/72 to US$4.03 million in 1982/83 (43 percent). These figures tend to suggest that as the municipal government's income has grown in size, its ability to sustain itself has decreased and it has become more dependent upon the contributions of the central government.

Balikpapan's first Master Plan was issued in 1973. A 1983 evaluation of that plan reviewed the municipality's growth over the last decade, the relationship between the municipality and Pertamina, planning policies for the economic and physical growth of the city, and problems of implementation. This report (Rencana Induk Kota Balikpapan) notes the lack of vertical coordination in the municipal government concerning the enforcement of planning policies, such as designated zones of economic activity. In addition, it argues for better planning of the government's own projects, such as the building of "ring-roads" in the urban fringe that will connect the city's two growth corridors. One of the stumbling blocks to better planning by the government is the lack of trained planners and good land use maps, both of which are badly needed now that the scale of local government activities has increased so dramatically.
THE QUALITY OF LIFE COMPONENT

Balikpapan, as with Samarinda, does not collect comprehensive data that can be easily included into a quality of life component. Available data has been divided into that pertaining to public health, water and electricity supply, education, and the price of staple foods. The data here concerns the whole municipality and not just the urban area.

Balikpapan's health care system seems to be adequate. The number of hospital beds has increased from 507 in 1976 to 623 in 1981. About half of these beds, however, are operated by either Pertamina or the national army (May 1976: 21; Kotamadya Balikpapan Dalam Angka 1981: table IV.2.1). In addition to the city's six hospitals (rumah sakit), there were fourteen government health clinics (puskesmas) and twenty-four mother-child clinics (BKIA) in 1981 (Kotamadya Balikpapan Dalam Angka 1981: table IV.2.1).

Refuse collection in the urban area is sporadic. For the municipality as a whole, 50 percent of all households share access to some type of human waste disposal system, 31 percent have their own septic tanks and 19 percent have no access to waste disposal facilities (Penduduk Propinsi
Kalimantan Timur: table 49.3). In poorer parts of the city, such as Kebun Sayur, large piles of both organic and inorganic wastes from neighborhood marketplaces remain uncollected for long periods. This problem is exacerbated during floods when garbage tends to be carried over a wide area. In stark contrast to the poor parts of the city, the areas under Pertamina control seem to have well maintained waste disposal systems and are almost litter free.

Drinking water is perhaps Balikpapan's most serious health problem. Unlike Samarinda, which by virtue of its location on a large fresh water river has an ample supply of relatively clean drinking water excepting during drought periods, Balikpapan, located on a salt water bay, is limited in its supply of fresh water. Even the piped water in the city has high turbidity. About 54 percent of the households in the municipality rely upon well water, which in some areas close to the coast, is becoming contaminated with salt water (Penduduk Propinsi Kalimantan Timur: table 46.3). Problems with the water table have forced the government to bring in piped water to housing projects in the urban fringe.

Balikpapan's school facilities have expanded to keep up with the municipality's growing population. The number of students attending public schools (elementary SD, junior high SLP, and high school SLA) rose from 36,774 in 1977 to
60,109 in 1981. In 1981 77 percent of these students were attending elementary school (Kotamadya Balikpapan Dalam Angka 1981: table IV.1.11).

The price of basic staples, as measured by the price of salted fish (ikan asin) and uncooked rice (beras), remained relatively stable between 1976 and 1981 (Table 5.8). Indeed, if even a modest inflation rate is taken into account, the real costs have probably declined slightly, particularly for uncooked rice. These stable prices probably reflect government price regulations for certain staple crops. The low price for rice might also be the result of an increased area within the municipality devoted to wet-rice cultivation (sawah); from 799 hectares in 1975 to 2,150 hectares in 1981 (Kotamadya Balikpapan Dalam Publikasi Angka 1980: table VI.3.4; Kotamadya Balikpapan Dalam Angka 1981: table V.1.1, V.1.2).

Less than half (46 percent) of Balikpapan's households have electricity; most other households are dependent upon pumped lamps (30 percent) or kerosene (24 percent) for lighting. The majority of households (73 percent) use kerosene for cooking; most of the remaining use fuelwood. All of the houses owned by Pertamina or contracted out to petroleum industry employees and foreigners have electricity, either from the city or from their own generators.
TABLE 5.8
PRICE OF BASIC STAPLES
IN MUNICIPALITY OF BALIKPAPAN
(in US dollars per liter)

<table>
<thead>
<tr>
<th>Year</th>
<th>Uncooked Rice</th>
<th>Salted Fish</th>
</tr>
</thead>
<tbody>
<tr>
<td>1976</td>
<td>0.37</td>
<td>0.98</td>
</tr>
<tr>
<td>1977</td>
<td>0.36</td>
<td>0.86</td>
</tr>
<tr>
<td>1978</td>
<td>0.25</td>
<td>0.65</td>
</tr>
<tr>
<td>1979</td>
<td>0.29</td>
<td>0.93</td>
</tr>
<tr>
<td>1980</td>
<td>0.32</td>
<td>1.12</td>
</tr>
<tr>
<td>1981</td>
<td>0.39</td>
<td>1.11</td>
</tr>
</tbody>
</table>

Note: All figures have been converted into US dollars from Indonesian Rupiahs based on yearly conversion rates. Source: Kotamadva Balikpapan Dalam Angka 1981: table IX.3.1.
CHAPTER SIX

COMPARATIVE URBAN SYSTEMS

The urban subsystems described in the preceding two chapters permit a comparison between the evolution of Balikpapan and Samarinda. In particular, the urban systems approach (based on Nijkamp's integrated systems model) is helpful in documenting the effects of major regional events on an intermediate city. The recent histories of Samarinda and Balikpapan can be analyzed within a temporal framework, such as Braudel's three-tiered hierarchy of social time which covers the slow moving and global scaled "longue durée", the medium term and cyclical "conjuncture", and the short term and individual level "event" (Braudel, 1972:11-42). Braudel used the social time categories to describe the effects of capitalism on the daily lives of people in different socio-economic and geographic settings. I limit this discussion to just the conjunctural category, which will be used to describe how the integration of a region into the world capitalist system affects the urban subsystems of the region's intermediate-sized cities. The conjunctural time frame can cover a range of temporal
periods, from a decade up to a half-century; an example of the latter would be Kondratieff's economic cycle. Braudel's conjunctural period provides a temporal boundary in which to study how forces outside of a given social environment affect the balance of forces within that environment. The conjunctural framework, then, complements the urban systems approach I have described in Chapter Two.

The principal conjunctural periods of both Samarinda and Balikpapan were catalyzed by the rapid exploitation of natural resources. These conjunctural periods can be divided into stages of development, in which each affects urban components in a slightly different way. The urban systems model illustrates each city's functions and how these functions change into the different stages of the conjunctural periods. These illustrations lead to a discussion of the similarities and differences between the conjunctural periods of Samarinda and Balikpapan.

SAMARINDA'S CONJUNCTURAL PERIOD

Samarinda's conjunctural period can be divided into three stages, beginning in 1967. Before this year, however, Samarinda had an important preliminary stage that set the foundation for events that took place within the conjunctural period. In 1959 Samarinda's urban system was
modified by two events, the jump in political status from regency capital to provincial capital and the issue of a presidential decree, PP10, which forced rural Chinese traders to migrate to cities such as Samarinda. Both of these events initiated by the national government, facilitated the timber boom that occurred eight years later. This preliminary stage needs to be considered separately from the conjunctural period under study here because the preliminary stage only encompasses short term historical events rather than an extended time frame. By themselves, these short term events did not radically alter Samarinda's urban system.

The effects of PP10 and provincial capital status on Samarinda can be traced through the city's urban components (see Figure 6.1, Diagram 1). The migration of Chinese into the urban core of Samarinda directly affected the demographic component, as it altered the ethnic composition of the city, and the employment and entrepreneurial component, as it introduced a new source of local capital and business know-how. Secondary effects were felt on the housing and transportation component as the urban core area was rebuilt with Chinese owned and occupied shophouses. The other components, quality of life, physical infrastructure and local government, were, for the most part, unaffected.

The change of political status to provincial capital
Urban system model (adapted from Nijkamp, 1983).

FIGURE 6.1: Samarinda Urban System
directly affected the local government component. As a provincial capital, Samarinda became the center of all interactions between the province and the central government, or in the terminology of Wallerstein's world systems model, the state. Decisions concerning resources throughout the province apart from those concerning petroleum resources now had to be channelled through Samarinda. This in turn impacted on the employment and entrepreneurial component, as any large business enterprise at work in the province had to have an office in Samarinda to deal with the required government formalities; the demographic component, as appointed government officials and their families from Java and other parts of Indonesia arrived to fill new government positions; and on the physical infrastructure component, as new government offices, housing complexes and public services (such as schools and health centers) had to be built.

The first stage of Samarinda's conjunctural period began about 1967 with the sudden increase in log exports. Samarinda's location on the Mahakam river made it an ideal site for shipping logs and the established, Chinese-dominated business community facilitated timber related trading activities. The primary effect of the timber boom was on the employment and entrepreneurial component (see Figure 6.1, Diagram 2). Local traders and businessmen capitalized on the high profits to be made in
organizing banjir kap expeditions as well as in selling consumer goods to the wealthier local population. The main secondary effects was on the demographic component with the urban inmigration of people, especially young men, from the hinterland and from other provinces in search of work in timber related activities. Tertiary effects occured in the housing and transportation component in response to the increased demand for cheap housing by recent migrants and on the physical infrastructural component as already inadequate roads and sewage systems were put under greater stress.

