

THE INTERMEDIATE CITY CONCEPT REVIEWED AND APPLIED TO MAJOR CITIES IN SUMATRA, INDONESIA*

by
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ABSTRACT

A concept of "the intermediate city" has had various definitions as an analytically valuable tool in studying urban systems, particularly those in Less Developed Countries. The Intermediate City concept is reviewed and a flexible usage recommended through application of the concept to major cities in Sumatra, Indonesia. The nine major cities identified are examined for the 1961-1980 years in terms of their qualities as intermediate or major cities; distinctive changes during the period; and the extent to which these Sumatran intermediate cities may be representative of major cities in the broader urban systems of Indonesia, Southeast Asia, and of Monsoon Asia.

INTRODUCTION

Several usages of intermediacy have been applied within studies of cities and city systems. Among these have been Hildred Geertz' use of "metropole" to denote sizeable and functionally diverse Indonesian cities identified in the 1930

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Dutch Census (Geertz, 1963: 24—41)¹; Kingsley Davis and associates (1969, 1972) at the International Urban Institute in Berkeley, California; Philip Hauser (1956), Gerald Breese (1966), and United Nations (Annual) in United Nations urban data discussions; Dennis Rondinelli (1983) in his recent articles and books; Withington (1969, 1975) in a number of papers dating from 1969; James Osborn (1973) in his Ph.D. dissertation publication; as well as many others (Fawcett *et al.*, 1980; Ulick, 1975). While several of the intermediate city usages agree on a lower or upper population threshold, most show considerable variation in other defining bases.

The purpose of this paper is first to review and restate the intermediate city concept; and second, to demonstrate the application of the concept to cities in a particular developing world area, in this case the large western island region of Sumatra in Indonesia (Figure 1). Questions posed and at least partially answered are:

1. What definitional guidelines seem most appropriate for defining intermediate or second-level cities in Asia?
2. In Sumatra what cities should be included as major cities fitting the intermediate city concept?
3. For these major cities what are the distinctive characteristics and changes during the 1960s and 1970s?
4. To what extent are the Sumatran cities in their characteristics and changes representative of intermediate cities in the broader urban systems of Indonesia, Southeast Asia and Monsoon Asia?

THE INTERMEDIATE CITY CONCEPT

Thirty years ago Donald Fryer (1953) used the term "millionaire cities" in discussing the primate and other larger cities of Southeast Asia. T.G. McGee's *Cities of Southeast Asia* focused mainly on the region's primate cities (McGee, 1967). The author's own interest evolved from residence in Honolulu, Hawaii, primate only as the then territorial and now state capital; in Lexington, Kentucky; and during the years 1957 to 1959 in Medan, capital of North Sumatra province and largest Indonesian city outside the national core area of Java.²

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1. Karl Pelzer lists cities of Indonesia with population in excess of 100,000 in 1961, as well as their populations (McVey, 1963: 19).
 2. The author's residence was in Hawaii from 1927 to 1941; Lexington, KY, 1955—1957 and 1959-present; and Medan, Sumatra, Indonesia, while a Ford Foundation Visiting Professor, Faculty of Economics, Nommensen University.

