

Urbanization in the Philippines: Diffuse or Metropolitan?

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Who speaks for the primate city? Evidently not the policy-makers of most Asian and Pacific nations, the great bulk of whom have now gone on record to conclude that their country's population distribution patterns are basically "unacceptable." Specific concerns mentioned most frequently in this context include rapid urbanization, imbalanced city-size hierarchies, and uncontrolled growth in and around the national capital (Fuchs 1983, Table 3). Economists, demographers and city planners tend to concur with the negative view of urban primacy, citing in this case a host of reasons ranging from environmental overload to the urban diseconomies associated with very large cities. Equity considerations also incline towards arguing against high primacy levels insofar as under-urbanized peripheral regions in this situation tend to be deprived of investment funds, city-based services and markets for agricultural products.

Beyond this apparent consensus, however, there is considerably less agreement as to the exact form which is now being taken (in fact) and that which ought to be taken (in theory) by national urban hierarchies at levels below the primate city. This is most evident during discussions on the role

played by secondary urban centers of, say, 250,000 to a million inhabitants. For some writers (among them, Hansen 1971; Berry and Kasarda 1977), these larger regional cities play important economic, social and political functions and, as such, should be allowed or even encouraged to continue growing in size and regional influence. Other observers, however, are less sanguine about the benefits of big city life. They argue that secondary urban centers are either irrelevant in the non-Western context or, worse still, an actual impediment to proper regional development. The purpose of this paper will be to begin an empirical examination of these issues using economic and demographic data from the Southern Philippines.

Secondary urban centers: Two models

In the 1980 issue of *Population and Development Review*, Robert Hackenberg argued that a pattern of "diffuse urbanization" is now emerging in Southeast Asia. In general, he wrote, "rural areas are being penetrated by urban-like forms of production, infrastructure, and administration" (Hackenberg 1980:391). Other observers concur with this general description:

"Just as developing countries have... moved straight to the stage at which labor shed by agriculture shifts directly into services, so too can they modify the traditional urbanization-occupation nexus during the structural transformation of their economies. The latecomers in the development process can take advantage of the most up-to-date technologies. Developments in transport mean that many people even in poor countries can commute up to 50 miles to work...Transport developments facilitate patterns of circular mobility that do not require continuous residence in the city. They also facilitate the siting of factories and other non-agricultural activities in rural areas...

Thus the rural-urban dichotomy, so clear-cut in the medieval fortress towns of Europe, begins to lose its meaning" (Jones 1983:25).

Hackenberg's exposition of the diffuse urbanization concept emphasizes three major points, the first of which concerns the contention that this new form of urbanization is now becoming increasingly widespread within Southeast Asia and that this will continue to be the case in the future. He thus mentions studies that indicate the following findings: 1) "towns and market centers" in rural areas of the region are growing "rapidly;" 2) rural nonfarm employment is expanding at

eight percent a year or more in areas characterized by Green Revolution technology; 3) "improved transportation" has now made commercial agriculture viable; and 4) commuting and circular migration are becoming "extremely popular." Much of the evidence is drawn from research studies carried out in the Philippines, including a number set in the Southern Philippine island of Mindanao, i.e. within the same setting chosen for the present analysis.

An implicit corollary of Hackenberg's model (though one which is not stated explicitly) is that this expanding network of towns and market centers is spread in a more-or-less evenly-distributed (that is, "diffuse") fashion throughout the region's geographic space. Another is that there is little or no need for "an intervening layer of major regional cities," thereby leading to the prediction that "a mature urban hierarchy will not emerge in Southeast Asia" (Hackenberg 1980: 404, 408). Evidence in support of this latter contention takes the form of, first, the author's reference to an article by Norton Ginsburg (1972) in which this viewpoint was first brought forward. Second, is the claim that "other contemporary writers share this view," to the point where there is now "nearly universal agreement" that "'growth pole' strategies aimed at stimulating regional development through the purposive creation of intermediate cities as 'regional growth centers' do not work" (Hackenberg 1980:404).

A second point asserted by Hackenberg is that diffuse urbanization is basically functional for stimulating rural economic growth. The process thus holds out some hope for reducing the glaring inequalities that now exist between Third World cities and their surrounding countryside. The general argument here is that a fairly widespread distribution of market towns and small cities will allow rural dwellers greater access to urban-based markets, work opportunities, and government services than will be the case when such lower-tiered urban centers are inadequately developed. Again, other theorists (among them, Hawley 1971; Ranis 1974; Rondinelli 1983) have as much made the same point, although it might well be noted that empirical evidence in support of this overall conclusion is as yet far from conclusive.

Also worth mentioning in this regard is the more extreme argument made by observers other than Hackenberg, that Third World rural areas cannot be expected to benefit from their interactions with relatively large regional cities. The main idea here is that such entities are inherently enmeshed in a "parasitic" relationship with their "dependent" and "exploited" hinterland (Friedman and Douglas 1976; Roberts 1976; Schatzberg 1979). This latter point of view tends to be associated with advocates of the dependency/world-system perspective but may also be found in the writings of mainstream economists. A former assistant director general of

the Philippine economic planning agency, for instance, has argued that "the spread effects of development in the urban centers... result to a negative effect to the surrounding rural areas" (Lawas 1983:4). Gunnar Myrdal's (1957) theory of spatially-correlated "backwash effects" also exemplifies this perspective. According to this theory, cities tend to grow at the expense of their rural hinterlands by drawing capital and able-bodied young men and women from the surrounding countryside.

