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Urbanisation and rural development in developing countries: A review of pathways and impacts

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Discussion Paper 5/2022

Urbanisation and Rural Development in Developing Countries

A Review of Pathways and Impacts

Tekalign Gutu Sakketa

Urbanisation and rural development in developing countries

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Bonn 2022

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Abstract

This paper reviews the current state of literature on the impacts of urbanisation on rural development in developing countries, with an emphasis on Sub-Saharan Africa (SSA). Assessments of these effects diverge greatly. While some authors see urbanisation as strongly benefitting rural areas, for instance, through increased demand for agricultural goods and services, others highlight negative effects, for example, through the loss of livelihoods emanating from displacements and the conversion of agricultural land. Given this complexity, a review that thoroughly analyses the causal relationships between urbanisation and rural development is warranted. To do this, this Discussion Paper identifies seven channels through which urbanisation affects rural development: i) production and consumption linkages; ii) employment linkages; iii) financial linkages; iv) land market linkages; v) information and public service linkages; vi) social interactions linkages; and vii) environmental externalities.

As to the first channel, **production and consumption linkages**, the review suggests that urbanisation has increased demand for agricultural products and services; natural resources; commercialisation and modernisation of agricultural technologies; and smallholders' participation in modern agricultural value chains. The **employment** channel suggests that rapid urbanisation is enabling the diversification of rural livelihoods by bringing new economic opportunities to rural areas, but the effects have not been uniform across countries and communities. With regard to **financial linkages**, flows from cities have increased in many developing countries, benefitting rural areas; yet some studies point to no or to negative effects due to reduced agricultural productivity from the loss of labour and technology, and the crowding out of investment. **Land market effects** are particularly heterogeneous. While urbanisation tends to drive land value up and encourages investments, there are also negative developments in terms of crowding out and speculation. As to **information and public service linkages**, the review suggests that urbanisation has fostered information and knowledge flows from urban areas to rural areas which have improved income, innovation, and employment. **Social interactions** among urban and rural citizens more generally may bridge cultural gaps, improve the flow of information, knowledge, and resources pertinent for rural economic transformation, and thereby enhance social cohesion; yet little empirical evidence exists so far in terms of effects and causalities. Finally, urbanisation affects rural development through the **environmental externalities** it generates: waste disposal, environmental degradation, and loss of biodiversity. If appropriate technologies are put in place, urbanisation can also improve waste management and soil fertility, thus reducing the cost of agricultural production.

To this end, the review has identified research gaps that have important policy implications. First, although effective rural-urban planning, monitoring and evaluation of rural-urban development policies require better data, there is lack of data collection systems or their quality is poor. In this respect, investing in emerging data sources such as satellites data can help countries improve their data collection systems and measures. Second, research is needed to revise and reformulate better theoretical frameworks that take into account the uniqueness of African urban cities. Third, empirical evidence which documents to what extent and how rural-urban linkages provide an important arena for improving social interactions among neighbours, societies, and communities is needed. Finally, as many African countries continue to experience rapid urbanisation (mostly urban sprawl), a thorough study of the impacts of urban externalities on agricultural productivity, food security, biodiversity, and the health of rural communities is necessary.

Key words: Rural development; urbanisation; rural-urban linkages; social cohesion; Sub-Saharan Africa; rapid review

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This Discussion Paper is part of the DIE's research project "Social Cohesion in Africa". Social cohesion within societies is a key success factor for sustainable development. However, social cohesion is also particularly under pressure in societies in Africa, as in other world regions. The DIE team aims to identify patterns of social cohesion and analyse factors that influence the degree of social cohesion (or its absence) along with the effects of social cohesion on development outcomes. Furthermore, it plans to identify domestic and international policies that contribute to the creation and consolidation of social cohesion. In addition to creating knowledge on social cohesion, the project also aims to provide a science-policy interface as well as dialogue between practitioners. In addition, the project has established the Social Cohesion Hub, which provides a web-based, collaborative platform for exchange on social cohesion in research and development cooperation. The project is funded by Germany's Federal Ministry for Economic Cooperation and Development (BMZ).

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Abbreviations

DRC	Democratic Republic of Congo
OECD	Organisation for Economic Co-operation and Development
SAP	structural adjustment programme
SDG	Sustainable Development Goal
SSA	Sub-Saharan Africa
UNDP	United Nations Development Programme

1 Introduction

Developing countries have witnessed a persistent rise in urbanisation in recent decades (World Bank, 2018). According to United Nations projections, by 2050, more than two-thirds of the world population are expected to be urban residents; yet the fastest urban growth is in less urbanised regions, particularly in Africa and Asia (United Nations, 2011). For instance, the share of people who live in urban areas in Africa has doubled in the last three decades and this trend is expected to continue in the coming decades. The growth of cities in these regions and the drivers underpinning them differ greatly (Duranton, 2015; Farrell, 2017).

There are considerable debates devoted to understanding the nature and impact of urbanisation on rural development outcomes such as on poverty and inequality (Gong et al., 2012; Parnell & Walawege, 2011). The impact of these debates on development policy has changed over the years. In the 1950s, rural development was conceptualised in terms of modernisation processes through industrialisation and urbanisation, whereby development in urban areas was a prerequisite for the transformation of rural livelihoods (Gallin et al. 2002). In the 1970s, the notion of urban bias – the view that urbanisation resulted in domination and exploitation of the rural poor – had dominated the debate (Lipton, 1977). Later on, Bates (1981) provided an extension to Liptons's urban bias where he argued that (in the name of industrialisation) African bureaucracies are skewing incentives and infrastructural investments toward urban areas where such urbanisation could undermine the material base of African economies, that is, agricultural production. These arguments have been widely implemented through structural adjustment programmes (SAPs) (Mkandawire & Soludo, 1999) where removal of urban-biased state policies was expected to stimulate the private capital available to rural communities and increase local agricultural production (Corbridge, 1989). However, such a policy shift has not resulted in positive outcomes.

In the 1990s, the role of small and intermediate urban centres in rural economic development and poverty reduction had remerged and influenced the debate (Satterthwaite & Tacoli, 2003). The basic argument was that, since a high proportion of the urban population in most developing countries live in small and intermediate urban centres, these centres play an important role for rural economic transformation and poverty reduction. However, their role and potential contribution has often been ignored by policymakers. Since 2000s, various approaches to urbanisation have been adopted by both individual countries and by the international development community. For instance, through its Sustainable Development Goals (SDGs) the United Nations have adopted the need to make cities and human settlement inclusive (SDG11) as one of its SDG goals with the objective of making cities attractive for all by offering opportunities while reducing resource use and environmental degradation (UN [United Nations], 2015). In fact, achieving SDG11 would play an important role in attaining other SDGs such as goals of poverty eradication (SDG1), healthy lives (SDG3), equality (SDG5), and economic growth (SDG8). Furthermore, in the post-2000s period, sustainability has become the major issue in urban planning, as well as to integrate cities into rural development. Figure A1 in the Appendix summarises the urbanisation policies over time.

Traditionally, urbanisation is mostly associated with positive economic outcomes such as higher income and growth. By offering better access to goods and services, employment opportunities, information, and increasing demand for agricultural products (as it creates markets for farmers), urban areas have the potential to stimulate economic growth in general

and that of rural economy in particular (Dorosh & Thurlow, 2012). In doing so, they can squeeze out disparities between urban and rural households (OECD [Organisation for Economic Co-operation and Development] & European Commission, 2020) and enhance productivity, growth and living standards. For instance, the integration of urban to rural areas has facilitated both the flow of agricultural goods to cities and of industrial goods and services to rural areas, enhancing the productivity of the agricultural sector and, hence, raising standards of living (Michaels, Rauch, & Redding, 2012). In other words, when well-governed, the structural and spatial transformation that follows urbanisation is not only pervasive to the flows of goods and services but also puts countries on a long-term trajectory towards prosperity (World Bank, 2020).

A growing number of studies, especially those conducted in Sub-Saharan Africa, suggest, however, that the relationship between rural development and urbanisation is more nuanced and ambiguous than that which the literature suggests (Gollin, Jedwab, & Vollrath, 2016). In other words, the relationship is not necessarily positive or negative (Turok & McGranahan, 2013). It can be both, conditional upon the quality of institutions and available infrastructure of the countries, for instance. Hence, there is no linear relationship between urbanisation and economic development (Di Clemente, Strano, & Batty, 2021). For example, there are cases where urbanisation increases discrimination and economic inequality between urban and rural areas (Oyvat, 2016); where it has had limited or no effect on economic growth (Davis, 2013; Glaeser, 2014); where it has resulted in persistent poverty and slowed structural transformation (Jedwab & Vollrath, 2015); and where it has negatively affected the environment and natural resources (Brueckner & Helsley, 2011; Chen, 2007). The horizontal expansion of urban areas has transformed agricultural land into built-up land and such a conversion can reduce farmlands and crop yields, increase loss of livelihood and hence reduce agricultural production, an important instrument for poverty reduction and food security (de Janvry & Sadoulet, 2010; Foley, 2005; Satterthwaite, McGranahan, & Tacoli, 2010; Cobbinah, Erdiaw-Kwasie, & Amoateng, 2015; Cobbinah & Aboagye, 2017). Some argue that such inconsistencies in Africa are partly due to the way urbanisation is defined and measured. For instance, Potts (2018) argues that most urban definitions in Africa do not embody economic features. Others such as, Christiaensen, De Weerdt and Todo (2013) state that urbanisation in Africa was demographic in nature, and not economic: more births and fewer deaths were occurring in cities, leading to urbanisation by natural increase rather than by migration, thus, having little or no impact on rural development. Thus, this mixed evidence on the effect of urbanisation could be an issue of definition and measurement, a point we will discuss further later.

In a nutshell, there are two main opposing arguments in the literature: that urbanisation can reduce poverty reduction, improve incomes and strengthen economic growth (Bertinelli & Black, 2004; Kessides, 2007; Njoh, 2003) or that urbanisation has not led to economic development or national economic growth, the latter referred as "urbanisation without growth" (Jedwab & Vollrath, 2015).

Given the enormous speed of urbanisation in SSA and the strongly diverging views of its effects on rural development, this paper aims to:

- Review literature on whether rapid urbanisation is effective in stimulating the transformation of the rural economy and raise earnings, improve food security and reduce poverty in developing countries, with special emphasis on SSA;

- identify and examine the various channels through which urbanisation affects rural development; [1]
- understand how to optimise the design of rural-urban linkages in SSA in order to maximise the benefits of urbanisation, as well as scale up successful models while enhancing social cohesion; and
- identify gaps in the literature that need more research attention in the future, specifically on how to guide urban-rural linkages toward more inclusive development and greater societal interactions.

The remainder of this paper is structured as follows: Section 2 presents the conceptual framework highlighting key concepts and definitions. Section 3 describes the search methodology (various databases) and methods of analysis. Section 4 presents the results of the review along with clearly identified outcomes and channels, followed by discussions in Section 5. Section 6 concludes and identifies existing gaps in the literature for future research.

2 Conceptual framework: Urbanisation effects and potential channels

In order to carry out a good rapid review, two things are necessary: First, we need clear definitions of the key concepts. This will be provided in subsection 3.1. Second, we need a conceptual framework identifying the transmission channels through which urbanisation affects rural development. This framework will also serve as an input to guide the review of empirical literature exploring the impact of urbanisation on rural development.

2.1 Definitions of key terms

Urbanisation and urban areas

In the literature, urban areas – and hence, urbanisation – have been conceptualised and defined in various different ways, while several indicators have been developed and used to proxy them: demographic and structural change; sectoral and economic contribution; administrative and psychical (that is, impervious) surface. Specific indicators include population size (share of a nation's population living in urban areas); level of urbanisation; physical expansion of urban areas; expansion of urban land uses; and shifts in settlement patterns (to a more dense settlement) (Gross & Ouyang, 2021).[2] For instance, the demographic definition of "urbanisation" refers to the increasing share of a nation's population living in urban areas, hence a declining share of people living in rural areas (UNDP [United Nations Development Programme], 2012), partly driven by rural to urban migration rather than by natural increase. "Level of urbanisation" refers to the share, and

1 In this paper, the terms "pathways" and "channels" are used interchangeably with both referring to the same notion.

2 Generally, the rural-urban divide can be presented at five levels: very rural; rural; small towns; peri-urban; and very urban (metropolitan areas) (van Braun, 2007).

the rate at which that share is changing. The term urbanisation is also used to refer to the expansion of urban land uses mainly resulting from a shift from dense to more scattered settlement (Satterthwaite et al., 2010). Similarly, there is no universal definition of "urban areas". In recent years, new approaches have been proposed to measure and map urban and rural areas and their extent, as well as to explore potential pathways of urbanisation at national, regional and global levels from satellite imaginary. One of such proposed approaches is the use of night light intensity and views from Google Earth (Chen, Zhou, Hu, & Zhou, 2020; Li & Gong, 2016; Zhou, Li, Asrar, Smith, & Imhoff, 2018). This approach might help to reduce the inconsistencies in definitions, harmonise measurements, and enable cross-country comparisons.

In this paper, demographic and economic criteria, structural change, or administrative categorisations – including administrative boundaries and satellite imagery as per the definitions – are used in the selected literature to denote urbanisation and urban areas; in addition, we use them to denote the interactions which have impacts on rural development – for instance, on poverty, food security and income – irrespective of the differences they entail. As these definitions vary considerably based on national context, they are not consistent across countries, and this limits the potential for cross-country analyses of urbanisation, even if some commonalities exist between them. For instance, in Benin a population of 10,000 inhabitants or more with at least a bank, a public treasury, running water, electricity, a health centre and a secondary school is considered an urban area while in other places this classification differs. The other problem related to urbanisation is the conceptualisation of urban boundaries (Tacoli, 1998). Due to the rapid growth of peri-urban areas, urban agriculture, and spatial integration of agricultural and non-agricultural activities, making the distinction between rural and urban areas is problematic. Furthermore, due to increasing sectoral interactions and the increasing diversification of livelihoods, sectoral approaches which are often used to distinguish between rural and urban areas – that is, agriculture based in rural areas, and industry and services in urban centres – do not capture the real impact of urbanisation on rural development. For instance, recent empirical work has demonstrated that significant numbers of rural households which derive their income from combining both farm and non-farm activities have been increasing in recent years (Barrett et al., 2017). As such, the effect of urbanisation refers to any impact or effect associated with urbanisation and the urban process in improving or worsening rural development at all levels: national, regional and household. As this review focuses on understanding the effect of urbanisation on rural development, secondary towns and cities are considered as urban areas.

Rural areas and rural development

Similar to the categorisation of urban areas, there is also no uniform definition of rural areas and various different indicators are used from demography/settlement size; population density; economic advancement; to sectoral links to national and global economies (Potts, 2017). As a result, this paper also adopts the various definitions of rural areas used in each item of literature identified that may vary considerably across countries and context. For example, sectoral categorisation of rural areas refers to those areas predominantly dependent on agriculture (Ashley & Maxwell, 2001; Bennett, Borders, Holmes, Kozhimannil, & Ziller, 2019). In terms of administrative boundaries, rural areas cover those areas that are located outside cities and towns. Rural development refers to sustainable improvement of the living standard of people living in rural areas (Ashley & Maxwell, 2001). At household level, we

use three outcome indicators to proxy rural development as indicated in Figure 1 below: primary (income, poverty, and food security); intermediate (yield, productivity, empowerment, human capital); and secondary (agricultural technology adoption, commercialisation, soil and water conservation, health, and others). Further elaboration of the key terms used in the paper is presented in Appendix B.