INDONESIAN KOTAMADYA 1980
WITH 1961 PROPORTION OF POPULATION

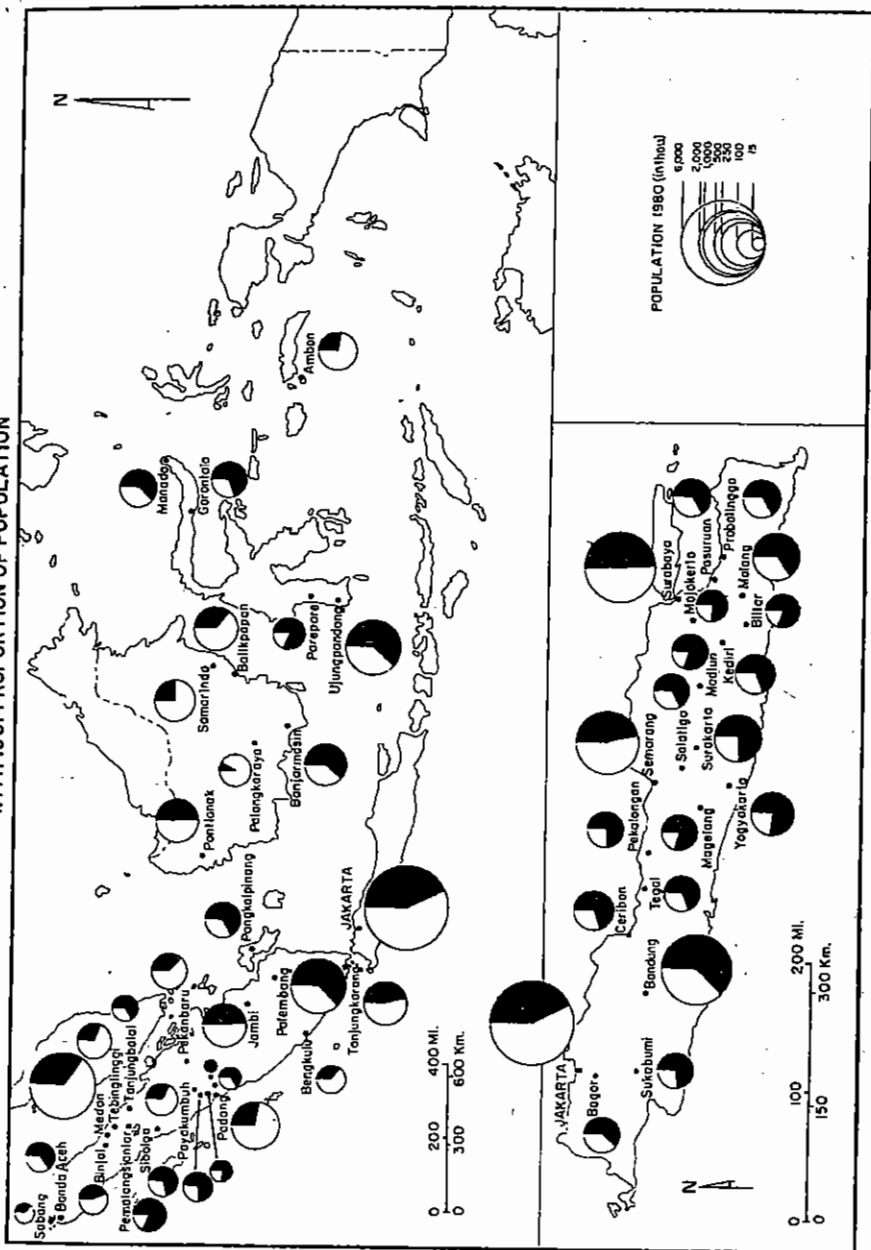


Figure 1. Indonesian Kotamadya 1980 with 1961 Proportion of Population

How does one define intermediate importance when much larger cities near or far may dominate? *The United Nations Demographic Yearbook* enumerates cities worldwide if their populations exceed 100,000 (United Nations, annually). Kingsley Davis and his associates likewise used a population of 100,000 as the lower threshold for any metropolitan area having a central city of 50,000. This is also the usage of the U.S. Census Bureau for metropolitan population clusters and is reflected in "American Metropolitan Evolution" (Barchert, 1967). Beginning in the late 1960s the author discussed intermediate cities, applying a lower threshold of 100,000 people and an upper one of one million people (Withington, 1969, 1975). In the 1970s James Osborn's focus on the "middle city" of Malaysia included cities ranging from less than 20,000 people to Kuala Lumpur's city figure of more than 500,000 (Osborn, 1973). In recent articles and books Dennis Rodinelli's "secondary cities" have a lower threshold of 100,000 and include all cities of a nation except its primate and/or capital largest city in less developed countries (Rodinelli, 1983).

The frequency of its application suggests the analytic value of the intermediate city concept. What should the limits by population or other criteria be? The author's own answer is illustrated in detail using cities of Sumatra, Indonesia. In this discussion, all or almost all cities of larger population, except the primate and usually capital city, are included at the upper end of the population range. At the lower end 100,000 people frequently seems appropriate as a minimum for metropolitan character. However, capitals of provinces or equivalent principal administrative divisions as in Indonesia have sufficient functional diversity and circulation infrastructure, if not population, to warrant inclusion as intermediate, middle range, secondary or "major cities".

