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COUNTRY MONITORING PROJECT :

URBAN INDICATORS

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## GENERAL INTRODUCTION

The methodology proposed in this document emerged from the findings of the Rural-Urban Profiles for Zaïre and Mali which were prepared by the author as Consultant to the USAID Regional Housing and Urban Development Office in West Africa. Production of this "Urban Indicators Document" in English and in French, and negotiation of its pilot implementation in Zaïre by the Institute of Social and Economic Research (IRES) of the University of Kinshasa were accomplished by the author during a six week consultancy in March-April 1984.

This general methodology is designed to be used by the RHUDO/WA in order to monitor urbanization at a minimum cost throughout the West and Central African Region, but it is also hoped that it will be a useful format for other international development organizations and local institutions. To minimize cost required for implementation, the methodology uses only indicators which should be obtainable from existing secondary data in each country, collectable within the capital and through site visits of about a week in each indicator city. An overview of the secondary data already available for the tables' completion emerged from field surveys of data available in Zaïre and Mali during the preparation of their Rural-Urban Profiles. A local urban planning or social science institution is proposed to become the implementing agency within each country, with regional comparability assured by this overall framework for data collection. For each table, data sources should be cited, along with a brief narrative assessment of this data's validity and its bias.

## GENERAL OUTLINE OF COUNTRY MONITORING PROJECT: URBAN INDICATORS

## I. Indicators of Level of Urbanization

- (i) Rate of Urban Population Growth by Size of City
- (ii) Rate of Urban Population Growth by Region
- (iii) Number of Cities in Different Size Classes
- (iv) Shares of Urban Population under 18 and Dependency Ratios by Region and by City Size
- (v) Shares of Urban Population by Sex (by Region and by City Size)
- (vi) Regional Per Capita Investment Performance under the National Economic Plan: Regional Expenditure/Population Ratios (by Rural/Urban if Possible).  
Note: Inclusion of Sectoral Breakdowns if Available.  
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## II. Urban Quality of Life Indicators for Key Secondary Cities

## A. Selection Criteria for Indicator Cities

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- (viii) Educational Conditions : Changes in School Enrollments, Facilities and Personnel Related to Rate of Increase in Under Age 18 Urban Populations
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- (xi) Water Service Ratios
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## III. Rural-Urban Linkage

## A. Introduction

## B. Indicator Tables

- (xiv) Degree of Concentration of Regional Educational Facilities in Urban Areas
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- (xvi) Degree of Concentration of Market Intermediaries, Markets and Formal Sector Credit Institutions in Urban Areas
- (xvii) Degree of Concentration of Road Transport in Urban Areas by Type of Vehicle

- (xviii) Degree Of Concentration of Passenger and Freight Transport Volumes in Urban Areas on Major Transport Modes (Road, Rail, River/Sea, Air)
- (xix) Surplus or Deficit by Region in Food Production
- (xx) Birthplace of Urban Residents and % of Absent Rural and Urban Residents for Indicator Secondary Cities and Their Regions

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I - INDICATORS OF LEVEL  
OF URBANIZATION

(i) Rate of Urban Population Growth by Size of City

	Urban Population			Average Annual Growth Rate of Urban Pop.		Urban Pop.	Av. Annual Growth Rate	% of 1983 National Urban Population	Year 2000 Population Estimates	Other Projected Pop. Growth Rates, '80-2000
	1960	1970	1980	1960-70	1970-80	1983	1980-83			
1. Largest City										
2. Urban Places over 1,000,000 (excl. largest city)										
3. Urban Places of 500,000-999,999 (excl. largest city)										
4. Urban Places 100,000-499,999 (excl. largest city)										
5. Urban Places 25,000-99,999										
6. Urban Places 15,000-24,999										
7. Smaller Urban Places										
8. Total National Urban Pop.										
9. Total Na. Pop.										

Smaller Secondary Cities  
 Market Towns  
 Largest Secondary Cities

(1) OBJECTIVE

- (A) To establish the rate of urban population growth for different sizes of cities in the context of overall national population growth by comparing lines 8 and 9 for past, present, and projected future.
- (B) To establish trends in the increasing or decreasing primacy of the largest city in the context of the overall urban settlement pattern, by comparing line 1 with lines 2-7.

Most countries are likely to have rates of urban population growth which are above the rate of national population growth due to the volume of rural-urban migration. This table will allow an approximation of the level of rural-urban migration by comparing urban growth rates with national population growth rates (which usually approximate the rate of natural increase). This table will also show the relative attraction of smaller urban areas and larger secondary cities vis-à-vis the largest city. If updated on an annual basis, actual urban growth performance versus projections can be monitored.

HOW TO USE THE TABLE

It will be necessary to establish country specific categories for the population-based or functional definitions of the "largest secondary cities" and "total urban". For example, a highly urbanized country like Nigeria can use cities over 500,000 as the "largest secondary cities" category; Zaïre could use cities over 100,000; less urbanized countries may need to use cities over 25,000 or 15,000 or a functional definition such as "all regional capitals". "Total urban" will depend upon national definitions, usually cities over 5,000 or 10,000, or a size class combined with a functional definition (which includes all administrative capitals down to the circle level in Mali).

On a country-specific basis, the minimum population size for secondary cities of interest should be established, and all cities above that size should be listed separately by name in completing this chart. Smaller urban areas below this size may be aggregated.

It will be necessary to modify the breakdown of time periods used, depending upon the best past statistical landmarks available, likely to be limited to two censuses during the post-Independence period in most West and Central African countries. Current ('82-'83) data will most probably be drawn from administrative censuses collated by Ministries of Administration du Territoire or demographic statistical institutes in each country. Since there is usually a multi-year time-lag in national reporting, data collection is likely to require visits to state or regional capitals.

Administrative censuses are usually linked to taxation, and depending upon how census questions are asked, birthplace rather than current residence may be reported. Absent residents, recent in-migrants, and all low-income groups are likely to have been under-counted, due to census avoidance behaviour. Findings reported are likely to understate urban growth for these reasons.

Year 2000 population figures for major cities should be calculated by projecting most recent actual growth rates from past census data. The final right-hand column is provided to record other available growth projections for comparison with actual census performance. Availability of other projections will depend upon past interest by the World Bank, other lenders and donors, and demographic research projects, in having financed such projections. Sources should be cited.

