Rural-urban interactions: a guide to the literature

Cecilia Tacoli

Cecilia Tacoli is a Research Associate at the International Institute for Environment and Development, where she coordinates a collaborative research project on rural-urban interactions in Africa, Asia and Latin America.
The author wishes to thank David Satterthwaite (Human Settlements Programme, IIED) and Simon Croxton (Sustainable Agriculture and Rural Livelihoods Programme, IIED) for their helpful comments and suggestions.

Address: IIED, 3 Endsleigh Street, London WC1H 0DD; e-mail: cecilia.tacoli@iied.org

I. INTRODUCTION

TO DATE, MOST development theory and practice have focused on either "urban" or "rural" issues with little consideration of the interrelations between the two. By contrast, several empirical studies show that the linkages between urban centres and the countryside, including movement of people, goods, capital and other social transactions, play an important role in processes of rural and urban change. Within the economic sphere, many urban enterprises rely on demand from rural consumers, and access to urban markets and services is often crucial for agricultural producers. In addition, a large number of households in both urban and rural areas rely on the combination of agricultural and non-agricultural income sources for their livelihoods. This paper reviews some of the recent literature on rural-urban interactions, with particular attention to the ways in which they have been affected by recent and current economic, social and cultural transformations. The paper is organized as follows: the first three sections discuss definitions of rural and urban areas and activities, review conceptual frameworks and consider how rural-urban interactions are conceptualized within development planning. The last four sections review empirical studies on different flows connecting rural and urban areas (flows of people, of goods and of wastes), and on sectoral interactions (agriculture in the cities, non-agricultural employment in the countryside and rural-urban interlinkages in peri-urban areas).

II. DEFINITIONS

THE DISTINCTION BETWEEN "rural" and "urban" is probably inescapable for descriptive purposes; however, it often implies a dichotomy which encompasses both spatial and sectoral dimensions. In censuses and other similar statistical exercises, rural and urban populations are usually defined by residence in settlements above or below a certain size; agriculture is assumed to be the principal activity of rural populations whereas urban dwellers are thought to engage primarily in industrial production and services. In reality, however, things tend to be far more complex: the ways in which nations define what is urban and what is rural can be very different; the boundaries of urban settlements are usually more blurred than portrayed by administrative delimitations, especially when towns' use of rural resources is considered; population movement, especially temporary and seasonal migration, is not usually reflected in census figures and can make enumerations of rural and urban populations unreliable; finally, a large number of households in urban areas tend to rely on rural resources, and rural populations are increasingly engaged in non-agricultural activities.

a. Definitions of Urban and Rural Areas

Demographic and economic criteria on which definitions of urban and rural areas are based can vary widely between different nations, making generalizations problematic. In the Philippines, urban areas are defined

by the national census as all settlements with a population density of at least 500 persons per square kilometre. The urban status also applies to centres with the following infrastructure:

- a parallel or right-angled street pattern;
- at least six commercial, manufacturing or similar establishments;
- at least three of the following: a town hall, church or chapel; a public plaza, park or cemetery; a market place or building where trading activities are carried out at least once a week; and a public building such as a school, a hospital or a library.

Barangays (administrative units) with at least 1,000 inhabitants where the majority are not occupied in farming and/or fishing are also considered urban centres (Philippine National Statistics Office, 1992).

In Benin, the National Institute of Statistics and Economic Analysis considers as town any headtown of a district with a population of 10,000 inhabitants or more, and with at least four of the following: post office, tax office, public treasury, bank, running water supplies, electricity, health centre and secondary school. Population density and the proportion of non-agricultural activities are not considered (Tingbé-Azalou, 1997). This is often the case in sub-Saharan Africa, where small towns are defined on the basis of administrative, demographic and infrastructural characteristics even when the majority of the population engages in agricultural activities (see Gado and Guitart, 1996, on Niger). Exceptions to rules, however, include Senegal's main religious centre, Touba, which is effectively a "sacred site" ruled by the religious hierarchy and where Islamic legislation prevails over state legislation. Indeed, Touba is still classed as a village despite an estimated population of over 300,000 which makes it the country's second largest settlement (Gueye, 1997).

Asia remains a predominantly rural continent, with two-thirds of its population living in rural areas in 1990. However, if both India and China were to change their definition of urban centres to one based on a relatively low population threshold - as used by many Latin American and European nations - a large proportion of their population would change from rural to urban. In many nations, all settlements above a certain threshold, often 2,000 or 2,500 inhabitants and, in some countries, only a few hundred inhabitants, are considered urban. A large proportion of India's and China's rural population live in settlements which under such definitions would be reclassified as urban. Since India and China have a high share of Asia's population this, in turn, would significantly change Asia's level of urbanization - and even change the world's level of urbanization by a few percentage points (Hardoy and Satterthwaite, 1989; UNCHS, 1996).

b. Definitions of Urban Boundaries

A second problem is the definition of urban centres' boundaries. Especially in South-East Asia, the growth of extended metropolitan regions where agricultural and non-agricultural activities are spatially integrated makes the distinction between rural and urban problematic (Firman, 1996; Hugo, 1996; Ginsberg et al., 1991). The term *kotadesasi* joins the Indonesian words *kota* (town) and *desa* (village) to describe urban and rural activities taking place in the same geographical area (McGee, 1987). The process occurs in many different locations with a radius as large as 100 kilometres and involves an intense mixture of land use with agriculture, cottage industries, industrial estates, suburban developments and other uses existing side by side, as well as the extreme mobility and fluidity of the population, including commuting and the movement of goods within the region (*ibid*). In Africa, transformations in the peri-urban areas reflect regional differences and, while agricultural activities still prevail, significant shifts in land ownership and employment patterns take place, often involving the marginalization of both rural and urban poor. In northern Nigeria, the high cost of food and accommodation in the cities has resulted in high levels of daily commuting from peripheral villages which show a strong involvement in the urban food market, a high proportion of non-farm employment, a substantial increase in agricultural wage labour force and a burgeoning land market (Swindell, 1988).

c. The "Ecological Footprint" of Urban Centres

Another uncertainty regarding a definition of urban boundaries is the fact that urban residents and enterprises depend for basic resources and ecological functions on an area significantly larger than the built-up area. This is illustrated by the concept of cities' ecological footprints, developed by Rees (1992) and Wackernagel and Rees (1995), which points to the large land area on whose production the inhabitants and businesses of any city depend for food, other renewable resources and the absorption of carbon to compensate for the carbon dioxide emitted from fossil fuel use. The size of a city's ecological footprint is typically several times the area of the city itself although its size as a multiple of the city area will vary considerably, and is influenced by the wealth of the city and the energy intensity of its production base as well as by such factors as the basis on which the city boundary is defined. Although resources may be drawn from far beyond the city-region, especially for wealthy cities, for most urban areas in the South, many such resources are drawn from close by. The concept is linked to the idea of carrying-capacity, or the need to balance resource consumption and waste discharge with the preservation of the functional integrity and productivity of relevant ecosystems (UNCHS, 1996).

d. Sectoral Interactions

Definitions based on a sharp distinction between urban and rural settlements often assume that the livelihoods of their inhabitants can be equally reduced to two main categories: agriculture based in rural areas, and a reliance on manufacture and services in urban centres. However, recent research has shown that the number of urban households engaging in agriculture and that of rural households whose income is derived from non-farm activities is far higher than usually thought (Abramovay and Sachs, 1996; Bhooshan, 1986; Bryceson and Jamal, 1997; Misra, 1986; Saint and Goldsmith, 1980). These sectoral interactions can also have a spatial dimension. For example, when one or some of their members migrate but, (as is often the case) retain strong links with their relatives in rural home areas, households can be defined as multi-spatial, combining farm and non-farm activities and rural and urban residence. Even where activities can be described as either rural or urban and are spatially separated, there is a continued and varied exchange of resources. Urban centres may provide markets as well as social and producer services for the rural population whereas, for many urban individuals, access to rural land or produce through family or reciprocal relationships can be crucial.