The second stage in Samarinda's timber boom began around 1974 when the national government outlawed local banjir kap practices and contracted multi-national and large national timber companies to log East Kalimantan's forests. This stage lasted until about 1979 and is characterized by increasing log exports to East Asian countries. The increased scale and magnitude of the timber industry primarily affected Samarinda's employment and entrepreneurial component as small banjir kap enterprises were forced out of business and large timber firms set up their headquarters in the municipality (see Figure 6.2, Diagram 3). The accelerated exports provided employment in concession areas in Samarinda's hinterland as well as in sawmills, wharves and offices located in the municipality. The growing wealth of people connected with the timber industry also stimulated local wholesale and retail
DIAGRAM 3

CATALYST(S)
Middle stage of "timber boom" (1974-78)

DIAGRAM 4

CATALYST(S)
Final stage of "timber boom" (1979-84)

Urban system model (adapted from Nijman, 1983).

FIGURE 6.2: Samarinda Urban System
businesses. Secondary effects were on the housing and transportation component which experienced a sudden demand for "luxury" housing and a boom in the construction of houses, offices and shops; the demographic component which experienced an immigration of foreign managers, engineers, skilled laborers and their families and semi-skilled or unskilled laborers from other parts of Indonesia; and the local government component which, as an extension of the national government, had greater control over economic activities within the municipality and more direct interests in regional resource management. Tertiary effects were the greater stress on the physical infrastructure component due to more use of roads and sewage lines within the urban core and the building up of land just outside of the core area, and greater demands on the educational and health facilities within the quality of life component.

The third and most recent stage in Samarinda's conjunctural period dates from 1979 until the present (see Figure 6.2, Diagram 4). This stage is characterized by national government restrictions on log exports, the transition to plywood production, the poor world market demand for Samarinda's plywood exports and the devastating fire that drastically limited the regional supply of timber. The primary effect of these events has been a rather chaotic employment and entrepreneurial component as plywood factories were reluctantly built, small timber
enterprises, i.e. those without concessions, went bankrupt, large multi-nationals, such as Georgia-Pacific and Weyerhauser, pulled out, and the future supply of the industry's principal raw material, tropical hardwood trees, became questionable. The secondary effects were a withdrawal of many foreign residents thereby drastically limiting the potential market for "luxury" housing within the housing and transportation component; a growing local population of inmigrants within the demographic component; and a larger government bureaucracy, measured by both numbers of civil servants and budget, within the local government component. The main tertiary effects were an improved physical infrastructure system and a more comprehensive quality of life component due to more public works projects, such as roads, schools and health centers, made possible by an increasing development expenditure.

BALIKPAPAN'S CONJUNCTURAL PERIODS

Conjuncture in Balikpapan began with the region's first oil well in 1897 and ended with the Japanese takeover of the area in early 1942. During this forty-five year period, Balikpapan became a major petroleum center in Indonesia with exports to many other countries. East Kalimantan's petroleum resources were controlled by a large
multi-national corporation, Royal Dutch Shell, out of its regional headquarters in Balikpapan. The conjunctural period falls into two stages of development, a first stage of increased production culminating around 1928 and a second stage of decreased production during the 1930s ending in the destruction of the petroleum refineries in World War Two. Lack of information on Balikpapan's urban components during this period, however, will limit my qualitative analysis to the period as a whole.

The primary effect of the oil discovery on the Bugis fishing village was on the employment and entrepreneurial component as the demand for basic supplies and services by petroleum-related industries suddenly opened up (see Figure 6.3, Diagram 5). Secondary effects were exerted on the demographic component as European managers and engineers and Indonesian laborers (mostly from Java) arrived to explore, drill and refine petroleum as well as to provide supporting facilities and services, the physical infrastructure system as roads, wharves, offices, godowns and drainage canals were built and electrical generators installed; the housing and transportation component as the rapidly growing population needed suitable accommodations and the means to travel around the local area, and the quality of life component which experienced the building of hospitals and schools for the use of petroleum industry personnel. The local government component, which consisted of token representation by the
FIGURE 6.3: Balikpapan Urban System
Sultan and the Dutch colonial administration was probably unaffected by the oil discovery. The effects of the petroleum industry on Balikpapan's urban system needs to be qualified by the fact that some of the changes occurred only within the areas controlled by the petroleum industry. The parts of Balikpapan that lay outside of these areas were, for the most part, affected indirectly through multiplier effects and by the in-migration of people not directly employed by the petroleum industry (or only sporadically employed, such as day laborers).

A second conjuncture began about 1973 when a number of multinational petroleum companies began exploration and offshore drilling in Pertamina's Unit IV, which is managed from Balikpapan. The declining output characterized by the three decades since the beginning of World War Two was abruptly reversed; within five years Balikpapan's oil exports quadrupled and Unit IV accounted for 25 percent of Indonesia's total oil production (Daroesman, 1979: 50). As of 1984, Balikpapan is still in the first stage of the current conjuncture. Fluctuations in the price of oil have not significantly affected Kalimantan's oil output which, in 1983, was 282,000 barrels per day, or 19.8% of Indonesia's total (American Embassy, 1984: 28). In addition, liquid natural gas (LNG) exports to East Asian countries from the P.T. Badak liquefaction plant in Bontang, East Kalimantan, continue to climb (American Embassy, 1984: 46). East
Kalimantan's oil and gas industries, managed from Balikpapan, are thus still playing a dynamic role in the world capitalist system.

The primary effect of the resurgence of the petroleum industry has been, as in the earlier conjunctural period, on the employment and entrepreneurial component (see Figure 6.3, Diagram 6). Although most of the heavy equipment needed by Pertamina and its production-sharing contractors has been brought in directly from outside of the country, local entrepreneurs have been able to supply a variety of supplies and services to petroleum-related enterprises. The growing number of local enterprises, as well as the major projects carried out by Pertamina and the multi-national petroleum companies, have been a source of employment to local residents as well as recent inmigrants. Secondary effects on the demographic component were the arrival of foreign petroleum contractors and their families and laborers (mostly male) from other parts of the country, on the housing and transportation component which experienced a high demand for housing due to the arrival of foreigners, most of whom moved into exclusive housing developments built for them or else lived in "luxury" class houses paid for by their companies, and Indonesians, who either lived in Pertamina-owned housing units or else had to find their own housing. Tertiary effects on the remaining components can only be indirectly attributed to the petroleum industry as
these were mostly financed by the national government which, in turn, receives much of its development revenues from oil exports. The local government component has been increasingly subsidized through the conjunctural period, which reflects the growing importance of the municipality in the eyes of the national government. The physical infrastructure and quality of life components have both undergone recent changes, the former most noticeably with the extensive road widening project. These development projects are paid for by special national government funds, such as Instruksi Presiden.

COMPARATIVE URBAN SYSTEMS APPLIED TO BALIKPAPAN AND SAMARINDA

The application of the urban systems model to Balikpapan and Samarinda met with some common problems that need to be addressed before one city's components can be compared with the other city's components. The most obvious problem, and one discussed elsewhere (see Appendix B), is the poor quality of data. The questionable reliability and inconsistency of some official data for both municipalities makes their use in any meaningful comparison doubly difficult. Even if the data themselves are accurately and
consistently compiled, their use as indicators of real events within the cities is debatable. I have tried to minimize these problems in my discussion of comparative components by referring to general trends in the data and by relying on qualitative observations made during my field work.

Another problem is that the conjunctural periods of the intermediate cities do not coincide, either temporally or structurally. For example, I have dated Samarinda's conjuncture from 1967 to the present while Balikpapan has had two conjunctures, from 1897 to 1942 and from 1973 to the present. While Samarinda's conjuncture came when the city was already well established, Balikpapan's conjuncture created the city. In addition, the available statistics do not always fit into a uniform time frame. My solution to this dilemma has been to focus, as much as possible, on the decade of the 1970s; by using this relatively fixed time period I have had to ignore Balikpapan's first conjunctural period and put less emphasis on the first three years of Samarinda's present conjunctural period.  

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1. I have strayed from the 1970s time period to include observations made during my field work in 1984.
The preceding discussion on the conjunctural periods of Samarinda and Balikpapan underline the role of these cities as "gateways" between the world market and natural resources in their hinterlands. The gateway concept in the geographical literature has developed as an alternative to the more well known central place theory. Gateways develop around exogenous linkages, to places outside of the region, while the growth of central places is dependent upon endogenous linkages (to places within the region) (Bird, 1983:196). The general characteristics of gateways are that: 1) they "develop in positions which possess the potentiality of controlling the flows of goods and people"; 2) they have "precipitous rates of increase when settlers are entering the tributary area"; and 3) they become "the gathering places for the pushers, the boosters, those who wish to become rich quickly" (Burghardt, 1971:282). Seaports or riverports, such as Samarinda and Balikpapan, with their strong exogenous linkages clearly fall within the gateway rather than the central place model (Bird, 1973:105-118).

The following discussion of Samarinda and Balikpapan's urban components is, in essence, a comparison of two different types of gateway cities. The individual components are windows into the morphology and functions of these gateways during an especially dynamic conjunctural
period in their development. Neither of the cities' conjunctural periods was over by the time of my research, thus the analysis of changes to the urban components remains incomplete. Nonetheless, the urban components described here can be used to compare Samarinda and Balikpapan with other gateway cities in other regions of the world.