Rate of Urban Population Growth by Region

	1960			1970			1980			1983			Projected Average Annual Rate of Increase or Decrease, 1980-2000		
	Total Pop. by Region	% of Region's Pop. Which is Urban	% of Na. Urban Pop. Within this Region	Total Pop. by Region	% of Region's Pop. Which is Urban	% of Na. Urban Pop. Within this Region	Total Pop. by Region	% of Region's Pop. Which is Urban	% of Na. Urban Pop. Within this Region	Total Pop. by Region	% of Region's Pop. Which is Urban	% of Na. Urban Pop. Within this Region	Total Pop.	% Urban in Region	% Na. Urban in Region
Region I															
Region II															
Region III															
Region IV															
Region V															

(ii) OBJECTIVE

To establish the geographical distribution pattern of the national urban population and trends in urban growth by region. This data will allow targeting of the most rapidly urbanizing regions within countries for more intensive study of urban and interurban investment priorities, rural-urban interactions, and "push" and "pull" factors affecting migration decisions. Each region's own level of urbanization, as well as its share of total urban population, are both monitored over time.

HOW TO USE THE TABLE

It will be necessary to use the best quality past demographic data (national census years), modifying the time periods chosen according to when these censuses took place. The most recent population figures are likely to be provided by administrative censuses. The projections column is calculated by subtracting the 1983 rates from the 1980 regional population rates, to calculate the + or - rate of change for each region.

It is proposed to use the country's own definition of "regions" (or "states"), i.e. the administrative subdivisions established by the government, according to which data is already being compiled and budgets are being allocated.

(iii) Number of Cities in Different Size Classes :

Number Of Cities	Number of Cities				Net Change '80-'83 In No,of Cities
	1960	1970	1980	1983	
Size of Largest City					
Total No. Urban Places over 1,000,000 (excluding Capital					
Total No. Urban Places of 500,000-999,999 (excluding Capital)					
Total No. Urban Places 100,000-499,999 (excluding Capital)					
Total No. Urban Places 25,000-99,999					
Total No. Urban Places 15,000-24,999					
No of Smaller Places still Considered Urban					

(iii) OBJECTIVE

To present a comparative picture over time of changes in the hierarchy of urban settlements, by monitoring the extent of geographic dispersal of the national urban population among separate urban places of different sizes. This table provides an overall indication of the rate of emergence of separate cities of different sizes, and in comparison with Table (i), can be used to define the number of secondary cities with separate public service and planning needs, which are housing major shares of the national urban population.

HOW TO USE THE TABLE

Some of the urban size categories in this illustrative table will not be found within particular countries. It will be necessary to use landmark years in which good quality demographic data is available, and to conform to the country specific - definition of a minimum size urban place, unless population data is able to be re-aggregated to conform to a more universal definition of "urban" (settlements over 5,000 or over 10,000 are the usual cut-off points). National demographic institutes or territorial administration ministries will be the likely sources of data, with administrative censuses providing the most recent figures.

A pattern which includes a large number of separate urban places implies a need for decentralized institution -building in secondary city planning and investment. Project planners may use this table to identify the most rapidly growing size class of city. By comparing this table with other U.I.D. tables on secondary city living conditions and shortfalls in education and employment, it will be possible to identify the city size classes with the greatest strain on available infrastructure and resources for more in-depth study.

Knowing the number of cities in each size class will help to define priorities for infrastructure and institution -building projects. Urban places with 100,000 plus populations are usually thought of as having a sufficiently large critical mass of consumers to have (1) a market for economic diversification beyond the primary production sector, and (2) a capacity for self-financing of infrastructure improvements, through user fees at a scale which would permit cost recovery. Employment generation might require infrastructure investment which could attract decentralized industry, and would therefore be limited to particular size classes of cities.

In combination with Table (i), this table also provides an indication of the relative attractiveness of smaller cities and market towns, in contrast to larger cities. Central place concepts in urban theory predict that a characteristic of a mature urban system will be the ability to mathematically predict a city's population size from its ordinal position in the national hierarchy of cities. The equation used takes the inverse of a city's rank number and multiplies it by the population of the largest city to predict that smaller city's own population level. For example, the second largest city will have a population half as large as that of the largest city, as shown below :

$$\text{Population of City } n^{\circ} 2 = 1/2 \times \text{Population of City } n^{\circ} 1$$

In rapidly urbanizing IDC's, there is usually a distortion of this pattern towards a higher concentration of national urban population in the largest city. There is usually a relative gap between the primate city and smaller secondary city levels, which is the difference between the "ideal" population shares and actual sizes of the intermediate-sized secondary cities. These intermediate cities are fewer in number, and comprise a smaller share of national urban population than would ideally be predicted by central place theory, because of the strong competitive attraction of the largest city's employment opportunities and services. By preparing the picture of urban hierarchy presented in this table for many countries in the region, and then comparing the tables, it will be possible to begin to establish a continuum of the relative maturity of urban settlement patterns within the region.

The table can be used as a format for compiling information by region, especially regions which a donor has chosen for its geographic foci. In this case, a separate table would be prepared for each region (or state), as well as the national aggregation illustrated above.

(iv)

Shares of Urban Population under 18 and Dependency Ratios by Region and by City Size

	Number of Urban-Dwellers under Age 18			% of Urban Pop. Which is Under 18			Number of Salaried Jobs			Dependency Ratios: Number of "Economic Dependents" Per Salaried Worker		
	(1) 1970	(2) 1980	(3) 1983	(4) '70	(5) '80	(6) '83	(7) '70	(8) '80	(9) '83	(10) '70	(11) '80	(12) '83
Region I												
Region II												
Region III												
Region IV												
Region N												
Largest City												
Urban Places over 1,000,000 (excl. largest City)												
Urban Places of 500,000-999,999 (excl. largest city)												
Urban Places of 100,000-499,999 (excl. largest city)												
Urban Places 25,000-99,000												
Urban Places 15,000-24,999												
Smaller Places still Considered Urban												

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(iv) OBJECTIVE

Two major problems are caused by the rapid rate of West and Central African urbanization :

- (1) exponentially increasing demand for educational facilities to serve the increasingly young population of the cities (swelled by migrant rural youth in search of education); and
- (2) the slow rate of modern sector (salaried) job creation which is resulting in drastic increases within a short time in the number of economic dependents supported by each salary. In response to this strain on salaries, often exacerbated by government wage controls, urban households are adopting diverse economic survival strategies, including multiple sources of employment (commerce and informal sector artisan activities), seasonal agricultural activities in rural areas and on the urban fringe, capital investment in goods for rental, etc. This table indicates the regions and sizes of cities in a country which are generating the greatest demand for urban educational investment and job creation. The dependency ratio should only be considered to be a relative indicator, since students, housewives, and the elderly usually have agricultural or informal sources of income which are not reported in national economic data.