A slight variation of this theme is that larger regional cities are economically irrelevant as far as rural areas are concerned, that is, the existence of neither positive economic "spread effects" nor the "backwash" pattern can now be confirmed. Instead, urban and industrialized areas in the Third World constitute a basically enclave-type economy. This viewpoint is raised most frequently by critics of growth pole policies of regional development who, as Hackenberg notes, have indeed produced a fair amount of evidence on the deficiencies of this particular approach (for a useful literature review cf. Hansen 1981).

As a third component of the diffuse urbanization model, Hackenberg outlines the underlying factors that bring about this emerging distributional pattern. These are largely technological and economic in nature: the growth of commercialized and "mechanized" agriculture; expanded provision of rural infrastructure

("highways, irrigation, electrification"); the decision by numerous agriprocessing industrial concerns to locate near their source of raw materials; and supportive governmental policies. These factors are said to contribute to the spread of secondary and tertiary economic activities well beyond the boundaries of larger cities. These help prevent rural out-migration by offering new nonagricultural work opportunities that would otherwise be unavailable within the bounds of a traditional agrarian economy.

Noteworthy of Hackenberg's model is its relatively optimistic character. Preexisting trends towards economic expansion in the region are assumed to continue, in this case taking on the character of rural-led growth. Heightened labor productivity and continued job expansion are implicit in the model, with these factors combining to gradually overcome the twin problems of unemployment and underemployment. Even the informal sector is viewed in a benign fashion, based on studies that have indicated that these types of jobs can act as viable routes towards upward social and economic mobility. The general scenario anticipated by the model is therefore one in which neither the continued expansion of a marginalized, low-productivity sector nor a small number of bloated, primate-like regional cities is predicted to occur.

At this point, a somewhat different approach to the question of urban-like developments in the Third World

countryside may also be proposed. According to this viewpoint, larger urban centers do play an important role in stimulating regional development, both within their own territorial confines and even for communities in their immediate hinterland. What is suggested in this case is the gradual development of a "metropolitan region" characterized by (1) strengthened linkages of transport and communication to the national primate city and, through these, to the increasingly important international economy; and (2) an evolving intra-regional division of labor between a densely populated central city, a set of nearby suburban communities, and a functionally integrated "urban" zone in which commercialized agriculture and nonagricultural work opportunities have begun to extend rapidly (Gras 1922; Hawley 1971).

Note that the metropolitan model of urban expansion can be said to agree, in a number of ways, with both Hackenberg's "diffuse urbanization" thesis and Jone's parallel comments on the "rural occupational transition". This is appropriate because considerable empirical support can now be found for those substantive areas where the two approaches overlap. Studies on the developmental impact of rural electrification projects in Southern Philippines, for instance, have shown this type of infrastructural input to significantly increase rural incomes and off-farm employment opportunities (Herrin 1979; Madigan 1981). Irrigation facilities

and associated patterns of commercialized agriculture in Mindanao have also had a similar effect, just as commuting and circulation have increased with the provision of an improved highway system (Madigan, Pagtolun-an and Palma 1970; Pagtolun-an and Regidor 1989; Ulack, Costello and Palabrica-Costello 1985). The general pattern of economic dynamism that has recently characterized Southeast Asia also fits well with Hackenberg's relatively optimistic stance.

Some important differences, however, can be noted between the two models. In particular, the metropolitan model disagrees with the diffuse urbanization perspective, insofar as it views larger regional cities as concentrating within themselves a set of highly-specialized administrative, commercial, financial, legal, information-processing, and other services that cannot be effectively carried out in smaller urban centers. Big cities also offer significant agglomeration economies that are unavailable in other locales outside the national capital region. For these reasons, their economies may often be surprisingly vibrant – even in the Third World context – thereby allowing them to continue growing demographically without necessarily suffering an associated decline in productivity or living standards.

Rural communities located within the immediate hinterland of the metropolitan center may also benefit from the positive economic impulses that

are generated therein. Accessibility to the urban market, to urban services, and to city-based job opportunities represents a potent force for change which has helped bring about the above-noted trends towards economic development in some parts of Mindanao's countryside. In turn, these types of positive "spread effects" may serve to alleviate somewhat the problem of rural out-migration. As one moves farther from the metropolitan center, however, these urban-like forms and influences seem to diminish significantly. Nonagricultural employment opportunities and commercialized agriculture become less widespread, living standards decline and out-migration predominates, except perhaps in those few remaining frontier regions where man-land ratios are still low enough to attract pioneer settlers.

One of the noteworthy theoretical aspects of the diffuse urbanization model lies in its claim that an essentially new form of urbanization is now emerging in Southeast Asia. Indeed, Hackenberg (1980:391) opens his article with the observation that "contemporary patterns of urbanization in much of the developing world depart substantially from those that would have been expected on the basis of the past experience of industrialized countries or of stereotypical models of urban industrialization." In contrast, the metropolitan thesis proposes that a process that has already been underway in the more developed countries for a century or

more is being duplicated in the LDCs. Amos H. Hawley (1971:313) has thus argued:

“Although urbanization begins in very different cultural contexts, in each instance the trend soon begins to reproduce phases and patterns that have occurred in other times and places....”

“It is in the nature of a territorial division of labor that urban areas should be unique in their producing functions and similar in their distribution, communication, and administrative functions. Movement towards similarity in the latter respect has advanced as the lines of interdependence have been more tightly drawn.”

As such, empirical confirmation of an overall trend towards metropolitanization within the Southeast Asia context may be interpreted as supporting a more general theory of cross-national urban *convergence* (Hawley 1971:291-295, 311-315).

Setting and data

Information on the economic role played by larger yet non-primate cities in the urban hierarchy of the developing world is as yet “woefully inadequate” (World Bank 1979:77). As such, my approach in this paper will be relatively eclectic, representing a mix of findings from my own research on Northern Mindanao’s

urban system, empirical observations made by other Philippine-based demographers and urban economists, and some previously unpublished census statistics on population distribution patterns in the region.