DEMOGRAPHIC COMPONENTS

Both Samarinda and Balikpapan have undergone rapid population growth since the turn of the century, but especially during the 1970s. From towns of less than 6000 before 1915, they have become intermediate-sized cities with populations of more than 260,000 by 1980 (Table 6.1 and Figure 6.4). If annual growth rates are calculated for each city between the four census years, 1930, 1961, 1971 and 1980, their extraordinary population growths become apparent (Table 6.2). Indeed, Samarinda's growth rate between 1930 and 1971 was the highest of any large city in Indonesia (Peta Pembangunan Sosial Indonesia, 1930 - 1978: table 14). For both cities, however, the period of greatest absolute population increase and also highest exponential growth rate was the decade of the 1970s. The population growth within the 1970s is even more significant than that of previous


<table>
<thead>
<tr>
<th>Year</th>
<th>Samarinda</th>
<th>Balikpapan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1905</td>
<td>4,730.0</td>
<td>-</td>
</tr>
<tr>
<td>1915</td>
<td>-</td>
<td>6,000.0</td>
</tr>
<tr>
<td>1920</td>
<td>6,879.0</td>
<td>-</td>
</tr>
<tr>
<td>1930</td>
<td>11,086.0</td>
<td>29,845.0</td>
</tr>
<tr>
<td>1961</td>
<td>69,715.0</td>
<td>91,706.0</td>
</tr>
<tr>
<td>1971</td>
<td>137,918.0</td>
<td>137,340.0</td>
</tr>
<tr>
<td>1980</td>
<td>264,012.0</td>
<td>280,750.0</td>
</tr>
<tr>
<td>URBAN AREA 1971</td>
<td>105,290.0</td>
<td>76,768.0</td>
</tr>
<tr>
<td>URBAN AREA 1980</td>
<td>207,637.0</td>
<td>135,797.0</td>
</tr>
<tr>
<td>URBAN CORE 1980</td>
<td>131,803.0</td>
<td>121,507.0</td>
</tr>
<tr>
<td>EXP. GR. RATE (1930-61)</td>
<td>5.9</td>
<td>3.6</td>
</tr>
<tr>
<td>EXP. GR. RATE (1961-71)</td>
<td>6.8</td>
<td>4.0</td>
</tr>
<tr>
<td>EXP. GR. RATE (1971-80)</td>
<td>7.2</td>
<td>7.9</td>
</tr>
<tr>
<td>DOUBLING TIME</td>
<td>9.6</td>
<td>8.8</td>
</tr>
</tbody>
</table>

Note: Sources on population estimates for the different years in the table are in the demographic subsystem sections of chapters four and five. Urban area definitions are based on kecamatan districts with densities of more than 500 persons per square kilometer. Exponential annual growth rates are used to calculate doubling times and the projected populations for the year 2000; both calculations use the growth rate figures for the 1971 - 1980 period. The high growth rates of this period, however, are not likely to be sustained for reasons explained in this dissertation, thus the actual population in the year 2000 will probably be considerably less than the projected population.
FIGURE 6.4: Population Growth of Samarinda and Balikpapan
### TABLE 6.2

**AGE STRUCTURE, DEPENDENCY RATIO AND SEX RATIOS FOR MUNICIPALITIES OF SAMARINDA AND BALIKPAPAN**

<table>
<thead>
<tr>
<th></th>
<th>SAMARINDA 1980 % OF TOTAL SAM. POP.</th>
<th>BALIKPAPAN 1980 % OF TOTAL BAL. POP.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 4</td>
<td>40,573 15</td>
<td>43,623 16</td>
</tr>
<tr>
<td>5 - 9</td>
<td>37,356 14</td>
<td>39,448 14</td>
</tr>
<tr>
<td>10 - 14</td>
<td>29,559 11</td>
<td>31,276 11</td>
</tr>
<tr>
<td>15 - 24</td>
<td>61,152 23</td>
<td>62,037 22</td>
</tr>
<tr>
<td>25 - 49</td>
<td>76,960 29</td>
<td>83,969 30</td>
</tr>
<tr>
<td>50 +</td>
<td>18,412 7</td>
<td>19,499 7</td>
</tr>
<tr>
<td>0 - 14</td>
<td>107,488 41</td>
<td>114,347 41</td>
</tr>
<tr>
<td>(0 - 14) + (50 +)</td>
<td>125,900 48</td>
<td>133,846 48</td>
</tr>
<tr>
<td>15 - 49</td>
<td>138,112 52</td>
<td>146,006 52</td>
</tr>
<tr>
<td>TOTAL POPULATION</td>
<td>264,012 100</td>
<td>279,852 100</td>
</tr>
</tbody>
</table>

**DEPENDENCY RATIO** 91 92

**SEX RATIO (TOTAL POP.)** 112 111

**SEX RATIO (0 - 14)** 107 105

**SEX RATIO (15 - 24)** 102 100

**SEX RATIO (25 - 49)** 125 124

**SEX RATIO (50 +)** 125 134

Source: Figures in the above table were derived from two tables in Penduduk Kalimantan dan Sulawesi Menurut Propinsi dan Kabupaten/Kotamadya: tables 6.1 and 6.2; Biro Pusat Statistik, Jakarta. Note: total population estimates in this table vary from other estimates used. Dependency ratio here differs from conventional calculation of dependent group (ages 0 - 14 and 65 +) and working group (15 - 64) because source used did not breakdown age groups beyond age 50; thus the dependency ratio here is unrealistically high.
periods because it was not influenced by the expansion of municipal boundaries.

Balikpapan and Samarinda now rank fourteenth and sixteenth respectively in a rank-size hierarchy of Indonesia's cities (Figure 6.5). If the exponential growth rates of both cities during the 1970s is extrapolated to the year 2000, both populations would exceed one million. Doubling times of their urban populations would be less than ten years. These statistics become somewhat alarming when they are coupled with the already strained physical infrastructure of the cities.

Although Balikpapan's total 1980 population was slightly larger than Samarinda's, the population within its "urban area" (defined as kecamatan districts with densities of at least 500 persons per square kilometer) and within its "urban core" (defined as kelurahan, or neighborhoods, with densities of at least 1,500 persons per square kilometer) were less than in Samarinda's "urban area" and "urban core" (see Table 6.1). Part of the lower population in Balikpapan's "urban area" can be attributed to the absence of the district Balikpapan Utara, which was classified as rural although it contained some "urban core" neighborhoods. The fact that the more area specific "urban core" comparison also gives Balikpapan a smaller number suggests that Balikpapan's population is more dispersed throughout the municipality than is Samarinda's which is
FIGURE 6.5: Source: Hugo, et. al., 1981:table 38. The 1980 population used in this table is a preliminary estimation and thus varies slightly from the actual census figures for these cities. In addition, many cities had their boundaries expanded in the 1960s thereby automatically increasing their urban populations.
concentrated near its waterfront.

Urban core neighborhoods in both municipalities have population densities not usually attributed to intermediate cities. Samarinda, for example has three neighborhoods with more than 5,000 persons per square kilometer and one with more than 10,000 persons per square kilometer while Balikpapan has one neighborhood with more than 8,000 persons per square kilometer. These relatively high urban core densities contrast with the relatively low population densities for the municipalities themselves; Samarinda had a 1980 average population density of about 97 persons per square kilometer while Balikpapan had about 110 persons per square kilometer. Part of this wide range of densities within the municipalities is due to large rural areas within municipal boundaries; Kecamatan Samboja in Kotamadya Samarinda had only 16 persons per square kilometer and Kecamatan Balikpapan Seberang in Kotamadya Balikpapan had only 25 persons per square kilometer.

Both cities are thus "overbounded" in that the official boundary extends far beyond the "urban field". The boundaries of Samarinda and Balikpapan (2,727 and 2,560 square kilometers respectively) encompass areas that have only recently been cleared for sedentary agriculture and which are still geographically isolated from the cities. The problem of "overbounding" municipalities has been noted
in other areas of the Outer Islands and is partly due to confusion in distinguishing "urban" versus "rural" areas (Hugo, 1981: 9-10). A review of the recent histories of Samarinda and Balikpapan would also suggest that present boundaries are the result of provincial politics rather than demographic logic.

These resource frontier cities have cosmopolitan populations, of Bugis, Banjarese, Javanese, Dayaks, Chinese, Indians and Europeans. Census classifications of ethnicity and long standing racial tension between ethnic groups make accurate accounting of their numbers and location difficult. Perhaps the single most important ethnic group in the urban core areas is the Chinese who manage many of the urban based, "firm-type" enterprises. The official data that is available and my own observations support the observations made of Chinese in other Southeast Asian cities—they tend to live and work in their two-storey shophouses located in the "urban core" areas (Jackson, 1975). Most of Samarinda's Chinese population live in business district neighborhoods near the waterfront while Balikpapan's Chinese population seems to be concentrated along the main roads of the urban area, particularly in Kecematan Balikpapan Barat.

