

MIGRATION IN WEST AFRICA AND DEVELOPMENT:
A REVIEW OF RECENT RESEARCH

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EXECUTIVE SUMMARY

A classic defence of labor migration in West Africa was made by Eliot Berg seventeen years ago (1965:176-181).

We have argued above that the migrant labor system was historically a stimulus to economic growth, and that it represents an optimum allocation of resources under existing conditions. There has nonetheless been a general reluctance on the part of students of these matters to give full endorsement to continued labor migration as a system of labor utilization. To some extent this reluctance is based on the social evils commonly said to be associated with the migrations: disrupted family life, falling birth rates, spread of disease, shattered traditional ties, and others. A growing body of evidence suggests that these supposed social consequences of migration have been much exaggerated. But, in any event, the heart of the criticism of the migrant labor system is usually economic. Sometimes the charge is vaguely made that migration is somehow economically irrational. Thus one French writer grants the strength of the underlying economic impulses to migration, but urges measures to slow it down, including 'a campaign of popular education which will teach him (the villager) to handle his goods, to calculate his self-interest, to buy, sell, economize, and, above all, to show him the uselessness, even the danger, to the group as well as to the individual, of thoughtless movements of labor and systematic departures to cities.' The basis for this kind of rejection of labor migration is essentially visceral; little need be said about it except to note that it is precisely the villager's insight into the economic calculus that leads him to periodic migrations.

There is little to be gained, and much to be lost, by the village economy if migration is restrained. There are, of course, differences in the extent to which different labor-exporting areas are affected by the above arguments. Some places, because of ecological conditions or because of their distance from markets, would be severely hurt by the lack of potential alternatives to migration. And all would find the job of development harder, not easier.

The prevalence and persistence of the migrant labor system, then, do not arise from the perversity or wickedness of men. The system has a secure foundation in the economic environment of West Africa. It cannot be wished away. Nor can it be legislated away, save by the introduction of massive and profound transformations in both rural and urban areas. It is not, as is so frequently claimed, a cause of West Africa's economic ills; it is rather a symptom of a specific set of economic circumstances. It will change when these circumstances change. And until the economy does change, migration continues to make good economic sense, from the point of view both of the individuals concerned and of the economy as a whole.

In recent years, concern about labor migration has been linked to concern about the rate of urban growth. It is necessary to keep growth in some kind of world perspective. For example, it is indeed true to say for Mauritania that the urban population increased 754% between 1961 and 1976, but to call this a rate of urbanization "unmatched in world history" (Colvin et al. 1979:215) obscures that the initial urban population was small (35,000), that the 1979 urban population is small in absolute terms (306,000), and that the proportion of population living in urban places (21%) is low compared to developing countries in North Africa, Middle East (47%), Latin American and the Caribbean (59%) or East Asia (3-1/4%). Only South Asia has a lower proportion of urban population (13%) than LDCs of sub-Saharan African (17%). For West Africa, the proportion of persons living in urban areas is about 22%. The growth rate of the urban population has been about 6% per year, which has put a heavy strain on government's ability to provide services. Most West African countries are small and have limited domestic markets, with industry, services, and population heavily concentrated in a single urban center.

Measuring migration is difficult, and the migration rates that are most commonly estimated--net migration and lifetime migration--both pose special problems of interpretation. The usual estimate for net urban growth due to migration (urban growth rate less national growth rate) may often be inflated by higher rates of natural increase in cities than in rural areas and by the reclassification of rural areas into urban ones.

Our data on fertility in West Africa are unreliable, but there is no question that birth rates are extremely high--about 49 per thousand, for the region as a whole. The results of the World Fertility survey

should give us more trustworthy data. There is no evidence for a decline in fertility in urban areas due to increases in income, mothers' education, age at marriage, or modern contraceptive use. Indeed, at low levels of education, increases in education seem to increase fertility somewhat, perhaps due to decreases in breastfeeding and in post-partum abstinence. Impact evaluations of family planning efforts should shed more light on this question.

People who are considering changes in residence take into account many factors, including the monetary costs and returns from migration, the services and amenities available in the region of origin and destination, and the intangible costs of adapting to a new environment. Most first generation urban residents maintain ties with the home area, and overwhelming numbers intend to retire to the home area. The bonds between second generation urban residents and rural areas are far less strong.

Much recent economic analysis of migration in Africa uses as a point of departure the theoretical work of Todaro and Harris in which the migrant bases his decision on the discounted present value of the difference between urban expected income (taking into account the probability of finding a job) and rural expected income, less the costs of moving. Age and level of education influence the expected income differential greatly. Artificially high wages in the urban formal sector (due to minimum wage laws, for example) increase the differential between expected rural income and expected urban income, and can induce increased rural-urban migration, even where there is already substantial urban unemployment. Under this model, efforts to increase formal sector employment often induce migration and result in higher unemployment rates than were found originally.

However, there is evidence that wages in the informal and intermediate sectors are more competitively determined than modern sector wages. An increase in demand for the products of the intermediate sector increases employment and wages in that sector and causes workers to shift from unemployment and the informal sector to the intermediate sector without much effect on the rural-urban gap in expected income. The wages of the informal sector would rise briefly and then return to their former level as workers shifted in from unemployment. Thus, policies that increase demand for small-scale enterprises have the potential to decrease urban unemployment without inducing rural-urban migration.

Empirical work in West Africa that has used the income differential model shows that income differentials do indeed influence regional rural-urban migration rates, as does distance (a proxy for cost of moving). Educated persons have a higher overall probability of moving and some studies have found that the educated respond more to increases in urban wages and are less deterred by distance than uneducated migrants. The effect of urban unemployment rates on rural-urban migration rates, however, is not always significant. Most unemployed rural-urban migrants were school-leavers seeking their first job, most had come to the city several years before to attend school, most came from households with above average incomes, and most were supported by employed migrants.

There are some studies, however, that cast doubt on parts of the income differential model. For example, a study in western Nigeria showed that only about half of all rural respondents could estimate their chance of getting a job in the city and their expected income from that job. Another problem is the inter-relatedness among variables, and the difficulty of sorting out direct and indirect causal effects.

Todaro's model is far from being the last word on migration and formal sector employment. More recent analysis suggests that overall rapid growth in the labor force and changes in labor force composition have meant that expansion of industrial and formal sector employment (though impressive) has not been able to keep pace with the results of natural increase. There is also some question as to whether formal sector wages are in every case kept higher than competitive levels by institutional means. Paradoxically, although migrants to urban areas may exacerbate unemployment, they are relatively seldom unemployed, because on the whole they have less schooling than urban residents and because they are often willing to settle for less attractive jobs.

Foreign nationals comprised about 7% of the total population of West African countries covered by the World Bank Study^{1/} in 1975. Census data for West African countries on international migration show that the major sending areas by declining order of importance were Upper Volta, Mali, Guinea, and Togo, which together supplied about three-fourths of all foreign nationals in the region. Ivory Coast is by far the most important receiving area, with about half the region's foreign nationals, while Ghana^{2/} and Senegal have been the next most important areas of destination.

Although immigrant labor plays an important economic role in the receiving areas, it is also a source of tension. For example, riots in Ivory Coast led to the expulsion of Togolese and Beninois workers in

^{1/} Gambia, Ghana, Ivory Coast, Liberia, Mali, Senegal, Sierra Leone, Togo, and Upper Volta.

^{2/} Recent estimates of Ghana's population imply 3.5% annual increase. If these are accurate and if it is the case that emigration has risen over the past decade, they imply that immigration to Ghana is still considerable.

1958 and 1964. A proposal to grant dual citizenship to immigrants from Entente countries triggered more violence in 1966, and demonstrations in 1969 were also accompanied by violence. The most recent incidents in 1981 involved most foreign nationals, but particularly Ghanains. The major demographic impact of international migration is to decrease rates of population increase by 20 to 40% in sending areas, and to accelerate population increase in the receiving areas by similar amounts.

Internal migrants (i.e., those crossing administrative regions) comprised about 15% of the 1975 regional population. Areas of heaviest net in-migration are usually the regions of the capital city (except for Togo, where the Plateaux region gained most heavily and Upper Volta, where the major region of net in-migration was High Basins). In most cases, these are also the regions receiving the greatest proportion of international migrants. However, large numbers of international migrants also settle in rural areas, and the distribution of these migrants often differs considerably from that of internal migrants to rural areas.

Over the decade 1965-75, net migration to urban areas in the study region has comprised about 1.7 million people or 5.6% of the 1965 regional population. During this decade, net migration accounted for slightly under half of all urban growth, and projections show the share of migration in urban growth declining to 43% during 1980-90. All cities in the region do not share equally in urban increase, however. In many cases, rural-urban migrants concentrate themselves in the principal city of the country, which grows partly at the expense of smaller towns. In general, net migration to the smallest category of towns--those with populations below 10,000--was disproportionately small.

In most cases, net rural-urban migration comprises two larger migration streams: a very large influx to cities of young migrants, and a somewhat smaller flow of older migrants returning to their villages. Thus, where age-specific estimates of net rural-urban migration are available they show net movement to rural areas for ages over 35. This suggests that part of the rapidity of urban growth may be linked to the age structure of the population, in which younger cohorts are far larger than older ones. It suggests that, were it possible to slow population growth, return migration would affect a relatively larger number of migrants from rural areas. This would be offset, however, by a growing number of second generation urban residents with much weaker ties to rural areas.

On the Characteristics of Migrants

Migration, and particularly long-distance migration, selects for young adults, for males, and for the educated. It is often the case, however, that the selectivity of migration declines over time, as temporary migration declines in importance and average duration of residence increases. For international migrants under age 14, sex ratios are balanced, but at older ages the predominance of males becomes more and more marked. This is chiefly due to the fact that international migration has been getting less sex-selective over time in most countries. A small part of the imbalance may be due to higher mortality among women at adult ages. Generally, as the distances migrated get shorter, females become more and more numerous among the migrants. For example, in Ivory Coast, short distance migrants (i.e., intra-departmental migrants) are far more likely to be female than either external migrants or internal migrants.

For internal migrants as a group (that is, interregional and intra-regional migrants), sex ratios increase with the age of migrants, a trend demographers attribute in part to a greater predominance of males among internal migrants in past decades, as for international migration. However, there is also the possibility that rates of return migration among internal migrants are higher for women than for men. The sex ratios of different types of migrants to and within other West African countries roughly resemble those for Ivory Coast. Togo is the only country in which females predominate among immigrants and internal migrants as a group. Even there, however, females are relatively more dominant among intra-regional migrants than among interregional or international migrants.

Only the censuses of Ghana and Togo give information on the educational status of internal and external migrants; for Ghana, information is only available for male migrants. In Ghana (as in the Ivory Coast, for which we have census data on education only for immigrants), immigrants had less education on the average than native-born persons (except for non-African immigrants, who averaged over six years more schooling). In 1960, among persons born within Ghana, those born in rural areas averaged less education than those born in urban areas, and rural-born migrants to urban areas averaged about two years more schooling than rural-born migrants to rural areas, who were in turn more educated than non-migrants. By 1970, there was little difference between rural-born non-migrants and rural-born migrants to rural areas, and rural-born rural-urban migrants had less than a year more education on the average than other rural-born persons. Thus, selectivity of migration for education decreased between 1960 and 1970. In Togo, literacy rates were higher for men than for women. Male

immigrants tended to be less educated than male internal migrants, and internal migrants were more likely to have attended school than non-migrants. However, female immigrants to Togo were somewhat better educated than native-born women.

Employment

In general, data on the employment and occupation of migrants are far less accurate for women than for men, because censuses differed in how women were recorded: thus, fewer than 3% of women over 15 in Upper Volta are recorded as employed, while the ratio in Ivory Coast was 49%. Census data are also generally more accurate and detailed for urban areas than for rural areas, and for the formal sector than for the informal sector. Several national censuses tabulated the employment status and occupation of immigrants and native-born, but only Ghana tabulated economic data by the internal migration status of the respondent.

Migrants are more likely to be employed than the population at large. Thus, in 1975, external migrants comprised roughly 11% of the regional work force, and internal migrants comprised about 18%. In Ivory Coast, however, external migrants made up 27% of the total employed work force.

In Ivory Coast, the 1975 Census estimated that 52% of employed foreign nationals were in the primary sector (i.e., farming, cattle breeding, forestry, fishing, and hunting) compared with 77% of employed Ivorian national workers. The bulk of this employment is in the informal sector. We saw that the residence pattern of external migrants to rural areas in Ivory Coast differed from that for internal migrants: the former settled mainly in the established coffee and cacao-growing areas; the latter primarily in newer areas where land

was available for settlement. Immigrant labor has been particularly important in Ivorian agriculture, because the minimum agricultural wage scale (or SMAG, Salaire Minimum Agricultural Garanti) has tended to be considerably lower than industrial or service wage scales and average agricultural income has fallen progressively farther behind income for non-agricultural wages. The result has been that Ivorian farmers complain of being unable to find enough agricultural workers.

Estimates of employment in the formal sector by skill level and nationality for 1965 and 1970 show foreign nationals heavily concentrated in the unskilled category in both years, with Ivorians predominating in the semi-skilled and (to a lesser extent) in the skilled categories, in both years. The occupations in which non-Ivorians were relatively concentrated in 1975 were specialized service workers, sales (particularly for males), administrative/executive, and "non-agricultural production, labor, transport, etc.". Non-Africans predominated in the supervisory and technical jobs both in 1965 and 1970, although Ivorians had increased slightly by 1970. In managerial jobs, however, the proportion of expatriates increased slightly between 1965 and 1970, at the expense of Ivorians. For both 1965 and 1970, Ivorians earned two or more times as much, on the average, as African foreign nationals, and expatriates averaged five or more times the earnings of Ivorians.

In Ghana, agriculture furnished the largest share of employment in both 1960 and 1970 for all groups: the proportion of non-migrants employed in agriculture was highest, followed by intra-regional migrants, immigrants, and interregional migrants, in that order. Immigrants were less likely to be farmers and farm managers than Ghanains, and more likely to be farm workers. However, the Alien Compliance act of 1969 made workers in agriculture scarce, and erosion since 1963 in the

real price of cacao has made farmers turn to crops of lower value in economic terms.

Issues

The relationship between education and rural-urban migration. We have seen that rural-urban migration rates increase with the level of education. The nature of the relationships between schooling and migration is not clear, however, One possibility is that education increases expected urban income by increasing the migrant's chances for employment in the modern sector and by qualifying candidates for relatively well-paid clerical and administrative occupations. Another possibility is that schools teach youngsters to prefer white collar jobs to manual work, and to prefer an urban lifestyle to a rural one. An implication of this second hypothesis is that the attitudes instilled by the schools have an effect on migration that can be separated from the effect of factors like income differentials between rural and urban areas, or real differences in the amenities and social services available in the countryside and in towns.

However, research in anglophone West Africa showed that significant numbers of students were not opposed to farming, especially if they had access to land and improved technology (many, however, lacked access to land). Surveys in Ivory Coast reached similar conclusions. It seemed that students were more influenced by expected earnings than by school-fostered disinclination towards agriculture. Marketing, trade and exchange policies in many West African countries have worked to the farmers' disadvantage and rural incomes have often lagged behind urban ones.

Data from an AID-funded study in Sierra Leone gives an idea of

the effect of education on migration rates and earning differentials between rural and urban areas. Rates of gross rural-urban migration were more than six times as high for educated persons as for the uneducated, at all ages, for both men and women. On the average, the educated earned 40% more than the unschooled in urban areas. When unemployment rates were taken into account, expected incomes for males 15 to 24 in urban locations still averaged more than two times the average rural wage.

Several recent studies in Ghana have tried to trace school-leavers to find out actual employment rates and migration patterns. One of the most interesting findings was that school-leavers who remained in rural areas had far higher unemployment than those in urban areas and that those who migrated had been the most likely to find work.

On the whole, rural, middle school-leavers were more likely to help their families after leaving middle school and less likely to continue school than urban middle school-leavers. When the male school-leavers of 1975 were compared to male school-leavers of 1970, more 1975 school-leavers had found employment and more were helping on the family farm, while fewer were unemployed. Migration rates in 1975 were roughly the same as in 1965-66; there had been no overall increase. As in previous studies, migrants were more likely to have found jobs than non-migrants. Although unemployed school-leavers in the capital city receive large amounts of attention, they actually comprised 4.8% of 1975 middle school-leavers who did not continue in school. Of these, almost a fourth were Accra residents, so unemployed in-migrants to Accra 18 to 22 months after graduation comprised 3.7% of the non-student graduates of 1975. The vast bulk of middle school-leavers who did not continue their education were elsewhere.

The social returns to education are substantial: recent estimates for Africa (cited in World Bank 1981:6.2) were 29% for primary education, 17% for secondary, and 12% for higher education. One policy course often suggested is increasing the resources allocated to primary education at the expense of secondary and higher education. It is also often suggested that students and their families bear a greater part of the cost of education above the secondary level, but this change could be politically difficult to implement.

Another remedy often advocated for the effect of schools on migration is curriculum reform to make primary and post-primary education more relevant to rural needs. An example is Senegal's efforts in "practical middle education" which try to consolidate primary education and prepare primary school-leavers to become productive rural denizens. At the same time, it tries to encourage the rural community itself to decide on its training needs for both illiterate members and persons with some education. Unfortunately, we have little information on the impact of these efforts on rural-urban migration rates.

Impact of migration on the sending areas. There is still a dearth of information on the effects of emigration and out-migration on rural sending areas. The impacts that are most often discussed include: the loss of young adults, the increase in dependency ratios, the remittances sent back by migrants, and the role of return migrants as innovators and disseminators of new ideas. We will take these one by one.

The demographic impact of migration depends on the composition of the emigrant or out-migrant group. Where only men migrate, and women and children remain behind, migration will have little effect on population density and population increase. Where whole families migrate,

the effect is to decrease the rate of population growth. Often, the earliest migrants from a community are exclusively males who remain away for relatively short periods, and there is a later transition to migration of whole families. We saw this was the case in Upper Volta. In contrast, the Soninke areas along the Senegal River have a very long-standing pattern of exclusively male emigration.

In some European and Latin American countries, rural-urban migration rates are so high relative to natural increase that rural communities find themselves shrinking as young people leave for the city. For example, Latin American rural-urban net migration rates during the 1960's (except for Costa Rica) ranged between 1.0 and 2.8 per hundred rural residents. West African rates during 1965-75 ranged from about 0.3 to 1.2 per hundred rural residents--considerably under the rate of natural increase in rural areas, so that out-migration was slowing growth rates, rather than causing absolute declines in rural population.

We have few studies of the effect of out-migration on agriculture and rural manufacturing. Recent theoretical work contends that out-migration leads to increased productivity for the remaining workers only where the labor that was removed was redundant, where remaining workers intensify their labor, or where there is technological change in response to the increasing scarcity of labor.

Where most out-migrants are male, the work force remaining in the sending areas grows more and more heavily female. Much of the early work on this problem comes from reserve areas in east and southern Africa. Unfortunately, these studies give little information on specific adaptations to the reduced availability of male labor, and we have even less information from West Africa. Little as we know about women in West Africa who migrate, we know even less about those who remain behind.

Opinions differ as to the magnitude of remittances from migrants to their home villages and the uses they are put to. Some feel that the remittances and the savings of migrants are a source of investment capital for modernising rural agriculture. However, surveys in Ghana showed that many households judged they would be "very poor" without remittances, and roughly 70% of households with migrant members used remittances chiefly for maintenance. About one-tenth of all earned income in Accra flowed out of the city as remittances, savings, or goods to rural areas. Similarly, it was estimated in 1972 that Soninke working in France sent 200,000 FCFA per worker per year to their families. The money was generally used for consumption expenses, for bride prices, was saved in the form of gold, jewels, cattle, or real estate, and was sometimes used to buy agricultural equipment, which served mostly as a prestige good. Some studies in Asia and East Africa show remittances being used as working capital by farms in the sending area. However, in West Africa little of the money sent by individual migrants is directly invested in agriculture, but the greatest part goes for day to day consumption needs, for school fees, and for debts and taxes. Nevertheless, migrant associations in urban Nigeria often raised money for village development projects, particularly for schools, dispensaries, roads and bridges.

Studies found that remittances from rural areas to urban ones balanced or exceeded urban-rural remittances by internal migrants, and that transfers among migrants are also important. For example, migrants in urban areas of Sierra Leone who had jobs devoted about 17% of their income to supporting relatives without jobs. The net transfer from employed migrants to rural areas was quite small. Unemployed migrants, scholars, apprentices, and others received somewhat more from

rural areas than they sent. The overall net flow of funds was only slightly in favor of the rural areas. A study of migration in western Nigeria in 1971-72 estimated a net annual rural-urban transfer of \$22.95 per migrant.

International migration seems to generate larger remittances from absent workers, and households in the Sahelian states, the principal area of origin for international migrants, have fewer students, and probably fewer students attending secondary schools in urban areas than coastal states. Official remittance records for the region showed that from 1970-74, Upper Volta was (as would be expected) the largest net recipient with \$137 million and Ivory Coast was the largest net sender (\$483 million). However, the countries of the region sent out three times as much money as was received in the region, and it is likely that most of this money was sent by non-African expatriate workers to Europe.

Among older migrants, rates of return migration are generally high, and it has often been suggested that returned migrants serve as innovators, for example, in introducing cash crops, or in establishing stores or small industrial enterprises that use skills that were acquired in towns. Other authors are more pessimistic, contending, for example, that the skills emigrants learn are often useless in the areas of origin.

In 1965, Eliot Berg summed up the economic impact of labor migration on the sending area as follows:

...village output should not be much affected by migration in West Africa. Village production of cash crops and handicrafts does decline, and the stock of public facilities in the villages might be smaller than it would be in the absence of migration. (Even these negative effects are diminished, however, if longer-term considerations are taken into account, as the loss in man-hours devoted to public improvements and cash-crop production is

at least partly balanced by a secular, migration-induced trend toward new and better techniques. These arise, on the one hand, from the importation of ideas and knowledge, and on the other, from the use of goods whose purchase has been financed by migrant earnings: cement, better and cheaper axes, buckets, bottles, for example, and bicycles (which are an important form of transport in the village).

Seventeen years later, this assessment seems overly optimistic with respect to "migration-induced trend(s) toward new and better techniques", but there is still little if any quantitative evidence to demonstrate that rural out-migration has lowered food crop production. However, it is common for governments to condemn rural-urban migration as the cause of rural stagnation, rather than as the result of income differentials and employment opportunities. For example:

L'exode rural ... est un phenomene pernicleux que tous les responsables denonant et combattent depuis de nombreuses annees ... la cause de la devitalisation des villages et des campagnes ... En effet, l'exode provoque un vieillissement du paysannat, un abaissement, toutes choses egales, de la productivite du travail agricole, et prepare ineluctablement l'effondrement ... de notre economie rural d'abord, puis, ensuite, de l'economie nationale." (Address by President Henri Konin Bedie to the budget session of the Assemblée Nationale, reported in *Fraternité Matin*, 16 Octobre 1981, p. 18.)

The vast bulk of studies show that migration benefits the migrants and that "migrants go where the jobs and the opportunities are and where they will improve their living conditions. Since migrants follow jobs, decisions by government planners and by entrepreneurs on where to locate new infrastructure and new plants become important. Influences on these decisions are reviewed in the next section.

Urban Development Policy and Its Impact on Migration

A recent World Bank paper (Renaud 1979) discusses several of the common problems found in urban and regional planning in developing countries. There is a tendency to use unrealistically low population projections, a tendency to blame migration for all urban growth

(ignoring the contribution of natural increase in the resident population), and a tendency to form policies aimed at keeping newcomers out of the capital region, without looking at the root causes of migration.

In the section on rural-urban migration, we see that the largest cities often gain disproportionately from migration, at the expense of smaller towns. One commonly proposed remedy for the concentration of urban population in the largest city is decentralization. The location of manufacturing becomes important in such proposals because manufacturing firms are more mobile than, for example, service firms, and because increases in manufacturing employment usually have a large multiplier effect on the local economy than increased employment in the service sector. Deciding where to locate a firm involves considerable uncertainty, and for most sorts of activities, the most likely location choice is the largest city. There are a number of reasons for this tendency: the country's transportation system often serves only a few locations effectively, specialized business services (e.g., repair services, consulting services) are often available only in the largest city, and only large cities have a pool of skilled labor, and a sufficiently large market that inputs are likely to be available when needed unexpectedly.

For most limited market economies in Africa, efforts at decentralizing are likely to be premature because smaller cities are seldom able to supply the needs of large-scale manufacturing firms, or to absorb their output. Given the low density of population, the scarcity of management capacity, and low levels of urbanization, decentralization policies even in the larger low income African countries seem misguided. A reasonable strategy for urban development has several components:

modifying national economic strategies biased against rural areas, improving services and planning in existing cities, and allocating investment and infrastructure among regions.

A number of types of national economic policies have effects on the spatial distribution of population. Foreign exchange policy is important; where currency is overvalued and import restrictions are used to limit demand for foreign exchange, there is a tendency to give priority to those imports destined for large-scale industrial enterprises (capital equipment and raw materials) and to food imports destined largely for urban markets. Where there are tariff and tax incentives for new industry, and strong protection accorded to new industries, these measures usually are applied only to large-scale manufacturing enterprises. For example, recent work in Sierra Leone found that most imported equipment and inputs for small-scale enterprises were taxed at 16 to 36.4%, while most imported equipment and inputs for large-scale enterprises were exempt from duty. Protection of large-scale enterprises also taxed small-scale enterprises: for example, the large flour mill in Sierra Leone was granted an exclusive import license, and is thus a monopoly supplier to small-scale bake shops. Its flour is more than twice as expensive as imported flour.

Since large-scale industry is heavily concentrated in urban areas while small-scale enterprises are predominantly rural, the direct and indirect benefits from national trade policies are similarly concentrated. For example, a study of Nigerian industry showed that about 90% of the indirect subsidies from investment incentives and protection accrued to the Lagos region. The effect of these policies is to raise the cost of imported consumer goods (thus lowering real income) and to lower the price that can be paid to farmers for export crops. In

general, factors that lower rural income and encourage large-scale manufacturing can be expected to increase rates of rural-urban migration.

Rural Development and Its Impact on Migration

Assessing the effect of rural development efforts in West Africa on migration is difficult. Detailed monitoring of rural development projects is rare, and it is seldom that one knows the proportion of households that participated in development activities, the consequent changes in household income and well-being, and the change over time in age-specific and sex-specific rates of migration for different levels of education. Although it is common for planners to assert that rural development activities will slow rural-urban migration, it is rare to find evidence that that has been the case. Indeed, looking at the general migration literature, some of the effects of rural development would seem likely to accelerate rural-urban migration. Sorting out the factors influencing migration can be difficult.

For example, high income rural areas tend to have high rates of out-migration, and some studies have shown that migrating individuals tend to come from high income households. However, these are not direct effects. High income rural regions generally are near major markets, and we have seen that migration increases as distance declines. High income households are more likely to educate their children than poorer households, and we have seen that the educated are far more likely to migrate to urban destinations than the unschooled. Theory argues that if it were possible to raise the income of rural households without influencing ease of access to urban areas and level of education, and while holding expected urban incomes constant, rural-urban migration rates would be likely to decrease. In the real world, however,

it is seldom possible to hold intervening variables constant, and development activities are likely to have mixed effects.

Table 41 shows excerpts from Rhoda's assessment of short-term and long-term effects of different sorts of rural development efforts. In many cases, there is insufficient evidence for Africa to make firm generalizations. We will start with interventions for agricultural development. For example, mechanization, in principle, can displace labor or it can increase demand for labor by permitting expansion of cultivated area or double cropping. However, in practice, tractors and animal traction equipment have had very different effects. Tractorization on smallholder farms in Africa entails high capital and overhead costs, and production increases are often far less than envisaged. Thus, tractorization projects have often had less impact on demand for labor, and consequently on rural-rural migration, than would have been predicted.

Animal traction equipment, although lower in cost and easier to maintain than tractors, still requires substantial support services, and adoption rates are low when such services are not available. Another problem is that farms must have more than about 4 ha, to pay off the cost of donkey traction equipment and more than about 6 ha, to pay off the cost of ox-drawn equipment, and even with these minimum areas, the first years of using the equipment puts a heavy drain on household resources. Thus, in some areas, only well-off farms can afford the equipment, and there is the possibility that inequality among households will be increased, and that this in turn will increase out-migration. However, it is also likely that local manufacture and repair of equipment would increase non-agricultural employment and income (with, presumably, the net effect of lowering out-migration).

Generalizing about the effects on migration of land reform and agricultural credit and extension programs is almost equally difficult because of the same sorts of mixed effects. What is necessary in evaluating the impact of these programs is knowing what has happened to the factors that we know affect migration: household income, education, rural off-farm employment, farm productivity and cultivated area and the need for agricultural labor. We also have to know what proportion of households have the means to participate in these programs. It is common to generalize that agricultural workers without land (i.e., sharecroppers or wage workers) are rare in sub-Saharan Africa, and that only the availability of labor limits farm size. However, Reyna (1981) and others have argued that access to land is becoming increasingly unequal in some densely settled areas experiencing rapid population growth. It is possible that lack of access to land may be the cause of out-migration from some areas. It can also be a reason for unequal distribution of benefits from improvements in agricultural extension and services.

At several points in his analysis of agricultural development efforts, Rhoda assumes that where interventions increase farmer productivity and income, they also increase demand for urban goods and services. However, we have little information on rural consumption patterns for most areas. AID-funded studies in Sierra Leone showed that rural areas supplied more than three-fourths of consumption expenditures for all rural households, and just over half of all cash expenditures. In general, there was relatively little variation among income classes in consumption patterns. The marginal propensity to consume (MPC) for subsistence consumption decreased sharply as income class rose, while the marginal propensity to consume rural services

and ceremonial goods increased with income. For all income classes, the MPC for goods produced in small, urban areas (transportation, services, and small industrial products) was higher than the MPC for goods produced in large urban areas (largely kerosene). However, the MPC for imported goods was considerably higher than for urban-produced goods. The implication is that much of the employment effect of increased demand from rural households would be felt most in rural areas and secondary cities rather than exclusively in large urban areas.

Early theory had postulated that many of the goods produced by rural small-scale industries were inferior goods, for which demand would fall as income rose. However, the evidence from Sierra Leone is that demand for the products of small-scale industry, particularly tailoring, woodwork, metalwork, and locally dyed cloth, should grow substantially with income of rural households (King and Byerlee 1977:51). If other West African countries show similar consumption patterns, we could expect that increases in farm income would create little employment in major urban centers.

Other rural development interventions, like provision of safe drinking water, electrification, and improved health care, aim at improving the quality of rural life, reasoning that reducing the disparity between urban and rural areas in provision of publicly subsidized services and amenities may also reduce rural-urban migration rates. We have seen that differential availability of services has major demographic consequences. For example, child death rates in urban Senegal were less than one-tenth the rates in rural areas during the 1960's, and, though the gap may have narrowed since, it is not likely that it has been completely eliminated. The relative lack of health care and lower incomes prevalent in rural areas also affect

the nutritional status of young children. Surveys in Togo and Sierra Leone show that the prevalence of undernutrition is far higher in rural areas than in urban ones; the same was often the case for health problems like malaria or anemia.

In the section on quantitative studies of migration, we saw that variables measuring the availability of services and amenities seldom had a clearly measureable effect on rates of out-migration (or propensity to migrate) or on choice of urban destination. However, one measurement problem is that the range in services and amenities among rural communities and among urban destinations is small. Few villages have more than a few amenities and services, and almost all urban areas have a full range. There are few cases where water supply or electrification alone has measureably affected migration. However, a coordinated program of water, electricity, and generation of off-farm employment is more likely to have a measureable effect. The construction and maintenance of infrastructure like rural roads and rural electrification can generate considerable employment. However, conventions in the writing of project engineering specifications sometimes make the use of local products and labor-intensive techniques difficult, and reduce local employment from infrastructure projects.

The indirect effects of road construction are more complex than for most infrastructure projects. A recent evaluation of AID road-building projects in Liberia points out a few of them. In the short run, road construction can provide some local employment; in the longer run, roads substantially reduce the costs of transport, and encourage farmers to enter more heavily into cash cropping, particularly coffee, cocoa, and rubber. Thus, farm income can be expected to increase. However, roads also greatly increase the value of land near them, and

the impact evaluation team found widespread private purchases of large tracts near existing roads and along proposed routes. The increasing concentration in land ownership makes land scarce for the smallholder. Thus, although increasing farm income would be expected to slow rural-urban migration, increasing scarcity of land would be expected to increase out-migration rates from road areas, as would reduction in the cost of transport. The net effect reported by the evaluation team for a rural roads project in Liberia (AID 1980) was out-migration. Unfortunately, no figures are available on migration rates before and after, and the exact links between road construction and migration are not clear.

Land settlement programs are often proposed as a remedy for urban and rural unemployment. Where the role of government agencies in resettlement and in agricultural production is active and directive, such projects often encounter grave implementation problems and extremely high costs per settler. For example, cost per settler household of the AVV (Autorite des Amenagements des Vallees des Volta) in Upper Volta was roughly \$12,500 and World Bank projects averaged \$8,650 per family in 1973-75. Actual rates of supervised resettlement are often far lower than planned. When sponsored settlement projects are evaluated three to five years after start-up, it is common to find that actual economic rates of return are about half the rates estimated in project appraisal documents (Scudder 1981) and the delays combined with the high cost per settler suggest that resettlement projects can seldom cope with more than a very small proportion of potential rural-urban migrants.

Programs in which the government limits itself to opening up a region and encouraging spontaneous settlement--for example, south-

western Ivory Coast--have generally involved lower costs and larger numbers of settlers, although planners were not able to foresee all the impacts of settlement. A recent review of more than 100 sponsored and spontaneous settlement areas concluded that the long-term benefits of new lands settlement could be substantial and that the benefits of such projects were more likely to be equitably distributed, especially where host populations were included in the projects, than the benefits of rural development in older regions (Scudder 1981). Thus, the study recommended that governments assist spontaneous settlers with all-weather access roads, potable water supplies, credit, and some sort of land registration to provide secure use rights to the land. Successful resettlement efforts include a whole regional hierarchy or rural service centers, rural towns, and regional urban areas, and improving existing towns which could greatly cut costs. Nucleated settler villages (rather than dispersed farms) raised service standards, cut the costs of infrastructure, increased employment opportunities, and reduced migration to large urban centers.