HOW TO USE THE TABLE

Administrative and national population censuses usually report population figures divided at least by under and over age 18. In most countries, this provides only an order-of-magnitude approximation of youth and adult shares of the population, since married women of any age tend to be reported as adults (over 18) and many people do not know their age. Population figures which are entered in columns 1-3 should be taken from available good quality landmark censuses in the past two decades, and the most recent administrative census figures available for the whole country. Columns 4-6 can be calculated by comparing columns 1-3 with the overall urban population figures by region and city size class in Tables (i) and (ii). It has been assumed that the same landmark census years will be used in all national and regional population tables.

Figures for column 7-9 on number of salaried jobs by region are probably available from the Department of Economic Planning, the Central Bank, the Chamber of Commerce or the Ministry of Finance in each country. Figures for these columns by city size class may be compilable from the same data sources, but if this is not feasible, figures from key indicator cities should be collected (see description of selection criteria in Part II of this manual).

Dependency ratios are calculated by dividing the number of salaried jobs per region, or per urban size class, into the aggregate population figures, by year, reported for these units in Tables (i) and (ii). If key indicator cities must be used for the lower half of the table, because national employment data can not be reaggregated by size of city, the total population figures for each indicator city (for appropriate years) form the denominator of each equation.

(v) Shares of Urban Population by Sex, (by Region and by City Size):

	1960 Number of Males/100 Fem. in Urban Pop.	1970 No. of Males per 100 females In Urban Pop.	1980 No. Males /100 females in Urban Pop.	1983 No. Males per 100 females in Urban Pop.	Projected Rate of Change: Male Sex Ratio 1980 - 2000
Region I					
Region II					
Region III					
Region IV					
Region N					
Largest City					
Urban Places over 1,000,000 (excl. largest city)					
Urban Places of 500,000-999,999 (excl. largest city)					
Urban Places of 100,000-499,999 (excl. largest city)					
Urban Places 25,000-99,000					
Urban Places 15,000-24,999					
Smaller Places still Considered Urban					

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(v) OBJECTIVE

To monitor and project changes in the sexual balance in urban areas. Though past site-specific rapid urbanization in Africa has usually involved mainly male out-migration from rural areas, leaving women to cultivate, this has partly been a factor of types of urban economic functions. Male rural/urban migrants initially were attracted to mining and port cities where heavy manual labor shortages provided cash-earning opportunities for unskilled male workers. Increasing sexual parity in urban areas is an indicator of maturing cities, in which (1) enough economic and social stability has been achieved to induce migrant males to install their families in the urban setting, and (2) a more diversified economy is providing female educational and employment opportunities. There is a feedback loop between sexual parity, which in turn encourages greater social stability, and longterm commitment to urban residence.

In some severely economically depressed parts of West and Central Africa (e.g. Mali), male rural out-migration is attracted to longer distance multi-year residence in the country's largest city or in urban areas outside the country, while female in-migration predominates in the country's own secondary cities. This is especially observable in the dry season, when under-employed rural women are attracted by the cash-earning opportunities available in secondary cities which are, however, lower than potential male earnings achievable through longer distance migration.

HOW TO USE THE TABLE

Sex ratios are usually reported as the number of males per 100 females : 
$$N = \frac{\text{Number of Males}}{\text{Number of Females}} \times 100$$

A ratio of 100 indicates complete sexual parity. Male predominance includes indicators over 100, and female dominance shows ratios under 100. Female urban dominance indicates areas contributing to longer distance male migration, and parity implies relatively stable social structure and more equal economic opportunity. Male urban dominance suggests the importance of primary economic sector activities, and a rapidly changing, less stable urban social structure. Urban areas with female dominance may require specific women-in-development project designs to encourage economic development.

(vi) Regional Per Capita Investment Performance under the National Economic Plan :  
Regional Expenditure/Population Ratios  
 (By Rural/Urban if Possible)

		(a) % of National Population	(b) % of Nat. Plan Expenditures	(c) Expenditure/Pop. Ratio
Region I	Rural			
	Urban			
Region II	Rural			
	Urban			
Region III	Rural			
	Urban			
Region IV	Rural			
	Urban			
Region V	Rural			
	Urban			
Largest City				
Urban Places over 1,000,000 (excl. Largest City)				
Urban Places of 500,000-999,999 (excl. largest city)				
Urban Places of 100,000-499,999 (excl. largest city)				
Urban Places 25,000-99,000				
Urban Places 15,000-24,999				
Smaller Places still Considered Urban				

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(vi) OBJECTIVE

To identify regions which are under-funded or over-funded per capita in National Economic plans, and the relative allocation of investments among cities or size classes of cities which are housing major shares of the urban population.

Key cities and regions which have particularly high or low expenditure/population ratios are highlighted by this table for more in-depth analysis which could determine : (1) whether basic needs are being sufficiently addressed in disadvantaged cities and regions and (2) whether the high shares of public investment in advantaged cities and regions are justified by their economic productivity or social service outputs, and the extent of their geographic outreach to target populations.

HOW TO USE THE TABLE

Dates of plan period expenditures and population figures will vary by country, depending upon whether a Five Year Investment Plan is in use , or some other time span, and upon the starting and ending dates of plan periods and accounting systems. In some countries, such as Zaïre, it will not be easy to separate operating from capital investments. Investments financed by external loan or grant funds are likely to be merged with domestic expenditures, and external sources will form the largest share of capital investment in many low income countries, such as Mali. If a landmark census year falls within the plan period under analysis, total regional population figures from Table (ii) may be used to calculate column(a) percentages. If suitable regional population figures are not available, regional shares of population for midway through the plan period should be extrapolated from Table (ii) figures.

The Ministry of Economic Planning or Finance is the likely source for actual regional, city, and city size class expenditures during the most recent plan period. World Bank studies are also a possible source for this data. City-specific expenditures will normally require new calculations, and may therefore only be feasible (if at all) for key indicator secondary cities (see criteria for selection in the introduction to Section II of this report), if resource limitations exist. Therefore, an optional use of the table could involve completion of the lower half (allocations by city size class), using data available on the largest city and key secondary cities being monitored in Section II. It may require extensive re-aggregation of expenditure data to retrieve rural/urban shares by region. A possible surrogate measure might involve separating specifically rural sectoral expenditures (agriculture, forestry, animal resources) from other expenditures (public works, mining, industry, social services) which would have both a mixed rural/urban or an urban-biased impact.

