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Peri-urbanisation: a blessing or scourge?

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ABSTRACT

The rate of agricultural land conversion in peri-urban communities due to peri-urbanisation and inefficient use of agricultural lands has raised concerns at both local and global levels. This paper surveys the literature and synthesises the key arguments for and against peri-urbanisation. A review of the literature demonstrates that the focal arguments focus on employment, diversification and intensification of agriculture, cash-income activities, livestock rearing, access to goods and services, unsanitary conditions, social vices, weakening social relations, deforestation, high cost of living, and out-migration. We conclude that peri-urbanisation brings about the betterment of living conditions and at the same time displaces local livelihoods, while breeding poverty for local residents. Hence, we recommend the design and implementation of policies that will secure agriculture lands, while promoting urban activities to enable farmer households to cultivate their land and at the same time engage with the new urban opportunities.

1. Introduction

The rate of agricultural land conversion in peri-urban communities is a source of concern at both local and global levels (Revi, 2016), and Abelairas and Astorkiza (2012) attribute it to uncontrolled peri-urbanization. In support of this argument, the United Nations Human Settlement Programme [UN-Habitat] (2016) notes that the movement of people from the countryside to urban centres increases the population and size of urban centres. In the view of Jurgenson, Sikk, Hass and Maasikamae (2017), urban expansion creates land use conflicts. In a similar vein, Rahayu and Mardiansjah (2018) contend that increased population leads to encroachment on peri-urban agricultural lands. This suggests that the peri-urban area is a volatile space that experiences competition for prime agricultural land for both agriculture and urban activities. In this respect, some researchers (Nigussie, Kuyper, and Neergaard, 2015; Priorr, Ravetz, and Tosics, 2011; Tosics and Nilsson, 2011) have argued that peri-urbanisation presents opportunities for local residents, whereas others (Andrea, 2015; Chirisa, 2010a; Samat, Ghazali, Hasni, and Elhadary, 2014) maintained that it displaces livelihoods and breeds poverty among local residents. In this paper, we argue that peri-urbanisation presents a mixed bag of opportunities and challenges for local residents and as such, only individuals endowed with the appropriate skills, experience and assets will be able to adapt to peri-urbanisation.

Peri-urbanisation is a process by which rural development interacts with urban influences thereby displacing agriculture livelihoods (Biegańska, Środa-Murawska, Kruzmetra, and Swiaczny, 2018). Peri-urban development is driven by individuals and organisations' demand for land. In this regard, Tosics and Nilsson (2011) have noted that good infrastructure, and accessibility to workplaces have contributed to uncontrolled peri-urbanisation. Earlier, Irwin and Geoghegan (2001) and Webster (2002) had opined that the changing economic value of land has motivated local landowners in the peri-urban communities to direct their investment into non-agriculture activities with perceived higher future earnings. Siciliano (2012) expresses the notion that the migration of people from the countryside to the major cities induces peri-urbanisation, with land rent playing a significant role as indicated in the urban land market theory.

The urban land market theory postulates that land use change causes land rents to rise in peri-urban areas. According to Koomen and Buurman (2002), land rent is usually high near the city centre and decreases gradually as one moves towards the edge of the city until the least rent is attained. Hence, people are encouraged to relocate to peri-urban communities to settle. This leads to increases in land value and a decline in agricultural production (Cavailhés, Frankhauser, Peeters and Thomas, 2003; Mazzocchi, Sali and Corsi, 2014) thus displacing the livelihoods of poor local residents. This hints that local households may lose their capacity to produce food

as suggested by the entitlement theory which centres on people's rights to property (Nnaji, and Ifeakor, 2016) such as land. As such, the loss of land could lead to the loss of capacity to produce food and therefore the individual could suffer entitlement failure and deprivation (Devereux, 2001; Osmani, 1993). However, individuals or households endowed with the right knowledge, skills and experiences could adapt to the changes as suggested by the human capital theory. The human capital theory argues that the knowledge, skills, competencies, experience and attributes that individuals have enhance their value in the labour market (Fugar, Ashiboe-Mensah, and Adinyira, 2013) and as such they may be able to take advantage of opportunities that peri-urbanisation presents.

