



THE POTENTIAL OF RURAL–URBAN LINKAGES FOR SUSTAINABLE DEVELOPMENT AND TRADE

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ABSTRACT

Rural–urban linkages play a crucial role in the generation of income, employment and wealth. Yet, for various reasons the importance of such linkages is not recognized and thus ignored in national economic and trade policies. The present paper investigates infrastructure problems, institutional constraints and trade barriers that tend to discourage linkages between rural and urban regions and thus prevent a process of rural empowerment and economic development. The findings of our review indicate that clustering rural and urban areas into regional planning units may create the necessary enabling environment for extended trade networks and knowledge exchange between the city and the countryside. As such, stronger rural–urban linkages could also play a crucial role in poverty reduction in developing countries.

Keywords: Rural-urban linkages, Small towns, Economic development, Sustainable development, Poverty reduction, Migration and remittances, Planning, Policies, International trade, International linkages.

JEL Classification: O10; O13; O18; O19; O21; O24; F10; Q17.

1. INTRODUCTION

When policy makers address important issues such as poverty reduction and economic development, they classify the economic activities as either ‘rural’ or ‘urban’. This distinction between the ‘rural/agricultural/natural resources’ sector and the ‘urban/manufacturing and services/infrastructure’ sector, however, misses the important linkages that exist between rural and urban activities. As argued by the [World Bank \(2006\)](#), ignoring rural–urban linkages leads to inefficiencies and causes growth-inhibiting inequality. In fact, an important part of industrial growth in most low-income countries can be attributed to the forward and backward linkages with agriculture – e.g. processing and manufacturing of agricultural raw materials (forward linkages); and manufacturing of agricultural inputs (backward linkages). A better understanding of the opportunities and constraints of urban–rural linkages therefore will contribute to sustainable development through the adoption of appropriate economic and social policies as well

as interventions. As [Evans \(1990\)](#) has argued, any discussions on development need to consider rural–urban linkages with regard to both economic development and structural transformation. [OECD \(2013\)](#) also adopts the rural-urban partnerships approach for economic development, since they argue that this approach help economic development through enhancing the production of public goods, achieving economies of scale in public services, developing new economic opportunities and capacity building, improving administration, taking into account negative externalities, and dealing with the coordination failures. Likewise, the Agricultural and Rural Convention 2020 pays a special attention to the rural-urban linkages for inclusive and sustainable growth and development ([Dower, 2013](#)). In addition, [Global Monitoring Report \(2013\)](#) emphasizes the important role of the rural-urban linkages for poverty reduction. [Cali and Menon \(2013\)](#) show that the poverty-reducing impacts occur through consumer linkages, remittances, changing rural land-to-labour ratio, and non-farm employment. The potential role of urban-rural partnership in improving regional competitiveness and regional governance in the EU context is brought up in the wake of the recent financial crisis, ([Lucatelli and Pietro De, 2013](#)). At the micro-level, rural–urban linkages are important tools for understanding the complexities of people’s livelihoods and their strategies, which involve mobility, migration and the diversification of income sources and occupations. The remittances that most rural households depend on are the result of this mobility and migration. High levels of multi-activity are also the result of the income and occupation diversification that most rural individuals and households practice when combining farming with non-farming, as well as with off-farm¹ activities. This is especially true among the younger generations and unmarried young women in rural and peri-urban areas. At the macro-level, the demand created by the urban-based markets is crucial for rural producers and it is these same urban-based markets that link rural producers to regional and international markets ([Tacoli, 2006](#)). Spatial rural-urban linkages, which are flows of people, goods, money and information between urban centres and rural regions, are important drivers of economic activities ([Copus, 2013](#)). Rural–urban linkages also involve sectoral linkages such that demand from rural consumers is crucial for urban enterprises and agricultural producers rely on urban markets. [Okpala Don \(2003\)](#) also adds the flow of ideas and the flow of diffusion of innovation to the rural-urban linkages. [Xijia et al. \(2014\)](#) discuss the importance of rural tourism for the joint development of urban and rural areas.

It should be noted, however, that many people in rural areas engage in ‘urban’ activities, such as manufacturing and service provision and, likewise, many people in urban areas engage in

¹ Non-farm activities that are carried out on the farm can include, e.g., furniture- and brick-making, brewing and coffee-processing for sale on both urban and rural markets. Off-farm activities are carried out away from the farm and can include work as village school teachers, village medical personnel, road construction and maintenance workers, administrative and clerical personnel, etc. [Baker \(1995\)](#), [Haggblade, Hazell and Thomas Reardon 2010](#), describe non-farm economic activities as all economic activities – mining, manufacturing, utilities, construction, commerce, transport, and services – other than ‘production of primary agricultural commodities’.

agricultural production, either for household consumption or for sale or both. The rural and urban economies therefore are interdependent, intertwined and complementary.² The objective of this study is to analyse the importance of infrastructure, market and non-market institutions, and trade in facilitating rural–urban linkages. Therefore, the study investigates the infrastructural, institutional and trade barriers to effective links between rural and urban regions. It further contributes to identifying strategic policy and programme interventions that can help create infrastructure and encourage institutions to forge dynamic links between rural and urban regions. Furthermore, the study addresses how rural–urban linkages promote sustainable development and the role of trade in this process, as the lack of optimal rural–urban linkages leads to inefficiencies, poverty and inequality that inhibit growth. Conversely, strong linkages enhance sustainable development, because they channel resources to where they have the largest net economic and social benefits. Therefore, rural–urban linkages need policy attention that we also discuss in the study. The results of the study suggest that rural–urban linkages are not only important in relation to the policies meant to address poverty reduction and but also in relation to economic and sustainable development. Our aim, therefore, is to better understand the role of the rural-urban linkages for sustainable development, and therefore, in this study, we try to answer the following questions: How can the rural-urban linkages enhance sustainable development? Can rural-urban linkages be a solution to the growing labour force in rural areas? Moreover, doing so can it be a way out of poverty for the rural poor? What is the role of trade in this process? However, our main conclusion is that affirmative answers to these questions depend on the connection of the rural markets to national and international markets. Thus, openness to trade and appropriate domestic policy stances can enhance the rural-urban linkages, therefore, sustain development and reduce poverty. Furthermore, our study describes the challenges and policy recommendations for strengthening the rural-urban linkages by examining key factors that affect and enhance the rural-urban linkages. Section 2 defines ‘urban’ and ‘rural’, ‘rural–urban linkages’ and the ‘rural–urban continuum’; and shows that rural and urban areas are indeed interdependent. Section 3 illustrates the connection that exists between rural–urban linkages and livelihood strategies. It also discusses that the usage of the urban opportunities depends on urbanization, innovations, sectoral transformations and international trade. Therefore, this section especially emphasizes the role of trade in strengthening the rural-urban linkages. In addition, we also mention the importance of the non-farm activities for the rural households’ survival strategy that are again possible with international trade. Section 4 discusses mobility and migration between rural and urban areas. The flows of information, money and goods through mobility and migration help strengthen the rural-urban linkages. Section 5 discusses policies, market

² Irwin, Isserman Andrew, Maureen and Partridge Mark (2010). note that in rural North America labour-saving technological progress, reductions in transport costs, and rising household incomes increased rural-urban interdependence. See Reimer (2010). for the rural-urban interdependency in Canada.

institutions, small urban centres, infrastructure, and information that enhance and hinder the rural-urban linkages. The main conclusion of this section is that trade agreements and/or trade networks by strengthening the rural-urban linkages determine the sustainable development. Section 6 concludes by highlighting key drivers of the rural-urban linkages, and recommending specific policies for sustainable development for both rural and urban areas.