As a whole, Mindanao represents the southernmost major island in the Philippine archipelago. In-migration to rural areas of Mindanao was extremely heavy from about 1945 to 1970, since the area then represented the country’s last agricultural frontier. Nearly two million people moved to Mindanao during this period. Even now, rural population densities in the region are lower than those found in Luzon or Visayas. For most practical purposes, however, the island’s agricultural frontier is now closed, except for a few mountainous areas deep in the interior. At present, it is the urban communities of Mindanao which are the receiving areas for the heaviest migration streams, with many of these new urbanites coming from rural Mindanao itself (Costello 1984).

Mindanao is divided administratively into four regions and 22 provinces. Among these, the Northern Mindanao region – to be accorded particular attention in this paper – bears the longest history of settlement by members of the country’s majority Christian populace. In-migrants from the neighboring Visayan region, most of whom initially chose to settle in the coastal provinces of Agusan del Norte, Camiguin, Misamis Oriental, and Misamis Occidental, were already

numerous enough by the turn of the century to outnumber Mindanao's indigenous Muslim and tribal peoples. In contrast, postwar migration to Northern Mindanao was concentrated not in the coastal areas but in the interior provinces of Bukidnon and Agusan del Sur. Heavy in-migration was also recorded at this time in the eastern and southern portions of the island, particularly in Davao and Cotabato.

The largest city and regional capital of Northern Mindanao is Cagayan de Oro, an administrative and commercial port city located in Misamis Oriental province. Produce from and agricultural inputs for the resource-rich Bukidnon plateau pass through the city, which has one of the best port facilities in the country as well as an excellent highway system. Electricity is also cheaper in Northern Mindanao than in other areas of the country due to the close proximity of a large hydroelectric generating plant. The city has attracted some manufacturing activities, particularly in an industrial estate located on its outskirts.

Six other chartered cities may be found within the confines of the Northern Mindanao administrative region. The largest of these is Butuan City, a commercial and wood processing center found in Agusan del Norte. Next are the three smaller urban areas of Surigao City, Ozamis City, and Gingoog City (each had an urban populace of about 25,000 persons in 1980), followed by Oroquieta City and

Tangub City, both of which have very small urban populations.

The political subdivisions of Philippine provinces are of two types: chartered city and municipality. The first type tends to be larger, more urbanized, and better able to generate substantial tax revenues. Typically, however, at least some of their districts (*barangays*) are rural in character. This is true even for Cagayan de Oro, where the 1980 Census classified 25 percent of its total population as living within a *rural barangay*.

Conversely, the central districts (*poblaciones*) of Philippine municipalities may often take on a semi-urban character. Indeed, the *poblacion* may be best thought of as a sort of market town surrounded by a set of rural *barangays* where majority of the municipality's population resides. Unfortunately, relatively few statistics are tabulated by the Philippine Census Bureau for the political subdivisions – *poblaciones* and *barangays* – of both chartered cities and municipalities. As such, most of our analysis will be confined to a comparative analysis of cities and municipalities, despite the general tendency for both these types of communities to represent a mixture of urban and rural subdistricts.

Much of the data reported in this paper have been based in one way or another upon Philippine census tabulations for the years 1970, 1975 and 1980.¹ These include growth rates,

estimated migration levels, and a measure of community-wide standards which was based on various indicators (such as housing materials and ownership of consumer items) from the Housing Census. Since the Philippines is a relatively poor country with an overworked and underpaid Census Bureau staff, it may perhaps be assumed that there are some deficiencies in each of these data sets. Efforts have been made in each instance, however, to verify the reliability of the statistics in question, with basically favorable results (e.g., Costello 1988:18-22). In addition, there is no reason to expect that such inaccuracies which may occur in the Census data should consistently be in the direction of putting bias in the study findings towards supporting either of the two models outlined at the beginning of this paper. Evidence for such a generally consistent pattern may therefore be taken as also an indicator that the quality of the Census data is relatively good.

Pattern of city and market town growth, 1970-1980

Data on population growth at different levels of Northern Mindanao's urban hierarchy will first be reviewed. This can be done by a perusal of the first two columns of Table 1, wherein the 1980 population sizes and the 10-year (1970-1980) population growth rates of the urban portions of the region's seven chartered cities are presented. Note that our concern here is with the *urban* portions of these cities, as

defined by the Philippine Census Bureau. This is in keeping with the paper's interest in a comparative analysis of different levels in the region's overall urban hierarchy. Even so, the findings presented in Table 1 would remain essentially unchanged even if population sizes and growth rates for each chartered city as a whole (i.e. both urban and rural portions) were to be utilized in the analysis.²

Immediately apparent from Table 1 is the very rapid growth rate of the urban portion of Cagayan de Oro, the largest city in the region. Indeed, urban Cagayan de Oro was more than five times as large in 1980 as it was a decade earlier. Surely, a considerable proportion of this growth may be attributed to the reclassification to urban of what were formerly rural *barangays* by the time the 1980 Census was taken. However, even if we eliminate this factor from the analysis by substituting the growth rate of 77.1 percent registered for the city as a whole, it is still apparent that the regional capital is growing at a much faster pace than any of the other six chartered cities. Also worth noting are the urban growth rates registered by the second and fourth largest cities in the region. In Butuan City, the urban population grew by 52.7 percent during the period in question while in Ozamis City, the corresponding increase was 57.1 percent. Conversely, the two smallest cities in the region ranked lowest and third lowest in terms of their urban growth rates, with the

urban barangays of Tangub City actually experiencing a pattern of negative growth. Our first conclusion must therefore be that it is the largest, rather than the smallest, chartered cities in the region that are experiencing the most rapid increases in population size. Indeed, the correlation coefficient between urban population sizes and intercensal growth rates is a hefty +.77 for the Northern Mindanao region.³

Data on migration patterns to and from these seven cities give a similar result (see column 3 of Table 1). Again, it is the regional capital of Cagayan de Oro that registers the highest rate of net in-migration, followed immediately in this case by the second largest urban entity, Butuan City. Intermediate-sized cities experienced moderate in-migration, while the two smallest cities both

registered a net loss of population from the migration process.