The policy implications of sectoral interactions are particularly important. For example, rural development programmes have traditionally tended to increase agricultural production but have rarely included non-farm activities such as the processing of raw agricultural materials and the manufacturing of agricultural equipment, tools and inputs, and this has resulted in the marginalization of some groups in rural areas. Similarly, urban housing strategies for low-income groups tend to neglect their need to diversify their incomes or produce foodstuffs for household consumption (for example, through urban agriculture) and maintain and/or expand their social networks with rural areas (for example, by hosting newly arrived migrants in their homes) which can be restricted by narrow controls over settlement and land use in public housing projects (Chase, 1997). Straddling the rural-urban divide is, in some cases and for some groups, an important part of survival strategies. Policies which neglect this may increase their poverty and vulnerability.

III. CONCEPTUAL FRAMEWORKS

MUCH OF THE development debate of the last 40 years has centred on the changing relationship between agriculture and industry and on the "correct" allocation of investment between the two sectors. Policies aiming at economic growth traditionally followed one of two different approaches. The first favours investment in the agricultural sector, which can then provide the necessary surplus for industrial and urban development, whereas the second approach argues that industrial and urban growth are pre-

requisites for a more modern and productive agricultural sector (Escobar, 1995 gives a detailed analysis of the development economics discourse). The relative influence of these theoretical positions has changed over time, as summarized below.

a. Modernization through Industrialization and Urbanization

In the early 1950s, development was conceptualized in terms of national economies taking off through the increase in the size of domestic markets and the creation of inducements to invest. In this way, the modern sector would progressively encroach upon the traditional sector, and the money economy upon subsistence or near subsistence. This dualistic construction based essentially upon Nurske's (1953) and Lewis' (1954) models has pervaded economists' and donors' views for several decades. Part and parcel of the modernization process were industrialization and urbanization. Lewis (1954) assumed that in densely populated rural settlements in the Third World, marginal productivity would be minimal. Therefore, the transfer of labour from rural agriculture to urban industry could occur without declines in agricultural productivity. Indeed, until the mid-1960s, rural to urban migration was perceived as a positive process and several studies focused on the implications of permanent settlement of workers and their families in urban areas (for example, Elkan, 1960). However, by the end of the decade, it became clear that job creation in the manufacturing sector was much lower than expected and could not absorb the fast-growing urban populations. Concern with over-urbanization translated into policies attempting to curtail labour migration to the cities. At the same time, the first studies on the urban informal sector (Hart, 1973; ILO, 1972; Weeks, 1973) sparked the still on-going debate on the sector's development potential (for example, Portes, Castells and Benton, 1989; Moser, 1978; Standing and Tokman, 1991).

b. Urban Bias

In this context, Lipton's (1977) notion of urban bias made an important and provocative contribution to the debate. In his view, the rural poor are dominated and exploited by powerful urban interests. The most important class conflict in the Third World is that between the rural classes and the urban classes, since "...the rural sector contains most of the poverty and most of the low-cost sources of potential advance; but the urban sector contains most of the articulateness, organization and power" (1977:13). Lipton's argument was subject to intense criticism, mainly on the grounds of his conceptualization of undifferentiated urban and rural societies which does not take into account the existence of urban poor and rural rich (Corbridge, 1982). On a descriptive and empirical level, Lipton provided a useful account of the relative flows of surpluses between rural and urban areas. However, the conflation of people with places makes it difficult to explain why these flows occur (Unwin, 1989). Bates (1981) extended the criticism of urban élites in his analysis of the role of African bureaucracies which, in the name of industrialization, were seen as over controlling their economies, skewing incentives and infrastructural investment towards urban areas and, generally, undermining the real material base of African economies, that is, agricultural production. More recently, the attack on rent-seeking, urban based bureaucratic élites has been taken over by neo-classical economics and implemented through structural adjustment packages aiming to drastically reduce the role of the state.

c. Structural Adjustment, Globalization and Decentralization

Neo-classical economics, underpinning IMF and World Bank reform of Third World economies, advocates rolled-back governments and public sectors and competitive free markets determining human capital formation, resource allocation and growth. Development strategies are export oriented and this, for many Third World countries, means export of primary commodities, including foodstuffs. The hard currencies then earned can be used to buy-in foreign grains or increase the private capital pools available to farmers. In both cases, it is expected that, once the distorted price systems associated with import-substitution industrialization and other ur-

ban biased state policies have been removed, "...local agricultural production will blossom and expand" (Corbridge, 1989). However, for many small farmers, and especially in Africa, structural adjustment has resulted in a price squeeze with the cost of agricultural inputs and consumer goods rising faster than the prices of agricultural produce. Government cutbacks in subsidies often means that only large-scale farmers can buy inputs in bulk and sell in bulk to overcome high transport costs, or can afford to wait and sell their produce some time after harvesting, benefiting from seasonal price fluctuations. Hence, despite the goal of SAPs to reduce the rural-urban income gap (and, as a consequence, to lower the rates of rural to urban migration), access to international markets has proved not to be equal for all producers and deepening social differentiation in both towns and countryside is part and parcel of economic reform. Migration as a survival strategy has, therefore continued, together with income diversification and what Jamal and Weeks (1988) have typified as the "trade-cum-wage earner-cum-*shamba* class", for whom straddling the rural-urban divide is an essential element of either survival or accumulation strategies.

Another central aspect of rural-urban relations in the 1990s is the decentralization of administrative functions, at least in part due to the increasing pressure from the international financial institutions and the donor community for political democratization and state reform. However, in many countries, this process is not immune from contradictions between the theory and practice of decentralization, and local authorities often face significant problems in escaping control and interference from the central government and in realizing financial and administrative autonomy (Bertrand and Dubresson, 1997; Jaglin and Dubresson, 1993; Nyassogbo, 1997; Stren, 1991; Ziavoula, 1997). In policy terms, decentralization has renewed interest in regional development planning as well as in the role of small and intermediate urban centres in Third World development.

IV. RURAL-URBAN INTERACTIONS AND SPATIAL PLANNING

IN SURVEYING DEVELOPMENT strategies which affect rural-urban interactions, it is difficult to know what to exclude since virtually all policies have some effect on the form and the spatial distribution of national development. Macro-economic or pricing policies, or sectoral priorities which make no explicit reference to spatial dimensions, are often the most powerful influences affecting linkages between urban centres and the countryside. Neglecting the impact of these policies is often a major factor in the failure of spatial development strategies (Hamer, 1984; Hardoy and Satterthwaite, 1986a). Nevertheless, despite widespread criticism of spatial planning (see Gilbert 1992 for a review), its popularity with governments does not seem to have diminished. The next sections examine two main categories of spatial policies: those attempting to limit urban growth and control migration, and those whose goal is to increase the role of small and intermediate towns in regional development.

a. Controlling Urban Growth and Rural-Urban Migration

Concern over the over-urbanization of the Third World tends to portray urban growth as due mainly to rural-urban migration. This is seen as an indicator of regional and sectoral distortions in patterns of development as well as the origin of practical administrative difficulties in planning urban public services, and a possible source of social unrest in the cities. Such alarmism is often unjustified since natural increase is usually the primary reason for urban growth, which has also been fastest where economic growth is highest (Preston, 1988; UNCHS, 1996). Nevertheless, the fear of uncontrolled urbanization has resulted in widespread policies designed to limit urban growth and control rural-urban migration on the grounds of migrants' pressure on already insufficient housing and infrastructure. These policies usually have little impact aside from lowering welfare, especially for the poor and the middle-classes. In Dar es Salaam and Jakarta, the only real effects

of migration controls were to make life for the poor much harder while often increasing corruption as "illegal" migrants have to bribe officials in order to secure their stay in the city (Jellinek, 1988; Gilbert, 1992). Authoritarian regimes in China and Kampuchea, and apartheid South Africa have been able to implement drastic migration controls although at a very high human cost and within political systems which contravened many human rights. After 1978, China began to relax its migration controls largely because these proved incompatible with the rapidly changing demand for labour, especially in and around major foreign trade centres in the coastal regions (Chen and Parish, 1996).