The United Nations [UN] (2011) estimated that the world's population will exceed 9 billion by the year 2050, with the projection that the global urban population is likely to double from 2.6 billion in 2000 to 5 billion in 2030 (UN, 2014). Seto, Güneralp and, Hutryra (2012) speculated that the size of urban areas will triple between 2000 and 2030, and that future urban expansion is expected to occur in Asia and Africa, especially in poverty-stricken areas (d'Amour, Wenz, Kalkuhl, Steckel, and Creutzig, 2016; Puma, Bose, Chon, and Cook, 2015). This suggests that agricultural production in peri-urban areas in Africa and Asia will probably experience declines in the years ahead. In this respect, Naab, Dinye and Kasanga (2013) estimated that about 14 million hectares of agricultural lands in developing countries are expected to be lost to peri-urbanisation between 1990 and 2020. In Nigeria, Adesina (2005) had earlier estimated that 400,000 hectares of vegetative land cover was being lost annually to urban expansion. Dekolo, Nwokoro, and Oduwaye (2013), therefore, report that the built-up area in Ikorodu in Lagos State, Nigeria grew from 2,320.74 hectares in 1990 to 16,749.81 hectares in 2011. Wei and Ye (2014) contribute that in China, the number of people living in cities had increased from 126.57 million to 219.82 million between 1993 and 2009 and the built-up urban area had also increased from 10,549 sq. km to 26,100sq.km. Other scholars portend that urban expansion will compromise peri-urban agriculture and livelihoods of local households (Appiah et al., 2014; Mugish and Nyandwi, 2015).

Prior studies suggest that there are differing perspectives about what peri-urbanisation presents to local residents. Yet, these viewpoints are scattered and as such the issues are usually treated as peripheral. To-date, the empirical knowledge to help us resolve this debate has been limited, scattered and problematic. This paper contributes to knowledge first by developing a conceptual framework of peri-urbanisation in developing countries and secondly, we survey the academic literature, map and synthesise some of the arguments relating to the pros and cons of peri-urbanisation to local residents. We do admit that this paper does not claim to be exhaustive but, we seek to set a tone for further interrogation of the dispute by academics and policymakers alike. We have segmented the paper into six sections. The immediate section discusses the theoretical framework and conceptual issues that underpin the study with the aim to clarify the relevant theories and concepts that appear throughout the paper. This is followed by the

methodology and then the arguments that support the notion that peri-urban development offers novel opportunities for local residents to secure better livelihoods. Thereafter, we focus on arguments that rapid conversion of peri-urban agricultural lands sets the pace for vulnerability and perpetuation of poverty among local residents. In the subsequent section, we synthesize the arguments, and the conclusions and policy implications constitute the last section.

2. Theoretical framework and conceptual discussions

This section of the paper discusses the entitlement and human capital theories which guided the study and the concept of peri-urbanisation as well as the conceptual framework for developing countries. The entitlement theory centres on the core argument that individuals suffer food shortage because their endowment set such as agricultural land does not provide them with adequate capacity to acquire food (Devereux, 2001) and this is explained through pull and response failures. According to Sen (1986) and Devereux (2006), a 'pull' failure occurs when people lose their sources of livelihoods and consequently the loss of means of securing food. On the other hand, a 'response' failure occurs when there is a short supply of the resources such as land (Devereux, 2006; Gasper, 1993), an indication that entitlement failure may be caused by peri-urbanisation. On the other hand, the human capital theory is premised on the assumption that individuals with the requisite knowledge, skills, competencies, and job experience will be able to enter the labour market (Royce, 2009; Soukup and Sredl, 2009) than their counterparts without these attributes. As result, people who have the requisite skills, knowledge and experience have the potential to earn higher incomes whereas those with low-level skills and knowledge will earn less (Becker, 1993; Dess and Picken, 1999). Accordingly, Ployhart, Nyberg, Reilly and Maltarich (2014) and Fitzsimons (2015) underscored that investment in the acquisition of knowledge and skills sets can easily aid a person adapt to changes, including peri-urbanisation.

Peri-urban area has been variously described as a zone that comprises a mixture of rural and urban activities, and as an area just at the edge of the recognised city boundaries (Phillips et al., 1998) where land use changes in these areas have assumed a fluid and dynamic character. Thus peri-urbanisation leads to the conversion of farmlands into residential, commercial, civic, industrial, and cultural uses (Ezeomede and Igbokwe, 2013) and displacing the local population and livelihoods in the peri-urban enclave. Therefore, Rakodi (1998) posits that the peri-urban interface has both spatial and structural dimensions and it is also marked by changes in the economic and social structure. Briquel and Collicard (2005) and Caruso (2001) contribute that the peri-urban area is a mixed zone with urban characteristics in rural areas. Hence, the term is used to describe newly urbanized areas or zones at the fringes of the city (Adell, 1999; McGregor, Simon and Thompson, 2006). Therefore, Ravetz et al. (2013) define peri-urbanization as a process by which a rural area adjacent to an urban centre becomes fully urbanized over time through the integration of the rural areas into the urban system (Bhatta, 2010; Ravetz et

al., 2013). UN-Habitat (2016) adds that peri-urbanization is characterized by the displacement of population, industries and services and is governed by a new set of economic and social dynamics. Taken together, peri-urbanisation is transitional in nature and it is characterised by a mixture of rural and urban activities taking place simultaneously.