The only sorts of agricultural development interventions that can be expected to slow rural-urban migration are land reform, land colonization and rural resettlements, and mechanical irrigation, and the effect of these interventions is weak to moderate. Provision of potable water, electrification, and improved health services can at best be expected to have very weak effects in the short-term, and only family planning services can be expected to have significant long-term impact. Most other rural development activities can be expected, if anything, to contribute indirectly to accelerating rural-urban migration. Indeed, donor agencies themselves, through local cost expenditures, create considerable urban employment and, under Todaro's

model, stimulate in-migration. Thus, although there are many strong arguments in favor of developing the agricultural sector and improving the quality of life in rural parts of West Africa, such interventions cannot be expected to have a major impact on rural-urban migration rates.

National Economic Policy Reform

Although there are ambiguities in the evidence, the income differential models we have seen suggest that national economic policies that raise the real income of farmers and small, rural entrepreneurs can be expected to slow rural-urban migration. Among the most important of these policies is foreign exchange and import restriction. Besides putting small enterprises at a disadvantage, the combination of overvalued exchange and heavy protection of domestic industry drives up the prices farmers pay for agricultural inputs and for consumer goods while depressing the prices paid to them for cash crops destined for export. Heavy government levies on export crops have also held down the share paid to the farmer, and consequently have probably reduced agricultural wages and overall employment in agriculture.

Nominal protection coefficients for selected export crops (that is, the ratio of farmgate producer price to world price, less transport, marketing and processing costs) calculated by the World Bank show that, on the whole, taxation of export crops in 1976-80 seems heavier than in 1971-75, although it is difficult to be certain because estimates for several countries are based on very few years (particularly Ivory Coast). The levels of taxation estimated are very heavy and are, of course, more or less proportional to cash farm income. A more progressive tax structure might well spur agricultural production,

and, by raising farm income, especially for low income groups, increase demand for the products of small-scale enterprises, and thus employment in the urban intermediate sector and in rural, small enterprises.

Supply-side assistance for small-scale enterprises poses greater problems. Directing credit to small-scale enterprises or subsidizing credit might easily exceed the enterprises' absorptive capacity, and could substitute for the personal savings needed to finance capital costs. Management assistance, lowering the duties on capital goods and inputs, and assistance in intermediate technology seemed more promising options.

Recently, analysts in AID/PPC looked at the implications of international migration for AID programs (AID/PPC 1980) and at the effect of U.S. aid, trade and investment on migration to the U.S. from several major sending countries (Morrison 1980). These papers concluded that development assistance had its most direct impact on migration through employment generating projects and that the effects of population programs and more equitable distribution of income were more indirect (Morrison 1980:14). The authors concluded:

"- Labor emigration may have a profound developmental impact on a number of developing countries in which AID has programs. However, AID's capacity to affect the phenomenon and effects of migration is limited. Indeed, even host governments have little control over migration, but their policies influencing migration can at least impact at the margin.

"- While in the long-term, AID's emphasis on increasing employment and income for the poor would tend to reduce income inequalities and reduce the tendency to migrate, the overall impact is too small to affect migration in the short medium-term; indeed, AID programs in the short-run might further stimulate labor mobility and international migration." (AID/PPC 1980)

This study has reached very similar conclusions on international migration, but finds internal migration is strongly influenced by national economic policy, and policy re-examination and reform seems

a promising route to explore. Many of the policy reforms that are suggested as means of slowing rates of rural-urban migration have also been recommended for West African governments as ways to spur economic growth (e.g., IBRD 1981). These involve lessening the present bias toward large-scale enterprises in tax incentives for investment and in tariffs and import restrictions, and in instituting effective encouragement to intermediate sector enterprises. Bringing rural incomes closer to urban levels is probably the most effective means to slowing migration; increased income equitably distributed would also increase demand for the products of small-scale enterprises, thereby increasing employment in the intermediate sector.

Research Priorities

The cost of getting accurate data on productivity of labor, output, and household income for rural or urban households is high, because these are best measured by cost-route methods, requiring repeated interviews. Research on migration rates is therefore best combined with other studies--either in the monitoring and evaluation unit of a large integrated rural development project or with on-going farm systems studies (almost every African country now has an AID-funded farm systems study).

The second sort of work to be done is an assessment of the impact on migration rates of policy change. These studies should concern a single country, and should focus on the present trade, exchange, investment, and agricultural policies and their intended and unintended effects and impacts. The study should make concrete recommendations for policy change, detail the costs and quantify the probable effect on population distribution. One possibility might be an assessment of the impact of Sierra Leone's efforts to aid small-scale enterprises

during the early 1970's.

There have by now been many efforts at curriculum reform (e.g., Senegal's education moyen pratique) but we don't know much about what these efforts have turned out to be in practice or how effective they've been in reducing migration. A PPC-style impact evaluation might be useful.

The whole question of the relationship among migration, the need for children's labor, and fertility needs more work. Here, again, research would be expensive, and the best strategy would be to combine getting residence histories and fertility histories with an on-going farm systems study or monitoring and evaluation unit. In urban areas, impact evaluations of PVO and government family planning efforts could get at the question of the effects of education, female employment, urban residence, and contraceptive availability on fertility.

The major part of AID's research on migration questions, however, should be support for governmental statistical services, especially agricultural statistics, labor statistics and census bureaus. One difficulty is that the results of surveys and censuses are often not available until three to five years after their completion, by which time they are already out of date. Increased donor support to government statistical services might shorten the data processing and set up interim sample surveys to permit estimation of change since census. There are very few West African countries with good data on the structure of employment or with accurate, survey-based estimates of unemployment. There is a tendency to assume that all rural residents are fully employed, when we have seen that this is not always the case.

More accurate estimates of numbers and types of small-scale enterprises and employment they generate would also be valuable.

Similarly, a better idea of the structure of rural consumption and the extent of its reliance on rural-produced goods and services would give a better idea of the likely multiplier effects of rural development projects.

Program Implications

The measures with perhaps the greatest long-range impact on internal migration rates for many countries would be those affecting agricultural income and buying power. We have seen that nominal protection coefficients for many export crops are high (implying heavy taxation), and that overvalued exchange rates further depress rural incomes. Raising the prices paid to producers has been advocated as a means of increasing agricultural production. Implementation of such measures would require technical assistance in setting new price levels and restructuring tax systems and funds to reduce the impact of changes in tax revenues on government revenues. One possible source of funds could be local currency from the sale of PL 480 commodities.

Revision of duty schedules to lessen the burden on small-scale enterprises and to reduce the protection granted large-scale enterprises would probably also increase off-farm employment, and allow rural-produced goods to compete more effectively with urban-produced and imported goods. Such measures require a detailed assessment of countries' tariff structure and estimates of the costs of changes and the probable impact on rural and urban employment. They also would probably require assessment of other sources of government revenues, and funds to facilitate the transition.

Family planning and family health initiatives are another intervention that in the long-run would have substantial impact on the

rate of urban population increase and on rates of rural-urban migration.

Among agricultural development initiatives, with a potential for increasing agricultural employment, increasing irrigated area in large-scale schemes has shown itself in West Africa to be very costly, and many existing irrigation systems are not fully cultivated and stand in need of rehabilitation (World Bank 1981:76ff). Small-scale irrigation, and improvements of marshlands, however, have considerable potential to increase dry season employment. Government interventions to facilitate spontaneous settlement of sparsely inhabited areas also seem promising.

INTRODUCTION

A recent U.N. survey of the population concerns of 116 developing nations showed widespread concern with internal and international migration. Thirty-six percent of respondents said that the spatial distribution of their population was "unacceptable to some extent" and 59% found spatial distribution of population "highly unacceptable" (Preston 1979:195). Seventy-eight percent of countries responding wished to slow or to reverse rates of rural-urban migration. Individual governments within West Africa echo these concerns, and slowing rural out-migration has been among the goals of many rural development projects and programs in the region.

These concerns have produced an enormous mass of studies on internal and international migration in West Africa, which has meant that we have a far clearer idea about the size and direction of major migration streams for many regions in West Africa than we do about (for example) mortality levels and the factors affecting them. The international donor community has shared local concern about population distribution, and has produced an enormous set of reviews of issues and policies on internal migration (e.g. Findley 1977), urbanization (Renaud 1979; Cohen, Agunbiade, Antelin and de Mautort 1979), and international migration (AID/PPC 1980) in developing nations as a whole. Given a long-standing interest in migration on the part of scholars and policy-makers, what need is there for yet another review of the literature and discussion of the issues? This paper argues that there are several sorts of justifications for such a review.

Reviews of issues and policies for developing nations have often given sub-Saharan Africa rather cursory treatment (e.g. AID/PPC, Preston

1979) because census data for many countries have been unreliable and/or unavailable and because the region has a small part of the world's population. Recent studies in Africa (e.g. Zachariah, Conde and Nair 1980; and Zachariah, Conde, Nair, Okoye, Campbell, Srivastava and Swindell 1980) make it possible to fill in some of the gaps in our knowledge and to describe trends in migration and in urbanization more accurately. More important, we can analyze some of the demographic and economic differences between sub-Saharan Africa and Latin America or Asia and the practical consequences of these differences: strategies that are reasonable in one region have to be re-thought in another regional context.

This paper will try to place West African urbanization in a world context, briefly discuss some of the methodological problems that arise in measuring migration, and discuss the demographic information we have on vital rates in West Africa. We then look at models for migration, concentrating on the derivation of the expected income model, reviewing West African studies that have applied it, and trying to assess some of the model's shortcomings. Another section summarizes recent evidence on the size and composition of international and internal migration streams. The migration literature is voluminous, and the aim is to discuss a few major developments we know relatively well rather than to provide a comprehensive guide to all the countries in the region. We end by discussing a number of issues: the relationship of education to rural-urban migration, the impact of migration on sending areas, the effects of urban and rural development programs, and the impact of national economic policy on the spatial distribution of the population. Finally, we will make recommendations for further research,

and suggest a reasonable strategy for AID to follow with respect to rural-urban migration.

West African Urbanization from a World Perspective

A recent typology of urbanization in developing countries (Simmons, Diaz-Briquets, and Laquian 1977:12) gave four main groupings: type 1, including most of Latin America, where the population is already more than half urban and where incomes are relatively high; type 2 in East Asia and North Africa with urbanization levels almost as high as type 1 and relatively high income levels, but higher rates of growth than type 1; type 3, including most of sub-Saharan Africa, have very low proportions of population in urban areas, and will still be predominantly rural by the year 2000; and type 4 countries, also with predominantly rural populations, but with populations so large that small increases in rural-urban migration would greatly increase the absolute size of urban populations. Table 1 shows the percent of population in urban areas and the average annual growth rate of the urban population for West African countries, and compares them to developing and industrialized countries. West Africa is clearly one of the least urbanized regions in the world, but the rate of growth of the urban population is quite rapid compared with other regions.

A recent study by the World Bank developed another classification in order to bring into clearer perspective the regional planning needs and resources of countries in each category. Table 2 shows the country typology, the number of countries falling into each category, the proportion of the world population in the countries of each category, and average GNP per capita for each category. Category 1, small countries, includes states with a population of less than 2 million and city

TABLE 1: LEVELS OF URBANIZATION IN WEST AFRICA

	<u>Mid-1979 Population (000)</u> (a)	<u>1979 GNP Per Capita</u> (a)	<u>% Urban Population</u> (b)	<u>Growth Rate Urban Population</u>
Benin	3,427	250	23.2	10.4d
Cameroon	8,248	560	27.2	8.0b
Chad	4,416	110	14.4	6.8b
Congo	1,498	630	35.8	3b
Gabon	645	3,280	28.3	3.8b
Gambia	586	260	24.0	5.4c
Ghana	11,327	400	32.0	4.7c
Guinea	5,269	270	16.0	6.2c
Guinea-Bissau	779	170	23.0	4.7b
Ivory Coast	8,076	1,060	32.6	8.2c
Liberia	1,802	490	29.5	6.6c
Mali	6,469	140	17.2	4.6d
Mauritania	1,589	320	23.1	14.4b
Niger	5,155	270	10.3	6.8b
Nigeria	82,503	670	18.1	4.6b
Senegal	5,525	430	24.2	4.9c
Sierra Leone	3,383	250	21.2	5.4c
Togo	2,494	340	15.1	5.4c
Upper Volta	5,642	180	7.5	3.4c
Zaire	27,535	260	34.9	5.4b

Developing Countries

Africa south of Sahara	17.0	6.1
Middle East and North Africa	47.3	5.1
East Asia and Pacific	30.3	4.1
South Asia	13.2	4.1
Latin America and the Caribbean	59.3	3.7
Southern Europe	56.3	2.6

Industrialized Countries

74.6 1.4

(a) World Bank Atlas 1980

(b) World Bank, World Tables 1980. Most recent estimates.

(c) K. Zachariah and J. Conde 1980

(d) Renaud 1979.

TABLE 2: COUNTRY TYPOLOGY

	<u>Number of Countries</u>	<u>Percent of World Population</u>	<u>GNP Per Capita</u>
1. Small Countries			
a. City states	2	0.2	2,405
b. Others	39	0.7	
2. Limited Domestic Markets	37	5.3	354
3. Large, Low Income			
a. S. Asia	5	23.1	158
b. Africa	7	5.3	230
4. Middle Income			
a. Asia	5	3.7	678
b. Middle East and Mediterranean	15	5.2	2,142
c. Latin America ¹	3	1.0	1,330
d. Latin America ²	6	5.7	1,145
5. Advanced Economies	19	16.9	5,890
6. Centrally Planned Economies			
a. China	1	21.3	410
b. Other low income	6	2.2	490
c. USSR	1	6.3	2,760
d. Other middle income	4	1.5	1,930
e. Higher income	3	1.6	3,640

(1) Growth rates less than 2% per year.

(2) Growth rates more than 2% per year.

(3) 1976 data.

Source: Renaud 1979.

TABLE 3: CLASSIFICATION OF WEST AFRICAN COUNTRIES
BY TABLE 2 TYPOLOGY

1. Small Countries

Congo
Gabon
Gambia
Guinea-Bissau
Liberia
Mauritania

2. Countries with Limited Domestic Markets (a)

Sierra Leone
Cameroon
Upper Volta
Mali
Niger
Chad
Guinea
Togo
Senegal
Ivory Coast
Ghana

3. Large, Low Income Countries

Nigeria
Zaire

Source: Renaud, 1979.

(a) Includes countries with populations ranging up to 14 million, and 1976 GNP per capita to just over \$1,000.

states with very small land areas (i.e., Hong Kong and Singapore), both of which are too small to justify a "fully developed three-dimensional national urbanization strategy". Category 2, countries with limited domestic markets, have small populations and total GNP's, and the potential for developing manufacturing industries is heavily dependent on external markets. It is hard to avoid the concentration of investment and population in the capital city of these countries, since this is the only location where transport infrastructure and specialized business services (e.g., shippers and jobbers, legal offices, repair services) are available. The largest number of West African countries fall into this group. Category 3(b), the large, low-income countries of Africa, shows a distinctive set of problems: regional imbalances in resources and population, population concentration in the capital region (although overall levels of urbanization are still low), and very high rates of growth for the population as a whole and for the urban population.

These three categories share a very low level of resources for urban planning and for providing services to urban populations. The GNP per capita figures on Table 2 give a rough idea of this penury. When we look at these levels of urbanization for Africa, it is clear that the proportion of urban population is still low compared to most other LDC's. What is alarming is the growth rate of the urban population and, indeed the rapid growth of the population as a whole. We will see, however, that a major part of the urban population increase is natural increase rather than rural-urban migration.

On Measuring Migration

Migration is much less clear-cut than other vital events--births

and deaths--and there is much more variation in the way it is measured. In addition, the lack of census data on West Africa poses additional problems for analysis. Therefore, before starting to talk about migration data, it is desirable to talk about how well the data we have represent reality.

The earliest studies of migration (Ravenstein 1885, 1889) noted that each main current of migration produces a counter-current. The total flow in both directions is gross migration^{1/}; the difference between the two streams over a given period of time is net migration. A few surveys have given us data on total migration volume in both directions, but most of the census data we have permit only estimates of net migration rates. Unfortunately, net migration rates (usually calculated over five to ten year periods) cannot record movement like seasonal migration, where the net permanent residence change is small or negligible.

Net migration rates cause special difficulties in studies of rural-urban migration because they depend on two streams of migrants with different characteristics: young migrants entering the city from rural areas, and older migrants returning to rural areas. Several migration studies have found that the variation in net migration is more closely associated with the rate of gross migration from urban to rural areas than with the rate of gross rural-urban migration (Byerlee et al. 1976). Thus, gross rates of migration from rural areas to towns (and from towns to rural areas) are preferable to net rural-urban migration rates.

^{1/} Immigration and emigration if we're talking about international movement; out-migration and in-migration if we're talking about internal migration.

Another set of difficulties involves the way net migration is estimated. Where two sets of census data are available and where age of respondent has been accurately recorded, it is possible to project an expected number of members for each age group that can be compared with the observed population to yield an estimate of net migration between the two censuses for each age group (Shryock, Siegel, and associates, 1975(Vol.2):579-666). Where only one census is available, where age data are not reliable, or where survival rates for the general population are not well known, this is not possible.

For West Africa, the common estimate for rural-urban migration is the difference between the annual growth rate of the urban population for a given period and the annual growth rate of the total population for the same period. There are several difficulties with using this estimate, however, since it is also affected by external migration and by the reclassification of areas (both due to changes in the boundaries of cities as they expand and due to reclassification of localities as villages grow into towns). Another difficulty with this estimate is that it assumes that natural increase is the same in rural and urban areas, which may not always be the case. Fertility in urban areas seems as high as in rural areas, but mortality often seems considerably lower (see next section). Thus, the difference between the urban population growth rate and that for the total population is likely to overestimate the rural-urban migration rate.

Another set of problems with measuring migration in West Africa is variation in the administrative regions used to define internal migration, shown (for selected countries) in Table 4. Other things being equal, the smaller the unit used to define internal migration, the greater the total volume of migration. The table shows considerable

TABLE 4: AREAL UNITS USED TO DEFINE INTERNAL MIGRATION

<u>Country</u>	<u>Areal unit</u>	<u>Number of units</u>	<u>Average area per unit (square kilometers)</u>	<u>Average population per unit, 1975</u>
Gambia	Local government area	8	1,412	62,200
Ghana	Region	7 ^{a/}	34,075	1,409,000
Ivory Coast	Department ^{b/}	28 ^{b/}	11,516	242,000
Liberia	County	9	10,880	174,700
Mali	Region	6	206,667	976,500
Senegal	Region	7	28,027	711,000
Sierra Leone	District	14	5,124	199,400
Togo	Region	5	11,200	454,400
Upper Volta	Department	10	27,420	559,100

Note: For countries such as the Ivory Coast, where data are given for small units, it is possible to combine two or more units and give migration data for larger units such as regions. But it is not possible to go from large units such as regions in Ghana to smaller subdivisions of those units.

^{a/} The 1960 division of regions is retained to keep the data comparable.

^{b/} Abidjan Ville and Bouake Ville are added to the twenty-six departments.

Source: Zachariah and Conde 1980.

variation in the size of administrative units: for example, the average region in Ghana is about three times the size of the average Ivory Coast department. It is extremely hard, then, to make comparisons of mobility rates among countries.

Table 5 shows the questions on migration included in selected censuses. Each census includes a question on place of birth, but there is no information recorded on more recent places of residence. Lifetime migration data pose problems in economic analysis, because they include moves made sixty years ago and more, and there is no way to separate recent moves from moves in the distant past. Thus, only a small part of the variation in lifetime migration is attributable to recent economic conditions (Byerlee, Tommy, and Fadoo 1976:83). One way to surmount the problem is to record data on residence at a fixed point in the past (e.g. five years ago), but people without schooling may have trouble responding accurately if the date is not tied to some significant local event--difficult in a nationwide inquiry.

Demographic Background

Table 6 shows two sets of estimates for vital rates in West African countries. The first set of crude birth rates (CBR) was estimated by the Bureau of the Census; in most cases, they preferred to estimate a range rather than to settle on a single figure. The second set of estimates was drawn from recent surveys and censuses in countries analyzed by Zachariah and Conde (1980:15). Both sets of data show overall high fertility and high mortality rates.

Demographers disagree on whether data are reliable enough to say anything about trends in fertility. Faulkingham (1980:31) felt that current fertility estimates had a margin of error from 3% to 20%,

TABLE 5: RECENT POPULATION CENSUSES IN WEST AFRICA

Country	Year of census enumeration	Questions related to migration in the census
Gambia	1973, 1963	Nationality, place of birth (country or district within the Gambia)
Ghana	1970, 1960	Nationality, place of birth (country or region within Ghana)
Ivory Coast	1975	Nationality, place of birth (country or district within Ivory Coast)
Liberia	1974	Nationality, place of birth (country or county within Liberia)
	1962	Nationality, place of birth (country or district, city, or town within Liberia)
Mali	1976	Nationality, place of birth (region or cercle /administrative unit/within Mali)
Senegal	1976 ^a	Nationality, place of birth (country or region within Senegal)
	1970 ^b	
	1960 ^c	
Sierra Leone	1974 ^c	Nationality, place of birth (district and chiefdom within Sierra Leone)
	1963	
Togo	1970	Country of birth, born in the same region or another region within Togo (region of birth in Togo not specified)
Upper Volta	1975	Place of birth (country or department within Upper Volta)

- a 1976 results not yet available.
- b National sample surveys.
- c 1974 birthplace data not yet available.

Source: Zachariah and Conde, 1980

TABLE 6: ESTIMATES OF VITAL RATES, SELECTED WEST AFRICAN COUNTRIES

	By U.S. Department of Commerce ^{a/}	By Zachariah and Conde ^{b/}		
	Crude birth rate 1976	Crude birth rate 1970-75	Crude death rate 1970-75	Rate of natural increase
Benin	49-54	-	-	-
Cameroon	41-43	-	-	-
Chad	45-52	-	-	-
Gambia	48-49	50	30	2.0
Ghana	45-48	49	22	2.7
Guinea	44-56	-	-	-
Guinea Bissau	39-41	-	-	-
Ivory Coast	45-52	50	21	2.9
Liberia	50-51	50	18	3.2
Mali	49-55	50	26	2.4
Mauritania	43-46	-	-	-
Niger	55-57	-	-	-
Nigeria	48-50	-	-	-
Senegal	46-48	48	22	2.6
Sierra Leone	41-43	45	21	2.4
Togo	49-55	50	23	2.7
Upper Volta	50	49	26	2.3
All countries, World Bank Sample		49	23	2.6

^{a/} Faulkingham 1980
^{b/} (1980)

and that it was impossible to say whether fertility was rising or falling. Zachariah and Conde (1980:16) are less timid, and feel that the CBR rose by about four to seven points between 1950 and 1970 in Ivory Coast, Liberia, and The Gambia.^{1/}

Demographers also disagree on what changes can be expected in fertility rates in urban areas and on the probable effect on fertility of female education and the other "determinants of fertility" discussed in Section 104d of the 1961 Foreign Assistance Act as amended in 1977 and the U.S. Government General Accounting Office's report on AID's population program (1979). Faulkingham (1980:30) felt that total fertility levels in urban areas were significantly lower than for rural areas. Birdsall (1980:52) and Ware (1977:57) felt that the role of rural or urban residence per se was not clear; some studies at least, showed slightly higher fertility among women in urban areas than among their rural counterparts. Duration of breastfeeding and post-partum abstinence is lower in some urban areas than in rural areas, especially among women with modern sector jobs (Domenico & Asuni 1979), which may account for part of the increase.

The effect of female education on fertility is a little surprising: there is increasing evidence that women with a small amount of schooling tend to have higher fertility than uneducated women of similar age and marriage duration (Ware 1977:55), and it is only at higher levels of education that fertility starts to decline. For the effect on fertility of age at marriage, we have no evidence yet that completed family size for educated, late marrying couples is significantly reduced

^{1/} They also note some smaller changes, but it is difficult to interpret a 2% change in the CBR because the CBR does not control for the age distribution.

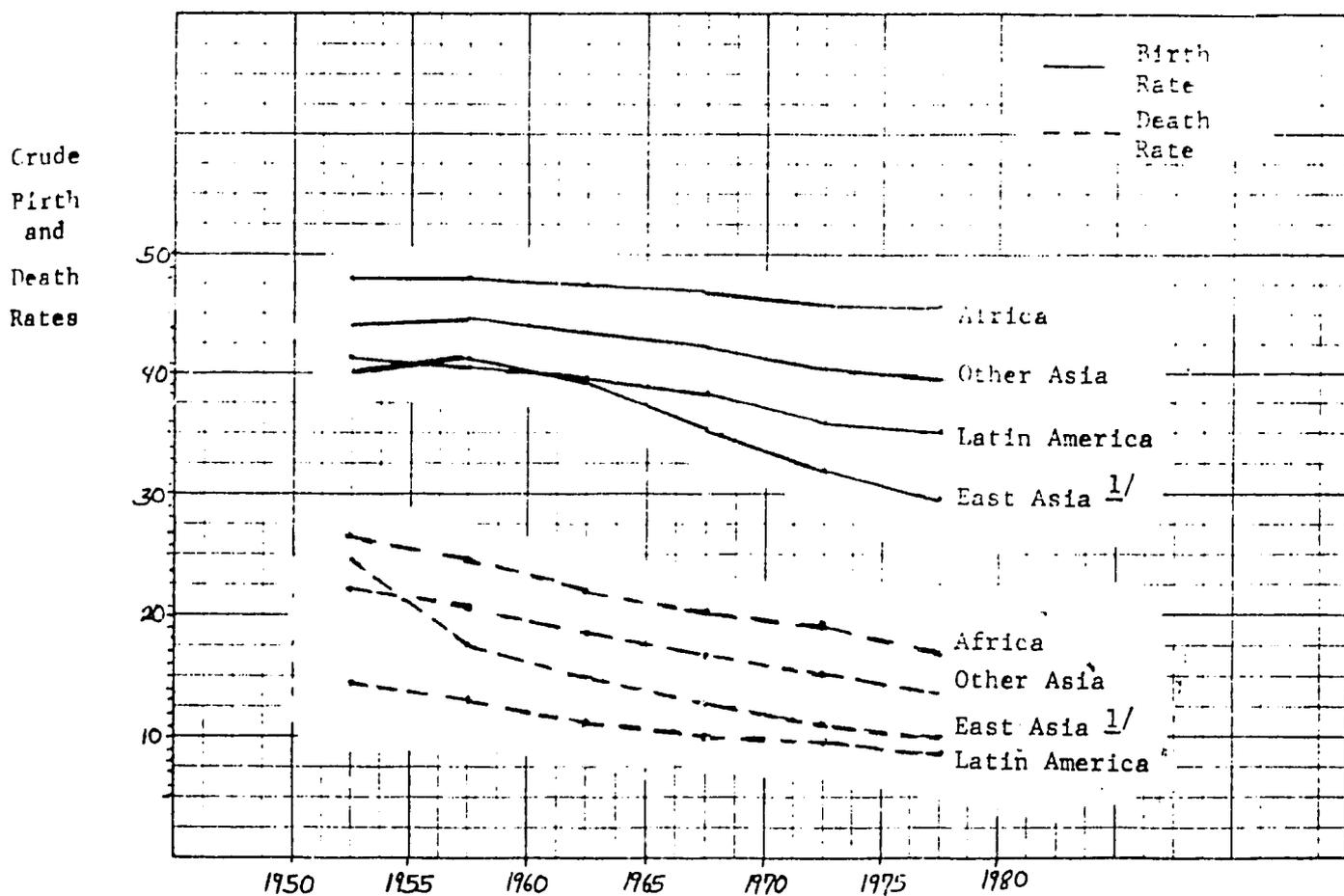
(Ware 1977:56). Similarly, KAP studies (knowledge of, attitudes towards, and practice of birth control methods) show that the educated are more likely to know of and practice modern methods of contraception, but we do not yet know that contraceptive use is consistent enough to reduce total fertility (Ware 1977:56).

Figure 1 shows World Bank estimates of trends in CBR and Crude Death Rate by geographic region. Africa showed little change between 1950 and 1977 in crude birth rate. World Bank projections assume that fertility decline for sub-Saharan Africa will start in roughly 1985; but the choice of a starting date is somewhat arbitrary.

Getting good data on mortality is far more difficult than getting fertility data: retrospective data are very unreliable, and the size of sample that has to be observed to get reliable estimates of rates is large.^{1/} African demography relies heavily on model mortality tables derived from other regions, often estimating infant and child mortality from the total and surviving fertility reported by mothers, and then matching those figures to model tables to estimate life expectancy at birth. This is a valid estimation technique if age-specific mortality rates in Africa resemble those of the model tables. There is some evidence, however, that mortality for children 1-4 may be far higher in Africa than in other less developed populations, and it is possible that model tables derived from other populations do not fit African data (Cantrelle 1975:106).

^{1/} Howell, 1979, estimated the standard error for survivorship rates, and estimated that for 95% confidence that observed survivorship rates would fall within 6% of expected values, one would have to observe a population of 1,000 over 15 years (assuming CDR of 35).

FIGURE 1: CRUDE BIRTH AND DEATH RATE TRENDS BY REGIONS



Source: Birdsall 1980.

Table 7 shows that in Senegal during the 1960's, infant and child mortality in urban areas was a fraction of that in rural areas (Cantrelle 1975:112-23); this seems to be the case also in other countries. It seems likely, then, that it may be wrong to assume that natural increase in rural and urban areas is the same.

TABLE 7: URBAN, RURAL, AND SEMI-RURAL RATES FOR
INFANT AND CHILD MORTALITY - SENEGAL

	<u>(Year)</u>	<u>Infant mortality</u>	<u>(Year)</u>	<u>Mortality age 1-4</u>
Rural areas				
Thienaba		-	(1965-67)	141
Sine	(1965-67)	233	(1963-65)	109
Saloum		-	(1963-65)	81
Fakao	(1943-63)	190	(1943-63)	60
Semi-rural				
Khombol	(1962-67)	66	(1965-67)	48
Urban				
Dakar	(1964-65)	84	(1968)	16

Source: Cantrelle 1975:112.

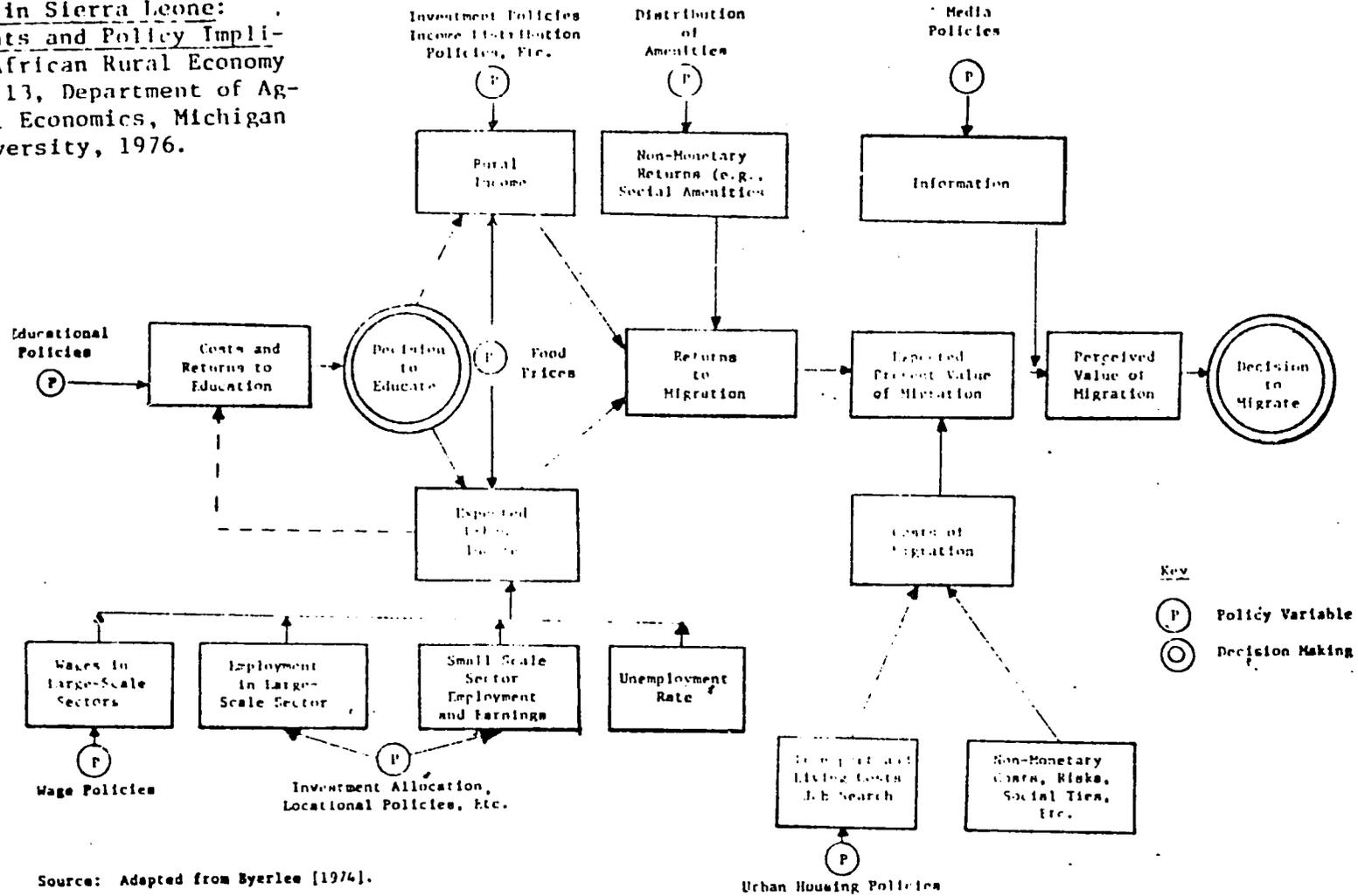
MODELS FOR MIGRATION

The decision to migrate, made by an individual or by the household, is influenced by a number of factors: many of these are shown in Figure 2. These factors include both the monetary costs and returns from migration, the less tangible costs of coping with a new environment, and the non-monetary benefits from living in a city (access to utilities, better health services, better access to schools, etc.). All these factors, in turn, are influenced by government price and wage policies and by investment priorities. This section will discuss the variables affecting the decision to migrate and will outline recent economic models for the relationship between work opportunities, rural and urban incomes, and rural-urban migration, where large-scale enterprises are the main urban employers. We will then discuss recent efforts to expand this model to include a small-scale, intermediate sector.