In many cases, policy makers are deeply unaware of the impact of macro-economic policies on migration and urban development (Becker and Morrison, 1996). Free market strategies, trade liberalization and decreasing government intervention in the national economy have a significant impact on population movement and on the physical form of urban settlements. In Thailand, the government's efforts to influence the pattern and process of industrialization, and therefore to control the growth of Bangkok's extended metropolitan region, have not been effective despite incentives offered to firms to relocate outside the area. Indeed, it is transnational firms allied with local industry rather than the state which control the shape, form and character of urbanization in the region (Parnwell and Wongsuphasawat, 1997). The trend towards mega-cities is often linked to the continuing concentration of offshore enclave manufacturing enterprises in main urban areas, where the availability of cheap labour, often female and migrant, is likely to be higher (Potter and Unwin, 1995).

b. Small Towns and Regional Planning

Although, traditionally, the debate on rural-urban interactions has been dominated by interest in the ways in which very large cities influence the development of national space, small and intermediate urban centres are often seen as playing a crucial role in rural-urban interactions given the usually strong link and complementary relationship with their rural hinterland (Baker and Claeson, 1990). Interpretations of rural-urban relationships and planning prescriptions are clearly linked and, while policy and theoretical considerations tend to overlap, they are discussed separately here for analytical purposes. This section reviews three main views on the role of small urban centres in regional development: the optimistic one, the pessimistic one and the intermediate position. It then summarizes recent models of spatial planning.

i. The Role of Small Towns in Rural Development: Changing Views and Perceptions

In the 1950s and 1960s, small towns were generally seen as playing a positive role in development as the centres from which innovation and modernization would trickle down to the rural populations. A more recent and highly influential contribution to this positive view was the development of the concept of "urban functions in rural development" (Rondinelli and Ruddle, 1978; Belsky and Karaska, 1990) for which the most effective and rational spatial strategy for promoting rural development is to develop a well-articulated, integrated and balanced urban hierarchy. This network of small, medium sized and larger urban centres is described as "...locationally efficient - it allows clusters of services, facilities and infrastructure that cannot be economically located in small villages and hamlets to serve a widely dispersed population from an accessible central place" (Rondinelli, 1985). The location of more service supply points supplying a variety of services, agricultural inputs and consumer goods to the rural areas is seen as playing a crucial role in rural development. While this approach has been widely used by large international donors such as USAID, and still influences more recent regional planning models, it has been criticized on the grounds that low rural consumption is caused by social inequality and low incomes rather than by difficult access to supply (Hardoy and Satterthwaite, 1986b; Morris, 1997; Pedersen, 1997; Simon, 1992).

Southall (1988) articulated the pessimistic view, also in response to Rondinelli's model. The main argument, echoing the "urban bias" debate, is that small towns contribute to rural impoverishment as they are "vanguards

of exploitation" of the rural poor by external forces which, according to the case, may be colonial powers, multinational enterprises, central national government, local administrators and élites and, in some cases, international donors. However, when there is a relatively egalitarian class structure and free access to land, and "…where the stimulus to urban growth results in activity primarily by the people and for themselves … small scale urbanization may be beneficial locally" (Southall, 1988:5).

Hardoy and Satterthwaite (1986a, 1986c, 1988) are probably the most representative proponents of the third position which has been defined as "intermediate" (Baker and Claeson, 1990). Unlike much of the previous literature, Hardoy and Satterthwaite's conclusions are drawn from detailed empirical studies from Latin America, Asia and Africa, and one major finding is that universal generalizations and prescriptions, which formed the basis of most spatial planning models, are not valid. Therefore, centralized policies may not be efficient since they cannot take into account the peculiarities and specifics of small towns and their regions. What is needed instead is real decentralization of decision-making, with investment and resource-raising at the local level which will allow the articulation of local needs and priorities and which will stimulate both rural and urban development. Moreover, wider socio-economic issues are also likely to affect small towns and, by extension, migration to larger cities. For example, inequitable land-owning structures in South India are one of the reasons why rapid growth in agricultural production has not stimulated development in many small urban centres (Harriss and Harriss, 1988). Government crop purchasing policies and taxation can also influence the levels of rural and urban prosperity and deprivation: for example, government's promotion of citrus production in Brazil has paradoxically resulted in increased out-migration due to land ownership concentration (Saint and Goldsmith, 1980). Finally, attention must be given to the social dimensions of small towns and to the complexity of social networks, kinship and family ties which often blur the social distinctions between what is rural and what is urban (Hardoy and Satterthwaite, 1986c).

ii. Approaches to Spatial Planning

The need for some sort of state intervention to promote development has long been recognized although the forms it has taken have changed over time. In the 1960s, in line with the then prevailing development paradigm, spatial strategies were designed to achieve economic growth by stimulating industrial development in designated centres ("growth poles") through public investment. However, the expected trickle-down effect failed to materialize and, in many cases, these policies ended up enriching already privileged social groups, regions and large conurbations (Hardoy and Satterthwaite, 1986a).

By the 1970s, the failure of "growth centre" policies and a major shift in the development paradigm resulted in the view that urbanization was a parasitic process leading to underdevelopment and the neglect of agriculture. In policy terms, Integrated Rural Development Programmes (IRDP) were seen as the "appropriate" strategy. IRDP focused on agricultural change with little, if any, attention to the role of urban centres in the rural economy (Baker and Pedersen, 1992; Escobar, 1995). The disappointing results of this sectoral strategy, together with major changes in macro-economic policies and in the global socio-economic context, brought about another shift in planning concerns.

Rural-urban linkages have recently become the focus of renewed interest among policy makers and researchers (see Evans, 1990; Gaile, 1992; UNDP/UNCHS, 1995). A first reason for this is associated with the increasing prevalence of market based development strategies and their emphasis on export oriented agricultural production which rely on efficient economic linkages connecting producers with external markets. Access to the latter is assumed to transform potential demand into effective demand which, in turn, will spur local production. Growing incomes in the agricultural sector will then result in increased demand for services and manufactured goods. From this viewpoint, small towns are seen as playing a key role in linking their rural hinterlands with both domestic and international markets as well as in providing the rural population with non-farm employment opportunities and thus broadening the local economy's base.

A second important reason, related to the first, is the increasing priority given, partly by design and partly as a consequence of funding cuts, to government reform, to the decentralization of resources and responsibilities, and to the strengthening of local public institutions. In addition to their traditional role as infrastructure and service providers, local authorities are also responsible for supporting economic development and poverty alleviation. However, infrastructure provision has been refocused towards that directly related to productive activity, usually at the expense of social infrastructure such as health and education. On the positive side, this shift from the central to the local level has fostered a more flexible approach to regional planning. This is also based on the recognition that the failure of previous "growth pole" policies was largely due to overgeneralizations of urban centres' development potential, and "small towns programmes" now tend to give more attention to the needs and potential of individual sites. However, the emphasis on economic efficiency and market-led development tends to treat society as an undifferentiated whole, diverting attention from the living conditions of the most vulnerable groups in both rural and urban areas. The next sections review empirical studies, showing how changes in rural-urban interactions are interrelated with growing social polarization in both towns and countryside.

V. FLOWS OF PEOPLE

WHILE INTERNATIONAL MIGRATION has attracted increasing attention in recent years (often because of its political implications in destination countries), little is known about internal migration despite the fact that its scale, direction and demographic characteristics (such as sex and age composition) are fundamental to an understanding of urbanization processes. Traditional approaches to migration have relied on the notion of "push-pull" factors as the main explanatory elements. In the neo-classical perspective, decisions to move are made at the individual level in response to hardships in source areas (the "push" factors) and to perceived comparative advantages in destination areas (the "pull" factors). Individuals rationally decide to migrate because they are attracted by the bright lights of the city which promise, in the long-term, to offer better economic opportunities than the countryside. The structuralist approach to migration, on the other hand, tends to portray migrants as victims rather than rational decision makers, since movement is determined by macro-social, historical and dialectic processes such as the socio-spatial restructuring of production at the national and global levels. Push-pull factors are seen here as a process of polarization with respect to access to resources, and migration as one of few options available to the most vulnerable population strata.

a. Changes in Migration Types and Direction

Push-pull models of population movement inherently assume that the direction of migration is essentially from rural to urban areas. The income gap between the two areas is an important explanatory factor. However, recent research in sub-Saharan Africa has pointed out that, since the mid 1970s, economic decline has greatly reduced the gap between real urban incomes and real rural incomes in the region (Jamal and Weeks, 1988). The rate of urban growth in some African countries has slowed considerably and, following structural adjustment programmes and general economic decline, significant numbers of retrenched urban workers may engage in urban-rural migration and return to home areas where the cost of living is lower (Potts, 1995; Potts with Mutambirwa in this issue). Although little research has been conducted on return migration, it is likely to have important impacts on destination areas, as returnees may compete for scarce resources with the local population while, at the same time, facilitating the introduction of innovation, both technological and socio-cultural.