Calculate the expenditure/population ratio using the following formula as illustrated below :

$$N = \frac{\% \text{ Na. Plan Expenditure}}{\% \text{ Na. Population}}$$

$$.62 = \frac{8.6 \%}{13.8 \%} = .086$$

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An expenditure/population ratio of 1.0 indicates that the region or city size class has received a share of investment proportionate to its population size. Ratios under 1.0 indicate under-investment in proportion to the area's share of population, and ratios greater than 1.0 indicate disproportionate spending. A ratio of 3.8, for example, implies that the region or city is receiving almost 400 % of the amount of investment which equal distribution per capita would have predicted.

Expenditure/population ratios are likely to show relative disinvestment in smaller cities and some regions; the largest city is likely to be receiving a high ratio of expenditures, which may be justified by the national influence and range of service of some of these investments. If capital expenditures can be separated from operating ones, the table will be even more useful as a tool for identifying disadvantaged regions and indicator cities.



(vii) OBJECTIVE

There has been observed to be a strong correlation between the presence of a large number of large cities in a region and the importance of its share of national GDP, though a high rate of urban growth is not always correlated with a rapid rate of GDP growth. Urbanization therefore does not guarantee economic development, but most sources of national GDP are based in urban areas where the cash economy is most important, economic transactions are more easily monitored, and revenues more likely to be reported. Monitoring per capita changes in GDP by region and by sector, as shown in the table, will provide an indicator of the impacts (or lack thereof) of the past National Plan investments shown in Table (vi), in increasing regional productivity.

Ideally, one would prefer to monitor changes in rural versus urban GDP by region, but current country economic performance statistics would not permit an accurate breakdown of GDP along these lines. Establishing reasonably accurate hypotheses, applicable to each country in West and Central Africa, on relative rural/urban shares of GDP within country sub-regions (which would substitute for rural/urban GDP reporting) is beyond the state of the art, at this time, of our understanding of rural-urban labor flows and income redistribution. We can, however, compare this table of sub-regional GDP change by sector with Tables (i), (ii) and (iii), to analyze the apparent relationships between rate of urbanization and sectoral economic development within and between countries. Secondary cities in West and Central Africa are typically increasing their productivity mainly in the tertiary sector, except where primary sector mining and agriculture are major economic activities. Usually, minimal secondary sector investment has been allocated to any but the largest city in each country. This table will allow monitoring of this economic trend, the concentration of secondary sector activities in the largest city versus other regions' cities.

HOW TO USE THE TABLE

GDP by sector and by region will most likely be available from the annual reports of a country's Central Bank or from its Economic Affairs or Finance Ministries. Some countries may only have regional breakdowns of GDP for specific years, if at all, requiring some extrapolation, re-aggregation of data, and/or dropping from the table of sectors for which data can not be regionalized. Special World Bank studies, commissioned from time to time, sometimes have regional data on GDP.

In order to enhance the comparative value of this table, the same years used in Tables (i), (ii), (iii) and (vi) should be used as bench-marks if data availability permits. GDP by region and by sector could therefore be divided by the regional population figures in Table (ii), to generate the per capita GDP figures needed for this table. The net change columns are calculated as the percentage of increase or decrease in total regional GDP over the relevant time periods, allowing identification of regions that are developing or declining economically, and by reference back to the other columns of the table, sectors in which productivity has been enhanced or decreased by past and recent investment policies.

II - URBAN QUALITY OF LIFE INDICATORS  
FOR KEY SECONDARY CITIES

A - SELECTION CRITERIA FOR INDICATOR CITIES

Each organization which uses this urban indicators general methodology will have its own program interests and priorities which will dictate its criteria for the selection of indicator cities. Possible criteria might include selection of the 8-10 largest secondary cities in the country, or a focus upon the most influential cities in particular geographic regions of focus, or cities which are particularly active in certain economic sectors. The criteria suggested below are offered as alternatives for consideration. Completion of the tables in both Sections II and III of this methodology will probably require about a week of data collection in each indicator city.

1. Ideally, the tables provided in Section I "Indicators of Level of Urbanization" , could be used to identify :
  - a) the most rapidly growing size classes of secondary cities both in terms of largest shares of the national urban population (Table i) and in terms of largest number of new cities emerging in these size classes (Table iii);
  - b) the most rapidly urbanizing regions, as well as regions with the largest shares of existing national urban population (Table ii).
2. Distributed among these key regions, and city size classes, 8-10 cities could be selected for monitoring in Section II which will represent the range of urban problems expressed in Tables iv-vii above. For example, if two cities are chosen for each size class per region of focus, one of these cities could be chosen as representing the impoverished end of each set of conditions, and the other could be a relatively advantaged urban area for comparative purposes, as shown in the diagram below :

	City Size Class A		City Size Class B	
	Disadvantaged	Advantaged	Disadvantaged	Advantaged
REGION I	City No. 1	City No.2	City No. 3	City No. 4
REGION II	City No. 5	City No.6	City No. 7	City No. 8

3. Tables iv-vii can help to select these advantaged versus disadvantaged regions, city size classes, and to predict individual indicator cities since :
  - a) Regions and city size classes which are economically disadvantaged will have higher dependency ratios (Table iv), lower expenditure/population ratios (Table vi) and a lower GD per capita (Table vii). Socially instable, rapidly growing cities, especially those with non-diversified economies, or in high out-migration areas, will have imbalanced sex ratios (Table v).

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b) Depending upon the findings for disadvantaged versus advantaged conditions by region and city size class, the indicator cities' selection table might vary as shown below, where all the cities in particular regions are either advantaged or disadvantaged :

City Size Classes	Disadvantaged		Advantaged	
	Region I	Region II	Region III	Region IV
Size Class A	City No. 1	City No. 2	City No. 3	City No. 4
Size Class B	City No. 5	City No. 6	City No. 7	City No. 8

or, as shown below, where all the cities of particular size classes are advantaged or disadvantaged :

	Disadvantaged : Size Class A	Advantaged : Size Class B
REGION I	City No. 1	City No. 5
REGION II	City No. 2	City No. 6
REGION III	City No. 3	City No. 7
REGION IV	City No. 4	City No. 8

4. Though a more pragmatic criterion than those above, since funds are unlikely to be available for new primary data collection, city choices may be dictated (or modified) by affordability of access and availability of data. For example, the Office National des Produits Vivriers in Zaïre monitors food prices regularly in selected secondary cities. These cities would need to be used for Table x in this section, in the Zaïre monitoring effort. Other cities may need to be used for other tables, depending upon inter-ministerial and other donor interest in the past, which may have led to data bases needed for other tables having been collected in a different set of secondary cities in the country.