Several researchers (Cobbinah and Amoako, 2012; Tacoli, 1998; UN-Habitat, 2016) have attributed certain key characteristics to the peri-urban zone. The interaction consists of rural activities taking place in urban areas and urban activities such as manufacturing and services taking place in rural areas, thus comprising a spatial segregation of activities in the zone (Tacoli, 1998a). Cobbinah and Amoako (2012) also pinpoint that peri-urban area is characterized by increases in land values determined by market forces. Specifically, UN-Habitat (2016) underscored the fact that peri-urban areas in developing countries have become divided cities, marked by spatial segregation along socioeconomic lines. Therefore, these areas consist of informal land-use patterns, inadequate basic infrastructure, poor and limited public services, substandard housing and poverty (UN-Habitat, 2016), all of which suggest deprivation of people in such areas. In short, the peri-urban zone seems to suffer not only the loss of farmlands, but lack of or limited access to basic social amenities that could enable a better life for local residents.

Multiple factors have been cited as contributing to peri-urbanisation. Friedmann and Miller (1965) assert that the availability of mass commuter systems and the cheap cars have encouraged people to search for land for residential, recreational uses in the peri-urban areas. A change from a public transport-based to private means of transport, construction of roads and population growth drives peri-urbanisation (Rahayu and Mardiansjah, 2018; Ristimaki (2011). Furthermore, institutional weaknesses and improper enforcement of planning rules and regulations have been mentioned as contributory factors to encroachment on peri-urban agricultural lands as well as the failure of central planners to consider the full range of impacts associated with development decisions contributes to peri-urbanisation (Küçükmehtemetoğlu and Geymen, 2009; Pucher, Peng, Mitta, Zhu and Korattyswaroopam, 2007). Xi et al. (2012) have indicated that the incoherence of government's policies contributes to peri-urbanisation in Indian cities.

Based on the review, we developed a conceptual framework of peri-urbanisation for developing countries. It is envisaged that demographic factors such as migration, relocation of urban residents to peri-urban areas and population growth will trigger demand for land and subsequently the transformation of the peripheral communities into fully urbanised centres. Institutional factors such as inadequate enforcement of laws and adherence to rules by developers also contribute to peri-urbanisation. Demand for land for residential, recreational purposes and increase in land values have the potential to facilitate peri-urbanisation. However, peri-urbanisation has the potential to generate both positive and negative consequences for local households. The positive consequences include availability of cash income jobs, opportunities for the cultivation of fresh vegetables for new

residents and those in the urban core and establishment of new businesses. On the other hand, peri-urbanisation could lead to loss of farmlands, food insecurity and breakdown of traditional family system.

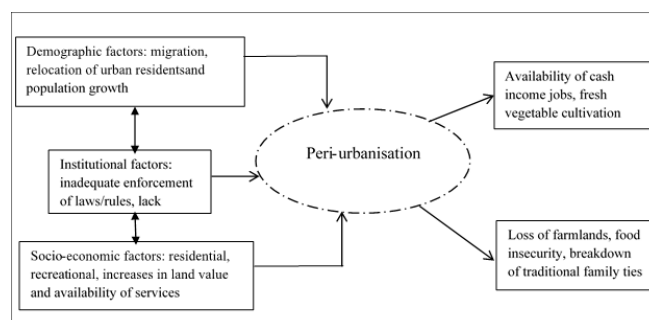


Figure 1: Conceptual framework of peri-urbanisation for developing countries

Source: Authors' Construct, 2019

3. Methodology

This section of the paper discusses the methodology adopted for the review. A systematic literature review approach was adopted in the study. According to Okoli (2010), a systematic literature review entails identifying, evaluating, and synthesizing the existing works of researchers, scholars, and practitioners. The objective of systematic literature review, therefore, is to showcase evidence and to point to critical areas where research is needed (Snyder, 2019). First, we identified the topic and study objectives based on preliminary reading of the literature. Second, we searched the articles by skimming through the abstracts and collect those that were relevant to the topic and the objectives of the study. Based on this, an exclusion criterion was developed. Articles that did not directly focus on the topic and the objectives were excluded, while those that centred on the topic and the objectives were extracted. Third, a unique coding system was designed in Microsoft Excel to extract information and critically evaluate based on the topic and objectives of the review. The coding scheme was revised and refined to reflect the emerging issues before it was finalised. Fourth, a specific and robust criterion was deployed to evaluate and synthesize all the reviewed literature with respect to the topic and the objectives of the study. Finally, the results were then analysed based on the issues that emerged from the evaluation in relation to the topic and the objectives of the review. The next section of the paper provides the results of the literature review.