SUMATRA'S MAJOR CITIES, 1961—1980

Sumatra in western Indonesia is that nation's largest outlying region in population and also in amount and diversity of products generating foreign exchange from exports.¹ What are Sumatra's major cities, fitting the definition of an intermediate city? Seven of Sumatra's cities had more than 100,000 people in the 1980 Census of Population (Table 1). In descending rank order by population these cities are: Medan, Palembang, Padang, Tanjungkarang-Teiukbetung,

1. Sumatra in 1980 had 28 million people, second only to Java—Madura's 91.3 million, in a total national population of 147.5 (Biro Pusat Statistik, 1981). During the 1973—1977 period exports from Sumatra accounted for between 53 and 64% of Indonesia's values by value (Biro Pusat Statistik, 1978: 278).

Jambi, Pekanbaru and Pematangsiantar. Among these, only Pematangsiantar in eastern North Sumatra is not a provincial capital city. The largest in population is Medan with nearly 1.4 million, ranking fourth in Indonesia, below only the three Java cities of Jakarta, Surabaya and Bandung (Figure 1).

TABLE 1. INTERMEDIATE AND LESSER CITIES OF SUMATRA, 1980

Municipality (Kotapradja- 1961; Kota- madya-1971; 1980)	Province	Intermediate Cities		Percentage Change	1961 Popula- tion % of 1980
		Population			
		1980	1961		
Banda Aceh*	D.I. Aceh	72.090	40.067	80.0	55.6
Medan*	North Sumatra	1.378.955	479.098	187.9 ^a	34.7
Pematangsian- tar	North Sumatra	150.376	114.870	30.4	76.4
Padang*	West Sumatra	480.922	143.699	234.0 ^a	29.9
Pekanbaru*	Riau	186.262	70.821	162.0 ^a	38.0
Jambi*	Jambi	230.373	113.080	103.5 ^{a?}	49.1
Palembang*	South Sumatra	787.187	474.971	65.7	60.3
Bengkulu* ^b	Bengkulu	64.783	25.330	160.0 ^a	39.1
Tanjungkarang- Telukbetung* ^b	Lampung	284.275	133.901	111.9 ^{a?}	47.1
LESSER CITIES					
Sabang	D.I. Aceh	23.821	8,500(e)	180.2 ^{a?}	35.7
Binjai	North Sumatra	76.464	45.235	69.0	59.2
Tebingtinggi	North Sumatra	92.087	26.228	251.1 ^a	28.5
Tanjungbalai	North Sumatra	41.894	29.152	43.7	69.6
Sibolga	North Sumatra	59.897	38.655	55.0	64.5
Payakumbuh	West Sumatra	78.836	21.031	274.9 ^a	26.7
Bukittinggi	West Sumatra	70.771	51.456	37.5	72.7
Padangpanjang	West Sumatra	34.517	25.521	35.2	73.9
Solok	West Sumatra	31.724	18.909	67.8	59.6
Sawahlunto	West Sumatra	13.561	12.276	10.5	90.5
Pangkalpinang	South Sumatra	90.096	60.283	49.5	66.9

Source: Biro Pusat Statistik (1962, 1981); author's computations of percentages.

Note:

* Provincial capital city in 1980.

a city known or believed to have expanded its urban territory since 1961.

b Lampung Province was established in 1964 with Tanjungkarang-Telukbetung as its capital; Bengkulu in 1968 with Bengkulu (city).