Urban-rural linkages

Even if the focus of the paper is on the impacts of urbanisation per se, it is important to take into account the role of rural-urban linkages in conceptualising and analysing the effects of urbanisation on rural development. Rural-urban linkages are bidirectional, complex, and interdependent (Potts, 2017). In addition, since agriculture is the dominant sector in the rural economy, this review focuses more on the impacts of urbanisation on agriculture. In the context of this paper, "agricultural linkages" refers to any impact of urbanisation on agricultural production and productivity, processing and exchange of agricultural inputs as well as the services urban areas provide to rural areas.[3] Furthermore, since the definitions of what constitute "urban" and "rural" varies across countries (Wineman et al., 2020), the results obtained from evaluating the impact of urbanisation depend on how rural-urban linkages are conceptualised, defined and measured. This has enormous implications on the interpretation of the findings, even within Africa, and limits the potential for cross-country comparisons.

The presence of wider variations in the definitions has four important implications: First, the use of the same terminology (for example, "urban") may refers to a different concept or category based on the country/region concerned; hence, the use of such terms and/or official classifications should be treated with greater caution (Gollin et al., 2016; Potts, 2017). The second implication – and one related to the first – is that even the use of the same terminology might still make cross-country (or international) comparisons difficult regardless of being classified in the same group. At times, such inconsistent definitions and conceptualisations have led to measurement biases, varied research interpretations and the lack of proper monitoring of development goals (OECD & European Commission, 2020). Third, if development interventions are designed on the basis of rural-urban classifications, public investment can bypass areas that fall outside the predefined scope, even if targeting these areas would have an important role in supporting the development of agricultural production and productivity. For instance, investments targeting urban areas can exclude those areas not defined as urban even though these areas play an important "urban" role in the development of the nearby rural areas. The same is true with public investment that favours larger cities over small and intermediate-sized towns. Finally, the absence of rigorous definitions may limit the policy-relevant analysis of urbanisation, particularly in Africa where mostly urbanisation is perceived to be a measure of positive economic transformation (Potts, 2017, 2018).

Let us now turn to discussing the underlying channels through which urbanisation affects rural development outcomes.

3 In this paper, rural-urban linkages are broadly defined as the spatial movement and exchange of goods, services, people, capital, information, as well as interactions between economic sectors.

2.2 Impact channels

Several channels through which urbanisation affects rural development exist. This paper will group these effects into seven and discuss the possible hypotheses associated with them. First, we will discuss the production and consumption linkage effects. Second, we discuss the flow of people or the labour channel. Third, we present the financial linkage effects of urbanisation and how these relate to rural development. Fourth, we discuss the land availability effect of urbanisation on rural development. Fifth, we present the information and knowledge linkage effects of urbanisation. Sixth, we discuss the social interaction effects of urbanisation on rural development. And, seventh, we discuss the environmental externalities effect of urbanisation and how it could affect rural development.

Consumption linkage effects

Rural and urban areas are intrinsically linked. For instance, urban inhabitants depend on food and other natural resources, while urban services are vital for rural communities. This urban dependence on food and natural resources is mainly supplied by the rural residents, demonstrating rural-urban linkages. In other words, urban growth generates higher demand for agricultural products (that is, an income effect) (Allen, 2009). Urban areas also provide easier access to local markets and links to international markets. Transactions of goods and services are one of the key elements of urban-rural linkages. For instances, cities and urban areas are the main consumers of agricultural products, water and other products that would enhance labour productivity, land rental prices, and wage levels in rural areas, thus further increasing agricultural productivity. Agricultural inputs such as fertilisers, farming tools, and household items are among the goods which flow from urban areas to rural areas. As to services, urban centres provide education, health services, and off-farm employment opportunities which help rural households diversify their livelihoods.

It is also possible that an increased demand created by urbanisation creates pressure on elements of agriculture production. If such intensification entails ill-applied external inputs, it can lead to environmental degradation hampering agricultural productivity and rural health, while negatively affecting food security and poverty reduction. Moreover, increased demand for certain agricultural products such as meat and cereals may contribute to the loss of biodiversity in rural areas. Furthermore, investment in urban infrastructure and services such as energy, water, communications, and transport that are necessary for agriculture will contribute to rural growth and growth across sectors. The net effect is therefore either positive or negative, depending on socioeconomic, institutional, infrastructural and environmental factors.

Flows of people or labour linkage effects

The flow of people or labour refers to human mobility between rural and urban areas. This may take several forms: temporary, permanent, circular migration, or commuting. Hence, expanding urban areas offers the opportunity to diversify rural economic activities away from agriculture in rural areas, having a positive impact on earnings (Jacoby & Minten, 2009). The effect is expected to be stronger and more attractive in rural areas close to cities due to low transaction costs to travel to the city to work, better markets to trade goods and services more efficiently (which can in turn promote specialisation in particular commodities), and better flows of information. In this case, urbanisation has the potential

to improve the well-being of rural communities. Labour flows from rural to urban areas could also reduce the surplus labour (rural labour supply), increasing the amount of land available per capita in rural areas. According to Lewis (1954), such transfer of labour from rural agriculture to urban industries can occur without hampering or affecting agricultural productivity. Given fixed amounts of land, coupled with diminishing marginal returns to land, an increase in land per capita (due to the flow of labour to urban areas) could increase labour productivity in agriculture and the upward pressure on rural wages, a point we discuss further later on. However, if the urban to rural migration is concentrated among the most productive agricultural workers, this may harm agricultural productivity. In such a case, urbanisation will negatively affect agricultural development and hence rural welfare outcomes. It is also well established in the literature that non-farm income (mainly in intermediary/secondary towns) plays a key role in financing for innovation in the agricultural sector (von Braun, 1995). A rise in off-farm business increases demand for agricultural products and labour that, in turn, increases farm gate prices, employment, and agricultural productivity. The end result of such improvement is an increase in the total income of farmers, and other actors in the value chains. Moreover, human mobility, prompted by urbanisation, may induce a change in fertility and social relations that would in turn improve or worsen social and economic structure of societies such as income inequalities. Thus, the overall effect of urbanisation through this channel cannot be determined a priori.

Financial linkage effects

Financial resources from urban areas are one of the main sources of finance pertinent to unlocking the economic potential of rural communities (Gelb, Kalantaryan, McMahon, & Perez-Fernandez, 2021). Hence urban areas constitute another potentially important economic linkage effect on rural development. Financial inflows from urban to rural areas include micro-credit schemes from financial institutions, remittances, loans, and investments by urban residents, along with investments by governments and aid agencies in the socioeconomic and infrastructural development of rural areas. For instance, remittance is one of the channels which provides significant sources of income for rural families (World Bank, 2020). In addition, urban to rural remittances play an important role in reducing the resource constraints rural households face in agricultural production and help to reduce the adverse effects of shocks such as droughts or floods (Stark, 1980; Lucas, 1988; Cali & Menon, 2013). Financial capital linkages also refer to the investment linkages which allow locally accumulated capital to be reinvested locally, which in turn provides capital to rural areas. If properly utilised, the effects of such inflows would be positive.

Land market linkage effects

Although rural communities depend on agriculture, at the same time urbanisation displaces agricultural land. The land linkage effects of urbanisation on economic conditions in rural areas can be seen in three ways: Firstly, when agricultural land in peri-urban areas is transformed into built-up land as a result of horizontal urban expansion, such conversion has an effect on both land use value and/or transportation costs and agricultural productivity, affecting rural livelihoods either positively or negatively (reducing farmlands; crop yields) (Holden, Otsuka, & Place, 2009). If there are no proper institutions and policies dealing with land conversions and displacements, the process may lead to urban sprawl affecting agricultural production while inciting social unrest and causing further marginalisation

(Dadi et al., 2016). Secondly, and in relation to the labour channel of urbanisation discussed above, urbanisation and rural economic outcomes are linked through changes in the rural land-labour ratio (the land available per capita in rural areas) as a result of migration induced by the urbanisation process. As more labour moves out of agricultural areas to urban areas, the land available per capita in rural hinterlands increases and this in turn increases labour productivity in agriculture. Thirdly, the expansion of urban areas can increase the prices of agricultural land in peri-urban areas due to an increased demand for agricultural land for residential land. The upward pressure on agricultural land may generate higher income for farmers through sale, lease or through enhanced access to credit markets using land as a collateral. However, declining available agricultural land may put pressure on the livelihoods of the rural poor as well as the urban poor (the main consumers of agricultural products). This will bring changes in land use patterns, which in turn can result in changes in agricultural production systems such as crop-livestock production systems, for instance, urban markets can increase intensification and interdependence between crop-livestock (Swain & Teufel, 2017). Urban-rural agricultural linkages can also be seen from the viewpoint of the broader process involved in urbanisation and how a city or town can influence the development of its surrounding rural development. For instance, von Thunen (1966) argued that land prices and transportation costs are the drivers of economic activity in the vicinity of a city. As a result, proximity to a central city drives specialisation of economic activity in rural area. Altogether, the net effect (positive or negative) on rural welfare outcomes through this channel could be either positive or negative, a point we will discuss further in Section 4.

Information and knowledge linkage effects

Cities and towns accelerate human interaction and thereby the exchange and accumulation of knowledge (Schläpfer et al., 2014). In addition, they provide economies of scale for specialised institutions such as universities or other public service provisions, making it easier to ensure school enrolment or provision of agricultural extension services (Conventz, 2014). All this converts cities into knowledge hubs. Information, or the exchange of ideas between urban residents and rural dwellers, is one of the channels through which urbanisation affects rural development. For instance, the flow of information from urban areas to rural areas includes that relating to population needs, job opportunities, extension services, market information, innovations, and new technologies which are vital for increasing agriculture production, and hence rural development. In the literature, such linkages are also referred to as human capital linkages where skills learnt in non-farm sectors or knowledge transferred can improve productivity and the welfare of societies. A better flow of information between urban and rural areas can also bring new experiences and skills and contacts that would help to improve the bargaining power or social status of individuals and/or communities in both labour market and political spheres. This, in turn, is expected to improve the social and political empowerment of individuals or communities. Similarly, better information or knowledge will have cumulative effects on improving labour productivity in both agriculture and other sectors, as well as in improving the nutritional outcomes of rural people, an important means to develop human capital. The overall effect would be the general improvement of rural development outcomes.

Social interaction linkage effects

The social interactions that follow urbanisation is another important channel through which urbanisation affects rural development, yet one that is largely neglected in the literature. On the one hand, urbanisation can result in a change in the social structure-devolution of culture, identity, and a change in social capital (as argued by Putnam). This transformation may weaken social cohesion and/or increase social tensions which in turn affect economic outcomes (Bau, 2021; Fox & Bell, 2016; Hoare, Jacka, & Berk, 2019). By social cohesion, we refer to its three essential dimensions: trust, including social relations; inclusive identity; and orientation towards the common good. Examples of social tensions include migrant families living apart; elderly persons left behind in rural areas; and tensions in urban areas as a result of new arrivals crowding out limited public services. On the other hand, urbanisation may result in frequent interaction, cooperation, and a better exchange of ideas, as discussed above. This could further enhance social interactions within society, as well as between rural and urban residents (Cali & Menon, 2013). Likewise, development in urban markets and business networks between rural and urban or between sectors will enhance social interactions that can help rural economic development. For instance, rural-urban linkages provide accessible settings for social interaction among neighbours, societies and communities which can provide a conducive environment for migration decisions and/or to send back remittances as well as to find employment elsewhere. Also, urban interactions made during urban work and marketing may facilitate trade and increase rural income and can reduce income gaps because they can reduce the cultural and spatial disparities between rural and urban areas that facilitate mobility and the incentive to remit (Akkoyunlu, 2013). Ultimately, the economic interdependence between rural producers and urban markets is thus expected to lead to changes in social interactions with consequences for economic outcomes. Thus, the effect of urbanisation on social cohesion, and thereby on rural development outcomes, can be either positive or negative.

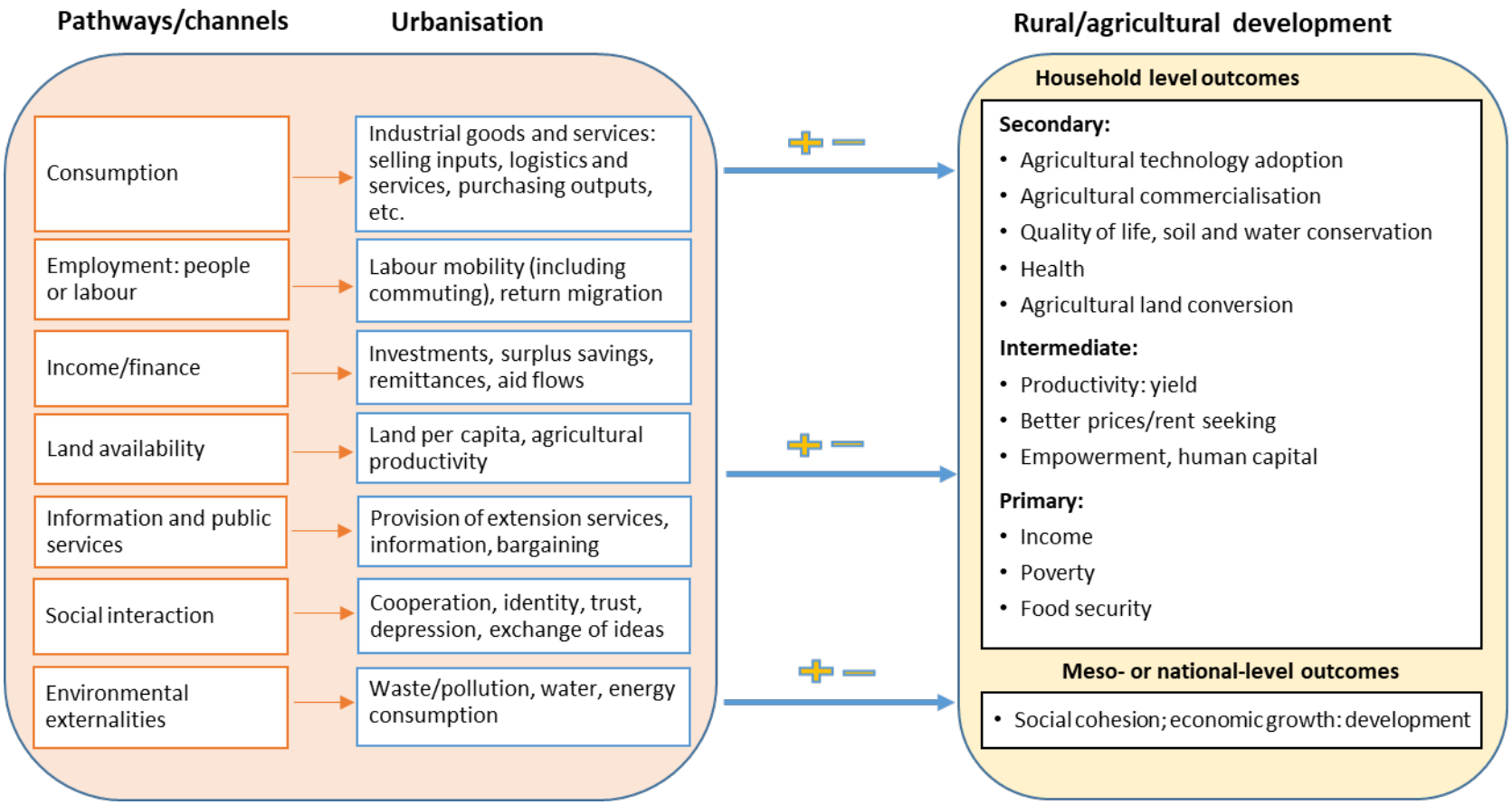
Environmental externalities

Moreover, rapid urbanisation often leads to negative externalities such as waste despoilment of the natural environment, the increased incidence of the outbreak of disease, pollution, biodiversity loss, climate change, and the deterioration of soil and water conservation, among others (Thyberg & Tonjes, 2016). These negative externalities impede the productivity and health of the surrounding rural areas and can have adverse effects on the welfare of rural residents. Some of the adverse effects of urbanisation, which are directly related to rural development, are the deterioration in soil and in water conservation. In addition, urbanisation is associated with high environmental degradation, consumption of energy, and high emission of greenhouse gases (Cai, Yin, & Varis, 2018; Kalnay & Cai, 2003). This would negatively affect health, productivity and the overall development of a rural economy.