Secondary cities have also increased their role as destinations. In some regions, generally within more industrialized areas or close to large cities, many smaller urban centres have succeeded in attracting new investment that previously would have tended to concentrate in large cities. Many secondary cities within 200 kilometres of Sao Paulo

metropolitan area have attracted major new enterprises in competition with Sao Paulo, with the help of a much improved regional transport and communications infrastructure (UNCHS, 1996). This increased role for secondary cities as destinations for rural-urban migration is sometimes associated with state policies, as in Mexico where export-processing zones have attracted industrial investment to cities on or close to the border with the United States (*ibid*). It is also sometimes associated with a renewed emphasis on export agriculture, with the secondary cities within or close to the exporting region benefiting more than major cities. In many Latin American nations, national capitals and major cities became less attractive to migrants during the 1980s, with many factors contributing to this including economic stagnation or decline, the shift in macro-economic and industrial policies away from protection and import substitution, and the reduction in staff and income levels within the public sector.

In sub-Saharan Africa too, economic stagnation or decline and the reduction in staff and income levels within the public sector helped to discourage migration to national capitals although the extent of this is not well-documented, partly because of the lack of recent census data from this region. In Tanzania, migration during the 1980s veered away from the larger and primate cities towards smaller towns with populations of between 20,000 and 50,000 where urban household self-provisioning of food was more feasible. However, recent municipal estimates suggest that, in the 1990s, the pattern of movement has reverted towards the largest cities in response to the concentration of wealth and the centralization of economic activity in profitable centres of demand which followed the reinstatement of foreign aid flows and market liberalization (Bryceson, 1997a). In other cases, migration may not involve urban destinations at all. For example, landless peasants may be forced to engage in rural-rural migration following technological changes in agricultural production and the decline of labour requirements by large commercial estates (see Boyce, 1993 on the Philippines). Movement may not always be intended as permanent or even long-term, and evidence suggests that circular migration is also increasing as a result of higher costs of living in the cities.

b. Gender and Age Selectivity

The complexity of migration direction and duration is matched by that of the composition of the flows. While inequalities in control over resources are often likely to give rise to out-migration, this is not limited to low-income groups but may also take place at the intra-household level where it is usually grounded in ideological constructions of roles and relations between men and women, and parents and children. Consequently, gender and generation may play a crucial role in migration decision-making and selectivity (Chant, 1992 and in this issue). For example, women (either mothers or daughters) are more likely to feel responsible for the well-being of other household members than their male counterparts and this may be an important factor in migration decisions especially when women's employment opportunities in home areas are limited. Migration can also provide an escape from social and family constraints and give women a level of independence they may not easily have access to in their home areas (Gadio and Rakowski, 1995). Young men with restricted access to family land and waged work may also decide to move. While in all cases the impacts on areas of out-migration may be significant (in terms, for example, of labour availability, remittances, household organization and agricultural production systems), they are also likely to vary depending on who moves and who stays.

In the Philippines, male labour force participation in households receiving remittances from migrant member(s) appears to decline whereas women's remains constant (Go and Postrado, 1986). In some areas of Turkey, the migration of men has involved changes in land use: share-cropping (traditionally men's work) is usually abandoned but women remain responsible for subsistence agriculture, around which reciprocity based community relations are organized (Ilcan, 1994). In the Sahel region, population movement is diverse and constantly changing in response to wider socio-economic dynamics. While traditionally, migrants are predominantly young and male, increasingly,

young women embark on the migratory journey to the cities. However, for the women who stay behind in the rural areas, male out-migration does not always result in more involvement in natural resource management activities, as these are mediated by several factors including gender divisions of labour within households, land tenure, women's decision-making power and women's workloads (David et al. 1995). However, when policies are grounded in local needs and build upon the resources provided by migrants, they can play an important role in improving conditions in areas of out-migration. In Swaziland, the combination of remittances from their male relatives, employed in South Africa's mines, and the governmental provision of a tractor-hiring service, has allowed women to increase agricultural productivity despite the lack of male labour (Simelane, 1995).

VI. FLOWS OF GOODS

EXCHANGES OF GOODS between urban and rural areas are an essential element of rural-urban linkages, and the most recent generation of spatial policies considers market interactions as a crucial factor in the development of rural areas, reflecting the global trend towards market-led strategies. In this view, government investment in production related infrastructure (better power, water and transport access) can compensate for the market imperfections which are at the roots of regional disparities (Gaile, 1992). Since export agricultural production is seen as most Third World countries' comparative advantage in world markets, the emphasis is on efficient economic linkages connecting producers with both domestic and external markets.

The "virtuous circle" model of rural-urban development can be summarized as follows. Rural households earning higher incomes from the production of agricultural goods for non-local markets spur demand for food and other consumer goods. This leads to the creation of non-farm jobs and the diversification of urban activities, especially in small towns close to areas of agricultural production. This, in turn, absorbs surplus rural labour, raises demand for rural produce and, once again, boosts agricultural productivity and rural incomes (Evans, 1990; Evans and Ngau, 1991; UNDP/UNCHS, 1995). There are few examples of this virtuous circle, such as the development of the Upper Valley of the Rio Negro in Argentina (Manzanal and Vapnarsky, 1986). Hardoy and Satterthwaite (1986b) highlight the importance of specific factors such as a relatively equitable distribution of land ownership, a high concentration of small farms producing high value crops and good incomes for their owners, and a location sufficiently far from other major centres to provide some protection for local businesses. The possibilities of supporting virtuous circles are obviously limited, if these are among the necessary conditions for such circles to happen. In many other cases, prosperous agriculture takes place within more inequitable land ownership patterns and with most economic multiplier effects bypassing local small towns (*ibid*).

The problems with this model can be summarized as follows. First, the model assumes that proximity to urban markets improves farmers' access to the inputs and services required to increase agricultural productivity. However, access to land, capital and labour may be far more important than spatial proximity in determining the extent to which farmers are able to benefit from urban markets. In Paraguay, the agricultural activities of smallholders whose farms are within the sphere of influence of the capital city, Asunciòn, are hardly stimulated by urban markets as their low incomes make it difficult to invest in cash crops, let alone compensate for their lack of land through production intensification (Zoomers and Kleinpenning, 1996).

Second, the model implicitly views markets as perfect competitive realms of impersonal economic exchange. In contrast, more complex conceptualizations of markets focus on social actors and institutions, and on mechanisms of access and control by some groups and the exclusion of other, weaker groups. In Senegal, profits from charcoal production from forest areas are derived from direct control over forest access as well as through access to urban markets, labour opportunities, capital, and state agents and officials. Charcoal merchants are the primary beneficiaries of this system, which excludes villagers

in production areas, with important implications for the management of local natural resources (Ribot, 1998). Similarly, grain markets in South Asia tend to be controlled by local mercantile oligopolies through control of access to the means of distribution (transport, sites, capital or credit, and information) and, even in the petty trading subsector, caste and gender act as major entry barriers (Harriss-White, 1995).

Third, the model's starting point is that activities in rural and urban areas are sectorally distinguished - rural populations are primarily engaged in agriculture and urban inhabitants are essentially employed in manufacturing and services. The growth of non-farm based income for rural populations is seen as stemming from the increase in agricultural income. However, while the direction of rural-urban linkages is often a major issue in regional development models, the question of whether rising income from agriculture drives the growth of non-farm activities, or whether income from non-farm activities spurs the growth of agriculture (Evans and Ngau, 1991), is often irrelevant. For example, while Asunciòn acts as a safety valve for the Paraguayan rural poor by providing non-farm income in the urban informal sector (Zoomers and Kleinpenning, 1996), in Colombia, by contrast, the urban poor complement their earnings by engaging in relatively well-paid but temporary coffee-harvesting (Hataya, 1992).