When investigators ask migrants why they have moved, the first response almost always deals with employment and economic opportunity (Ravenstein 1889:286, Caldwell, 1969). Factors affecting rural income will include the availability of land, the availability and cost of agricultural inputs and extension advice and producer prices. The most notable factor influencing expected urban income is the division in the labor market. Wages in large-scale enterprises (where minimum wage laws are enforced) are usually far higher than rural wages or wages for small-scale enterprises (which usually escape enforcement). The probability of the migrant's finding a job in either sector is influenced both by the migrant's education and skills, the unemployment rate, and by the migrant's information on job opportunities (influenced

FIGURE 2: A SCHEMA OF THE DECISION TO MIGRATE

from:
 Derek Byerlee, Joseph L. Tommy,
 and Habib Fadoo, Rural-Urban
 Migration in Sierra Leone:
 Determinants and Policy Impli-
 cations, African Rural Economy
 Paper No. 13, Department of Ag-
 ricultural Economics, Michigan
 State University, 1976.



Source: Adapted from Byerlee [1974].

In turn by the duration of the migrant's residence).

One major factor influencing the migrant's expected urban income and expected rural income will be the migrant's education level. It seems likely that the returns to education (for most levels of completion) are higher in urban areas than in rural areas, in part because managers of large-scale enterprises often use education to select among applicants, even for unskilled jobs (Byerlee 1974:554).

Among the intangible costs of migration, Byerlee (1974:555) notes the uncertain nature of urban incomes, but notes that there are substantial uncertainties in rural production as well. The point is well-taken: Caldwell (1975:53) noted that those who were impoverished by the 1969-74 drought leaned heavily on their children and other relatives in the coastal towns. Indeed, educating children (or other relatives) and helping them establish themselves in towns is one of the few good investments open to rural savanna residents (Caldwell 1975:58); few other investments are drought-proof. Thus, rural-urban migration is in some sense a risk reduction strategy for many households.

Conversely, for many first generation urban residents, land rights and residence rights in the village of origin are important as security against unemployment or disability and as a place to retire to and many urban residents devote considerable time and money to maintaining these links. Table 8 summarizes survey data from Senegal, Ghana, and Nigeria on a number of aspects of the relationship with the rural area of origin. One of the most effective institutions for maintaining these links are associations of migrants from a single rural area: many of these hold periodic reunions of those living away from the area of origin, they provide funds for village development projects--roads, schools, maternity clinics--and offer scholarships,

TABLE 8: SURVEY DATA ON URBAN-RURAL TIES IN SENEGAL, GHANA, AND NIGERIA

Dimensions of relationships with rural "homes"	188 industrial workers in Senegal 1964-5	500 urban households containing at least 1 rural-urban migrant in Ghana, 1963	460 immigrated industrial workers in Ibadan and Lagos, 1963-4	Immigrant household heads, 1971-2		Eastern Nigerians in Enugu, 1961		
				600 in Ife	437 in Oshogbo	49 railway workers	49 market traders	58 senior civil servants
Have wife at home			29%			39%	9%	2%
Have children at home						54%	18%	19%
Have more good friends at home		54%						
Visit home at least once a year	71%	69%	52%	91%	95%	87%	92%	88%
Send money home	34%	63%		62%	54%			
Take presents home	88	88%						
Take money home		78%						
Claim land rights						100%	100%	100%
Have built house at home		23%				16%	35%	23%
Now building house at home		6%						
Intend retirement at home	35%	92%				92%	98%	66%
Actually retired at home		79%						
Desire burial at home						98%	96%	84%

Source: Gugler and Flanagan 1978.

often in order to train local staff for the institutions they are establishing (Gugler and Flanagan 1978:65ff). For the second urban generation, however, the strength of the tie with the rural area is often greatly attenuated (Gugler and Flanagan 1978:71).

The psychic costs of migration are due to polarity between traditional values and western ones, to the heterogeneity of the urban population and due to the impersonality of urban life, its crowdedness, and its more rapid pace. However, we have astonishingly little actual evidence on how much this stress affects rural-urban migrants and urban residents, and on the effects of stress. A limited study of psychosomatic symptoms^{1/} in Yoruba males 18 to 32 showed that farmers were no less prone to these symptoms than long-time urban workers or new factory workers, and rural-urban migrants did not differ significantly from those born in urban areas. However, a sample of workers in the urban informal sector (artisans, servants, and workers in small retail shops) reported a higher incidence of psychosomatic symptoms than those with higher earnings and more consumer goods.

The social benefits of migration are seldom the principal reason for migration, except where students migrate to attend secondary schools or where parents migrate to give their children access to better schools. There is no question that the intangible benefits of urban residence are important to migrants--the availability of cheap transport and water sources near the house, electric light, and better access to medical care. In most countries, government investment in utilities and social services has been higher for urban areas than for rural ones (Cohen 1979:12, 56-57). We will see below, however, that efforts to

^{1/} Insomnia, nervousness, trembling limbs, heavy heartbeat, shortness of breath, sweating palms, headaches, frightening dreams, being affected by witchcraft (Gugler and Flanagan, 1978:104ff).

improve rural social services and access to electricity and water have seldom had a significant effect on rural-urban migration rates.

One factor which is important in the migration decision but does not figure explicitly on Byerlee's chart is the migrant's social ties in the place of destination. Surveys in Ghana (Caldwell 1969:81-82) show a clear pattern of chain migration: in general, the more family members a rural resident has living in town, the greater the likelihood of the resident visiting the town, and the greater the likelihood of planning seasonal or long-term migration to the town. Many urban households support one or more students and job seekers: we will see that a substantial part of the urban wage earner's salary goes to the support of non-working kin.

In studying African urban populations, western observers often make implicit comparisons with early European industrialization and urbanization, which they believe involved a shift from the extended family household to a household based on the nuclear family, with a concomitant narrowing of mutual responsibility within the kin group. Actually, there is evidence that the extended family in Europe was important in the urban transition and that, for example, households in England reached their greatest size and complexity during the period 1850-1880 (Gugler and Flanagan 1978)

One often encounters the viewpoint that membership in an African extended family blunts the edge of ambition and impedes individual enterprise because support from the family is always available even to the non-worker, and because gaining successful employment increases the claims of relatives in need. This seems simplistic, first because it is hard to believe that with the current cost of living in most African cities, families can take on boundless commitments to limitless

numbers of kin, and because it is hard to believe that the worker who believes the claims of his kin for support are legitimate fails to get satisfaction from being able to contribute to their well-being (Gugler and Flanagan 1978:129-31).

Quantitative Models

Early economic models, based on western economies, of the movement of workers from rural to urban areas of Lewis and of Fei and Ranis assumed that the developing economy had two sectors: a rural subsistence sector in which labor productivity was low or nil, and an urban industrial sector with higher productivity (Todaro 1976:20-22). The assumption was that there was surplus labor in the rural sector, and that a wage set somewhat above the subsistence rural income would give a perfectly elastic supply of migrant labor. As the capital stock grew (from reinvested profits), demand for labor would increase; this expansion of output and employment would continue until the whole surplus labor in the rural sector had been absorbed into the urban industrial sector, when the supply of labor became less elastic, and increases in demand for labor started to raise urban wages.

However, Third World experience has been that several of the assumptions implicit in the Lewis-Fei-Ranis model did not hold true in reality. The first was that capital accumulation inevitably created new employment: where managers invested in more labor-saving equipment, capital accumulation created no new jobs, and all increase in output accrued to the owners of capital. The second assumption which did not always hold true was the existence of rural surplus labor; indeed, many rural areas suffer from labor shortage during crucial parts of the agricultural year. The third assumption which has not conformed to

reality is that real urban wages would hold constant until rural surplus labor had been exhausted. What has been more often the case has been that urban wages have risen substantially; often far faster than rural incomes, even where there is considerable unemployment (Todaro 1976:23-24).

What is most difficult to explain using the Lewis-Fei-Ranis model is why rural-urban migration rates have increased over time, even where urban unemployment is increasing. Todaro's effort to explain this paradox relies on the migrant's calculation of expected gains from migration, which comprise the probability of finding an urban job and the difference between earnings from a formal sector urban job and earnings from farming and non-farm employment in the area of origin. We will see below that migration (especially long distance migration) selects heavily for males, for the young, and for the educated: these are the individuals for whom the lifetime earnings of a job in the formal sector are considerable.

Todaro hypothesizes that a migrant's decision will be based on $V(0)$, the discounted present value of the difference between urban expected income and rural income less the costs of migration, that is,

$$V(0) = \int_{t=0}^n [p(t)Y_u(t) - Y_r(t)] e^{-it} dt - C(0) \quad (1)$$

where: $Y_u(t)$ and $Y_r(t)$ are average real incomes of

individuals employed in urban and rural areas at time t ;

n is the number of time periods in the migrant's planning horizon;

i is the migrant's discount rate;

$C(0)$ is the cost of migration;

$p(t)$ is the probability that a migrant will have secured an urban job at average income level in period t .

In this equation, the expected income of a migrant to the city is the product of his chance at getting an urban job ($p(t)$) and the urban income ($Y_u(t)$). The difference between urban and rural incomes is gained by subtracting the expected rural income ($Y_r(t)$). If the migrant is planning for more than one year and the income differential may change over time, one takes the area within the wage differential from year zero to year n , and discounts it by an appropriate rate (i).

On the aggregate level, the migration rate is also assumed to be influenced by the probability that migrants will be able to get modern sector jobs, by the urban-rural income differential, and by other factors that include the social amenities and psychic costs shown in Figure 2.

Holding the wage differential and "other" factors constant, the rate of migration is a function of the employment rate, and the rate of increase in the urban labor force is:

$$\frac{\dot{L}_u}{L_u} = r + \frac{L_r}{L_u} f\left(\frac{E_u}{L_u}\right) \quad (2)$$

where: L_u and L_r are the urban labor force and rural labor force;

r is the rate of natural increase of the urban labor force;

\dot{L}_u is the time derivative of L_u ;

$\frac{E_u}{L_u}$ is the employment rate.

Under this model, urban unemployment can exist at equilibrium, and a rough approximation of the unemployment rate will be:

$$1 - \frac{W_R}{W} = - \frac{E_U}{L_U}$$

where: W_R and W_U are rural and urban (formal sector) wage rates.

Thus, the higher the difference between rural and urban formal sector wages, the higher the rate of urban unemployment.

Paradoxically, under this model, government interventions to reduce the rate of urban unemployment can be the unintended effect of increasing rural-urban migration. Where η_p , the period-elasticity of induced migration with respect to changes in probability of getting a modern sector job, is above one of two threshold values; creating more modern sector jobs will increase the overall level of urban unemployment. That is,

$$\text{where: } \eta_p > g \frac{E_U}{M} \text{ or } \eta_p > g \frac{L_U}{M}$$

where: g is the rate of urban employment growth before intervention;

E_U is the level of urban employment before intervention;

M is the existing rural-urban migration (in absolute numbers);

and other variables are defined as above.

Rough calculations given in Table 9 show that the threshold values for sample countries are low enough that efforts to create jobs will exacerbate rural-urban migration unless relative wage levels are changed. One major problem with both this threshold test and with the probability term for finding employment in equation (1) above has been that both neglect job turnover (Squire 1979:61)

TABLE 9: SOME ILLUSTRATIVE ROUGH ESTIMATES OF "THRESHOLD" MIGRATION ELASTICITY COEFFICIENTS WITH RESPECT TO URBAN JOB CREATION, SELECTED DEVELOPING COUNTRIES, 1970

	$\frac{g}{(1)}$	$\frac{E_u}{M}$ (2)	$\hat{\eta}_p$ (Col.(1) x Col.(2) (3)	$\hat{\eta}_p^*$ $\left(\text{Col.}(3) \times \frac{L_u}{E_u} \right)$ (4)
Africa				
Ghana	0.05	6.0	0.30	0.45
Kenya	0.04	8.7	0.348	0.47
Nigeria	0.035	9.0	0.315	0.47
Tanzania	0.03	7.0	0.21	0.25
Uganda	0.02	5.3	0.106	0.13
Zambia	0.04	10.0	0.40	0.58
Asia				
Republic of Korea	0.06	8.8	0.528	0.59
Malaysia (West)	0.07	9.2	0.644	0.82
Sri Lanka	0.05	9.7	0.485	0.71
Latin America				
Brazil	0.05	10.3	0.505	0.60
Chile	0.04	17.8	0.712	0.84
Colombia	0.04	11.5	0.460	0.59
Guatemala	0.02	8.0	0.160	0.23
Mexico	0.05	12.5	0.615	0.76
Peru	0.03	16.0	0.480	0.62

Source: Todaro 1976.

The Harris-Todaro model has inspired considerable criticism since its publication, and there have been numerous efforts to modify it to take into account factors like the heterogeneity of the labor force, informal and intermediate wage sectors where wages are more flexible, and sharing of urban wages (Todaro 1976:38-46). There have also been efforts to test the model empirically (summarized in Findley 1977:12; Simmons, Diaz-Briquets and Laquian 1977:22-23; Ware 1978:85) both in East and West Africa. Many of these efforts have not been conclusive, in part due to deficiencies in the data--particularly use of lifetime migration data instead of yearly migration rates, lack of income and employment data in censuses.

One of the most important modifications of the Todaro model for use in West Africa comes from work by Steel and Takagi (1981) on the place of small-scale enterprises (SSE's) in the urban economy. These authors distinguish between the informal sector, where barriers to entry are negligible, and where there is often considerable overcrowding and consequently low productivity, and the intermediate sector, where there are requirements for capital, but where entrepreneurs seldom have access to officially subsidized investment credit. Formal sector enterprises are required to pay the minimum wage, while informal and intermediate enterprises usually escape enforcement. The result is that wages for unskilled workers in large-scale enterprises are roughly 50% more than wages for unskilled workers in intermediate sector enterprises (Page 1979:26) and intermediate sector wages are far closer to the market rate than are formal sector wages. The expected income from the informal, intermediate and formal sectors can be estimated from average income levels for each sector and from the probability of a person in each sector getting a formal sector job, as for the two-sector Todaro model.

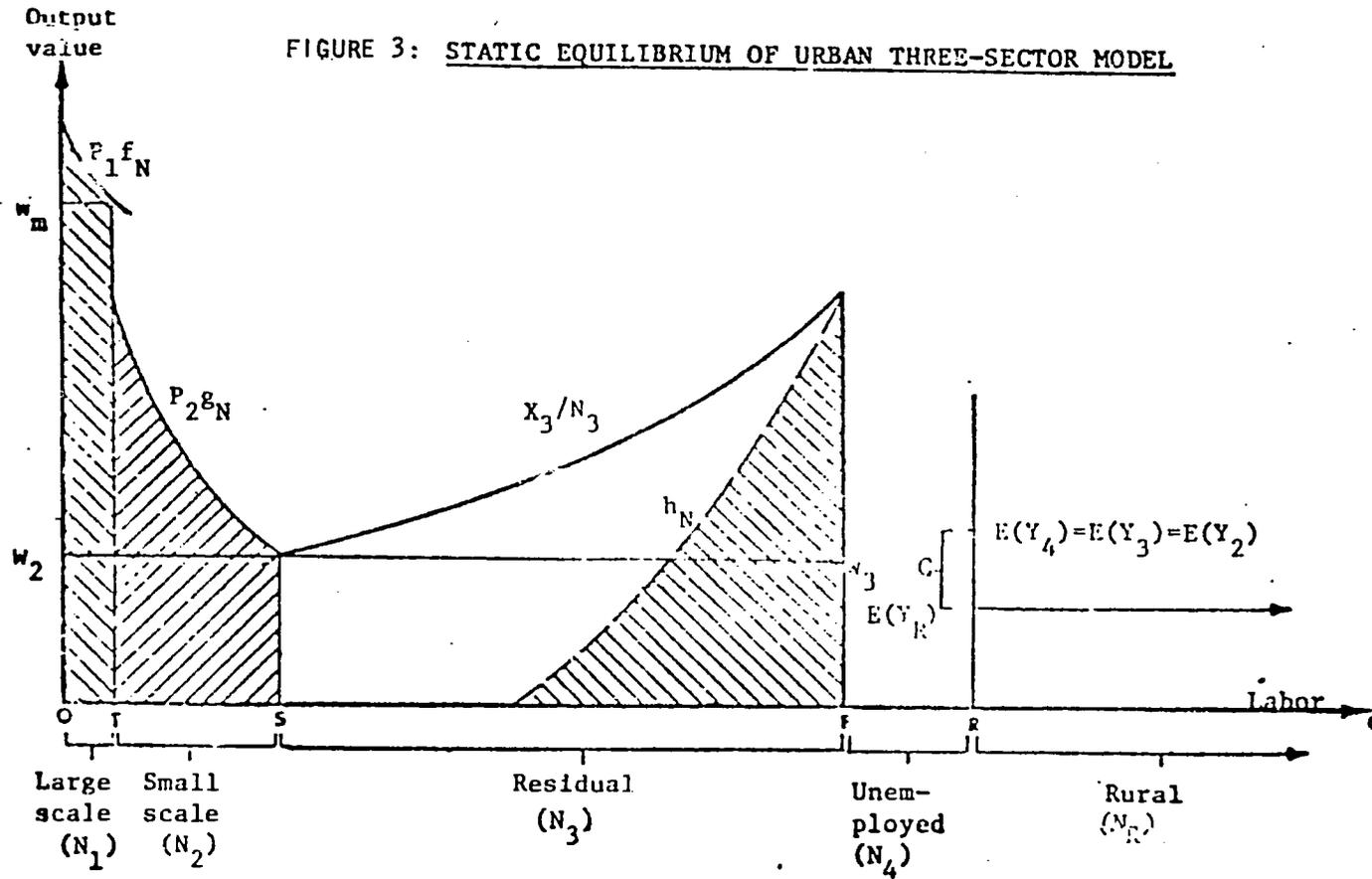
Figure 3 shows the three-sector model in equilibrium. The model assumes that the informal sector is so overcrowded that the marginal product of labor is zero. At equilibrium, the expected value of income for workers in the formal sector $E(Y_1)$ will be w_m , while the expected value of income for workers in other sectors will be equal and lower:

$$E(Y_1) > E(Y_2) = E(Y_3) = E(Y_4)$$

The expected value of income for workers in the small-scale informal, and unemployed sectors is comprised of two parts--the wage being earned currently, and the wage that would be earned in the formal sector (w_m) weighted by the probability of getting a job in the formal sector. It is assumed that the unemployed have a higher probability of getting a formal sector job than those working in the small-scale or informal sectors, because they can devote full-time to the job hunt.

However, increases in employment for different sectors have different effects on expected income. An increase in demand for the products of large-scale enterprises increases that sector's need for labor, and raises the expected income for the unemployed sector ($E(Y_4)$). The large-scale sector takes on workers from the urban unemployed and the residual sector and rural-urban migration starts, continuing until the probability of a migrant finding a modern sector job has fallen to its former level. At that point, the residual sector and the number of unemployed have also reached their former levels. Where an increase in resources allocated to large-scale enterprises reduces the resources available to small-scale enterprises, output and employment in the intermediate sector will shrink (Steele and Tagaki 1981:12). The only ways to prevent the migration response to increase formal sector employment would be through lowering wages in the formal sector or by

FIGURE 3: STATIC EQUILIBRIUM OF URBAN THREE-SECTOR MODEL



Production: Large-scale $X_1 = f(N_1, K_1, T_1)$
 Small-scale (intermediate) $X_2 = g(N_2, K_2, T_2)$
 Residual (informal) $X_3 = h(N_3, T_3)$

Sectors: 1 - large-scale
 2 - small-scale
 3 - residual/informal
 4 - unemployment

U - urban
 X - production
 N - employment
 K - capital
 P - price of output

w - wage rate
 T - technology
 w_m - minimum wage
 w_r - rural wage

Wage: Large-scale - $P_1 f_N = w_1 - w_m$
 Small-scale - $w_2 = P_2 g_N$
 Residual - $w_3 = P_3 (X_3/N_3)$

Note: Shaded areas represent total output.
 Source: Steel and Tagaki 1981.

restricting migration--neither policy is likely to be popular.

Under this model, as under the Harris-Todaro model, it is the large differential between expected income in the modern sector and expected income in rural areas that induces rural-urban migration. An increase in demand for the products of the intermediate sector would increase employment and wages in that sector and cause workers to shift from unemployment and the informal sector to the intermediate sector without much effect on the rural-urban gap in expected income.^{1/} The wages of the informal sector would rise briefly and then return to their former level as workers shifted in from unemployment. Thus, policies that increase demand for SSE's have the potential to decrease urban unemployment without inducing rural-urban migration.

Two sorts of arguments have commonly been used against policies favoring small-scale enterprises. The first concerned the capital productivity of small firms: if small-scale enterprises produced less output per unit of capital than large-scale enterprises, there was a trade-off between maximizing total employment and maximizing total output. The second concerned the substitutibility of intermediate sector products for those of the formal sector. Here there were two arguments: first, that goods produced in rural areas were inferior goods with negative income elasticity (in English, as incomes rose, demand for these goods could be expected to decline), and that in urban areas, the "demonstration effect" of modern sector products would be too strong to allow substitution by intermediate sector goods.

^{1/} If we assume migrants respond only to formal sector opportunity, then there would be no increase. If we assume they respond to the average urban income, there would be some slight increase, but far less than in response to an increase in modern sector employment.

However, investigations in West Africa have shown first, that small-scale enterprises often generate more output per unit of capital than large-scale enterprises (Liedholm and Chuta 1976:106). Studies of rural consumers have shown that the products of rural SSE's have positive (rather than negative) income elasticities. For urban areas, the degree of substitutability between modern sector and SSE goods depends in part on how heavily quality is weighted; it is certainly the case the SSE goods fill needs of lower income segments of the population, even where quality is discernibly inferior (Steel and Takagi 1981:3). Thus, the major arguments against investment in SSE's seem fairly weak.

Quantitative Studies of Migration

Todaro (1976:67ff) and Simmon et al. (1977) review recent quantitative studies of migration in West Africa and elsewhere. Most of the recent studies we have are cross-sectional, and the majority at the macro level try to explain migration rates from origin i to destination j in terms of wage or income levels in i and j , unemployment rates in i and j , and other characteristics of the origin or destination areas. A smaller number of studies at the micro level try to predict the probability that an individual will migrate from the individual's demographic and socio-economic characteristics (see, for example, Example 3 in Table 10, or Stier, 1981). Table 10 summarizes two recent West African migration studies, and Table 11 summarizes three from East Africa.

Some of the best West African data we have come from Byerlee et al's (1976) study of migration in Sierra Leone between 1970 and 1975. For rural-urban migration, the investigators first analyzed the

TABLE 10: SELECTED MIGRATION MODELS FROM WEST AFRICA

1. Rural-urban migration in Sierra Leone, 1970-75 (Byerlee et al. 1976)

Dependent variable: Male migrants migrating from origin i to destination j per thousand rural population in i .

Migrant: Person who had crossed a chiefdom boundary or moved to an urban area within that chiefdom for at least 6 months. (Rural-urban migrants only.)

Data source: Sample Survey conducted by Michigan State University 1974-75 (retrospective-rates are for past five years).

	<u>Uneducated</u>	<u>Educated</u>	<u>Pooled</u>
Constant (b_0)	-.054 (0.379)	-1.834 (0.834)	-.045 (0.801)
Average daily agricultural wage of adult males in rural region i (W_i)	-.104 (0.591)	-.136 (0.105)	-.120 (0.806)
Expected wage (taking unemployment into account) for k th educational cohort of migrants in j th urban center (Y_{jk})	.007* (3.760)	.075* (1.682)	.007 (0.100)
Population size of the j th urban area (P_j)	.001* (4.676)	.005 (1.404)	.001 (0.038)
Road distance in miles between main center of rural region i to urban center j (D_{ij})	-.002* (3.818)	-.010* (3.199)	-.002 (0.047)
Interaction - expected wage and education ($Y_{jk}E$)	-	-	0.068* (1.936)
Interaction - population of urban area and education (P_jE)	-	-	.004 (1.307)
Interaction - distance and education ($D_{ij}E$)	-	-	.008* (2.660)
Education (E)	-	-	-1.799 (1.154)
R^2	.494	.478	.592
Sample size			800+

* Statistically significant at .05 level.

t-statistics are shown in parentheses. These test the hypothesis that the associated partial regression coefficient is zero - that is, that the independent variable (agricultural wage, for example) has no effect on the dependent variable (male migration rate).

Table 10: Selected Migration Models from
West Africa (continued)

2. Rural-rural migration in Sierra Leone 1970-75 (Byerlee et al. 1976) estimated from outmigration rates

Dependent variable, migrant definition, and data source as above.

Constant	0.102 (1.153)
Daily agricultural wages in origin area (W_1)	-0.190 (1.671)
Daily agricultural wages in destination area (W_j)	0.164* (2.195)
Population of destination (P_j)	0.0002 (1.821)
Distance (D_{ij})	-0.0007* (2.417)
Dummy code - dominant ethnic group in origin and desti- nation areas (=1 if groups identical; 0 otherwise) (T_{ij})	0.0325 (.9207)
R^2	.569

3. Rural-urban migration in Western Nigeria 1971-2 (Essang and Mabzwonkus 1974).

Dependent variable: Percent family members who had migrated to urban areas and were resident in urban areas at time of survey,

Data source: Survey of 180 rural households by researchers.

Constant	-15.525* (-2.384)
Mean age of household members (X_1)	61.804* (6.522)
Mean years education for rural- urban migrants (X_2)	1.758* (5.140)

* Statistically significant at .05 level.

Table 10: Selected Migration Models from West Africa (continued)

Distance from area of origin to area of destination (X_3)	-0.054* (-3.034)
Earnings differential: expected urban income minus per capita net farm income of household (X_4)	2.970* (4.015)
Availability of relatives in urban area (X_5)	3.717* (2.116)
Index of urban attractiveness (X_6)	0.631 (1.171)
Sample Size	180
R ²	.841

4. Migration in Ivory Coast (Fargue 1981) to the city of Abidjan.

Dependent variable: The probability of moving from origin i to Abidjan $p(o,r) \times 10^{10}$.

Data source: 1975 census.

Constant	3402
<u>Variables</u>	partial correlation coefficients
School attendance in department of origin (S_i)	+ 7.93
Average farm income in origin i	0.94
Percent workers in primary sector in origin i	-22.71
Percent urban population in origin i	- 1.88
Distance from dept. i to Abidjan	- 0.49
Density of population in dept. i	- 0.58
Crude employment rate (taux brut activite i)	- 8.35
R ²	.793

* Statistically significant at .05 level.

Table 10: Selected Migration Models from West Africa (continued)

5. Migration in Western Nigeria (McDevitt 1977).

Dependent variable: Propensity to move, an index.

Data source: 1974 Survey - 120 respondents used for analysis reported here.

<u>Variable</u>		<u>r</u>
<u>Primary Education (ED₁)</u>		
Direct effect	+.172	
Indirect effect through Y _R	-.056	
Indirect effect through Y _U and YD	-.023	
Indirect effect through Y _R and YD	+.032	
Total of direct and indirect effects	+.124	
Joint effects	-.052	+.072
<u>Secondary Education (ED₂)</u>		
Direct effect	+.173	
Indirect effect through Y ₂	.000	
Indirect effect through Y _U and YD	+.038	
Indirect effect through Y _R and YD	.000	
Total of direct and indirect effects	+.211	
Joint effects	+.085	+.296 ^S
<u>Age</u>		
Direct effect	-.210	
Indirect effect through PR	.000	
Total of direct and indirect effects	-.210	
Joint effects	-.199	-.409 ^S
<u>Occupation-Businessman (O_B)</u>		
Direct effect	.000	
Indirect effect through Y _R	-.034	
Indirect effect through Y _U and YD	+.037	
Indirect effect through Y _R and YD	+.019	
Total of direct and indirect effects	+.022	
Joint effects	-.002	+.020
<u>Occupation-Wage-Earner (O_W)</u>		
Direct effect	.000	
Indirect effect through Y _R	+.037	
Indirect effect through Y _U and YD	+.044	
Indirect effect through Y _R and YD	-.021	
Total of direct and indirect effects	+.060	
Joint effects	+.310	+.370 ^S

Table 10: Selected Migration Models from
West Africa (continued)

<u>Variable</u>		<u>r</u>
<u>Urban Income (Y_U)</u>		
Direct effect	.000	
Indirect effect through YD	+.166	
Total of direct and indirect effects	+.166	
Joint effects	+.126	+.292*
<u>Rural Income (Y_R)</u>		
Direct effect	+.165	
Indirect effect through YD	-.093	
Total of direct and indirect effects	+.072	
Joint effects	+.002	+.074

* Statistically significant at .05 level.

following model separately for educated and for uneducated male migrants:

$$m_{ijk} = b_0 - b_1W_i + b_2Y_{jk} + b_3P_j - b_4D_{ij} + e$$

where: m_{ijk} is the gross rate of migration of educational cohort k from origin i to destination j

e is the error term

other terms are defined in Table 10, Part 1.

The model is saying that the gross rate of migration from origin i to destination j can be given as the sum of a regression constant (b_0), wages at the origin (W_i), the expected wage at the destination (Y_{jk}), the site of the destination area (P_j) [a rough gauge of amenities in area j] and the distance from origin to destination (D_{ij}) [a proxy for the cost of moving]. Table 10 gives the partial regression coefficients (b_1 , b_2 , etc.) for each independent variable in the equation. The t -statistic for each partial regression coefficient appears below it in parentheses; those coefficients that are significant at the .05 level have an asterisk.

In the last section, we saw that Todaro's model was based mostly on the expected income in rural and urban areas and on the cost of migration. In the Sierra Leone data, we see that the effect of the average daily agricultural wage (W_i) on rural-urban migration is negative (as expected), but not significant at the .05 level. A 1% increase in rural wages would reduce migration of the uneducated by 0.40% and of the education by roughly 0.07%. The effect of the expected wage (Y_{ij}) in urban areas, which takes into account the unemployment rate and urban wage levels, is positive and statistically significant.

In other runs, not shown on the table, the investigators tested the effect of the urban wage rate and unemployment levels separately, controlling before for urban population size and distance. They found that the effect of the urban wage rate alone was positive and significant, and that it varied between educated and uneducated migrants. A 1% increase in urban wages brings with it a 2.34% increase in migration of uneducated persons and a 4.75% increase in the migration of the educated. The effect of urban unemployment rates on migration, however, was not statistically significant. A profile of the urban unemployed may explain the lack of effect: the largest group were young, educated males, many of whom had come to Freetown several years earlier to attend school, and were now seeking their first job (Byerlee et al 1976:76). In general, educated migrants to Freetown resides in households with above average income, and the average employed migrant was devoting 17% of his income to support relatives attending school or job hunting.

The population size of the urban area (P_j) serves as a proxy for two variables: the size and diversity of the labor market, and urban amenities. When used in the model with urban wages and unemployment (separated), the effect of urban size was significant and positive. The effect of distance (D_{ij}) serves as a proxy for the cost of migration; it is negative and significant for both educated and uneducated migrants.

In the analysis so far, we have seen several cases where the effect of a variable differed between educated and uneducated migrants. One way to judge the importance of these differences is to pool the two samples and to look at the interaction between educational level (E) and the explanatory variables used above, that is, the extent to which

the effect of the explanatory variable depends on education. The interaction terms are significant for expected urban wage and for distance; that is, migration of the educated responds significantly more to an increase in expected urban wage than migration of the uneducated, and migration of the uneducated is more strongly affected by an increase in distance than migration of the educated. Both these interactions may be due to educated migrants having better information on urban opportunities than the uneducated.

Part 2 of Table 10 shows the model for rural-rural migration in Sierra Leone, for a pooled sample of educated and uneducated migrants. Only wages in the destination area and distance had significant effects on the gross migration rates. Under this model, a 1% increase in wages in the origin area would be expected to reduce out-migration by 2.7%. The effect on rural-urban migration ranged from 0.07 to 0.40%. Thus, rural-rural migration is far more affected by wages in the area of origin than rural-urban migration.

The third part of Table 10 summarizes a household-level study of the factors affecting household members' migration to urban areas. We see that the proportion of members in urban areas increases with the mean age of household members (X_1) and with the mean years education for migrants (X_2), and that increasing distance lowered the predicted percent of family members migrating (as in most other studies). The effect of all these variables was significant at the .05 level. Having relatives already resident in an urban area significantly increased the probability that household members would migrate. The effect of "urban attractiveness" (X_6), however, is not significant.

The variable called "learning differential" (X_4) includes the effects of a large number of variables: urban unemployment rates,

unskilled and semi-skilled urban earnings in the modern sector (intermediate and informal sector activities are not included), and per capita farm income net of production expenses. It is possible that this earnings differential underestimates the expected urban income of educated migrants. It is also unfortunate that the investigators give no data on the separate effects of the three variables and on the statistical significance of the separate partial regression coefficients. To use the combined variables assumes, for example, that the effect of raising rural per capital income by one unit will be the same as the effect of lowering modern sector wages by one unit, but we have seen that in Sierra Leone the effects differed greatly in size.

Recent analysis of the 1975 (Fargues 1981:112-114) Ivory Coast census data on migration to the city of Abidjan shows the effects characteristics of the departments of origin have on the probability of migrating. By far the strongest effect came from school attendance in the area of origin; alone it explained 63% of the observed variation. The next largest positive effect was agricultural income, which is a little surprising. From Todaro's argument, one would expect that increasing agricultural income would reduce the rural-urban wage differential, and therefore decrease migration to urban areas. The percentage of workers in the primary sector and the percentage of population in urban areas are both rough indexes of the level of development of the areas of origin. The lower the first and the higher the second, the greater the probability of migration toward Abidjan. Although no data are available on whether in-migrants come from rural or urban parts of each department, it is possible that rates of migration from secondary urban areas are higher than from rural regions.