The well-known predominance of the economic factor in inducing people to migrate would lead us to predict that associated differences in living standards should also be found within Northern Mindanao's set of seven chartered cities. That this is indeed the case is shown by column 4 of Table 1, which presents data from an analysis of community-wide living standards carried out for all cities and municipalities in the region (Costello 1988).⁴ Note that the two largest cities – Cagayan de Oro and Butuan – rank first and third, respectively, on this index, whereas the two smallest urban areas stand in the lowest and third-from-lowest positions. The correlation between scores on the living standards index for the seven cities taken as a whole and their net

Table 1. Urban Population Sizes (1980) and Growth Rates (1970-80), Net Migration Rates (1975-80) and Scores on a Level of Living Index, Chartered Cities in Northern Mindanao

City	Urban Population	Urban Growth Rate ^a	Net Migration ^b	Level of Living ^c
Cagayan de Oro	170,447	554.8	+19.8	12.05
Butuan City	74,921	52.7	+12.4	5.02
Surigao City	28,482	25.6	+ 6.4	4.92
Ozamis City	25,827	57.1	- 4.4	6.74
Gingoog City	20,128	36.7	+ 7.0	1.96
Oroquieta City	5,001	27.5	- 0.8	3.75
Tangub City	3,690	- 8.6	- 8.6	0.06

^a Urban growth rates include growth from natural increase, net migration *and* reclassification, which played an important role in the very rapid growth of urban Cagayan de Oro. By means of comparison, the growth rate for the city as a whole (a statistic which is not affected by reclassification) during this period was 77.1 percent. Population growth data is taken from the Republic of the Philippines National Census and Statistics Office (1974) and (1983).

^b Data taken from Magtajas and Palasan (1983, Table 1, 5, 6 and 7).

^c Data from Costello (1988, Table 2). The index is based upon various indicators taken from the 1980 Census of Population and Housing.

migration rates during the 1975-1980 period is thus strongly positive in nature (+.69).

What about growth and migration patterns for the region's towns and market centers? According to the diffuse urbanization model, these should be experiencing significant population increases, even more so than large cities. To obtain data for this question, I computed decennial growth rates for the *poblacion* areas of the region's 113 municipalities. As may be recalled, a municipality is basically a rural community, although its centrally-located *poblacion* typically has a semi-urban character. Commercial enterprises and governmental offices are invariably clustered therein, thus indicating that the municipal *poblacion* is the closest we can go – given the limitations of the Philippine Census Bureau tabulations – to approximate Hackenberg's "rural service centers" or Rondinelli's "market towns".

In 1970, the total population count for the *poblacion* districts of all municipalities in Northern Mindanao was

293,691 persons. By 1980, this had increased to 356,310 persons, for a 10-year growth rate of only 21.3 percent. As a look at Table 1 will verify, this means that the municipal *poblaciones* of Northern Mindanao were, on the average, registering slower growth rates than the urban populations of all (except one) of the region's seven chartered cities. This one exception – Tangub City – is the smallest urban area in the region. The overall pattern, therefore, remains unchanged: Population growth rates in the region's smaller urban nodes are generally unimpressive, particularly compared to those shown by the larger cities.

Overurbanization?

Having now shown that population growth is proceeding more rapidly in the larger regional cities than in smaller urban centers, two potential objections to this finding must now be addressed. The first of these concerns the possibility that Northern Mindanao represents something of a special case, that is, the relationship between city size and population growth rates is insignificant or even negative in

Table 2. Annual Growth Rates (Percent) of Philippine Cities, by Size Category, 1903-1980

City Size	1903-1939	1948-1960	1960-1970	1970-1980
Small (Below 60,000)	1.8	2.0	2.0	2.2
Intermediate (60-100,000)	2.6	3.1	2.1	2.6
Large (100,000 or more)	3.2	3.8	4.2	3.8
TOTAL	2.5	3.1	3.2	3.2

Source: Pernia (1983, Table 1)

other regions of the Philippines. This, however, does not appear to be true. Table 2 presents data on this question which were originally computed by Ernesto M. Pernia (1983, Table 1). As indicated therein, it is again the larger cities in the country that have consistently exhibited the fastest growth rates, followed by intermediate-sized cities and then by those in the smallest-size category. Also, there is no strong indication that this historical pattern was on the way out during the 1970s.

Furthermore, it is apparent that the relatively rapid growth experienced by members of the largest city size category is a phenomenon that is now occurring throughout the whole of Mindanao. Overall, the other major cities of the island – Davao, General Santos, Iligan, and Zamboanga – all experienced heavy immigration between 1970 and 1980.⁵

A second objection to our findings might be that rapidly urban expansion actually represents a symptom of

demographic *malaise* rather than of a functional redistribution of the region's population. The "parasitic" image, of course, argues precisely that big cities grow only by depriving their hinterlands of capital and manpower. Conversely, the overurbanization model interprets the rapid growth of Third World cities as being due almost entirely to rural "push" factors, concluding therefore that there is little opportunity for the rural-urban migrant to find productive and remunerative employment in his new home (McGee 1967, Hafner 1980).