VII. FLOWS OF WASTES

URBAN CENTRES, ESPECIALLY medium-sized and large ones, have a significant environmental impact outside the built-up areas and often outside urban and metropolitan boundaries. Cities' ecological footprints (Rees, 1992) usually comprise areas defined or considered as rural. The ecosystem of the regions around large and prosperous cities is generally transformed by the demand for resources and the generation of urban concentrated wastes. For example, analyses of environmental degradation in the Jakarta metropolitan region in the 1980s have identified severe problems ranging from water pollution; loss and degradation of agricultural land through urban expansion; erosion; and threats to the remaining forest, coastland and marine ecosystems from, among other things, the uncontrolled disposal of toxic wastes (Douglass, 1989). Air pollution from city based industries, thermal power stations and motor vehicles often results in acid rain precipitation that damages terrestrial and aquatic ecosystems and may affect crop yields outside the city (Marshall et al., 1997; Satterthwaite, 1997).

Most of these problems are best addressed by action within the urban centres, for example through pollution control and waste reduction. However, in many cases, industrial pollution occurs alongside that caused in peri-urban areas by excessive use of fertilizers, herbicides and pesticides in commercial agriculture and by wastes from intensive livestock production. Whilst measures can be taken to improve environmental conditions in both cities and countryside (see Hardoy et al., 1992 for a review), they are often more easily conceived than implemented. Problems in enforcing these measures relate broadly to three crucial characteristics of environmental processes: their trans-media nature through air, land and sea; their trans-sectoral nature which cuts across traditional policy boundaries; and their trans-boundary nature cutting across political frontiers (Breheny and Rookwood, 1993). Solutions imply coordinated action between authorities having jurisdiction over different areas, for example over the city and over the surrounding region. This is not impossible: in the Peruvian secondary town of Ilo a Permanent Multi-sectoral Commission on Environment brings together industrialists, municipality, urban residents, farmers from the surrounding valley and regional government to monitor the implementation of an environmental rehabilitation plan covering the entire province of Ilo (Díaz et al., 1996). Despite Ilo's severe problems linked to a large copper mining and processing plant, which is the main source of air and marine pollution in the area as well as the main user of scarce freshwater resources, the widespread consultation process, involving all actors concerned in decision-making, has resulted in several measures and projects which have greatly improved the region's environmental situation. However, these different actors may, in many cases, have dif-

ferent aims and objectives and, although co-operation is necessary for effective action in improving the environment, many potential conflicts are not easily resolved.

VIII. SECTORAL INTERACTIONS

SECTORAL INTERACTIONS ARE defined here as rural activities taking place in urban areas (such as urban agriculture) and activities often classified as urban (such as manufacturing and services) taking place in rural areas. A third type of sectoral interaction described in this section is that occurring in peri-urban areas, where many of the flows between rural and urban areas and, in many cases, rural industries are spatially concentrated around urban built-up areas.

a. Urban Agriculture

The growth of urban agriculture since the late 1970s is largely understood as a response to escalating poverty and to rising food prices or shortages which were exacerbated by the implementation of structural adjustment policies in the 1980s (Drakakis-Smith, 1992; Lee-Smith et al., 1987). While it is often assumed that the poor account for the majority of urban farmers and that they engage in this activity essentially on a subsistence basis, recent evidence suggests that this is not necessarily the case. Some studies have shown that high and middle-income households constitute a significant and growing proportion of urban farmers, who often engage in this activity for commercial purposes. Consequently, in several cases, the poorest groups (often including newly arrived migrants) are excluded from access to land as a result of both formal and informal gate-keeping processes in the city (Mbiba, 1995; Mlozi et al., 1992). At the same time, as better-off strata increasingly dominate urban farming through privileged access to both urban and peri-urban land, they may hire waged agricultural labour, contributing to deep changes in the urban labour force (Bryceson, 1996).

Urban agriculture can be an efficient way of recycling urban waste and of contributing to resource conservation in surrounding rural areas, for example through urban-based production of fuelwood (Smit, Rattu and Nasr, 1996). It may also have potentially negative impacts on the environment: small cultivated areas (often less than one hectare) can involve intensive use of fertilizers and pesticides by untrained farmers, affecting consumers as well as underground and surface water both within and outside the urban boundaries (Diallo, 1993). Natural resources can also be negatively affected by high and middle-income urban farmers opting for changes in land use, such as intensive livestock production, industrial and semi-industrial activities or commercial and residential use (Firman, 1996).

b. Non-agricultural Rural Employment

Non-agricultural rural activities include non-farm activities, which are carried out in the farm but are not related to crop production (such as furniture and brickmaking or beer-brewing, which are sold in both rural and urban markets) and off-farm activities, which are carried out away from the farm, and thus involve a spatial dimension, often revolving around urban centres. Bryceson (1997a) defines "de-agrarianization" as a long-term process involving four main elements: occupational adjustment; income-earning re-orientation; social identity transformation; and spatial relocation of rural dwellers away from strictly peasant modes of livelihood. These changes do not necessarily take place simultaneously or follow similar trajectories. Nevertheless, despite local, national and regional differences, occupational change is clearly evident in most Third World countries.

In Brazil, between 1981 and 1990, the average annual growth of non-agricultural rural employment (defined as the economic activities performed by rural dwellers outside farming and household subsistence consumption) was 6 per cent, compared to 0.7 per cent for agricultural employment, and equivalent to an increase in the number of workers from 3.1 to 5.2 million (Graziano da Silva, 1995). In China, government promotion of rural industries is explicitly aimed at creating employment opportunities for surplus labour force in the countryside while reducing migratory pressure on cities. In 1994, industrial production in rural areas

was double the output of agriculture and the number of workers employed in the sector increased from 30 million in 1980 to 123.5 million in 1993 (Yang Zheng, 1995). Whilst this has certainly contributed to a decrease in internal rural to urban migration, there is still a substantial movement from the rural areas towards the fast-developing coastal industrial enclaves (*ibid.*). A large proportion of these rural industries are also in sizeable settlements with strong non-agricultural economic bases and which would be classified as urban centres in most other countries (Kirkby, 1994; UNCHS, 1996).

In sub-Saharan Africa, despite the unwarranted assumption that the continent's destiny is necessarily rooted in peasant agriculture, the population is becoming less agrarian in nature year by year (Bryceson and Jamal, 1997). Environmental degradation, which is acknowledged in the Sahel and the Horn regions but is equally widespread in Southern and Eastern Africa, is a major driving force in this process (Bryceson, 1997b). Decreasing agricultural productivity, in conjunction with population growth and land sub-division, makes it difficult for large numbers of farmers to rely solely on agricultural production for their survival. Current technology to improve agricultural production consists of standardized fertilizer and seed packages which are not available in many rural areas and whose long-term impact is unknown. While well-to-do farmers are able to use non-agricultural earnings to subsidize their investment in farming inputs, a far larger number of small farmers are losing their assets and are forced to turn to non-agricultural activities as a lifeline (Wangari et al., 1996). Some of the least remunerative non-agricultural activities tend to rely on excessive extraction from the natural resource base, for example, sales of firewood and grass are an important activity for the Sudanese rural poor but generate very low incomes and contribute significantly to environmental degradation (El Bashir, 1997).

Access to non-farm production in rural areas is usually mediated by culturally specific formal and informal networks which may be based on income as well as political and/or religious affiliation, ethnicity, household type, gender and generation. In Tanzania, rural women heading their households, and widows living alone, are often socially marginalized, and may be forced to find employment in unprofitable occupations (such as harvesting of natural resources) or even in prostitution, while patronage is in many cases a crucial element of access to activities such as intra-regional trade (Seppala, 1996). Rural poverty in Senegal has been linked to lack of access to non-farm income, while in Tanzania the accumulation strategies of better-off rural households are based on income diversification and the simultaneous exploitation of both rural and urban resources (Baker, 1995).