Distance decreased the probability of migrating.

Where variables are interrelated, as in Fargues' study, it can be difficult to sort out the relationships among them. For example, is distance from Abidjan a deterrent in itself, or can most of its effect be explained by the lower rates of school attendance and lower levels of income in the northern departments? Path analysis is one way to answer this kind of question for a given causal scheme.

A more recent study of Yoruba migrants in Western Nigeria by McDevitt (1977) tried to improve on the way expected rural and urban incomes were measured, and to use path analysis to be able to separate direct and indirect effects of variables.

One of the most important points McDevitt questioned was the aptness of probabilistic income models for many classes of migrants. The Todaro model cannot be easily applied to persons who are moving to attend school or to become apprentices, and it cannot easily be applied to young men whose expected rural income is extremely low because they are working for older relatives (McDevitt 1977:329). Another problem was that many respondents were unable or unwilling to guess or to predict what present or future urban income would be if they moved. More than a quarter could not guess at a salary at some initial urban job; 40% could not say what salary they might be earning after five years; and 18% could not name a job they might hold initially or at the end of five years. In all, only about 54% of adult male respondents made complete estimates of expected urban income, taking into account the initial length of unemployment (McDevitt 1977:251). Those who could not or would not speculate about urban income tended to be older than the average and less educated, were less likely to have lived outside the village previously, less likely to have siblings

living outside the village, and less likely to having siblings living in towns in Nigeria. (Not surprisingly, they also tended to have low propensities to move.)

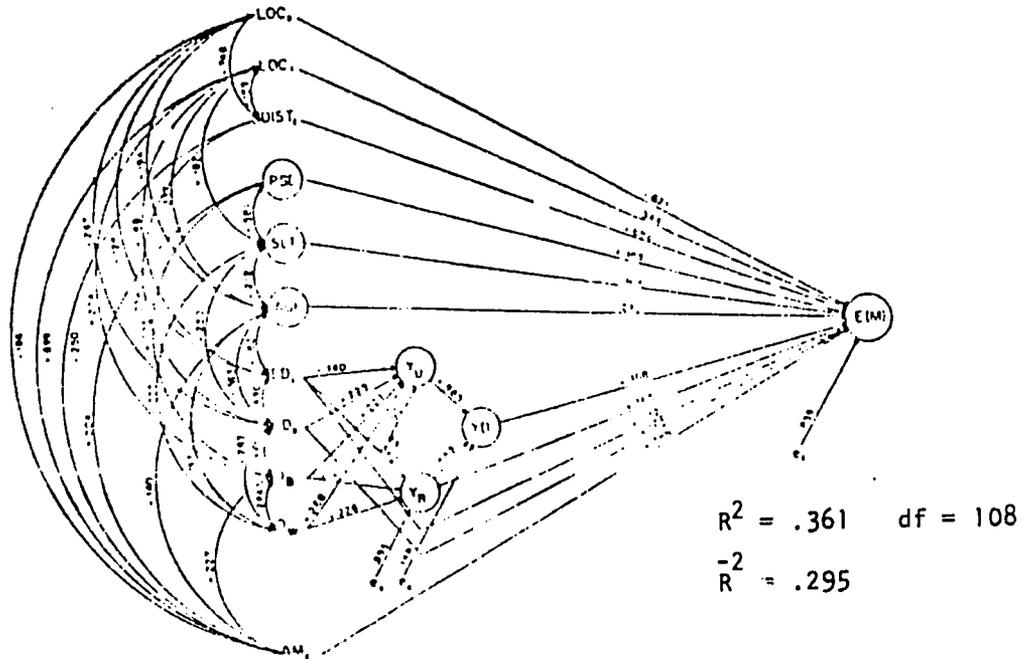
McDevitt dealt with the problem by restricting his analysis to those respondents ($n = 120$) who were able to estimate all the components of expected urban income. However, a model applicable to only 54% of the study population has obvious shortcomings. There have been other reports of sub-populations even in developed countries who either cannot make rough cost-benefit calculations or decline to do so. It seems clear that models like Todaro's do not seem to approximate what goes on in these peoples' heads, and it is not clear what other sort of model would give more accurate representations.

Figure 4 shows the probabilistic income differential model tested by McDevitt. Path analysis^{1/} was used in both models to clarify the measured relationships among variables. Path analysis is basically a way to test a causal scheme the investigator has already formulated.

The equations below the model give the model as the researcher specified it initially. In this model, McDevitt postulates that three endogenous variables, lifestyle preference, rural income, and the differential between rural and urban income, along with a host of exogenous variables, influence propensity to move. The equations below the diagram show the model as first proposed. The variables whose partial regression coefficients differed from zero at the .20 level are indicated with an asterisk. All other variables were dropped from the analysis, and are not shown in the diagram.

^{1/} For a discussion of path analysis, see Namboodiri, Carter, and Blalock 1975. To use path analysis, it is necessary to assume that all relationships among variables be linear, additive, and causal. Path analysis also requires that models be recursive: that is, that they not have feedback or reciprocal effects.

FIGURE 4: RECURSIVE MODEL OF RURAL INCOME, URBAN INCOME, INCOME DIFFERENTIAL, AND PROPENSITY TO MOVE



$$E(M) = b_0 + b_1 AGE^* + b_2 ED_1^* + b_3 ED_2^* + b_4 AGE_2 \times ED_1 + b_5 AGE_2 \times ED_2$$

$$+ b_6 DEP + b_7 PR + b_8 ASUR + b_9 PSE^* + b_{10} SLT^*$$

$$+ b_{11} DIST_1^* + b_{12} DIST_2 + b_{13} LOC_1^* + b_{14} LOC_2^* + b_{15} AM_1$$

$$+ b_{16} AM_2^* + b_{17} R_0 + b_{18} R_1 + b_{19} YD^* + b_{20} Y_R^* + \epsilon_{1.1}$$

$$Y_U = b_{21} + b_{22} AGE + b_{23} ED_1^* + b_{24} ED_2^* + b_{25} O_B^* + b_{26} O_W^* + \epsilon_{2.1}$$

$$Y_R = b_{27} + b_{28} AGE + b_{29} ED_1^* + b_{30} ED_2 + b_{31} O_B^* + b_{32} O_W^* + \epsilon_{3.1}$$

$$PR = b_{33} + b_{34} AGE + b_{35} ED_1 + b_{36} ED_2 + b_{37} AGE_2 \times ED_1 + b_{38} AGE_2 \times ED_2$$

$$+ b_{39} REL + b_{40} AM_1 + b_{41} AM_2 + b_{42} PMV + \epsilon_{4.1}, \text{ and}$$

$$YD = Y_{U,5} - Y_{R,0} \text{ with no discounting}$$

* denotes variables with partial regression coefficients significant at the .20 level.

Source: McDevitt 1977.

where

- $E(M)^*$ is an index of propensity to move from village to city;
- AGE^* is exact age in years;
- ED_1^* is the first of two education dummy variables. ED_1 takes a value of 1 for respondents who have attended primary school and 0 otherwise;
- ED_2^* is a secondary/post-secondary education dummy. Excluded are: those with no education;
- $AGE_2 \times ED_1$ is an interaction term, taking a value of 1 for respondents ages 25-45 with some primary schooling, and 0 otherwise;
- $AGE_2 \times ED_2$ is an interaction term, taking a value of 1 for respondents ages 25-45 with some secondary or post-secondary schooling, and 0 otherwise;
- R_0 is a transfers dummy indicating help given to others. Excluded: none reported;
- R_i is a transfers dummy indicating help received from others
- DEP is number of dependents the potential migrant would have to support if he were to move to town, regardless of their residence;
- PR is a lifestyle preferences dummy. Excluded: preference for rural lifestyle;
- $A\&UH$ is a dummy indicating whether respondent could rely on senior relatives in an urban destination for help in securing work. Excluded: respondent could not expect significant help from urban-resident senior relatives;
- PSE^* is proportion of maternal siblings living outside Survey village;
- SLT^* is a dummy variable indicating whether one or more of respondent's maternal siblings lives in a large town or city. Excluded: no siblings living in a large town or city;
- $DIST_1^*$ is one of two dummies indicating distance of village from Ibadan. Inner ring includes four villages located less than twenty miles from Ibadan;
- $DIST_2$ is a second group of four villages lying between 21 and 45 miles from Ibadan. Excluded are: two villages located over 45 miles from Ibadan;

* Denotes variables with partial regression coefficients significant at the .20 level.

+ Dummy variables are a way to incorporate categorical variables into regression equation. A variable with n categories is incorporated by n-1 dummy variables scored zero or one.

- LOC₁* is one of two dummies representing location of village with respect to a tarred road. LOC₁ is location of village on a tarred road;
- LOC₂* is location of village less than one mile from a tarred road. Excluded are: villages located more than one mile from a tarred road;
- AM₁ is the first of two village amenity dummies, representing two villages with pipe borne water and/or electricity;
- AM₂* is the second of two village amenity dummies. Excluded are: 5 villages with few or no amenities;
- YD* is expected rural-urban income differential, or the difference between the present values of urban and rural incomes;
- Y_R* is rural income at time of survey, i.e., Y_{R,0};
- Y_U* is expected urban income at year 5, i.e., Y_{U, +5}, or simply, Y_{U,5};
- O_B* is one of two occupation dummies. O_B includes respondents whose primary occupation is a business;
- O_W* is a second occupation dummy. It assumes a value of 1 for respondents whose primary occupation is a wage job. Excluded: farmers;
- PMV is a dummy variable indicating one or more past moves. Excluded: Survey village is birthplace;
- REL is a religion dummy, taking a value of 1 for those who are Christian. Excluded are: Muslim, traditional/animist, no religion;
- e_{1.1-24.1} are stochastic error terms.

* Denotes variables with partial regression coefficients significant at the .20 level.

The model proposes that age (AGE), education (ED_1 and ED_2) and occupation (O_B and O_W) influence present rural income (Y_R) and expected urban income (Y_U), which in turn determine the income differential (Y_D here given in a simple form--the difference between expected urban income after 5 years and present rural income). The model then hypothesizes that age, education, occupation, the interaction of age and education ($AGE_i \times ED_j$), the number of dependents (DEP), lifestyle preference (PR), the relatives the individual has who are living outside the village and in urban locations ($A\&UH$, PSE , SLT), access to transport ($DIST_i$ and LOC_i), village infrastructure (AM_i), rural income (Y_R), income differential (Y_D), past moves (PMV), and religion (REL), plus disturbance terms, influence the propensity of the individual to move ($E(M)$). The regression runs showed that not all the variables specified in the model had partial regression coefficients that differed significantly from zero at the .20 level; those variables were dropped from the model and the regressions were calculated a second time.

The curved, double headed arrows at the left of the diagram denote relationships among independent variables that have little interest in the analysis; the numbers denote correlation coefficients. The straight, single-headed arrows denote causal relationships specified in the model, and the numbers on each arrow show the standardized partial regression coefficients, also called path coefficients. These show the proportion of the standard deviation of the dependent variable which is attributable to the independent variable after the effects of all other variables in the equation have been removed.

Part 4 of Table 10 shows an analysis of the effects of selected variables in the model. The simple correlation coefficient of each

variable with propensity to move ($E(M)$), or r , can be broken down into a direct effect (the path coefficient), an indirect effect through endogenous variables in the model, and joint effects through other exogenous variables. The variables that have the largest direct effects on expectation of moving are the locational and environmental variables such as distance from Ibadan, location with respect to a paved road, and village amenities.

The variables dealing with background--age and education--also had fairly large direct effects. In the case of respondents who attended primary school only, the direct effect of education is relatively large and positive, but is partially cancelled out by negative indirect effects through present rural income (Y_R) through expected urban income and income differential (Y_U and Y_D), and through unspecified relationships with other independent variables. In the case of respondents who completed secondary school, the direct effect of education is large, and indirect effects are negligible. The implication is that the reason the educated are more likely to migrate is not that their expected urban wage is higher (although it is), but through some other means, possibly because they are more likely to be hired than the uneducated. The lifestyle preference variable (PR) has been included in the model to test the hypothesis that the reason educated people were more likely to migrate was that they had urban tastes, but its effect on propensity to move was not significant, and so it was eliminated.

The income variables, Y_D and Y_R , both have reasonably large direct effects on propensity to migrate, but they are by no means the most important single determinants. The sign of the Y_R direct effect of rural income, is interesting, because Todaro's model predicts that the

effect would be negative, since rural income enters only as a term in McDevitt's model under the income differential. When the model controls for expected income differentials, etc., well-off rural denizens are more likely to migrate than poor ones. Thus, at the individual level and at the regional level, increasing rural income seems also to increase rural-urban migration.

The three East African studies summarized in Table 11 show some similarities to those discussed for West Africa. The first two studies aim to predict regional migration rates. In both, the effect of increases in urban wages on migration is larger than the effect of rural income in the area of origin (Todaro 1976:71). The Tanzanian study also found that the effect of a given percentage change in urban wage levels on migration was about twice as great as the effect of the same percentage change in employment. All these findings accord well with the data from Sierra Leone.

One problem with using these studies to confirm or disprove Todaro's formulation has been that urban and rural incomes are hard to measure accurately. It is almost impossible to get accurate income estimates in a single interview; census data on income are scanty; and several authors (Todaro 1976:57; Byerlee et al 1976) recommend that migration studies be combined with farm management surveys or household budget studies wherever possible (as in Sierra Leone).

The studies we have discussed for West and East Africa show that either wage levels in the destination area or expected income (that is, wage levels taking into account the probability of being employed) are important in explaining migration rates. However, only the study from Tanzania showed that expected urban income worked significantly

TABLE 11: SELECTED MIGRATION MODELS FROM EAST AFRICA

1. Rural-urban migration in Tanzania, 1955-71

Dependent Variable: Male migrants by age and education categories in urban area j who came from origin region i as a proportion of the comparable population in origin i .

Migrant: Person in town j in 1971 who was born in the countryside and who moved to town after the age of 13 years.

Functional Form : Linear.

Data Source : Migration from the 1971 national urban mobility, employment and income survey; population from population census.

<u>Variables</u>	<u>Regression coefficients (t-statistics in parentheses)</u>
Constant	0.11 (0.3)
Value of urban wage stream, undiscounted, by age-education group (using mean time of arrival for the age-education group)	0.0024 (4.0)
Value of rural per head income stream, undiscounted (monetary and subsistence income included)	-0.0070 (1.1)
Job openings in four-month job-search period as a proportion of number unemployed, by mean time of arrival	0.666 (4.1)
Average urban population in urban area j	0.023 (5.8)
Weighted average linear distance between receiving towns and sending regional centres	-0.0077 (2.1)
\bar{R}^2	0.55
Number of observations	108

Table 11: Selected Migration Models from East Africa (continued)

2. Rural-urban migration in Kenya, 1964-68

Dependent Variable: Male migrants who moved from province i to urban area j in 1964-68, as a proportion of the 1962 urban population multiplied by the rural population i ($M_{ij}/p_i p_j$).

Migrant: Person, age 15-50 years, enumerated in urban area j in 1968 who had moved during 1964-68 period.

Functional Form : Log linear.

Data Source : Migration from a 1968 sample survey of 1,000 urban migrants, conducted by H. Rempel; population from the 1962 population census.

<u>Variables</u>	<u>Regression coefficients</u> <u>(t-statistics in parentheses)</u>
Constant	-44.23 (6.00)
Average male modern sector earnings	6.79 (4.61)
Rural cash income per adult male	-1.15 (2.69)
Secondary school enrolment, 1966, as a proportion of population, 1969:	
Urban town j	0.901 (1.35)
Rural province i	1.083 (2.19)
Road mileage between urban town j and district centre i	-0.429 (1.51)
Potential contacts (ethnic composition or urban area j weighted by ethnic composition in rural province i)	0.69 (2.97)
\bar{R}^2	0.61
F	11.2
Number of observations	39

Source: Todaro 1976:83-87.

better than wage levels or unemployment levels separately. The association we see between migration rate and expected wage in West Africa could be due to wage levels in the destination area alone. We do not yet know that unemployment rates have a significant independent effect on migration rates. Another problem is that under Todaro's hypothesis, the effect of changes in origin-area expected income and in destination-area expected income should be the same, but several of our studies suggest that the effect of expected income at destination on migration is larger than the effect of origin-area income.

On the Employment Context of Migration

In general, large-scale studies of migration that have concentrated on explaining interregional migration rates have produced findings with more relevance to policy than have micro-level studies that predicted individual or household propensity to move. Todaro's model was also formulated at this level--to explain aggregate rural-urban migration rates--and using the model to explain individual behavior has often been difficult. Another question remains: how well the Harris-Todaro model fits West African experience over the last decade.

The way the model is applied encounters several empirical problems in West Africa. First, it gives little emphasis to rapid growth in the labor force and rapid change in labor force composition as contributors to excess labor supply. Second, it implies that all countries set modern sector wages at artificially high levels, and the evidence on whether they do is unclear. Third, the model does not make clear the extent to which new in-migrants form part of the unemployed. Fourthly, it gives us little help in understanding migration to attend school.

A recent study of the problem of employment in economic development suggests that to focus exclusively in institutionally set wages and the migration they induce as a source of excess urban labor supply is to neglect natural increase (the r of equation (2)) and change in the composition of the labor force as contributors to growth. When one compares the industrialization experience of developing countries, 1950-70, with that of developed countries in the first decades of this century, one sees that total population growth was far lower in developed countries during 1900-1920 (0.8% per year) than in developing countries, 1950-70, (2.4% per year), and that the rate of growth of the labor force was also far less rapid in the former (0.9% per year) than in the latter (1.7% per year). (Squire 1979:5-13).

Thus, even though the growth of industrial employment in LDC's over past years has been rapid (3.81% per year, compared with 1.43% per year for developed countries, 1900,1920), the growth in the number of modern sector jobs has not been able to keep pace with the growth in the labor force. This is not because industrial growth has stagnated. Indeed, sectoral value added and sectoral labor productivity both increased greatly between 1960 and 1970. Rather, it is because population growth and the increase in enrollment in primary and secondary schools have meant that a larger and larger number of educated workers have been entering the labor market. Moreover, if present population trends continue, the projected growth rate of the labor force in sub-Saharan Africa will rise from 2.2% per year in 1970-80 to 2.6% per year in 1990-2000. Growth during the same period for developing countries as a whole will decrease from 2.2% to 2.0%.

A second difficulty with applying Todaro's model of rural-urban migration to all West African countries is that wage policies for the

modern sector vary. There is some disagreement about whether all LDC's have wage policies that fix industrial wages artificially high. Squire (1979) divided selected LDC's among "low wage policy" countries (including Ghana), where governments had either allowed the market to function freely or had actively restrained wage demands, and "high wage policy" countries (including Nigeria and much of East Africa) where the government has actively tried to raise wage rates. A 1974 World Bank (1974:11:32) assessment of income data from roughly 1969-72 concluded that the SMIG (Salare Minimum Industriel Garanti) wage scale lay fairly close to wages in the informal sector, and that pricing of labor in the informal sector seemed competitive. However, a recent World Bank assessment (1981:7.2) of sub-Saharan Africa cited high wage rates and low productivity of African workers (as compared to Asian workers) as constraints to industrial development.

The African results of a 1979 survey by the International Labor Organization on modern sector wages are shown in Tables 12a and 12b. Wage rates clearly vary among countries, and the range among occupations also varies. The tables also show consumer price indices, and it is clear that price increases since 1975 have been steep for urban consumers. Indeed, a recent survey of household revenues in Abidjan showed that there had been no real growth in per capita income since 1963: monthly income per capita had been 12,670 CFA in 1963 (expressed in 1977 CFA), while monthly income per capita in 1977 was 12,250 (Republique de Cote d'Ivoire 1978:102). Most heads of household in the same (64.4%) were salaried workers, and the earnings of salaried workers, averaging 63,700 CFA per month, differed very little from the earnings of the 29.3% of the sample who were self-employed.

The inference is that one has to look at wage policy--and the implementation of wage policy--for each country before making

TABLE 12a: MONTHLY ADULT WAGE-LEVELS FOR SELECTED SKILLED AND UNSKILLED OCCUPATIONS
IN SELECTED WEST AFRICAN COUNTRIES, 1979

(In U.S.\$)

<u>Occupation</u>	<u>Cameroon (Yaounde)</u>	<u>Ivory Coast (Abidjan)</u>	<u>Ghana (Greater Accra)</u>	<u>Liberia</u>	<u>Mali</u>	<u>Niger</u>	<u>Senegal</u>	<u>Togo (Lome)</u>
Bakers - ovenmen	82.85	125.31	29.21	144.48	96.18	88.96	115.63	52.92
Textiles - loom fixer	78.58	122.45	47.75	258.72	67.26	88.96	89.77	61.44
Unskilled worker	47.70	92.32	37.56	67.20	29.09	62.88	89.77	37.76
Garage mechanic	126.43	146.25	59.35	-	53.88	88.96	99.32	80.53
Construction - plumber	149.55	136.10	34.78	75.60	51.82	88.96	103.45	80.52
Unskilled	43.98	92.32	33.38	53.76	27.70	62.88	103.45	37.76
Motor truck driver	126.43	126.26	52.85	-	83.46	-	119.82	86.86
Municipal service laborer	43.98	92.32	33.38	-	32.40	62.88	62.92	-
Consumer Prices (100 = 1975)	156.8	192.0	895.3	135.2	-	181.5	132	148.7

Sources: International Labor Organization, Bulletin of Labor Statistics, 1980, No. 2, pp. 104-106.
International Monetary Fund, International Financial Statistics, Volume 33, No. 7, 1980.

TABLE 12b: MANUFACTURING WAGES, ALL INDUSTRIES
FOR SELECTED AFRICAN COUNTRIES

<u>Country</u>	<u>Year</u>	<u>Monthly wage in \$</u>	<u>Consumer price index^{a/}</u>
Kenya	1979	112.29	167.7
Malawi	1978	44.58	120.4
Nigeria	1979	51.24	203.2
Sierra Leone	1979	79.21	179.0
Swaziland	1978	skilled 590.23 unskilled 101.96	172.3
Zambia	1979	Zambians 117.07 Others 596.42	176.5

^{a/} 100 = 1975 Consumer Prices.

Source: International Labor Office Yearbook of Labor Statistics, 1980.

generalizations about the role of institutionally-set wages in fomenting rural-urban migration.

A third question which should be asked is experience of migrants in seeking employment: do they contribute disproportionately to the unemployed? Studies in Latin America and Asia (Squire 1979:59ff; Yap 1977:26) show that 65 to 85% of migrants find employment within a month; a survey in urban areas of Tanzania showed that 80% of migrants had found jobs within three months. Unfortunately, we have no unemployment data for the Ivory Coast, but a comparison of age-specific employment rates showed that in all age groups above age 15, non-Ivorians were more likely to be employed than Ivorians.

Open unemployment in Africa in 1970 has been estimated at 9.6%, compared to 7.4% for LDC's as a group and 2.2% for developed countries. A 1977 survey of three zones of urban Abidjan showed that the proportion of economically active male respondents fifteen and over who were without work varied from 13.3 to 19.1%. The vast majority of the unemployed--60 to 85% depending on zone--were under 25.

Surveys of the unemployed in Asia, the Near East, and Latin America have shown that rates of unemployment tend to be higher for those with primary or secondary education than for the unschooled, as was the case in Freetown, where unemployment among the uneducated was 13%, compared with 16% for the educated. The overwhelming majority (83%) of the educated unemployed were seeking their first job.

Although educated rural residents are more likely to migrate to urban areas than illiterate residents, the overall educational level of persons born in urban areas is usually higher than that of persons born in rural areas. Table 12c shows 1960 and 1970 data for Ghana. Immigrants to Ghana were far less likely to have attended school than

TABLE 12c: INDEX OF EDUCATIONAL ATTAINMENT OF MALE ADULT
MIGRANTS AND NON-MIGRANTS BY URBAN-RURAL
NATURE OF BIRTHPLACE AND PLACE OF ENUMERATION
1960 AND 1970

<u>Migrant Status</u>	<u>Index of Educational Attainment</u>	
	<u>1960</u>	<u>1970</u>
1. Rural-born Non-Migrants	1.55	2.51 ^{a/}
2. Rural-born Migrants	2.67	2.66
Rural-Rural Migrants	2.02	2.51
Rural-Urban Migrants	4.31	3.10
3. Urban-born Non-Migrants	3.91	a/
4. Urban-born Migrants	4.02	4.91
Urban-Rural Migrants	2.96	5.28
Urban-Urban Migrants	5.09	4.67

a/ Includes urban-born non-migrants.

Source: Zachariah and Nair 1980.

persons born in Ghana in both 1960 and 1970 (Zachariah and Nair 1980:74). The 1975 differential between likelihood of having attended school for persons born in the Ivory Coast (27.4%) and immigrants to Ivory Coast (11.3%) is even more marked than in Ghana.

In return to our original question, then, the rate of unemployment among migrants as a group seems the same as, or lower than, the unemployment rate of non-migrants. The stereotype of the rural school-leaver who comes to the city to find work finds no clear confirmation in the evidence from censuses. The survey data we have from Freetown show that most of the unemployed school-leavers had attended school in Freetown, and were therefore not new migrants.

This brings us to a fourth problem with the Todaro model: it gives us no help in understanding the very substantial number of migrants who seek additional schooling, rather than immediate employment. Post-primary schools especially day schools tend to be located in urban areas. In Sierra Leone, 26% of rural-urban migrants sought schooling, while 26% were looking for employment. Surveys in Liberia and in Western Nigeria showed about 15% (Hanson 1980:45) of migrants moving to attend school.

To sum up, although the Todaro model has dominated economic research on migration over the last decade, and although it has undergone important modifications, we are still far from having a comprehensive model of migration in any West African setting. Differentials in expected income explain parts of observed variance for adult male migration: we know far less about the migration of women, or of young people seeking education. Another problem is that the models explain only a part of each person's migration history; for example, birthplace and current residence. Ideally, a migration study would seek to

record and predict an individual's whole residential history. Some such studies have been carried out for larger populations in countries with good registry systems (Ginsberg 1978a, 1978b) but the models needed to make sense of such data are hard to work with, especially in very heterogeneous populations. Simpler methods can shed some light on retrospective residence histories for very small populations (Stier 1981), but the work is time-consuming. Ultimately, however, stochastic models of residential change may enable us to get a more dynamic picture of migration than is now possible.

MIGRATION CURRENTS: THEIR SIZE AND COMPOSITION

International Migration

Most of the data we have on international migration in West Africa refer to birthplace and to country of nationality. Since these are data on life-time migration, they reflect several past trends as well as present ones. The principal migration streams as of 1975 are shown in Figure 5 and Tables 13, 14 and 15: the most important are from Upper Volta to Ghana and the Ivory Coast, from Togo to Ghana, and from Mali to Senegal and the Ivory Coast. Guinea has also sent out large numbers of emigrants to Senegal and to the Ivory Coast. This section will discuss the distribution of foreign nationals in West Africa, outline the factors influencing migration before and after independence, and briefly discuss the major sending and receiving areas for international migrants.^{1/}

Early colonial emigration to Ghana from Upper Volta was a response to conscription, heavy taxes, civil unrest, and the 1913-14 drought and famine (Conde 1980:9). The volume of emigration was light until 1923, but increased during 1924-32. There was increasing forced recruitment for work in the plantations of Ivory Coast, but Ghana remained the principal destination until 1932. The partitioning of

^{1/} Census data from Nigeria are controversial, and Nigeria was therefore left out of the World Bank's study on migration. Time constraints for this study have not allowed me to review the national-level data, although several small-scale migration studies were included in the last section.

The scanty evidence we have suggests that emigration from Nigeria to other countries in West Africa was small in 1975. Although Nigeria then had over 75 million people (almost twice the total population of the countries discussed here), Nigerians make up about 4% of the foreign-born persons in Table 13. The 1963 census of Nigeria showed only 0.3% foreign nationals (Olusanya, 1975). Average annual growth estimates by the World Bank (1981:176) are 2.5% for 1970-79--slightly less than estimated average annual growth in 1970-79 for sub-Saharan Africa as a whole which does not imply heavy net in-migration since 1960.

Upper Volta among Ivory Coast, Mali, and Niger in 1932 facilitated conscription, and the flow of workers to Ivory Coast increased. Forced labor was officially abolished from 1936-39, but administrative pressure increased the amount of semi-voluntary emigration to the Ivory Coast from roughly 4,000 to around 9,500. Forced labor was reinstated in 1940, and the number of Voltaic workers in Ivory Coast reached roughly 71,000 by 1942. Conscription for the Office du Niger was also heavy. With the abolition of forced labor and the reconstitution of Upper Volta, emigration to Ghana increased for a few years, but Ivory Coast became the principal destination after 1950.

In Togo, a French protectorate under the League of Nations from 1912 onwards, there was little investment during the colonial period, and many public sector jobs were held by Dahomeyans. Many Togolese emigrated. There were at least roughly 75,000 Togolese nationals in Ghana by 1925-30, and the number had risen to 280,000 by 1960 (Zachariah and Conde 1980:54).

In Mali (Soudan Francais), the motivation for young men to take up seasonal work in the groundnut regions of Senegal and Gambia was, as in Upper Volta, mostly to escape recruitment for forced labor and to earn money to pay taxes (David 1980:126). The figures we have are imprecise--but suggest that several tens of thousands of men from the French Sudan were sent overseas during the First World War, and that yearly forced recruitment during the 1920's was in the range of 2,300 to 2,800. The number of Sudanian workers in the groundnut areas may well have reached 25,000 to 30,000 by 1920-21 (David 1980:130). The numbers fell sharply in the early 1930's as earnings fell with the world groundnut price but had risen to 34,000 by 1938, and continued to fluctuate between roughly 7,000 and 25,000 through 1960 (David 1980:475).

TABLE 13: FOREIGN-BORN PERSONS BY COUNTRY OF BIRTH, CIRCA 1975

Country of birth	Country of Enumeration									Total
	Ghana	Ivory Coast	Upper Volta	Senegal	Sierra Leone	Togo	Liberia	Gambia	Mali	
Ghana	-	38,600	19,200	700	4,600	100,000	8,000	...	...	171,100
Ivory Coast	16,300	-	49,100	1,000 ^{a/}	-	2,000 ^{a/}	1,800 ^{a/}	...	7,900 ^{a/}	78,100
Upper Volta	105,200	520,500	-	10,000 ^{a/}	900 ^{a/}	2,000 ^{a/}	-	...	47,700 ^{a/}	686,300
Senegal	100 ^{a/}	15,600	2,500	-	...	...	200	27,200	11,500 ^{a/}	57,100
Sierra Leone	2,000 ^{a/}	1,000 ^{a/}	500 ^{a/}	600 ^{a/}	-	...	6,400	600	1,000 ^{a/}	12,100
Togo	133,300	9,300	3,500	...	...	-	200	...	N	146,300
Liberia	4,100	3,900	900 ^{a/}	500 ^{a/}	11,100	...	-	600	1,000 ^{a/}	22,100
Gambia	100 ^{a/}	100 ^{a/}	200 ^{a/}	33,300	3,400	...	...	-	1,000 ^{a/}	38,100
Mali	9,500	236,800	24,000	21,100	-	...	1,600	5,500	-	298,500
Total	270,600	825,800	99,900	67,200	20,000	104,000	18,200	33,900	70,100 ^{a/}	1,509,700
Guinea	N	67,200	N	131,600 ^{b/}	41,300	10,000 ^{a/}	26,400	17,600 ^{b/}	23,200 ^{a/}	317,300 ^{a/}
Nigeria	31,600	32,400	2,300	N	7,500	20,000 ^{a/}	1,900	N	N	95,700 ^{a/}
Other African countries	31,700	66,000	15,100	23,200	1,200	7,600 ^{a/}	1,100	1,700	1,700 ^{a/}	149,300 ^{a/}
Total	63,300	165,600	17,400	154,800	50,000	37,600	29,400	19,300	24,900 ^{a/}	562,300
Other	16,000	62,600	3,500	50,000	10,000	2,000	11,800	1,300	5,000 ^{a/}	162,200
Total	349,900	1,054,000	120,800	272,000	80,000	143,600	59,400	54,500	100,000 ^{a/}	2,234,200

... Negligible.

- Not applicable.