2. DEFINING 'URBAN' AND 'RURAL' AND 'RURAL-URBAN CONTINUUM'

2.1. Defining 'Urban' and 'Rural'

Most governments define an urban centre in one of four ways (Frey William and Zachary, 2001; Tacoli, 2006):

- Through population size thresholds;
- Through population size thresholds combined with measures of population density or the proportion of the population employed in non-farm activities;
- Through administrative or political status; or,
- Through lists of settlements defined as 'urban' in the national census.

However, these definitions are not without flaws. For example, many European and Latin American countries consider 2,500 inhabitants an appropriate population-size threshold, whereas many African nations use a threshold of 20,000 inhabitants. Therefore, it is difficult to compare the urban areas internationally and make generalizations (Tacoli, 2004). Similarly, the definition of urban boundaries poses a problem. Firman (1996) shows that in Southeast Asia's Extended Metropolitan Regions, agriculture, industry and suburban developments coexist side by side in areas with a radius as large as 100 km. For example, in Penang and Malaysia, the expansion of metropolitan areas into the countryside since the 1970s takes place as a result of the government policies that favour industrialization over agriculture (Ghazali, 2013). Furthermore, high mobility of the population in the form of circular migration and commuting within these regions further blurs the 'rural-urban divide'. In a recent study by the Organisation for Economic Co-operation and Development, 'urban' is defined by economic function rather than administrative boundaries, (OECD, 2013). Population density and travel-to-work flows are used as key information in the definition; therefore, urban areas are characterized by densely inhabited 'urban cores' and 'hinterlands' whose labour market is highly integrated with the cores. Although, this OECD study recognizes the importance of the linkages and interactions between cities and those between urban and rural areas for economic production, it hardly mentions the role of these linkages for sustainable development.

2.2. Rural-Urban Continuum

The population of a country is divided into 'rural' and 'urban' according to particular features – e.g., the settlements they live in and the sector in which they earn their living. However, this definition ignores the fact that rural households rely on urban income sources, such

as remittances and income derived from producing for consumption in the urban markets; urban households also rely on rural resources, especially in low-income countries. While rural specialists mention *rural industrialization* and 'off-farm' and 'non-farm' employment by way of ignoring the role of urban centres, urban specialists completely ignore the role of agriculture for urban development. All settlements should be seen as occupying a space along a continuum, with respect to both their population size and economic activity.³ This is a consequence of the fact that many households in rural areas rely on non-agricultural employment and income, while urban agriculture plays an important role in most urban areas, and especially for low-income urban households. Indeed, Yang *et al.* (2014) find strong linkages between the key urban sectors, such as food processing and food services, business services, finance and health care, and agriculture for Beijing in China. Thus, policies that reinforce the linkages between agriculture and urban economy also integrate agricultural development with the development of urban system. The Food and Agriculture Organization of the United Nations (FAO) also emphasizes the fact that food and nutrition security can be addressed by envisioning a continuum between urban and rural landscapes and actors (Food and Agriculture Organization of the United Nations (FAO), 2011).

The importance of this continuum was acknowledged by Jane Jacobs, in her book 'Jacobs (1969), in which she argued that the distinction drawn between city commerce and industry on the one hand and rural agriculture on the other is artificial and imaginary. She also found it difficult to make a distinction between 'city-created work' and 'rural work', as well as between 'city consumption' and 'rural production'. Potts (1995) reports that the maintenance of rural-urban linkages and of rural assets acts as an emergency reserve in sub-Saharan Africa. These linkages persist long after migrants have left their home towns and even when the home villages are far removed from their nearest urban centres. For example, rural-urban linkages are sustained through livestock ownership and land tenure (Krüger, 1998; Lesetedi, 2003; 2013; Edaku, 2010; Uchenna Mberu *et al.*, 2012; Posel and Colin, 2013). Likewise, in peri-urban communities in the Toluca Metropolitan Area, west of Mexico City maize is produced for an insurance strategy against volatile job markets as well as for making home-made tortillas (Lerner Amy *et al.*, 2013). These rural-urban linkages are important and any disruption to such linkages may be a severe threat to both urban and rural households.

3. RURAL-URBAN LINKAGES AND LIVELIHOOD STRATEGIES

Most individuals or households in low-income countries straddle the rural-urban divide through income and occupation diversification and migration. Time devoted to, as well as the income share derived from, non-farm and off-farm activities are therefore substantial parts of the

³ Lichter Daniel and Brown David (2011). describe the 'rural-urban interface' as the 'urban-rural interdependence and boundary crossing, shifting and blurring'.

lives of rural households.⁴ However, the entry of rural people into non-farm activities has only been possible where there is availability of non-farm employment opportunities of the type that arise from urbanization, innovations, sectoral transformations, and national and international trade. For example, new agricultural technologies and innovations, modern farm inputs, and the increased labour productivity on the farm release (poor) workers from agriculture to non-farm activities. In addition, new investments in non-farm sectors take place with an increase in farm incomes and rural savings, (Hazell Peter and Haggblade, 1991; Hazell Peter and Ramasamy, 1991). As farm income grows, the demand for non-farm goods and services increases, (Hossain, 2004). However, expansion of the non-farm and farm economy is possible with enhancing growth in tradables and linking rural areas to external markets that help expand rural markets and employment, (Haggblade *et al.*, 2010). National employment data records only people's primary activity; however, individuals can engage in multiple activities. Indeed, Ellis (1998) reports that the proportion of rural households' incomes that are derived from non-farm activities (including migrants' remittances) can reach as high as 50% in sub-Saharan Africa and 90% in South Africa. This proportion is estimated to be 60% in South Asia (Reardon *et al.*, 2001), 51% in Asia, 34% in Africa (75% in Namibia) and 51% in Latin America by Reardon *et al.* (2007). De Brauw *et al.* (2014) report that internal remittance rate reaches 55% in Senegal. The non-farm activities of rural households are part of a survival strategy that aims to reduce risk, overcome seasonal income fluctuations and respond to external and internal shocks and stresses – e.g., economic and financial crises (Baker, 1995; Haggblade *et al.*, 2010; Neves and Andries Du, 2013; Nagler and Wim, 2014).

Likewise, Bah *et al.* (2003) find that farming is an important economic activity for low-income urban residents, both in terms of household consumption and of income-generation in Tanzania and Mali. Lwasa *et al.* (2014) also point out that urban and peri-urban agriculture and forestry enhance urban food security in West and East Africa when the supplies from rural farms are inadequate due to climate related pressure, increased transport costs, and rising aggregate demand.

