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Abstract:

Africa's rural population continues to expand rapidly and labor productivity in agriculture and many rural-off farm activities remains low. This paper uses the lens of a dual economy and the associated patterns of agricultural, rural, and structural transformation to review the evolution of Africa's rural employment and its inclusiveness. Many African countries still find themselves in an early stage of the agricultural and rural transformation. Given smaller sectoral productivity gaps than commonly assumed, greater size effects and larger spillovers, investment in agriculture and the rural off-farm economy remains warranted to broker the transition to more and more productive rural employment. The key policy questions thus become how best to invest in the agri-food system (on and increasingly also off the farm) and how best to generate demand for nonagricultural goods and services which rural households can competitively produce. Informing these choices continues to present a major research agenda, with digitization, the imperative of greening and intra-African liberalization raising many unarticulated and undocumented opportunities and challenges.

Keywords: dual economy, productive employment, decent work, gender, youth employment, rural migration

JEL codes: J16, J21, J43, J81, O12, O15

1 Introduction

There are important linkages between employment, economic growth, and poverty reduction. Labor is often the only productive asset of the poor, and labor productivity and employment expansion are important drivers of economic growth. It is expected that the African population will continue to grow at a fast rate in the next decades (at about 2.5% per year) (United Nations, 2021) and that by 2030 90% of the world's poor will live in Sub-Saharan Africa (Beegle and Christiaensen, 2019). This implies that rural employment in Africa will be a major factor in absorbing the growing labor force, in preventing an exodus from rural areas, and in alleviating remaining poverty.[3] From a conceptual point of view, the development of rural labor markets can also be a major catalyst for economic growth to be pro-poor. Yet, rural labor markets have largely been neglected in research and development policy thinking until a decade ago (Cramer et al., 2008; Maertens and Swinnen, 2009). A rapidly expanding body of literature is now starting to unpack Africa's rural employment opportunities and challenges.

The attention in the sustainable development goals (SDG) to fostering full and productive employment and decent work for all (SDG 8) has also triggered a debate on the quantity versus the quality of rural employment (Ayenew et al., 2017; Nattrass and Seeking, 2018). Recent developments add new urgency to this debate. The ongoing processes of mechanization and digitization in African agri-food systems, accelerated through the Covid-19 crisis, might have important consequences for the creation of rural employment, the transition from agricultural to nonagricultural employment as well as the productivity of labor in rural areas more broadly (Christiaensen et al., 2021; Daum and Birner, 2020; Van Hoyweghen et al., 2021). With the implementation of the African Continental Free Trade Area since January 2021, Africa is further going through an important trade liberalization process that is expected to vastly expand intra-African food trade as well as agricultural employment (World Bank, 2020). Finally, climate change and environmental degradation, as well as the COVID pandemic, are urging for a transition to a green(er) and more resilient economy, with important consequences for employment in agriculture, energy, and other carbon-dependent sectors (ILO, 2018).

In this paper we review the recent literature on rural employment in Africa. We introduce a conceptual dual economy framework to discuss how rural employment is expected to change with the process of agricultural, rural, and structural transformation (section 2). Some regional trends on rural employment in Africa, distinguishing between five regions and using ILO statistics, are then depicted in section 3. Against this background, we review the empirical literature on full and productive employment within the broader rural economy (section 4). We address the governance of decent work and the inclusiveness of rural employment in Africa with a specific focus on gender, youth, and remoteness in section 5. We point to key research gaps and emerging issues (section 6) and conclude with key guiding principles when designing policies to foster full productive employment and decent work for rural Africa (section 7).

[3] An estimated 82% of Sub-Saharan Africa's extreme poor currently live in rural areas (Beegle and Christiaensen, 2019).

2 Conceptual considerations

2.1 Characterizing rural employment

Rural employment includes different forms of employment in different sectors, which is summarized in Table 1. The rural labor force can engage in agricultural or nonagricultural jobs, where they can be self- or wage-employed. Agri-food system employment consists of on-farm as well as off-farm employment in agricultural value chains (food storage, processing, distribution, and services). Rural households and individual household members can also be employed in multiple concurrent jobs, holding a diversified portfolio of on-farm, off-farm, and non-farm jobs.