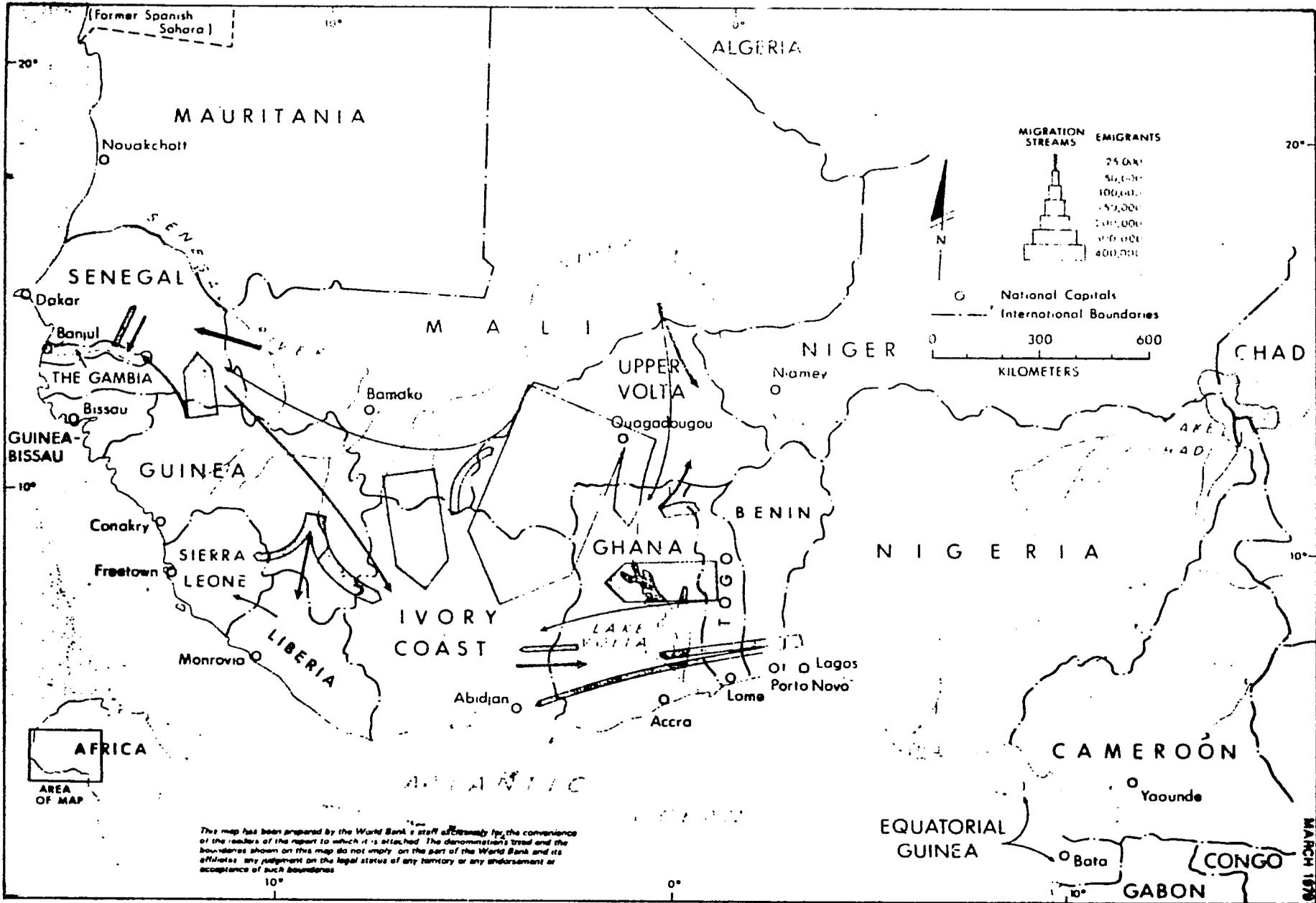
N Not known separately.

^{a/} Rough estimate.

^{b/} Including Guinea Bissau.

Source: Zachariah and Conde 1980:36.

FIGURE 5: WEST AFRICA: PRINCIPAL EXTERNAL MIGRATION STREAMS, CIRCA 1975



Source: Zachariah and Conde 1981.

Migration from Guinea--particularly the Fouta Djallon--followed a similar pattern. Before World War I, the major groups in movement were recently freed slaves (David 1980:145-6). Emigration increased in volume in the years after World War I as military recruitment and conscription for forced labor intensified, and as households found themselves unable to cultivate sufficient cash crops (rubber and coffee) to pay their taxes. Recruitment, conscription, and forced cultivation of cash crops worsened during the Second World War, when traditional chiefs were charged with enforcing French measures, and when abuses of this delegation of power were common. By 1956, roughly 10-15,000 Guineans had emigrated to the region of Kedegou in eastern Senegal, and another 14,000, approximately, had settled in the Casamance (Balde 1977:63-71).

There is little information on seasonal migration from Guinea to the groundnut areas of Senegambia before 1932, but David (1980:149) argues that it had started in the early 1920's. By 1932, 10,000 Guinean seasonal workers were registered in Senegal (ibid:151); the number of seasonal emigrants from Guinea had increased to 35,000 by 1936. Most of these migrants came from the Fouta Djallon; there are few official mentions of migrations from elsewhere in Guinea.

In 1975, the countries included in the World Bank study included about 2.2 million foreign-born persons and about 2.8 million foreign nationals, 7% of the total population. The relationship between the foreign-born and foreign nationals varies by country. In countries with heavy net immigration, like Ivory Coast, the number of foreign-born persons will be considerably smaller than the number of foreign nationals because of the number of children born to foreign nationals living in the Ivory Coast. In the case of Ivory Coast in

1975, the number of foreign-born persons (1,054,000) is 26% smaller than the number of foreign nationals (1,425,900), because 397,398 children had been born to foreign nationals. One implication is that the rate of increase in the number of foreign nationals over time is not a good estimate of net immigration, since it is affected by natural increase.

In countries with heavy net emigration, the number of foreign-born persons will often be larger than the number of foreign nationals, because of the number of children of emigrants being sent back to their parents' places of origin. In the case of Upper Volta, the census contained no questions on nationality, but Zachariah and Conde estimated that there were roughly 100,000 foreign nationals in Upper Volta, and the census data on birthplace showed roughly 121,000 foreign-born persons (Conde 1980:43), or lifetime international immigrants. Of these, 52% were younger than 15 years at census, and Conde feels that most of these are the repatriated children of nationals.

Table 14 gives the percent distribution of countries of enumeration, broken down by country of nationality, for selected West African countries. That is, for each country of nationality, listed in Column 1, the present-day distribution of emigrants and the foreign-born children of emigrants is shown in Columns 2 through 11. Table 15 gives--for each country of enumeration (listed in Columns 2 through 10)--the proportion of foreign nationals from each country of nationality. The tables show that the principal sending areas for emigrants, by declining order of importance, are Upper Volta, Mali, Guinea, and Togo. Together, these four countries supplied almost 73% of the region's total foreign nationals. The most important receiving area, by far, is Ivory Coast, followed by Ghana and

TABLE 14: DISTRIBUTION OF FOREIGN NATIONALS BY COUNTRY OF ENUMERATION BROKEN DOWN BY COUNTRY OF ORIGIN
FOR SELECTED WEST AFRICAN COUNTRIES, 1975

Country of Nationality (1)	Country of Enumeration										Total emigrants + foreign-born nationals (12)
	Ghana (2)	Ivory Coast (3)	Upper Volta (4)	Senegal (5)	Sierra Leone (6)	Togo (7)	Liberia (8)	Gambia (9)	Mali (10)	Total (11)	
Ghana	-	41.7%	17.0%	0.9%	4.5%	29.4%	6.5%	-	-	100%	102,000
Ivory Coast	24.9%	-	60.4%	1.9%	-	-	2.0%	-	10.7%	100%	73,500
Upper Volta	16.7%	76.0%	-	1.4%	0.1%	0.8%	-	-	5.0%	100%	955,700
Senegal	0.1%	32.9%	3.6%	-	-	-	0.3%	43.3%	19.7%	100%	58,400
Sierra Leone	26.0%	9.5%	3.5%	7.0%	-	-	41.7%	3.5%	8.7%	100%	11,500
Togo	94.2%	4.7%	1.1%	-	-	-	-	-	-	100%	259,800
Liberia	21.2%	15.7%	3.2%	3.2%	50.7%	-	-	1.4%	4.6%	100%	21,700
Gambia	0.2%	0.2%	0.2%	90.6%	6.8%	-	-	-	2.0%	100%	50,300
Mali	3.2%	83.1%	5.2%	6.9%	-	-	0.3%	1.3%	-	100%	419,500
Guinea	-	26.7%	-	45.5%	10.4%	-	6.4%	4.3%	6.1%	100%	396,100
Nigeria	47.8%	42.7%	1.7%	-	6.3%	-	1.5%	-	-	100%	116,100
Other	19.4%	36.0%	2.5%	25.4%	3.5%	6.8%	4.3%	1.2%	1.8%	100%	325,800
Percent of total foreign nationals	20.1%	51.1%	3.6%	12.7%	2.8%	2.2%	2.0%	1.9%	3.6%	100%	2,790,400

Source: Zachariah and Conde 1980:15-35 .

TABLE 15: DISTRIBUTION OF FOREIGN NATIONALS BY COUNTRY OF ORIGIN BROKEN DOWN BY
COUNTRY OF ENUMERATION FOR SELECTED WEST AFRICAN COUNTRIES,
1975

Country of Nationality (1)	Country of Enumeration									Percent of foreign nationals from each country of origin for region as a whole (11)
	Ghana (2)	Ivory Coast (3)	Upper Volta (4)	Senegal (5)	Sierra Leone (6)	Togo (7)	Liberia (8)	Gambia (9)	Mali (10)	
Ghana	-	3.0%	17.3%	2.8%	5.8%	50.0%	11.8%	-	-	3.7%
Ivory Coast	3.3%	-	44.4%	0.4%	-	-	2.7%	-	7.9%	2.6%
Upper Volta	28.3%	50.9%	-	3.9%	1.0%	16.0%	-	-	47.7%	34.2%
Senegal	0.01%	1.3%	2.1%	-	-	-	0.4%	48.4%	11.5%	2.1%
Sierra Leone	0.05%	0.07%	0.4%	0.2%	-	-	8.6%	0.8%	1.0%	0.4%
Togo	43.5%	0.8%	2.9%	-	-	-	0.2%	-	-	9.3%
Liberia	0.8%	0.2%	0.7%	0.1%	13.8%	-	-	0.6%	1.0%	0.8%
Gambia	0.01%	0.007%	0.1%	12.8%	4.3%	-	-	-	1.0%	1.8%
Mali	2.4%	24.4%	21.8%	8.1%	-	-	2.5%	10.5%	-	15.0%
Guinea	-	7.4%	-	50.8%	51.6%	-	45.6%	32.5%	24.1%	14.2%
Nigeria	9.9%	3.5%	2.0%	-	9.2%	-	3.1%	-	-	4.2%
Other	11.2%	8.2%	8.3%	23.3%	14.2%	44.0%	25.1%	7.3%	5.8%	11.7%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Total foreign nationals	562,100	1,425,900	100,000	355,000	79,400	60,000	55,700	52,300	100,000	2,790,400
Percent of total population of country of enumeration	6.6%	21.3%	1.9%	7.1%	3.0%	3.1%	3.7%	10.6%	1.7%	7%

Source: Zachariah and Conde 1980:35).

Senegal. The last row of Table 14 shows the proportion of foreign nationals in the population of each receiving country: it is only in Ivory Coast and The Gambia that the percentage of foreign nationals is much more than the regional average.

Upper Volta. Data on emigration are hard to obtain from the sending areas because surveys and censuses omit emigrants without strong ties to sending area households. Thus, households that emigrate together and older emigrants are often missed. The 1975 census of Upper Volta estimated 335,000 nationals outside the country at census, but data from Ivory Coast, Ghana, and other receiving countries indicate that the true number of nationals abroad is closer to 1,000,000 (Conde 1980:30). Comparison of surveys on migration in 1960-61 and 1972-73 from the Mossi regions gives an idea of trends in migration since independence. The rates of emigration and the proportion of absentees have increased sharply. The increase has been far more marked for females than males: the sex ratio^{1/} for emigrants fell from 645 in 1961 to 238 in 1975. The proportion of children under age 10 also increased sharply, and it seems likely that these changes denote the migration of whole families rather than individual males. The duration of residence abroad has also increased: in 1961, 53.2% of migrants stayed abroad for a year or less; by 1973, that number had fallen to 26% (Conde 1980:31-35).

The 1975 census data show that negative net migration is most intense for the central departments: West Central, North, North Central, and Southwest. The ethnic groups most affected are the Mossi, the Dagari, Lobi, and Bissa, while rates of emigration for the Senufo, Gourmantche, and Fulani are relatively low (Conde 1980:37).

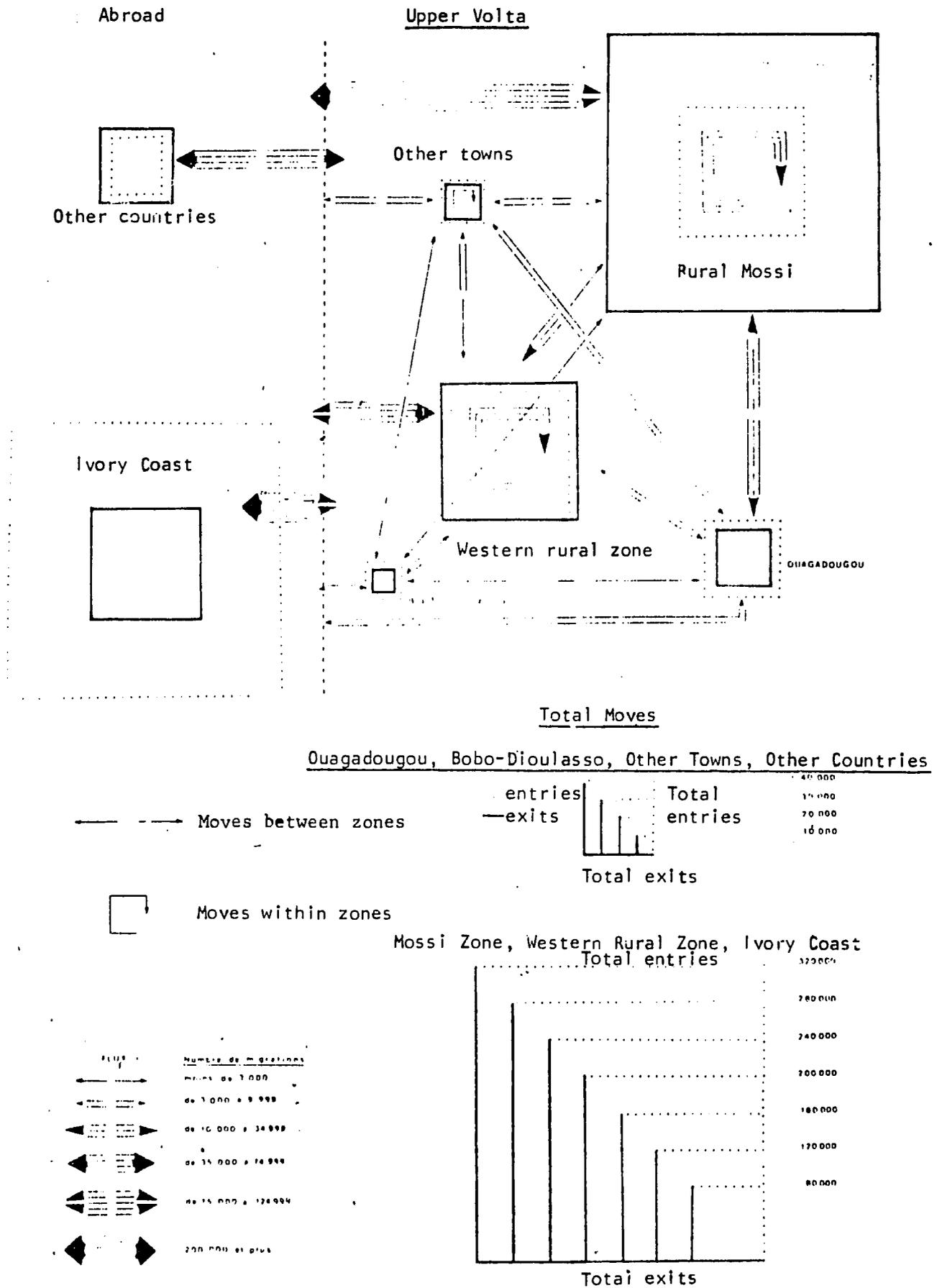
^{1/} Number of males per 100 females.

A recent survey, carried out in 1974-75, gives more detailed information on mobility of a nationwide sample (Coulibaly et al. 1980). Figure 6 shows migration streams for Upper Volta as a whole, extrapolated from moves of the survey sample. The figure shows numbers of moves rather than numbers of people: where a single individual moved five times, each of the five moves is recorded. The figure shows that the rural Mossi Zone and the rural Western Zone, and foreign countries apart from the Ivory Coast experienced more moves out than moves in, while urban areas all showed slight positive net migration. The largest migratory streams are between the rural areas and foreign countries: emigration accounts for almost half of all moves, and there are also an important number of return migrations from foreign countries back to rural areas.

Coulibaly et al. (1980:46) calculated migration rates per year lived in each of the survey zones. In-migration rates to urban zones from rural Upper Volta are quite high, as are out-migration rates: thus, the cities experience gross migration rates of 91 per thousand annually, and annual net increase due to migration of 14 per thousand. Rural rates of emigration to destinations outside Upper Volta are twice as high as urban rates of emigration, while rates of immigration from abroad are lower than for urban zones. Rural rates of out-migration and in-migration for locations within Upper Volta, however, are both much lower than urban rates. The result is that gross migration rates for rural areas are about 40% of those for urban areas, and rural areas register a net yearly loss through migration of 9 per thousand, due mostly to emigration.

When the migration rates are broken down by sex, one finds (as is commonly the case) that rates of long distance migration (i.e., international migration) for men are considerably higher than for

FIGURE 6: MIGRATION STREAMS IN UPPER VOLTA, 1969-73



Source: Coulibaly et al 1980.

TABLE 16: ANNUAL MIGRATION RATES FOR THE PERIOD 1969-73, POPULATION 5 AND OVER, UPPER VOLTA

(per 1,000)

	<u>In-migration from Upper Volta</u> (1)	<u>Immigration from abroad</u> (2)	<u>Total</u> (1+2)	<u>Out-migration to elsewhere in Upper Volta</u> (3)	<u>Emigration</u> (4)	<u>Total</u> (3+4)	<u>Net migration</u> <u>/((1+2)-(3+4))/</u>	<u>Gross migration</u> (1+2+3+4)
Urban zones	42.9	9.8	52.7	31.5	7.2	38.7	+14.0	91.4
Rural zones	6.6	6.8	13.4	7.4	14.8	22.2	- 8.8	35.6
Mossi zone	4.6	7.8	12.4	8.3	19.9	28.2	-15.8	40.6
Western zone	8.8	6.3	15.1	5.9	10.6	16.5	- 1.4	31.6
Total	9.0	7.0	16.0	9.0	14.3	23.3	- 7.3	39.3

Source: Coulibaly et al. 1980.

women: men are four times as likely to emigrate; three times as likely to immigrate from abroad. Rates of internal migration, however, are slightly higher for women than for men (Coulibaly et al. 1980:46-48). The age-specific migration rates also follow the common mold: gross migration is highest for persons aged 15 to 29. Only in immigration from locations outside Upper Volta do older migrants predominate: these are mostly workers returning to rural areas from abroad (Coulibaly et al. 1980:49).

Guinea and Mali. We have no national census data on emigration for either of these countries, so our knowledge comes from piecing together several incomplete sets of information. Ivory Coast and Senegal are major destinations for emigrants from both countries, and census information on Malian and Guinean immigrants will be discussed in the next section. We also have several Guinean case studies of the Fouta Djallon, the major area of origin for emigrants (Derman 1973, Balde 1977), and this section will try to summarize them and put them in context.

Before independence, seasonal migrants, or navetanes, from Guinea to the groundnut areas numbered roughly 25,000-32,000 (David 1980:425). The new government launched a drive to develop groundnut cultivation in northern Guinea. The plan was that the government would supply food and loan seed to migrants from the Fouta Djallon, and local populations in north Guinea would lend them land, under the same terms as were traditional in the Senegalese groundnut areas. The project failed for many reasons: the government did not furnish seed on time, transporting the harvest through the Fouta Djallon to Conakry was costly, and consumer goods were not available for the migrants to buy with their earnings. In spite of Guinean efforts to

reduce the flow of seasonal workers, it continued to be heavy through the 1960's, and Sekou Toure was still exhorting Guineans to oppose the navetanat in 1972 (David 1980:426-7). As seasonal migration declined, two sorts of longer-term migration took its place: settlements in the Terres Neuves around Koundueul, and migration to Dakar.

The majority of emigrants continue to come from middle Guinea: a survey of migrants in Dakar in the early 1970's showed that 80% came from the Fouta Djallon (Balde 1977:87), 15% from Lower Guinea, and 5% from Upper Guinea and the Forest Zone. The emigrants from the Fouta Djallon at independence and in the years following comprised two groups: members of the traditional aristocracy, which the government was trying to suppress, and commoners, driven out by the economic stagnation that followed independence. There were three major, general causes for this lack of growth. The agricultural cooperatives were poorly managed and rich peasants often diverted the cooperatives' resources; thus, Riviere (1976) argued that the net effect of programs to raise agricultural production was to concentrate land and equipment in the hands of a few and to reduce most of the rural population to a rural proletariat with insufficient access to land, credit, and the means of production (Balde 1977:72). The government could not supply rural areas with consumer goods, and there was rapid inflation. Thus, of the population Dermann interviewed (1973:153), all adult males between the ages of 19 and 25 had migrated at least once in order to assemble the money needed for their marriages.

Togo. Before independence, economic opportunities, educational facilities, and medical services were all far better in Ghana than in Togo, and, by 1960, one-sixth of all Togolese nationals resided in

Ghana. Not all the Togolese nationals in Ghana were migrants: roughly 104,000 were born in Ghana (Zachariah and Conde 1980:43). After independence, as economic conditions worsened, pressure in Ghana against the employment of foreign nationals increased. About 80,000 Togo-born Togolese nationals returned to Togo during the decade 1960-70. However, Ghana continued to need farm workers, and emigration from Togo continued, although at a lower rate; thus, net migration of Togo-born Togolese from Ghana, 1960-70, was about 28,000. Ghanain immigration to Togo had been minor before independence. In 1961, Ghanain nationals in Togo numbered roughly 51,000. The number almost doubled over the decade, for a net immigration to Togo of Ghanain-born Ghanains of 56,000 (Zachariah and Nair 1980:13):

Ghana. Until the 1960's, Ghana experienced heavy immigration: independence was followed by four or five years of prosperity which brought an influx of migrants for agricultural labor, mining, and petty trade (Zachariah and Nair 1980:16). Ghana held 828,000 foreign nationals in 1960, and the foreign national population in 1969 was roughly 1 to 1.2 million.

Economic conditions deteriorated after 1965, and the Alien Compliance Act of 1969 forced up to 600,000 foreign nationals to leave the country. Comparison of the 1960 and 1970 censuses shows net emigration of roughly 400,000 foreign nationals: at least 198,000 of the foreign-born enumerated in the 1960 census, and at least 166,000 of the children born in Ghana to foreign nationals.

Table 17 shows the countries of origin of foreign nationals in the two censuses. The major international migration of Ghanains during the decade was the return to Ghana of 13,000 foreign born Ghanains.

TABLE 17: FOREIGN NATIONALS AND FOREIGN-BORN PERSONS IN GHANA
BY COUNTRY OF ORIGIN, 1960 AND 1970

<u>Country of Origin</u>	<u>Foreign Nationals</u>				<u>Percentage Change 1960-70</u>	<u>Foreign born</u>	
	<u>Number (in '000)</u>		<u>Percentage</u>			<u>Percentage</u>	
	<u>1960</u>	<u>1970</u>	<u>1960</u>	<u>1970</u>		<u>1960</u>	<u>1970</u>
Togo	280	245	34	44	-13	33	38
Upper Volta	195	159	24	28	-22	25	30
Nigeria	192	55	23	10	-71	21	9
Ivory Coast	54	18	7	3	-66	6	5
Other African Countries	90	70	11	13	-22	13	14
Non-African Countries	16	15	2	3	-6	3	5
Total	827	562	100	100	-32	100	100

Source: Zachariah, Conde, Nair, Okoye, Campbell, Srivastava, Swindell 1980.

However, by 1975 there were roughly 102,000 Ghanain foreign nationals enumerated in the censuses of other regions: the largest group being in Ivory Coast, and the next largest in Togo (see Table 14). The immigrants to Ivory Coast seem to have arrived recently before the census, because almost 80% of the Ghanain nationals born in the Ivory Coast are under 5 years old (Zachariah 1980:73).

Emigration from Ghana seems to have increased rapidly since 1975, as economic conditions deteriorated. Much of the emigration has not been registered, and there are no reliable estimates: however, Dr. Degraft Johnson, Vice President of Ghana, recently put the number of Ghanain nationals in Ivory Coast alone at 250,000 (T. Das, VOA broadcast).

Ivory Coast. Since 1960, Ivory Coast has become the principal destination for West African migrants. By 1975, foreign nationals numbered 1.4 million, or 21% of the total population. Unofficial estimates from informed sources about the present number of foreign nationals in Ivory Coast run to 3.5 million and above, or over 40% of the total population. Table 18 gives Ministry of Plan estimates of annual net migration during the period from independence to 1970, and points out trends through the decade. Immigrants from abroad were more likely to settle in rural areas in 1965-70 than in 1960-65. Internal migration is also far greater in the second part of the decade (32,000 net rural-urban migrants per year) than in the first half (17,000 net rural-urban migrants per year) (Joshi, Lubell, and Mouly 1976:18). Net immigration from abroad was constant throughout the period.

Estimates of net immigration for the period 1965-75 derived from sample surveys in the 1960's and from the census of 1975 range from:

TABLE 18: ESTIMATED ANNUAL NET POPULATION MOVEMENTS IN THE IVORY COAST RESULTING FROM INTERNATIONAL MIGRATION AND NATURAL INCREASE, 1960-65, 1965,70

Area of origin of migration and location of population changes	Migration				Population Changes			Resulting population increase in Ivory Coast (5)+(6)+(7)
	Net in-migration to:			Total net in-migration by origin (4)	Natural increase in Ivory Coast (5)	Net inflow from abroad to Ivory Coast (6)	Net inflow within Ivory Coast (7)	
	Rural Ivory Coast (1)	Urban Ivory Coast excl. Abidjan (2)	Abidjan (3)					
1960-65 (annual average):								
Abroad Ivory Coast:	13,000	18,000	9,000	40,000	-	-	-	-
Rural	-	10,000	7,000	17,000	58,000	13,000	-17,000	54,000
Urban, excl. Abidjan	-	-	3,000	3,000	15,000	18,000	7,000	40,000
Abidjan	-	-	-	-	7,000	9,000	10,000	26,000
Total	13,000	28,000	19,000	60,000	80,000	40,000	-	120,000
1965-70 (annual average):								
Abroad Ivory Coast:	16,000	16,000	3,000	40,000	-	-	-	-
Rural	-	19,140	12,770	31,910	66,030	16,000	-31,910	50,120
Urban, excl. Abidjan	-	-	6,246	6,246	16,236	16,000	12,894	45,130
Abidjan	-	-	-	-	9,770	8,000	19,016	36,786
Total	16,000	35,140	27,016	78,156	92,036	40,000	-	132,036

Source: Joshi, Lubell, and Mouly (1976).

970,000 to 1,005,000, which would give an annual average of very roughly 100,000 per year for the whole period. This is far higher than the 1965-70 estimate of the Ministry of Plan, and implies that, if the official estimates are accurate, immigration since 1970 has been something like 160,000 per year. If most recent estimates of 3.5 million are accurate, they imply either a substantial under-counting of foreign nationals in the 1975 census or a dramatic increase in the annual number of immigrants to something near 300,000 per year^{1/}.

There have been many times where African foreign nationals were accused of taking jobs from Ivorians. Riots in 1958 led to the expulsion of some 20,000 Togolese and Beninois office workers (Joshi et al. 1976, Roberts et al. 1973:334) and an additional 16,000 Beninois were expelled in 1964 (Abumere 1981:426). A 1966 proposal by Houphouet-Boigny to extend dual nationality to citizens of member states of the Conseil de l'Entente touched off more strong opposition (Donahy et al. 1973:xx). Demonstrations by the unemployed of Abidjan in September of 1969 were accompanied by violence against foreign nationals and produced more restrictions against the recruitment of foreign nationals. In principle, employers are required to give priority in hiring to Ivorians recruited through the Office de Main d'Oeuvre de Cote d'Ivoire; in fact, there is substantial hiring which circumvents official requirements, for example, through firms supplying temporary unskilled workers from outside the Ivory Coast (Hauser 1976:39).

The most recent incidents involved Ghanains, many of whom are highly trained, and who compete with Ivorians for technical and management jobs in international organizations and multinational corporations. Some Ghanain immigrants have also become involved in

^{1/} Assuming 3% natural increase per year among foreign nationals.

illegal trades, for example, prostitution (Fargues 1981:85) and marijuana traffic. The Government of Ivory Coast has expressed concern about the rising number of foreign nationals, especially in Abidjan, and feels that increases in immigration are associated with recent increases in crime rates. Indeed, officials blame foreign nationals for 70% of the violent crime in Ivory Coast (Das, VOA broadcast). In the spring of 1981, Ivorian police started a series of round-ups, where foreign nationals without documents were detained and, in some cases, deported. In the course of these detentions, somewhere between 46 and 54 Ghanain men, kept overnight in a jail cell designed for seven, were suffocated.

Figure 7 shows the origin and place of enumeration of foreign nationals recorded in the 1975 census. As noted in Table 14, the most important sources of migrants were Upper Volta and Mali, with smaller but significant numbers from Guinea and Ghana. One rough gauge to the duration of residence in the Ivory Coast is the proportion of foreign nationals born in the Ivory Coast (the higher the proportion, the longer the residence). Guineans seem to have the longest length of residence, followed by Nigerians, Malians, and Beninois; Voltaics have the shortest average duration of stay (Zachariah 1980:24).

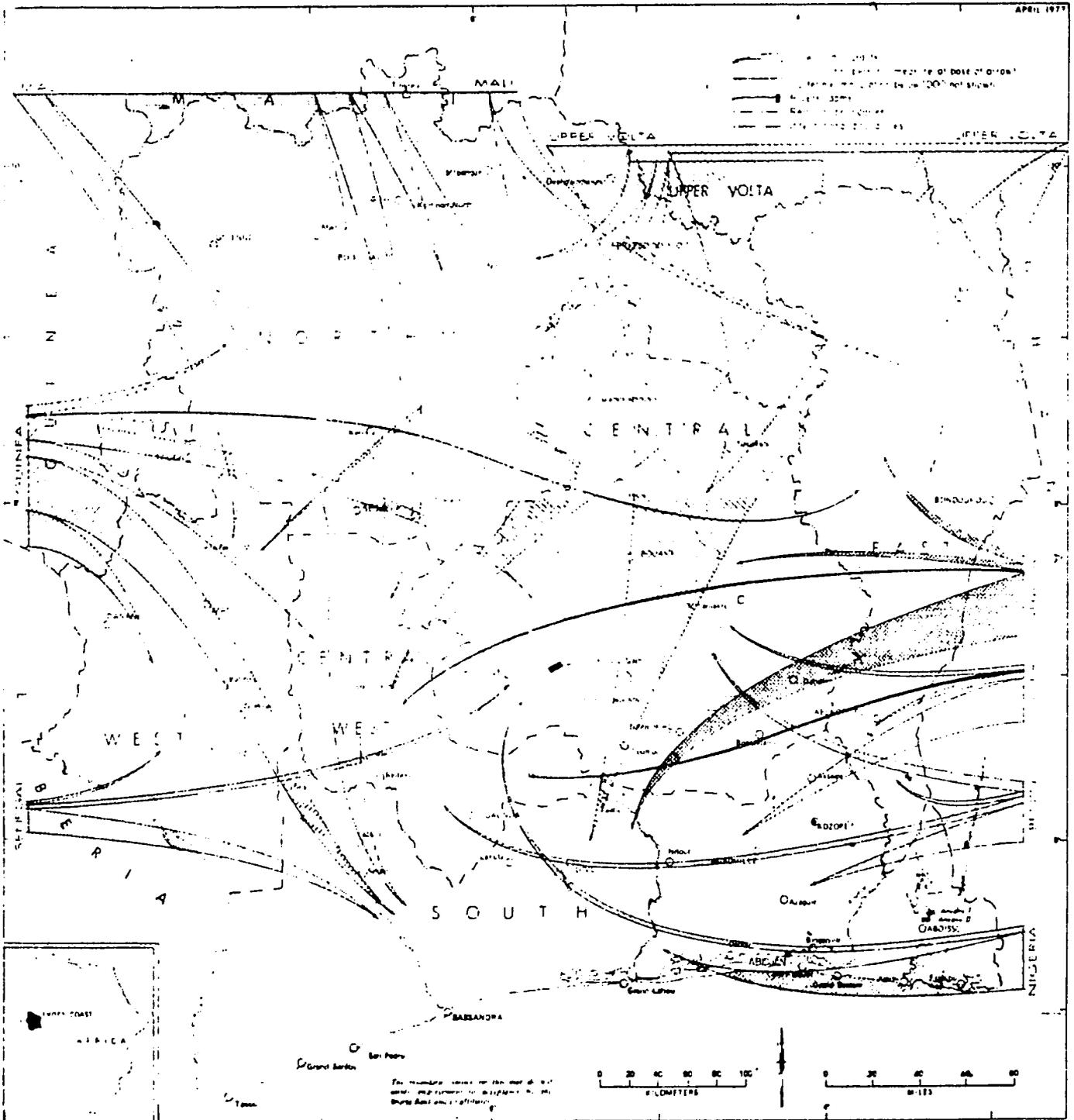
In 1965, about two-thirds of foreign nationals lived in urban areas; by 1975, the proportion had dropped to about half. Thus, the trend noted above for the period 1965-70 continued to 1975, with more recent migrants being more likely to settle in rural areas. Table 19A shows the proportion of foreign nationals from each country of origin residing in urban areas. Voltaics were not much more likely than Ivorians to live in urban places, but all other foreign nationals were significantly more urbanized than the population as a whole. If

TABLE 19A: PERCENT OF FOREIGN NATIONALS LIVING IN URBAN PLACES
IN IVORY COAST BY COUNTRY OF ORIGIN, 1975

<u>Country of Origin</u>	<u>Foreign Nationals</u>
Upper Volta	35
Mali	58
Guinea	60
Ghana	51
Nigeria	90
Niger	81
Benin	56
Senegal	91
Togo	82
Liberia	68
Ivory Coast nationals	30

Source: Zachariah 1980:26.

FIGURE 7: IVORY COAST, LIFETIME IMMIGRANTS BY
COUNTRY OF BIRTH AND REGION OF
ENUMERATION, 1975



Source: Zachariah and Conde 1980.