Emerging employment opportunities in urban areas (e.g., those brought about by the trade liberalization efforts made in Tanzania since 1984), in combination with affordable transportation services, have increased mobility or migration. Gender and generational relations are also important in shaping rural–urban linkages, as reflected by the higher levels of multi-activity among the younger generations and among unmarried young women in Africa, (Lerise *et al.*, 2001; Okali *et al.*, 2001; Tacoli and Richard, 2010; Ali, 2013). Rural–urban linkages thus redefine 'households' as 'multi-activity and multi-local units in which members engage in a variety of income-generation in a number of different locations' (Tacoli, 2006).

⁴ For example, non-farm income increases farm productivity by increasing the purchase of modern hybrid seeds, fertilizers, and other inputs, see Oseni (2007). for Nigeria.

The 'virtuous circle' model of regional development considers urban centres, through their provisioning of markets and services, to be the engines of agricultural growth for rural areas. Growth in the agricultural sector is then translated into an increase in non-farm employment and an increased demand for both agricultural and manufactured goods and services. However, case studies such as that conducted by Bah *et al.* (2003) show that this interaction is more complex and has been achieved in only two urban centres: Aba, in Southeastern Nigeria, and Himo, in northern Tanzania. These two urban centres have played an important role in the development of their surrounding regions because both have been integrated into national and international trade networks. Most developing countries have a comparative advantage in exporting their agricultural production to world markets. Without access to and integration into national and international trade networks it would be difficult to overcome the constraints associated with agricultural production and to make farming attractive to the younger generations and to women who are steadily abandoning the rural areas. This suggests that macroeconomic policies, such as those that focus on the liberalization of international trade, can have an important impact on local economies. Therefore, greater emphasis should be placed on national and international trade, as well as on the rural–urban linkages that connect rural producers to their domestic and external markets, in order to address the potential and limitations of regional economic development and sustainable development.

4. MOBILITY AND MIGRATION BETWEEN RURAL AND URBAN AREAS

Mobility – the commuting between rural areas and urban centres – and migration are both important parts of livelihood strategies. Migrants' remittances not only contribute to rural economies, but are also important parts of household livelihoods (Barrett Christopher *et al.*, 2001; Ellis and Ade Freeman, 2004). In Mali, Nigeria and Tanzania, for example, anywhere from 50% to 80% of households have at least one migrant member and remittances not only contribute to households' consumption, but also are re-invested in local production activities (Bah *et al.*, 2003; Thanh Hoang *et al.*, 2005). Mai *et al.* (2013) show that relaxing China's household registration system over the period 2008 to 2020 will increase GDP, consumption, and wages due to rural labour flows from agricultural and rural non-agricultural sectors into urban sectors.

Person-to-person financial flows (e.g., migrant remittances) constitute the majority of financial flows from urban centres to rural areas, because the financial flows to villages from financial institutions, such as banks and credit associations, are very low and are considered to be one of the weakest rural–urban linkages. Therefore, migrant remittances strengthen the financial linkages between urban and rural activities. Migrants maintain and accumulate assets both in their home (rural) areas and in their host (urban) areas as part of a broader livelihood strategy. Krüger (1998) and Lesetedi (2013) note that migrants in Gaborone, Botswana, retained strong ties with their home villages and invested in rural areas in the face of declining urban income, limited employment opportunities, and growing costs of living in the cities. Mberu Blessing *et al.*

(2013) also find that 80% of older migrants in Nairobi maintain contacts with their rural origins, because of the family related reasons, land ownership at origin, and current health and economic statuses.

Migrants – and especially commuters – by providing all sorts of information to villagers – especially information on agricultural prices, agricultural products and consumer preferences – enhance the knowledge and bargaining position of rural producers at the local, national and international levels. Both local and central governments, therefore, should pay special attention to maintaining adequate transportation infrastructure, and to ensuring the mobility and access to employment in urban areas that are important for rural–urban linkages.

5. RURAL–URBAN LINKAGES, POLICIES AND INSTITUTIONS

It was not until the 1970s and 1980s that a comprehensive rural–urban development framework was developed. The ‘agropolitan’ approach explicitly sought to unite rural with urban development (Friedmann and Mike, 1978; Friedmann and Clyde, 1979; Douglass, 1981; Hardoy Jorge and David, 1986). This approach argued that rural development could best be achieved by linking rural with urban development at the local level. The functions and roles played by cities in rural areas are the outcomes of interdependencies that need to be seen as being mutually reinforcing. Douglass (1998) summarizes this relationship by noting that, for every role a city is expected to play, there is a necessary role to be played by rural areas (Table 1).

Table-1. Urban–Rural Linkages and Interdependencies

Urban	↔	Rural
<ul style="list-style-type: none"> • Agriculture trade/transport centre • Agricultural support services <ul style="list-style-type: none"> - Production inputs - Repair services - Information on production methods (innovation) • Non-agricultural consumer markets <ul style="list-style-type: none"> - Processed agricultural products - Private services - Public services (health, education, administration) • Agro-based industry • Non-agricultural employment 	<ul style="list-style-type: none"> ↔ ↔ ↔ ↔ ↔ ↔ 	<ul style="list-style-type: none"> • Agricultural production • Agricultural intensification <ul style="list-style-type: none"> - Rural infrastructure - Production incentives - Education and capacity to adopt/adapt innovation • Rural income and demand for non-agricultural goods and services • Cash crop production and agricultural diversification • All of the above

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As Table 1 shows, urban and rural areas are interdependent. While urban centres provide markets for agricultural and rural commodities for regional, national and international distribution, rural areas provide agricultural surpluses. Therefore, on the one hand, intensification of agriculture requires agricultural inputs and repair facilities for agricultural production from the urban-based businesses. On the other hand, the sustainability of growth of urban centres depends on rural prosperity and requires raising the incomes of the majority of rural households.

5.1. Why Regional Network (Cluster) Model

The urban bias approach, also referred to as the 'growth pole approach', sought to dichotomize planning and management as rural and urban, which promoted rivalry rather than collaboration, whereas 'the regional network (cluster) concept' incorporated rural and urban structures with rural–urban linkages (Douglass, 1998). China is one of the few countries to have implemented national and local policies designed to address the interactions between urban centres and their surrounding regions for sustainable urban development. For this purpose, municipal boundaries were extended beyond the already built-up areas, with vast tracts of the surrounding rural areas included in the urban areas (Kirkby *et al.*, 2000; Shieh, 2011; Lu *et al.*, 2014; Xue *et al.*, 2014). This not only helped rural development, but also accelerated overall economic development through increased access to domestic and international trade networks.

5.2. Small Urban Centres and Regional and Rural Development

Small urban centres can contribute to regional and rural development in four ways (Bellet and Josep Llop, 2000; Satterthwaite and Cecilia, 2003; Heffner and Brygida, 2006; Courtney *et al.*, 2007; Kassa and Gebremedhin, 2011; Taleshia and Azizeh, 2012; Sharifinia, 2013).