Forward linkages between non-agricultural and agricultural activities, such as processing and other manufacturing of agricultural raw materials, and backward linkages, such as the manufacturing of agricultural equipment, tools and inputs, and tourism in many areas, are the basis of the most profitable types of non-farm rural employment. This suggests that a rich natural resource base may be as necessary for rural non-agricultural activities as it is for agriculture (Livingstone, 1997). However, non-farm rural activities are not completely dependent on rural sources and, therefore, are not insulated from pressures at wider levels. For example, the impact of devaluation on the cost of imported inputs and urban supply networks has adversely affected rural based activities in Nigeria, where rural transporters, grain grinders, mechanics, welders and photographers have suffered from the high cost of equipment and materials (Meagher and Mustapha, 1997). SAP induced incentives for exports and local sourcing also force small-scale producers to compete with exporters, urban consumers and local industry for access to local raw materials (*ibid.*).

c. Urban-Rural Interlinkages in Peri-urban Areas

Many of the rural-urban flows of people, goods and wastes are most intense and varied between the built-up area of towns and cities and the peri-urban areas that surround them. For instance, most of the rural dwellers who regularly travel to particular cities (including those who commute daily) will live close to the city although cheap and efficient transport systems may help widen the area

from which many people commute. In many cities, an increasing proportion of the population lives in peri-urban areas still officially designated as rural as new housing developments spill over the official urban boundary. Land markets and land uses in many rural areas around cities also become increasingly influenced by real-estate developments. Intensive land development, sub-division and sale may take place although with little building construction as many urban residents make speculative purchases in anticipation of increases in land value linked to urban expansion. The extent of such rural developments is much influenced by the way each city's boundary has been defined - and where city or metropolitan boundaries encompass city regions, most such developments may still be within the urban boundary.

One of the greatest flows of goods from peri-urban to urban areas are the heavy, bulky, low-value building materials such as stone, clay, aggregate and landfill, drawn from the city's immediate surrounds (Douglas, 1983). Most cities draw heavily on their surrounding region for freshwater resources and reservoirs and water-treatment plants may be concentrated there. Most urban wastes also end up in the region surrounding the city, for example solid wastes disposed of on peri-urban land sites and liquid wastes either piped or finding their way through run-off into rivers, lakes or other water bodies close by (Hardoy et al.,1992). New enterprises selling goods or services to city populations or relying on urban labour markets and services but which do not need to be within the built-up area may also settle in the rural region. Leisure activities, many of them geared mainly to urban middle and upper-income groups (for example golf courses, country clubs, sports grounds, services for tourists) may also become an important part of economic activities and employment patterns within certain peri-urban areas still classified as rural. The larger the scale of settlement and of economic activities in peri-urban areas, the greater the pressure for road and highway investments there. This large and often growing influence of cities on land ownership and use, economic activities and labour markets in the rural areas around them obviously has significant influences on agricultural production and on the livelihoods of those who live in these areas.

IX. CONCLUSIONS

THE MAIN ISSUE emerging from this review of recent literature on rural-urban interactions is that populations and activities described either as "rural" or "urban" are more closely linked both across space and across sectors than is usually thought, and that distinctions are often arbitrary. What is defined as an "urban centre" may vary from one country to another, and households may be "multispatial", with some members residing in rural areas and others in towns, as well as engaging in agriculture within urban areas or in non-farm activities in the countryside. Flows of people, goods and wastes, and the related flows of information and money, act as linkages across space between cities and countryside.

One consequence of these strong interrelations is that both rural and urban areas are affected by current transformations at the macro-level, including economic reform and structural adjustment programmes whose impact has traditionally been examined primarily in urban economies and labour markets. Particularly in the African context, SAPs, trade liberalization and the growth of export oriented agriculture have resulted in the marginalization of small farmers, who often have to migrate or resort to low-paid, non-farm employment. For both urban and rural populations, recent and current changes in the global social, economic and political context have resulted in deepening social differentiation and increasing poverty. However, while the nature of these changes is global, they are also characterized by great diversity at the local level, itself the consequence of historical, political, socio-cultural and ecological, as well as economic, differences.

References

Abramovay, R. and I. Sachs (1996), "Nouvelles configurations villes-campagnes" in UNHCS (Habitat) *Habitat II - Dialogue # 6: Land and Rural/Urban Linkages in the Twenty-First Century*, Proceedings of the Conference held in Istanbul, June 6 1996, UNCHS, Nairobi.

Baker, J. (1995), "Survival and accumulation strategies at the rural-urban interface in north-west Tanzania", *Environment and Urbanization* Vol.7, No.1, pages 117-132.

Baker, J. and C-F. Claeson (1990), "Introduction" in Baker, J. (editor), *Small Town Africa: Studies in Rural-Urban Interaction*, The Scandinavin Institute of African Studies, Uppsala, pages 7-34.

Bates, R.H. (1981), *Markets and States in Tropical Africa*, University of California Press, Berkeley.

Becker, C.M. and A. R. Morrison (1996), "Public policy and rural-urban migration" in Gugler, J. (editor), *Cities in the Developing World: Issues, Theory and Policy*, Oxford University Press, Oxford, pages 88-107.

Belsky, E.S. and G.J. Karaska (1990), "Approaches to locating urban functions in developing rural areas" in *International Regional Science Review* Vol.13, No.3, pages 225-240.

Bertrand, M. and A. Dubresson (editors) (1997), *Petites et moyennes villes d'Afrique Noire*, Karthala, Paris.

Bhooshan, B.S. (1986), "Bangalore, Mandya and Mysore districts" in Hardoy, J.E. and D. Satterthwaite (editors), *Small and Intermediate Urban Centres: their Role in Regional and National Development in the Third World*, John Wiley, UK and Westview Press, USA, pages 131-184.

Boyce, J. (1993), *The Philippines: The Political Economy of Growth and Impoverishment in the Marcos Era*, Macmillan, Houndsmills, Basingstoke.

Breheny, M. and R. Rookwood (1993), "Planning the sustainable city region" in Blowers, A. (editor), *Planning for a Sustainable Environment*, Earthscan, London.

Bryceson, D. F. (1996), "De-agrarianisation and rural employment in sub-Saharan Africa: a sectoral perspective", *World Development* Vol.24, No.1, pages 97-111.

Bryceson, D.F. (1997a), "De-agrarianisation in sub-Saharan Africa: Acknowledging the inevitable" in Bryceson, D.F. and V. Jamal (editors), *Farewell to Farms: De-Agrarianisation and Employment in Africa*, Africa Studies Centre Leiden, Research Series 1997/10, Ashgate, Aldershot, pages 3-20.

Bryceson, D.F. (1997b), "De-agrarianisation: blessing or blight?" in Bryceson, D.F. and V. Jamal (editors), *Farewell to Farms: De-Agrarianisation and Employment in Africa*, Africa Studies Centre Leiden, Research Series 1997/10, Ashgate, Aldershot, pages 237-256.

Bryceson, D.F.and V. Jamal (editors) (1997), *Farewell to Farms: De-Agrarianisation and Employment in Africa*, Africa Studies Centre Leiden, Research Series 1997/10, Ashgate, Aldershot.

Chant, S. (editor) (1992), *Gender and Migration in Developing Countries*, Belhaven Press, London.

Chase, J. (1997), "Managing urban settlements in Brazil's agro-industrial frontier", *Third World Planning Review* Vol.19, No.2, pages 189-208.

Chen, X. and W. L. Parish (1996), "Urbanization in China: reassessing an evolving model" in Gugler, J. (editor), *The Urban Transformation of the Developing World*, Oxford University Press, Oxford, pages 61-92.

Corbridge, S. (1982), "Urban bias, rural bias and industrialisation: an appraisal of the works of Michael Lipton and Terry Byres" in Harriss, J. (editor), *Rural Development: Theories of Peasant Economies and Agrarian Change*, Routledge, London, pages 94-116.

Corbridge, S. (1989), “Urban-rural relations and the counterrevolution in development theory and practice” in Potter, R. and T. Unwin (editors), *The Geography of Urban-Rural Interaction in Developing Countries,* Routledge, London, pages 233-257.

David, R., Niang, O.K., Myers, M., Ruthven O. and P. Yabre (1995), *Changing Places? Women, Resource Management and Migration in the Sahel*, SOS Sahel UK, IFAD and IIED, London and Rome.

Diallo, S. (1993), *Urban Agriculture Research in West Africa: Record, Capacities and Opportunities,* Cities Feeding People Series Report 5, IDRC.

Díaz, D.B., López Follegatti, J.L. and M. Hordijk (1996), “Innovative urban environmental management in Ilo, Peru”, *Environment and Urbanization* Vol.8, No.1.