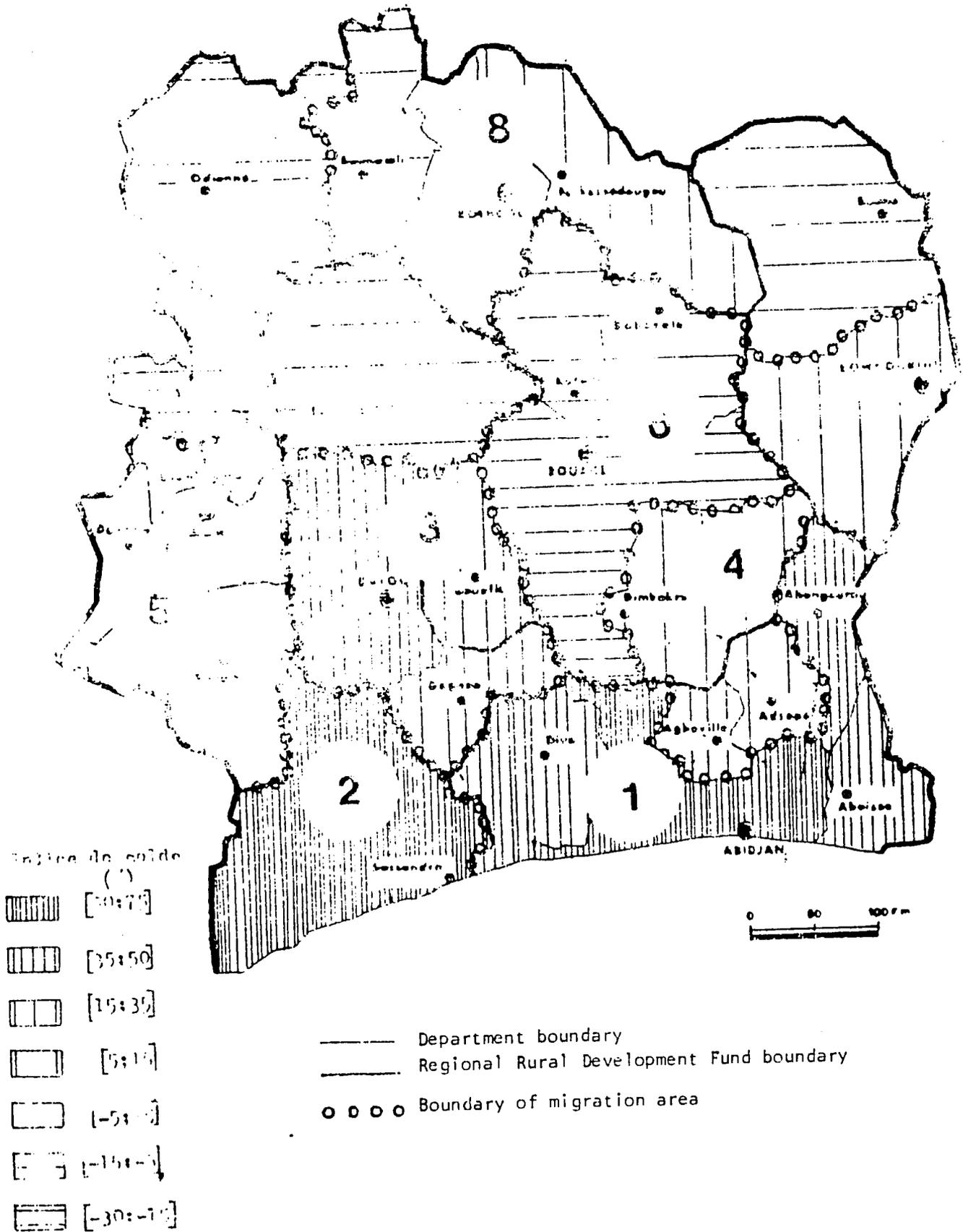
Voltaics were excluded, about 65% of foreign nationals lived in towns: thus, the recent relative decrease in immigration to urban areas could be due to increase in immigration from Upper Volta (Zachariah 1980:25).

Fargues (1981) has suggested that eight broad regions can be distinguished in Ivory Coast on the basis of migration characteristics. These regions comprise:

1. Basse-Cote: the oldest and most urbanized region;
2. Sud-Ouest: a sparsely settled zone with extensive lumbering and some pioneer farming;
3. Centre-foret: recent extension of coffee and cacao plantations, generally family-run;
4. Boucle de Cacao: zone of old plantations, dense settlement;
5. l'Ouest: mixed cultivation;
6. Centre-savane: dominated by subsistence cultivation, principal source of migrants to the forest areas;
7. Nord-Ouest: some cotton and rice cultivation-strong out-migration to forest areas;
8. Nord-Est: subsistence cultivation with some herding, secondary area of out-migration.

These regions are shown in Figure 8. Table 19c compares the geographical distribution of Ivorian in-migrants to rural areas with that of African foreign nationals. Except for migrants to Basse-Cote, the largest shares of Ivorian in-migrants have gone to the Centre-foret with many also moving to the Sud-Ouest, all areas with available land for cash crops. However, the largest shares of foreign nationals in rural areas reside in zones with established plantations: Basse-Cote, Boucle de Cacao and secondarily in the newer areas. The predominant occupation among foreign nationals in rural areas is agricultural

FIGURE 8: MIGRATION AREAS IN IVORY COAST



Source: Fargues 1981:57.

TABLE 19B: COMPARISON OF IVORIANS AND FOREIGN NATIONALS
RESIDING IN RURAL AREAS AT CENSUS

<u>Migration Region</u>	<u>Ivorian in-migrants</u>		<u>Foreign nationals</u>	
	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
1. Basse-Cote	106,795	26.5	277,434	37.4
2. Sud-Ouest	40,160	110.0	31,229	4.2
3. Centre foret	139,857	34.7	137,764	18.6
4. Boucle-Cacao	46,852	11.6	197,855	26.7
5. Ouest	16,634	4.1	30,145	4.1
6. Centre Savane	27,838	6.9	36,215	4.9
7. Nord-Ouest	14,104	3.7	11,909	1.6
8. Nord-Est	<u>10,141</u>	<u>2.5</u>	<u>19,492</u>	<u>2.6</u>
Total	403,381	100.0	742,043	100.00

Source: Fargues 1981.

laborer, and the demand for such workers is stronger in areas with mature plantations than in forest areas with new plantations, and the proportion of foreign nationals in the working population is fairly closely related to the average agricultural salary.

Internal lifetime migration rates to rural areas in Ivory Coast are associated with a different set of factors than rates of international lifetime migration. Analysis of 1975 census data (Fargues 1981) showed that the characteristics that best predicted lifetime rates of inter-departmental migration to rural areas were the distance between the department of origin and destination (negative effect), the difference between the two departments in cultivated area per farm (positive effect), the proportion of urban population in the department of origin (negative effect), and the rate of school attendance (positive effect).

Distance here is a rough estimate of the financial and psychic costs of moving. Average agricultural revenue—to the surprise of the investigators—was a very weak explanatory variable, but the difference in farm size between the department of origin and the department of residence was quite strong. The inference, then, is that the greatest attraction is to areas where land is relatively plentiful. There is probably no direct causal connection between school attendance rates and in-migration to rural areas, but school attendance is probably serving as a rough indicator of the dynamism of the destination.

Senegal. Data from the 1976 census of Senegal were not available to the World Bank researchers, and so their estimates are based on surveys carried out in 1960-61 and 1970-71 (Zachariah and Hair 1980:7). Colvin et al. (1979) had access to preliminary census

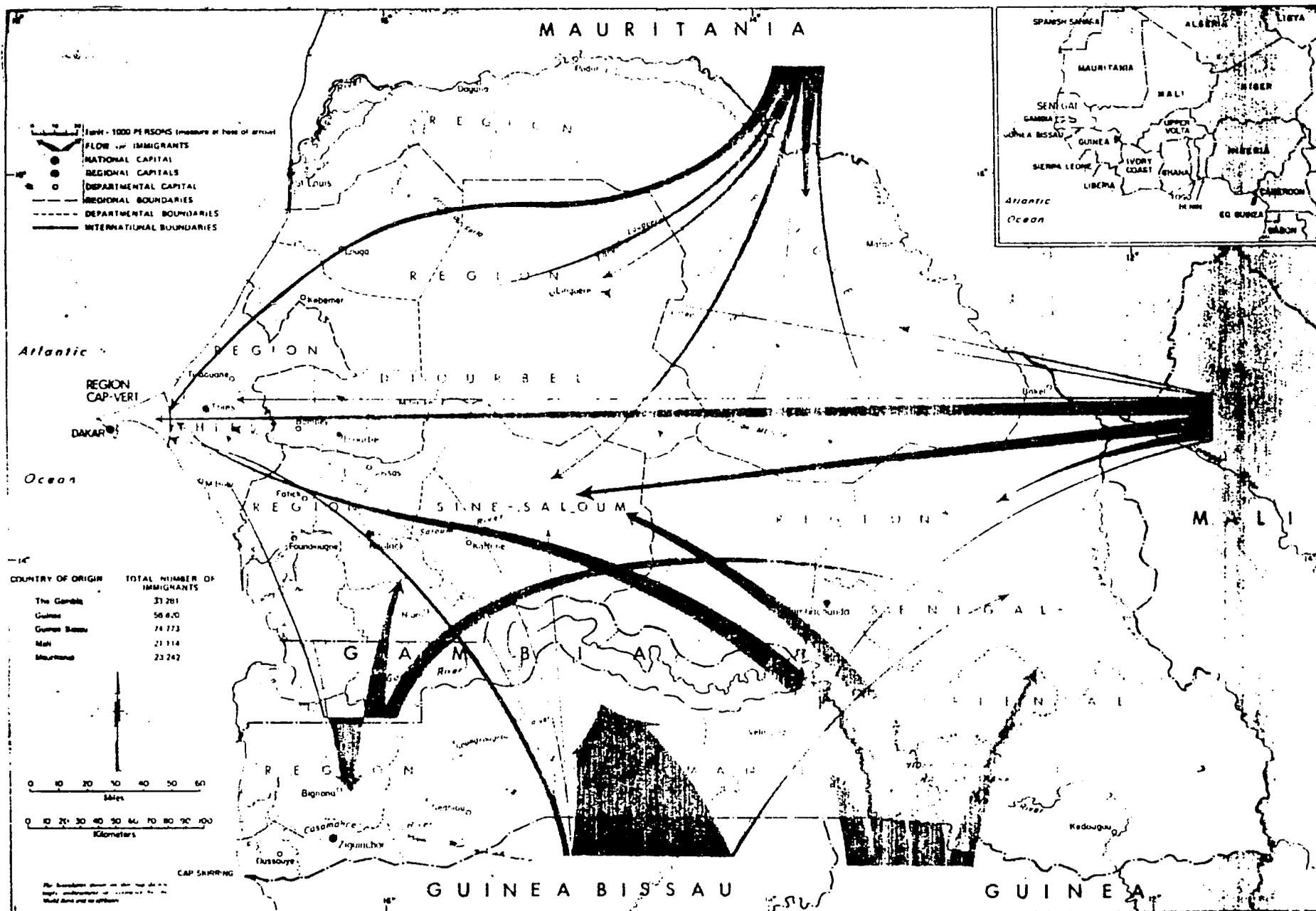
tabulations in addition to survey data. Senegal has experienced both heavy immigration and heavy emigration over the past 20 years. Unfortunately, many of both the countries of origin and the countries of destination fall outside the study zone, in countries we know little about, and so it is not possible to use other census data to fill gaps in our knowledge.

Table 14 showed that the principal country of enumeration within the study zone for Senegalese nationals is the Gambia, followed (in order of importance) by Ivory Coast and Mali. The study zone as a whole accounted for roughly 58,000 Senegalese nationals in 1975. Zachariah and Nair (1980) estimated that the total number of Senegalese nationals abroad in 1975 was about 210,000, of whom 35,000 were in countries outside Africa. This leaves roughly 117,000 nationals in African countries outside the study zone.

Figure 9 shows the countries of origin and region of enumeration for lifetime immigrants to Senegal in 1971. The principal countries of origin are Guinea Bissau, Guinea, the Gambia, and Mauritania. The destinations within Senegal of migrants varied with the country of origin: immigrants from Guinea Bissau almost all settled in the Casamance, immigrants from the Gambia divided themselves among the Casamance, Sine Saloum, and Senegal Oriental, and immigrations from Mali and Mauritania were more prone to prefer Cap-Vert, while immigrants from Guinea distributed themselves more evenly.

Zachariah and Nair estimated that foreign nationals (including children born in Senegal) in Senegal numbered 355,000 in 1975, which implied net lifetime immigration of roughly 145,000. However, the preliminary figures from the 1976 census gave the total number of foreign born African persons (not including children born in Senegal)

FIGURE 9: SENEGAL: LIFETIME IMMIGRANTS IN 1971 OF AFRICAN ORIGIN IN SENEGAL BY REGION OF RESIDENCE



Source: Zachariah and Nair 1980.

in Senegal as about 333,342 to 350,245^{1/}, of whom about 68% claim Senegalese nationality. Table 19C. compares the number of immigrants by region of residence in 1971 and 1976. The total number of immigrants increased between 1971 and 1976 by almost 58%, and the overall growth included rapid increases in numbers of Guineans, Mauritians and Malians, and emigration of most Gambians. The geographical distribution of immigrants also shifted: while almost half of all immigrants in 1971 lived in the Casamance, the share of Cap-Vert rose from 17% to 39% by 1976.

Demographic impact of international migration. Since international migration selects for males and selects most heavily among young adults, it alters the sex and age structure of the sending and receiving countries and has effects on the crude birth rates and crude death rates of the countries. Table 20 gives World Bank estimates of the effect of migration on vital rates for selected countries: in all cases, the effect was less than one per thousand.

The effects of international migration on population increase, however, are substantial. Table 21 gives estimates of inter-census migration for selected countries, and expresses the net migration as a share of intercensal growth. In Ivory Coast, immigration contributed 56% of total growth in 1965-75; in Gambia the proportion was 55%. Emigration during the decade reduced demographic increase in Upper Volta by 40%, in Ghana by 22%, and in Mali by 20%, according to census figures. If recent estimates of the number of foreign nationals in Ivory Coast are accurate, they imply a far heavier decrease in population growth for the major sending areas from 1975-80 for the countries bordering Ivory Coast.

^{1/} The Colvin et al. (1979:80-81) study gives data producing one total on p. 80 and the other on p. 81, but does not discuss the discrepancy.

TABLE 19C: FOREIGN BORN AFRICANS IN SENEGAL BY REGION OF RESIDENCE,
1971 AND 1976 1/

Region of Residence	Country of Origin												Totals			
	Gambia		Guinea		Guinea Bissau		Mali		Mauritania		Others		1971	(%)	1976	(%)
	1971	1976	1971	1976	1971	1976	1971	1976	1971	1976	1971	1976				
Cap-Vert	1,680	2,331	15,604	60,210	2,386	11,774	6,235	11,044	7,243	18,609	4,829	32,239	37,977	(17.1)	136,207	(38.9)
Casamance	15,881	4,933	12,260	20,438	71,470	60,410	1,074	1,780	355	1,202	162	4,790	101,202	(45.6)	93,553	(26.7)
Dlourbel (+Louga)	0	9	519	334	59	34	568	245	2,140	625	120	1,847	3,406	(1.5)	6,695	(1.9)
		23		360		9		37		1,782		1,390				
Fleuve	46	10	398	461	193	223	648	750	7,346	15,000	380	440	9,011	(4.0)	16,884	(4.8)
Senegal Oriental	6,611	1,398	12,055	20,748	71	175	4,256	3,740	2,020	3,164	244	5,923	25,257	(11.4)	35,156	(10.0)
Sine-Saloum	8,657	554	14,816	20,006	255	220	6,737	9,958	1,896	4,181	6,478	14,914	38,839	(17.5)	49,833	(14.2)
Thies	406	172	1,168	3,808	339	341	1,596	1,054	2,242	3,240	699	3,302	6,450	(2.9)	11,917	(3.4)
All Senegal	33,281	9,430	56,820	126,365	74,773	73,186	21,114	28,616	23,242	47,803	12,912	64,845	222,142		350,245	
	(15.0)	(2.7)	(25.6)	(36.1)	(33.7)	(20.9)	(9.5)	(8.2)	(10.5)	(13.6)	(5.8)	(18.5)				

1/ 1971 figures are based on analysis of unpublished 1970/71 census data, calculations by K.C. Zachariah and N.K. Nair in "Senegal: Patterns of Internal and International Migration in Recent Years" (OECD/World Bank, Demographic Aspects of Migration in West Africa, 1978). The 1976 figures for foreign born are calculated by taking the foreign nationals in each region divided by a factor representing the foreign nationals as a portion of total foreign born Africans in each region. The foreign born statistics are not yet available by country of origin. This technique assumes that African immigrants from each country of origin are equally likely to claim Senegalese nationality. 68.4% of all foreign born Africans in Senegal in 1976 claimed to have acquired Senegalese nationality. To the extent that this is untrue the countries of origin figures may be slightly differently distributed within each region.

Source: Colvin et al. 1979)

TABLE 20: DEMOGRAPHIC CONSEQUENCES OF EXTERNAL MIGRATION
IN SELECTED WEST AFRICAN COUNTRIES, 1975-85

Demographic measure	Ivory Coast		Upper Volta		Mali		Senegal	
	With migration	Without migration	With migration	Without migration	With migration	Without migration	With migration	Without migration
Total population (thousands)								
1975	6,770	6,770	5,232	5,232	5,859	5,859	4,973	4,973
1985	10,335	9,011	5,838	6,498	6,919	7,497	6,425	6,303
Growth rate (percent)								
1975-80	4.37	2.96	1.19	2.17	1.79	2.44	2.56	2.37
1980-85	4.11	2.76	1.00	2.17	1.54	2.49	2.57	2.37
Population aged 15 and over (thousands)								
1975	3,746	3,746	2,960	2,960	3,281	3,281	2,813	2,813
1985	5,853	4,947	3,249	3,718	3,748	4,149	3,660	3,572
Growth rate (percent)								
1975-80	4.21	2.26	0.84	2.18	1.33	2.30	2.58	2.31
1980-85	4.71	3.31	1.02	2.38	1.34	2.40	2.68	2.46
Birth rate (per thousand)								
1975-80	49.2	48.3	44.9	45.4	48.2	48.6	45.7	45.6
1980-85	46.1	44.3	42.4	43.6	46.3	47.4	43.3	43.7
Death rate (per thousand)								
1975-80	18.8	18.7	23.7	23.7	24.2	24.2	21.9	21.9
1980-85	16.8	16.6	21.9	21.9	22.4	22.5	20.0	20.0

Source: Zachariah and Conde 1980.

TABLE 21: NET MIGRATION ESTIMATE, CIRCA 1965-75

<u>Country</u>	<u>Period</u>	<u>Net Migration</u>	<u>Percentage of intercensal growth</u>
Gambia	1963-73	100,000	55
Ghana	1960-70	-400,000	-22
Ivory Coast	1965-75	1,000,000	56
Liberia	1964-74	12,000	2
Mali	1966-76	-250,000	-20
Senegal	1961-71	70,000	8
Sierra Leone	1964-74	18,000	3
Togo	1960-70	70,000	14
Upper Volta	1965-75	-500,000	-40
All countries		120,000	5

Source: Zachariah and Conde 1980.

Internal Migration

We noted earlier that measuring internal migration is less straightforward than measuring international migration, since the internal administrative units of West African countries differ greatly in size and population. For our purposes, internal migration will mean migration from one administrative region to another. Table 22 gives rates of interregional, internal, lifetime migration for selected West African countries, and notes whether the effect of the size of administrative regions is to exaggerate (+) or to minimize (-) the rate of internal migration. For all countries combined, there were roughly 4.4 million lifetime interregional migrants, or about 15% of the total population.

Internal migration rates seem in some ways complementary to rates of international migration. In the countries where emigration is heavy--Togo, Mali, and Upper Volta--rates of internal migration are relatively low. In the countries that have historically received the most immigrants--Ghana and Ivory Coast--internal migration has been more important (Zachariah and Conde 1980:60).

One perspective on regional migration patterns is that both international and internal migration trends show a heavy migration from internal savanna (and Sahelian) areas toward the coastal forest areas. The World Bank estimated net lifetime migration from the savanna to the coastal parts of their study zone at about 1.6 million, and net period migration from 1965 to 1975 at 1.5 million. About 70% of this migration is international; the largest part of the internal savanna-coastal migration was in Ghana and the Ivory Coast (Zachariah and Conde 1980:58).

In most countries, the areas that have had the heaviest net

TABLE 22: INTERREGIONAL INTERNAL LIFETIME MIGRATION, CIRCA 1975

<u>Country</u>	<u>Year</u>	<u>Interregional internal migration</u>		<u>Effect of administrative unit size</u>
		<u>Number</u>	<u>Percent of total native-born</u>	
Gambia	1973	60,800	13.8	+
Ghana	1970	1,401,900	17.1	-
Ivory Coast ^{a/}	1975	1,264,800	22.4	+
Liberia	1974	303,000	21.0	+
Mali	1976	n.a.	n.a.	-
Senegal	1971	503,000	13.8	-
Sierra Leone	1963	385,200	18.3	+
Togo	1970	182,000	10.1	+
Upper Volta	1975	263,200	4.8	-
All countries		4,364,000	14.9	

n.a. Not available.

^{a/} For six regions which would be comparable in size to the regions in Ghana, migration was 852,500 or 15 percent of the native population.

Source: Zachariah and Conde, 1980.

in-migration have been the regions that held the capital city. The only exceptions have been in Togo, where the Plateaux region has gained most heavily, and in Upper Volta where the chief region of net in-migration has been High Basins. Areas that experience heavy in-migration are often also the areas of immigration, where the main motivation for immigration is economic. Thus, in Ghana, Accra had the highest proportion of immigrants and of interregional migrants in 1960 and 1970; in Ivory Coast, Abidjan attracted the largest share of both kinds of migrants. In Senegal, the region which grew most from net in-migration (Cap Vert) held only a small share of immigrants in 1971, but held the largest share in 1976.

Rural-Urban Migration. Early in this paper, we compared West Africa to other regions and noted the low urban proportion of the population and the low level of resources available for urban planning and for the provision of services to urban residents. When one compares the countries within the region, one sees wide variation: the Ivory Coast, Ghana, Gambia, and Senegal had almost a third of their population in urban areas in 1975, while Upper Volta had about 6% and Mali had roughly 14%.

During the decade 1965-75, the region's urban population grew at an average rate of 5.8% per year, for a total urban increase of 3.6 million. Table 23 shows urban growth for separate countries. By taking the difference between the growth rate of the urban population and the growth rate of the total population, it is possible to estimate the urban growth rate due to the combined effects of external migration, internal migration, the reclassification of towns that reach urban size during the intercensal period, and differential rates of natural increase. These are combined under "net migration"

TABLE 23: URBAN GROWTH BY COMPONENTS, VARIED PERIODS, 1960-76

Country	Year	Urban population		Urban growth rate		Components of urban growth (percent)		Rate of rural-urban migration (per 100 1960 rural population)
		Thousands	Percent of total	Period	Rate	Natural increase	Net migration	
Gambia	1973	163	32.9	1963-73	5.4	35	65	-
Ghana	1970	2,472	28.9	1960-70	4.7	72	28	0.45
Ivory Coast	1975	2,155	32.1	1965-75	8.2	41	59	0.8
Liberia	1974	438	29.1	1962-74	6.6	40	60	-
Senegal	1970	1,166	29.9	1960-70	4.9	60	40	1.2
	1976 ^{a/}	1,260	24.8	1971-76	7.8	-	-	-
Sierra Leone	1974	572	20.9	1963-74	5.4	37	63	0.48
Togo	1970	254	13.0	1960-70	5.4	56	44	0.3
Upper Volta	1975	363	6.4	1965-75	3.4	45	55	-

^{a/} Colvin et al. 1979.

Source: Zachariah and Conde 1980.

in Table 23. Of the total urban population increase, about 1.9 million was due to natural increase, and about 3.2% per year or 1.7 million was due to net migration and the other sources listed above. Thus, internal and external migration together accounted for somewhat less than half of urban growth (Zachariah and Conde 1980:79-81). U.N. projections (cited in Findley 1977:36) for West Africa show the share of migration in urban growth declining from 49% in 1970-75 to 43% during 1980-90.

The relative importance of natural increase, internal migration, and external migration varies among countries: migration plays a relatively larger initial role and a smaller subsequent role in urban growth. Table 24 shows the breakdown for urban and rural growth in Ivory Coast, 1965-75: it is evident that natural increase and international migration both account for far greater shares of urban growth than internal migration.

All cities in the region do not share equally in urban increase, however. Table 25 shows that in many cases, rural-urban migrants concentrate themselves in the principal city of the country. These gains in population were often partly at the expense of smaller towns--those with populations below 10,000--was disproportionately small (Zachariah and Conde 1980:97).

In most cases, net rural-urban migration comprises two larger migration streams: a very large influx to cities of young migrants, and a somewhat smaller flow of older migrants returning to their villages. Thus, where age-specific estimates of net rural-urban migration are available--in Ghana and in Togo--they show net movement to rural areas for ages over 35. This suggests that part of the rapidity of urban growth may be linked to the age structure of the

TABLE 24: COMPOSITION OF URBAN AND RURAL GROWTH IN
IVORY COAST, 1965-75

	<u>Urban growth</u>	<u>Rural growth</u>
International migration	38	36
Natural increase	41	81
Net rural-urban migration and reclassification of localities	21	-17
Total	100	100
Total growth (thousands)	1,205	1,492

Source: Zachariah, Conde and Nair 1980.

TABLE 25: PROPORTION OF TOTAL NET RURAL URBAN MIGRATION
DIRECTED TOWARD CAPITAL CITY (INCLUDES
INTERNATIONAL MIGRATION)

<u>Country</u>	<u>Period</u>	<u>Net rural- urban migration</u>	<u>Net migration to capital city</u>	<u>Percentage</u>
Ghana	1960-70	226,000	200,000	97.3
Ivory Coast	1965-75	715,000	400,000	55.9
Sierra Leone	1963-74	170,000	70,000	41.2
Senegal	1960-70	278,000	167,000	60.1
Togo	1960-70	47,500	35,500	74.7
Gambia	1963-73	44,000	11,370	25.8

Source: Zachariah and Conde, 1980.

population, in which younger cohorts are far larger than older ones. It suggests that, were it possible to slow population growth, return migration would affect a relatively larger number of migrants from rural areas. This would be offset, however, by a growing number of second generation urban residents with much weaker ties to rural areas.

The Characteristics of Migrants

Migration, and particularly long distance migration, selects for young adults, for males, and for the educated. It is often the case, however, that the selectivity of migration declines over time, as temporary migration declines in importance and average duration of residence increases. Table 26 shows the sex ratios for lifetime immigrants from selected countries, by age groups. For immigrants under age 14, sex ratios are balanced, but at older ages the predominance of males becomes more and more marked. This is chiefly due to the fact that international migration has been getting less sex selective over time in most countries. A small part of the imbalance may be due to higher mortality among women at adult ages.

We saw in Upper Volta that generally, as the distances migrated get shorter, females become more and more numerous among the migrants. For example, the sex ratio (males per 100 females) for different migrants in Ivory Coast is shown below:

Foreign nationals	143
Lifetime immigrants	162
Inter-departmental migrants	112
Intra-departmental migrants	79
Non-migrants	103

Thus, 62% of lifetime immigrants are males, but the sex ratio among foreign nationals born in Ivory Coast is (as expected) more balanced. Table 26 shows sex ratios for lifetime immigrants by country of origin. The excess of males is highest among Nigeriens

TABLE 26: SEX RATIOS OF LIFETIME IMMIGRANTS BY AGE,
CIRCA 1975

<u>Country</u>	<u>Males per 100 females</u>				<u>All ages</u>
	<u>0-14</u>	<u>15-39</u>	<u>40-59</u>	<u>60 and over</u>	
Gambia	91	155	259	235	157
Ghana	97	125	263	294	152
Ivory Coast	97	159	310	190	162
Liberia	103	146	276	272	151
Senegal	105	98	157	170	121
Sierra Leone	102	166	300	208	156
Togo	99	75	126	141	93
Upper Volta	107	71	93	108	92
All countries	100	137	228	203	143

Source: Zachariah and Conde, 1980.

TABLE 27: SEX RATIOS OF IMMIGRANTS TO IVORY COAST

<u>Country of Origin</u>	<u>Sex Ratio Among</u>	
	<u>Foreign National</u>	<u>Foreign Born</u>
Upper Volta	151	179
Mali	141	161
Guinea	132	144
Ghana	58	53
Nigeria	112	113
Niger	309	429
Benin	150	175
Togo	133	147
Liberia	65	56
Senegal	240	270
Total	143	162

Source: Conde, 1980

and Senegalese, but is more or less marked for all nationalities except Ghanains and Liberians, among whom women predominate. Short distance migrants, however, are far more likely to be female than are long distance migrants (either external migrants or internal migrants). Where intra-departmental rates are broken down by age group, the predominance of females becomes sharply marked starting with age 15-19, and it is likely that most of these women migrated at marriage. For internal migrants as a group (that is, inter-regional and intra-regional migrants) sex ratios increase with the age of migrants, a trend demographers attribute in part to a greater predominance of males among internal migrants in past decades, as for international migration. However, there is also the possibility that rates of return migration among internal migrants are higher for women than for men. The sex ratios of different types of migrants to and within other West African countries roughly resemble those for Ivory Coast. Togo is the only country in which females predominate among immigrants and internal migrants as a group. Even there, however, females are relatively more dominant among intra-regional migrants than among interregional or international migrants. The age groups 15-34 tend to be proportionally over-represented.

Table 28 gives five examples of both external and internal migrants and shows that the age distributions of internal migrants usually tend to resemble those of non-migrants more than do the age distributions of international migrants. In most cases, there is a deficit of children among both internal and international migrants because the propensity to move is usually greater among the single, because many migrants leave their families behind, and because where immigrants or in-migrants do bring spouses and procreate, the children born are by

TABLE 28: PERCENTAGE AGE DISTRIBUTION OF MIGRANTS AND
NONMIGRANTS IN FIVE WEST AFRICAN COUNTRIES,
CIRCA 1975

<u>Country</u>	<u>Age</u>				<u>All ages</u>
	<u>0-14</u>	<u>15-34</u>	<u>35-59</u>	<u>60 and over</u>	
<u>Gambia</u>					
Nonmigrants	48	30	18	4	100
Internal migrants	29	41	25	5	100
External migrants	19	45	30	6	100
<u>Ivory Coast</u>					
Nonmigrants	57.7	21.6	16.9	3.8	100
Internal migrants	35.9	46.2	16.8	1.1	100
External migrants	14.1	61.7	22.3	1.9	100
	<u>0-14</u>	<u>15-34</u>	<u>35-44</u>	<u>45 and over</u>	
<u>Liberia</u>					
Nonmigrants	45.4	29.5	9.7	15.4	100
Internal migrants	28.1	45.9	12.9	13.1	100
External migrants	20.3	50.6	16.6	12.5	100
<u>Upper Volta</u>					
Nonmigrants	45.3	30.1	18.7	5.9	100
Internal migrants	28.0	41.0	24.7	6.3	100
External migrants	51.6	32.8	10.5	5.2	100
<u>Ghana</u>					
Nonmigrants	59.1	23.4	6.4	11.1	100
Internal migrants	31.6	45.3	12.1	11.0	100
External migrants	15.9	40.0	19.7	24.4	100

Source: Zachariah and Conde, 1980

definitition non-migrants. The exception is Upper Volta, where the large numbers of children among external migrants are the sons and daughters of emigrants born abroad and either sent back to their parents' region of origin or brought back by return migrants.

Only the censuses of Ghana and Togo give information on the educational status of internal and external migrants. We saw that in Ghana (as in the Ivory Coast, for which we have census data on education only for immigrants) immigrants had less education on the average than native-born persons (except for non-African immigrants, who averaged over six years more schooling [Zachariah and Conde, 1980]. Among persons born within Ghana, those born in rural areas averaged less education than those born in urban areas, in 1960. In 1960, migrants to urban areas from rural areas averaged about two years more schooling than rural-born migrants to rural areas, who were in turn more educated than non-migrants. By 1970, there was little difference between rural-born non-migrants and rural-born migrants to rural areas, and rural-born, rural-urban migrants had less than a year more education on the average than other rural-born persons. Thus, selectivity of migration for education decreased between 1960 and 1970 (Zachariah and Nair 1980:77ff).