5.2.1. Small Urban Centres' Demand and their Role as Markets for Agricultural Produce from the Surrounding Rural Regions

Agricultural produce is consumed in small urban centres, in addition to being transported to national and international markets. The availability of physical infrastructure and the affordability of transport are crucial to connecting producer areas to local urban centres as well as to connecting local urban centres to national and international urban centres. Indeed, Dorosh and James (2013) find stronger linkages between agricultural production and small towns than cities in Ethiopia. The positive impacts of small towns (e.g. Samre town in Ethiopia) occur through market provision of agricultural products and inputs, and service of education, credit, health, and administrative facilities (Desta Fitsum, 2013). Furthermore, the expansion of markets for local produce (agricultural products) has been possible in Uganda, Kenya, and Sudan, by linking the rural areas through small towns to big national and international cities (Edaku, 2010).

5.2.2. Small Urban Centres Provide for the Distribution of Goods and Services to the Surrounding Rural Regions

Goods can include both goods for household consumption and agricultural production inputs. Services can include agricultural extensions, farmer supply agencies, health services (e.g., doctors and dentists), education (e.g., secondary education institutions), banking and other professional services (e.g., lawyers and accountants) and wholesale and retail sellers of goods manufactured both within and outside the region (Morris, 1997). Li (2011) emphasizes the importance of peri-urban areas in providing services, industrial production, and employment to the rural areas in the

Jing-Jin-Ji region in China. Berdegue Julio *et al.* (2015) also empirically prove the importance of small urban centres for economic growth in Chile and Colombia, and reduction of poverty in Chile, Colombia and Mexico through facilitating flows of ideas and information, and providing services of greater specialisation.

5.2.3. Small Urban Centres are Centres for Economic Growth and the Consolidation of Non-Farm Activities and Employment

Rural households devote time and derive income from non-farm activities, while urban households rely on agriculture either for household consumption or for income generation (Baker, 1995; Kamete Amin, 1998). Although national employment data do not record multiple activities, Lerise *et al.* (2001) report that 67% of their sample population of people living in villages and in the intermediate town of Lindi engages in more than one income-generating activity, including both farming and non-farming activities. According to the 'virtuous circle' of rural-urban economic development, a mutually reinforcing pattern of linkages between an urban centre and its surrounding rural regions spurs the growth of both agricultural and non-farm activities (Evans, 1990; UNDP/UNCHS, 1995). The three stages of this model can be described as follows:

The first stage: Higher incomes from the production of agricultural goods for non-local markets lead to an increased demand for consumer goods among rural households.

The second stage: Increased demand creates non-farm jobs and leads to diversification, especially in small urban centres.

The third stage: The rural labour surplus is absorbed and demand for agricultural produce increases, thereby leading to increases in agricultural productivity and in rural incomes.

For example, Thanh Hoang *et al.* (2008) find a positive reciprocal relationship between urban centres and farming in three rural settlements in Tien Giang and Vinh Long provinces in Vietnam. The development of the Upper Valley of the Rio Negro in Argentina is another example of the 'virtuous circle' of rural-urban economic development (Manzanal and Cesar, 1986). The Upper Valley is linked by rail to Buenos Aires, thereby connecting local farmers to both national and international markets. Local urban growth has since been stimulated by prosperous farmers through forward and backward linkages.

5.2.4. Small Urban Centres Attract Rural Migrants from the Surrounding Regions through Demand for Non-Farm Labour

Migration to small urban centres leads to increased diversification of income and employment, because poor rural residents can combine urban and peri-urban agriculture with other urban-based, non-farm occupations. In addition, migration to small urban centres decreases the pressure on larger urban centres. Coulombe and Peter (2013) find for 12 African countries that rural poor migrate or commute to nearby towns in order to find off-farm employment, because of the lower migration costs, and to maintain closer ties with their relatives and home

towns. Christiaensen and Yasuyuki (2014) find for 51 developing countries for the period 1980-2004 that migration out of agriculture into the rural non-farm economy and secondary towns is associated with more inclusive growth patterns and reduces poverty faster than rapid metropolitanization. Cali and Menon (2013) also point out the positive spillovers from small towns on the rural areas in the form of consumption linkages, urban-rural remittances, upward pressure on agricultural wages, and the generation of non-farm employment in Indian districts. However, migration to small urban centres is influenced by macroeconomic policies, such as trade policies. Trade can have an important effect on non-farm activities as well as on the development of small urban centres. Export-oriented industries in small urban centres in particular offer important employment opportunities for rural residents. For example, demand in new sectors, such as an export-oriented manufacturing sector and the service sector, led to increased employment opportunities for young, unmarried women in small urban centres in Bangladesh (Afsar, 1999).

5.3. Rural–Urban Linkages and Policy Interventions

Douglass (1998) constructs a template for research on rural–urban relations that can aid efforts to formulate a better plan for sustainable development. The template provided here (Table 2) connects rural structural change and development to urban functions and roles by identifying a set of flows that exist between rural and urban areas. Research is then conducted to analyse: (1) the patterns of flows; and (2) their combined impact on stimulating rural, regional development. Flows consist of people, production, commodities, capital and information, with each having multiple components and impacts that reveal different spatial linkage patterns and that carry different benefits to rural and urban areas. For example, research can investigate the information content of the rural–urban linkages. If it is found that little or no information on market prices, crop prospects and other vital areas of rural interest flow from urban centres to rural areas, then the reasons for this limited flow of information can be identified and policy options to improve information flows can be considered. It can be more effective to study the multiple linkages among several villages and local as well as distant cities rather than studying the linkage between a single village and a single urban centre. The study of multiple linkages can aid efforts to identify opportunities and constraints in regional networks as well as in a regional cluster. Thus, the investigation of the dynamics of flows as well as of structural change within clusters will help in efforts to adjust and fine-tune policies to address local conditions, so that reciprocal linkages between rural and urban development can be established. In addition, multiple linkages with very distant cities can and typically do involve international linkages, for instance through international trade. The study of multiple linkages within an international context will highlight the role of international linkages, e.g., international trade in rural and urban development. This is especially pointed out by Baylis *et al.* (2013) and Li *et al.* (2013) that market and trade liberalisation together with infrastructure construction in China have increased value of

agricultural production, and accelerated the development of non-agricultural industries and resource flows which strengthened the links of industrial production between enterprises in the cities and in the countryside.

Table-2. Rural Regional Development Process: Structures, Flows and Policy Interventions

Rural-urban Linkages/Flows				
Rural Structure/ Structural Change		1) People		Urban Functions/ Roles
Socio-economic structure/relations	←	<ul style="list-style-type: none"> • Labour: commuting/migration • other migration (e.g., education) • shopping/visiting/selling 	→	Non-agricultural employment Urban services
Rural economy (sectors)	←	2) Production		Population supplies
Rural production regimes		<ul style="list-style-type: none"> • upstream linkages (inputs) • downstream linkages (processing, manufacturing) 	→	Non-durable and durable goods
Natural environment and resources	←	3) Commodities		Markets for selling rural products
Infrastructure/built environment	←	<ul style="list-style-type: none"> • inputs • consumer non-durables/durables • rural products 		Processing/ manufacturing
	←	4) Capital/income		Information on employment, production, prices, welfare services
	←	<ul style="list-style-type: none"> • value added • savings/credit • migrant remittances 		
	←	5) Information		
	←	<ul style="list-style-type: none"> • production/sales/prices • welfare/social/political • employment 	→	
	←		→	
Policy Interventions				
Agrarian reform; Agricultural intensification/diversification; Cooperatives; Environmental programmes; Irrigation, storage facilities and other rural infrastructure; Roads/transportation; Electricity; Communication; Seaports/airports; Market centres; Commercial outlets; Urban services; Banking/credit; Urban infrastructure; Communications services.				