Another characteristic of these cities which is also seen in other areas of high immigration in Indonesia is high
sex ratios, i.e. over 105 men for every 100 women (Hugo, 1981:121). Within the urban area of Samarinda sex ratios in the kecamatan districts ranged from 108 to 114 while in Balikpapan's two urban kecematans the sex ratios were 109 and 110. Sex ratios for the municipalities were almost the same; Samarinda's was about 112 and Balikpapan's was 111. An interesting aspect of the sex ratios in both municipalities is revealed when the ratios are broken down by age group (see Table 6.2). The age group with the lowest sex ratio is between 15 - 24 years, suggesting that perhaps more young women are migrating into the cities or else that young men are migrating out from the cities (perhaps to work on remote resource extraction projects). Research on female migration into Jakarta would tend to support the first contention that more and more young unmarried women are leaving rural areas for employment in the cities (Crockett, 1983). After a few years some of these women return to their villages to raise families; this trend is reflected by the relatively high sex ratios in the 25 - 49 age group.

The age structures of both populations are relatively young; the percentage of the population 14 and younger is 41 percent while those over 50 account for only 7 percent of the population. The small number of elderly in both cities reduces the dependency ratio to 91 in Samarinda and 92 in Balikpapan. These dependency ratios would be even lower if the conventional definition of dependent elderly being over
was used (my data source did not provide an age breakdown beyond 50 years). The relatively young populations are consistent with the rapid population growth due to the high natural increase and the high inmigration to East Kalimantan in the 1960s and 1970s (Hugo, 1981: 52).

HOUSING AND TRANSPORTATION COMPONENTS

Samarinda and Balikpapan have undergone some major changes during the conjuncture of the 1970s. One of the most visible manifestations of these changes can be seen in the housing and transportation component. Both cities have had active housing markets and extensive public transportation systems that have grown along with the cities.

A) HOUSING: Although the physical layout of the two cities is very different, both have similar patterns in the distribution of housing. Larger, more substantial houses (made of brick and concrete if they are newer and tropical hardwoods if they are older) are usually located along the main roads of the cities while smaller, less permanent houses (made of wood or bamboo) are located in kampung off of the main roads, along gang (alleys). This pattern has been observed in other Indonesian cities (Geertz, 1965:30-1). One modification to this general housing pattern in both Samarinda and Balikpapan has been the construction
of rather substantial new houses or else major upgrading of some existing dwellings in the off-road kampung. These improvements can probably be attributed to the increased wealth of occupants who wish to continue living amongst friends and relatives in their old kampung. These urban core kampung are also generally better served by urban services, such as public transportation, piped drinking water and electricity, than are new housing projects in the urban fringe.

The urban core area of both cities is dominated by two storey shophouses along the cities principal arterials. Almost all of these shophouses seem to be occupied by ethnic Chinese who run business enterprises on the ground floors and reside in the upper floors. In both cities, but particularly in Balikpapan, many of the shophouses are being extensively remodeled; these renovations suggest that the Chinese populations are intending to stay in their urban enclaves and will not follow other residents in moving to the urban fringe. This concentration of Chinese controlled shophouses, although varying considerably in spatial area, is common in all of the larger cities of Southeast Asia (Jackson, 1975).

Samarinda and Balikpapan's "luxury" housing markets have undergone some major fluctuations in both supply and demand. In the early 1970s, near the beginning of the
conjunctural periods of both cities, their was a low supply of western style "luxury" houses, for which there was a high demand from foreign employees of resource extraction industries who had just arrived in the province. The high demand was eased by an increase in "luxury" house construction by local developers and the building of small housing estates by some of the major petroleum contractors (such as HuffCo. and Union Oil). Throughout the 1970s very high rents were obtained for these "luxury" houses from multi-national corporations who wished to station their employees near the sites of their resource extraction projects. In the early 1980s many of these multi-national corporations transferred their employees away from the region. By 1984 the housing market was reversed from what it was a decade earlier; from a scarcity of suitable houses there was now a number of empty "luxury" houses awaiting occupancy and from a high demand for this type of housing there was now a low demand. Owners were reluctant to lower rents as some developers became anxious about the housing vacancies. Even the lower prices, however, are far beyond the means of local residents.

Perhaps the biggest housing developer in both cities is the Indonesian government. The government's national

1. Wealthy local residents are not in the rental market because they can build their own "luxury" houses.
housing project, Perumahan Nasional, has played a major role in providing low and moderate income housing for active and retired government employees and some selected non-government families. In addition, government sponsored agencies such as Pertamina in Balikpapan and the provincial university in Samarinda, have built housing projects for their employees. Most of these housing projects are located in the urban fringe areas and have helped to direct the rapid suburbanization process in both cities.

The serious problems of fire, flooding and soil erosion in the urban core areas can be directly attributed to the high densities of housing. At present, there is little control over the location of house sites in the city; as a result many "illegal" houses are crowded together, which makes them vulnerable to frequent fires, and/or built on steep slopes, which exacerbate soil erosion and earthflows. The combination of earthflows, which fill drainage canals with silt, and rapid runoff because of lack of groundcover around house sites during heavy rains, regularly turns city roads into rivers of mud. The continued high demand for low cost housing in the urban core and the lack of adequate land use enforcement will prevent any long term solution to the problems of fire, soil erosion and flooding.

B) TRANSPORTATION: Samarinda and Balikpapan have relatively well organized public transportation systems.
Samarinda has a large fleet of "Colt" mini-buses while Balikpapan has "Kijang" mini-buses and World War II vintage Willys Jeeps. Although the make of the mini-buses varies between the cities, the public transportation systems are both organized along the following lines. Individuals rent out a mini-bus by the day (or perhaps longer under special arrangements) from a company which owns and repairs the vehicles; the driver is given a general route between two terminals, one located in the urban core and the other near the urban fringe, but is allowed to stray from this course in order to pick up or drop off passengers who are charged a set fee regardless of distance traveled (about 15 cents in Balikpapan and 20 cents in Samarinda); and finally, the driver is responsible for buying gasoline, collecting fares and paying any "fines" he may incur. In each city I never had to wait more than five minutes for a mini-bus going in any direction I wished. The resulting system, although rather chaotic during "rush hours" in the morning and late afternoon when literally hundreds of crowded mini-buses rush around the city, provides a relatively inexpensive, prompt and reliable means of transportation for the growing urban populations.

Two smaller but important public transportation systems are the riverboats in Samarinda and the "kojak" motorcycles in Balikpapan. They both fulfill a need imposed by the physical geographies of their respective cities.
Samarinda's location along the Mahakam River requires a good riverboat system to connect the city with the hinterland. In addition, residents within the urban area who live along the river or one of its many tributaries depend on the river to get them to the city markets. Balikpapan's "kojaks" carry single passengers and their goods between markets and their homes located in the urban fringe areas, off of the paved roads, and thus inaccessible to the mini-buses.

A problem both cities face, but particularly Balikpapan, is the increase in privately owned motorcycles and automobiles, which are contributing to traffic congestion. The increase in privately owned vehicles can be attributed to the increased wealth of local residents during the 1970s and the growing numbers of people living in the urban fringe areas, beyond the limits of the regular mini-bus service. Private vehicles, especially automobiles, are heavily taxed and are thus expensive in Indonesia but they are also symbols of material success and are thus admired and desired by the growing urban middle class.

PHYSICAL INFRASTRUCTURE COMPONENTS

The different geographical settings of Samarinda and
Balikpapan have influenced the spatial growth of the cities in different ways. Samarinda is located on a relatively flat stretch of the Mahakam and has spread out, for the most part, in a perpendicular direction from the original site. Balikpapan, in contrast, is located on hilly land around a bay and has grown in roughly parallel lines to the bay and to the coast. Until the 1970s the growth of both cities followed the patterns described above; during the conjunctural period of the 1970s, however, the patterns became blurred as housing projects were built in urban fringe areas and as people began to construct houses in areas which had previously been considered unsuitable. The topographical constraints on the cities, such as steep hills or marshy ground, have been ignored as land values have increased and as new residents have become desperate for a place to live.

Both cities have begun to experience a suburbanization process along their respective growth corridors. Samarinda's growth corridors along Jalan Mohammed Yamin and Jalan Kakatua are lined with either government offices and housing projects or "luxury" type houses. Balikpapan's growth corridors along the road to Samarinda and along the coast road have government sponsored housing projects, middle class dwellings and a variety of enterprises, ranging from small firms that support the petroleum industry to simple retail shops. Some government programs in the urban
fringe areas, such as the construction of housing projects, the location of government offices and the building of asphalt roads, have directly influenced the development of the growth corridors while other government programs in the urban core areas, especially urban renewal schemes such as widening the streets and building new market places have indirectly affected the growth corridors by forcing people to relocate to those areas.

If the spatial extent of the built up areas continues to expand, the percentage of "urban" land within both municipalities will increase at the expense of "rural" (i.e. agricultural) land. At the same time, the population densities within the urban core areas will probably decrease as these areas are designated for commercial functions only. Statistical evidence for the suburbanization trend can be seen in the increasing population densities of urban fringe areas while the beginning of density reduction in the urban core neighborhoods can already be seen in the neighborhoods of Pasar Pagi and Selili, in Samarinda, which experienced a decrease in population densities between 1971 and 1980, despite the rapid population growth within the urban area.

These trends in population distribution within the urban areas, if they are sustained in the next decade, suggest that the morphology of these resource frontier
cities is becoming increasingly westernized. They are beginning to have suburban residential neighborhoods and central business districts, both of which are more characteristic of large cities in the First World than small cities in the Third World (Geertz, 1965; Jackson, 1974). The major exception to this pattern is the Chinese community which, in both cities, seems to be reluctant to give up the relative security of their shophouses in the urban core. The continued presence of ethnic Chinese will ensure that the multiple function character of the urban core is preserved.