4. Discussion

a. Arguments in favour of peri-urbanization

Priorr et al. (2011) argue that peri-urbanisation tends to have positive effects for local residents. According to them, peri-urban areas serve as innovation hubs that provide significant employment opportunities in the service and information technology (IT) sectors. Priorr et al. (2011) also note that there are examples of opportunities for improved quality of life, green infrastructure, the better transportation network that connects the city and countryside, and more sustainable

urban and rural relationship. In addition, Tosics and Nilsson (2011) enunciate that peri-urban development creates a unique opportunity for the establishment of businesses and commercial centres in peri-urban areas that promise easier access to markets and higher profits with less investment. Tosics and Nilsson note further that the development provides new opportunities in the peri-urban areas. In their view, some of these are the establishment of businesses to serve the new residents with goods and services, and the potential pool of skilled workers, a combination that provides some support for the conceptual premise of the human capital theory.

Peri-urbanisation creates market opportunities for food crops production. In this respect, Heimlich and Anderson (2001) suggest that peri-urbanization creates opportunities for farming to feed the new residents, a source of employment opportunities due to the labour pool, greater off-farm employment opportunities, and the possibilities to grow new crops and to market them within the proximate zone and the main city. In addition, Zasada, Fertner, Piorr, and Nielsen (2011) contend that development in peri-urban communities can contribute to the cultivation of fresh vegetables from horticulture and organic cultivation to feed residents in the area and the main city centre. This is consistent with the relationship described in the conceptual framework that shows that peri-urbanisation provides opportunity for local residents to cultivate fresh vegetables for the new residents and those in the urban core. Tosics and Nilsson (2011) also indicated peri-urbanisation provides opportunities for farm adaptation strategies and diversification processes that can provide these services to a large number of consumers for farmers concentrated there (Zasada et al., 2011) as indicated in the human capital theory.

It is also argued that peri-urbanisation engenders intensive agriculture as opposed to extensive agriculture. According to Nicodemus and Ness (2010), agricultural land loss in peri-urban areas in Kenya has provided opportunity for local farmers to shift from the traditional extensive agriculture to intensive agricultural practices. They explained that agriculture intensification has stimulated new agricultural management practices in order to increase yield and incomes. Similarly, Satterthwaite, McGranahan, and Tacoli, (2010) indicate that the reduction in agricultural lands in peri-urban areas due to haphazard invasion on lands in these areas may be accompanied by more intensive production of food crops and livestock which have the potential to increase output as compared with extensive agriculture production. Zasada (2011) adds that peri-urban agricultural land loss may motivate people to engage in organic farming and landscape management as well as diversification as postulated by the human capital theory that people with adequate knowledge and experience in agriculture can adapt to changing environment such as reduction in farmlands. This hints that peri-urbanisation portends the availability of opportunities for individuals and households to increase their income as described in the conceptual framework.

Another leg of the argument relates to the use of urban waste that is dumped in peri-urban communities as a source of organic manure for peri-urban farming. For instance, Cofie, Kranjac-Berisavljevic, and Drechsel (2005) reported that

farmers in peri-urban communities in Northern Ghana used faecal sludge from urban areas that is dumped in these communities as a cheap way to improve soil fertility and increase yields of maize and sorghum. In the peri-urban community of Efutu in the Cape Coast Metropolis of Ghana, Mariwah and Drangert (2011) noted that human waste that are dumped in peri-urban communities can be used as manure on farms, leading to increased production, which in turn can facilitate poverty reduction of farming households in peri-urban communities. In the same vein, Nigusie et al. (2015) note that urban and peri-urban farmers in Ethiopia have demonstrated a willingness to use urban waste compost as an alternative option for soil amendment in farming systems. This suggests that local residents in peri-urban areas where organic waste are deposited can seize the opportunity to apply it to their farms in order to increase crop yield and subsequently their incomes.