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Von Braun (2007; 2014) argue that innovations that arise from agricultural research and development, developments in information and communication technologies and improved infrastructure and market institutions can foster rural-urban linkages in a way that can enhance growth, create employment, reduce poverty, and promote sustainable development. For example, Bulderberga and Irina (2012) show that availability of public transport and quality of roads are considered to be the most important factor affecting rural-urban linkages in Latvia. Similarly, Duguma (2011) and Nuriye (2014) discuss the importance of transport facilities for rural-urban linkages between Seru town and Hawasa, and their hinterlands in Ethiopia. Agricultural research

and development not only enables increased production of food to meet increased demand but also leads to rural development in non-farm sectors through consumption and production linkages (Haggblade *et al.*, 2007). Information and communications technologies, by providing efficient and reliable market information, can stimulate rural–urban linkages. Waverman *et al.* (2005) show that 10 more mobile phones per 100 people increase GDP by 0.6 per cent in developing countries. Similarly, at the micro-level, Torero and Joachim Von (2006) find that the welfare gains from a telephone call range between USD 1.62 to USD 1.91, in Bangladesh and Peru. Better quality infrastructure can generate more and longer hours of non-farm activities that strengthen the inter-linkages between rural areas (Chowdhury and Torero, 2007). In many developing countries, deficiencies in information and lack of regulatory and legal enforcement mechanisms limit trade between different regions (Gabre-Madhin Eleni, 2001). Therefore, efficient and strong market institutions, by facilitating spatial flows, will stimulate and strengthen rural–urban linkages. However, right institutional and organisational set-up necessitates coordination between central and local governments, (Birner and Joachim Von, 2013). Increasing trade agreements and/or trade networks of developed countries with developing countries can help sustainable development, because they strengthen the rural–urban linkages by reaching the poor in rural areas. Harrison Ann (2007), Anderson *et al.* (2010; 2011), and Hertel and Keeney (2010) demonstrate that developing countries would gain in welfare (in the form of increased farm-income and the demand for unskilled labour, and of reduced inequality and poverty) if current agricultural and trade distortions are eliminated. In addition, Hertel Thomas and Winters Alan (2005; 2006) add that the impact of trade reforms should be enhanced by domestic policies such as improving labour mobility between the farm and non-farm sectors and encouraging farmers to take advantage of new export opportunities.

6. CONCLUSIONS

In this study we have drawn attention to the often neglected sectoral and spatial linkages between urban centres and rural areas. The rural-urban linkages include the flows of backward and forward linkages between agriculture, manufacturing, and service sector. Synergies between rural economy and urban based businesses can enhance the development and sustainability of local economies and promote ‘pro-poor’ regional economic development through several channels that we have discussed. The findings presented in this study can be used to argue that the potential role of rural or urban regions, as well as the opportunities they offer, must be related to the regional context rather than only to the rural or urban area. Therefore, the programmes that aim to foster the growth of urban activities for rural development should devote attention to rural–urban linkages and to the impacts of these linkages rather than concentrating only on urban space. Concentrating only on urban space for economic development might ameliorate rural inequality and poverty by supporting rural elites and large farmers. As argued by Lipton (1977), urban elites collaborate with rural elites in order to facilitate the rural-to-urban transfer of

surplus; however, this collaboration has a deleterious effect on the economic welfare of the majority of rural households. Therefore, the overall positive benefits from urban investments as well as the desired outcomes should be calculated prior to the implementation of the projects. This requires a detailed analysis of the impact of proposed urban investments on rural development as well as on the target groups, such as small farmers, landless workers and the rural poor. Mobility and migration have great potential to create prosperity and should be encouraged from lagging, rural areas to selected growth centres. Transport networks are needed to facilitate the mobility of rural residents; therefore, policies should heed the state of the physical infrastructure needed to link urban centres with their surrounding rural regions. Indeed, the movement of goods between locations involves costs, such as information-, transport- and policy-induced costs, e.g., tariffs and restrictions on the interregional movement of goods and factors. Once these costs have been reduced, regional integration as well as trade between rural and urban areas will increase, thereby increasing the scope of rural–urban linkages (Chowdhury and Torero, 2007). Small urban centres have a considerable impact on regional and economic development, since they enhance agricultural productivity by providing agricultural inputs, urban goods and services; non-farm employment; markets for agricultural products; and processing agricultural products. However, this impact is dependent on the region’s internal characteristics – e.g., its natural resource base, its population density and the quality and scope of its infrastructure – as well as economic, social and cultural structures that exist at the regional, national and international levels. The international integration of small urban centres through access to international markets for small- and medium-sized producers, along with stable commodities prices and capital introduced via foreign investment, will support local production and trade. International trade has an important role to play in strengthening rural–urban linkages. At the national level, the provision of infrastructure and information, credit facilities and extension services to small- and medium-sized producers, revenue support to local governments, and sound institutional structures, are all important policy measures that will help the development of small urban centres as well as their surrounding rural areas. At the regional level, forward and backward linkages between agriculture and industry should be given priority together with the regulation and management of local natural resources. Krüger (1998) and Lesetedi (2013) show that migrants arriving in Gaborone, Botswana, maintained strong links with their home villages and invested in assets such as land and livestock. However, these urban residents were not entitled to compensation for cattle or harvest losses through government-sponsored drought-relief measures. Policies such as drought-relief programmes, therefore should consider the rural–urban interface and bear in mind that drought can render both the rural areas and urban households, and their respective income bases, vulnerable.

Rural and urban development potential and complementarities must be brought together in the planning process and an attention should be given to the decentralization of government to improve linkages in service provision. More importantly, an urban policy should make urban and

rural areas more interdependent (Turok and Parnell, 2009). Thus, clustering rural and urban areas into a regional unit of development can take into account both the diversity and the complementarities that exist between the rural and urban areas in a region and makes these rural and urban areas interdependent. It is these relations between urban centres and rural areas, which are more horizontal, interdependent, complementary and reciprocal, that lead to regionally sustainable growth. In addition, a cluster of well-connected, highly interactive rural and urban settlements offers increased opportunities for agglomeration and economic diversity and can capture upstream and downstream linkages and multiplier effects within the region. These clusters not only connect regional and national markets, but also widen markets beyond national boundaries and help overcome monopolistic markets. They also provide a wide range of alternative employment opportunities for members of rural households. In addition, more efficient land use and planning, better provision of public services and better management of natural resources are among the benefits of these clusters. This study has suggested that regional, national and international policies, and especially investments in farm and non-farm sectors, should consider rural–urban linkages as well as the differences between rural and urban activities. On the one hand, the emphasis should be on creating an enabling environment to support small farmers, who in turn become buyers from urban service providers and manufacturers. On the other hand, adequate regional, national and international resources should be devoted to the continued development the urban area. For instance, international trade, by providing an enabling structure and demand for goods as well as by introducing information, knowledge and technology, makes international linkages an important avenue for sustainable development and economic growth. Indeed, although urbanization has brought up the importance of the rural-urban linkages for regional development, the regional rural-urban linkages go beyond the national boundaries to global interactions that promote sustainable development. Thus, the existence of the rural-urban linkages can increase the level of economic growth and development, reduce poverty and improve livelihoods, but the scale, strength and sustainability of economic growth and development, poverty reduction and livelihood improvements depend on global interactions and international trade linkages.