The rapid growth of the cities, both spatially and demographically, has placed a great strain on their public facilities. Most roads within the cities have potholes and are in need of repair. Electricity generation has not kept up with the needs of the population, especially those living in the urban fringe. Most drinking water is obtained either from wells, the river or captured rainfall; piped water from the city system reaches only a minority of urban dwellers and even then it needs to be boiled before drinking. Disposal of rubbish is becoming a greater problem, despite attempts by the cities to pick it up on a regular basis, because its accumulated volume in the intervening period far surpasses the capacity of the sites or containers that are supposed to contain it. Finally, the sanitary disposal of human wastes is also becoming more serious as growing
population densities in the urban areas make traditional means of disposal unhygienic.

These infrastructural problems are known by the local governments and attempts are being made to at least ameliorate the more serious conditions. A good example of a relatively successful, central government-sponsored, infrastructural improvement program is the Kampung Improvement Project in Samarinda which built paved sidewalks to urban core kampungs located off of the main roads and which were previously almost inaccessible during floods. The central government is also increasing its expenditures on urban water supply, sanitation and drainage projects for intermediate size cities, such as Samarinda and Balikpapan (Suselo, 1984:10-13). It is doubtful, however, whether these belated efforts will be enough to curtail the adverse consequences of rapid population growth and inadequate infrastructural planning.

The major projects currently underway in both cities have nothing to do with the problems described above. Rather they are both related to improving the transportation linkages between the two cities and the rest of the world. Samarinda's big project is the construction of a bridge that will span the Mahakam and thus will shorten the travel time between the urban core of Samarinda and Balikpapan. Balikpapan's big project, besides the road and larger
commercial airlines. Samarinda's bridge and Balikpapan's airport will encourage greater economic interactions between the two cities and between these cities and others. The bridge and the airport represent improvements in the linkages between the world economy, the political state of Indonesia and the resource extraction activities in the region of East Kalimantan.

EMPLOYMENT AND ENTREPRENEURIAL ACTIVITIES COMPONENTS

The principal entrepreneurial activities that this research has focused on are the resource extraction industries of petroleum and timber. The effects of these two industries on their respective urban systems have been outlined in the conjunctural period diagrams earlier in this chapter. In this section the focus is on other, less noticeable, employment and entrepreneurial activities taking place within these gateway cities.

A discussion comparing employment and entrepreneurial activities in Samarinda and Balikpapan needs to be qualified by the lack of accurate and consistent official statistics in both cities. Two tables on the municipal workforce employed in industrial activities, for example, give very different figures; one source lists the 1981 industrial workforce as 6,509 (Kotamadya Samarinda Dalam Angka 1981,
table VI.1.2.) while another gives it as 16,348 (mimeographed sheet, table 3, Kantor Statistik Propinsi Kalimantan Timur). Differences of this magnitude make meaningful comparisons difficult. I have tried to minimize this problem by using the same source for statistics from different years.

Another factor that needs to be taken into account is the "informal sector" within each city. My casual observation of "informal" economic activities in the cities indicates that there is a large number of people who set up temporary stalls, especially at the night markets, work as casual laborers or else have several part-time jobs. In addition, many of the "formal sector" retail shops are run by family members who are probably not officially registered as employees. It is unlikely that all these "informal" employment activities have been monitored by the local government. Official records, then, reflect an unknown percentage of the actual labor force.

The number of trading enterprises in both cities increased significantly during the latter half of the 1970s. Between 1975 and 1979 the number of trading enterprises increased from 1,090 to 1,341 in Balikpapan (about 23 percent) and from 1,041 to 1,407 in Samarinda (about 35 percent) (Kotamadya Balkpapan Dalam Publikasi Angka 1975-76: table IV.3; Kotamadya Balikpapan Dalam Publikasi Angka
The majority of these enterprises were classified as "small" and thus employed only a few people (usually less than five).

Trading enterprises in both cities are dominated by ethnic Chinese. The urban based Chinese population has played a central role in setting up trading linkages between the cities and the towns and villages in their respective hinterlands (Peluso, 1983:111-117). In addition, the Chinese have played a key role in the "gateway" functions of the two cities, particularly in the export of non-timber forest products and import of consumer goods. Most of the trading enterprises and their Chinese proprietors are located in two storey shophouses within the urban core area of each city. Chinese economic dominance in local industries and urban based enterprises dates back to the 19th century in Indonesia. During the first few decades of this century indigenous Indonesians began to play an increasingly important role in government administration and a decreasingly important role in entrepreneurial activities, which were taken over by ethnic Chinese (Kahin, 1952:29). Current entrepreneurial activities in Samarinda and Balikpapan reflect this already well established ethno-economic pattern.
Industries are more dispersed within the municipalities than the trading enterprises. In both municipalities some industries are located in "rural" kecamatan districts. Extensive land requirements and the need to have their own docks has forced the larger plywood factories in Samarinda to locate outside of the urban core area. The petroleum industry in Balikpapan, for the most part, has not had this problem because Pertamina already controlled an extensive land area along the bay within the urban core area. Non-petroleum industries, however, have not been so fortunate and some have had to locate in relatively remote areas of Balikpapan Seberang.

The number of industries in both cities also increased during the latter part of the 1970s. The number of registered industries in Balikpapan increased from 82 in 1977 with a total workforce of 1,053 to 277 in 1981 with a workforce of 3,645 (Kotamadya Balikpapan Dalam Publikasi Angka 1977: table VI.1-4; Kotamadya Balikpapan Dalam Publikasi Angka 1981: table VI.1.1). In Samarinda the number of industries jumped from 116 in 1977 with a work force of 2,155 to 444 in 1981 with a work force of 6,509 (Monografi Kotamadya Dalam Tingkat II, Samarinda 1977; Kotamadya Samarinda Dalam Angka 1981: table VI.1.1-2).

2. The data for Samarinda in 1981 only includes "small" industries, thus the total number would be even greater.
The industrial workforce statistics do not adequately reflect fluctuations in employment due to different manpower requirements of construction projects and factory operations. These employment differences are more apparent in the petroleum industry than in the timber industry because of the lower labor requirements in the daily operations of refineries and oil fields. A good example of the fluctuating labor demands of the petroleum industry is the hydrocracker project in Pertamina's Balikpapan refinery in which, reportedly, 10,000 workers were required in the construction phase but only a couple of hundred were needed after the plant began operation. Plywood factories require much more labor per unit volume of production and thus do not have such great employment differences between construction and operation phases. The number of workers in plywood factories can, however, fluctuate greatly depending upon the world market demand for plywood. Some factories have gone from running three continuous eight hour shifts per day to just one or two, thereby decreasing labor needs by 33 to 66 percent. The number of workers hired or laid off by these industries is not recorded in official statistics and thus the effects of recently employed or unemployed workers on the non-industrial sectors of the urban economy are unknown.
LOCAL GOVERNMENT COMPONENTS

East Kalimantan's two intermediate cities share some of the major political, military and administrative functions in the province. Samarinda, as the provincial capital, has the lion's share of administrative and political functions, such as almost all provincial level government departments, the provincial representative assembly and the province's only university. Balikpapan has fewer civil service departments, but has such important functions as the province's main military battalion, the provincial judiciary and prison system, and the province's only international airport. In addition, Balikpapan is the regional home of Pertamina, the politically powerful national oil company. These interrelated provincial level government functions necessitate close communication between the two cities. For the most part, however, the municipal governments operate independently from each other.

The political structure of the two municipal governments is very similar, both function within a clearly defined and highly structured "top-down" hierarchy of authority. The Governor of the province appoints the mayor who, in turn, appoints the heads of the various administrative departments. A representative assembly, consisting of elected and appointed representatives, advises the municipal government on development policies and
priorities. Each municipality consists of several kecamatan district offices which coordinate development projects between the municipal government and neighborhood or village officials. During the 1970s the number of civil servants at all levels of the municipal governments more than doubled.

The annual budgets of both municipal governments increased substantially during the 1970s. Samarinda's total income increased from US$0.38 million in the fiscal year 1969/70 to US$8.40 million in 1982/83. Similarly, Balikpapan's total income jumped from US$0.45 million in 1969/70 to US$8.05 million in 1982/83. During the 1970s the majority of the municipal budget increase was absorbed by the municipal and provincial governments, but by the early 1980s the central government was paying a greater percentage of the total costs. In addition, the central government directly subsidizes development projects within the municipalities, such as the construction of public schools and marketplaces, through its Instruksi Presiden program.

As the municipal budgets have increased, the municipal governments' ability to cover the total costs has decreased. Part of the fiscal problem that both cities face is due to poor tax collection systems. In the fiscal year 1977/78, for example, the largest two sources of municipal income in Samarinda and Balikpapan were entertainment taxes and hotel and restaurant taxes, which together account for
more than half of municipal taxes (*Statistik Keuangan Pemerintah Daerah Tingkat II, 1977/78: table 39*). The growing dependency upon central government subsidies by both municipal and provincial governments is of growing concern to national level planners who wish to see more fiscal decentralization (Booth, 1984).