The role of biodiversity is multifaceted: it plays a crucial role in achieving food security and nutrition; it regulates and supports ecosystem services for agriculture (such as nutrient cycling, soil formation, and rehabilitation, along with habitat for wild species); it makes production systems and livelihoods more resilient to shocks and stress, among other things. However, urbanisation can be a threat to biodiversity conservation which is key for both rural and urban livelihoods (Hoornweg, Bhada-Tata, & Kennedy, 2013). Thus, the overall effects of urbanisation on rural development through these channels can be negative.

In summary, the above discussions suggest that the net effect of urbanisation on rural development is ambiguous. Especially in SSA countries where the highest rates of increase in urban sprawl are common in recent years coupled with food insecurity, the economic linkage effect of urbanisation on key rural development outcomes cannot be determined a priori. Yet, the hypothesis can be made that the sign (positive or negative) and magnitude of the urbanisation effect depend on several factors: these include proximity to growing urban areas; the scale/size of urbanisation; and the quality of a country's institutions. Figure 1 summarises these channels and also serves as a conceptual framework through which to visualise how urbanisation affects rural development as well as the expected positive and/or negative economic outcomes at household, community and national level. This framework also served to guide the review of empirical literature exploring the impact of urbanisation on rural development. In doing so, we used the extended rapid review method, as described in Section 3.

Figure 1: Conceptual framework of channels



Notes: The channels have been categorised on the bases of their nature and types: goods and services; income; labour which urban households buy from and supply to rural households; information and externality flows directly related to agricultural production and productivity. Household-level outcomes as a result of urbanisation can occur through adopting agricultural technologies and practices (referred to here as secondary outcomes that can increase yield or agricultural productivity as well as higher prices (intermediate outcomes); all these contribute to improved income; poverty; or food security (primary outcomes). Meso- or national-level outcomes include social cohesion, economic growth and development. The sign ± indicates the positive effects and/or negative effects of urbanisation.

Source: Author, based on relevant literature

3 Search methodology

Experts suggest that a rapid review speeds up the systematic review process by making it less rigorous but by allowing it to identify the main concepts, theories, sources, methods and knowledge gaps over a broad range of literature (Tricco et al., 2018) while simultaneously also identifying potential areas for future research (Levac, Colquhoun, & O'Brien, 2010).[4] Similar to a systematic review, this rapid review comprises six stages (although the sixth stage is optional): i) identifying/articulating the research question; ii) identifying relevant studies (both published and grey literature for relevant studies); iii) study selection (based on pre-defined criteria; iv) extracting and charting the data; v) collating, summarising and reporting results; and finally (optional) vi) consultation (to clarify some of the information as well as to exchange information with stakeholders in the field). In this rapid review, the paper makes use of the Preferred Reporting Items for systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) and guidance provided by Levac et al. (2010) and Peters et al. (2015). As such, the study has developed a brief research protocol (see Appendix B) which was shared with experts; their comments were incorporated before collection of literature began.[5]

As the standard approach to rapid review suggests, the protocol contains details of the background, methods (such as setting, unit of analysis, outcome variables of interest, publication, definitions guiding concepts for the review), research questions, eligibility criteria, search strategy, data management, selection process, critical appraisal of individual sources, data charting and synthesis (see Figure A2 in the Appendix for the PRISMA flowchart of screening and Appendix B for the detail contents of the protocol). The conceptual framework of channels presented in Section 3 has also benefited greatly from the prior development of the protocol.

3.1 Search methods for identifying relevant studies

A comprehensive search strategy was developed to identify all research addressing the impact of urbanisation on rural development, with a special emphasis on SSA countries. The clear protocol highlighted above was developed before data collection began, guiding the selection of studies for this review. Search terms included variations of the key concepts in the research question: rural-urban linkages; low- and middle-income countries; urbanisation and rural development; as well as terms related to agricultural development; poverty; information flows; and agricultural marketing channels, among others. For this review, the relevant electronic databases were accessed: CAB abstracts (Clarivate analytics); Web of science core collection (Clarivate analytics); Scopus (Elsevier); EconLit (Ebsco); and others. In addition, some grey literature was searched. Following that, the search results from the different electronic databases and grey literature were combined and duplicates were removed. Furthermore, some studies were included as a result of the suggestions of a panel of experts. Details of the search strategies used and the various different bibliographic databases searched are presented in Appendix B.

4 A scoping review requires at least two reviewers and, as with all systematic reviews, an a priori scoping review protocol must be developed prior to undertaking the review itself (Peters et al., 2015).

5 In my case, I shared the protocol with researchers at DIE who are conducting research on the said topic.

3.2 Study selection

Following the comprehensive search strategy, all the merged records from various sources were imported into Covidence (https://www.covidence.org) for title/abstract screening, followed by full-text screening using pre-defined eligibility criteria in two phases. In a first step, title and abstract screening was carried out by two reviewers. Studies with inadequate information to make decisions whether the criteria for inclusion were met were transferred to the full-text review/screening phase. In a second phase, the author did the full-text-screening. As to the selection process, the study used systematic review software-Covidence to screen the title and abstract and full-text screening and decision-making.

During the comprehensive search strategy, the study also used the functions of built-in electronic databases such as Scopus and Web of Science Collection/Google to exclude records that did not meet the pre-defined eligibility criteria. For instance, search engines in Scopus/Google Scholar allow one to customise the range of search (sort/filter publications by date such as limiting publications to after 1995 or to sort articles by relevance, category). See Figure A2 in the Appendix for a summary of studies included and excluded at each step of the screening process.

3.3 Selection criteria

As this rapid review explores the recent state of the art on the impact of urbanisation on rural development, it also included studies that assess rural-urban agricultural linkages, focusing on studies in low-and middle-income countries in Africa, Asia and Latin America. The main outcomes of interest (that is, rural development indicators) were grouped into primary outcomes (income, poverty, and food security); intermediate outcomes (yields, improved quality of output, rent seeking, empowerment); secondary outcomes that should subsequently affect intermediate outcomes (technology adoption, practices to improve quality of agricultural productivity and conservation of natural resources, agricultural commercialisation, emissions and health outcomes) all at the household level; and meso- or national-level outcomes (social cohesion, growth, development). As outlined in detail in the study protocol, studies were included if they met the following criteria:

- Explicit reference to rural households or agricultural producers as indicated above. If this was not clear during the screening of the abstract and title, the studies were retained and criteria were applied during full-text screening.

- Study was published in 2000 or later, unless the study had a strong theoretical or empirical foundation in relation to the SSA context. Literature from the last two decades was also preferred in order to understand the recent and scoping urbanisation in developing countries.

- As to the study type, observational studies such as quasi-experimental studies, case studies, non-quasi experimental survey-based studies, participation studies and modelling studies were included. As stated earlier, these studies come from peer reviewed articles, review articles, grey literature such as reports and conference papers, discussion papers, and theses.

- Study areas for this review include SSA and low- and middle-income countries in Asia and Latin America as per the World Bank's classification of low- and middle-income countries (World Bank, 2020).

- This review focuses explicitly on the impact of urbanisation on rural development outcomes and/or papers that make a link between rural and urban areas. The study excludes the impact of urbanisation on suburban areas as well as on industry and the service sectors that have no or little connection with agriculture or rural economy.

- The paper will focus on and explicitly mention or model one of the outcome variables of interest indicated in Figure 1.

- Studies which do not meet the stated criteria are excluded from this rapid review. For instance, studies that analyse the impact of urbanisation on rural drinking water quality, rural education (except agricultural extension services), or wrong geographic location are excluded.

- A study that reports the effect of urbanisation on forest coverage but is explicitly linked to land use outside urban areas is included. Likewise, studies on climate change and biodiversity which have implications on rural economic outcomes are included in this review.

- Whenever possible the study also includes studies about the different impacts of urbanisation with regard to women and men.

3.4 Data extraction and charting

Data extraction and charting involve different phases of pre-screening based on specific characteristics: country; year; and keywords; followed by title; and abstract screening of all de-duplicated citations against inclusion and exclusion criteria listed above and then finally a full-text screening of all articles deemed relevant against inclusion and exclusion criteria. Reasons for exclusion are documented in Covidence. The data extraction template was developed in Excel to document all the information that the study wanted to collect and use for the synthesis.

3.5 Collating, summarising and analysis

Following the full-text screening, the findings were tagged and then mapped according to a number of criteria and features which included: scoping (such as the setting or continent of study location; orientation (whether the paper focused on the direct effect of urbanisation on primary, secondary and intermediate outcomes); methodology (based on their methodological approach such as theoretical versus empirical, quantitative versus qualitative, econometric versus modelling, and urbanisation classification (big cities, small towns), among others. Finally, the results from the synthesis (extracted data) were summarised on the basis of the main themes or classifications suggested under the conceptual framework as well on the basis of the themes emerging from the synthesis resulting from the research questions. The summary also included policy implications and research gaps.

4 Results

This section discusses the results of the review grouped according to the various channels identified in Section 2. The survey of existing literature included in this study has suggested that there has been a drastic increase in research interest in the relationship between urbanisation and rural development in recent years. In terms of geographic distribution, less published research is available on the topic in SSA compared to other regions. This may suggest a number of things: Initially, it might reflect the fact that less funding opportunities are available when it comes to research related to the link between urbanisation and rural development. Given the fact that the African continent has been experiencing rapid urbanisation in recent decades, much more attention is needed both in terms of funding and policy. It might also reflect the huge research gaps or skills gaps on the continent to carry out such important research. In terms of outcomes of interest, the majority of the studies included focused on poverty, income, food security and only very little literature existed in the areas of intermediate outcomes such as environmental effects (including urbanisation-induced adoption of environmentally sound agricultural practices or health), social cohesion, and biodiversity. This is a clear reflection of gaps in the literature.

Given the fact that cities are the highest polluters and as urbanisation continues to increase rapidly in African countries (Hoornweg et al., 2013), understanding the consequences of these externalities (both positive and negative) on rural welfare and the social cohesion of rural people is vital but has been largely ignored in recent literature. Furthermore, we find that there are few studies that focus explicitly on the link between gender and urbanisation, so this is also another gap. For this reason, future research on the link between gender and urbanisation and their interaction with rural economic outcomes (for instance, on the earnings of men versus women) are needed to guide efforts that promote sustainable and inclusive rural development.[6] This paper will now turn to presenting the key findings of this review along the channels identified above.

4.1 Consumption linkage effects

Urban areas offer better external connectivity to consumers and retailers through more frequent transport links to more destinations, including those handling exports. As a result, urban centres are major markets for agricultural produce, supplies and distribution. Urbanisation can also reduce the distance between rural producers and their markets by improving the connecting infrastructure (Dorosh & Thurlow, 2012). As such, urbanisation stimulates rural economies and incomes by raising the demand for agricultural products and natural resources. However, the effect of urbanisation in inducing demand for agricultural products, and hence rural productivity and incomes, depends on socioeconomic conditions, institutions and the infrastructure they invest in (Duranton, 2015). Most urban populations in SSA live in slums (Anant, 2011) and have a low level of income (Christiaensen & Todo, 2013). For this reason, rising urbanisation has not induced increased demand, agricultural productivity, and overall welfare in these areas as had been expected. In fact, some empirical

6 There is vast literature on gender issues related to agriculture or rural development but little attention has been paid to the potential differential effects of urbanisation on women compared to their male counterparts.

evidence suggests that increased urban demand for agricultural products, combined with "a loss of agricultural land, means more pressure on rural people to produce food for the growing number of urban people", leading to a "food problem" (Jedwab & Vollrath, 2015, p. 2).

The review suggests that the growth of cities has often been accompanied by the rapid rise of large supermarkets, which have transformed the agrifood markets in a way that sometimes leads to exclusion of small farms, and small processing and distribution of firms (Reardon,Timmer, Barrett, & Berdegué, 2003). However, in regions or countries where there are emerging middle-class consumers who are demanding more diversified, higher quality and safe products, urbanisation – accompanied by the rise of supermarkets – has increased the demand for quality and convenience foods to meet urban food needs and has thus increased the flow of agricultural goods and services, and hence agricultural growth. For instance, it enhances purchase consolidation or participation in value chains, specialisation, and quality standards. This may create entry barriers, and thus influence the structure and conditions of the agrifood system (Weatherspoon & Reardon, 2003). This is the case, given the economic advantage of agglomeration, proximity, and economies of scale. In this way, urbanisation can result in the transformation of a national economy. However, direct sourcing by supermarkets from farmers is still limited to a few fresh products such as fruit, vegetables, eggs and dairy products (Nair et al., 2018). Directly linking supermarkets with farmers – to reduce marketing costs and pass incentives to producers – is an area where public interventions could help.

As the majority of African exports remain natural resources and agriculture-based, the role of urbanisation remains critical in linking producers and international markets. In addition, the review suggests that the effect of urbanisation on the consumption of agricultural products is not homogenous and can vary based on proximity to urban centres and available infrastructure (Henderson, Storeygard, & Deichmann, 2017). For instance, empirical evidence from Ethiopia, India and Vietnam suggests that the effects of urbanisation is stronger in areas closer to urban areas than in remote areas due to weakly integrated agricultural markets (Cali & Menon, 2013; Jha, Murthy, & Sharma, 2008). Studies also suggest that urbanisation and urban processes can introduce spatial differences in farm productivity within high value products such as the high-dairy sector (Vandercasteelen, Minten, & Tamru, 2021). This means that the positive effect of urbanisation through consumption linkages depends on the existence of infrastructure or on how far they are from urban centres as these determine their inclusion in "modern" value chains and access to commercial centres which buy their products for processing or retailing. Therefore, as rapid urbanisation continues to take place, measures which enable remote farmers to participate in value chains have important benefits for the transformation of the agricultural sector and rural livelihoods as a whole.

The effect of urbanisation through consumption linkages, mainly on the distribution of goods and services to rural areas, can also be seen from its effect on commercialisation and rental services. Urbanisation enhances greater agricultural commercialisation which in turn increases the agricultural supply of marketable surpluses and demand for agricultural inputs and services, hence rural income (Tadesse, Oenema, van Beek, & Ocho, 2018). This then attracts the emergence of small business such as traders, processors, and logistic providers (Kankwamba & Kornher, 2019) which can serve as a catalyst for the growth and emergence of off-farm incomes and the wider transformation of the rural economy. As a result of urbanisation, there has been an increase in farming services such as rental activities in the

areas of planting, sowing, fertilisation, and harvesting in rural areas. Technologies and infrastructure that provide these services are mostly manufactured in urban centres. Due to mechanisation and modernisation of agriculture, such opportunities would induce improvements in farming and increases in labour productivity. The overall result would be an improvement in the earnings of farmers and other value chain actors (Tadesse et al., 2018).

4.2 Flows of people and/or labour

One of the main findings of this review is that the rapid rise of urbanisation is enabling the diversification of rural livelihoods by bringing new economic opportunities to rural areas (Ørtenblad, Birch-Thomsen, & Msese, 2019). Urban areas – particularly small and secondary town development – are increasingly becoming one major source of employment as they offer larger and more efficient labour markets (World Bank, 2014). The resultant effect on poverty reduction is stronger for small towns compared to larger cities. For instance, evidence from Tanzania suggests that "during 1991/1994-2010 about one out of two individuals/households who exited poverty did so by transitioning out of agriculture into secondary towns" (Christiaensen et al., 2013, p. 1). Similarly, Cali and Menon (2013) estimated that the contribution of secondary towns' spillovers to rural poverty reduction was significant during the 1990s, names between 13 and 25 per cent. Similarly, evidence from a cross-country panel of 51 developing countries also suggests that employment opportunities at secondary town level lead to more inclusive growth patterns than metropolitisation (Christiaensen et al., 2013). However in some instances, through its effects on non-farm employment, urbanisation has resulted in increased income inequality as it excludes those without access to resources such as women and young people (Oyvat, 2016). In this regard, appropriate policies should be in place, aimed at protecting smallholder farmers.