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B - INDICATOR TABLES

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(viii) OBJECTIVE

The high rate of urban migration of rural youth in search of education, combined with the high rate of natural increase in urban areas, has overstrained the ability of governments to provide educational services in pace with demand. By monitoring the rate of facilities increase or decrease, in comparison with the rate of increase in demand for services, the shortfall which must be addressed in the educational sector can be identified for key regions, and city size classes, through the experience of indicator cities. Though literacy rates are likely to be reported only for regions (at most divided by rural versus urban), it is recommended that they be entered in the table under the "Regional" column, and separated by rural/urban if available, to assist in identifying the most disadvantaged or advantaged regions and cities. These school facilities and enrollment data for indicator cities may conversely help to reassess the validity of official literacy rates.

HOW TO USE THE TABLE

Through Ministry of Education Statistics, available either at the national level or through site visits to branch offices in indicator cities, data by city on school enrollments, number of classes, and teachers should be available. Local administrative or national censuses should provide under age 18 population figures for any indicator city. Percentage increase or decrease in under 18 population is calculated and compared to changes in the rate of school enrollments and percentage increase or decrease in the number of classes and of schools, for the same periods. This is recommended because local governments often increase the number of classes by having early and late shifts use the same buildings, in order to increase services while minimizing capital costs. The student/teacher ratio in the next to last column is calculated by dividing total enrollments by total number of teachers per year, and net change in this rate can be used as a surrogate measure for quality of education, even though this is somewhat imperfect. Overburdening teachers with too many students reduces the quality of education though, clearly, teacher performance is also affected by many other factors (education, experience, etc.).

(IX) HEALTH SERVICE CONDITIONS

Indicator Cities		Urban Pop.			Doctor/ Pop. Ratio			Hospital Bed/Pop. Ratio			Dispensary/ Pop. Ratio			Pharmacy/ Pop. Ratio			Regional Child Mortality								
		1970	'80	'83	'70	'80	'83	'70	'80	'83	'70	'80	'83	'70	'80	'83	Rural			Urban					
Size Class A																									
Region I	City No.1																								
	City No.2																								
Region II	City No.3																								
	City No.4																								
Size Class B																									
Region I	City No.5																								
	City No.6																								
Region II	City No.7																								
	City No.8																								

(ix) OBJECTIVE

To monitor changes in the availability of health facilities in key indicator cities over time and whether they have in the past been keeping pace with increasing demand for services (as shown by the rate of urban population increase). Since rural demand for health services generates a considerable amount of rural/urban interaction, and urban pharmacies and dispensaries are used by traders to purchase medical supplies for redistribution in rural areas, these indicators are only relative measures of the rate of demand for health facilities in secondary cities. If data permits, additional indicators may be added to show the range of primary and preventive health services (e.g. numbers of vaccinations, nurses, and midwives).

HOW TO USE THE TABLE

Urban population figures should be available from administrative or national censuses. Health ministries and Chambers of Commerce should be able to provide data on numbers of doctors, hospital beds, dispensaries, and pharmacies. Child mortality rates reported by Health ministries are likely to be available only for rural versus urban areas by region, but they can be used for comparison with the ratios of facilities per capita. For some cases, local government may be able to provide city-specific child mortality rates (though they will be under-estimated since many births take place at home, and birth and death registration is not enforced well in most parts of Africa). The table should be completed for at least two different years to reveal patterns over time (e.g. 1975 and 1983). Institutional memory in secondary cities is limited, because of the high rate of government personnel turnover and lack of well maintained archives, therefore it may be difficult to obtain pre-1975 health facilities data.

(x) PRICES OF FOOD STAPLES, CONSTRUCTION SUPPLIES, AND BASIC HOUSEHOLD IMPORTS AND MANUFACTURES

Indicator Cities		Food staples			Construction supplies			Imports/Manufactures			
Size Class A		Manioc	Rice	Corn	Bags of cement	Corrugated Metal Sheet	Cement Block	Tomato Paste	Soap powder	Radios	Bicycles
Region I	City No.1										
	City No.2										
Region II	City No.3										
	City No.4										
Size Class B											
Region I	City No.5										
	City No.6										
Region II	City No.7										
	City No.8										

(x) OBJECTIVE

Food has been identified as a major item in urban household budgets in West and Central Africa, absorbing more than half of expenditures in many cases, therefore it is proposed to monitor relative price trends in staple food items, and basic imported and manufactured household items as indicators of relative costs of living in secondary cities. By monitoring the cost of construction materials, a surrogate measure for housing costs (and therefore availability) will be obtained since it is unlikely that comparative house purchase and rental cost information, more optimal indicators, would be available for secondary cities without new especially designed surveys.

Furthermore, it was found in the RIUXO household survey in Kikwit, Zaïre, that questions on amount of rent paid were rather sensitive, and tenants often resisted answering them. The validity of any rental data available, therefore, would be suspect.

HOW TO USE THE TABLE

Country specific choices will need to be made on the most important staple food items, construction supplies, and household imports/manufactures to be monitored in indicator cities, as well as the quantities of each to be priced (e.g. a 50 kilo sack of manioc flour, or a different weight of manioc tubers, etc.). This will depend, in part, upon which price indicators are already being collected by food marketing boards or parastatals, and Economic Planning Ministries, in each country. The items suggested in the illustrative table were selected for their relevance over large parts of the region for which regional comparative monitoring would be desirable (if the same quantities and level of processing could be used as indicators throughout all countries). The table should be completed for at least two different years over a minimum of a five year period, to reveal patterns over time.

(xi) WATER SERVICE RATIOS

Indicator Cities		Total No. of Compounds	No. of Compounds served by water		% Compound, served by water		No. of functioning public water points	Ratio of Public water points to unserved compounds
			Public	Private wells	Public	Private wells		
Size Class A								
Region I	City No.1							
	City No.2							
Region II	City No.3							
	City No.4							
Size Class B								
Region I	City No.5							
	City No.6							
Region II	City No.7							
	City No.8							

(xi) OBJECTIVE

To monitor levels of public water service for key indicator cities. Access to water has been found to be a key determinant of level of satisfaction with residence in a particular urban area. Improvement in secondary water systems is critically needed if they are to become attractive alternatives to onward migration to the country's largest city (which usually has absorbed the lion's share of urban public works investments). Water systems are also key components in reducing morbidity and mortality rates in secondary cities, and are key infrastructures required for the expansion of employment in the modern formal and informal economic sectors.