Another indication of the growing dependency upon the central government by the municipal governments is the lack of autonomy in local planning efforts. Master Plans for both cities in the mid-1970s were, for the most part, put together by a team of "experts" from the central government. In addition, these plans do not include any allocation of funds or authority for either implementation or enforcement (*Rencana Induk Kota Balikpapan*, 1983). Although each municipal government has a planning office (BAPPEDA, Tingkat II), my observations of daily office operations indicate that little time is actually spent in land use planning. Much more time is spent on non-planning duties such as speech writing for the mayor and budget reports. These planning offices, which are supposed to coordinate all planning activities for the spatially extensive municipalities, have no professionally trained planners. Only one official had taken more than a year of planning related courses and there were no up-to-date, comprehensive set of land use maps. The lack of funds, authority, time, resources and expertise has curtailed the
ability of the municipal governments to deal effectively with the rapid changes that have occurred in the urban components during the 1970s (Rahim and Roelke, 1984:14-15).

QUALITY OF LIFE COMPONENTS

A comparison of "quality of lives" between two municipalities is a rather tenuous undertaking. The poor data base for indicators of "quality of life" makes any conclusions tenuous. My intention, then, is not to proclaim one quality of life component better than the other but to discuss common issues that characterize these gateway cities.

The increasing populations of Samarinda and Balikpapan during the conjunctural period of the 1970s strained the public facilities that are included in the quality of life component. To the credit of national government programs, such as Instruksi Presiden, the number of such public facilities as elementary-level public schools and basic health centers has managed to keep up with the increased demand. The influence of these public institutions in the lives of municipal residents cannot, of course, be measured by the number of facilities, but the fact that the government has attempted to keep up with the demand for them indicates that these "basic needs" are a high government
priority in both cities.

The governments' attempts to provide other types of "basic needs" such as piped drinking water, reliable sanitation facilities and electricity have been less successful. In Samarinda the majority of people rely upon the river or their own wells to supply water while in Balikpapan, where there is no convenient river, most people rely upon wells. These sources of drinking water are adequate during periods of normal rainfall but are unsafe and/or inadequate during droughts, such as the ten-month drought in 1982/83. Sanitation systems are a potentially serious public health problem in both cities, especially within crowded urban core areas where the safe disposal of human wastes is becoming difficult. In addition, accumulated refuse at collection points attracts flies and clogs up drainage canals. Electricity within the municipalities is, for the most part, available only within the urban areas and is usually only used for lighting and for small electrical appliances (especially radios and televisions). Both cities occasional have "brown outs" because of insufficient generating capacity to meet the growing electricity demands of their urban populations.

Public health standards in either city are difficult to estimate because of political sensitivity concerning outbreaks of diseases. From unofficial sources I learned
that there have been some recent outbreaks of contagious diseases, such as cholera and malaria, in Samarinda. If the public sanitation systems deteriorate further or if there is another drought, the possibility of an epidemic in either municipality will increase. Fortunately, the gradually improving health care systems in Samarinda and Balikpapan will be better able to deal with any health crises that might arise.

Basic staples, such as rice, salted fish and certain fruits, particularly bananas and papayas, are relatively inexpensive in the two cities. Other consumer goods, however, are relatively more expensive than other cities in Indonesia. One source, for example, estimates that between 1970 and 1978 Samarinda and Balikpapan had the two highest cost of living indexes in the country (Daroesman, 1979:77-8). These high prices were probably sustained by the relatively high wages paid to workers employed in the region's resource extraction industries.
CHAPTER SEVEN

CONCLUSION

The truth is that these densely populated cities, in part parasites, do not arise of their own volition. They are what society, the economy and politics allow or oblige them to be. They are a yardstick, a means of measurement...Above all, a great city should never be judged in itself: it is located in the whole mass of urban systems, both animating them and being in turn determined by them. -- Braudel, 1981:557

Braudel, in the above quote, refers to the nineteenth century metropolises of Paris and London but notes that it was not these "great" cities that launched the new age of the industrial revolution, but the smaller, less glamorous factory cities and "countless mill-towns". These industrial cities are an integral part of the history of the "core" of the world economy; their counterparts in the "periphery" are not the primate cities, which have often become national capitals, but the intermediate cities in resource frontiers. The two intermediate cities studied in this dissertation are not necessarily "densely populated", "parasites" or "great", but "they are a yardstick" of socio-economic changes that extend far beyond their boundaries. Samarinda and Balikpapan have both been
transformed in relatively brief "conjunctural periods" from isolated port-towns to bustling international cities. The critical factor in their transformations has been the world market demand for timber and petroleum resources.

The relationship between the exploitation of regional resources and the rapid growth of Samarinda and Balikpapan is intuitively obvious but difficult to document. Each of the "urban system components" described in Chapters Four and Five is far more complicated than my simple model depicts; nonetheless I have attempted to use the model to explain the relationship between the "urban system components" and the resource extraction activities that have catalyzed their recent changes. Consequently, the explanations given are qualitative and generalized. Despite these weaknesses, however, the simplified explanations discussed in Chapter Six can be used to answer the hypotheses put forth in Chapter One.

THE HYPOTHESES CONFIRMED

The first hypothesis is that the growth of intermediate cities within a resource frontier is dependent upon the world market demand for resources extracted from the region, regardless of existing regional and national linkages. Observations of the "urban system components", especially
during the conjunctural periods experienced by Samarinda and Balikpapan, support the contention that there is a strong positive correlation between resource extraction activities and the growth of intermediate cities. This conclusion is not surprising given the important role of these cities in the extraction process. Studies of other resource-linked urban changes document how the fortunes of "boomtowns" are closely tied to the intensity of exploration, rather than production, activities (Olien and Olien, 1982; Malamud, 1984). These studies would suggest that the period of fastest growth for the "urban systems" of Balikpapan and Samarinda is over, as exploration activities have already drastically declined (see Chapter Three).

A study of several "single-enterprise" communities related to resource extraction and energy development projects in New Zealand suggests that the growth of "resource frontier" communities passes through several defined stages which are closely linked to labor demands of the related industries and social organization within the communities (Chapman, 1966). The urban system diagrams in Chapter Six illustrate some of the more recent stages Samarinda and Balikpapan have passed through. Two major differences between First World "boomtown" communities and the two intermediate cities in this study are the scale of growth and the involvement of the national government. First World "boomtowns", with some notable exceptions, had,
at their periods of peak growth, populations of several thousand; Samarinda and Balikpapan have populations of several hundred thousand. In First World "boomtowns" the national government only plays a leading role if a nationally sponsored development project is involved and, even then, has to contend with local political systems in implementing its plans. In Samarinda and Balikpapan, on the other hand, the national government has not only taken a leading role in all aspects of resource extraction activities but has also taken control of the provincial political process.

Unlike the stereotypical "boomtown", Samarinda and Balikpapan have physical infrastructures which do more than permit resource extraction; these cities facilitate resource processing, a much more substantial commitment. From the standpoint of Indonesia, Samarinda and Balikpapan not only serve short-term resource extraction objectives but also long-term regional development goals. Finally, the major investor in the cities is not some private enterprise but the national government. The Indonesian government, therefore, cannot afford "laissez-faire" policies which would allow these cities to fade into obscurity; too much is at stake.

The corollary of this hypothesis, that regional and national linkages are unimportant, is not supported by my
observations. Indeed, as the cities become more involved in the resource extraction activities, their regional and national linkages become more important. In the case of Samarinda, the investment and subsequent improvement in regional linkages, such as the road between Balikpapan and Samarinda, the improved port facilities and the proposed bridge project, all have helped the national government consolidate its interests in the development of regional resources. In the case of Balikpapan, national linkages have been strengthened by the state owned petroleum company, Pertamina, to maintain national revenue earnings from petroleum exports and to better supply the growing domestic dependency upon petroleum (the use of which is subsidized by the national government). These improved regional and national linkages ensure that the interests of the region are subordinate to those of the state.

The second hypothesis states that the structure, role, function and growth of an intermediate city in a resource frontier region is dependent upon the type of resource extraction activity with which it is associated. Again, a direct causal relationship has been difficult to prove because of numerous intervening variables, the most important being the national government. Samarinda, the provincial capital, has experienced a rapid growth of government activities at the municipal, provincial and national levels which are only partially linked to timber
activities. Balikpapan's petroleum industry is, for the most part, managed and regulated by the national government. Both cities have undergone a major expansion and upgrading of their physical infrastructures due to direct investments by the national government. Another problem in analyzing the linkage of resource-based industries to urban system components is caused by the largely undocumented "informal sector" workers who may or may not be marginally involved in resource extraction activities.

With these constraints in mind, one major difference between the "urban systems" can be discerned. Although both cities have experienced an increase in the number of commercial enterprises and the number of employees during their conjunctural periods, the historical functions of these enterprises differ in each city. Entrepreneurial activities in Samarinda have a long history and include many trading firms, dealing in non-timber products, that have extensive networks within the region as well as to other countries (Peluso, 1983). Enterprises in Balikpapan, in contrast, have a relatively short history and few linkages beyond the municipality. Balikpapan's urban economy is thus more directly dependent upon the fortunes of the petroleum industry than is Samarinda on the timber industry. Fortunately for Balikpapan, the short term prospects of the
petroleum industry are far more optimistic than that of the timber industry.