Another example of agriculture intensification has been provided by Ishagi, Ossiya, Aliguma and Aisu (2012) about the poor in peri-urban Kampala, Uganda who revert to livestock production as their farm size declines. The authors further note that livestock keepers in peri-urban areas produce with target festive seasons in mind, and this gives them the flexibility to be productive within their limitations. Arguing along similar lines, Wilson (2018) observes that intensive livestock production in peri-urban areas provides the opportunity for local residents to obtain employment and income, while providing food products for the people within the larger peri-urban communities. In brief, livestock keeping can flourish in peri-urban areas in the midst of declining agriculture land if local farmers have the capacity to adapt as suggested by human capital theory.

A different strand of the argument projected by Abass, Afriyie, and Adomako (2013) is that peri-urbanization can be a blessing to local residents. They explicate that peri-urbanisation of Kumasi, Ghana has created opportunity for local residents to engage in several cash-income jobs which include petty trading, provision of services, manufacturing and construction labour. In their view, individuals with high human capital are better positioned to reap the benefits that come along with peri-urbanisation (Abass, et al., 2013 and Tacoli, 2004) than those with low human capital as suggested by the human capital theory (Thuo, 2010). This implies that local residents in peri-urban areas can grab the opportunities peri-urbanisation offers to engage in cash-income jobs to make a living. This is in agreement with the aspect of the conceptual framework which shows that peri-urbanisation presents local residents with the opportunity to undertake cash-income jobs.

One of the most significant current discussions centres on the potential of peri-urbanisation to create business opportunities for local residents. To this effect, Jaiyebo (2003) claims that new developments in the peri-urban zone create an opportunity for women to involve children in economic activities such as the sale of leafy vegetables, fruit, and fried bean balls or packaged drinking water in an effort to make additional income for the household in Ibadan, Nigeria. Nicodemus and Ness (2010) state that peri-urban development provides the opportunity for immigrants and

wealthier natives to establish non-farm income generating activities in order to provide farmers with outlets to sell or to purchase products that are needed for farming without traveling to the urban core (Nicodemus and Ness, 2010). This suggests that peri-urbanisation provides the enabling environment for local residents to undertake both farm and non-farm related livelihoods to earn income to support their households and thus improve their standard of living. This is in line with the relationship described in the conceptual framework that shows that peri-urbanisation has the potential to generate opportunities for local residents to undertake cash-income livelihoods activities to make a living.

b. Arguments against peri-urbanisation

In this section, we present a review of the varied broad perspectives that have shaped the direction of thinking about peri-urbanisation as a curse. To illustrate the negative effects of peri-urbanisation on livestock keeping among local residents, Chirisa (2010a) asserts that peri-urban agricultural lands in sub-Saharan Africa are being converted into residential and other non-agricultural activities at a rate that is unparalleled in history. In an earlier argument, Ben-Ami and Ramp (2005) elucidated the dangers associated with peri-urbanisation and indicated that it takes away grazing lands for livestock and exposes the animals to hazards like knockdowns associated with vehicular flows and thus, denies peri-urban households an important livelihood strategy (Chirisa, 2010b). Hence, in the view of El-Hefnawi (2005), conversion of agricultural land creates unemployment. Angel et al. (2005) also asserted that it alters traditional livelihood strategies and displaces agricultural land uses. It can therefore be surmised that the displacement of agricultural-based livelihoods will be more precarious for households that do not possess the right knowledge, skills and job experience to enable them to adjust to the new environment.

An additional claim that seeks to reject the assertion that peri-urbanisation is a source of new opportunities for local residents is that it contributes to the decline of farmlands and thereby endangers food security among local landowners who rely on agriculture for sustenance. For instance, Hamamatsu (2002) claims peri-urbanisation has led to the persistent reduction in cropland in Japan since the 1990s, with grave long-term consequences for food security for the peri-urban population. Appiah et al. (2017) also intimate that the average size of a subsistent farm had been reducing in the Asante-Akim South District of the Ashanti Region in Ghana, threatening food security. The evidence here suggests that reduction in farm size and its resultant food insecurity among local peri-urban households is akin to entitlement failure as indicated by the entitlement theory, since local residents who depend on farming for their living may eventually lose their land to urban-based activities. The results are also in line with the aspect of the conceptual framework that shows that peri-urbanisation leads to loss of farmlands among local residents.