The rise in off-farm income (through employment at nearby urban centres or businesses) also increases migration and remittances which would in turn improve agricultural productivity. The review suggested that the share of rural household income from non-farm sources is growing, mainly due to labour flows, and was sometimes up to 40-50 per cent of the average rural household income in Sub-Saharan Africa in 2000s (Start, 2001), with a significant contribution from urban migration. The overall effect is improving household incomes, poverty reduction, and food security (Christiaensen et al., 2013).

The main factors for renewed interest in the role of secondary towns and cities in rural development include the need for inclusive economic development, the need to reduce migration to big cities (Agergaard, Tacoli, Steel, & Ørtenblad, 2019), and their potential to offer opportunities for diversification of the local economy (Karg et al., 2019). Since the vast majority of the labour force in secondary towns/cities consists of unskilled and semi-skilled workers (unlike those in the labour force in big cities), secondary towns and cities are more attractive to poor and rural areas (Berdegué et al. 2015). Such a shift in renewed interest in the role of secondary towns and cities also influenced policy choices in the 1990s and this led to the decentralisation of administrative functions in developing countries (Satterthwaite & Tacoli, 2003).

In the review, we have identified the fact that small towns and urban centres are indeed "market towns" that offer markets and services for small-scale producers and provide retail services to surrounding communities as well as acting as "administrative towns" in which a

significant proportion of households earn their income from government services. Their intermediary role is that they mediate the flow of inputs, goods and services between rural areas and larger urban centres. That is why they are seen as being the most effective generators of non-farm employment for the poor (Haggblade et al., 2007; Dorosh & Thurlow, 2012). Hence, small towns and urban centres have the potential to positively influence rural development and agricultural productivity. For instance, micro-empirical evidence from Tanzania and Senegal (Tacoli, 2013) and a cross-country study of 51 developing countries suggest that secondary cities and towns have a stronger effect on poverty than big cities, suggesting that rural diversification and secondary town expansion can yield a faster reduction in poverty and more inclusive growth patterns than metropolitisation (Christiaensen et al., 2013). However, it must be noted that the rise of small towns is not equally beneficial to all households (Ørtenblad et al., 2019).

Urbanisation affects men and women differently and through various channels. This has implications on rural development. For instance, the expansion of urban areas changes gender roles, creates more economic opportunities or increases exposure to risks such as sexual violence or the loss of agricultural lands (Moser, 2016). However, even if there are critical gaps in this regard, existing empirical evidence from SSA suggests that urbanisation increases gender equality in employment (Anyanwu & Augustine, 2013) and improves the livelihoods of women through providing job opportunities, education, family-planning and reproductive health care (Stokness et al., 2018). Improvements in livelihoods specifically through access to public services, such as family planning, have given rural women more economic and social freedom (Beguy, Ezeh, Mberu, & Emina, 2017).

4.3 Financial linkage effects

As a result of increased rural to urban migration, it appears that remittances from urban to rural receipts in many developing countries is growing (Crush & Caesar, 2017). For this reason, structural transformation (partly related to urbanisation) and urban remittances are important channels for improved welfare in developing countries (Christiaensen et al., 2013). As people shift out of agriculture to more diversified and remunerative activities, including those outside the rural areas, another virtuous economic and social dynamic sets in; this has generated more opportunities and has thus attracted poor rural households through remittances (Wouterse, 2010). In this regard, removing barriers to rural-urban mobility may facilitate rural economic transformation. In addition, the benefits of urbanisation through rural-urban mobility would be larger with supportive (inclusive) policies, markets and infrastructure investments (Turok & McGranahan, 2013). Remittance also relaxes the liquidity constraint that farmers face and allows locally accumulated capital to be reinvested locally in agriculture and related activities such as investment in the adoption of agricultural technologies (Kapri & Ghimire, 2020). In other words, remittances from people who have migrated to cities can help to finance rural investments and such investments have thus improved agricultural productivity.

The review also finds that there are positive spillovers from urban centres to rural surroundings through urban-rural remittances (Cali & Menon, 2013; Lanjouw & Murgai, 2009). The overall effect is to capitalise rural areas and improve income, living standards and food security (Dupas & Robinson, 2013). In China, for instance, the lack of a social security network in cities has forced migrant workers not to abandon their rural homestead

completely and instead to use the money they earn from urban areas to build new houses in rural areas (Wang et al., 2021). This has offered a great opportunity for releasing rural land for crop production through improved management of urban-rural integration. However, there are also studies which argue that remittances sent back to rural communities are not high enough to induce major investments in agriculture and only function to maintain subsistence farming and only complement a secondary household livelihood activity (Jokinen, 2018; Rempel & Lobdell, 2007). In Burkina Faso, for instance, an increase in remittances received by farm households caused a significant decrease in agricultural productivity: measured in terms of total production, total production per unit of land, and total production per unit of labour (Dedewanou & Kpekou Tossou, 2021). In this regard, some of the pathways through which rural to urban migration decreases agricultural production and productivity is through the loss of labour and the lower use of appropriate technology (Yue & Sonoda, 2012; Azam & Gubert, 2006; Taylor, Rozelle, & de Brauw, 2003). Moreover, the magnitude of the effect of urbanisation is heterogeneous depending on proximity to urban areas and size of the city. For instance, since a significant number of poor people in SSA live in rural areas, an increase in the income of rural residents is expected to have a higher effect on rural welfare than increases to the welfare of urban residents. Furthermore, unlike the conventional flow of remittances from urban to rural areas, it is also important to note that there is significant flow of remittances (cash and/or food) from rural to urban areas (Crush & Caesar, 2017). The role of rural to urban remittances in the urbanisation process in most Sub-Saharan African countries is often neglected in both policy and research arena, an area which needs critical research in the future.

4.4 Land market linkage effects

The review findings suggests that there are four mechanisms through which urbanisation affects land availability and rural land markets, and hence welfare outcomes: i) people migrating lowers pressure to reduce farm sizes or increases agricultural land per capita, leading to higher productivity; ii) urban sprawl reduces farmland and increases value; iii) urban middle classes invest in thriving land markets, which may be either speculative or productivity enhancing; iv) urban sprawl reduces farm land and decreases agricultural production; and v) changes in farm sizes enhance the use of production inputs. These alterations will have important implications for agricultural growth and, hence, also for rural development (Lambin, Geist, & Lepers, 2003).

With regard to the first mechanism, Wu et al. (2018) showed that small farm size coupled with surplus labour is often an impediment for introducing improved agricultural practices and a challenge for the sustainable development of agriculture. On the contrary, Wang et al. (2021) found that urbanisation increases the total cropland areas and decreases the rural population due to migration. This phenomenon results in a higher per-capita cropland area for rural households, and hence higher farm sizes. Increase in farm size has implications for agricultural production, especially for smallholder farmers. In other words, farm size plays a vital role in increasing agricultural productivity. Overall, the effect of urbanisation on per-capita cropland (or farm size) is inclusive.

Where the second mechanism is concerned, our studies found that the conversion of farmland to urban uses led to higher prices for land, particularly in the areas of rapid urbanisation (Rondhi, Pratiwi, Handini, Sunartomo, & Budiman, 2018). First, farms near

urban areas have greater access to markets and infrastructure such as storage facilities and ports, and hence, lower transportation costs. Second, it is also possible that farmlands on the outskirts of cities provide amenities to the urban population allowing these farmlands to generate economic profits higher than those of comparable lands further away from urban centres. It should be also noted that farmers near urban areas may be more susceptible to displacement without proper compensation pressure as cities expand, especially in the absence of well-developed land markets and policies protecting farmers (Niasse & Cherlet, 2014). This is particularly the case in most SSA countries. Put differently, the degree of urbanisation influences land prices (farmland values) and is highly correlated to proximity of farmlands to major urban centres as well as to the characteristics of the surrounding agricultural lands (such as recreation potential): those near to main urban centres have higher net agricultural returns partly due to the conversion of high-value agriculture lands around urban centres; and higher farmland values. Since one of the main drivers of farmland values induced by urbanisation is the potential for conversion to residential areas or commercial use, it means that urbanisation also alters land use patterns. In recent decades, most African cities have been expanded through what is referred to as in the literature as "urban sprawl" (Dadi et al., 2016). Urban sprawl induces changes in the value of land as well as the patterns of land use activities (Irwin & Bockstael, 2007), sometimes causing more fragmentation that in turn has seriously affected agricultural production. Fragmentation of agricultural land also hinders large-scale agricultural production.

As to the third mechanism, evidence suggests that urbanisation reduces cropland fragmentation in rural areas while increasing rural land release (for instance, through reclamation) for agricultural production coupled with a decrease in rural population, benefiting large-scale farming (Wang et al., 2021). However, ensuring the benefits of urbanisation in this regard makes it necessary to adopt an integrated urban-rural development plan as well as to manage population growth. This is because, with increased urbanisation coupled with population growth, there will be less potential for rural land release. As African countries are likely to undergo rapid urbanisation in the coming decades, the research gap that needs to be addressed is the expected impact of urban influence on land prices in the coming years and its consequences on the well-being of rural communities.

On the fourth mechanism – the effect of urbanisation on agricultural production through its effect on loss of agricultural lands – two opposing views exist in the literature: urbanisation reducing crop production on the one hand, and urbanisation increasing cropland and hence crop production. The argument presented as to whether urbanisation has a negative effect on food production takes the point of view that urban expansion often occurs on croplands. Such displacement (competition between urbanisation and agricultural lands) results in loss of global croplands (Bren d'Amour et al., 2017). According to this estimate, global urban expansion will result in a 1.8 to 2.4 per cent loss of global croplands by 2030 which could translate into a 3 to 4 per cent reduction in worldwide crop production, with a substantial cropland loss occurring in Asia and Africa (about 80 per cent). The second argument views urbanisation as having a positive effect on agricultural production. The recent empirical evidence from China, for instance, shows that urbanisation can benefit agricultural production through releasing a significant amount of rural land for agricultural production, creating larger benefits for large-scale farming and environmental protection (Wang et al., 2021). Such rigorous empirical evidence is thin in SSA and future research must consider such analysis of the potential trade-offs between rapid urbanisation and agricultural production. Similar research can be carried out in Africa as to whether the recent rapid

urbanisation which most African countries have been undergoing will result in the release of lands for crop production and, hence, increase agricultural land that could create new demands for modern agricultural practice. Such a debate has largely been ignored to date in the current urbanisation-agricultural production nexus, along with its likely impact on the food security of the continent. Many African countries should learn from the best practices elsewhere, for instance, from China.

On the fifth mechanism, existing empirical studies have found that increased farm size is associated with more use of fixed inputs (such as machinery and knowledge) compared with variable inputs (like fertilisers and pesticides), thus increasing crop yields (Ren et al., 2019).

It should also be noted that it is not only urbanisation (particularly urban sprawl) that induces changes in land use (or farmland loss) but also the infrastructure development that goes with urbanisation such as road construction. In this regard, urban sprawl and infrastructure development associated with residential expansions are the main drivers of extensive agricultural land conversion in Africa (Dadi et al., 2016). For instance, one estimate shows that extensive highway construction in China between 1990 and 2010 has directly fragmented the regional landscape and indirectly distributed "the regional landscape by attracting a large amount of built-up land transition from farmland during the last two decades", leading to serious farmland loss in rural areas (Song, Ye, Zhu, Deng, & Wang, 2016). Again, such analysis is required to guide policy formulation in developing countries, especially in SSA, as huge resources are going to urban and infrastructural development.

4.5 Information and knowledge linkage effects

This review identifies five areas through which urbanisation accelerates human interaction and thus the accumulation of knowledge pertinent to improving rural well-being: i) urban areas are sources of complementary services; ii) urbanisation foster information and knowledge flows from urban to rural areas; iii) urban areas accelerate human interaction, hence also the exchange and accumulation of knowledge; iv) urban areas provide economies of scale for specialised institutions; and (v) information and knowledge accumulation to empowerment

First, urban areas play an important role in the provision of complementary services in the areas of transportation, credits, communication, and extension services which are vital to fostering learning and innovation, and hence human capital accumulation, a key factor for the adoption of improved agricultural technologies/practices, and hence improved welfare outcomes (Njiraini et al., 2018). Urban centres are the meeting place for value chain actors (traders, processors and supermarket and logistic companies) across the various segments of trade, processing and logistics that provide services to smallholder farmers. In this context, small and medium towns play an increasingly important role in shaping agricultural value chains, as they account for about 60 per cent of Africa's urban population and provide nearby markets for local producers and their input requirements (AGRA [Alliance for a Green Revolution in Africa], 2019). In doing so they can drive the efficient distribution of goods and services to rural areas that in turn facilitate inclusive growth, for instance through the provision of inputs (fertilisers, seeds), extension, financial services, storage facilities/warehouse, and others. This would then lower transportation costs. As a result of

these, farmers would gain economic benefits. However, critical gaps in urban service delivery exist in SSA limiting the potential benefits of urbanisation and urban process.

Access to public services in urban centres and complementary services also plays a vital role in the generation of income, innovation, employment and wealth for rural residents because it can reduce the cultural and spatial disparities between rural and urban areas and create a setting that increases mobility and the incentive to remit (Akkoyunlu, 2013).

Second, urbanisation plays an important role in fostering information and knowledge flows from urban to rural areas as well as through the provision of public services that would eventually improve human capital accumulation in rural areas (Filmer & Fox, 2014). This flow of information may induce the adoption of new livelihood practices that increase yield or attract a higher practice, thus improving income or food security.

Third, rural-urban linkages provide accessible settings for social interaction among neighbours, societies and communities and facilitate information flows or exchange of new ideas between urban and rural residents (Brueckner & Largey, 2008; Epstein et al., 1967). Such social interaction provides a conducive environment for making decisions relating to migration, remittances and finding employment in urban areas or for spreading knowledge in general especially about best practices either through technologies or urban-rural interactions (Munshi, 2020; Bertoli, Ozden, & Packard, 2021). For instance, urban systems may result in frequent interaction, cooperation and the better exchange of information between rural and urban residents making integration and interaction intense. This then will help rural residents to find a job or shelter in urban areas, making migration less risky and costly.

Fourth, urban areas provide economies of scale for specialised institutions. Unlike a common practice of focusing on large and generalist institutions, urban areas enable the provision of specialised institutions vital for improving livelihoods. For instance, urban areas are important sources of agglomeration economies: labour market pooling, input sharing, and knowledge spillovers (Rosenthal & Strange, 2004).

Fifth, other studies relate the information and knowledge linkage effects of urbanisation to social and political empowerment, such as the exercise of rights (Start, 2001). For example, urbanisation through labour market effects provides opportunities for rural residents to experience and interact with workers outside the agricultural sector. This would bring new experience, skills and contacts to rural areas and, thus, help them to improve their bargaining base and civil rights which in turn improve social and political empowerment as well as social status (Ghosh & Roy, 1997). However, since most labour market opportunities are non-local (or outside their vicinity), migratory labour forces may be dispersed. Such a dispersal in migratory labour forces would subsequently reduce the bargaining base, thereby negatively affecting the social and political empowerment of households and individuals (Start, 2001).

This study notes that although knowledge spillovers are widely covered, their effects on development are not well researched. Existing studies merely “map the flows” without properly analysing their effects on rural development. In this regard, analysing the effects of some public services and/or empowerment on rural development is of paramount important to designing development interventions that can improve welfare outcomes such as those relating to nutrition. For instance, a recent study in Ethiopia suggests that improving women’s knowledge of nutrition and their empowerment has a strong and significant effect on improving children’s dietary diversity and thus avoiding stunting (Melesse, 2021).

4.6 Social interaction linkage effects

The rapid urbanisation in the recent decades holds great implications for societal integration and cohesion. Urbanisation results in demographic transition (transition of rural people to urban areas), that is, transition from a predominately agricultural population living mostly in relatively small and dispersed rural settlements towards a predominantly urban-based population engaged mostly in industrial and service sectors (McGranahan, 2014). This leads to new social structuring (social change), social interactions and relations. Although there are some empirical studies (see, for instance, Ravallion et al., 2007) and a few theoretical explanations (such as Anand & Kanbur, 1985; Ravallion, 2002; Fields, 2005) of the relationship between urbanisation and social interactions and the potential channels through which this affects social cohesion, and hence rural development, the review suggests that such a relationship remains little studied. Hence, examining the effects of urbanisation on social cohesion is important to enhance societal peace for sustainable development.