Douglas, I. (1983), *The Urban Environment*, Edward Arnold, London.

Douglass, M. (1989), “The environmental sustainability of development: coordination, incentives and political will in land use planning in the Jakarta metropolis”, *Third World Planning Review* Vol.11, No.2.

Drakakis-Smith, D. (1992), “Strategies for meeting basic food needs in Harare” in Baker, J. and P.O. Pedersen (editors), *The Rural-Urban Interface in Africa: Expansion and Adaptation*, The Scandinavian Institute of African Studies, Uppsala, pages 258-83.

El Bashir Ibrahim, H. (1997), “Coping with famine and poverty: the dynamics of non-agricultural rural employment in Darfur, Sudan” in Bryceson, D.F. and V. Jamal (editors), *Farewell to Farms: De-Agrarianisation and Employment in Africa*, Africa Studies Centre Leiden, Research Series 1997/10, Ashgate, Aldershot, pages 23-40.

Elkan, W. (1960), *Migrants and Proletarians: Urban Labour in the Economic Development of Uganda,* Oxford University Press, London.

Escobar, A. (1995), *Encountering Development: The Making and Unmaking of the Third World*, Studies in Culture/Power/History, Princeton University Press, Princeton.

Evans, H. E. (1990), “Rural-urban linkages and structural transformation”, Report INU 71, Infrastructure and Urban Development Department, The World Bank, Washington DC.

Evans, H.E. and P. Ngau (1991), “Rural-urban relations, household income diversification and agricultural productivity”, *Development and Change* Vol.22, pages 519-45.

Firman, T. (1996), “Urban development in Bandung metropolitan region: a transformation to a Desa-Kota region”, *Third World Planning Review* Vol.18, No.1, pages 1-22.

Gadio, C.M. and C.A. Rakowski (1995), “Survival or empowerment? Crisis and temporary migration among the Serer millet pounders of Senegal”, *Women’s Studies International Forum* Vol.18, No.4, pages 431-443.

Gado, B. and Guitart, F. (1996), “ L’influence de Niamey sur les marchés de Baleyra et Kollo (Niger)” in Coquery-Vidrovitch, C., D’Almeida-Topor, H. and J. Sénéchal (editors), *Interdépendances villes-campagnes en Afrique*, L’Harmattan, Paris, pages 177-186.

Gaile, G. L. (1992), “Improving rural-urban linkages through small town market-based development”, *Third World Planning Review* Vol.14, No.2, pages 131-48.

Gilbert, A. (1992), “Urban and regional systems: a suitable case for treatment?” in Gilbert, A. and J. Gugler (editors), *Cities, Poverty and Development* (second edition), Oxford University Press, Oxford, pages 220-62.

Ginsberg, N., Koppel, B. and T. G. McGee (editors) (1991), *The Extended Metropolis Settlement Transition in Asia*, University of Hawaii Press, Honolulu.

Go, S. and L.Postrado (1986), “Filipino overseas contract workers: their families and communities” in Arnold, F. and N. M. Shah (editors), *Asian Labour Migration: Pipeline to the Middle East,* Westview Press, Boulder, Colorado, pages 125-44.

Graziano da Silva, J. (1995), "Urbanização e pobreza no campo" in Ramos, P. and B. Reydon (editors), *Agropecuária e Agroindústrie no Brasil Ajuste. Situação Atual e Perspectives,* Edição ABRA.

Gueye, C. (1997), "Touba: les marabouts urbanisants" in Bertrand, M. and A. Dubresson (editors), *Petites et moyennes villes d'Afrique Noire,* Karthala, Paris, pages 179-204.

Hamer, A. M. (1984), *Decentralized Urban Development and Industrial Location Behaviour in Sao Paulo, Brazil: A Synthesis of Research Issues and Conclusions*, Discussion Paper, Water Supply and Urban Development Department, the World Bank, Washington DC.

Hardoy, J.E., Mitlin, D. and D. Satterthwaite (1992), *Environmental Problems in Third World Cities,* Earthscan, London.

Hardoy, J. E. and D. Satterthwaite (1986a), "Government policies and small and intermediate urban centres" in Hardoy, J. E. and D. Satterthwaite (editors), *Small and Intermediate Urban Centres: their role in National and Regional Development in the Third World*, Hodder and Stoughton, London and Westview (USA), pages 335-395.

Hardoy, J. E. and D. Satterthwaite (1986b), "A survey of empirical material on the factors affecting the development of small and intermediate urban centres" in Hardoy, J. E. and D. Satterthwaite (editors), *Small and Intermediate Urban Centres: their role in National and Regional Development in the Third World*, Hodder and Stoughton, London and Westview (USA), pages 279-334.

Hardoy, J. E. and D. Satterthwaite (1986c), "Some tentative conclusions" in Hardoy, J. E. and D. Satterthwaite (editors), *Small and Intermediate Urban Centres: their role in National and Regional Development in the Third World*, Hodder and Stoughton, London and Westview (USA), pages 398-411.

Hardoy, J. E. and D. Satterthwaite (1988), "Small and intermediate urban centres in the Third World: what role for government?", *Third World Planning Review* Vol.10, No.1.

Hardoy, J.E. and D. Satterthwaite (1989), *Squatter Citizen: Life in the Urban Third World*, Earthscan, London.

Harriss, B. and J. Harriss (1988), "Generative or parasitic urbanism? Some observations from the recent history of a South Indian market town", *Journal of Development Studies* Vol.20, No.3, pages 82-101.

Harriss-White, B. (1995), "Maps and landscapes of grain markets in South Asia" in Harriss, J., Hunter, J. and C.M. Lewis (editors), *The New Institutional Economics and Third World Development,* Routledge, London, pages 87-108.

Hart, K. (1973), "Informal income opportunities and urban employment in Ghana", *Journal of Modern African Studies* 11, pages 61-89.

Hataya, N. (1992), "Urban-rural linkage of the labor market in the coffee growing zone in Colombia", *The Developing Economies* Vol.XXX, No.1, pages 63-83.

Hugo, G. (1996), "Urbanization in Indonesia: city and countryside linked" in Gugler, J. (editor), *The Urban Transformation of the Developing World,* Oxford University Press, Oxford, pages133-184.

Ilcan, S.M. (1994), "Peasant struggles and social change: migration, households and gender in a rural Turkish society" in *International Migration Review* Vol.xxxviii, No.3, pages 554-579.

International Labour Office (ILO) (1972), *Employment, Incomes and Equality: A Strategy for Increasing Productive Employment in Kenya*, ILO, Geneva.

Jaglin, S. and A. Dubresson (editors) (1993), *Pouvoirs et cités d'Afrique Noire: Décentralisations en questions,* Karthala, Paris.

Jamal, V. and J. Weeks (1988), "The vanishing rural-urban gap in sub-Saharan Africa", *International Labour Review* Vol.127, No.3.

Jellinek, L. (1988), "The changing fortunes of a Jakarta street-trader" in Gugler, J. (editor), *The Urbanization of the Third World*, Oxford University Press, Oxford, pages 204-223.

Kirkby, R. (1994), "Dilemmas of urbanization: review and prospects" in Dwyer, D. (editor), *China: The Next Decades*, Longman Scientific and Technical, Harlow, pages 128-155.

Lee-Smith, D., Manundu, M., Lamba, D. and P.K. Gathuru (1987), *Urban Food Production and the Cooking Fuel Situation in Urban Kenya - National Report: Results of a 1985 National Survey*, Mazingira Institute, Nairobi.

Lewis, W.A. (1954), "Economic development with unlimited supply of labor" in Agarwala, A.N. and S.P. Singh (editors), *The Economics of Underdevelopment*, Oxford University Press, Oxford.

Lipton, M. (1977), *Why Poor People Stay Poor: Urban Bias in World Development*, Temple Smith, London.

Livingstone, I. (1997), "Rural industries in Africa: hope and hype" in Bryceson, D.F. and V. Jamal (editors), *Farewell to Farms: De-Agrarianisation and Employment in Africa*, Africa Studies Centre Leiden, Research Series 1997/10, Ashgate, Aldershot, pages 205-221.