HOW TO USE THE TABLE

If information on the number of compounds is not available from the Land Title or Land Survey Ministries in indicator cities, it may be necessary to estimate the number of compounds through dividing urban population figures by first any available statistics per city on the average household size and then afterwards by the average number of households per compound. Public water agencies should be able to provide information on the number of subscribers with individual service, and the number of functioning public water points citywide. Statistics on private wells may be available in some cases, but are probably not available for most cities. Subtracting the best available figures on the number of compounds served by water from the total number of urban compounds will provide the number of unserved compounds. The last column allows reporting on the number of individually unserved compounds dependent upon each public water point. This is only to be seen as a relative measure of water service levels, since public water points are typically distributed unevenly within urban areas. Most water points are located in the denser oldest central areas, while squatter areas on the urban fringe and most of the newer most rapidly developing neighborhoods are unserved, unless special sites and services projects have been undertaken.

The table should be completed for at least two different years, over a minimum five year period, to show trends in water service ratios over time (e.g. 1975 and 1983).

(xii) ELECTRICAL SERVICE RATIOS

Indicator Cities		Total No. of Compounds	No. of Compounds served by Electricity	% Compounds served by Electricity	Indicator Cities' per capita electric consumption	Per capita Electric consumption (Region as a whole)
Size Class A						
Region I	City No.1					
	City No.2					
Region II	City No.3					
	City No.4					
Size Class B						
Region I	City No.5					
	City No.6					
Region II	City No.7					
	City No.8					

(xii) OBJECTIVE

To monitor the percentage of urban compounds (individual plots) served by public electricity within indicator cities, and each city's share of its region's total electrical consumption.

Electrical services are seen as essential determinants of the ability of cities to actualize their economic development potential. Lack of adequate electrical system capacity interferes with public water distribution, and also discourages the expansion of both the modern informal sector and decentralized industrial development.

HOW TO USE THE TABLE

Information on the number of compounds (both residential and non-residential) should already have been obtained for the completion of Table (xi). The public electrical utility in each indicator city should be able to provide information on the number of subscribers to its system, from which percentages of compounds served can be calculated. The electrical utility should also be able to provide total urban and regional electrical consumption figures by year.

The table should be completed for at least two different years, over a minimum five year period, to show trends in electrical service ratios over time (e.g. 1975 and 1983).

(xiii) RATE OF MODERN SECTOR JOB CREATION  
 COMPARED TO RATE OF INCREASE IN ADULT POPULATION

Indicator Cities	N°. of Adults (pop. over 18)			N°. of Public Modern Sector Jobs			Number of Private Modern Sector Jobs			Total Number Modern Sector Jobs			% Adults Employed in Salaried Jobs			% Increase in Adult Population		% Increase in N°. of Salaried Jobs		
	'70	'80	'83	'70	'80	'83	'70	'80	'83	'70	'80	'83	'70	'80	'83	'70-'80	'80-'83	'70-'80	'80-'83	
Size Class A																				
Region I	City #1																			
	City #2																			
Region II	City #3																			
	City #4																			
Size Class B																				
Region I	City #5																			
	City #6																			
Region II	City #7																			
	City #8																			

(xiii) OBJECTIVE

To monitor whether new modern (public and private) sector job creation is keeping pace with the rate of increase in the size of the adult population, and if shortfalls are noted, to indicate key cities by region and size class which are becoming the most disadvantaged in employment generation. The size of the adult population over-estimates the employable workforce, and therefore the pool of actual job-seekers, and is used as a relative measure only, since actual workforce size is not likely to be available from administrative censuses, though adult population as a whole is reported by this data source.

HOW TO USE THE TABLE

Administrative or national censuses are the source of the most current population figures. Data on the number of salaried modern sector jobs should be obtainable from Ministries of Economic Planning, Labor and/or Finance. It may be necessary to consult with local Chambers of Commerce during site visits to secondary cities to obtain private sector employment estimates. Public sector employment data may have to be obtained from separate agencies from those which monitor private sector employment.

If salaried employment data can be separated for the public and private sectors over time, the increasing or decreasing importance of government employment can be monitored. The last two columns will provide comparable rates of increase or decrease in employment versus adult population.

III. RURAL - URBAN LINKAGE

## INTRODUCTION

Rural-urban linkage is difficult to measure if one is limited to existing secondary data bases. Ideally, school students' prior residence and patient origins for health facilities should be monitored, for example, to determine the amount of rural-urban linkage in the education and health sectors of secondary cities. This type of data, however, would require new primary surveys in almost all cases. If time permits, it may be advisable to survey the origins of the main hospitals' current patients, and one secondary school's student body in each indicator city used in Section II. The following indicators are proposed as surrogate measures in the absence of more specific user and resident origin data, since they measure the amount of concentration of important regional facilities in the largest secondary city of each key region.

If key regional social service facilities are highly concentrated within that region's largest city, it is likely that the city is generating a high level of rural-urban interaction and multi-purpose visits. Geographical access conditions which combine frequency of transport services, their cost, and passability of roads by season will need to be evaluated using maps, in each case, to provide a clearer context for these indicators than can be expressed in statistical tables alone.

If data permits, additional intermediate levels of urban-based facilities can be recorded for comparative purposes. This would reveal more clearly the amount of geographic dispersal of urban-based facilities, which would be more predictive of the accessibility of urban facilities to rural residents.

Data should be entered in each table in this section for at least two different years over a five year period, to show patterns over time. It is suggested that a copy of each table be completed for each of the regions and their indicator cities which were used in Section II. This method would permit data for both Sections (II and III) to be collected during the same site visits to indicator cities.

**B - INDICATOR TABLES**

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(xiv) DEGREE OF CONCENTRATION OF REGIONAL EDUCATIONAL FACILITIES IN URBAN AREAS

	Secondary Schools		Technical Trade Schools		Agricultural Training Programs		Post - Secondary Education		Registered Artisans	Total Population
	# Schools	# Students	# Schools	# Students	# Schools	# Students	# Schools	# Students		
Region's Largest City										
Total in other smaller urban areas in Region (cite n° of cities)										
Total for Region as a whole										
% in Region's Largest City of Regional Totals										
% in Smaller Urban Areas of Regional Totals										

(xiv) OBJECTIVE

To monitor the importance of secondary, technical, and post-secondary education in a region's largest city, as a share of the total urban and regional facilities locally available to rural populations, since the search for education has been found to motivate a considerable amount of multi-year rural-urban migration among rural youth. This substitutes for the more optimal measure of origin data for students in these urban facilities, which would more precisely measure rural participation in urban education. It is suggested that registered artisans also be monitored if data availability permits, since artisan apprenticeship has proved to be an important part of the educational services provided by secondary cities which contribute to rural off-farm employment generation.