The thesis of urban parasitism will be dealt with shortly. For now, however, we may address the over-urbanization question by inspecting changes over time in the occupational composition of Northern Mindanao's cities, as can be found in Table 3. According to the over-urbanization model, the heavy rates of in-migration to Cagayan de Oro should be associated with a disproportionate growth in the less productive sectors of this city's

Table 3. Percentage Distribution by Major Occupational Category, Gainful Workers in Urban Areas of Northern Mindanao, 1970 and 1980

Major Occupational Category	Cagayan de Oro		Butuan		Gingoog/Surigao/ Ozamis		Oroquieta/Tangub	
	1970	1980	1970	1980	1970	1980	1970	1980
White Collar	17.7	21.4	12.0	13.6	14.5	12.8	9.5	11.4
Sales	10.8	15.1	11.4	9.8	9.0	8.1	7.6	5.4
Farming, etc.	19.7	14.4	39.0	39.7	45.1	51.8	54.4	61.6
Service	14.2	18.0	12.1	10.8	10.2	8.8	6.0	5.3
Other	37.6	31.1	25.5	26.1	21.3	18.5	22.5	16.3
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Republic of Philippines, National Census and Statistics Office (n.d., Population Table 1-18).

economy. Again, however, this does not appear to be true. Thus, it is only in Cagayan de Oro that the proportion of gainful workers employed in white-collar and sales positions was able to expand during the intercensal period. In contrast, for the smaller and slower-growing cities, the largest gains were actually made in extractive occupations (farming and fishing), thereby indicating a situation of economic stagnation during this period.

Some observers might argue at this point that positions in sales are neither highly productive nor well-paying, especially when informal sector occupations like sidewalk vending are included in this category. Hackenberg's relatively benign view of the informal sector as a mechanism for upward mobility is, however, the correct one in this case as a number of empirical studies in the region have demonstrated (among them, Costello, Leinbach and Ulack 1986). Indeed, one multivariate analysis has shown urban incomes in the region to be higher in sales/commercial positions than in any other occupational category except that of administrators and managers, once other factors such as age and educational attainment had been taken into account (Costello and Palabrica-Costello 1985, Table V-5).⁶

A related issue concerns prospects for upward social mobility found among rural-urban migrants. Comparative data on this question for each of the

seven chartered cities in Mindanao are not yet available. At least three major studies, however, have been carried out in the regional capital of Cagayan de Oro, with uniformly positive results (Ulack 1976; National Economic and Development Authority Region X 1985; Costello, Leinbach and Ulack 1986). Despite the very heavy in-migration to Cagayan de Oro, all three studies provide evidence that the migrants are neither unemployed in large numbers nor have a personal consumption standard that is significantly below that of the urban natives. Overall, most migrants to Cagayan de Oro have already experienced some upward mobility as a result of their move while a large majority has expressed unwillingness to return to their place of origin. Again, these findings lend little support to the overurbanization model.

The spread effects issue

Basic to the metropolitan model of urban expansion is the postulation that cities in the largest-size category serve important economic functions, such as being sites for large-scale industrial enterprises and as administrative, financial, and information-processing centers. Relatively large cities can therefore attract firms (that would otherwise locate elsewhere) to the region, thereby improving economic opportunities not only for their own population but also for people in surrounding communities.

Positive spread effects to outlying towns and villages can take a number of forms. First, commuters and circulators from hinterland communities can go temporarily to the city to take advantage of the improved employment opportunities found there. This eases problems of job provision in the source community while at the same time bringing in a certain amount of economic remittances. Second, large cities also offer an attractive market for agricultural produce, thereby stimulating the growth of commercialized farming. A third factor is that, with time, the process of urban economic expansion can also lead to the relocation of industrial, commercial and even lower-order administrative functions to outlying communities. Enterprises requiring extra space or easy access to major transport linkages are particularly likely to select a peripheral location in a suburban or "urban" zone of an emerging metropolitan area.

This stands in sharp contrast to the parasitic model of large city growth. According to the parasitic viewpoint, remittances from both temporary and permanent migrants are on negative balance, just as the spread of an urban-oriented commercial agricultural system tends to bring about greater rural poverty *via* its displacement effect upon small farm owners and tenants. Similarly, the entry of nationally or internationally-based firms to the regional economy is deemed by this point of view as having an essentially negative impact, insofar as

these, too, tend to siphon off profits even while displacing such traditional occupations as handicraft workers and petty traders.⁷

Data on living standards in all the cities and municipalities of Northern Mindanao was therefore computed, using the index described earlier in Table 1. Indicators used in formulating the index were available from the Census of 1960, 1970 and 1980, thereby making it possible to trace changes over time on the living standards variable. An attempt was then made to see if these changes were associated with a set of five different ecological factors, namely: (1) the community's status as either chartered city or municipality; (2) whether it was located on an island off the coast of Mindanao; (3) could it be classified as being situated in an upland setting; (4) its accessibility to any of the region's seven chartered cities; and (5) its easy accessibility to the regional capital of Cagayan de Oro. (Municipalities were coded as "accessible" to a chartered city if they were immediately adjacent to the city and connected to it by means of a major highway. In comparison, municipalities were defined as being accessible to Cagayan de Oro if they lay within a radius of 100 kilometers from this city and were at the same time linked to it by the region's major highway.)