On the one hand, urbanisation can induce change in social structure such as the devolution of culture and identity, and changes of social capital (as argued, for instance, by Putnam) (Tacoli, 2013). For instance, Baker (2019) explores how the development of small towns can change the existing culture (or identity) in Ethiopia. Such cultural change can benefit (for example, by facilitating the rapid adoption and consumption of new cash crops and by thus positively impacting both rural and urban livelihoods) or harm societies living near urban centres (such as through the adoption of a new culture that affects health) (Dessie, 2013). Urbanisation also alters the nature of economic, social and cultural transformations of the rural communities. Particularly, urban overcrowding and sprawling settlements would worsen living conditions, undermine people's life changes, and fuel dissatisfaction and social unrest since it may lead to inefficient use of land, active exclusionary policies, environmental degradation, and higher externalities. It has also been reported that urbanisation in many African countries is associated with the increased threat of conflict and insecurity along with the increased risk of depression which, in turn, increases economic strain and diminished social networks (Hoare et al., 2019).

On the other hand, urbanisation brings with it opportunities and the appropriate environment for frequent interaction, cooperation and the better exchange of ideas through the various pathways discussed in Section 2. For instance, very dense settlements facilitate public transport and reduce the cost of transport infrastructure. In doing so, urbanisation supports a vibrant public realm and a creative environment in which people from different backgrounds can interact. However, this internal transformation has affected/weakened rural-urban interactions and, thus, social cohesion (Cali & Menon, 2013). For instance, a recent study by Lall, Henderson and Venables (2017) suggests that African cities have 40 per cent fewer neighbours to interact with compared to Asia and Latin America cities.

Moreover, social cohesion mediates the flow of information, inputs, goods, services, people, (including ideas and innovations) between rural areas and urban centres (Foltz, Guo, & Yao, 2020). For instance, the presence of trust between and within societies might lower migration costs (or search costs) as individuals continue to exploit the information available in their networks. This would further favour labour flows such as migration to and from urban areas to engage in employment opportunities. Furthermore, the urbanisation process can moderate the relationship between social cohesion and other flows discussed earlier such as remittances and agricultural markets. The magnitude of the positive spillover effects

of urbanisation on rural development also depends on the degree of social cohesion of the societies.

Furthermore, the effect of urbanisation on social cohesion, and hence on rural development can also be seen from the role urbanisation plays in peace building, especially in conflict-affected areas. Put differently, in the conflict zone/areas, urbanisation (mainly small towns) driven by people's search for protection and livelihoods, could play an important role in peacebuilding in those areas. For instance, (Büscher & Mathys, 2019) finds that the development of rural villages in the Kivu Province of the Democratic Republic of Congo (DRC) into vibrant towns has greatly improved the local peace of rural villages. In this process, as the authors suggests, the governance of rural-urban transformations are important, even if complex. In sum, urbanisation affects social cohesion at a minimum via labour market linkages; rural-urban migration; rural-urban partnership in work and experience; and in relationship to social and political unrest (Fox & Bell, 2016).

4.7 Environmental effects

Rapid urbanisation has intensified solid-waste generation and this will continue to increase in the fast-growing cities of SSA as urban populations and living standards improve (Hoornweg et al., 2013), especially if development happens in an ad hoc manner or is poorly controlled. This has important implications for the consumption of agricultural products as well as sustainable development. For instance, with improved awareness among urban residents, waste management has induced the reduction of food and horticultural waste, the largest waste component.

Waste disposal and pollution affects production and productivity through its effects on soil productivity, water quality, and health (diseases) (Anikwe, 2002). The long-term (20 years) impact of municipal waste disposal on soil physicochemical properties and soil productivity in one of the Nigeria's urban areas suggests that the dumping of municipal waste can influence soil properties and productivity. The use of these wastes for farming without continuously assessing and controlling the ecotoxicological risks associated with their usage leads to the increased uptake of heavy metals by some crops. This increased concentration of heavy metals in the soil and rivers has detrimental effects on human health. In addition, the growth of cities leads to increased urban air pollution which in turn poses serious health risks to rural areas: it causes more mortality, increases the contamination of water sources, and encourages the spread of infectious diseases. On the other hand, if properly managed, waste can enhance soil fertility and improve the physical properties of soils, hence reducing the cost of crop production (Anikwe, 2000).

As to the effect of urbanisation on climate change, the review suggests that rapid urbanisation is associated with crowding, environmental degradation, and the emission of greenhouse gases, negatively effecting rural development outcomes (Bloom, Canning, & Fink, 2008; Foley, 2005; Kalnay & Cai, 2003). Cities consume the highest proportion of energy and account more than 70 per cent of greenhouse gas emissions (Lall et al., 2017). This condition in SSA cities is rising at an increasing rate, putting pressure on land and natural resources. This has an important implication on rural economy, mainly on agriculture since it increases farmers' exposure to risks of disaster. The review also suggests that the concentration of people in cities can help to reduce the risks and costs resulting from

climate change (World Bank, 2013). In this regard, urbanisation can help to tackle the effects of climate change.

As to biodiversity loss, existing evidence, though fairly limited and mainly from Asia, suggests that urbanisation can prove to be either a threat or a valuable habitat for biodiversity conservation, both of which are key for rural and urban livelihoods. Empirical evidence from the United States, for instance, suggests that if agricultural intensification poses a greater risk, urban environments can provide valuable habitat for some diverse bee communities, although some bees are vulnerable to urbanisation (Wilson & Jamieson, 2019). A similar study in Central European cities suggests that urbanisation can negatively impact some species groups whilst providing opportunities for others (Theodorou et al., 2020). Given the critical gaps in the literature, assessing the impact of urbanisation on change in biodiversity and ecosystem services is vital for achieving food security and nutrition both in rural and urban areas as well as to ensure sustainable development.

Finally, as hypothesised earlier, it would seem that (though few studies analyse this) the structural and economic transformation that follows urbanisation tends to produce spillover effects that are beneficial to the well-being of surrounding rural areas. In other words, urban and rural areas are interlinked and interdependent, leading to rural-urban spillovers that are beneficial to development and/or to the overall well-being of the surrounding rural areas. For instance, it has been found that improved off-farm employment in cities increases remittance flows and investments which tend to improve agricultural productivity and/or other outcomes. Likewise, the increased flow of labour forces to urban areas can be amplified by the increased flow of information to rural areas regarding employment opportunities. This can in turn augment the financial flows (say, through remittances or access to credit) from urban areas to rural areas thus increasing agricultural productivity and other outcomes as shown in Figure 1.

All in all, the review results shed light on a set of interesting issues related to urbanisation and its effects on rural development which have important implications for both research and policy formulation, a point discussed further in Section 5.

5 Discussions

This review suggests that the relationship between urbanisation and rural development remains inconclusive in the literature – a critical policy concern in developing countries, especially in SSA. One the one hand, there are cases when urbanisation in developing countries in general, and in SSA in particular, provide various economic, social, political and environmental opportunities. As the experience from other countries suggests, urbanisation can help to release a significant amount of rural land for agricultural production. South-South cooperation for the exchange of knowledge and experience-sharing of best practices would be valuable in this regard. On the other hand, urbanisation has also brought many development challenges such as the risk of discrimination (for example, slums lack not only basic government services but also political recognition), social exclusion, and increased polarisation. Despite the dominant view – mainly held by policymakers and governments – that urbanisation in SSA adversely impacts agricultural production by, for instance, reducing agricultural land due to urban expansion, the review

finds limited evidence in the literature on urbanisation having negative impacts on agricultural production.

If rapid urbanisation and urban-rural interaction is supposed to bring sustainable rural development, there are a number of issues that policymakers must bear in mind. First, urbanisation can indeed stimulate rural economic growth and poverty reduction through stimulating the various effects identified and discussed earlier but requires actions that could circumvent the constraints indicated below. Second, as theories from economic geography suggest, urbanisation has stronger effects on rural development outcomes if the development of urban centres consider geographic targeting coupled with appropriate institutional setting. Specifically, if governments and development actors wish to achieve widespread development, there is a need to develop a geographically dispersed pattern of investment, for instance, the development of secondary towns or cities. Although there is compelling evidence that secondary towns and cities can indeed enhance the welfare outcomes (income, food security, poverty) of rural households, there are also cases in which secondary towns contribute to rural impoverishment through external forces such as multinational enterprises, central government, and local elites (Southall, 1988). Third, rural-urban linkages provide accessible settings for social interaction among neighbours, societies and communities and can facilitate social cohesion within neighbourhoods. Such interactions would provide a conducive environment for the flow of ideas/innovations, migration decisions and remittances, which are pertinent to rural economic transformation. Finally, if conducive institutional settings as well as the political will are put in place, urbanisation can promote the achievement of other Sustainable Development Goals, most notably SDG1, SDG2, SDG8, SDG9, SDG11 and SDG12. However, more research on how the promotion of SDG11 can promote other SDGs would be valuable.

The potential benefit of urbanisation in raising living standards in rural areas depends on a number of factors. The review categorises them into two sets: firstly, facilitators of positive outcomes; and secondly, factors associated with negative outcomes. These outcomes refer to the rural development indicators presented in Figure 1. Facilitators of positive outcomes include conducive infrastructure and institutional settings (Jedwab & Vollrath, 2015); policy reforms (including decentralisation and supportive policies); and the emergence of new marketing channels such as rapid supermarketisation, digitalisation, and geographic and demographic characteristics of urban centres (both forms and quality), among others. The types of urbanisation (both forms/quality and level) also influences its effect on welfare outcomes mainly on income, poverty or food security.

The main factors associated with negative outcomes (that is, factors that impede the positive impact of urbanisation) include urban sprawl; corruption (especially related to land); failure to recognise the sociocultural context; absence of coordinated infrastructure (such as the availability of roads and transport networks linking rural areas to a number of urban centres where markets and services are located); absence of governance capacities to address the negative impacts of urbanisation (as a recent study by Olagunju et al. (2019) suggests), including a lack of institutional and regulatory constraints related to functioning land markets; and a lack of reliable data to monitor and evaluate progress. In addition, most of the growth registered in SSA is driven mainly by the extraction of natural resources and is hence not naturally urban-oriented (Gollin et al., 2016). These constraints are limiting productivity and the market potential offered through urbanisation (World Bank, 2017). If

the potential benefits of urbanisation are to be fully harnessed, it is important to deal with these factors.

Enhancing the benefits of urbanisation for rural development also requires the improvement of the current urbanisation process. This relates, for instance, to the strengthening of secondary cities that have the potential to absorb surplus labour and provide better services for rural households. It also relates to promoting policies that upgrade slum conditions and/or settlements in order to improve welfare, simultaneously raising demand for labour and raising human capital; investing in new data sources such as satellite images or mobile apps to measure migration, city size or policy effectiveness. For instance, urbanisation in Sierra Leone is occurring at a per capita income of USD 410 (World Bank, 2018), and more than 70 per cent of Africa's urban population is estimated to live under "slum conditions" exacerbating socioeconomic disparities. An income of this level would not stimulate higher demand for agricultural products. Similarly, a study in Ethiopia suggests that improvements in household incomes is the driver of calorie intakes (Worku, Dereje, Minten, & Hirvonen, 2017). Since the majority of poor people in SSA live in rural areas, an increase in the income of rural households is expected to have a higher effect on food security and poverty reduction than increases to the incomes of urban households. In addition, in the course of urbanisation and economic transformation, the role of agriculture is of particular importance and should be of concern to policymakers in developing countries. Specifically, it is critical for inclusive growth as well as to ensure food and nutrition security in the face of growing demand. For urbanisation to positively impact rural development, clear property rights to agricultural land, better agricultural extension services, and rural infrastructure are important.

As indicated earlier, although urbanisation can promote rural development, the economic benefits to the poor rural communities are heterogeneous and depend partly on the level of urbanisation (for instance, secondary versus metropolitan). In this regard and as suggested earlier, the role of small and medium-sized towns is vital for a meaningful impact on rural livelihoods. This is because of the fact that innovations and modernisation catered for in small towns would trickle down to rural populations; also small and medium-sized towns sustain more urban-rural relations, and have a stronger effect on poverty reduction than big cities (de Noronha & Vaz, 2020; Fahmi, Hudalah, Rahayu, & Woltjer, 2014). In addition, the review of the various case studies suggests that

> urbanisation can no longer be considered to be the outcome of a unidirectional movement from rural to urban areas; it has instead been shaped by a chain of connections in which rural and urban livelihoods interact on a movement continuum and in which small towns have become an important reference point in the urbanisation chain. (Steel et al., 2019, p. 30)

Increased rural-urban linkages, specifically between growing secondary towns and rural areas are shaping patterns of rural development. As a result, it important to develop appropriate policies and programmes that recognise the interconnectedness of smalltown development with their rural neighbourhoods. Specifically, maximising the potential benefit of secondary cities necessitates the improvement of local business skills, infrastructure, access to finance, and movement of people and goods. In these processes, the role of state (administrative reforms) and policies in support of small towns and decentralisation are critical since the challenges of urbanisation in most African countries are political and require better negotiation and compromises.

Making urban centres drivers of rural development requires strong political will and leadership in connecting urban growth with rural development plans (for instance, city masterplans that determine what the city will look like in the future and what is the likelihood of communities surrounding the city). As a study by the World Bank (2017) entitled "Africa's cities: Opening Doors to World" describes, SSA cities are currently congested, disconnected, and costly; and they are moreover closed to the world. To attract global investment that has spillover effects in rural areas, African cities should develop economies of scale. This is only possible if cities and country leaders make concerted efforts, and if the structural problems constraining these cities are addressed.

Finally, despite growing research on rural-urban linkages, the review finds that there is still great ambiguity and/or inconsistency in the literature in conceptualising, measuring and operationalising such measurements related to urbanisation, urban areas and rural areas. A lack of coordination of indicators creates difficulties in scaling up best practices/approaches and prevents urbanisation from being adequately analysed. Often conclusions and recommendations concerning African urbanisation suffer from the lack of context-relevant narratives. Hence, rapid reviews devoted to such issues are important. Moreover, emerging approaches – such as the use of night light intensity – need to be strengthened and promoted. The use of such approaches would help to reduce inconsistencies in the definitions and measurements of urban and rural areas and enable cross-country comparisons to be carried out.

6 Summary, conclusions, and gaps to be filled by future research

This study has examined the impact of urbanisation on rural development and the channels through which these impacts materialise. It has also laid out some specific factors that impede the positive impacts of urbanisation on rural economic transformation and has highlighted possible remedies that could circumvent these constraints. Overall, this review suggests that the theory and evidence of the relationship between urbanisation and rural development is more nuanced and ambiguous than is suggested in the literature at a first glance. In general, there are two main dominant views (or bodies of evidence): on the one hand, that urbanisation plays a positive role in the overall reduction of poverty, in improving income and in economic growth; but that, on the other, urbanisation has not resulted in the necessary structural transformation (referred to by some as "urbanisation without growth") nor has it contributed to national economic growth. At the extreme, the proponents of the latter point of view argue that urbanisation has negatively affected both rural livelihoods and the environment (Brueckner & Helsley, 2011; Chen, 2007). However, our review of recent empirical evidence suggests that the impact of urbanisation on economic development in general, and rural development in particular, is conditional and heterogeneous. It can be both positive and negative, and is most importantly nonlinear. The reason it is conditional is because countries need to be well-placed to reap the benefit of urbanisation (that is, they need to have conducive infrastructure and institutional settings along with strong political commitment and leadership). It is heterogeneous because the magnitude of effects depends on factors such as the quality of institutions, available infrastructure, and policy reforms, among others. The development effects of urbanisation and urban processes in raising rural living standards are heterogeneous (differing by scale

and size, degree of integration between rural and urban areas, by countries' historical and geographic characteristics, and so on).