Turning to another side of the issue, Cohen and Garret (2009) have argued that the transition from rural agrarian economy to an urban monetized economy creates some dilemmas for the local residents in peri-urban communities. Cohen and Garret noted that these sudden developments coupled with the unpreparedness of local residents tend to constrain their

ability to effectively participate in the local economy. This is often due to the limited financial muscle to purchase almost everything including food, fuel for cooking, housing, transportation, healthcare, and education. In the same way, Samat et al. (2014) hold the view that most local residents in peri-urban communities lack skills and formal education and are therefore unable to effectively participate in the new urban economy.

Thinking about the effects of peri-urbanisation and agriculture land loss from another perspective, Oladunjoye (2005) claimed that it has the potential to trigger an increase in the cost of services and exacerbate poverty in peri-urban communities. Cobbinah and Amoako (2014) also indicate that peri-urban development and agricultural land use change in the peripheral areas around Kumasi, Ghana has led to high cost of services thereby pricing out the indigenous residents from the new urbanised economy. Similarly, Andrea (2015) argues that peri-urbanization and rapid agriculture land conversion brings about a dramatic increase in costs of goods and services resulting in no or limited access to goods and services by the local working class. Andrea further notes that such zones are hitherto occupied by low-skilled and unskilled labour who usually engage low-paying jobs as suggested by the human capital theory.

The differences in the negative consequences of peri-urban development on men and women have been projected as another leg of the argument against spontaneous agricultural land conversion. In this respect, Gregory (2005) argues that even though peri-urbanisation presents some opportunities for income generating activities in Kumasi, Ghana, there was a polarisation of production between social classes. It appeared that men and richer farmers had the capacity to take advantage of peri-urbanisation by growing more profitable crops for urban consumption, while women and poorer farmers remained in the less profitable sectors (Beall and Fox, 2007; Gregory, 2005) such as casual labour which required less or no skills, knowledge and job experience. Tacoli (2012) adds that cultural constraints as well as lack of labour and capital make it difficult for women to engage in income-generating opportunities in the new urban economy. In the light of this, women who relied on agriculture for a living perhaps may not be able to sustain themselves and that of their households as suggested by the entitlement theory.

Another claim that has been raised against peri-urbanisation and uncontrolled agricultural land use change relates to health and sanitation challenges that local residents are confronted with. It has been suggested that peri-urbanisation has contributed to air and water pollution, environmental decay, slums, poor sanitation, overcrowding, housing congestion, and generally squalid conditions (Jiboye and Omoniyi, 2010; Ogunleye, 2005; Omisore et al., 2003). Such conditions arise largely due to poor planning and non-enforcement of laws in these areas. In this respect, Oduro, Adamtey, and Ocloo (2015) claim that peri-urbanisation around Accra, Ghana has led to sand mining to support the construction industry. This has led to the degradation of arable lands to the extent that such lands had been perforated with several ponds that now serve as breeding places for *Anopheles* mosquitoes that transmit the malaria parasite (Oduro et al., 2015). In India,

Saxena and Sharma (2015) note that solid waste in peri-urban areas is not regularly collected and this poses immense health hazard. Such examples of the negative consequences are an indication that local residents suffer deprivation and injustice as indicated by the entitlement theory.

Elaborating on health and sanitation related challenges associated with peri-urbanisation, Marshall et al. (2009) contend that absorption of peri-urban areas and villages into cities has led to increasing competition over scarce water for industrial, domestic and recreational purposes in South Asia. Marshall et al. (ibid) also contend that people in the peri-urban fringe are exposed to risks like cholera, typhoid and other water borne diseases from liquid waste and inadequate sewerage disposal. Similarly, da Gama Torres (2011) suggests that in Latin America and the Caribbean, peri-urban residents are exposed to air pollution, limited sanitation, poor housing conditions, and increased health risks as the cities extend into these communities through encroachment on agricultural lands. Cumulatively, the evidence suggests that uncontrolled peri-urban development creates health-related challenges that have the potential to engender the easy spread of diseases in the event of an outbreak of an epidemic.

An equally important aspect of the argument centres on the destruction of social relations among local residents and households in peri-urban areas. Cobbinah et al. (2015) assert that peri-urbanisation has led to the breakdown of the traditional family system which is held in high esteem in the Ghanaian society. The authors also submitted that the traditional extended family system that held all members of the same family together is waning in these areas due to the high influx of people which displaces the indigenous people and thereby creates a disconnect in family ties. In this connection, da Gama Torres (2011) also reported that peri-urbanisation in Latin American cities brings about declining social contacts between aboriginal families leading to declining social ties that existed between members of the same family before the invasion on peri-urban land by individuals, organisation and the state in search for land to satisfy their needs. What emerges from the issues discussed so far points to the fact that peri-urbanisation has eroded the external family support system that hitherto served as safety net for members of the family in times of crisis.