SUMATRA: MAJOR AND LESSER KOTAMADYA 1980 & 1961

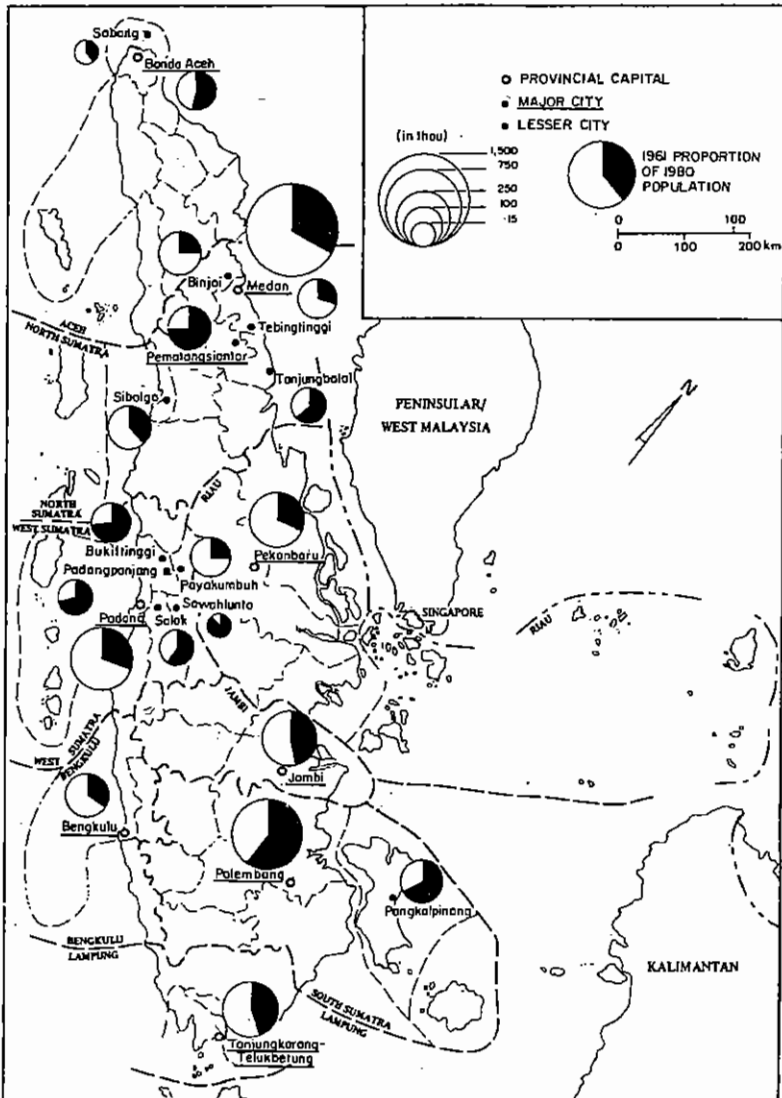


Figure 2. Sumatra: Major and Lesser Kotamadya 1980 & 1961

Among Sumatra's twenty *kotamadya* (the municipalities) for which 1980 population data are available, two cities having fewer than 100,000 people must be included on any list of Sumatra's major cities (Table 1; Figure 2). These two are the provincial capital cities of Banda Aceh in Daerah Istimewa Aceh (D.I. Aceh) near the northern tip of the island, and Bengkulu, the seaport city on the southwestern coast of Sumatra and capital city of Bengkulu Province. Each is the "primate city" of its political unit and as such is the major city in diversity of functions and in political, economic and cultural nodality¹.

Eleven other *kotamadya* across the length and breadth of Sumatra have considerable importance in both current and historical terms. Most have localized hinterlands and limited diversity or nodality compared with the nine major cities. All are identified here as "Lesser Cities" often as satellite or tributary centers in relation to the provincial capitals. The one possible exception is Bukittinggi in upland West Sumatra, the Fort de Kock of the Dutch colonial era. Bukittinggi has continued to be a cultural and religious center of the Minangkabau people, the dominant ethnic group of West Sumatra (Geertz, 1963: 78–85).²

CHARACTERISTICS AND CHANGES IN SUMATRA'S MAJOR CITIES

The nine major cities of Sumatra ranged in population in 1980 from Medan with nearly 1.4 million people to Pematangsiantar eighty miles away with about 150,000, and to Banda Aceh's 72,000 and Bengkulu's nearly 65,000 (Table 1). Two decades earlier in 1961 populations of these cities were as low as 25,000 in Bengkulu, not yet a provincial capital, to almost 480,000 in Medan, with Palembang only a few thousand people less. At that time six cities exceeded 100,000 in population; while Pekanbaru's population was about 71,000 (Table 1).

Urban population growth for Sumatra's major cities has been generally rapid during the 1961–1980 period. Six of the nine major cities more than doubled their populations as compared with only three of the eleven "lesser cities" (Table 1, Figure 2). Thus, six of the nine major cities grew in population by more than 100%. Only Pematangsiantar (30.4%) and Palembang (65.7%) increased at a rate below Sumatra's population growth rate of 78%. The rapid

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1. For a 1960s perspective, prior to the establishment of Bengkulu Province, see Withington (1967: 534–549) for the regions served by Banda Aceh and Bengkulu cities.
 2. The author's fieldwork in June, 1984, in Bukittinggi, West Sumatra, provided a strong perception of cultural centrality for the Minangkabau people. Fort van den Capellen (now Batusangkar), Fort de Kock (now Bukittinggi) and Payakumbuh (Pajakumbuh) are stated by Loeb (1935: 97–99) to form the kernel of Minangkabau.