The current review has identified various pathways through which urbanisation affects rural economic development: the production and consumption linkages; labour/employment linkages; financial linkages; land per capita linkages; information or public service linkages; social interaction linkages; the environmental externalities linkages; and cross-cutting linkages. Recognising the importance of such linkages and incorporating them into the local and national economic and trade policies is vital for sustainable development.

On the positive side, if coupled with appropriate urban-rural development policies and institutions (policies and institutions that support interdependencies and cooperation between rural and urban areas, incentivise the efficient use of resources and promote participation of all stakeholders) urbanisation can lead to the release of rural land for agricultural production and pave the way for improved agricultural commercialisation. This in turn increases the agricultural supply of marketable surpluses, the demand for inputs and services, and facilitates the adoption of new agricultural technologies, all leading to improved agricultural production and productivity (Tadesse & Sakketa, 2021). In addition, growing urban demand for agricultural products may induce the better adoption of agricultural technologies and the sustainable use of resources. These are all of great importance to rural incomes, poverty reduction or improved food security. Furthermore, smallholder producers and rural consumers rely on urban-based enterprises which provide them varieties of goods and services such as access to markets (both for output and inputs), access to finance, access to information, and extension services. Moreover, rapid urbanisation can also serve as a catalyst for a rise in off-farm employment/business opportunities and the emergence of small businesses which are important for the growth of agriculture and inclusive development. For instance, off-farm businesses increase demand for agricultural products and labour that then increases farm gate prices, employment and productivity. In sum, urbanisation can drive the adoption and modernisation of agricultural value chains, create new markets, stimulate innovation, and create additional and better-paid jobs in both agriculture and non-agriculture.

On the negative side (in some cases), urbanisation *without* economic transformation has often resulted in persistent poverty in big cities, low real wages in rural areas, poor utilisation or exploitation of resources (for instance, Côte d'Ivoire and Ghana), poor management of waste (sustainability); overall this has created a challenge to enhance productivity and increase economic integration between rural and urban areas and/or between domestic and international spheres. Put differently, although Africa has experienced rapid urbanisation over the last decade, that transformation has occurred with slow structural transformation due to inadequate urban infrastructure (poor health facilities, inefficient service delivery, roads, utilities) and connectivity which are important for rural economic transformation, and which some refer to as Africa's urban development trap or "urbanisation without growth" (Fay & Opal, 2000; Jedwab & Vollrath, 2015). In the absence of proper planning and supportive policies, urbanisation can increase discrimination, economic inequality and limited growth spillovers.

From this review it can also be observed that most SSA countries are not making much out of the opportunities that urbanisation can provide, for instance, in transforming rural-urban livelihoods; and, also, that only a few countries have been relatively successful in translating

urbanisation into poverty reduction (Hommann & Lall, 2019). These heterogeneous effects of urbanisation (both positive and negative) depend on proximity to urban centres; the scale or nature of urbanisation (small towns versus big cities); political commitment in terms of resource allocation; and leadership, as well as the quality of institutions related to land tenure and access to resources, and so on.

Our findings also suggests that there is the need to reform the way programmes are designed so as to expand the positive welfare impacts and inclusiveness of urbanisation as well as to reduce the negative externalities which ensue when urbanisation is rapid. One way to do this is to improve rural-urban linkages through improving infrastructure (health, education, and transport); improving urban public service delivery to rural areas; improving participatory programmes and policies; and improving the participation of rural communities in modern agricultural value chains. The question of what social, political and institutional conditions in rapid urbanisation are conducive to which kinds of rural-urban development approaches have yet to be thoroughly explored in the literature, although some insights have begun to emerge. From the review, it seems that in the phase of rapid urbanisation, institutional (including land tenure and access to resources) and political reforms (such as decentralisation) are more important for improving the welfare of rural households than technical solutions alone. Most importantly, since African countries will continue to urbanise, the path that urbanisation will take and how the development of cities will affect the overall wellbeing of rural communities which currently constitute more than 70 per cent of the population remains to be seen. Therefore, it is vital to note that any strategy aimed at reducing urban poverty or stimulating growth needs to acknowledge the importance of such policy in generally helping to reduce rural poverty, and vice-versa.

Despite growing amounts of literature on the impact of urbanisation on rural development, there are still gaps that require further research. Specifically, empirical evidence of the impacts of rapid urbanisation on rural welfare outcomes, productivity, and the wider multiplier effect of urbanisation – such as social cohesion and spillovers – are still scarce or inconclusive. Highlighted below are some of the gaps we identified in the literature which have development relevance in SSA. The relevance and degree of importance of these gaps may vary from country to country depending on the degree of urbanisation and on the socio-political context.

- **Lack of appropriate theoretical research and measurement issues:** There is ambiguity in the literature in conceptualising SSA's rapid urbanisation. For instance, demographic and economic criteria on which conceptualisations and definitions of urban and rural areas are based vary greatly in the literature and are at times fuzzy which makes generalisations difficult. The other problem related to urbanisation is the conceptualisation of urban boundaries. Due to the rapid growth of peri-urban areas, urban agriculture, and the spatial integration of agricultural and non-agricultural activities, making the distinction between rural and urban areas is problematic. The lack of appropriate data further limits the application of existing theoretical models. Since the character and nature of urbanisation and urban processes is different in SSA, existing theories and models developed in the literature (based mainly on developed countries) cannot be directly applied to SSA. For instance, a study by the World Bank finds that "African cities are closed to the world. Compared with other developing cities, cities in Africa produce few goods and services for trade on regional and international markets" (Lall et al., 2017, p. 12). Furthermore, related to the above concept, due to increasing sectoral interactions

and the increasing diversification of rural livelihoods, sectoral approaches often used to distinguish between rural and urban areas – that is, agriculture based in rural areas, and industry and services in urban centres – do not capture the real impact of urbanisation on rural development. These suggest that there is a need to revise and reformulate better theories of African urbanisation, based on the socioeconomic conditions and characteristics of African cities. There is also a need for debate and a policy shift on how they should be defined and studied.

- **Social cohesion:** Rapid urbanisation which many developing countries have undergone and will continue to face in the coming decades has changed and will continue to change social relations and interactions among communities across space and time either positively or negatively. Often, urban sprawl the (most common feature of SSA cities) brings with it the risk of social instability (for example, due to conversion of farmland), increased competition over limited public services, and increased social tensions. All these may induce new social relations and/or order. In addition, urban bias may widen regional inequalities that may increase social tension. On the contrary, though, urbanisation likewise brings important benefits for economic, cultural and social developments, new identities and new ways of cooperation for the greater good. The economic interdependence due to rural-urban linkages is, thus, expected to lead to improved social interactions and/or relations with consequences for economic outcomes. Having said that, there is no adequate empirical evidence that substantiates these claims. In this regard, analysing the effects of rapid urbanisation on social cohesion and identifying key mechanisms through which urban-rural linkages would foster social cohesion for sustainable development would be valuable. Some further gaps are: Do rural-urban linkages foster social cohesion such as cooperation for the common good and does this differ in accordance with the level of urbanisation? What are the implications of these changes on sustainable rural development? To what extent is urbanisation a critical driver of social insecurity or fragility in SSA?

- **Balancing urban development with farmland protection:** Urban growth puts more pressure on land and water resources (as a result of loss of arable land to urban expansion), which are the key to agricultural production, while the absence of governance capacities to address these issues intensifies competition over resources that may lead to conflict and social disintegration. How to mitigate the negative impact of urban growth on farmland loss in planning and decision-making process as countries undergo rapid urbanisation is, thus, a clear gap in the literature. In line with this, the role of institutions and policies (including local governance) in shaping urban-rural agricultural linkages remains an important area of research.

- **Gender roles:** Less attention has been paid to the potential differential effects of urbanisation on women who play a significant role in rural development in developing countries. The economic effects of urbanisation are not gender neutral in their impacts. In other words, urbanisation can have very different impacts on rural women and men. In this regard, exploring the gender impacts of urbanisation would be very relevant for both development practitioners and academics.

- **Urban sprawl:** There is scant empirical literature on the effects of rising urban sprawl on rural economic development. As many African countries continue to experience rapid urbanisation (mostly sprawl), one issue that need critical research is whether the growing

and changing demands for agricultural products from rapid urbanisation can be met, while underpinning agricultural productivity and rural transformation.

- **Externalities:** Despite an increasing volume of research that tries to identify and examine rural-urban linkages, literature on the significance of urban externalities (both positive and negative) and their impact on the key outcomes indicated is remarkably thin. This is more so in the SSA context. In view of this, comprehensive research on urban externalities and/or spillovers along with the implications for rural development is important. For example, to what extent can pollution/waste from urban areas disrupt productivity (labour and agriculture) and food supply, and hence, sustainable development? In addition, it would be important to differentiate the spillovers from adverse effects of urbanisation. For instance, growth of cities can enhance agricultural productivity through spillover effects in agricultural technology and marketing benefiting producers. Future studies need to explore and fill these gaps.

References

Agergaard, J., Tacoli, C., Steel, G., & Ørtenblad, S. B. (2019). Revisiting rural–urban transformations and small town development in Sub-Saharan Africa. *The European Journal of Development Research*, *31*(1), 2-11. https://doi.org/10.1057/s41287-018-0182-z.

AGRA (Alliance for a Green Revolution in Africa). (2019). *Africa agriculture status report: The hidden middle: A quiet revolution in the private sector driving agricultural transformation* (Issue 7). Nairobi, Kenya: Author.

Anant, G. R. (2011). Trends in and perceptions on urbanisation. *Quaestiones Geographicae*, *30*(4), 21-31. https://doi.org/10.2478/v10117-011-0034-9.

Anikwe, M. (2000). Amelioration of a heavy clay loam soil with rice husk dust and its effect on soil physical properties and maize yield. *Bioresource Technology*, *74*(2), 169-173. https://doi.org/10.1016/S0960-8524(00)00007-9.

Anikwe, M. (2002). Long term effect of municipal waste disposal on soil properties and productivity of sites used for urban agriculture in Abakaliki, Nigeria. *Bioresource Technology*, *83*(3), 241-250. https://doi.org/10.1016/S0960-8524(01)00154-7.

Anyanwu, J. C., & Augustine, D. (2013). Gender equality in employment in Africa: Empirical analysis and policy implications. *African Development Review*, *25*(4), 400-420. https://doi.org/10.1111/1467-8268.12038.

Ashley, C., & Maxwell, S. (2001). Rethinking rural development. *Development Policy Review*, *19*(4), 395-425. https://doi.org/10.1111/1467-7679.00141.

Azam, J.-P., & Gubert, F. (2006). Migrants' remittances and the household in Africa: A review of evidence. *Journal of African Economies*, *15*(Supplement 2), 426-462. https://doi.org/10.1093/jae/ejl030.

Baker, J. (2019). State, governance and the creation of small towns in Ethiopia. *The European Journal of Development Research*, *31*(1), 34-52. https://doi.org/10.1057/s41287-018-0180-1.

Bau, N. (2021). Can policy change culture? Government pension plans and traditional kinship practices. *American Economic Review*, *111*(6), 1880-1917. https://doi.org/10.1257/aer.20190098.

Beguy, D., Ezeh, A. C., Mberu, B. U., & Emina, J. B. O. (2017). Changes in use of family planning among the urban poor: Evidence from Nairobi slums. *Population and Development Review*, *43*(S1), 216-234. https://doi.org/10.1111/padr.12038.

Bennett, K. J., Borders, T. F., Holmes, G. M., Kozhimannil, K. B., & Ziller, E. (2019). What is rural? Challenges and implications of definitions that inadequately encompass rural people and places. *Health Affairs*, *38*(12), 1985-1992. https://doi.org/10.1377/hlthaff.2019.00910.

Bertinelli, L., & Black, D. (2004). Urbanization and growth. *Journal of Urban Economics*, *56*(1), 80-96. https://doi.org/10.1016/j.jue.2004.03.003.

Bertoli, S., Ozden, C., & Packard, M. (2021). Segregation and internal mobility of Syrian refugees in Turkey: Evidence from mobile phone data. *Journal of Development Economics*, *152*, 102704.

Bloom, D. E., Canning, D., & Fink, G. (2008). Urbanization and the wealth of nations. *Science*, *319*(5864), 772-775. https://doi.org/10.1126/science.1153057.

Brueckner, J. K., & Helsley, R. W. (2011). Sprawl and blight. *Journal of Urban Economics*, *69*(2), 205-213. https://doi.org/10.1016/j.jue.2010.09.003.

Brueckner, J. K., & Largey, A. G. (2008). Social interaction and urban sprawl. *Journal of Urban Economics*, *64*(1), 18-34. https://doi.org/10.1016/j.jue.2007.08.002.

Büscher, K., & Mathys, G. (2019). War, displacement and rural–urban transformation: Kivu's boomtowns, Eastern D.R. Congo. *The European Journal of Development Research*, *31*(1), 53-71. https://doi.org/10.1057/s41287-018-0181-0.

Cai, J., Yin, H., & Varis, O. (2018). Impacts of urbanization on water use and energy-related CO2 emissions of residential consumption in China: A spatio-temporal analysis during 2003–2012. *Journal of Cleaner Production*, *194*, 23-33. Scopus. https://doi.org/10.1016/j.jclepro.2018.05.117.

Cali, M., & Menon, C. (2013). Does urbanization affect rural poverty? Evidence from Indian districts. *The World Bank Economic Review*, *27*(2), 171-201. https://doi.org/10.1093/wber/lhs019.

Chen, J. (2007). Rapid urbanization in China: A real challenge to soil protection and food security. *CATENA*, *69*(1), 1-15. https://doi.org/10.1016/j.catena.2006.04.019.

Chen, M., Zhou, Y., Hu, M., & Zhou, Y. (2020). Influence of urban scale and urban expansion on the urban heat island effect in metropolitan areas: Case study of Beijing–Tianjin–Hebei urban agglomeration. *Remote Sensing*, *12*(21), 1-19. Scopus. https://doi.org/10.3390/rs12213491.

Christiaensen, L., De Weerdt, J., & Todo, Y. (2013). Urbanization and poverty reduction: The role of rural diversification and secondary towns. *Agricultural Economics*, *44*(4-5), 435-447. https://doi.org/10.1111/agec.12028.

Christiaensen, L., & Todo, Y. (2013). *Poverty reduction during the rural-urban transformation: The role of the missing middle* (World Bank Group Policy Research Working Papers, 27 June). https://doi.org/10.1596/1813-9450-6445.

Cobbinah, P. B., & Aboagye, H. N. (2017). A Ghanaian twist to urban sprawl. *Land Use Policy*, *61*, 231-241. https://doi.org/10.1016/j.landusepol.2016.10.047.

Cobbinah, P. B., Erdiaw-Kwasie, M. O., & Amoateng, P. (2015). Africa's urbanisation: Implications for sustainable development. *Cities*, *47*, 62-72. https://doi.org/10.1016/j.cities.2015.03.013.

Conventz, S. (2014). *Hub cities in the knowledge economy: Seaports, airports, brainports*. Farnham, United Kingdom: Ashgate Publishing.

Dadi, D., Azadi, H., Senbeta, F., Abebe, K., Taheri, F., & Stellmacher, T. (2016). Urban sprawl and its impacts on land use change in Central Ethiopia. *Urban Forestry & Urban Greening*, *16*, 132-141. https://doi.org/10.1016/j.ufug.2016.02.005.

Davis, M. (2013). Planet of slums. *New Perspectives Quarterly*, *30*(4), 11-12. https://doi.org/10.1111/npqu.11395.

de Janvry, A., & Sadoulet, E. (2010). Agricultural growth and poverty reduction: Additional evidence. *The World Bank Research Observer*, *25*(1), 1-20. https://doi.org/10.1093/wbro/lkp015.

de Noronha, T., & Vaz, E. (2020). Theoretical foundations in support of small and medium towns. *Sustainability*, *12*(13), 5312. https://doi.org/10.3390/su12135312.