Another aspect of the argument centres on the potential of unplanned urban expansion and peri-urban agricultural land loss to trigger the upsurge in social vices. In this respect, Nilsson et al. (2013) argue that peri-urbanization brings about transformations in peri-urban spaces such as recreation and behavioural changes that have the potential to bring about social vices such as drug abuse and crime in Europe. In the same way, in the Java and Jabodetabek megacity in Indonesia, Andrea (2015) argued that peri-urbanisation tends to create poverty, inadequate opportunities, psychological problems, alcoholism, drugs, crime, violence, and other deviant behaviours among young people due to new behavioural infestations.

Peri-urbanisation has the potential to increase the livelihood vulnerability of the peri-urban poor and consequently, Olima (2003) and Ravallion (2007) opined that in South Asia and

sub-Saharan Africa, peri-urban agricultural land encroachment has contributed to the urbanization of poverty. In connection with this assertion, Torres (2008) claimed that rapid peri-urban development in Latin America had led to massive rural land reclamation by newcomers, mostly from the countryside, trying to settle in poor peri-urban communities. Adding to this, Torres pointed out that the peri-urban enclaves suffer from the problems of poor regulation of physical expansion, unemployment and appalling sanitation conditions and environmental problems such as deforestation, land degradation, and pollution. Furthermore, urban expansion triggers social isolation (Torres, 2008). These revelations fall in line with the relationship described in the conceptual framework that shows that peri-urbanisation leads to loss of land for crop farming.

In a related argument, da Gama Torres (2011) noted that uncontrolled urbanisation and its associated inefficient use of peri-urban agricultural lands have led to the destruction and fragmentation of natural ecosystems, reduced diversity of species, and increased risk of flooding due to a more extensive impervious surface. da Gama Torres further indicates that peri-urbanization has led to the invasion of protected areas, deforestation, and pollution of rivers and streams, and decreased aesthetic appeal of landscapes. In the same vein, Oduro et al. (2015) indicate that sand mining to aid in the building of residential and commercial structures has led to the degradation of arable lands in peri-urban areas of Accra, Ghana. Ukoje (2016) also supports this line of argument and indicates that the unplanned nature of residential development results in a sprawl, negating the principle of sustainability as espoused in the Sustainable Development Goals that drive global development agenda. Evidentially, unregulated urbanisation destroys the environmental service support of the ecosystem for peri-urban households, comparable to entitlement failure that poor and vulnerable local residents may not be able to adapt to.

One other aspect of the argument focuses on the out-migration of young native residents due to peri-urbanisation. Parnell and Walawege (2011) argued that agricultural land use change triggers environmentally induced migration in Africa, some of it voluntary and some forced; some of it temporary, some permanent; some of it to towns and some between rural areas. Contributing to the debate, Cobbinah et al. (2015) assert that the influx of people into the peri-urban communities in Feyiase in Kumasi, Ghana and the resultant agriculture land loss has led to the migration of young indigenous residents to other rural communities in search of agricultural land to continue farming. Cobbinah et al. (ibid) also indicated that some of the indigenous people migrate to other cities, leaving behind the older members of the family who have to rely on the benevolence of these young people for support in the form of remittances. This suggests that households that are not endowed with young people who can adopt migration as a coping strategy and who suffer endowment loss in the form of agricultural land will suffer deprivation and injustice as suggested by the entitlement theory.

5. Synthesis of the contestations

The review of the academic literature demonstrates that some academics hail peri-urbanisation as an opportunity to generate opportunities for local residents as they may serve as a source of labour for newly established enterprises in these areas (Heimlich and Anderson, 2001). On the other hand, other authors (Andrea, 2015; Cobbinah and Amoako, 2014; Oladunjoye 2005) suggest that uncontrolled peri-urbanisation and its resultant agricultural land loss tend to progressively complicate and exacerbate poverty among indigenous residents and also increase the cost of living in the periphery which many local residents are unable to afford due to their low socio-economic context. The evidence thus far, indicates that peri-urbanisation presents the opportunity for local residents to diversify their gainful employment opportunities outside their traditional occupation. It has, however, emerged from the literature that peri-urbanisation can lead to loss of jobs and displacement of livelihood activities.