The structure, role, function and growth of both Samarinda and Balikpapan have been greatly influenced by resource extraction activities. Differences in the ways that these two cities have been affected by resource activities, however, is still unclear because of the strong influence of national government involvement in the region. For the most part, the changes in the two cities have been quite similar, considering the labor intensive nature of the timber industry and the capital intensive nature of the petroleum industry. The demographic, employment and entrepreneurial, and housing and transportation components in both cities have all experienced rapid growth and greater diversification. The one major difference, the dependency of local enterprises on the resource activity, is due less to the activity itself than it is to the different historical functions of each city's enterprises.

The third and final hypothesis argues that the roles and functions of an intermediate city change as it becomes incorporated into the world economy. The most obvious functional change is the improved infrastructure for international transactions. Within their brief conjunctural periods, both cities experienced the building of housing suitable for employees of multi-national corporations, the construction of roads, ports and airports that facilitate
the movement of resource extraction equipment and foreign employees, and the establishment of commercial enterprises that help to serve resource extraction industries (ranging from banks to "supermarkets" with an assortment of canned "western" foods). Many of these functional changes, however, also benefitted regional and national level economic transactions. The economic functions of Samarinda as a trading and administrative center for the region and Balikpapan as a processing terminal for petroleum products have remained unchanged through the conjunctural period.

The changing roles of Samarinda and Balikpapan differ because of their different political and economic roles. Samarinda's historical role as the capital of the Kutai kingdom drastically changed as the national government first absorbed and then eliminated the kingdom's political authority. Samarinda became the provincial capital and the center of national government involvement in the region. Balikpapan's early role as a frontier petroleum entrepot for the Royal Dutch Shell, a multinational corporation, has not fundamentally changed. Balikpapan is now the regional headquarters for Pertamina, the state owned petroleum company, but its economic role as a frontier entrepot has remained the same.

The roles and functions of Samarinda can be compared with McGee's "grafted city" classification while Balikpapan
can be compared with his "planned colonial city" classification (1967:67-72). McGee uses the example of Rangoon as a "grafted city" where indigenous political institutions and local industries were usurped by colonial administrations and enterprises. Similarly, Samarinda's current, highly centralized, political structure and multi-national firms have been respectively "grafted" onto the indigenous political control established by the Sultan of Kutai and onto the commercial networks set up by Chinese, Bugis and Banjarese traders. McGee's "planned colonial city" is Singapore, with its colonial heritage, export oriented development and segregated ethnic groups. Balikpapan, although less well planned, was also established by a colonial power, has always been an export based entrepot, and has segregated districts. The classifications "grafted city" and "planned colonial city" are generalizations of complex urban systems but they help to illustrate the historically different functions and roles of Samarinda and Balikpapan.

CRITIQUE OF WORLD SYSTEMS FRAMEWORK AND URBAN SYSTEM METHODOLOGY

The world systems framework used in this study has provided a historical and global context from which to study
the development of Samarinda and Balikpapan. These two intermediate cities, located in a peripheral region of a Third World country, have served as points of interaction between regional resources and the world capitalist economy. The world market influence on these cities has been through the increased demand for East Kalimantan's timber and petroleum resources and the attempts by multinational corporations and the Indonesian government to meet that demand by rapidly exploiting available resources.

The world systems context is a useful one for studying historical events or "conjunctural periods" within a given region because it ensures that the region will be considered in relation to contemporaneous events or periods beyond the region. In some regions, such as resource frontiers, events outside of the region are the key to understanding development patterns within the region. The main drawback of the world systems framework is that it is highly generalized and ignores economic developments that do not fit into its Euro-centric model. The international and capitalistic networks of the Chinese in Southeast Asia, for example, are ignored by Wallerstein's reading of world capitalism (1979). Global theories of economic change, such as Wallerstein's, need to be adapted to unique regional histories before they can be adequately tested.

Nijkamp's "integrated systems approach" was used as the
basis for my "urban system" model with which Samarinda and Balikpapan were analyzed. The "urban system" model proved to be a useful organizational tool, especially in areas where data are poor and/or inconsistent. Another major benefit of the model is its simplicity; complicated interactions can be broken down into easily recognized categories and thereby better understood. The model's "urban components" can be studied individually so that problem areas can be focused on by urban planners. Finally, the "urban system" model can be used for comparative urban studies. These benefits make the model especially useful for planners and policy makers working in Third World cities.

The main drawback of the "urban system" model is that it categorizes phenomena that do not lend themselves to easy classification. An urban problem such as lack of clean drinking water can be placed in either the "quality of life" or "physical infrastructure" components but is, in reality, a factor in both. The simplicity of the model is convenient but also tends to be too simplistic; tracing component reactions to an external catalyst, for example, are depicted as unilinear when, in fact, they are probably multilinear. Finally, the categories make it sometimes difficult to determine relevant interrelationships between components. The "urban system" model used here and/or Nijkamp's "integrated systems approach" need to be tested in cities
with more comprehensive data bases before their utility can be properly assessed.

POLICY IMPLICATIONS

Manaus and Belem, two cities in the Amazon region of northern Brazil, have histories that are relevant to the development dilemma currently facing Samarinda and perhaps also Balikpapan in ten or twenty years time. Manaus and Belem, between 1830 and 1910, became "boomcities" because of their function as collection and centers for rubber tapped from wild trees in the Amazon rainforest (James, 1946:224-227). During this period, in which Brazil monopolized the world's rubber supply, the cities thrived commercially; roads and railroads were built, and smaller towns were established in their hinterlands. By 1910, however, a drastic change occurred on the world rubber market. Rubber plantations in Southeast Asia, generated from Brazilian seeds, began to export a higher grade, more consistent and lower cost product. Brazil's dominance of the world market was quickly eclipsed; in 1910 Southeast Asian rubber accounted for 9 percent of the world's supply, by 1924 it accounted for 93 percent. Manaus and Belem fell into economic ruin as the regional rubber industry collapsed. Unemployed rubber tappers and their families
migrated into the cities looking for work while parts of Manaus and Belem were completely abandoned. Interestingly, the decline of the rubber industry was not followed by an increase in local food production, an expected outcome considering the limited ability of the impoverished local population to pay for imported foodstuffs.

What possible lessons do the rise and fall of Manaus and Belem have for Samarinda and Balikpapan? First and foremost, the histories of Manaus and Belem underscore the tenuous stability of resource extraction activities. The Brazilian rubber industry depended upon rubber from wild trees, with little effort to replant or manage the resource; it is not surprising then that Brazilian rubber exporters could be easily undersold by much more efficient Southeast Asian rubber plantations. A parallel to this might be East Kalimantan's timber industry which has depended upon selective logging of tropical hardwoods, with little serious commitment to either replanting or supervision of logging practices; it is not surprising then to learn that other regions with perhaps better resource management, such as East Malaysia, are beginning to eclipse East Kalimantan's role as a world timber supplier. A second lesson is that the roads, railroads and other physical infrastructure built in and around Manaus and Belem provided no guarantees against their rapid decline. Similarly, the substantial investments made over the last decade in Samarinda and
Balikpapan may not prevent them from falling into economic ruin should the regional economy collapse. Finally, the failure of local agricultural activities to fill the vacuum created by the collapse of Manaus' and Belem's rubber industry suggests that East Kalimantan's transmigration and agricultural development programs might be a poor substitute for resource extraction industries in the regional economy.

In contrast to Manaus and Belem, resource frontier cities which were successfully transformed into "multi-functional regional centers", such as Medan in northern Sumatra, were based on relatively stable plantation economies that allowed improved intra- and inter-regional linkages, an expanding network of support services, and a growing number of independent farmers (Withington, 1962). Samarinda's timber industry can be steered towards the development of a plantation type of economic system with sustainable crop yields if government incentives are provided and if the world market continues to place a high value on tropical hardwoods. Balikpapan's petroleum industry, on the other hand, is based on non-renewable reserves and will probably collapse when regional reserves either become depleted or too expensive to extract; the post-petroleum future of Balikpapan will then depend upon the development of alternative regional resources. The future of Indonesia's current resource frontier cities, such as Samarinda and Balikpapan or Lhokseumawe in Aceh, will
thus depend upon prudent government management of existing natural resources and the successful search for alternative resources and/or workable programs of resource conservation. If these difficult hurdles are cleared and the economic benefits from resource extraction activities somehow sustained, Indonesia's resource frontier cities will become well integrated regional centers with strong regional, national and international linkages. If the complex problems of resource extraction are not dealt with adequately, Indonesia will lose a critical opportunity to establish an integrated system of cities in Outer Island regions which are crucial to the country's future development.

This study has attempted to highlight the importance of international economic processes on sub-national regions. International linkages have, until recently, been ignored in most geographical studies of regions, which have tended to concentrate on internal spatial patterns (Gould, 1975). Even recent studies of intermediate cities and national urban development strategies have focussed almost exclusively on national and regional relationships (Rondinelli, 1983; Richardson, 1984). The academic neglect of international economic linkages has denied national policy-makers the opportunity to consider a significant variable in urban and regional development.
Policies affecting the development of intermediate cities are, in essence, a subset of population distribution policies (United Nations, 1981). These policies can be divided into two groups, implicit and explicit, with the former historically having a much greater affect on population distributions within a country (Fuchs, 1982; Fuchs and Demko, 1981). Similarly, the growth and/or decline of intermediate cities in resource frontiers, have been much more influenced by implicit rather than explicit population distribution policies. Implicit policies rarely state whether or not they will have an affect on population movements such as rural to urban migration (Todaro and Stilkind, 1981). Implicit policies that have influenced the growth of Samarinda and Balikpapan include such disparate sectoral regulations as quotas on raw logs exported from Samarinda and production sharing agreements with petroleum industries based in Balikpapan. These policies are usually designed to achieve national economic goals but have unforseen spatial consequences that may or may not be in the national and/or regional interest (Richardson, 1981).