HOW TO USE THE TABLE

Ministries of Education should be able to provide figures on number of schools and sizes of enrollments for cities and regions. Ministries of Commerce, Economic Affairs, or the Mayor's office may be able to provide data on registered artisans, since work permits and identity cards are usually issued, though enforcement varies greatly by locality.

(xv) Degree of Concentration of Regional Health Facilities in Urban Areas.

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No. of Hospital Beds    No. of Doctors    Hospital Bed/  
Pop. Ratios    Doctor/  
Pop. Ratios

Region's largest City				
Total in other smaller urban areas in Region (cite no. of cities)				
Total for Region as a whole				
Percentage in Region's largest city of Regional Totals				
Percentage in smaller urban areas of Regional Totals				

(xv) OBJECTIVE

To monitor the importance of secondary cities' health facilities, as a share of the regional facilities available to rural populations. Again, this measure substitutes for the ideal measure of user origin data for urban health facilities, which is generally not recorded with patient registration. Urban health services have been found to generate a considerable amount of periodic short-term rural-urban migration, as well as attracting rural elderly to retire with extended family in urban areas.

HOW TO USE THE TABLE

Ministries of Health and Regional (or Zonal) Health Officers in secondary cities should be able to provide data on numbers of hospital beds and doctors in cities and regions, and population figures from national or administrative censuses can be used to calculate doctor/population and hospital bed/population ratios. It will be advisable to cross-check these statistics through site visits to the major hospitals in indicator cities. This would also provide an opportunity for quick surveys of the origins of current patients, useful in defining the geographic radius of the urban hospital's catchment area (which may vary along with access conditions by season).

(xvi) DEGREE OF CONCENERTION OF MARKET INTERMEDIARIES, MARKETS, AND FORMAL SECTOR CREDIT INSTITUTIONS IN URBAN AREAS.

	No. of Registered Commercial Businesses/ Traders			No. of Registered Industries Processing Rural production			No. of official markets			No. of formal credit Institutions		
	Small	Medium	Large	Small	Medium	Large	Daily	Weekly	Less than weekly	Banks	Savings State	and Loan Coops. Private
Region's largest city												
Total in other smaller urban areas in Region (cite no. of cities)												
Total for Region as a whole												
Percentage in Region's largest city of Regional Totals												
Percentage in smaller urban areas of Regional Totals												

(xvi) OBJECTIVE

To monitor the importance of urban marketing and credit services and processing industries to rural producers.

HOW TO USE THE TABLE

The Ministry of Economic Affairs, the Mayor's Office, and/or the Chamber of Commerce in each secondary city should be able to provide data on the numbers and sizes of urban commercial and rurally-oriented processing industries. Though exact employee data is not likely to be obtainable, locally relevant criteria for small, medium, and large classes of enterprises can be established for each country. The same data sources or the Ministries of Planning or Urbanism should be able to provide data on the region's major urban and rural markets. If data availability permits, this column should be expanded to include the numbers of traders registered at each market level (largest regional city; smaller regional urban places; region as a whole). This would indicate more clearly the scale of importance of urban markets and the hierarchy and extent of their distribution among a smaller or larger number of urban places.

Information on the number of banks should be available from Ministries of Economic Affairs, but savings and loan cooperatives are likely to be registered with a separate Ministry for Cooperatives in most countries. It was found in other studies that savings cooperatives (especially private ones organized by churches and ethnic groups, rather than state-organized ones) are the most important source of formal institutional credit for urban populations, migrants, and rural populations within urban service areas. Banks have high minimum capital and transaction cost entry barriers for users, and mainly serve the higher entrepreneurial levels. Banks are essential for the viability, however, of large scale commercial and industrial development in secondary cities, and often serve the credit cooperatives as well.

(xvii) DEGREE OF CONCENTRATION OF ROAD TRANSPORT IN URBAN  
AREAS BY TYPE OF VEHICLE

No. of Registered vehicles

	Cars	Vans	Light trucks Pick-ups	Large Buses	10-20 Ton transporters	20-30 T transp.	More than 30T trucks	Special purpose Veh.	No. of vehicles using urban Veh. parks by type of vehicle.	No. of Road transport businesses
Region's largest city										
Total in cities smaller urban areas in Region (cite no. of cities)										
Total for Region as a whole										
Percentage in Region's largest city of Regional totals										
Percentage in smaller urban areas of regional Totals										

(xvii) OBJECTIVE

To monitor the availability of different types of road transport services based in both the largest regional city and smaller cities, since vehicular transport is essential for the marketing of rural production and the linkage of rural areas to urban services. Data in the table on the numbers of different types of vehicles are predictive of the types of services available. Map analysis will be required to amplify the insights which can be obtained from this table, as suggested in the introduction to this section III on Rural-Urban Linkage, because it is impossible to fully evaluate urban accessibility to rural areas from the information in this table alone. Map analysis should be used to review travel times in wet and dry seasons, the comparative costs of transport along key rural-urban routes, and the relative isolation of some rural areas in a region from all-weather routes leading to urban areas, etc. A larger number of vehicles is indicative of a more competitive price structure and more regular frequency of road transport services, since a small number of vehicles enables price-fixing and route monopolization to occur.

HOW TO USE THE TABLE

Ministries of Transport, Urbanism, Mayors' Offices, Chambers of Commerce, and Vehicle Owners' (or Drivers') Associations and Trade Unions, identified and interviewed during site missions to indicator cities, should be possible data sources for numbers of vehicles registered by size, and numbers of users registered in urban vehicle parks. The Chambers of Commerce should be able to identify the number of urban transport businesses. It is suggested that the number of vehicles registered in any urban area may be easier to identify but less predictive of rural service levels than the number of vehicles regularly available in urban vehicle parks (long distance transport service centers). Though the latter data may be more difficult to obtain, if vehicle park use statistics are available, it would be desirable to report them by using the same categories of vehicle type shown in preceding columns. The presence of transporters over 20 tons is indicative of the relatively good quality of regional roads, since these larger vehicles are too heavy to use on poorly surfaced and maintained roads. If available, data on routes served, user fees charged for freight and passengers, and frequency of service can be used to expand the table and indicate rural-urban access more fully.

By comparing the information in this table with the population data on indicator cities and their regions in Tables (ii) and (ix), it will be possible to calculate comparative per capita service ratios (number of potential users/vehicle).

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The carrying capacities in freight-tons and passengers of each type of vehicle can be obtained and multiplied by the number of available vehicles of each type, to estimate the maximum capacity of the rolling stock based in each urban area and region. Through comparison of the above with actual road transport use figures (freight and passenger volumes) in Table (xviii), it would be possible to predict shortfalls or excesses in service availability versus demand in key cities and regions.