One-way analysis of variance was used to test the significance of the relationship between each of these dichotomized factors and the com-

munity's change over time on the level of living index. The results are again supportive of the metropolitan model insofar as the *only* significant relationship uncovered by this analysis was that involving accessibility to Cagayan de Oro. Furthermore, and as shown by the data in Table 4, the relationship in this instance is strongly positive, which is to say that the relative economic gains made by the accessible municipalities have been significantly greater than those found for the less accessible places.⁸

A parallel investigation was then made of the 1980 living standards index scores using in this case OLS multiple regression analysis. The rationale for undertaking this comparative cross-sectional analysis lay primarily in the fact that a greater number of predictor variables could be used in this case, due to the availability of more detailed tabulations from the 1980 Census. Independent variables used in the regression model included the following: (1) percentage of the municipality's labor

force employed in agriculture (AGWRKER); (2) percentage of all adults who could read (LITERACY); (3) percentage of all farmland in the municipality operated by a corporate agricultural enterprise (CORPFRMS); (4) the previously-defined measures of accessibility to any city in the region (NEARCITY) or to Cagayan de Oro (NEARCDO); (5) a measure of rural population pressure (AGDNSTY); (5) the municipality's location vis-a-vis the region's major highway system (HIGHWAY); and (6) the percentage of the community's population who are members of an indigenous, tribal grouping (TRIBALS).

Results of this analysis are shown in Table 5. A significant and positive association between living standards in these basically rural communities and their accessibility to the regional capital of Cagayan de Oro is immediately apparent from the data. This may be taken as evidence against both the urban parasitic model and the less extreme thesis that larger regional cities represent enclave-type

Table 4. Mean Change Over Time in Level of Living Index, by Accessibility to Cagayan de Oro, Municipalities of Northern Mindanao, 1960-80

Accessibility Level		Change Over Time in Index Score			
		N	X	s.d.	
High		17	1.92	1.67	
Low		57	-0.37	2.87	
TOTAL		74	0.16	2.81	
		<u>Analysis of Variance</u>			
Source	SS	df	MS	F	P
Accessibility	68.76	1	68.76		
Within	515.07	72	7.15	9.61	.01

economies that are incapable of generating any trends toward economic development in their rural hinterlands. Note also that the variable measuring access to smaller urban centers (NEARCITY) again fails to show any indication that this type of community can generate the same kind of positive spread effects found to emanate from Cagayan de Oro.

Two other findings from Table 5 are also of interest. The first of these relates to the important role played by the spread of nonagricultural work opportunities in raising rural living standards, as shown by the

significant negative relationship involving AGWRKER. In general, this finding supports the observations of both Hackenberg and Jones, as well as current efforts by Philippine economic planners to formulate a set of policies that can stimulate the growth of rural-based, agro-processing industries. Secondly, the strong ($p < .001$) positive relationship between CORPFRMS and the living standards index also fails to support the dependency model, since this invariably takes a negative view of trends toward increased market domination by corporate farming enterprises.⁹

Table 5. Multiple Regression Coefficients (Stepwise Selection Procedure) for a Model of Determinants of Community-Wide Levels of Living, 113 Municipalities of Northern Mindanao, 1980^a

Variable	Unstandardized	Regression Coefficients		
		Standardized ^b	t	p ^c
AGWRKER	-0.08	-.35	-4.08	.001
LITERACY	0.10	.25	3.00	.01
CORPFRMS	0.11	.24	3.62	.001
NEARCDO	1.12	.15	2.07	.05
TRIBALS	-0.05	-.19	-2.58	.02
HIGHWAY	0.80	.13	1.68	.10
----- VARIABLES NOT IN THE EQUATION -----				
NEARCITY	-	-.06	-0.81	n.s.
AGDNSTY	-	-.08	-0.98	n.s.
Intercept	-3.436			
R ²	0.578	(F = 24.16, p < .001)		
Adjusted R ²	0.554			

^aSample size differs from that shown in Table 4 due to boundary changes in the region's municipalities. (Table 4 is based on the 1960 boundaries; a number of new municipalities were created between 1960 and 1980, most typically by subdividing one single municipality into two or three new ones.)

^bStatistics reported for variables not in the equation are standardized beta coefficients which would result for the variable in question if it were to be entered into the model at the next step.

^cAll probabilities are for a two-tailed test. The regression coefficient for HIGHWAY is thus significant at .05 if a one-tailed test is used (the relationship does conform to the expected direction in this case).

Data from at least one national-level study of urban spread effects (Luna, Pernia and Hermoso 1983) provides confirming evidence for our results from Northern Mindanao. This analysis dealt with differences in agricultural productivity across the major Philippine regions and the extent to which productivity levels can be related to regional urbanization patterns. Results from the earliest time period analyzed (1961 data) indicated that, at this time, the urbanization effect was weakly negative in character. An opposite pattern, however, emerged from data taken from the 1971 Census of Agriculture:

Except for secondary urban centers, the other types of centers have the positive sign, and regional urban centers now prove to be slightly significant. This suggests that at a higher level of development around the early 70s, urban centers were beginning to have some favorable influence on the productivity of farms in their vicinity. For instance, whereas in the early 60s, agriculture depended on traditional inputs, in the 70s there was increasing use of such modern inputs as irrigation, fertilizer and seeds, as well as of urban-based services like storage, transport and processing. In short, there seemed to be greater reciprocity between farms and cities (Luna, Pernia and Hermoso 1983: 299).

These results are important for at least three reasons. First, these provide broader support for the spread effects phenomenon than can be found from my data on the single case of Cagayan de Oro. Second, these confirm the findings that smaller cities ("secondary urban centers") are as yet unable to exercise a similar effect upon their rural hinterlands. Third, these findings suggest an evolutionary model of urban-rural linkages in which a gradual shift from backwash to spread effects takes place over time (also see Keyfitz 1965). Further study on this latter possibility appears appropriate at this time.