Most national governments have expressed dissatisfaction with the distribution of their populations but few, if any, have been able to effectively influence distribution patterns (Fuchs, 1984). Perhaps the most visible aspect of the perceived maldistribution of populations is the rapid growth of primate cities. Various
explicit policies have been attempted by national governments to stem the in-migration of unemployed and underemployed peasants into the primate cities. These explicit population distribution policies include China's "rustication" program in which urban dwellers were sent to work in rural areas and Indonesia's "closed city" program in which residence in the capital of Jakarta was temporarily denied to unemployed rural peasants. These direct population distribution programs, never popular with affected migrant groups, were usually abandoned after trial periods because of administrative difficulties (Hugo, 1979).

The promotion of intermediate cities is just one policy option available to governments concerned with uncontrolled growth of primate cities (Rondinelli, 1983; Douglass, 1984b). Policy options include the development of rural service centers, "leapfrog decentralization" within the region surrounding the primate city, non-intervention (the de facto option used most), decentralized government institutions, government subsidies to industries located in target regions and infrastructural investments in hinterland areas (Richardson, 1984). These spatial policies, though, will always be of secondary importance to more pressing national concerns of economic growth. The objective of any population distribution program, if it is to be politically viable, is thus not to compete with sectoral policies but to complement them as much as possible. In the same way, the
main goal of a population distribution policy is not necessarily to stem the growth of a country's primate city but to stimulate the growth of hinterland regions.

The relationships between regional development policies, intermediate cities and national economic integration are still not clearly understood. Efforts by national governments to "balance" economic growth with regional equality and integrated city hierarchies are confused by a number of factors: the type of national development policies ("laissez-faire" versus "interventionist"); the economic function of the region within the state; rural-urban economic linkages and migration patterns; the role of intermediate cities within the urban hierarchy; the economic development of rural communities; and government programs to reduce poverty (Salih, 1980:28-33). Similarly, "polarization reversal" policies, which attempt to counter trends inherent in capitalistic economies towards increased spatial concentrations of capital, have to reckon with the dilemmas of slowed economic growth, costly and ineffective implementation and possible political instability (El-Shakhs, 1981:19).

This dissertation adds one more factor to the above list of variables, the world market system, which can radically influence the development of a given region or
city and drastically change the socio-economic and political context in which policies are made. The complexity and inter-relatedness of all these intervening variables suggest a pessimistic future for policies that seek to modify spatial patterns of economic development in Third World countries without fundamental changes in the underlying economic relationships that cause them. Policies directed towards intermediate cities, as a subset of regional and national development policies, also face bleak prospects in countries dependent upon fluctuations in the world market demand for natural resources. Indeed, some academics have argued that only a "bottom-up", rural development orientation, such as that carried out in China, can possibly lead to an integrated system of "lower order cities" and successful implementation of urbanization policies (Stohr and Fraser, 1981; Banerjee and Schenk, 1983).

Governments of peripheral capitalist countries are faced with two "development paths". The first is the "pragmatic" path in which the government grapples incrementally with the more serious consequences of regional disparity and economic polarization. The second is the "radical" path in which the government attempts to influence structural relationships between regions and social groups. Pragmatic policies are politically feasible but never solve the problems while radical policies might solve current problems but are politically and economically explosive and
could create new dilemmas (Rauch, 1984:226). If a government wishes to maintain its status quo it will invariably choose the "pragmatic" path, thereby perpetuating spatial and economic inequality. Countries which have grown highly dependent upon export earnings, such as Indonesia, are caught in a "staple trap" which prevents them from implementing anything but "pragmatic" policies (Frank, 1979:112-3).

Intermediate cities in resource frontier regions illustrate the development dilemma between the state and the world economy. On one hand resource frontier cities, such as Samarinda and Balikpapan, have high growth rates and active economies which make them good prospects for infrastructural and financial investments by a state interested in promoting intermediate cities as an urban development strategy. On the other hand resource frontier cities are very dependent upon the world economy, national resource policies and resource reserves which make them highly unstable. States with economies "open" to the demands of the world market are thus left with only tenuous influence over even "pragmatic" policies, such as intermediate city promotion.

In Indonesia, sectoral policies carried out during the last thirty years have exacerbated regional inequalities rather than lessened them (Soegijoko, 1978:22). The result
has been a high concentration of people, physical infrastructure, government institutions and industries in Java, particularly around the capital of Jakarta, while the national economy has been dependent upon the natural resources and plantation crops of the Outer Islands. Explicit population redistribution programs, such as the Transmigration Program, have not significantly affected the continued unbalanced spatial development of Indonesia (Speare, 1978). The long history of the Transmigration Program in Indonesia and the considerable financial investment made by the national government in its implementation underline the commitment of the Indonesian government to lessen the demographic and economic inequalities existing between regions in the country. For Indonesia, the issues of regional development and population distribution are closely intertwined (Douglass, 1984b). The question for the government, then, is no longer whether or not to influence the future of the country's population distribution but, rather, which population distribution program is the most feasible and complementary to national economic goals.

The promotion of intermediate cities in Indonesia's Outer Islands, as an alternative population distribution policy and regional development strategy, needs to be carefully considered by the national government. Intermediate city promotion is not to be confused with
"growth center" policies which have usually entailed considerable financial investments in newly created industries located in selected "regional centers"; intermediate city promotion is not based on subsidized, capital-intensive industries but on urban functions and roles already in existence. In resource frontier intermediate cities, the critical task is not attracting people or capital to the region but ensuring that once there, they do not leave. The government can influence the growth of intermediate cities through two channels: explicit policies, such as infrastructural investments in regional cities, greater decentralization of administrative functions to provincial capitals and land colonization of remote regions, and implicit policies, such as subsidies to labor intensive rural industries and agricultural production, establishment of regional banks with easily available loans to farmers and small businesses, and tax incentives to commercial enterprises located away from the primate city (Todaro and Stilkind, 1981). Before the effective promotion of intermediate cities can be implemented, however, an understanding of the development process in these cities is required.

The Indonesian government's self-proclaimed role as regulator of the national economy carries with it the task of determining the legacy of the country's natural resources. East Kalimantan's rich petroleum and timber
reserves allowed some Indonesians to become prosperous; but will their individual wealth be all that remains of the region's resources? The prospects of future generations born on congested Java will be bleak indeed unless Outer Island resources are prudently managed. Outer Island regions with a concentration of highly valued natural resources, such as East Kalimantan, are especially important because they offer the best opportunity for regional development. Outer Island cities, such as Samarinda and Balikpapan, will play critical roles in the transition of Outer Island economies from dependency upon exports of non-renewable resources to self-sustaining agricultural development.

This dissertation has argued that the development process in the fastest growing intermediate cities has been heavily dependent upon both world market demand for regional resources and national government involvement in resource extraction activities. The effects of these two forces on the respective urban systems of Samarinda and Balikpapan could subvert both explicit and implicit policies attempted to promote their continued growth. Policies that have had the greatest impact on these resource frontier cities have been implicit in that they have related to resource activities rather than cities. If the growth of intermediate cities in resource frontiers is to be sustained then development policies by the national government need to
be oriented towards the careful management of natural resources and the insulation of urban and regional development projects from short term fluctuations in world market demand for those resources. The Indonesian government has already begun the first tentative steps towards confronting the development dilemmas placed before it by the world capitalist system. The intermediate cities of Samarinda and Balikpapan provide a useful measurement of the continuing contest between Indonesia and the world market system over the dwindling natural resources of East Kalimantan.
APPENDIX

A NOTE ON THE USE OF OFFICIAL DATA IN INDONESIA

Indonesia is a large and complex country. It has a growing population spread over thousands of islands. The government is relatively young (less than forty years since Independence) but oversees an ambitious range of socio-economic programs. Many government officials have had little or no training in public administration. Senior officials have many responsibilities and junior officials have little or no authority. When these officials collect data for the government they often accept them at face value. Few have the desire or opportunity to verify information. The fact, then, that tabulated data from government offices is often less than accurate is not surprising.

Much of my empirical data comes from government sources at the provincial and municipal level. The variety and number of sources used precluded my checking the accuracy of all my data, especially that pertaining to previous years. I did try to cross check figures from different sources but
many times this lead to confusion. For example, the same piece of information, such as timber exports for a given year, often varied considerably depending upon the source used. In such a situation a "guesstimate" was made as to which source was the most reliable.

Another problem encountered while gathering data was the lack of what I considered to be basic information. One example typifies this type of problem. While calculating population densities for desa and kelurahan (village districts), I noticed different estimates in different statistical yearbooks. The reason for the variance was due to differences in estimates of desa areas. Further investigation revealed that an accurate boundary survey has never been conducted. I thus had to resort to using what seemed to be the most reasonable estimates for areas in order to complete my population density calculations.

I do not wish to belabor the problem of data accuracy. The main point is that the data used in this dissertation are not necessarily accurate reflections of real events in East Kalimantan. Some of these data, especially those relating to monetary matters, should be treated with a degree of skepticism. I have, however, done my best to weed out data which were obviously erroneous.
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