Tables 29 and 30 show educational levels for persons over 12 enumerated in Togo and Lome in 1970, broken down by migration status and by sex. Persons enumerated in Lome were far more likely to have attended school (58%) than persons in the country as a whole (19%). Literacy rates in the country as a whole and in Lome were both far higher for men (31% and 79%) than for women (9% and 38%, respectively) (Zachariah and Conde 1980:73). Male immigrants tended to be less educated than male internal migrants for the country as a whole, and

TABLE 29: TOGO: PERCENTAGE DISTRIBUTION OF THE RESIDENT POPULATION AGED TWELVE YEARS AND OVER BY
SEX, EDUCATION, AND MIGRATION STATUS, 1970

<u>Educational level</u>	<u>Non-migrant</u>	<u>Intraregional migrant</u>	<u>Interregional migrant</u>	<u>International migrant</u>	<u>Not specified</u>	<u>Total for each sex</u>	<u>Total male and female</u>
<u>Male</u>							
Cannot read or write	73.6	58.6	62.2	66.4	56.9	69.1	80.9
Primary school	17.3	18.1	15.7	18.7	16.3	17.3	11.0
High school (1-3 years)	8.0	18.7	14.6	9.9	12.5	10.7	6.4
High school or technical education (4 years or more)	1.0	4.2	7.0	3.7	6.4	2.6	1.5
University education	...	0.2	0.3	1.1	0.0	0.2	0.1
Not specified	...	0.2	0.2	0.2	7.9	0.1	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	308,074	77,309	70,908	38,421	1,196	495,908	1,085,975
<u>Female</u>							
Cannot read or write	90.5	93.3	88.5	87.4	87.3	90.8	
Primary school	6.3	4.1	5.9	6.9	5.0	5.7	
High school (1-3 years)	2.7	2.2	4.3	3.2	3.1	2.8	
High school or technical education (4 years or more)	0.4	0.3	1.1	2.0	3.2	0.6	
University education	...	...	...	0.3	...	...
Not specified	...	0.1	0.1	0.2	1.4	0.1	
Total	100.0	100.0	100.0	100.0	100.0	100.0	
Number	313,148	159,842	71,958	43,429	1,690	590,067	

... Less than 0.1 percent

Source: Zachariah and Conde, 1980

TABLE 30: TOGO: PERCENTAGE DISTRIBUTION OF THE RESIDENT POPULATION AGED TWELVE YEARS AND OVER IN LOME COMMUNE BY SEX, EDUCATIONAL LEVEL, AND MIGRATION STATUS, 1970

<u>Educational level</u>	<u>Non-migrant</u>	<u>Intraregional migrant</u>	<u>Interregional migrant</u>	<u>International migrant</u>	<u>Not specified</u>	<u>Total for each sex</u>	<u>Total male and female</u>
<u>Male</u>							
Cannot read or write	16.1	21.2	17.9	34.5	32.7	20.8	42.0
Primary school	30.5	26.6	22.5	23.4	27.2	26.3	21.4
High school (1-3 years)	39.1	37.0	33.2	25.7	23.1	34.9	24.6
High school or technical education (4 years or more)	13.3	13.3	24.6	12.3	10.2	16.1	10.4
University education	0.6	0.9	1.1	3.3	0.0	1.2	0.7
Not specified	0.4	1.0	0.7	0.8	6.8	0.7	0.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	15,113	9,904	11,372	7,097	147	43,633	89,948
<u>Female</u>							
Cannot read or write	47.5	75.3	68.9	67.6	73.1	62.1	
Primary school	23.7	11.9	12.6	12.5	12.2	16.7	
High school (1-3 years)	22.1	8.9	12.4	10.3	9.7	14.9	
High school or technical education (4 years or more)	5.8	2.5	5.3	7.5	2.9	5.1	
University education	...	...	...	1.2	...	0.2	
Not specified	0.9	1.4	0.7	0.9	0.2	1.0	
Total	100.0	100.0	100.0	100.0	100.0	100.0	
Number	17,815	11,601	9,610	7,051	238	46,315	

... Less than 0.1 percent

Source: Zachariah and Conde, 1980

internal migrants were more likely to have attended school than non-migrants. In Lome, however, the relationship is more complex, and male immigrants have a higher proportion of both illiterates and of university graduates than native-born persons. Female immigrants to the country as a whole were slightly more likely to have attended school than native-born women, but, among females enumerated in Lome it is the non-migrants who are better educated than migrants (Zachariah and Conde 1980:73ff).

Employment. In general, data on the employment and occupation of migrants are far less accurate for women than for men, because censuses differed in how women were recorded: thus, fewer than 3% of women over 15 in Upper Volta are recorded as employed, while the ratio in Ivory Coast was 49%. Census data are also generally more accurate and detailed for urban areas than for rural areas, and for the formal sector than for the informal sector. Several national censuses tabulated the employment status and occupation of immigrants and native-born, but only Ghana tabulated economic data by the internal migration status of the respondent.

Table 31 shows a breakdown of the regional labor force by migration status. Of an estimated 12 million workers in 1975, international migrants comprised 11% and internal migrants comprised 18%.

Ivory Coast. The major sources of information on employment of migrants in Ivory Coast are an ILO study (Joshi, Lubell, and Mouli 1976) of data from 1965 to approximately 1971, the 1975 census (Zachariah 1980), and a 1976 survey of the Ministère du Plan, reported in Perspective Decennales du Développement Abidjan (Republique du Cote d'Ivoire 1978). The ILO study uses "formal sector"

TABLE 31 : EMPLOYED PERSONS AGED FIFTEEN YEARS AND OVER BY MIGRATION STATUS

<u>Country</u>	(percent)			<u>Total %</u>	<u>Total Number</u>
	<u>External migrants</u>	<u>Internal migrants</u>	<u>Non-migrants</u>		
Gambia	16.4	21.1	62.6	100	199,800
Ghana	7.2	21.4	71.5	100	3,131,800
Ivory Coast	26.8	21.8	51.4	100	2,605,000
Liberia	8.4	36.8	54.8	100	420,200
Senegal	11.4	19.3	69.3	100	1,351,800
Sierra Leone	4.1	18.8	77.1	100	1,063,800
Togo	7.6	14.0	78.4	100	654,100
Upper Volta	1.8	5.1	93.1	100	2,109,400
Total %	11.1	18.1	70.8	100	
Total number	1,277,200	2,092,400	8,166,300		11,535,900

Source: Zachariah and Conde 1980.

to cover what the Government of Ivory Coast calls the "modern sector", and "informal sector" to cover "traditional sector", but notes that the reporting system for official statistics covers only part of the formal sector.

Table 32 gives an overview of estimated employment by sector. Over 90% of employment is in the primary sector--agriculture, forestry, fishing, or hunting, and the overwhelming majority of this production is in the informal sector (Joshi et al. 1976:6). About 9.8% of employment is in the secondary sector (manufacturing, handicrafts, power, and construction). The bulk of both manufacturing employment (63%) and construction (60%) is also in the informal sector. These figures may actually underestimate the informal sector, since a careful survey of industrial establishments in Sierra Leone showed that 85% of industrial employment was in rural areas in the informal sector (Chuta and Liedholm 1975). In the tertiary, or service sector, roughly 43% of employment was in public administration, and, of the remaining private services, 42% of employment was in the informal sector.

For the city of Abidjan in 1970, the primary sector is insignificant. Abidjan has a disproportionate--51%--share of the secondary and tertiary formal sector employment in Ivory Coast, and the overall share of formal sector employment was also high (64%). However, it is possible that the 1970 figures underestimate the role of the urban, informal sector. A 1976 survey of urban employment (shown on Table 33) estimates total employment in small and intermediate-scale establishments, and in various itinerant and street occupations at 145,070: over three times the 1970 estimate. In the 1976 survey, large-scale enterprises and the civil service account for 47% of total employment (Republique de Cote d'Ivoire 1978).

TABLE 32: EMPLOYMENT IN THE IVORY COAST AND IN ABIDJAN BY SECTOR
AND BY STATUS, 1970

<u>Sector and branch</u>	1970				
	<u>Informal sector</u>			<u>Formal wage and salary earners</u>	<u>Total</u>
	<u>Self-employed and family workers</u>	<u>Wage and salary earners</u>	<u>Sub-total</u>		
Primary sector	1,451,650	289,810	1,741,460	55,640	1,797,100
Secondary sector	114,120	16,400	130,520	82,800	213,320
Industry	59,890	8,400	68,290	40,800	109,090
Construction	54,230	8,000	62,230	42,000	104,230
Tertiary sector	24,940	28,520	53,460	117,360	170,820
Public administration	-	-	-	45,000	45,000
Private services	24,940	28,520	53,460	72,300	125,820
Total	1,590,710	334,730	1,925,440	255,800	2,181,240

Source: Joshi et al. 1976.

TABLE 33: ESTIMATED EMPLOYMENT IN ABIDJAN, 1976

		% of Total Employment
A. Large-scale enterprises and the public sector:		
Primary	3,020	
Industry	27,720	
Construction and public works	18,670	
Transport and communication	18,650	
Services	15,300	
Commerce	12,250	
Total Private and semi-private	95,600	(35%)
Civil service	31,840	(11.7%)
 B. Small-scale establishments and miscellaneous:		
Small- and intermediate-scale establishments	49,720	
Itinerent handicrafts	2,490	
Small-scale commerce	36,160	
Street activities	25,000	
Domestic servants	31,700	
Total small-scale	145,070	(53%)
 Grand Total	 272,510	 (100%)

Source: Republique de Côte d'Ivoire 1978.

In 1970, it was estimated that 72% of African foreign nationals employed in Ivory Coast were engaged in farming, cattle breeding, forestry, fishing, and hunting, compared with 43% of employed Ivory Coast nationals (Joshi et al. 1976:108). The bulk of this employment was in the informal sector. The 1975 census, however, estimated that only about 52% of employed African foreign nationals were in the primary sector, compared with 77% of Ivorian national workers (Zachariah 1980:84). Estimated total employment in 1970 for Ivorians and foreign nationals was about 2.1 million; the census recorded 2.9 million employment in 1975. It is possible that the 1970 estimate was low, since growth of the labor force otherwise would have to average 6.4% per year, which seems high (since labor force participation usually declines as school enrollments increase). The discrepancy could have been due to using the U.N. estimates for Ivory Coast population, which were about 28% below the 1975 census totals (Zachariah 1980:9) in the 1970 estimates of employment.

Table 34 shows that estimates of employment in the formal sector by skill level and nationality for 1965 and 1970 show foreign nationals heavily concentrated in the unskilled category in both years, with Ivorians predominating in the semi-skilled and (to a lesser extent) in the skilled categories, in both years. Non-Africans predominated in the supervisory and technical jobs both in 1965 and 1970, although Ivorians had increased slightly by 1970. In managerial jobs, however, the proportion of expatriates increased slightly between 1965 and 1970, at the expense of Ivorians. Table 35 shows average yearly earnings per employed person in 1965 and 1970, broken down by nationality. For both 1965 and 1975, Ivorians earned two or more times as much, on the average, as African foreign nationals, and

TABLE 34: FORMAL SECTOR WAGE AND SALARY EARNERS IN THE IVORY COAST BY SKILL
LEVEL AND NATIONALITY, 1965 AND 1970

(percentages)

<u>Nationality</u>	<u>Managerial staff</u>	<u>Supervisors and technicians</u>	<u>Skilled workers</u>	<u>Semi-skilled workers</u>	<u>Unskilled workers and apprentices</u>	<u>Total</u>
A. <u>1965</u>						
Ivory Coast nationals	31.9	30.9	56.7	63.0	33.5	46.5
Foreign Africans	1.2	6.7	38.5	36.9	66.4	47.8
Non-Africans	66.9	62.4	4.8	0.1	0.1	5.7
Total	100.0	100.0	100.0	100.0	100.0	100.0
Ivory Coast nationals	1.5	3.4	27.0	36.8	31.3	100.0
Foreign Africans	0.1	0.7	17.8	21.0	60.4	100.0
Non-Africans	25.2	55.4	18.5	0.7	0.2	100.0
Total	2.2	5.1	22.1	27.2	43.4	100.0
B. <u>1970</u>						
Ivory Coast nationals	30.7	33.3	59.4	65.4	37.1	50.3
Foreign Africans	1.3	5.6	36.0	34.4	62.9	43.5
Non-Africans	68.0	61.1	4.6	0.2	-	6.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
Ivory Coast nationals	1.3	3.9	30.7	34.9	29.2	100.0
Foreign Africans	0.1	0.8	21.6	21.3	56.2	100.0
Non-Africans	22.7	57.8	18.9	0.6	-	100.0
Total	2.1	5.9	26.0	26.9	39.1	100.0

Source: Joshi et al. 1976

TABLE 35: FORMAL SECTOR WAGES AND SALARIES PER EMPLOYED PERSON
IN THE IVORY COAST BY NATIONALITY, 1965 AND 1970

	(CFA '000 per annum)	
	<u>1965</u>	<u>1970</u>
Ivory Coast nationals	323	454
African foreign nationals	135	223
Non-African foreign nationals	1,896	2,238

Source: Joshi et al. 1976.

expatriates average five or more times the earnings of Ivorians.

Table 36 shows the percentage of non-Ivorians in different occupational categories. The occupations in which non-Ivorians are relatively concentrated are specialized service workers, sales (particularly for males), administrative/executive, and "non-agricultural production, labor, transport, etc.". Zachariah (1980:88) notes a tendency for young immigrants to be employed in low status occupations and for older immigrants outside agriculture to be in higher status occupations.

Immigrant labor has been particularly important in Ivorian agriculture, because the minimum agricultural wage scale (or SMAG), *Salaire Minimum Agricolaire Garanti*, has tended to be considerably lower than industrial or service wage scales and average agricultural income has fallen progressively farther behind non-agricultural wages (BIRD 1974:27ff). The result has been that Ivorian farmers complain of being unable to find enough agricultural workers. In 1975, the declared deficit was about 15,000 workers, which probably corresponded to a real shortage of about 25,000 to 30,000 workers.

A recent study of farms near Bougouanou (Gastellu 1979) compares them to records from 1954-56 in order to get some indication of change in the availability of labor. What he found was that the average number of household workers--male and female--had risen for all sizes of farms, while the number of workers unrelated to the household had declined for farms under 30 ha. and risen for larger farms. Cultivated area per hired worker had risen somewhat for smaller farms and fallen for larger ones, but cultivated area per agricultural worker (including household members) had fallen substantially. What seemed to have

TABLE 36: PERCENT OF NON-IVORIANS BY OCCUPATION, SEX,
AND RURAL-URBAN RESIDENCE, IVORY COAST, 1975

<u>Occupation</u>	<u>Males</u>	<u>Females</u>	<u>Total</u>
		<u>Total</u>	
Professional, technical, etc.	30.6	41.9	32.4
Administrative, executive, etc.	50.3	40.0	49.8
Clerical, etc.	19.0	25.5	20.2
Sales, etc.	71.4	32.4	50.3
Specialized service workers	67.3	59.7	65.6
Farming, cattle breeding, etc.	23.5	9.7	18.2
Non-agricultural production, labor	46.6	17.6	44.4
Not classified	<u>25.4</u>	<u>15.5</u>	<u>23.6</u>
Total	31.1	13.8	25.5
		<u>Rural</u>	
Professional technical, etc.	12.5	29.6	13.5
Administrative, executive, etc.	70.0	--	69.9
Clerical, etc.	20.6	19.7	20.5
Sales, etc.	56.8	23.6	31.6
Specialized service workers	45.1	57.9	49.3
Farming, cattle breeding, etc.	22.0	9.4	17.1
Non-agricultural production, labor	42.8	11.5	30.6
Not classified	<u>21.0</u>	<u>6.5</u>	<u>18.4</u>
Total	23.6	10.4	18.6
		<u>Urban</u>	
Professional technical, etc.	37.9	43.1	39.0
Administrative, executive, etc.	45.8	40.0	45.5
Clerical, etc.	18.8	25.9	20.1
Sales, etc.	74.2	38.9	58.4
Specialized service workers	69.6	60.1	67.5
Farming, cattle breeding, etc.	43.0	15.8	36.2
Non-agricultural production, labor	47.8	20.6	46.0
Not classified	<u>27.2</u>	<u>19.4</u>	<u>25.8</u>
Total	47.5	32.0	44.4

Source: Zachariah, 1980

happened, then, was a relative decrease in the work carried out by hired workers, and an increase in the household work force. There was a redistribution of hired workers from smaller to larger farms, and this, combined with their relative diminution, led to increasing perceived scarcity. In absolute terms, however, the numbers of workers had not decreased.

When young, unemployed males in urban areas were asked if they were willing to accept work as laborers on a "modern" farm or lumbering enterprise, the number saying they were willing to accept such work varied from about 25% (in San Pedro) to 40 or 50% (in Bouake or Abidjan). Of those refusing to accept such work in principle, many cited low salaries as a reason (Dessallien and Hauser 1978). In 1977, agricultural workers on modern farms receiving lodging were paid 13,000 FCFA per month, while the SMIG was 19,932 FCFA.

Ghana.^{1/} Table 37 shows the distribution by major industrial group of workers in Ghana, broken down by migration status. Agriculture furnished the largest share of employment in both 1960 and 1970 for all groups: the proportion of non-migrants employed in agriculture was highest, followed by intra-regional migrants, in that order. Immigrants were less likely to be farmers and farm managers than Ghanains, and more

1/ We know relatively little from published sources on recent trends in employment and migration in Ghana, but a recently released Summary Report on Household Economic Survey 1974-75 (Central Bureau of Statistics, Accra 1979) may include more recent data. However, it is possible to infer the likely directions of change from general reports on the economy.

The preliminary 1979 estimate for Ghana's total population is 11.3 million which implies a 3.5% average annual increase in population, 1970-1979, which is surprisingly high, compared with 2.4% average annual increase, 1960-70. The natural rate of increase is roughly 31 per thousand, which implies that part of total growth comes from immigration (including the return of children born outside Ghana to Ghanain parents). It is possible, however, that official estimates overstate the de facto population.

Although Ghana's economic situation has deteriorated steadily over the last decade, the available estimates show continued rapid growth of urban population at 5.3% per year from 1970 to 1979 (the average annual urban growth was 4.7% in the previous decade). About 60% of the urban growth is attributable to natural increase, and the remainder to net rural-urban migration, external migration, and reclassification of localities. Some of the increase in the rate of urban growth is probably due to recent decreases in rural incomes.

The tax burden on the cocoa industry has been extremely heavy--supplying one-quarter to one-half of all government revenues over the past decade (World Bank, Ghana: Report on Domestic Resource Mobilization, Report No. 3072-GH). Real incomes for cocoa farmers have fallen by one-half since 1963--partly due to declines in real prices, partly due to unavailability of sprayers, insecticides, and transport due to the general shortage of foreign exchange. The low producers' price reduces the wages farmers can afford to pay, and there have been shortages of workers since the Alien Compliance Order of 1969. The result has been that farmers have shifted land from cocoa to food crops, particularly rice, maize, cassava and plantain, which can be sold on the open market. The likely result is reduction in the total employment furnished by agriculture in the forest zone, and consequent reduction of migration from northern Ghana to rural areas of the forest zone (in contrast to Ivory Coast and Togo, where the forest regions have received the largest shares of internal migrants settling in rural areas).

TABLE 37: GHANA: PERCENTAGE DISTRIBUTION OF MIGRANTS AND NONMIGRANTS BY
MAJOR INDUSTRIAL GROUP, 1960 AND 1970

<u>Sector</u>	1960				1970			
	<u>Non- migrants</u>	<u>Intra- regional migrants</u>	<u>Inter- regional migrants</u>	<u>Immigrants</u>	<u>Non- migrants</u>	<u>Intra- regional migrants</u>	<u>Inter- regional migrants</u>	<u>Immigrants</u>
		<u>Both sexes</u>				<u>Both sexes</u>		
Agriculture	71.9	62.7	44.2	45.3	66.4	59.0	39.8	54.5
Mining	0.3	1.3	4.0	6.0	0.3	0.8	2.1	2.3
Manufacturing	8.2	10.7	11.2	7.9	10.5	12.6	14.8	10.8
Construction	2.2	2.8	6.7	5.7	1.7	1.6	3.9	3.7
Utilities	0.2	0.5	1.4	0.9	0.2	0.3	0.8	0.5
Commerce	12.5	13.4	15.4	22.3	13.4	13.7	15.9	11.0
Transport	1.9	2.9	4.2	2.9	1.9	2.3	4.1	3.5
Services	3.0	5.7	12.8	8.9	5.6	9.7	18.6	13.7
All industries	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Zachariah and Nair 1980.
Zachariah and Conde 1980.

likely to be farm workers. Between 1960 and 1970, all groups except immigrants saw a decline in the proportion employed in agriculture.

In 1960, immigrants were relatively concentrated in commerce, mining, and services where they tended to be unskilled laborers. Among the industrial sub-groups immigrants tended to enter in 1960 were: diamond mining, food processing, livestock production, slaughtering and butchering, manufacturing non-metallic mineral products, wholesale trade, petty trade, trade in motor vehicles, and personal and domestic services. Between 1960 and 1970, the total number of immigrant workers decreased by 35%. The industries most affected were mining, commerce, and construction.

Internal migrants were relatively concentrated in commerce in 1960, but by 1970, service had become the predominant source of non-agricultural employment for interregional migrants.

ISSUES

The Relationship between Education and Rural-Urban Migration

We have seen that rural-urban migration rates increase with the level of education. The nature of the relationships between schooling and migration is not clear, however. One possibility is that education increases expected urban income, by increasing the migrant's chances for employment in the modern sector and by qualifying candidates for relatively well-paid, clerical and administrative occupations.

Another possibility is that schools teach youngsters to prefer white collar jobs to manual work, and to prefer an urban lifestyle to a rural one. An implication of this second hypothesis is that the attitudes instilled by the schools have an effect on migration that can be separated from the effect of factors like income differentials between rural and urban areas, or real differences in the amenities and social services available in the countryside and in towns.

Hanson (1980:7) summarizes available data on students' attitudes toward farming from anglophone West Africa. In western Nigeria during the late 1960's, rural students did aspire toward white collar occupations. However, primary school-leavers from eastern Nigeria preferred "modern farming" to being a clerk or primary school teacher, although they ranked "traditional farming" as far less desirable.^{1/} Studies of school-leavers in Ghana found that the attitudes of students and educated and uneducated factory workers toward farming as an occupation varied with their access to land and labor. Many young workers planned to go into farming when they were older and had either inherited land or would be able to purchase it, and when they were able to hire farm

^{1/} Many of the students were, in fact, employed in farm settlements.

labor.

A survey of young, unemployed school-leavers in urban Ivory Coast gave similar results. It showed that only 12 to 29% were unwilling to participate in a hypothetical farm settlement scheme, although numbers varied somewhat according to the location of the farms (Dessallien and Hauser 1978:67-73). When asked why they had not themselves become farmers, many cited lack of land and capital. While most intended, if they found work, to continue as wage earners throughout their working life, some 16 to 27% in each location said they would leave the formal sector after about ten years. Of this group, most said they would enter farming or commerce. When respondents were asked about their retirement plans, the majority saw themselves as farmers.

Surveys of secondary school students in Ghana, Ivory Coast, and Nigeria similarly found that, while few students expected to be farmers, 9 to 14% aspired to other careers in agriculture. Hanson (1980:21) concluded that choice of occupation was being influenced by more by expected earnings than by "school-fostered disinclination toward agriculture". We will see that marketing, trade and exchange policies in many West African countries worked to the farmers' disadvantage during these years, and rural incomes often lagged behind urban ones.

Data from Sierra Leone gives an idea of the effect of education on migration rates and earning differentials between rural and urban areas. Rates of gross rural-urban migration were more than six times as high for educated persons as for the uneducated, at all ages, for both men and women (Byerlee, Tommy, and Fattoo 1976:40). Table 38 compares rural and urban wage rates for educated males and for those

TABLE 38: COMPARISON OF RURAL AND URBAN WAGE RATES, SIERRA LEONE

<u>Rural Areas</u>		<u>Urban Areas</u>		
<u>Region</u>	<u>Wage (Le./Hr.)</u>	<u>Employer</u>	<u>Education (Le./Hr.)</u>	<u>Educated (Le./Hr.)</u>
1. Scarcies	.13	Government	.19	.35
2. Southern coast	.08	Private large-scale sector	.38	.37
3. Northern plains	.07	Small-scale sector	.15	.21
4. Riverain	.08	Average urban wage ^{a/}	.25	.35
5. Bolilands	.07	Expected wage of youth 15 to 24 given probability of unemployment ^{b/}	.11	.18
6. Moa basin	.08			
7. Northern plateau	.08			
8. Southern plains	.11			
Average rural wage	.08			

^{a/} Average over all employers and all age cohorts.

^{b/} Average wage for youths 15 to 24 years of age multiplied by probability of employment for that age and education group.

Source: Byerlee, Tommy, and Fadoo, 1976

without schooling; on the average, the educated earned 40% more than the unschooled. When unemployment rates were taken into account, expected income for males 15 to 24 still averaged more than two times the average rural wage.

Several recent studies in Ghana have tried to trace school-leavers (i.e., graduates) to find out actual employment rates and migration patterns. One of the most interesting findings was that school-leavers who remained in rural areas had far higher unemployment than those in urban areas (Hanson 1980:31) and that those who migrated had been the most likely to find work. A survey of 312 head teachers that traced 4,229 rural, middle school-leavers who graduated in 1975 (Rhoda 1980) gave the results shown on Table 39. About one graduate in five had entered secondary or vocational school; about 12% were apprenticed; about 30% were helping with family work (mostly farming), and (among males) some 20% had found work either in the formal sector or outside it. Among women the number of persons holding jobs was lower, and 20% were married or pregnant. Twelve percent of males and 9% of females were unemployed and looking for a job. The highest migration rates (60%) were among those students who continued in schools; only 38% of non-students moved within 18 months of graduation.

On the whole, rural, middle school-leavers were more likely to help their families after leaving middle school and less likely to continue school than urban middle school-leavers. When the male school-leavers of 1975 were compared to male school-leavers of 1970, more 1975 school-leavers had found employment and more were helping on the family farm, while fewer were unemployed. Migration rates in 1975 were roughly the same as in 1965-66; there had been no overall increase. As in previous studies, migrants were more likely to have

TABLE 29: ACTIVITY OF MIDDLE SCHOOL GRADUATES BY AGE AND EXAMINATION RESULTS, GHANA, CLASS OF 1975

<u>Activity</u>	<u>Under 18</u>		<u>Over 18</u>		<u>All males</u>		<u>Grand Total</u>
	<u>Pass</u>	<u>Fail</u>	<u>Pass</u>	<u>Fail</u>	<u>Pass</u>	<u>Fail</u>	
<u>A. Male</u>							
Continuing school	31%	10%	19%	9%	22%	9%	19%
RMS or WTCS ^a /	2%	13%	1%	8%	1%	8%	3%
Apprenticed	12%	20%	14%	16%	13%	16%	14%
Helping family	28%	33%	29%	38%	29%	37%	31%
Looking for a job	13%	6%	13%	10%	13%	11%	12%
Formal sector job	8%	7%	12%	7%	11%	7%	10%
Other jobs	7%	10%	12%	12%	11%	11%	11%
Total	100%	100%	100%	100%	100%	100%	100%
Number	471	138	1,404	474	2,086	701	2,788
<u>B. Female</u>							
Continuing school	29%	14%	16%	10%	21%	11%	18%
RMS or WTCS ^a	2%	12%	2%	8%	2%	9%	4%
Apprenticed	5%	12%	9%	10%	8%	10%	9%
Helping family	22%	27%	29%	31%	26%	30%	27%
Married or pregnant	13%	23%	21%	25%	18%	25%	20%
Looking for a job	12%	4%	8%	7%	10%	6%	9%
Formal sector job	5%	1%	7%	2%	6%	2%	5%
Other job	8%	7%	8%	8%	9%	8%	8%
Total	100%	100%	100%	100%	100%	100%	100%
Number	277	154	549	312	934	501	1,441

a/ Repeat Middle School or Waiting to Continue School.

Source: Rhoda, 1980

found jobs than non-migrants.

Although unemployed school-leavers in the capital city receive large amounts of attention, they actually comprise 4.8% of 1975 middle school-leavers who did not continue in school. Of these, almost a fourth were Accra residents, so unemployed in-migrants to Accra 18-22 months after graduation comprised 3.7% of the non-student graduates of 1975 (Rhoda 1980:68). The vast bulk of middle school-leavers who did not continue their education were elsewhere.

It is not only middle school-leavers who encounter difficulty in finding employment: the Government of Ivory Coast this year has been extremely concerned that 800 university graduates in law and literature have been unable to find jobs (Fraternite Matin 29/10/81:33). What is most difficult is that there is substantial unmet demand for trained personnel, and the cost of expatriate technicians and managers is exorbitant. At the same time, students and educators lack information about the future state of the job market, and find themselves guided by past demand and past salary structure.

The social rates of return to education are substantial: recent estimates for Africa (cited in World Bank 1981:6.2) were 29% for primary education, 17% for secondary, and 12% for higher education. One policy course often suggested is increasing the resources allocated to primary education, at the expense of secondary and higher education (Hanson 1980:82). It is also often suggested that students and their families bear a greater part of the cost of education above the secondary level, but this change could be politically difficult to implement (World Bank 1981:6.6).

Another remedy often advocated for the effect of schools on migration is curriculum reform to make primary and post-primary

education more relevant to rural needs. An example is Senegal's efforts in "practical middle education" which tries to consolidate primary education and prepare primary school-leavers to become productive rural denizens. At the same time, it tries to encourage the rural community itself to decide on its training needs for both illiterate members and persons with some education (Slyder and Savane 1977:106). Unfortunately, we have little information on the impact of these efforts on rural-urban migration rates.

On the Impact of Migration on the Sending Areas

There is still a dearth of information on the effects of emigration and out-migration on rural sending areas. The impacts that are most often discussed include: the loss of young adults and effect on dependency ratios, the remittances sent back by migrants, and the role of return migrants as innovators and disseminators of new ideas. We will take these one by one.

The demographic impact of migration depends on the composition of the emigrant or out-migrant group. Where only men migrate, and women and children remain behind, migration will have little effect on population density and population increase. Where whole families migrate, the effect is to decrease the rate of population growth. Often, the earliest migrants from a community are exclusively males who remain away for relatively short periods, and there is a later transition to migration of whole families. We saw this was the case in Upper Volta. On the other hand, the Soninke areas along the Senegal River have a very long-standing pattern of exclusively male emigration (Kane and Lericollais 1975).

In some European and Latin American contexts, rural-urban migration rates are so high relative to natural increase that rural

communities find themselves shrinking as young people leave for the city. For example, Latin American rural-urban net migration rates (except for Costa Rica) were between 1 and 2.8 per hundred rural residents (Shaw 1976). We saw that West African rates ranged from about 0.3 to 1.2 per hundred rural residents during 1965-75--considerably under the rate of natural increase in rural areas, so that out-migration was slowing growth rates, rather than causing absolute declines in population.

We have few studies of the effect of out-migration on agriculture and rural manufacturing. Recent theoretical work contends that out-migration leads to increased productivity for the remaining workers only where the labor that was removed was redundant, where remaining workers intensify their labor, or where there is technological change in response to the increasing scarcity of labor (Findley 1977:49).

Where most out-migrants are male, the work force remaining in the sending areas grows more and more heavily female. Much of the early work on this problem comes from reserve areas in east and southern Africa (Richard 1939, Watson 1958, Boserup 1970). Unfortunately, these studies give little information on specific adaptations to the reduced availability of male labor, and we have even less information from West Africa (Smale 1980 and Bonte 1980 are exceptions). Little as we know about women in West Africa who migrate, we know even less about those who remain behind (Youssef, Buvinic, and Kudat 1979:8, 48-49, 92ff).

Opinions differ as to the magnitude of remittances from migrants to their home villages and the uses they are put to. Some authors feel that the remittances and the savings of migrants are a source of investment capital for modernising rural agriculture (Rempel and

and Lobdell 1978). Caldwell (1969:168-170) found that 33% of all Ghanaian rural households received money, that about half of households with migrant members received money at least once a month, and that about a third of such households judged that they would be "very poor" without remittances. Roughly 70% of households with migrant members used remittances chiefly for maintenance. Caldwell estimated that about one-tenth of all earned income in Accra flowed out of the city as remittances, savings, or goods to rural areas. Kane and Lericollais (1975:184) estimated in 1972 that Soninke working in France sent 200,000 FCFA per worker per year to their families. The money was used for consumption expenses, for bride prices, was saved in the form of gold, jewels, cattle, or real estate, and was sometimes used to buy agricultural equipment, which served mostly as a prestige good. At least one return migrant, however, brought back with him a motoculteur and deisel pump, and arranged for technical assistance to learn how to use them (Adams 1977:135ff) to cultivate vegetables in irrigated plots.

Other studies have found that remittances from rural areas to urban ones balance or exceed urban-rural remittances, and that transfers among migrants are also important. For example, migrants in urban areas of Sierra Leone who had jobs, devoted about 17% of their income to supporting relatives without jobs. They sent about \$3.62 (about 5% of income) to rural areas each month in cash and goods, but also received, on the average, \$2.22 each month from rural areas, mostly in the form of food (Byerlee, Tommy, and Fadoo 1976:56ff). The net transfer from employed migrants to rural areas was therefore quite small. Unemployed migrants, scholars, apprentices, and others received somewhat more from rural areas than they sent. The overall

net flow of funds was only slightly in favor of the rural areas. A study of migration in Western Nigeria in 1971-72 estimated a net annual rural-urban transfer of \$23.03 per migrant (Essang and Mabawonku 1974:27).

However, these studies discussed internal migration. International migration seems to generate larger remittances (Rempel and Lobdell 1978:329) from absent workers, and households in the Sahelian states have fewer students, and probably fewer students attending secondary schools in urban areas. Table 40 shows official remittances from and to selected West African countries. Since the figures do not include remittances through private channels, they should be taken as minimum figures. Upper Volta is (as would be expected) the largest net recipient, and Ivory Coast is the largest net sender. However, the countries of the region sent out far more (\$473 million) than was received in the region, and it is likely that most of this money was sent by expatriate workers to France.

There is only limited evidence on the uses of migrants' remittances. Some studies in Asia and East Africa show remittances being used as working capital by farms in the sending area (Gaude and Peek 1976:332). However, other authors have concluded that little of the money sent by individual migrants is directly invested in agriculture, but that the greatest part goes for day to day consumption needs, for school fees, and to pay debts and taxes (Bugnicourt 1974, Rempel and Lobdell 1978). However, we noted previously that migrant associations in Nigeria often levied monies for village development projects, particularly for schools, dispensaries, road and bridges (Gugler and Flanagan 1978:65-67).

We have seen that among older migrants, rates of return migration are generally high, and it has often been suggested that returned

TABLE 40: WORKERS' REMITTANCES IN SELECTED
WEST AFRICAN COUNTRIES, 1970-74

(millions of U.S. dollars)

<u>Country</u>	<u>Amount received</u>	<u>Amount sent out</u>	<u>Net receipt</u>
Gambia	n.a.	7.9	- 7.9
Ghana	n.a.	35.9	- 35.9
Ivory Coast	18.8	502.3	-483.5
Mali	44.6	n.a.	44.6
Senegal	32.1	111.8	- 79.7
Togo	n.a.	21.0	- 21.0
Upper Volta	137.0	26.3	110.7
Net gain			155.3
Net loss			-628.0
Total	232.5	705.2	-472.7

Source: Zachariah and Conde 1980.

migrants serve as innovators, for example, in introducing cash crops (Simmons et al. 1977:35), or in establishing stores or small industrial enterprises (Findley 1977:51), that use skills that were acquired in towns. Other authors are more pessimistic, contending, for example, that the skills Soninke emigrants learn in France are useless in the areas of origin (Kane and Lericollais 1975:187). Studies of returned migrants in southern Europe and the Caribbean have seldom shown they act as innovators in their places of origin; the exception is where the home region industrializes rapidly, as was the case for Puerto Rico (King 1978:178-179).