REFERENCES

- Afsar, R., 1999. Rural–urban dichotomy and convergence: Emerging realities in Bangladesh. *Environment and Urbanization*, 11(1): 235–246.
- Ali, M., 2013. Geographical analysis of rural-urban linkages in Amhara region, Ethiopia: A case study. *IJAIR*, 2(8): 428-431.
- Anderson, K., V. Ernesto and M. Dominique Van Der, 2010. Global poverty effects of agricultural and trade policies using the linkage model. In *agricultural distortions, inequality and poverty*, edited by Kym, Anderson, John Cockburn and Will Martin. Washington DC: World Bank.

- Anderson, K., C. John and M. Will, 2011. Would freeing up world trade reduce poverty and inequality? The vexed role of agricultural distortions. *The World Economy*, 34(4): 487-515.
- Bah, M., C. Salmana, D. Bitrina, D. Gouro, L. Fred, O. David, O. Enoch, O. Janice and T. Cecilia, 2003. Changing rural–urban linkages in Mali, Nigeria and Tanzania. *Environment and Urbanization*, 15(1): 13–24.
- Baker, J., 1995. Survival and accumulation strategies at the rural–urban interface in North-West Tanzania. *Environment and Urbanization*, 7(1): 117–132.
- Barrett Christopher, B., R. Thomas and W. Patrick, 2001. Non-farm income diversification and household livelihood strategies in rural Africa: Concepts, dynamics and policy implications. *Food Policy*, 26(4): 315-331.
- Baylis, K., F. Linlin and N. Lia, 2013. Agricultural market reforms and nutritional transition in rural China. Paper Prepared for Presentation at the Agricultural & Applied Economics Association's 2013 AAEA & CAES Joint Annual Meeting, Washington, DC, August 4-6, 2013.
- Bellet, C. and M. Josep Llop, 2000. Ciudades intermedias y urbanizació n mundial. Ciudades intermedias y urbanizació n mundial. Editorial Milenio. Diseño Gráfico: Pau Llop. ISBN 978-84-9743-493-5.
- Berdegue Julio, A., C. Fernando, J. Benjamin and M. Felix, 2015. Cities, territories, and inclusive growth: Unrevealing urban–rural linkages in Chile. Colombia, and Mexico. *World Development*, Forth Coming.
- Birner, R. and B. Joachim Von, 2013. Decentralization and poverty reduction. In handbook on fiscal federalism, edited by Ehtisham Ahmad and Giorgio Brosio. Houndsmills, U.K: Palgrave Macmillan.
- Bulderberga, Z. and P. Irina, 2012. Rural–urban interaction in latvian municipalities. Proceedings of the International Conference on Business Management & Information Systems.
- Cali, M. and C. Menon, 2013. Does urbanization affect rural poverty? Evidence from Indian districts. *World Bank Economic Review*, 27(2): 171-201.
- Chowdhury, S. and M. Torero, 2007. Urban rural linkages in Bangladesh: Impact of infrastructure and the food value chain on livelihoods and migration of landless households, women and girls in the Northwestern region. Washington, DC: International Food Policy Research Institute.
- Christiaensen, L. and T. Yasuyuki, 2014. Poverty reduction during the rural-urban transformation: The role of the missing middle. *World Development*, 63(C): 43-58.
- Copus, A., 2013. Urban-rural relationships in the new century: Clarifying and updating the intervention logic. In *New Paradigm in action successful partnerships*, edited by Maciej Kolczyński. Warsaw: Polish Ministry of Regional Development.
- Coulombe, H. and L. Peter, 2013. Poverty, access to services and city size in a selection of African countries. Mimeo. Washington, DC: The World Bank.
- Courtney, P., M. Lucy, T. Richard, J. Philip and E. Andrew, 2007. Small towns as sub-poles in english rural development: Investigating rural-urban linkages using sub-regional accounting matrices. *Geoforum*, 38(6): 1219-1232.

- De Brauw, A., M. Valerie and L. Hak Lim, 2014. The role of rural–urban migration in the structural transformation of Sub-Saharan Africa. *World Development*, 63(3): 33–42.
- Desta Fitsum, M., 2013. The role of small towns in diversifying the livelihood of rural communities: The case of Samre town, Saharti Samre district, Tigray, Ethiopia. A Thesis Submitted to the Department of Management, Mekelle University, in Partial Fulfilment of the Requirements for the Degree of Master of Arts (MA) in Development Studies (Regional and Local Development Studies).
- Dorosh, P. and T. James, 2013. Agriculture and small towns in Africa. *Agricultural Economics*, 44(4-5): 449–459.
- Douglass, M., 1981. Thailand: Territorial dissolution and alternative regional development for the central plains. In *development from above or below?* edited by Walter B. Stöhr and D. R. F. Taylor, Chichester: John Wiley. pp: 183–208.
- Douglass, M., 1998. A regional network strategy for reciprocal rural–urban linkages: An Agenda for policy research with reference to Indonesia. *Third World Planning Review*, 20(1): 1–33.
- Dower, M., 2013. Rural development in the New Paradigm. In *New Paradigm in action successful partnerships*, edited by Maciej Kolczyński. Warsaw: Polish Ministry of Regional Development.
- Duguma, E., 2011. Urban-rural linkages in Seru Town and its Hinterlands: Arsi Zone, Oromia Region. Thesis. Addis Ababa University.
- Edaku, C., 2010. Bridging the dichotomy: The role of small and medium sized urban centres in rural development. *Journal of Development Studies*, 1(1): 111–130.
- Ellis, F., 1998. Livelihood diversification and sustainable livelihoods. In *sustainable rural livelihoods*, edited by Diana Carney. London: Department for International Development.
- Ellis, F. and H. Ade Freeman, 2004. Rural livelihoods and poverty reduction strategies in four African countries. *Journal of Development Studies*, 40(4): 1-30.
- Evans, H.E., 1990. Rural–urban linkages and structural transformation. Discussion Paper. Washington, DC: Infrastructure and Urban Development Department, World Bank, 71.
- Firman, T., 1996. Urban development in bandung metropolitan region: A transformation to a Desa-Kota region. *Third World Planning Review*, 18(1): 1–22.
- Food and Agriculture Organization of the United Nations (FAO), 2011. *Food, agriculture and cities: Challenges of food and nutrition security, agriculture and ecosystem management in an urbanizing world*. Rome: FAO.
- Frey William, H. and Z. Zachary, 2001. Defining the city. In *handbook of urban studies*, edited by Ronan Paddison. London: Sage Publications.
- Friedmann, J. and W. Clyde, 1979. *Territory and function*. London: Edward Arnold.
- Friedmann, J. and D. Mike, 1978. Agropolitan development: Toward a new strategy for regional planning in Asia. In *growth pole Strategy and regional development policy*, edited by Fu-Chen Lo and K. Salih. Oxford: Pergamon Press.
- Gabre-Madhin Eleni, Z., 2001. Market institutions, transaction costs and social capital in the Ethiopian grain market. Research Report 124. Washington, DC: International Food Policy Research Institute.