Population redistribution in the metropolitan hinterland

Given the apparent ability of larger regional cities to exercise a positive economic impact upon their immediate hinterland, one might therefore expect that patterns of population distribution within these areas should likewise be affected. The demographic vitality of towns and market centers as foreseen by Hackenberg may indeed be taking place, but only in those communities that are situated within an expanding metropolitan region.

As a means of testing this supposition, let us now examine *poblacion* growth rates and municipal migration levels for that portion of Northern Mindanao that has been settled for the longest period of time and is now characterized by a relatively high level of

population density. As pointed out earlier, this area consists of the provinces of Agusan del Norte, Camiguin, Misamis Oriental and Misamis Occidental. In contrast to these areas are the provinces of Bukidnon, Agusan del Sur and Surigao del Norte, all of which still contain a number of frontier-like agricultural settings and are therefore still able to attract numerous agrarian-type migrants. Insofar as this type of demographic behavior is essentially unrelated to the main thesis of the present paper, these three provinces have therefore been excluded from this portion of the analysis.

Within the high-density coastal provinces, the metropolitan model predicts demographic stability or even a pattern of net in-migration to communities that are highly accessible to the regional capital. In contrast, a net rural outflow may be predicted from municipalities that are situated in less accessible locales.

This prediction is strongly borne out by the data. According to the municipal-level migration estimates prepared by Magtajas and Palasan (1983, Table 1, 4, 5 and 6), the 29 "inaccessible" municipalities of the four coastal provinces experienced a net loss of 18,612 out-migrants between 1970 and 1980. In contrast, the 21 "accessible" municipalities (defined again as those rural communities located along a major highway and situated within 100 kilometers of Cagayan de Oro) were

able to gain an estimated 7,254 net in-migrants during this same period.

Similar results are forthcoming for the data on *poblacion* population growth during this same period. Again confining ourselves to the four coastal provinces, the census estimates show a 22.7 percent increase on the part of municipal poblaciones that are highly accessible to Cagayan de Oro, as compared to only 11.7 percent in less accessible locales. Thus, semi-urban market centers are indeed expanding throughout the North Mindanao region, but this is not being carried out in conformance to a diffuse-like pattern of relatively equal representation within all major sub-areas. Instead, what seems to be emerging is a more highly concentrated pattern whereby semi-urban population growth may be seen as radiating outward from the region's largest urban center along major transportation arteries.

Concluding comments

The overriding empirical concern of this paper has been to describe the emerging patterns of ecological change and population redistribution in the North Mindanao region of the Philippines. This task has been undertaken with a view towards assessing recent theoretical statements concerning the spread of urban-like sustenance and residential patterns into rural areas of Southeast Asia. Our findings have indicated that whatever patterns of "diffuse urban-

ization" may be found in the region are limited almost exclusively to those municipalities of Northern Mindanao which lie within the immediate hinterland of Cagayan de Oro City, the region's largest city and administrative capital.

The overall picture is thus not one of *diffuse* urbanization, if by this we mean the relatively egalitarian distribution, within the region's geographic space, of market towns and rural service centers. Instead, the new major urban form that seems to be pointed out by the data presented in this paper is that of a regionally-based metropolitan area.

Use of the term "metropole" in the literature on Third World urbanization is sometimes limited to the primate city and its expanding hinterland, as though there were no other metropolitan regions in the country. This view, however, appears to be a short-sighted one, given the rapid economic and demographic growth experienced by at least some of Southeast Asia's intermediate-sized cities. In the Philippine case, for example, it clearly makes sense to now talk of the Cebu Metropolitan Area, and no doubt, it will not take long before a similar nomenclature can be used for Davao City and the communities that surround it.

In Northern Mindanao, a similar trend appears to be well underway for Cagayan de Oro and perhaps for Butuan City as well. Our data has

shown that it is relatively large cities such as these that are growing most rapidly, attracting the most in-migrants, exhibiting the highest living standards and evolving towards the most modernized occupational structures. And, while similar changes may be noted for some of the smaller urban nodes found within the region, these are largely confined to locales that are most easily accessible to Cagayan de Oro.

An important component of the diffuse urbanization model is the claim that infrastructural provision, commercial agriculture, and the spread of non-agricultural work opportunities to the countryside can all have a positive impact upon rural development patterns. Data presented in this paper has supported this general perspective. Again, however, these factors do not arise in a merely random fashion but are in fact often dependent upon the large-scale markets and specialized services that are available only in a large and accessible urban area. In general, neither the smaller cities of Northern Mindanao nor the region's market towns and rural service centers appear capable of generating these types of activities in their immediate hinterland.

Whether or not similar conclusions can be made for other Third World countries represents an important question for further study. Existing evidence tends, I believe, to point towards more rapid growth and improved living standards of larger

regional cities found in these settings, at least in comparison to smaller city-size categories (Bose 1971; Lo and Salih 1976, Table 4; Kim 1988; Lim 1979, Tables II-4 and II-6). To a certain extent this may even be true in the People's Republic of China, despite the very strong "rural bias" found in this country's development plans.¹⁰

From a theoretical perspective, findings presented in this paper tend to provide greater support to "modernization" and "convergence" theories of urban development rather than to those viewpoints that see the big city as existing in an exploitive, parasitic relationship with its hinterland. As one analysis of the economic relationships that have evolved over time between Manila and the Philippine provincial city of Dagupan has concluded, what seems to be emerging in this case is not so much a situation of "detrimental dependence" but rather of "generative interdependence" (Dannhaeuser 1981).