population growth in these major Sumatran cities, as in most Third World cities, resulted from high levels of natural increase combined with large volumes of net immigration.¹ However, at least four of the six cities (six of nine among all *kotamadya* in Sumatra) having population increases of over 100% also had urban area expansions during the 1961–1980 period. The fivefold increase in Medan's urban area in 1972 was greatest, but Padang, Pekanbaru and Bengkulu also had sizeable additions both in urban area and populations.² Among the lesser Sumatran cities, Sabang, Payakumbuh and Tebingtinggi had very large percentages of population growth, large enough to result in very small or negative growth in the population of associated *kabupaten*.³

Other urban changes have included: (i) Both forced and voluntary out-migration flows, by non-ethnic Indonesians including Chinese, South Asians and Westerners, plus educated Sumatrans attracted to Jakarta or other extra Sumatra places and opportunities,⁴ (ii) Considerable urban development in both the older central city areas and in expanding peripheries where residential areas, factories, sports stadia and university campuses have been added,⁵ (iii) For some of these cities sizeable immigrations related to Indonesia's "transmigration" program have brought many additional people from Java, Bali and southern Sulawesi,⁶

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1. Immigration data at the provincial level are available in Biro Pusat Statistik (1981, 1983), Tables on population by place of previous residence five years earlier and place of birth according to place of present residence. Transmigration, also at the provincial but not at the city level, has been stated in successive *Statistik Indonesia* and *Statistical Pocketbooks of Indonesia* annually (Jakarta: Biro Pusat Statistik, yearly to the early 1980s).
A recent study providing some sample population mobility and growth answers for Medan, Pematangsiantar and Tebingtinggi, eastern North Sumatra, is that of Thomas R. Leinbach and Bambang Suwarno (1984).
 2. Comparisons by author of earlier and current Sumatra city maps or plans and of 1961, 1971 and 1980 Indonesia Census data, some specific and some indicative of urban area expansions.
 3. Payakumbuh's increase in population during 1961–1971 was largely at the expense of Limapuluh Kota kabupaten, West Sumatra. Tebingtinggi's growth along with that of Medan, resulted in a decreased population in Deli Serdang kabupaten between 1971 and 1980. Data for *kotamadya/kotapradja* and *kabupaten* from 1961, 1971 and 1980 census sources.
 4. From the author's knowledge of employment locations of many students trained under the Ford Foundation project at the Faculty of Economics, Nommensen University, Medan, who were hired by the Central Government in Jakarta, and others who have been employed by Indonesian or international oil companies, and in consulting positions.
 5. Wester-standard hotels in central city areas; stadia and university campuses usually in urban peripheries; factories and enlarged airports, also peripheral; along with new residential areas have been added in most major Sumatran cities.
 6. See footnote 20 comments. Nearly 250,000 persons are listed in the seven years for which I have data as coming to Sumatra. Lampung (95,000), South Sumatra (75,000), Bengkulu (33,000), Jambi (over 17,000) and Riau (12,000) were the principal provinces of destination, but no specific data indicate urban destinations.

(iv) The eight provincial capitals, all on or near coastlines or major river arteries, show generally rapid growth. The one non-capital city of Pematangsiantar in eastern North Sumatra has a low upland site at the center of a commercial estate area and the lowest major city rate of population growth (Table 1).¹

These points and others which might be added give strong evidence of advantages for some cities; handicaps for other cities. The most notable advantage for a city is to serve in the role of administrative capital of a province. Except for Pekanbaru these provincial capital cities are long-established cultural, political and economic centers.² (Milone, 1966) Favoring most of the major cities is an accessible site on a coastal plain, well served by both natural and developed transportational facilities and linkages (United Nations, ESCAP, 1978). Though the Sumatran western coast has had historical periods of considerable importance, in recent decades this coast has been more nearly a "back door" in contrast to the eastern coast. Bengkulu, Padang and to some extent Banda Aceh (Kutaradja) are handicapped by locations not served by major routes or large traffic flows. The twin city of Tanjungkarang-Telukbetung with the nearby outport of Panjang/Srengsem faces the busy Sunda Strait and western Java; Palembang, Jambi, Pekanbaru and Medan are on or near the Strait of Malacca on the east, a heavily traveled corridor served also by the nearby major entrepots of Singapore, Penang and Kuala Lumpur or its Klang outport.