- Ghazali, S., 2013. Sense of place and the politics of “insider-ness” in villages undergoing transition: The case of city Kampung on Penang Island.” In cleavage, connection and conflict in rural, urban and contemporary Asia, edited by Tim Bunnell, D. Parthasarthy and Eric C.Thompson. Netherlands: Springer. pp: 117-142, 3.
- Global Monitoring Report, 2013. Rural-urban dynamics and the millennium development goals. Washington D.C.: World Bank and International Monetary Fund.
- Haggblade, S., P.B.R. Hazell and A. Thomas Reardon, 2010. The rural non-farm economy: Prospects for growth and poverty reduction. *World Development*, 38(10): 1429-1441.
- Haggblade, S., P.B.R. Hazell and A. ThomasReardon, 2007. Transforming the rural non-farm economy: Opportunities and threats in the developing world. Baltimore, MD: Johns Hopkins University Press.
- Hardoy Jorge, E. and S. David, 1986. A survey of empirical material on the factors affecting the development of small and intermediate urban centres. In small and intermediate urban centres, edited by Jorge E. Hardoy and David Satterthwaite. Boulder, CO: Westview Press. pp: 279-328.
- Harrison Ann, E., 2007. Globalization and poverty. Chicago: University of Chicago Press.
- Hazell Peter, B.R. and S. Haggblade, 1991. Rural-urban growth linkages in India. *Indian Journal of Agricultural Economics*, 46(4): 515-529.
- Hazell Peter, B.R. and C. Ramasamy, 1991. Green revolution reconsidered. Baltimore: Johns Hopkins University Press.
- Heffner, K. and S. Brygida, 2006. Small towns as local economic centers in rural areas. *Bulletin of geography*, No: 6/2006. Technical University of Opole.
- Hertel Thomas, W. and L. Winters Alan, 2005. Estimating the poverty impacts of a prospective Doha development Agenda. *The World Economy*, 28(8): 1057-1071.
- Hertel, T.W. and L. Winters Alan, 2006. Poverty and the WTO: Impacts of the Doha development Agenda. London: Palgrave Macmillan and Washington DC: World Bank.
- Hertel, T.W. and R. Keeney, 2010. Inequality and poverty impacts of trade-related policies using the GTAP model. In agricultural distortions, inequality and poverty, edited by Kym, Anderson, John Cockburn and Will Martin. Washington DC: World Bank.
- Hossain, M., 2004. Rural non-farm economy in Bangladesh: A view from household surveys. Center for Policy Dialogue (CPD) Occasional Paper Series, 40. Dhaka: Center for Policy Dialogue.
- Irwin, E., G., M. Isserman Andrew, K. Maureen and D. Partridge Mark, 2010. A century of research on rural development and regional issues. *American Journal of Agricultural Economics*, 92(2): 522-553.
- Jacobs, J., 1969. The economy of cities. New York: Random House.
- Kamete Amin, Y., 1998. Interlocking livelihoods: Farm and small town in Zimbabwe. *Environment and Urbanization*, 10(1): 23-34.
- Kassa, B. and Y. Gebremedhin, 2011. The role of small urban towns in improving rural livelihood case study: Feresmay, Rama, and Maykinetal central zone, Tigray, Northern Ethiopia. *International Journal of Research in Commerce, Economics and Management*, 1(7): 2231-4245.
- Kirkby, R.J., R. Guanbao Shen and K. Bradbury Ian, 2000. Small town China: Governance, economy, environment and lifestyle in three zhen. Aldershot: Ashgate.

- Krüger, F., 1998. Taking advantage of rural assets as a coping strategy for the urban poor: The case of rural–urban interrelations in Botswana. *Environment and Urbanization*, 10(1): 119–134.
- Lerise, F., A. Kibadu, E. Mbutolwe and R. Mabala, 2001. The case of Himo and its region, Northern Tanzania. Rural–urban Working Paper No. 1, HED, London.
- Lerner Amy, M., H. Eakin and S. Stuart, 2013. Understanding peri-urban maize production through an examination of household livelihoods in the Toluca Metropolitan area, Mexico. *Journal of Rural Studies*, 30(2): 52–63.
- Lesetedi, G.N., 2003. Urban-rural linkages as an urban survival strategy among urban dwellers in Botswana: The case of broadhurst residents. *Journal of Political Ecology*, 10: 37–44.
- Lesetedi, G.N., 2013. Persistence of urban-rural linkages among men and women in Botswana: The case of low income residents in Gaborone. *Botswana Journal of Technology*, 22(1): 1–19.
- Li, Y., 2011. Urban-rural linkages and spatial-temporal land use change in Beijing-Tianjin-Hebei metropolitan region: A new perspective. *Journal of Sustainable Development*, 4(4): 61–72.
- Li, Y., Z. Zhenghe and L. Yansui, 2013. Spatial-temporal contrasts in integrated urban-rural development in China, 1990–2010. *China: An International Journal*, 11(3): 104–122. DOI 10.1353/chn.2013.0033.
- Lichter Daniel, T. and L. Brown David, 2011. Rural America in an urban society: Changing spatial and social boundaries. *American Review of Sociology*, 37: 565–592.
- Lipton, M., 1977. Why poor people stay poor: Urban bias in world development. London: Temple Smith.
- Lu, S., G. Xingliang, H. Chao and Z. Jiali, 2014. Spatio-temporal patterns and policy implications of urban land expansion in metropolitan areas: A case study of Wuhan urban agglomeration, central China. *Sustainability*, 6(8): 4723–4748. DOI 10.3390/su6084723.
- Lucatelli, S. and M. Pietro De, 2013. Rural urban partnership for sustainable development. In new paradigm in action successful partnerships, edited by Maciej Kolczyński. Warsaw: Polish Ministry of Regional Development.
- Lwasa, S., M. Frank, W. Bolanle, S. David, C. John and G. Corrie, 2014. Urban and peri-urban agriculture and forestry: Transcending poverty alleviation to climate change mitigation and adaptation. *Urban Climate*, 7: 92–106.
- Mai, Y., X. Peng, P. Dixon and M. Rimmer, 2013. The economic effects of facilitating the flow of rural workers to urban employment in China. *Papers in Regional Science*, 93(3): 619–640. DOI 10.1111/pirs.12004.
- Manzanal, M. and V. Cesar, 1986. The development of the Upper Valley of Rio Negro and Neuquen and its periphery within the comahue region, Argentina. In small and intermediate urban centres, edited by Jorge E. Hardoy and David Satterthwaite. Boulder, CO: Westview Press.
- Mberu Blessing, U., E. Alex Chika, G. Chepngeno-Langat, K. James, O. Samuel and B. Donatien, 2013. Family ties and urban–rural linkages among older migrants in Nairobi informal settlements. *Population, Space, and Place*, 19(3): 275–293.
- Morris, A., 1997. Market behaviour and market systems in the State of Mexico. In small towns and beyond, P. Van Lindert and Otto Verkoren. Amsterdam: Thela Publishers.
- Nagler, P. and N. Wim, 2014. Non-farm entrepreneurship in rural Africa: Patterns and determinants. IZA Discussion Paper No: 8008.
- Neves, D. and T. Andries Du, 2013. Rural livelihoods in South Africa: Complexity, vulnerability and differentiation. *Journal of Agrarian Change*, 13(1): 93–115.