The major policy implication to emerge from the present study would therefore appear to be that proper recognition should be accorded to the positive aspects of those fairly large urban centers that now lie beyond the immediate influence of the national primate city. To some extent, this is probably already occurring given the urban bias that has been built into both national and regional-level development plans. Attempts to completely replace this

with an equally strong "rural" or "small town" bias, however, would probably not be wise at this point in time. Draconian measures to overcome what is perceived to be the problems of rapid urban growth and "regional primacy" are, in like fashion, not to be recommended. Likewise, premature closure should not be enforced on the debate about the efficacy of policies that seek to redirect primate city growth towards regional urban centers. Evaluation studies of industrially-based growth *pole* policies have generally not revealed much in the way of success stories. This, however, need not rule out an alternative growth approach, in which regional cities that already appear to be most dynamic and best to handle further growth are first identified, and in which emphasis is given to the type of infrastructural provision (e.g., transport and communication linkages, marketing and credit institutions) that offers the best prospect for strengthening urban spread effects. Simply removing policy measures that already bias economic growth in favor of the national capital region (Hamer 1989) might also represent an effective way to overcome the national-level primacy problem without working against the interests of other large urban centers in the country. Another strategy that has been suggested by several urban and regional economists (among them, Richardson 1977; Renaud 1979) would be to work with a selected number of "urban corridors" that are beginning to

develop along major transportation routes. Within Mindanao, for example, the major candidates for this more advanced form of metropolitan growth would be the General Santos-Davao-Tagum corridor in the southeast, and Iligan-Cagayan de Oro-Butuan along the northern coastline.

We are, of course, not dealing here with a strictly monocausal argument. The presence of a relatively large city within a region cannot be expected to guarantee, by itself, continued economic growth. Strong support for rural

development and the agricultural sector, for investment in human capital formation, for family planning programs, for scientific/technical research, and for other associated policies are also of paramount importance. But regionally-based big cities do have a contribution to make, not only for people living within their political boundaries, but even for inhabitants of smaller communities that have become enmeshed with them in an emerging and interdependent metropolitan region.

Notes

An earlier version of this paper was presented at the 1990 Meeting of the Population Association of America on May 3-5 in Toronto. Travel funds to attend the meeting were provided by the International Development Research Centre, Ottawa. The author gratefully acknowledges this support, along with the research funds provided by the UNFPA-funded Population and Development Research Project, National Economic and Development Authority, Republic of the Philippines.

¹No census was held in 1985, whereas the 1990 Census results are only now being tabulated. Thus, these are the most recent estimates now available.

²That is, these are the largest chartered cities that have grown most rapidly

during the period 1970-1980, as shown by the correlation coefficient of +.69 between population size for the city as a whole and overall city growth rates.

Since 1970, the Philippine Census Bureau has classified subdistricts of chartered cities and municipalities as "urban" or "rural", based upon certain minimum standards of population density, institutional provision and employment in non-extractive occupations. For further details on the definition, see Hermoso (1983:154-155).

³In computing this statistic, the more conservative estimate (77.1 percent) of urban growth in Cagayan de Oro was used rather than the very large estimate (554.8 percent) shown in Table 1.

⁴Using a methodology first suggested by Smith (1979:366-368), the living standards index combines data on six indicators of consumer ownership and economic well-being: use of strong housing materials; use of electricity for household lighting purposes; access to modern/potable source of drinking water; ownership of modern/sanitary toilet facilities; use of a modern cooking fuel (gas/electricity); and ownership of a radio. Cf. Costello (1988:18-22) for evidence of scale reliability for this index.

⁵Referring to the decade of the 1970s, one recent analysis has demonstrated that "the overall increase in population for Mindanao's larger cities (100,000 or more in population) stood at 51.0 percent for this period, as compared to 41.7 percent for the 50,000 to 100,000 category, and only 33.0 percent for cities with fewer than 50,000 inhabitants" (Costello 1989:21).

⁶All in all, eight occupational groupings were compared in this analysis. Their comparative ranking in terms of household consumption standards was, from highest to lowest: managers, sales positions, professional occupations (including teachers), farming, services, clerical, transportation/communication, and manufacturing/construction.

⁷For a discussion of the remittances question, cf. Hugo 1983. One of the more widely-circulated portrayals of

Third World cities as "parasites" is provided by Friedmann and Douglas's (1976) proposal to set up self-sufficient and autonomous "agropolitan" districts in the densely-populated regions of rural Asia. "On the one hand...", these authors claim, cities "function as nodal points in the periphery of the world capitalist system; on the other hand, they dominate (and exploit) their own peripheries in much the same way as they, in turn, are dominated (and exploited) by the world core regions of Western Europe, the northeastern part of the United States and Central Japan."

⁸A careful perusal of Table 4 would appear to show declining living standards, over time, in the less accessible municipalities. This is actually a statistical artifact that has been brought about by the fact that the index has been standardized for each census year with a mean of zero and a standard deviation of 1. Municipalities that fall below the median score thus receive negative scores; should they also move lower in rank over time, a negative score will appear when comparisons are made through history. Actually, the proportion of households with strong housing materials, piped water, among others, was rising over time in nearly all communities of the region. Data shown in Table 4 thus indicates that this gradual improvement in living standards was more rapid in the accessible municipalities than in the non-accessible ones.

⁹In turn, both nonagricultural work opportunities and corporation agriculture may be functionally linked to accessibility to large urban centers. Thus, the zero-order correlation between NEARCDO and AGWRKER for the living standards study was -.29 (significant at .001), while that for NEARCDO and CORPFRMS was +.12.

¹⁰“Even the much-heralded rural industrialization (and urbanization) strategy followed by Chinese authorities as an alternative to the growth of large urban centers is yielding nothing more than peri-urban or suburban development around centers like Beijing, Shanghai, and Guangzhou” (Hamer 1989:8). Also see Bradshaw and Fraser (1989).

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