Dedewanou, F. A., & Kpekou Tossou, R. C. B. (2021). Remittances and agricultural productivity in Burkina Faso. *Applied Economic Perspectives and Policy* (Applied Economic Perspectives and Policy 13188). https://doi.org/10.1002/aepp.13188.

Dessie, G. (2013). *Favouring a demonised plant: Khat and Ethiopian smallholder-enterprises*. Uppsala, Sweden: Nordiska Afrikainstitutet.

Di Clemente, R., Strano, E., & Batty, M. (2021). Urbanization and economic complexity. *Scientific Reports*, *11*(1), 3952. https://doi.org/10.1038/s41598-021-83238-5.

Dorosh, P., & Thurlow, J. (2012). Agglomeration, growth and regional equity: An analysis of agriculture-versus urban-led development in Uganda. *Journal of African Economies*, *21*(1), 94-123. Scopus. . https://doi.org/10.1093/jae/ejr033.

Dupas, P., & Robinson, J. (2013). Savings constraints and microenterprise development: Evidence from a field experiment in Kenya. *American Economic Journal: Applied Economics*, *5*(1), 163-192. https://doi.org/10.1257/app.5.1.163.

Duranton, G. (2015). Growing through cities in developing countries. *The World Bank Research Observer*, *30*(1), 39-73. https://doi.org/10.1093/wbro/lku006.

Epstein, A. L., Bruner, E. M., Horowitz, M. M., Little, K. L., McCall, D. F., Mayer, …Schack, W. A. (1967). Urbanization and social change in Africa [and comments and reply]. *Current Anthropology*, *8*(4), 275-295. https://doi.org/10.1086/200808.

Fahmi, F. Z., Hudalah, D., Rahayu, P., & Woltjer, J. (2014). Extended urbanization in small and medium-sized cities: The case of Cirebon, Indonesia. *Habitat International*, *42*, 1-10. https://doi.org/10.1016/j.habitatint.2013.10.003.

Farrell, K. (2017). The rapid urban growth triad: A new conceptual framework for examining the urban transition in developing countries. *Sustainability*, *9*(8), 1407. https://doi.org/10.3390/su9081407.

Foley, J. A. (2005). Global consequences of land use. *Science*, *309*(5734), 570-574. https://doi.org/10.1126/science.1111772.

Foltz, J., Guo, Y., & Yao, Y. (2020). Lineage networks, urban migration and income inequality: Evidence from rural China. *Journal of Comparative Economics*, *48*(2), 465-482. https://doi.org/10.1016/j.jce.2020.03.003.

Fox, S., & Bell, A. (2016). Urban geography and protest mobilization in Africa. *Political Geography*, *53*, 54-64. https://doi.org/10.1016/j.polgeo.2016.02.004.

Gelb, S., Kalantaryan, S., McMahon, S., & Perez-Fernandez, M. (2021). *Diaspora finance for development: From remittances to investment*. Luxembourg: Publications Office of the European Union. doi:10.2760/034446.

Ghosh, R. N., & Roy, K. C. (1997). The changing status of women in India: Impact of urbanization and development. *International Journal of Social Economics*, *24*(7-9), 902-917. Scopus. https://doi.org/10.1108/03068299710178937.

Glaeser, E. L. (2014). A world of cities: The causes and consequences of urbanization in poorer countries. *Journal of the European Economic Association*, *12*(5), 1154-1199. https://doi.org/10.1111/jeea.12100.

Gollin, D., Jedwab, R., & Vollrath, D. (2016). Urbanization with and without industrialization. *Journal of Economic Growth*, *21*(1), 35-70. https://doi.org/10.1007/s10887-015-9121-4.

Gong, P., Liang, S., Carlton, E. J., Jiang, Q., Wu, J., Wang, L., & Remais, J. V. (2012). Urbanisation and health in China. *The Lancet*, *379*(9818), 843-852. https://doi.org/10.1016/S0140-6736(11)61878-3.

Gross, J., & Ouyang, Y. (2021). Types of urbanization and economic growth. *International Journal of Urban Sciences*, *25*(1), 71-85. https://doi.org/10.1080/12265934.2020.1759447.

Henderson, J. V., Storeygard, A., & Deichmann, U. (2017). Has climate change driven urbanization in Africa? *Journal of Development Economics*, *124*, 60-82. https://doi.org/10.1016/j.jdeveco.2016.09.001.

Hoare, E., Jacka, F., & Berk, M. (2019). The impact of urbanization on mood disorders: An update of recent evidence. *Current Opinion in Psychiatry*, *32*(3), 198-203. https://doi.org/10.1097/YCO.0000000000000487.

Holden, S. T., Otsuka, K., & Place, F. (Eds.). (2009). *The emergence of land markets in Africa: Assessing the impacts on poverty, equity, and efficiency*. Resources for the Future. Washington, DC: Routledge

Hoornweg, D., Bhada-Tata, P., & Kennedy, C. (2013). Waste production must peak this century. *Nature*, *502*(7473), 615-617. Scopus. https://doi.org/10.1038/502615a.

Jedwab, R., & Vollrath, D. (2015). Urbanization without growth in historical perspective. *Explorations in Economic History*, *58*, 1-21. https://doi.org/10.1016/j.eeh.2015.09.002.

Jha, R., Murthy, K. V. B., & Sharma, A. (2008). Market integration in wholesale rice markets in India. In R. Jha (Ed.), *The Indian Economy Sixty Years After Independence* (pp. 233-246). London, UK: Palgrave Macmillan. https://doi.org/10.1057/9780230228337_13.

Jokinen, J. C. (2018). Migration-related land use dynamics in increasingly hybrid peri-urban space: Insights from two agricultural communities in Bolivia. *Population and Environment*, *40*(2), 136-157. Scopus. https://doi.org/10.1007/s11111-018-0305-7.

Kalnay, E., & Cai, M. (2003). Impact of urbanization and land-use change on climate. *Nature*, *423*(6939), 528-531. https://doi.org/10.1038/nature01675.

Kankwamba, H., & Kornher, L. (2019). Performance, behaviour and organization of maize trading in Malawi. *Agricultural and Food Economics*, *7*(1), 14. https://doi.org/10.1186/s40100-019-0136-6.

Kapri, K., & Ghimire, S. (2020). Migration, remittance, and agricultural productivity: Evidence from the Nepal Living Standard Survey. *World Development Perspectives*, *19*, 100198. https://doi.org/10.1016/j.wdp.2020.100198.

Karg, H., Hologa, R., Schlesinger, J., Drescher, A., Kranjac-Berisavljevic, G., & Glaser, R. (2019). Classifying and mapping periurban areas of rapidly growing medium-sized Sub-Saharan African cities: A multi-method approach applied to Tamale, Ghana. *Land*, *8*(3), 40. https://doi.org/10.3390/land8030040.

Kessides, C. (2007). The urban transition in Sub-Saharan Africa: Challenges and opportunities. *Environment and Planning C: Government and Policy*, *25*(4), 466-485. https://doi.org/10.1068/c3p.

Lall, S. V., Henderson, J. V., & Venables, A. J. (2017). *Africa's cities: Opening doors to the world*. Washington, DC: World Bank. https://doi.org/10.1596/978-1-4648-1044-2.

Lambin, E. F., Geist, H. J., & Lepers, E. (2003). Dynamics of land-use and land-cover change in tropical regions. *Annual Review of Environment and Resources*, *28*(1), 205-241. https://doi.org/10.1146/annurev.energy.28.050302.105459.

Levac, D., Colquhoun, H., & O'Brien, K. K. (2010). Scoping studies: Advancing the methodology. *Implementation Science*, *5*(1), 69. https://doi.org/10.1186/1748-5908-5-69.

Li, X., & Gong, P. (2016). Urban growth models: Progress and perspective. *Science Bulletin*, *61*(21), 1637-1650. https://doi.org/10.1007/s11434-016-1111-1.

Melesse, M. B. (2021). The effect of women's nutrition knowledge and empowerment on child nutrition outcomes in rural Ethiopia. *Agricultural Economics*, *52*(6), 883-899. https://doi.org/10.1111/agec.12668.

Michaels, G., Rauch, F., & Redding, S. J. (2012). Urbanization and structural transformation. *The Quarterly Journal of Economics*, *127*(2), 535-586. https://doi.org/10.1093/qje/qjs003.

Mkandawire, T., & Soludo, C. C. (1999). *Our continent, our future: African perspectives on structural adjustment*. Trenton, NJ: Africa World.

Moser, C. O. N. (2016). *Gender, asset accumulation and just cities: Pathways to transformation*. London, UK: Routledge.

Munshi, K. (2020). Social networks and migration. *Annual Review of Economics*, *12*, 503-524. https://doi.org/10.1146/annurev-economics-082019-031419.

Njoh, A. J. (2003). Urbanization and development in sub-Saharan Africa. *Cities*, *20*(3), 167-174. https://doi.org/10.1016/S0264-2751(03)00010-6.

OECD (Organisation for Economic Co-operation and Development) & European Commission. (2020). *Cities in the world: A new perspective on urbanisation*. Paris, France: OECD. https://doi.org/10.1787/d0efcbda-en.

Ørtenblad, S. B., Birch-Thomsen, T., & Msese, L. R. (2019). Rural transformation and changing rural–urban connections in a dynamic region in Tanzania: Perspectives on processes of inclusive development. *The European Journal of Development Research*, *31*(1), 118-138. https://doi.org/10.1057/s41287-018-0177-9.

Oyvat, C. (2016). Agrarian structures, urbanization, and inequality. *World Development*, *83*, 207-230. Scopus. https://doi.org/10.1016/j.worlddev.2016.01.019.

Parnell, S., & Walawege, R. (2011). Sub-Saharan African urbanisation and global environmental change. *Global Environmental Change*, *21*, 12-20. https://doi.org/10.1016/j.gloenvcha.2011.09.014.

Peters, M. D. J., Godfrey, C. M., Khalil, H., McInerney, P., Parker, D., & Soares, C. B. (2015). Guidance for conducting systematic scoping reviews. *International Journal of Evidence-Based Healthcare*, *13*(3), 141-146. https://doi.org/10.1097/XEB.0000000000000050.

Potts, D. (2017). Conflict and collisions in Sub-Saharan African urban definitions: Interpreting recent urbanization data from Kenya. *World Development*, *97*, 67-78. https://doi.org/10.1016/j.worlddev.2017.03.036.

Potts, D. (2018). Urban data and definitions in sub-Saharan Africa: Mismatches between the pace of urbanisation and employment and livelihood change. *Urban Studies*, *55*(5), 965-986. Scopus. https://doi.org/10.1177/0042098017712689.

Reardon, T., Timmer, C. P., Barrett, C. B., & Berdegué, J. (2003). The rise of supermarkets in Africa, Asia, and Latin America. *American Journal of Agricultural Economics*, *85*(5), 1140-1146. https://doi.org/10.1111/j.0092-5853.2003.00520.x.

Rempel, H., & Lobdell, R. A. (2007). The role of urban-to-rural remittances in rural development. *The Journal of Development Studies*, *14*(3), 324-341. https://doi.org/10.1080/00220387808421678.

Ren, C., Liu, S., van Grinsven, H., Reis, S., Jin, S., Liu, H., & Gu, B. (2019). The impact of farm size on agricultural sustainability. *Journal of Cleaner Production*, *220*, 357-367. https://doi.org/10.1016/j.jclepro.2019.02.151.

Rondhi, M., Pratiwi, P., Handini, V., Sunartomo, A., & Budiman, S. (2018). Agricultural land conversion, land economic value, and sustainable agriculture: A case study in East Java, Indonesia. *Land*, *7*(4), 148. https://doi.org/10.3390/land7040148.

Rosenthal, S. S., & Strange, W. C. (2004). Evidence on the nature and sources of agglomeration economies. In J. V. Henderson & J.-F. Thisse, *Handbook of regional and urban economics* (Vol. 4, pp. 2119-2171). https://doi.org/10.1016/S1574-0080(04)80006-3.

Satterthwaite, D., McGranahan, G., & Tacoli, C. (2010). Urbanization and its implications for food and farming. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *365*(1554), 2809-2820. Scopus. https://doi.org/10.1098/rstb.2010.0136.

Satterthwaite, D., & Tacoli, C. (2003). *The urban part of rural development: The role of small and intermediate urban centres in rural and regional development and poverty* reduction (IIED Working Paper 9). London, UK: International Institute for Environment and Development (IIED).

Schläpfer, M., Bettencourt, L. M. A., Grauwin, S., Raschke, M., Claxton, R., Smoreda, Z. …Ratti, C. (2014). The scaling of human interactions with city size. *Journal of The Royal Society Interface*, *11*(98), 20130789. https://doi.org/10.1098/rsif.2013.0789.

Song, J., Ye, J., Zhu, E., Deng, J., & Wang, K. (2016). Analyzing the impact of highways associated with farmland loss under rapid urbanization. *ISPRS International Journal of Geo-Information*, *5*(6). Scopus. https://doi.org/10.3390/ijgi5060094.

Start, D. (2001). The rise and fall of the rural non-farm economy: Poverty impacts and policy options. *Development Policy Review*, *19*(4), 491-505. https://doi.org/10.1111/1467-7679.00147.

Steel, G., Birch-Thomsen, T., Cottyn, I., Lazaro, E. A., Mainet, H., Mishili, F. J., & van Lindert, P. (2019). Multi-activity, multi-locality and small-town development in Cameroon, Ghana, Rwanda and Tanzania. *The European Journal of Development Research*, *31*(1), 12-33. https://doi.org/10.1057/s41287-018-0183-y.

Swain, B. B., & Teufel, N. (2017). The impact of urbanisation on crop–livestock farming system: A comparative case study of India and Bangladesh. *Journal of Social and Economic Development*, *19*(1), 161-180. https://doi.org/10.1007/s40847-017-0038-y.

Tacoli, C. (1998). Rural-urban interactions: A guide to the literature. *Environment and Urbanization*, *10*(1), 147-166. https://doi.org/10.1177/095624789801000105.

Tacoli, C. (2011). *Not only climate change: Mobility, vulnerability and socio-economic transformations in environmentally fragile areas in Bolivia, Senegal and Tanzania* (Human Settlements Working Paper Series, Rural-Urban Interactions and Livelihood Strategies 28). London, UK: International Institute for Environment and Development (IIED). Retrieved from http://pubs.iied.org/10590IIED.html

Tacoli, C. (2013). *Urban poverty, food security and climate change* (IIED Working Paper 37). London, UK: International Institute for Environment and Development (IIED).

Tadesse, G. & Sakketa, T. G. (2021). Inclusive markets and value chains. In von Braun et al. (Eds.), *From potentials to reality: Transforming Africa's food production* (pp. 94-102). Oxford, UK: Peterlang. https://doi.org/10.48565/bonndoc-4.

Tadesse, S. T., Oenema, O., van Beek, C., & Ocho, F. L. (2018). Diversity and nutrient balances of urban and peri-urban farms in Ethiopia. *Nutrient cycling in agroecosystems*, *111*(1), 1-18. https://doi.org/10.1007/s10705-018-9911-0

Taylor, J. E., Rozelle, S., & de Brauw, A. (2003). Migration and incomes in source communities: A new economics of migration perspective from China. *Economic Development and Cultural Change*, *52*(1), 75-101. https://doi.org/10.1086/380135.

Theodorou, P., Radzevičiūtė, R., Lentendu, G., Kahnt, B., Husemann, M., Bleidorn, C., …Paxton, R. J. (2020). Urban areas as hotspots for bees and pollination but not a panacea for all insects. *Nature Communications*, *11*(1), 576. https://doi.org/10.1038/s41467-020-14496-6.

Thyberg, K. L., & Tonjes, D. J. (2016). Drivers of food waste and their implications for sustainable policy development. *Resources, Conservation and Recycling*, *106*, 110-123. https://doi.org/10.1016/j.resconrec.2015.11.016.