- Nuriye, G., 2014. Ethiopian practices in urban-urban and urban-rural linkages from road transportation perspectives in Hawassa City, Ethiopia. *Journal of Economics and Sustainable Development*, 5(27): 227-235.
- OECD, 2013. Rural-urban partnerships: An integrated approach to economic development. OECD rural policy reviews. Paris: OECD Publishing. Available from: http://www.oecd-ilibrary.org/urban-rural-and-regional-development/rural-urban-partnerships_9789264204812-en.
- Okali, D., O. Enoch and O. Janice, 2001. The case of Aba and its region, Southeastern Nigeria. Working Paper No. 4. London: IIED.
- Okpala Don, C.I., 2003. Promoting the positive rural-urban linkages approach to sustainable development and employment creation: The Role of UN-HABITAT. 2nd Conference of International Federation of Surveyors, Marrakesh, Morocco, December 2-5.
- Oseni, G., 2007. Agricultural production, human capital and rural non-farm activities: Evidence from Nigeria. PhD. Dissertation. Washington, DC: American University.
- Posel, D. and M. Colin, 2013. Circular migration: A view from destination households in two urban informal settlements in South Africa. *Journal of Development Studies*, 49(6): 819-831.
- Potts, D., 1995. Shall we go home? Increasing urban poverty in African cities and migration processes. *The Geographic Journal*, 161(3): 245-264.
- Reardon, T., B. Julio and E. Germán, 2001. Rural non-farm employment and incomes in Latin America: Overview and policy implications. *World Development*, 29(3): 395-409.
- Reardon, T., S. Kostas and P.L. Pingali, 2007. Rural non-farm employment in developing countries in an Era of globalization. In contributions of agricultural economics to critical policy issues, edited by Keijiro Otsuka and Kaliappa Kalirajan. Malden, MA: Blackwell.
- Reimer, B., 2010. Rural-urban interdependency as an opportunity for rural revitalization. In the rural-urban fringe in Canada: Conflict and Controversy edited by Kenneth B. Beesley. Brandon, MB, Canada: Rural Development Institute.
- Satterthwaite, D. and T. Cecilia, 2003. The role of small and intermediate urban centres in regional and rural development: Assumptions and evidence. In the urban part of rural development, edited by David Satterthwaite and Cecilia Tacoli, 12-33. London: IIED.
- Sharifinia, Z., 2013. The role of small urban in rural development: A case study in Iran. *Middle-East Journal of Scientific Research*, 13(3): 432-439.
- Shieh, L., 2011. Becoming urban: Rural-urban integration in Nanjing, Jiangsu province. *Pacific Affairs*, 84(3): 475-494.
- Tacoli, C., 2004. Rural-urban linkages and pro-poor agricultural growth: An overview. Prepared for OECD DAC POVNET Agriculture and Pro-Poor Growth Task Team Helsinki Workshop, 17-18 June 2004.
- Tacoli, C., 2006. The earthscan reader in rural-urban linkages. London: Earthscan.
- Tacoli, C. and M. Richard, 2010. Exploring mobility and migration in the context of rural-urban linkages: Why gender and generation matter. *Environment and Urbanization*, 22(2): 389-396.
- Taleshia, M. and M. Azizeh, 2012. The role of small town in instability of rural development: Case study of small towns of babol county in Northern Iran. *Journal of Basic and Applied Scientific Research*, 2(7): 6795-6800.

- Thanh Hoang, X., A. Dang Nguyen and T. Cecilia, 2005. Livelihood diversification and rural–urban linkages in Vietnam’s Red Delta. FCND Discussion Paper No. 193. Washington, DC: IIED.
- Thanh Hoang, X., D. Thi Thu Phuong, N. Thu Huong and T. Cecilia, 2008. Urbanization and rural development in Vietnam’s mekong Delta: Livelihood transformations in three fruit-growing settlements. Working Paper No. 14. London: IIED.
- Torero, M. and B. Joachim Von, 2006. Information and communication technologies for development and poverty reduction. Washington, DC: International Food Policy Research Centre.
- Turok, I. and S. Parnell, 2009. Reshaping cities, rebuilding nations: The role of national urban policies. *Urban Forum*, 20(2): 157–174.
- Uchenna Mberu, B., C. Ezeh Alex, G. Chepngeno-Langat, J. Kimani, S. Oti and D. Beguy, 2012. Family ties and urban–rural linkages among older migrants in Nairobi informal settlements. *Population, Space and Place*, 19(3): 275–293.
- UNDP/UNCHS, 1995. Rural–urban linkages: Policy guidelines for rural development. Paper Presented at the 23rd Annual Meeting of the ACC Sub-Committee on Rural Development, UNESCO, Paris, 31 May–2 June.
- Von Braun, J., 2007. Rural–urban linkages for growth, employment and poverty reduction. Washington, DC: International Food Policy Research Institute.
- Von Braun, J., 2014. Urbanization and decentralization: The changing urban-rural linkages and opportunities of decentralization of services. Paper for 54th European Regional Science Association Congress (ERSA), St. Petersburg, August 26-29, 2014.
- Waverman, L., M. Menschi and F. Melvyn, 2005. The impact of telecoms on economic growth in developing countries. Vodafone Policy Paper Series, No. 2.
- World Bank, 2006. World development report: Equity and development. New York: Oxford University Press.
- Xijia, H., Z. Qing and C. Xin, 2014. Rural tourism: An accelerator to the coordinated development of urban and rural areas. *Journal of Chemical and Pharmaceutical Research*, 6(7): 530-534.
- Xue, D., H. Gengzhi, G. Jingwen and L. Jiarong, 2014. Changing concepts of city and urban planning practices in Guangzhou (1949–2010): An approach to sustainable urban development. *Chinese Geographical Science*, 24(5): 607–619. DOI 10.1007/s11769-014-0711-4.
- Yang, Z., C. Jianming, D. Michael and W. Douglas, 2014. Rethinking of the relationship between agriculture and the “urban” economy in Beijing: An input-output approach. *Technological and Economic Development of Economy*, 20(4): 624-647.

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