A distinction can be made between formal and informal sector employment with the latter referring to jobs in enterprises that are not constituted as separate legal entities independently of the individuals or households owning the enterprise (ILO, 2004). Both wage- and self-employment, whether in agriculture or not, can be formal or informal sector employment. Wage employment can be casual (e.g., on a daily or seasonal basis), temporary (fixed-term contract) or permanent, and can be part- or fulltime. Remuneration of wage employment can be in cash or in kind, and based on a time rate (e.g., wage rate per hour) or piece rate (e.g., wage rate for a completed task).

2.2 Historical and theoretical perspectives

Until recently, Africa has been experiencing economic growth and a profound economic transformation that started in the early 2000s (Badiane et al., 2021). Economic transformation is described as a process of agricultural, rural, and structural transformation (Jayne et al., 2018; McMillan et al., 2014). *Agricultural transformation* entails a shift from a traditional or subsistence-oriented and farm-centered agricultural sector with low capital intensity and low land and labor productivity to a commercially oriented agri-food system with higher levels of productivity and better integration in value chains with vertical linkages between farm and off-farm sectors (Reardon, 2015; Badiane et al., 2021). Agricultural transformation can be triggered by various driving forces, such as technical innovations, agro-industrialization, dietary changes, value chain development, or the introduction of higher value crops (Tschirley et al 2015a,b; Reardon, 2015).

Second, the broader process of *rural transformation* entails a larger diversification of rural livelihoods, an increased importance of rural off-farm and non-farm activities, and a stronger interaction between rural areas and urban centers (Djurfeldt, 2015; Djurfeldt and Djurfeldt, 2013). Rural transformation can be brought about through multiplier effects from agricultural transformation and expenditure linkages between farm and non-farm rural sectors. As agricultural productivity and farm incomes rise, increased purchasing power among the rural population creates demand for local nonagricultural goods and services, as well as financial possibilities to invest in non-farm businesses. Third, agricultural and rural transformation are embedded in economy-wide *structural transformation,* entailing a shift from agriculture to industry and services in employment and national income, and stronger urbanization (Jayne et al., 2018).

The process of agricultural and rural transformation is associated with important changes in rural employment (Jayne et al., 2018; Yeboah and Jayne, 2018). In a traditional subsistence-oriented rural society or sector, employment is predominantly informal self-employment in agriculture and labor

productivity is low. Agricultural transformation increases labor productivity and the earnings of those who are self-employed in agriculture. Labor intensive technological change might create a demand for (informally) hired labor on family farms while commercialization of farm produce and increased farm earnings enable family farms to pay wages. It is for example observed that increased commercialization through contract-farming and supermarket procurement leads to increased use of hired labor on the farm (Bellemare, 2018; Rao and Qaim, 2013). But mechanization and new institutional arrangements could also reduce labor-intensity in agriculture, creating a need for off-farm jobs (Daum and Birner, 2017 & 2020; Ruml and Qaim, 2021).

In addition, the agricultural transformation process can create (formal) off-farm jobs on larger-scale farms and in agro-industrial companies, and a diversity of non-farm jobs in down- an upstream sectors of food supply chains (e.g., Krumbiegel et al., 2018; Maertens and Swinnen, 2009; Peter et al., 2018; Suzuki et al., 2018; Van Hoyweghen et al., 2020). Further rural transformation creates (informal) self-employment in small and medium non-farm enterprises and (formal) wage employment in larger non-farm businesses in emerging rural towns. In general, the agricultural and rural transformation process is associated with an increased importance of nonagricultural over agricultural employment, wage over self-employment and formal over informal employment, and can trigger rural-rural migration from more remote low-productivity rural areas to rural areas and towns that are transforming faster to higher productivity. Finally, structural transformation might be associated with rural-urban migration and an outflow of labor from agriculture and rural areas, triggered by job creation and wage increases in urban areas.

Agricultural and rural transformation is conceptually associated with a shift from less productive to more productive rural employment[4]. In a neoclassical framework with a competitive labor market, expansion of the more productive rural (farm or non-farm) sector and associated increased demand for labor in this sector, would drive up rural wages and improve job quality. Under neoclassical assumptions, the transformation process would foster full and productive employment as well as decent work through a relocation of labor from traditional subsistence-oriented farming to modern farm and non-farm sectors with higher labor productivity and earnings.