Manzanal, M. and C.Vapnarsky (1986), "The development of the upper valley of Rio Negro and its periphery within the Comahue region, Argentina" in Hardoy, J.E. and D. Satterthwaite (editors), *Small and Intermediate Urban Centres; their Role in Regional and National Development in the Third World*, Hodder and Stoughton, UK and Westview Press, USA, pages 18-79.

Marshall, F., Ashmore, M. and F. Hinchcliffe (1997), *A Hidden Threat to Food Production: Air Pollution and Agriculture in the Developing World*, IIED Gatekeeper Series No.73, London.

Mbiba, B. (1995), *Urban Agriculture in Zimbabwe*, Avebury, Aldershot.

McGee, T.G. (1987), *Urbanization or Kotadesasi - The Emergence of New Regions of Economic Interaction in Asia*, Working paper, Environment and Policy Institute, East West Center, Honolulu.

Meagher, K. and A.R. Mustapha (1997), "Not by farming alone" in Bryceson, D.F. and V. Jamal (editors), *Farewell to Farms: De-Agrarianisation and Employment in Africa*, Africa Studies Centre Leiden, Research Series 1997/10, Ashgate, Aldershot, pages 63-84.

Misra, H.N. (1986), "Rae Bareli, Sultanpur and Pratapgarh districts, Uttar Pradesh, North India" in Hardoy, J.E. and D. Satterthwaite (editors), *Small and Intermediate Urban Centres; their role in Regional and and National Development in the Third World*, Hodder and Stoughton, UK and Westview Press, USA, pages 185-224.

Mlozi, M.R.S., Lupanga, I.J. and Z.S.K. Mvena (1992), "Urban agriculture as a survival strategy in Tanzania" in Baker, J. and P.O. Pedersen (editors), *The Rural-Urban Interface in Africa: Expansion and Adaptation*, The Scandinavian Institute of African Studies, Uppsala, pages 284-94.

Morris, A. (1997), "Market behaviour and market systems in the state of Mexico" in van Lindert, P. and O. Verkoren (editors), *Small Towns and Beyond: Rural Transformation and Small Urban Centres in Latin America*, Thela Publishers, Amsterdam, pages 123-132.

Moser, C. (1978), "Informal sector or petty commodity production: dualism or dependence in urban development?", *World Development* Vol.6, No.9/10, pages 1041-1964.

Nurske, R. (1953), *Problems of Capital Formation in Underdeveloped Countries*, Oxford University Press, Oxford.

Nyassogbo, G. (1997), "Développement local, villes secondaires et décentralisation au Togo" in Bertrand, M. and A. Dubresson (editors), *Petites et moyennes villes d'Afrique Noire*, Karthala, pages 89-110.

Parnwell, M. and L. Wongsuphasawat (1997), "Between the global and the local: extended metropolitanisation and industrial location decision making in Thailand", *Third World Planning Review* Vol.19, No.2, pages 119-138.

Pedersen, P.O. (1997), *Small African Towns: Between Rural Networks and Urban Hierarchies,* Avebury, Aldershot.

Philippine National Statistics Office (1992), *Census of Population and Housing, Report No. 3: Socio-economic and Demographic Characteristics*, NSO, Manila.

Portes, A., Castells, M. and L.A. Benton (editors) (1989), *The Informal Economy,* The Johns Hopkins University Press, Baltimore.

Potter, R. and T. Unwin (1995), "Urban-rural interaction: physical form and political process in the Third World", *Cities* Vol.12, No.1, pages 67-74.

Potts, D. (1995), "Shall we go home? Increasing urban poverty in African cities and migration processes", *The Geographic Journal* Vol.161, No.3, pages 245-264.

Preston, S.H. (1988), "Urban growth in developing countries: a demographic reappraisal" in Gugler, J. (editor), *The Urbanization of the Third World,* Oxford University Press, Oxford, pages 11-32.

Rees, W. (1992), "Ecological footprints and appropriate carrying capacity: what urban economics leaves out", *Environment and Urbanization* Vol.4, No.2, pages 121-130.

Ribot, J.C. (1998), "Theorizing access: forest profits along Senegal's charcoal commodity chains", *Development and Change* Vol.29, pages 307-341.

Rondinelli, D. (1985), *Applied Methods of Regional Analysis: The Spatial Dimensions of Development Policy,* Westview Press, Boulder, Colorado.

Rondinelli, D. and K. Ruddle (1978), *Urbanization and Rural Development: A Spatial Policy for Equitable Growth,* Praeger, New York.

Saint, W.S. and W.D. Goldsmith (1980), "Cropping systems, structural change and rural-urban migration in Brazil", *World Development* Vol. 8, pages 259-272.

Satterthwaite, D. (1997), "Sustainable cities or cities that contribute to sustainable development?", *Urban Studies* Vol.34, No.10, pages 1667-1691.

Seppala, P. (1996), "The politics of economic diversification: reconceptualizing the rural informal sector in Southeast Tanzania", *Development and Change* Vol.27, pages 557-78.

Simelane, H.S.(1995), "Labour migration and rural transformation in post-colonial Swaziland", *Journal of Contemporary African Studies* Vol.13, No.2, pages 207-26.

Simon, D. (1992), "Conceptualizing small towns in African development" in Baker, J. and P.O. Pedersen (editors), *The Rural-Urban Interface in Africa: Expansion and Adaptation*, The Scandinavian Institute of African Studies, Uppsala, pages 29-50.

Smit, J., Rattu, A. and J. Nasr (1996), *Urban Agriculture: Food, Jobs and Sustainable Cities*, Publication Series for Habitat II, Volume One, UNDP, New York.

Southall, A. (1988), "Small towns in Africa revisited", *African Studies Review* Vol.31, No.3 .

Standing, G. and V. Tokman (editors) (1991), *Towards Social Adjustment,* ILO, Geneva.

Stren, R. (1991), "Old wine in new bottles? An overview of Africa's urban problems and the 'urban management' approach to dealing with them", *Environment and Urbanization* Vol.3, No.1.

Swindell, K. (1988), "Agrarian change and peri-urban fringes in tropical Africa" in Rimmer, D. (editor), *Rural Transformation in Tropical Africa,* Belhaven, London, pages 98-115.

Tingbé-Azalou, A. (1997), "Cultural dimensions of rural-urban relations in Benin" in Baker, J. (editor), *Rural-Urban Dynamics in Francophone Africa*, Nordiska Afrikainstitutet, Uppsala, pages 79-89.

United Nations Centre for Human Settlements (UNCHS) (1996), *An Urbanizing World: Global report on Human Settlements 1996*, Oxford University Press, Oxford.

UNDP/UNCHS (Habitat) (1995), "Rural-urban linkages: policy guidelines for rural development", paper prepared for the 23rd Meeting of the ACC Sub-committee on Rural Development, UNESCO Headquarters, Paris, 31 May-2 June, 1995.

Unwin, T. (1989), "Urban-rural interaction in developing countries: a theoretical perspective" in Potter, R. and T. Unwin (editors), *The Geography of Urban-Rural Interaction in Developing Countries,* Routledge, London, pages 11-33.

Wackernagel, M. and W. Rees (1995), *Our Ecological Footprint: Reducing Human Impact on the Earth,* New Society Publishers, Gabriola.

Wangari, E., Thomas-Slayter, B. and D. Rocheleau (1996), "Gendered visions of survival: semi-arid regions in Kenya" in Rocheleau, D., Thomas-Slayter, B. and E. Wangari (editors), *Feminist Political Ecology: Global Issues and Local Experiences,* Routledge, London, pages 127-154.

Weeks, J. (1973), "Does employment matter?" in Jolly, R. et al. (1973), *Third World Employment,* Penguin, Harmondsworth, pages 61-65.

Yan Zheng (1995), "Township and village enterprise in China", Fujian Academy of Sciences, mimeo.

Ziavoula, R.E. (1997), "A new look at linking towns in the Congo" in Baker, J. (editor), *Rural-Urban Dynamics in Francophone Africa*, Nordiska Afrikainstitutet, Uppsala, pages 65-78.

Zoomers, A.E.B. and J. Kleinpenning (1996), "Livelihood and urban-rural relations in Central Paraguay", *Tijdschrift voor Economische en Sociale Geografie* Vol.87, No.2, pages 161-74.