(VIII) DEGREE OF CONCENTRATION OF PASSENGER AND FREIGHT TRANSPORT VOLUMES  
IN URBAN AREAS ON MAJOR TRANSPORT MODES (ROAD, RAIL, RIVER /Sea)

	Road						Rail						Air						River /Sea											
	Volume of passengers transported	Volume of freight Imports			Volume of freight Exports			Volume of passengers transported	Volume of freight Imports			Volume of freight Exports			Volume of passengers transported	Volume of freight Imports			Volume of freight Exports			Volume of passengers transported	Volume of freight Imports			Volume of freight Exports				
		Agric.	Mining	Industry	Agric.	Mining	Industry		Agric.	Mining	Industry	Agric.	Mining	Industry		Agric.	Mining	Industry	Agric.	Mining	Industry		Agric.	Mining	Industry	Agric.	Mining	Industry		
Region's Largest City																														
Total in other smaller urban areas in Region (cite n° of cities)																														
Total for Region as a whole																														
% in Region's Largest City of Regional Totals																														
% in Smaller Urban Areas of Regional Totals																														

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(xviii) OBJECTIVE:

To monitor the relative share of urban activity in both the largest regional city and in smaller urban areas, in the provision of total regional transport services by mode. Regional transport services are essential for the marketing of rural production and the distribution of imported goods and manufactures in rural areas. The volumes of passengers and freight handled by each secondary city are indicators of its contribution to the stimulation and servicing of rural economic development. If effective transport to markets is accessible to rural producers, an incentive is provided for the increase of peasant agricultural production beyond local consumption needs and rural cultivators will respond accordingly, accelerating the monetarization of the rural economy and the achievement of national food self-sufficiency.

HOW TO USE THE TABLE

Ministries of Transport may have collated freight and passenger volume data for regions by mode. It is likely, however, that separate parastatals exploit river, rail, sea, and air transport, therefore it may be necessary to obtain volume data separately from each source. Fare enforcement and commodity reporting varies by country, but order-of-magnitude data is probably retrievable. Road and some river, sea, and air transport will be in private sector control. Ministries of Roads (or Public Works) may be able to provide data on road transport, or at least annual vehicle counts on major national routes by region. Customs authorities may also be possible data sources. Obviously modal relevance will vary by city, region, and country. For coastal cities, for example, maritime transport will be relevant.

It is suggested that freight volumes be reported by sectors of relevance to understanding rural versus urban production. For illustrative purposes the separate reporting of rural agricultural production, more urban based mining exports, and manufactures (which are both imported and locally produced for export) has been suggested.

Monitoring of passenger arrivals and departures may be possible for all transport modes (with the probable exception of roads), making it possible to identify patterns of regional migration (influx, exodus, or periodic circular migration). Modal passenger choices will provide a general indication of destinations, if coupled with map analysis of each transport mode's geographical network.

(xix) SURPLUS OR DEFICIT BY REGION IN FOOD PRODUCTION

	Manioc			
	Annual urban consumption needs	Annual marketable Rural Production	Net Excess or Deficit	Volume of Annual Imports of This Food Staple per Region
Region I				
Region II				
Region III				
Region IV				

(xix) OBJECTIVE:

To monitor the role of cities vis-à-vis rural food production by region. The table will indicate regions in which urban areas are absorbing or re-exporting marketable rural food surplus, as well as regions in which cities are feeding rural areas through food imports.

HOW TO USE THE TABLE

The choice of appropriate major food staples for monitoring and the units in which quantities will be reported, will vary by country (manioc, yam, corn, rice, etc.). Urban needs by region are calculated by multiplying urban population figures from Table (ii) times kg. per capita average food consumption for that region per year. Subtracting marketable production from regional urban consumption will indicate the order of magnitude of the short-fall of local urban food needs which must be met through imports, or the excess beyond local needs which the cities are exporting for rural producers to other regions through their marketing and transport sectors.

For some low rainfall countries such as Mali, rural food production is not even sufficient for rural needs much less urban ones, and cities are serving an important role in importing and redistributing staple foods to rural areas. For this reason, the final column draws upon national economic data, if available, to estimate net food imports per region, to reveal cases in which urban areas are feeding rural ones through these imports.

(xx) BIRTHPLACE OF URBAN RESIDENTS AND PERCENTAGE OF ABSENT RURAL  
AND URBAN RESIDENTS FOR INDICATOR SECONDARY CITIES AND THEIR REGIONS

Indicator Cities		% Residents Born in same city	% Residents Born in same Region but outside city	% Residents Born elsewhere in country	% Residents Born outside country	% Residents absent
Size Class A						
Region I	City No.1					
	City No.2					
Size Class B						
Region I	City No.5					
	City No.6					
Region I as a whole		X				
Size Class A						
Region II	City No.3					
	City No.4					
Size Class B						
Region II	City No.7					
	City No.8					
Region II as a whole		X				

(xx) OBJECTIVE

To monitor, if possible, the migrants' share of the urban population in a region, and to identify rural areas and secondary cities that are experiencing the largest impacts from periodic or short term labor out-migration.

How to Use the Table:

Some countries in West and Central Africa (but not all) will have national population census data which can be used to complete this table. It was, for example, possible to use 1976 census data in Mali for this purpose. It is suggested that the key indicator cities chosen for section II of this country monitoring project be used for this exercise. The format for reporting has been reorganized to group indicator cities for this table by region, rather than ordering them by size class. This is recommended because regional environmental conditions often have been found to override size of city in out-migration decisions which are economically generated. Larger more economically diverse urban areas may show a lower rate of out-migration and a higher rate of attraction of migrants compared to smaller cities even if both are within environmentally disadvantaged regions, so size class is retained as an isolated variable. Census data, if available, should allow completion of the first 4 columns in the table from birthplaces reported. Secondary cities typically draw most of their in-migrant population from their own region and the remainder largely from adjoining ones. If this is not the case, major employment or educational attraction probably exists and deserves a specific institutional analysis for the target city.

The census reports (if available) on number of absent residents, from which percentages can be calculated for the final column, are likely to record only very recent out-migration (within the past year or past 6 months) or circular seasonal labor out-migration which has not yet been completed. In interpreting the table's findings for this column, consideration should be given to the instructions given to census takers on the definition of "absent residents" and to the season in which the census was taken. Out-migration from rural areas will be higher in the dry season, for instance, or during the school year, but many of these out-migrants would return for rainy season cultivation.

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