MAJOR SUMATRAN CITIES AS SURROGATES FOR ASIAN INTERMEDIATE CITIES

The final question posed in this discussion is: to what extent can Sumatra's major cities—in their associations, characteristics and trends of change—serve as surrogates for intermediate cities more broadly across Asia? The reasonable answer is "in part yes; in part no." On the positive side Sumatra's major cities do represent many aspects characteristic of Asian intermediate cities in general.³ These Sumatran cities are important regional administrative, cultural and economic nodes. Most are well-served by nearby airports and seaports, though three—Pekanbaru on the Siak, Jambi on the Batang Hari, and Palembang on the Musi—are eastern plain cities more than forty kilometers inland on a large

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1. Pematangsiantar is the cultural center of the Simelungun Batak, but large numbers of Toba Batak and "Javanese" have also come in, as noted in Leinbach and Suwarno, footnote 20.
 2. Pekanbaru (Pekanbaru) was not listed as urban by the Dutch in 1930.
 3. A broad overview of the interplay of urban characteristics and cultural settings, though not specifically on Southeast Asia, is provided by Agnew, et al (1984).

navigable river. Only Pematangsiantar in low uplands of eastern North Sumatra has no airport or seaport. Like most intermediate cities of the Less Developed World Sumatra's major cities have had rapid population growth from a combination of high natural increase and sizeable net immigration flows. Each is involved in public and private attempts to improve its internal urban structural elements and remove any circulation blockages or other deterrents to internal and external services.

On the negative side, that is that Sumatra's major cities cannot appropriately be considered surrogates, these Sumatran intermediate cities have specific site, situation and national or international linkages different from those of other Asian intermediate cities. In Java, Indonesia's core, for example, its intermediate cities increased in population far more slowly enough so to suggest problems including economic stagnation.¹ Several cities of Java with high female to male population ratios have had sizeable out-migration losses as men left to search for economic opportunities elsewhere. The diversity among Sumatra's nine major cities—in population size, rates of growth in the 1961–1980 period, and in diversity of ethnic and religious patterns—can also be cited as reasons why these cities should not be considered as surrogates or models for Asian cities.

Returning to positive reasons why Sumatra's major or intermediate cities can represent a broader universe of Asian cities, two need to be stressed. These are: (i) the regional setting away from the national core area provides insights into recent peripheral urban development; and (ii) these cities represent real world conditions, providing an understanding of particular cities or groups of cities in their own spatial setting, physical, cultural, political and economic.

CONCLUSIONS

What has the application of more flexible threshold limits for the intermediate city concept contributed, as illustrated in its application to the major cities of Sumatra? First, cities rapidly growing in population, such as Medan, which have exceeded the one million population threshold, should remain in the "intermediate city" category until or unless any of these cities should emerge as national capital or most populous and thus primate city. Whithin the Republic of Indonesia, Medan has been a regional node or capital for several decades, the

1. Biro Pusat Statistik (1962, 1972, 1981) provides comparisons at the municipality or *kotamadya/kotapradja* level for female/male ratios. The municipalities having the highest female/male ratios tend to be those with slowest population increases and limited new economic development.

most populous city of Indonesia's outer Islands or periphery regions. Nevertheless, Medan despite its rapid growth has a population less than one-fifth that of Jakarta.

Second, some important regional centers despite populations below the 100,000 threshold level should be included as intermediate or major cities. In Sumatra two such cities, are Banda Aceh at the north and Bengkulu in the southwest. The intermediate or major city qualities of these two cities include their roles as province-level administrative capitals, regional centers of economic activity, nodes of transportation and communication, and centers of culture and religion.

Thus identification of urban centers as intermediate or major cities should apply flexible upper and lower limits of either population thresholds or amount and variety of functional elements. The national capital with other multi-million population and highly diverse cities should be excluded as too large for intermediate status at the upper end of the urban system range. By contrast, the many smaller regional cities are too limited in communications nodality, functional variety and have populations too small to warrant their identification as intermediate or major cities.