Tricco, A. C., Lillie, E., Zarin, W., O'Brien, K. K., Colquhoun, H., Levac, D., …Straus, S. E. (2018). PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and explanation. *Annals of Internal Medicine*, *169*(7), 467-473. https://doi.org/10.7326/M18-0850.

Turok, I., & McGranahan, G. (2013). Urbanization and economic growth: The arguments and evidence for Africa and Asia. *Environment and Urbanization*, *25*(2), 465-482. https://doi.org/10.1177/0956247813490908.

United Nations Development Programme (UNDP). (2012). *World urbanization prospects: the 2011 revision.* (Publication ST/ESA/SER.A/322). New York: United Nations, Department of Economic and Social Affairs (DESA), Population Division, Population Estimates and Projections Section.

Vandercasteelen, J., Minten, B., & Tamru, S. (2021). Urban proximity, access to value chains, and dairy productivity in Ethiopia. *Agricultural Economics*, *52*(4), 665-678. https://doi.org/10.1111/agec.12641.

von Thunen, J. H. (1966). *The isolated state.* Oxford, UK: Pergamon Press.

Wang, S., Bai, X., Zhang, X., Reis, S., Chen, D., Xu, J., & Gu, B. (2021). Urbanization can benefit agricultural production with large-scale farming in China. *Nature Food*, *2*(3), 183-191. https://doi.org/10.1038/s43016-021-00228-6.

Wilson, C. J., & Jamieson, M. A. (2019). The effects of urbanization on bee communities depends on floral resource availability and bee functional traits. *PLoS ONE*, *14*(12). Scopus. https://doi.org/10.1371/journal.pone.0225852.

Worku, I. H., Dereje, M., Minten, B., & Hirvonen, K. (2017). Diet transformation in Africa: The case of Ethiopia. *Agricultural Economics*, *48*(S1), 73-86. https://doi.org/10.1111/agec.12387.

World Bank. (2013). *Building sustainability in an urbanizing world: A partnership report* (Urban Development Series Knowledge Papers 17). Washington, DC: Author.

World Bank. (2014). *Youth employment in Sub-Saharan Africa.* Washington, DC: Author. http://elibrary.worldbank.org/doi/book/10.1596/978-1-4648-0107-5.

World Bank. (2017). *Africa's cities: Opening doors to the world.* Washington, DC: Author.

World Bank. (2018). *Democratic Republic of Congo urbanization review: Productive and inclusive cities for an emerging Congo* (Directions in development: Environment and sustainable development). Washington, DC: Author.

World Bank. (2020). *New World Bank country classifications by income level: 2020-2021*. Washington, DC: Author.

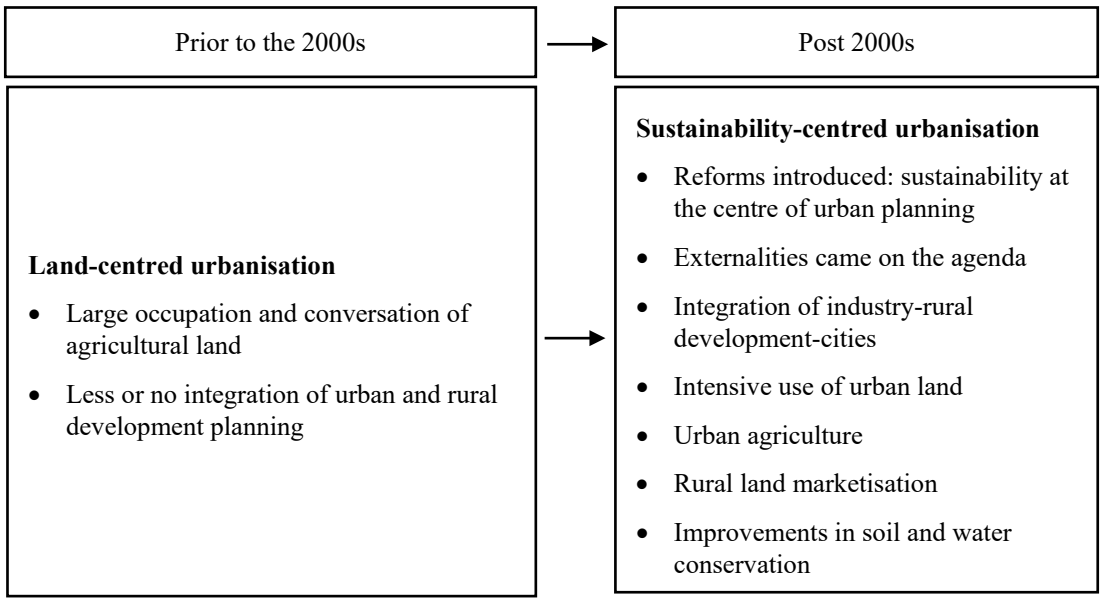
Wouterse, F. (2010). Migration and technical efficiency in cereal production: Evidence from Burkina Faso. *Agricultural Economics*, *41*(5), 385-395. https://doi.org/10.1111/j.1574-0862.2010.00452.x.

Zhou, Y., Li, X., Asrar, G. R., Smith, S. J., & Imhoff, M. (2018). A global record of annual urban dynamics (1992-2013) from nighttime lights. *Remote Sensing of Environment*, *219*, 206-220. https://doi.org/10.1016/j.rse.2018.10.015.

Appendices

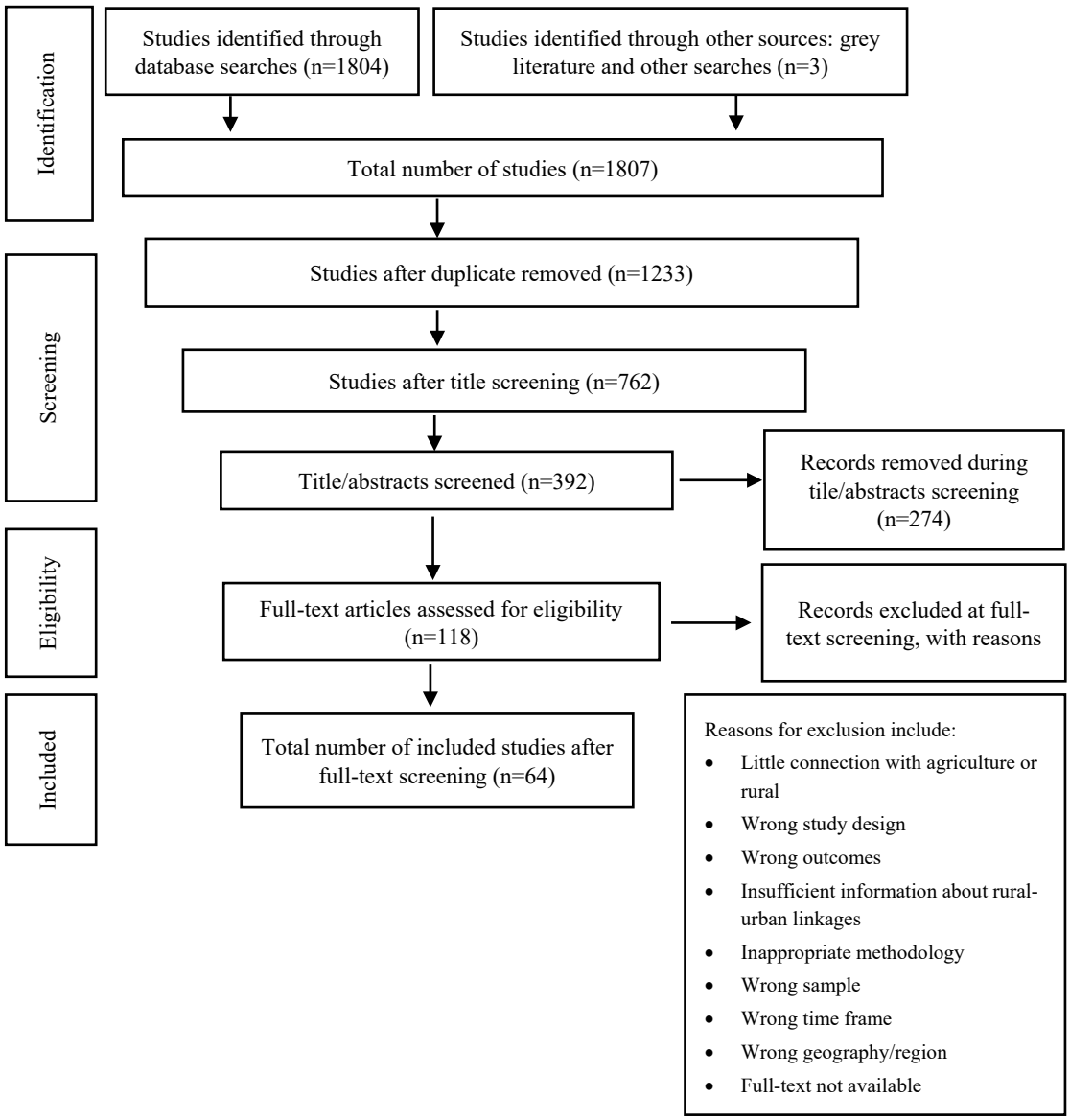
Appendix A

Figure A1: Urbanisation policies over time



Source: Author (based on relevant literature)

Figure A2: PRISMA flowchart of screening: the summary of studies included and excluded at each step of the screening process



Note: Database search included Google searches through Web of science core collection (Clarivate analytics), Scopus (Elsevier), EconLit (Ebsco), among others

Source: Author

Appendix B: Study protocol

The study developed a study protocol in consultation with experts before literature collection was carried out based on the guideline developed to carry out systematic reviews. This rapid review explores research evidence on rural-urban agricultural linkages, focusing on the impact of urbanisation on rural development, mainly the welfare of agricultural producers (income, poverty, food security) as well as meso- and national-level outcomes such as social cohesion or economic growth.

Setting: Least developed and developing countries in Africa, Asia and Latin America

Population: Rural residents or small-scale producers

Intervention: This review focuses on the effect of **urbanisation** defined along various indictors: population size (share of a nation's population living in urban areas); level of urbanisation; and physical expansion of urban areas in the sense of expansion of urban land uses. Thus, the treatment is any role urbanisation (rural-urban linkages) plays in or contributes to improving rural livelihoods in general and agricultural-related outcomes in particular.

Outcome of interest:

1) **Primary**: Welfare indictors such as income, poverty, food security.
2) **Secondary**: Behavioural changes such as technology adoption, practices to improve quality of agricultural productivity, agricultural commercialisation, information, extension services, etc.
3) **Intermediate**: Behavioural change that should subsequently affect primary outcomes including yields, improved quality of output, price variability, land conversation, environmental impacts such as waste, soil and water conservation, water quality.
4) **Meso- or national-level**: Social cohesion, economic growth or development.

Publication type: Observational studies such as quasi-experimental studies, case studies, non-quasi experimental survey-based studies, participation studies, modelling studies. These studies come from peer reviewed articles, review articles, grey literature such as reports and conference papers, discussion papers, thesis, etc.

Definitions

Urbanisation: This refers to the process of the "population shifting from rural to urban areas within countries".

Rural/urban areas: The study adopts various definitions as per the identified literature: administrative definition, population density, impervious surface, night light intensity, africapolis, and local non-farm economy, among others.

Rural residents: Individuals who or communities which live in rural areas.

Urban residents: Individuals who or communities which live in urban areas

Eligibility criteria:

For the article to be included in the study, it must meet the following inclusion criteria:

- Explicit reference to rural residents or agricultural producers as indicated above. If not clear during abstract and title screening, the studies are kept in and criteria is applied during full-text screening

- Study was published in 2000 or later, given that the study focuses on the impact of urbanisation on rural economic outcomes. The study period should also be 2000 or later due to the focus of this review on recent and rapid urbanisation in Africa. For conceptual discussions, articles prior to 2000 were used.

- Study type: Modelling exercises or econometrics and experimental as well as observational studies from peer reviewed articles, review articles and grey literature. Also papers with clear and accepted methodology from experts are also included.

- Study areas will be low- and middle-income countries in Africa, Asia and Latin America as per the World Bank's classification of low- and middle-income countries

- The paper makes clear reference to the impact of urbanisation and link/interaction between rural and urban areas. The paper should also focus explicitly on the impact of urbanisation on agricultural sector. By agricultural linkages, we refer to any impact urbanisation has on agricultural production, productivity, as well as different levels of agricultural products processing and exchange of agricultural inputs and services urbanisation provides to improve agricultural productivity and growth. We exclude the impact of urbanisation on suburban as well as on industry and service sectors that have no or little connection with agriculture.

- The paper must focus on, and explicitly mention or evaluate or model, one of the outcome variables of interest, either primary, secondary or intermediate.

- All studies that do not meet the above criteria are excluded from this scoping review. For instance, we exclude studies on the impact of urbanisation that have little connection to agriculture: CO_2 emissions, rural drinking water quality, rural education (except if extension services are included) family ties, etc.

Search strategy: search of bibliographic databases

- CAB abstracts (Clarivate analytics)

- Web of science core collection (Clarivate analytics)

- Scopus (Elsevier)

- EconLit(Ebsco)

- Proquest Dissertations & Theses Global

- Africa Theses and Dissertations (http://datad.aau.org/discover)

- AgEcon Search (https://ageconsearch.umn.edu/collections/)
- World Bank (https://openknowledge.worldbank.org)
- Emerald insight(https://www.emerald.com/insight/)
- OECD iLibrary (https://www-oecd--ilibrary-org.eu1.proxy.openathens.net/)
- Springer Journals
- Wiley Online Library

Search Query (a few for the sake of brevity)

Search terms include variations of the key concepts in the research question-rural-urban linkages, low- and middle-income countries, urbanisation and rural development, as well as terms related to the agricultural development, information flows, agricultural marketing channels, etc rural-urban linkages. As a demonstration, the following search query were used:

1. (((ALL=(africa)) AND ALL=(urbanisation)) AND ALL=(rural)) AND ALL=(agriculture)
2. (((((ALL=(africa)) AND ALL=(urbanisation)) AND ALL=(rural)) AND ALL=(agriculture)) AND ALL=(Impact of urbanisation on rural development)) AND ALL=(rural-urban agricultural linkages in africa)
3. ((((ALL=(africa)) AND ALL=(urbanisation)) AND ALL=(rural)) AND ALL=(agriculture)) AND ALL=(Impact of urbanisation on rural development)
4. (((ALL=(africa)) AND ALL=(urbanisation)) AND ALL=(rural)) AND ALL=(agriculture) and Environmental Sciences (Web of Science Categories)
5. (((ALL=(africa)) AND ALL=(urbanisation)) AND ALL=(rural)) AND ALL=(agriculture)

Study records: data management, selection process, data collection process as stipulated by the guideline developed for scoping reviews:

- After performing search was across all sources listed above (search strategy), redundant papers were removed.
- Selection process: “Systematic review software, Covidence” was used for title and abstract and full-text screening decision-making with the help of research assistances and experts. Screening involves various phases-prescreening followed by title and abstract screening of all de-duplicated citations against inclusion and exclusion criteria developed. Finally, full-text screening of all articles deemed relevant were carried out. Reasons for exclusion will be documented in Covidence.

Critical appraisal of source of individual evidence

- I use a methodological guidelines developed for scoping reviews (Levac et al., 2010; Peters et al., 2015).

Data synthesis/charting

Following the full-text screening, the findings are tagged and then mapped according to a number of criteria and features which include: scoping (such as the setting or continent of study location and which type of agriculture production-crops, animals, natural resources, etc); orientation (whether the paper focused on the direct effect of urbanisation on primary, secondary and intermediate outcomes; methodology (based on their methodological approach, quantitative versus qualitative, econometric versus modelling, and urbanisation classification-big cities, towns etc); data (categorising studies based on primary or survey data and other classifications such as remotely sense data-satellite, etc).

Finally, the results from the synthesis were grouped on the basis of the main themes or classifications suggested under the conceptual framework as well as on the basis of the themes which emerged from the synthesis against the research question. The summary also included the policy implications and research gaps. All the relevant sources of literature included in this study are available upon request.