There is no shortage of disagreements on the issue, and Nicodemus and Ness (2010), Satterthwaite et al.(2010) and Zasada et al. (2011), writing on the same subject, but from different locations, argued that the phenomenon of peri-urbanisation serves as an enabler for local farmers to shift from the traditional extensive agriculture towards more intensive food crop farming practices that have the potential to result in higher yields than the extensive agriculture that was previously practiced by local residents in the peripheries. In contrast, other academics have suggested that the unregulated invasion of urban activities on peri-urban agricultural lands reduces farm sizes and subsequently affects food crop production and this has implications for food security and overall welfare of local residents (Appiah et al., 2017).

Another set of opposing views articulated by academics relate to the potential of peri-urbanisation to create opportunities to enable livestock keeping in the peripheries of urban centres. In this respect, Ben-Ami and Ramp (2005) elucidated the dangers associated with peri-urbanisation and assert that grazing lands for livestock are disappearing. Chirisa (2010b) also avers that high vehicular flow in the peri-urban space exposes livestock and poultry to hazards associated with vehicular flows. On the contrary, Ishagi et al. (2012) have noted that livestock production tends to increase and serves as a livelihood strategy for peri-urban local residents as farm size declines due to rapid conversion of agricultural lands to support urban activities.

Paying attention to and engaging with the literature, it has emerged that rapid encroachment on peri-urban agriculture land and peri-urban transformation has the potential to generate income for local residents. Abass, Afriyie and Adomako (2013) elucidate that peri-urbanisation of Kumasi, Ghana has created opportunities for local residents to engage in several cash-income jobs which include petty trading, provision of services, manufacturing and construction labour to enable local residents to participate in the new monetised urban economy. Contrarily, El-Hefnawi (2005) and Angel et al. (2005) pointed out that conversion of agricultural land creates unemployment among local residents since their agricultural lands are lost to housing and commercial uses.

Another set of differing perspectives relate to the effects of solid and liquid waste on the local residents. In this respect, Marshall et al. (2009) contend that people in the peri-urban fringe are exposed to risks due to exposure to liquid waste and inadequate sewerage disposal often leads to cholera/ typhoid and health implications. Sharma (2015) contributes that in India, solid waste is not regularly collected, and this poses immense health hazard. On the other hand, Cofie et al. (2005) have reported that farmers in peri-urban communities in Northern Ghana used faecal sludge from urban areas that is dumped in these communities as economical means to improve soil fertility and increase yields of maize and sorghum. Mariweh and Drangert (2011) have also insisted that human waste that is dumped in peri-urban communities can be used as manure on farms in the peri-urban community of Efutu in the Cape Coast Metropolis, Ghana. These views suggest that solid and liquid waste that are dumped in peri-urban communities may pose health challenges but, they can be harnessed by local farmers to increase production on a small piece of land.

Rather than trying to present a single story of the implication of peri-urban development, some academics (Beall and Fox, 2007; Gregory, 2005; Jaiyebo, 2003) sought to decouple the effects on women from men and the rich from the poor. For instance, Jaiyebo (2003) claims that peri-urbanisation creates opportunity for women to take advantage of their proximity to urban population and new residents to involve children in economic activities such as the sale of leafy vegetables and other fresh crops. An alternative and opposing argument that has been advanced is that men and richer farmers have the capacity to take advantage of peri-urbanisation by growing more profitable crops for urban consumption while, women and poorer farmers remained in the less profitable sectors (Beall and Fox, 2007; Gregory, 2005) such as casual labour which requires less or no skills, knowledge and job experience. Tacoli (2012) also noted that cultural constraints as well as lack of labour and capital make it difficult for women to engage in income-generating opportunities in the new urban economy.

6. Conclusions and policy implications

Peri-urbanisation brings about some opportunities for the betterment of living condition of local residents. To a large extent, it breeds poverty among local residents, triggers unemployment, and creates disruption in traditional livelihoods. Therefore, local residents who suffer from the loss of or reduction in farmland and lack the appropriate skills, knowledge and experiences are more likely to be the hardest hit with the consequences of peri-urbanisation than their counterparts who are endowed with the appropriate knowledge, skills and experiences. Well-endowed households or individuals can easily switch from farm to non-farm livelihood strategies for a living. As such, the way forward can be found in designing and implementing policy measures to secure agricultural lands, while promoting orderly development. This would present opportunities for farm households to cultivate their land and at the same time engage with the new urban jobs. The task of planning and land management authorities should be to design and update land use plans and strictly enforce the laws, rules and regulation regarding physical development in the peri-urban

zone. This would enable and facilitate orderly development, create mixed livelihood opportunities, engender new kind of social integration, and consequently contribute to poverty reduction among local residents in particular and the urban population in the wider context.

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