In 1965, Berg concluded:

...village output should not be much affected by migration in West Africa. Village production of cash crops and handicrafts does decline, and the stock of public facilities in the villages might be smaller than it would be in the absence of migration. (Even these negative effects are diminished, however, if longer-term considerations are taken into account, as the loss in man-hours devoted to public improvements and cash-crop production is at least partly balanced by a secular, migration-induced trend toward new and better techniques. These arise, on the one hand, from the importation of ideas and knowledge, and, on the other, from the use of goods whose purchase has been financed by migrant earnings: cement, better and cheaper axes, buckets, bottles, for example, and bicycles (which are an important form of transport in the village).

Fifteen years later, this assessment seems overly optimistic. However, condemning rural-urban migration as the cause of rural stagnation, as in the following excerpt of an address to the Assemblée Nationale of Ivory Coast, is to seize on another aspect of the problem:

"L'exode rural ... est un phénomène pernicieux que tous les responsables dénoncent et combattent depuis de nombreuses années ... la cause de la devitalisation des villages et des campagnes... En effet, l'exode provoque un vieillissement du paysannat, un abaissement, toutes choses égales, de la productivité du travail agricole, et prépare inéluctablement l'effondrement ... de notre économie rurale d'abord, puis, ensuite, de l'économie nationale." (Address by President Henri Konan Bedie to the budget session of the Assemblée Nationale, reported *Fraternité Matin*, 16 Octobre 1981, p.18).

However, the vast bulk of studies show that migration benefits the migrants: "migrants go where the jobs and the opportunities are and where they will improve their living conditions" (Renaud 1979:100). Therefore, decisions by government planners and by entrepreneurs on where to locate new infrastructure and new plants become important. What influences these decisions will be examined in the next section.

Urban Development Policy and its Impact on Migration

A recent World Bank paper (Renaud 1979) discussed several of the common problems found in urban and regional planning in developing countries. There is a tendency to use unrealistically low population projections, a tendency to blame migration for all urban growth (ignoring the contribution of natural increase in the resident population), and a tendency to form policies aimed at keeping newcomers out of the capital region, without looking at the root causes of migration.

In the section on rural-urban migration, we saw that the largest cities often gain disproportionately from migration, at the expense of smaller towns. One commonly proposed remedy for the concentration of urban population in the largest city is decentralization. The location of manufacturing becomes important in such proposals because manufacturing firms are more mobile than, for example, service firms, and because increases in manufacturing employment usually has larger multiplier effect on the local economy than increased employment in the service sector. Deciding where to locate a firm involves considerable uncertainty, and for most sorts of activities, the most likely location choice is the largest city. There are a number of reasons for this tendency: the country's transportation system often serves only a few locations effectively, specialized business services

(e.g., repair services, consulting services) are often available only in the largest city, and only large cities have a pool of skilled labor, and a sufficiently large market that inputs are likely to be available when needed unexpectedly (Renaud 1979:94-97).

For most limited market economies in Africa (listed in Table 3), efforts at decentralizing are likely to be premature, because smaller cities are seldom able to supply the needs of large-scale manufacturing firms, or to absorb their output. Given the low density of population, the scarcity of management capacity, and low levels of urbanization, decentralization policies even in the larger low-income African countries seem misguided (Renaud 1979:165-168). A reasonable strategy for urban development has several components: modifying national economic strategies biased against rural areas, improving services and planning in existing cities, and allocating investment and infrastructure among regions.

A number of types of national economic policies have effects on the spatial distribution of population. Foreign exchange policy is important; when currency has become overvalued and import restrictions are used to limit demand for foreign exchange, there is a tendency to give priority to those imports destined for large-scale industrial enterprises (capital equipment and raw materials) and to food imports destined largely for urban markets. Where there are tariff and tax incentives for new industry, and strong protection accorded to new industries, these measures usually are applied only to large-scale manufacturing enterprises. For example, Liedholm and Shuta (1976:112-114) found that most imported equipment and inputs for small-scale enterprises in Sierra Leone were taxed at 16 to 36.5%, while most imported equipment and inputs for large-scale enterprises were exempt

from duty. Protection of large-scale enterprises also taxed SSEs: for example, the large flour mill in Sierra Leone was granted an exclusive import license, and is thus a monopoly supplier to small-scale bakeshops. Its flour is more than twice as expensive as imported flour.

Since large-scale industry is heavily concentrated in urban areas while SSEs are predominantly rural (for Sierra Leone see Liedholm and Chuta 1976:18), the direct and indirect benefits from national trade policies are similarly concentrated. For example, a study of Nigerian industry showed that about 90% of the indirect subsidies from investment incentives and protection accrued to the Lagos region (Renaud 1979:122). The effect of these policies is to raise the cost of imported consumer goods (thus lowering real income) and to lower the price that can be paid to farmers for export crops. In general, factors that lower rural income and encourage large-scale manufacturing can be expected to increase rates of rural-urban migration.

Rural Development and its Impact on Migration

Assessing the effect of rural development efforts in West Africa on migration is difficult. Detailed monitoring of rural development projects is rare, and it is seldom that one knows the proportion of households that participated in development activities, the consequent changes in household income and well-being, and the change over time in age-specific and sex-specific rates of migration for different levels of education. Although it is common for planners to assert that rural development activities will slow rural-urban migration, it is rare to find evidence that that has been the case. Indeed, looking at the general migration literature, some of the effects of rural development would seem likely to accelerate rural-urban migration.

Sorting out the factors influencing migration can be difficult.

For example, high income, rural areas tend to have high rates of out-migration, and some studies have shown that migrating individuals tend to come from high income households (Rhoda 1979:24f). However, these are not direct effects. High income, rural regions generally have good access to markets, and migration generally increases as distance declines. High income households are more likely to educate their children than poorer households, and we have seen that the educated are far more likely to migrate to urban destinations than the unschooled. Theory argues that if it were possible to raise the income of rural households without influencing ease of access to urban areas and level of education, and while holding expected urban incomes constant, rural-urban migration rates would be likely to decrease. In the real world, however, it is seldom possible to hold intervening variables constant, and development activities are likely to have mixed effects.

Table 41 shows excerpts from Rhoda's assessment of short-term and long-term effects of different sorts of development efforts. In many cases, there is insufficient evidence for Africa to make firm generalizations. We will start with interventions for agricultural development. For example, mechanization, in principle, can displace labor (e.g., in Nigeria, Findley 1977:77) or it can increase demand for labor by permitting expansion of cultivated area or double cropping. However, in practice, tractors and animal traction equipment have had very different effects. Tractorization on smallholder farms in Africa entails high capital and overhead costs, and production increases are often far less than envisaged. Thus, tractorization projects have often had less impact on demand for labor, and conse-

TABLE 41: MIGRATION IMPLICATIONS OF SPECIFIC DEVELOPMENT ACTIVITIES IN RURAL AREAS:
SOME ROUGH GENERALIZATIONS BASED ON MIGRATION LITERATURE AND DEVELOPMENT
PROJECT EXPERIENCE

<u>Development Activity</u>	<u>Effects on Rural Population</u>	<u>Impact on Migration</u>
LAND COLONIALIZATION AND RURAL RESETTLEMENT	Provides fresh opportunity for potential small and middle farmers.	Can cause slight reduction on population pressure for rural out-migration. May possibly result in some urban-rural migration.
Net Impact:	WEAK SLOWING OF RURAL-URBAN MIGRATION IN SHORT RUN.	
MECHANIZATION-TRACTORS, HARVESTERS, ETC.	May reduce demand for rural labor.	Can stimulate rural-rural migration, might add to rural-urban migration.
	May possibly increase demand for labor by enabling double cropping or increased acreages.	Can slow rural out-migration, might reduce rural-urban migration, can stimulate in-migration from other areas.
	Increased rural-urban integration.	Can stimulate rural-urban migration.
Net Impact:	MODERATE ACCELERATION OF RURAL-URBAN MIGRATION IN SHORT AND LONG RUN.	
MECHANICAL IRRIGATION	Increased production due to double cropping and added acreage, added rural incomes in proportion to land holdings.	Can increase in-migration from other rural areas, may reduce rural-urban migration, in short run.
Net Impact:	MODERATE SLOWING OF RURAL-URBAN MIGRATION IN SHORT RUN AND LONG RUN.	

Table 41 (cont.)

<u>Development Activity</u>	<u>Effects on Rural Population</u>	<u>Impact on Migration</u>
AGRICULTURAL SERVICES; CREDIT AND EXTENSION	Generally benefits large and progressive farmers, increases their incomes.	May reduce migration to urban centers in short term. May increase urban migration of educated youth.
	Increased commercialization of agriculture, modernity of farmers, and rural-urban integration.	Can stimulate additional rural-urban migration
	General exclusion of smallest farmers and landless, increases rural inequity and poverty.	May increase or decrease rural out-migration depending on whether poor have sufficient funds to finance migration.
Net Impact:	MIXED IMPACT IN SHORT RUN, WEAK ACCELERATION OF RURAL-URBAN MIGRATION IN LONG RUN.	
OFF-FARM EMPLOYMENT IN RURAL ENTERPRISES	Can increase employment and income levels.	Can reduce rural-big city migration.
	Added employment and economic activity in small towns and market centers.	Will stimulate rural to small center migration. May add to big city migration through stage migration.
	Acquisition of improved and modern management and vocational skills.	May increase chances of employment in big cities thus adding to big city migration.
Net Impact:	STRONG ACCELERATION OF RURAL TO SMALL TOWN MIGRATION AND SLIGHT SLOWING OF RURAL TO BIG CITY MIGRATION IN SHORT RUN. MODERATE ACCELERATION OF MIGRATION TO BOTH SMALL AND LARGE URBAN CENTERS IN LONG RUN.	
RURAL PUBLIC WORKS GENERAL	Can provide immediate employment for skilled and unskilled workers.	Can reduce rural-urban migration and even stimulate urban-rural migration in short run.

Table 41 (cont.)

<u>Development Activity</u>	<u>Effects on Rural Population</u>	<u>Impact on Migration</u>
RURAL PUBLIC WORKS GENERAL (cont.)	Provides job skills and familiarity with modern sector. Generated incomes are likely to increase demand for urban goods and services.	Can stimulate rural-urban migration upon completion of project. Can stimulate employment generation and migration to small urban centers.
Net Impact:	STRONG SLOWING OF RURAL-URBAN MIGRATION IN VERY SHORT RUN, MODERATE ACCELERATION OF MIGRATION IN MIDDLE AND LONG RUN.	
RURAL ROADS	Increase rural-urban integration and commercialization of agriculture.	Can stimulate rural-urban migration.
Net Impact:	STRONG SLOWING OF RURAL-URBAN MIGRATION IN VERY SHORT RUN, STRONG ACCELERATION OF MIGRATION IN MIDDLE AND LONG RUN.	
RURAL ELECTRIFICATION	Increased agricultural and rural enterprise productivity and income. Increased awareness and rural-urban integration. May be perceived as an important amenity.	May reduce rural out-migration. May increase rural-urban migration. Might possibly reduce rural out-migration.
Net Impact:	VERY WEAK SLOWING OF RURAL-URBAN MIGRATION IN BOTH SHORT AND LONG RUN.	
RURAL SOCIAL SERVICES: EDUCATION	Formal education imparts modern-urban skills, attitudes and values. Nonformal education also imparts needed urban skills such as literacy, modernity, etc.	Will increase rural-urban migration. Will stimulate rural-urban migration, but not as much as academic formal education.
Net Impact:	WEAK SLOWING OF RURAL-URBAN MIGRATION IN VERY SHORT RUN, VERY STRONG ACCELERATION OF RURAL-URBAN MIGRATION IN MIDDLE AND LONG RUN.	

Table 41 (cont.)

<u>Development Activity</u>	<u>Effects on Rural Population</u>	<u>Impact on Migration</u>
FAMILY PLANNING PROGRAMS	If successful, fertility declines should occur first in more modern families.	Will eventually reduce rural-urban migration.
	May also reduce size of largest families.	Will eventually reduce rural-urban migration.
Net Impact:	MODERATE SLOWING OF RURAL-URBAN MIGRATION IN LONG RUN.	
POTABLE WATER SUPPLY	May improve health, productivity, and rural incomes.	May reduce rural out-migration in short run.
Net Impact:	VERY WEAK SLOWING OF RURAL-URBAN MIGRATION IN SHORT RUN, MIXED IMPACT IN LONG RUN.	
RURAL HEALTH SERVICES AND IMPROVED DIET	Will reduce mortality and increase population pressure in short run.	Can increase rural out-migration.
	Increase productivity and rural incomes.	May reduce rural out-migration in short run.
	Reduced infant mortality can contribute to fertility decline in long run.	Can reduce rural-urban migration in long run.
Net Impact:	VERY WEAK SLOWING OF RURAL-URBAN MIGRATION IN SHORT RUN, MIXED IMPACT IN LONG RUN.	
DIRECT AND INDIRECT ACTIVITIES OF INTERNATIONAL DEVELOPMENT AGENCIES	Large operating and project expenditures in cities.	Expenditures and their multipliers stimulate considerable employment and thus will stimulate migration to cities.
Net Impact:	MODERATE ACCELERATION OF RURAL-URBAN MIGRATION WHILE AGENCIES ARE ACTIVE IN THE COUNTRY.	

quently on rural-rural migration,, than would have been predicted (Lele 1975:33-36).

Animal traction equipment, although lower in cost and easier to maintain than tractors, still requires substantial support services, and adoption rates are low when such services are not available. Another problem is that farms must have more than about 4 ha. to pay off the cost of donkey traction equipment and more than about 6 ha. to pay off the cost of ox-drawn equipment; and even with these minimum areas, the first years of using the equipment puts a heavy drain on household resources (Sargent et al. 1980). Thus, in some areas, only well-off farms can afford the equipment, and there is the possibility that inequality among households will be increased, and that this in turn will increase out-migration. However, Lele (1975:37) feels that local manufacture and repair of equipment would increase non-agricultural employment and income (with, presumably, the net effect of lowering out-migration).

Generalizing about the effects on migration of land reform and agricultural credit and extension programs is almost equally difficult because of the same sorts of mixed effects. What is necessary in evaluating the impact of these programs is knowing what has happened to the factors that we know affect migration: household income, education, rural off-farm employment, farm productivity and cultivated area and the need for agricultural labor. We also have to know what proportion of households have the means to participate in these programs. It is common to generalize that agricultural workers without land (i.e., sharecroppers or wage workers) are rare in sub-Saharan Africa, and that only the availability of labor limits farm size (Anthony, Johnston, Jones and Uchendu 1979:28, 175). However, Reyna

(1981) and others have argued that access to land is becoming increasingly unequal in some densely settled areas experiencing rapid population growth. Hanson (1980:28) suggests that lack of access to land may be the cause of out-migration from some areas. It can also be a reason for unequal distribution of benefits from improvements in agricultural extension and services.

At several points in his analysis of agricultural development efforts, Rhoda assumes that where interventions increase farmer productivity and income, they also increase demand for urban goods and services. We have little information on rural consumption patterns for most areas. However, studies in Sierra Leone showed that rural areas supplied more than three-fourths of consumption expenditures for rural households, and just over half of all cash expenditures (King and Byerlee 1977:21). Table 42 shows a breakdown of marginal propensities to consume (MPC)--that is, the change in expenditure on a single commodity (or group) that can be expected in response to an increase in income--broken down by the area of origin for the commodities, and by the income class of the household. In general, there is relatively little variation among income classes in consumption patterns. MPC for subsistence consumption decreases sharply as income class rises, while the marginal propensity to consume rural services and ceremonial goods increases with income. For all income classes, the MPC for goods produced in small urban areas (transportation, services, and small industrial products) is higher than the MPC for goods produced in large urban areas (largely kerosene). However, the MPC for imported goods is considerably higher than for urban-produced goods. The implication is that much of the employment effect of increased demand from rural households

TABLE 42: MARGINAL PROPENSITIES TO CONSUME BY INCOME CLASS FOR COMMODITIES GROUPED BY ORIGIN,
RURAL SIERRA LEONE, 1974-5

Origin Classification	Marginal Propensity to Consume						
	Income Class						
	Mean Expenditure Level	Lowest Decile	Second and Third Deciles	Fourth and Fifth Deciles	Sixth and Seventh Deciles	Eighth and Ninth Deciles	Highest Decile
Rural subsistence food products	.445	.684	.588	.497	.436	.370	.286
Rural purchased food products	.216	.153	.178	.201	.218	.235	.257
All rural food products	.661	.837	.765	.698	.654	.605	.543
Rural nonfarm goods	.011	.013	.012	.011	.011	.010	.009
Rural services and ceremonial	.112	-.036	.023	.080	.117	.158	.211
All rural products	.784	.814	.801	.789	.782	.773	.763
Small urban products	.055	.034	.043	.051	.056	.062	.069
Large urban products	.020	.019	.019	.020	.021	.021	.021
Imported products	.141	.1-3	.137	.140	.142	.144	.147
Total	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Source:

would be felt in rural areas and secondary cities rather than exclusively in large urban areas.

Early theory had postulated that many of the goods produced by rural small-scale industries were inferior goods, for which demand would fall as income rose. However, the evidence from Sierra Leone is that demand for the products of small-scale industry, particularly tailoring, woodwork, metalwork, and locally dyed cloth, should grow substantially with income of rural households (King and Byerlee 1977: 51). If other West African countries show similar consumption patterns, we could expect that increases in farm income would create employment primarily in rural areas and secondary cities.

Other rural development interventions, like provision of safe drinking water, electrification, and improved health care, aim at improving the quality of rural life, reasoning that reducing the disparity between urban and rural areas in provision of publicly subsidized services and amenities may also reduce rural-urban migration rates. We have seen that differential availability of services has major demographic consequences. For example, child death rates in urban Senegal were less than one-tenth the rates in rural areas during the 1960's, and though the gap may have narrowed since, it is not likely that it has been completely eliminated. The relative lack of health care and lower incomes prevalent in rural areas, also affect the nutritional status of young children. Surveys in Togo (Center for Disease Control 1977:75), Liberia (AID, Office of Nutrition 1976:85), and Sierra Leone (AID Office of Nutrition 1978: xiii, xviii) show that the prevalence of undernutrition is far higher in rural areas than in urban ones; the same was often the case for health problems like malaria or anemia.

In the section on quantitative studies of migration, we saw that variables measuring the availability of services and amenities seldom had a clearly measurable effect on rates of out-migration (or propensity to migrate) or on choice of urban destination. However, one measurement problem is that the range in services and amenities among rural communities and among urban destinations is small: few villages have more than a few amenities and services, and almost all urban areas have a full range. There are few cases where water supply or electrification alone has measurably affected migration (Findley 1977:82-83). However, a coordinated program of water, electricity, and generation of off-farm employment is more likely to have a measurable effect.

The construction and maintenance of infrastructure like rural roads and rural electrification can generate considerable employment. However, conventions in the writing of engineering specifications sometimes make the use of local products and labor-intensive techniques difficult. Tandler (1979:28-38) discusses the problem of maximizing local procurement (and consequent employment) in some detail.

The indirect effects of road construction are more complex than for most infrastructure projects. A recent evaluation of AID road-building projects in Liberia points out a few of them (AID 1980). In the short run, road construction can provide some local employment; in the longer run, roads substantially reduce the costs of transport, and encourage farmers to enter more heavily into cash cropping, particularly coffee, cocoa, and rubber. Thus, farm income can be expected to increase. However, roads also greatly increase the value of land near them, and the impact evaluation team found widespread private purchases of large tracts near existing roads and along proposed routes (AID 1980:12-16). The increasing concentration in land

ownership makes land scarce for the smallholder. Thus, although increasing farm income would be expected to slow rural-urban migration, increasing scarcity of land would be expected to increase out-migration rates from road areas, as would reduction in the cost of transport. The net effect reported by the evaluation team for a rural roads project in Liberia (AID 1980) (unfortunately, no figures are available on migration rates before and after) was out-migration, though the exact links between road construction and migration are not made clear.

Land settlement programs are often proposed as a remedy for urban and rural unemployment. Where the role of government agencies in resettlement and in agricultural production is active and directive, such projects often encounter grave implementation problems and extremely high costs per settler (Findley 1977:89-90, Renya 1980, McMillan 1980). For example, cost per settler household of the AVV (Autorite des Amenagements des Vallees des Volta) in Upper Volta was roughly \$12,500 (Murphy and Sprey 1980:42). Actual rates of supervised resettlement are often far lower than planned, and the delays combined with the high cost per settler suggest that resettlement projects can seldom cope with more than a very small proportion of potential rural-urban migrants. Programs in which the government limits itself to opening up a region and encouraging spontaneous settlement--for example, southwestern Ivory Coast--have generally involved lower costs and larger numbers of settlers, although planners were not able to foresee all the impacts of settlement (for a description of impact of settlement in the southwest, see Lena, Martinent, Richard, and Schwartz 1977, Lena 1979).

Thus, the only sorts of agricultural development interventions that can be expected to slow rural-urban migration are land reform, land colonization and rural resettlements, and mechanical irrigation,

and the effects of these interventions is weak to moderate. Provision of potable water, electrification, and improved health services can at best be expected to have very weak effects in the short-run, and only family planning services can be expected to have significant long-run impact. Most other rural development activities can be expected, if anything, to contribute indirectly to accelerating rural-urban migration. Indeed, donor agencies themselves, through local cost expenditures, create considerable urban employment and, under Todaro's model, stimulate in-migration. Thus, although there are many strong arguments in favor of developing the agricultural sector and improving the quality of life in rural parts of West Africa, such interventions cannot be expected to have a major impact on rural-urban migration rates.

National Economic Policy Reform

Although there are ambiguities in the evidence, the quantitative studies we have seen suggest that national economic policies that raise the real income of farmers and small, rural entrepreneurs can be expected to slow rural-urban migration. Among the most important of these is foreign exchange and import restriction, discussed briefly on pages 169-70. Besides putting small enterprises at a disadvantage, the combination of overvalued exchange and heavy protection of domestic industry drives up the prices farmers pay for agricultural inputs and for consumer goods while depressing the prices paid to them for cash crops destined for export. Heavy government levies on export crops have also held down the share paid to the farmer, and consequently have probably reduced agricultural wages and overall employment in agriculture.

Table 43 shows nominal protection coefficients for selected export crops--that is, the ratio of farmgate producer price to world price less transport, marketing and processing costs. Thus, a NPC of more than one indicates subsidization; one less than one indicates taxation. On the whole, taxation of export crops in 1976-80 seems heavier than in 1971-75, although it is difficult to be certain because estimates for several countries are based on very few years (particularly Ivory Coast). These levels of taxation are very heavy and are, of course, more or less proportional to cash farm income. A more progressive tax structure might well spur agricultural production, and, by raising farm income, especially for low income groups, increase demand for the products of small-scale enterprises, and thus employment in the urban intermediate sector and in rural small enterprises.

Supply-side assistance for small-scale enterprises poses greater problems. Steel and Tagaki (1981:19) felt that directing credit to SSEs or subsidizing credit might easily exceed the enterprises' absorptive capacity, and could substitute for the personal savings now used to finance capital costs. Management assistance, lowering the duties on capital goods and inputs, and assistance in intermediate technology seem more promising options,

TABLE 43: NOMINAL PROTECTION COEFFICIENTS OF SELECTED EXPORT CROPS

<u>Crop</u>	<u>1971-75</u>	<u>1976-80</u>
Cocoa	^{a/}	
Cameroon	.37 (2)	.45 (2)
Ghana	.47 (5)	.40 (4)
Ivory Coast	.56 (2)	.38 (1)
Togo	.50 (5)	.25 (4)
Coffee		
Cameroon (Arabica)	.72 (2)	.60 (2)
Cameroon (Robusta)		.36 (1)
Ivory Coast	.68 (1)	.36 (1)
Kenya	.94 (1)	
Tanzania	.80 (5)	.59 (4)
Togo	.42 (5)	.23 (4)
Cotton		
Cameroon		.79 (1)
Ivory Coast	.79 (1)	1.05 (1)
Kenya	1.07 (1)	
Malawi	.68 (5)	.75 (2)
Mali	.55 (2)	.44 (4)
Senegal	.65 (2)	
Sudan	.78 (2)	.60 (1)
Togo	.62 (5)	.79 (4)
Upper Volta		.79 (1)
Groundnuts		
Malawi	.70 (5)	.59 (2)
Mali	.57 (2)	.43 (4)
Senegal	.48 (4)	.66 (4)
Sudan	.85 (3)	.67 (1)
Zambia	.70 (5)	.71 (4)
Sesame		
Sudan	.83 (1)	.59 (1)
Upper Volta		.88 (1)

a/ Figure in brackets indicates number of observations (years).

Source:

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

We have seen that West Africa has an extremely low level of urbanization compared with most other regions of the developing world. Although rates of rural-urban migration are relatively low, the growth rate of urban population has been about 6% per year, which has put a heavy strain on government's ability to provide services. Most West African countries are small and have limited domestic markets, with industry, services and population heavily concentrated in a single urban center.

Measuring migration is difficult, and the migration rates that are most commonly estimated--net migration and lifetime migration--both pose special problems of interpretation. The usual estimate for net urban growth due to migration (urban growth rate less national growth rate) may often be inflated by higher rates of natural increase in cities than in rural areas and by the reclassification of rural areas into urban ones.

Our data on fertility in West Africa are unreliable, but there is no question that birth rates are extremely high--about 49 per thousand for the region as a whole. There is no evidence for a decline in fertility in urban areas due to increases in income, mothers' education, age at marriage, or modern contraceptive use. Indeed, at low levels of education, increases in education seem to increase fertility somewhat.

People who are considering changes in residence take into account many factors, including the monetary costs and returns from migration, the services and amenities available in the region of origin and destination, and the intangible costs of adapting to a new

environment. Most first generation urban residents maintain ties with the home area, and overwhelming numbers intend to retire to the home area. The bonds between second generation urban residents and rural areas are far less strong.

Much recent economic analysis of migration in Africa uses as a point of departure the theoretical work of Todaro, in which the migrant bases his decision on the discounted present value of the difference between urban expected income (taking into account the probability of finding a job) and rural expected income, less the costs of moving. Age and level of education influence the expected income differential greatly. Under this model, artificially high wages in the urban formal sector (due to high minimum wage laws for example) increase rural-urban migration and also increase urban unemployment. Under this model, efforts to increase formal sector employment often induce migration and result in higher unemployment rates than were originally in force. Where the informal and intermediate sectors are included in a model of wages and employment and where intermediate sector wages are competitively determined, interventions that increase intermediate sector employment will have little or no effect on rates of rural-urban migration.

Empirical work in West Africa that has used the income differential model shows that income differentials do indeed influence regional rural-urban migration rates, as does distance (a proxy for cost of moving), and that educated persons have a higher overall probability of moving and in some studies respond more to increases in urban wage and were less deterred by distance than uneducated migrants. However, a study of individual propensity to migrate showed that many respondents were unable to estimate their expected urban income. Variables in-

corporating urban amenities were only occasionally significant in predicting migration. The relationships among independent variables are complex, and path analysis provides a useful way of decomposing and analyzing the associations between variables for a given causal model.

Todaro's model is far from being the last word on migration and formal sector employment. More recent analysis suggests that overall rapid growth in the labor force and changes in labor force composition have meant that expansion of industrial and formal sector employment (though impressive) has not been able to keep pace with the results of natural increase. There is also some question as to whether formal sector wages are in every case kept higher than competitive levels by institutional means. Paradoxically, although migrants to urban areas may exacerbate unemployment, they are relatively seldom unemployed, because they have less schooling on the whole than urban residents and because they are often willing to settle for less attractive jobs.

Foreign nationals comprised about 7% of the total population of West African countries covered by the World Bank Study^{1/} in 1975. Census data for West African countries on international migration show that the major sending areas by declining order of importance have been Upper Volta, Mali, Guinea, and Togo, which together supplied about three-fourths of all foreign nationals in the region. Ivory Coast is by far the most important receiving area, with about half the region's foreign nationals, while Ghana and Senegal are the next most important areas of destination. The major demographic impact of international migration is to decrease rates of population increase by 20 to 40%, and to accelerate population increase in the receiving areas by similar amounts.

^{1/} Gambia, Ghana, Ivory Coast, Liberia, Mali, Senegal, Sierra Leone, Togo, and Upper Volta.

Internal migrants (i.e., those crossing administrative regions) comprised about 15% of the 1975 regional population. Areas of heaviest net in-migration are usually the regions of the capital city (except for Togo, where the Plateaux region gained most heavily and Upper Volta where the major region of net in-migration was High Basins). In most cases, these are also the regions receiving the greatest proportion of international migrants.

Over the decade 1965-75, net migration to urban areas in the study region (which includes external migration, internal migration, reclassification of towns due to population increase, and differential rates of natural increase) has comprised about 1.7 million people, or 5.6% of the 1965 regional population. During this decade, net migration accounted for slightly under half of all urban growth, and projections show the share of migration in urban growth declining to 43% during 1980-90.

Long distance migration selects for young, educated, male adults, though there is some evidence (e.g., from Upper Volta) that female long distance migration is increasing and that selectivity for education is decreasing.

In Ivory Coast, African foreign nationals are concentrated in unskilled labor, while Ivorians predominate in semi-skilled and (to a lesser extent) in the skilled categories. Expatriate Europeans predominate in supervisory and technical jobs, although there was an increase in Ivorian employment between 1965 and 1970. Managerial level jobs are even more heavily expatriate, and the proportion of Ivorians declined somewhat from 1965 to 1970. In both 1965 and 1970, Ivorians earned two or three times as much as foreign nationals, on the average, and expatriate Europeans averaged five or more times

the earnings of Ivorians.

The relationship between education and migration is complex. Rates of rural-urban migration undoubtedly rise with educational levels, in part because expected urban income also rises dramatically with education. There is little evidence to support the contention that schools teach students contempt for manual labor and agriculture. While few students or school-leavers aspire to farming, some aspire to agricultural careers, and many would do farm work (especially if it were better paid). Although it is common to assume that rural unemployment is negligible and that land is available for any who are free to farm it, many school-leavers say they do not have immediate access to land. Several surveys of Ghanaian school-leavers show that unemployment rates are higher for school-leavers who remain in their areas of origin than for those who migrate. The proportion of unemployed school-leavers who migrate to the capital city was about 4%, 18 to 22 months after the graduation of the middle school class of 1975. Many more urban school-leavers had migrated from rural areas several years before to attend school, because secondary day schools outside urban areas are rare. Although curriculum reform is often proposed as a means of making education more relevant to rural areas, the results thus far have not been encouraging (Rhoda 1979:49).

The impacts of out-migration on sending areas are less well known than the urban effects. On the whole, population growth in rural West Africa is rapid, and out-migration takes only a small part of natural increase. However, effects may be concentrated in some areas. There is little evidence that removing workers has increased the productivity of those remaining. The remittances of internal migrants are not large; indeed, some studies have shown that the sums sent from villages

to urban areas to support students, apprentices, and the unemployed sometimes exceed the amounts sent back to villages. Remittances from international migration are larger. The remittances of migrants are mostly used in consumption expenses; investment in agriculture is rare (although more favorable producer prices might induce more investment).

Recently, analysts in AID/PPC looked at the implications of international migration for AID programs (AID/PPC 1980) and at the effect of U.S. aid, trade and investment on migration to the U.S. from several major sending countries (Morrison 1980). These papers concluded that development assistance had its most nearly direct impact on migration through employment generating projects; the effects of population programs and more equitable distribution of income were more indirect (Morrison 1980:14). However, the authors concluded:

- Labor emigration may have a profound developmental impact on a number of developing countries in which AID has programs. However, AID's capacity to affect the phenomenon and effects of migration is limited. Indeed, even host governments have little control over migration, but their policies influencing migration can at least impact at the margin.
- While in the long-term, AID's emphasis on increasing employment and income for the poor would tend to reduce income inequalities and reduce the tendency to migrate, the overall impact is too small to affect migration in the short medium-term; indeed, AID programs in the short-run might further stimulate labor mobility and international migration." (AID/PPC 1980)

This study has reached very similar conclusions on international migration, but finds internal migration is strongly influenced by national economic policy, and policy re-examination and reform seems a promising route to explore.

Urban development strategy for countries where planning and management capacity is limited can be difficult to formulate. Decentralization is seldom a viable way to reduce the rate of urban population growth; few secondary cities are able to provide the services and

infrastructure for manufacturing enterprises' needs. The service needs of the growing urban population have to be addressed, and reasonable scales of user fees for services have to be established and collected. Simultaneously, there is a need to improve municipal planning and management.

Examining the indirect effects of national economic policies is probably the most promising policy option, and many of the policy reforms that are suggested as means of slowing rates of rural-urban migration have also been recommended for West African governments on other grounds (e.g., IBRD 1981). These involve lessening the present bias toward large-scale enterprises in tax incentives for investment and in tariffs and import restrictions, and in instituting effective encouragement to small and intermediate scale enterprises. Bringing rural incomes closer to urban income levels is probably the most effective means to slowing migration; increased income equitably distributed would also increase demand for the products of SSEs, thereby increasing employment in the intermediate sector.

Influencing rates of rural-urban migration by rural development efforts that are unaccompanied by policy change will in many cases probably have little impact on migration rates, or will act to accelerate them. Where interventions make land available (e.g., through land reform, or through opening new areas up for spontaneous settlement) and where the effect is to reduce inequality in income, there may be substantial effects on migration. Family planning interventions probably also have long-run impacts. Few other interventions do.

What sorts of research on migration would be useful? The cost of getting accurate data on productivity of labor, output, and household

income for rural or urban households is high, because these are best measured by cost-route methods, requiring repeated interviews. Research on migration rates is therefore best combined with other studies--either in the monitoring and evaluation unit of a large integrated rural development project, or with efforts to strengthen the information gathering and analysis capacity of host country governments--for example, farm statistics, or labor statistics sections, or with on-going farm systems studies. One possibility would be cooperative work with existing projects--almost every African country now has a farm systems study being funded by AID.

The second sort of work to be done is an assessment of the impact on migration rates of policy change. These studies should concern a single country, and should focus on the present trade, exchange, investment, and agricultural policies and their intended and unintended effects and impacts. The study should make concrete recommendations for policy change, detail the costs and quantify the probable effect on population distribution.

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