REFERENCES

- Agnew, John, Hohn Mercer and David Sopher (eds.). 1984. *The City in Cultural Context*. Boston: Allen and Unwin.
- Biro Pusat Statistik. 1962. *Penduduk Indonesia 1961*. Jakarta: Biro Pusat Statistik.
- Biro Pusat Statistik. 1972. *Penduduk Indonesia 1971*. Jakarta: Biro Pusat Statistik.
- Biro Pusat Statistik. 1978. *Statistical Pocketbook of Indonesia 1977/1978*. Jakarta: Biro Pusat Statistik.
- Biro Pusat Statistik. 1981. *Penduduk Indonesia 1980*. Seri L. No. 2. Jakarta: Biro Pusat Statistik.
- Biro Pusat Statistik. 1981b. *Penduduk Indonesia 1980*. Seri S. No. 2. Jakarta: Biro Pusat Statistik.
- Biro Pusat Statistik. 1983. *Hasil Sensus Penduduk 1980*. Jakarta: Biro Pusat Statistik.
- Borchert, John R. 1967. American Metropolitan Evolution. *The Geographical Review*. 57: 301—332.
- Breese, Gerald. 1966. *Urbanization in Newly Developing Countries*. Englewood Cliffs, NJ: Prentice Hall.

- Davis, Kingsley. 1969. *World Urbanization, 1950–1970*. Institute of International Studies, Population Monographs, No. 4. Berkeley, CA: University of California.
- Davis, Kingsley. 1972. *World Urbanization, 1950–1970*. Institute of International Studies, Population Monograph, No. 9. Berkeley, CA: University of California.
- Fawcett, J.T., R.J. Fuchs, R. Hackenberg, K. Salih, and P.C. Smith. 1980. *Intermediate Cities in Asia Meeting: Summary Report*. Honolulu: East West Center Population Institute.
- Fryer, Donald W. 1953. The Million City in Southeast Asia. *The Geographical Review*, 43: 474–494.
- Geertz, Hildred. 1963. Indonesian Cultures and Communities. In: McVey, Ruth T. (ed.). *Indonesia*. Chapter 2. New Haven, CT: Human Relations Area Files.
- Hauser, Phillip. 1956. World and Asian Urbanization in Relation to Economic Development and Social Change. In: *Urbanization in the ECAFE Region*. New York: United Nations.
- Leinbach, Thomas R. and Bambang Suwarno. 1984. *Rural-Urban Mobility and Employment: Indonesia*. A final report to the International Development Research Centre. Ottawa: International Development Research Centre.
- Loeb, Edwin M. 1935. *Sumatra, Its History and Peoples*. Wien: Verlag des Institutes für Volkenkunde der Universität Wien.
- McGee, T.G. 1967. *The Southeast Asian City*. New York: Frederick Praeger.
- McVey, Ruth R. (ed.). 1963. *Indonesia*. New Haven, CT: Human Relations Area Files.
- Milone, Pauline D. 1966. *Urban Areas in Indonesia, Administrative and Census Concepts*. Institute of International Studies Research Series #10. Berkeley, CA: University of California.
- Osborn, James. 1973. *Area Development Policy and the Middle City in Malaysia*. Paper No. 142. Chicago: University of Chicago, Department of Geography.
- Rondinelli, Dennis A. 1983. *Secondary Cities in Developing Countries: Policies for Diffusing Urbanization*. Beverly Hills, CA: Sage Publications.
- Ulack, Richard. 1975. The Impact of Industrialization upon the Population of a Medium Sized City in the Developing World. *Journal of Developing Areas*, 9: 203–220.
- United Nations. Annually. *United Nations Demographic Yearbook*. New York: United Nations.
- United Nations, ESCAP. 1978. *Asian Highway Route Map: Indonesia, Route A2/A–25*. Tokyo: Bridgestone Tire Co., Ltd., for UN ESCAP.

- Withington, W.A. 1967. The Major Geographic Regions of Sumatra, Indonesia. *Annals of the Association of American Geographers*. 57: 534—549
- Withington, W.A. 1969. *The Intermediate-Size Urban Centre: Its Significance and Role in the Developing World of Southeast Asia*. Unpublished paper read at the annual meeting, Association for Asian Studies, Boston, MA. March 29, 1969.
- Withington, W.A. 1975. *the Intermediate City of Southeast Asia*. Unpublished paper read at the 13th Pacific Science Congress, Vancouver, BC, Canada. August 26, 1975.