When considering a Lewis dual economy model (Lewis, 1954), however, full and productive employment and decent work are not necessarily progressing concurrently (Diao and McMillan, 2018; Diao et al., 2018; Gollin, 2014; Wang and Piesse, 2013). The existence of within country productivity gaps and the availability of surplus labor, key features of a Lewis-type dual economy model, have important consequences for how rural employment expansion, labor productivity and wages evolve. Surplus labor in the traditional low-productivity agricultural sector, might result in a completely elastic labor supply in the modern higher-productivity (farm or non-farm) sector. This would enable the transition of labor to the more productive sector at wages that are only slightly higher than earnings per worker in the traditional sector. As long as surplus labor in the traditional sector is not exhausted, or replenished through population growth, labor can be attracted to the modern sector without modern sector wage increase, thereby accelerating capital accumulation, growth, and employment expansion in the modern sector. Only when surplus labor in the traditional sector is exhausted and labor can no longer be withdrawn from the traditional sector without affecting output in that sector, referred to as the Lewis

[4] Amadou and Aronda (2020) indicate that in Central and Southern Africa labor is reallocating towards less productive instead of more productive sectors.

turning point, might wages (and employment conditions) start to improve and might the labor market become more competitive.

This implies that agricultural and rural transformation would initially be associated with employment expansion, reduction of underemployment and increased labor productivity (in the aggregate) but not with increased wages or improved working conditions. Only in later stages of economic transformation, when labor can no longer be extracted without reducing output in the traditional sector and the labor market becomes competitive again, would wages increase (in both the traditional and modern sector). In a dual economy with high productivity gaps and surplus labor, market mechanisms are unlikely to impart higher wages and better working conditions in initial stages of transformation and growth, even when the more productive sector expands.

The Lewis model provides a powerful initial framework to analyze the evolution of rural employment patterns. Yet, a few additional considerations must be considered. In practice, labor might not move automatically (despite productivity gaps) because of important barriers to factor and labor mobility following market imperfections and institutional constraints (Collier and Dercon, 2014; Restuccia, 2016). Therefore, for labor to move, wages in higher productivity sectors likely have to be higher than what Lewis predicts. In addition, removal of these barriers is needed to facilitate workers to move from low productive subsistence agriculture and rural household enterprises to larger, more productive farm entities and off-farm wage jobs, and to generate more productive full employment. On the other hand, this holds only if observed productivity gaps represent real productivity differences and not measurement error or unobserved heterogeneity (Gollin and Udry, 2021). Off-farm workers are for example typically better educated such that productivity differences may merely reflect differences in ability. Seasonal labor constraints in agriculture may further prevent agricultural workers from moving, at least not without reducing agricultural output, as assumed in the Lewis model.

Spillover effects are further abstracted from in the Lewis model. Instead of aiming at the most productive segments and activities, job generation within the lower productive segments could also be targeted with intermediate technologies (think 4-wheel versus two-wheel tractor). These would be more easily accessible and adoptable by more people. Increasing the earnings of more people with a bit, even though possibly generating less added value in the aggregate than when increasing the earnings of fewer people with a lot, could induce larger demands for locally produced goods and services, have a greater impact on the local economy and employment and instigate a more virtuous cycle of growth and rural job creation (Mellor, 2017). Much also depends on the commensurate demand patterns with richer consumers demanding higher value products (including more protein rich, processed, and convenient foods) which typically also require more complex technologies and skills to produce. While technology choices largely drive productivity, investing in productive, but not necessarily the most productive technology may thus still be optimal in low- and lower-middle income countries (Lagakos, 2016), exactly because of their lower incomes.[5]

[5] The lower share of “modern” retail establishments, such as supermarkets in lower income countries, is consistent with the associated demand patterns, Lagakos argues. Poorer consumers are less likely to be willing to pay for higher quality products and less likely to own automobiles that make bulk purchases feasible and efficient.

In what follows we review the empirical evidence on these different processes to help adjudicate more effective areas of policy interventions as well as remaining research gaps.

3 Regional trends

Figure 1 describes trends on rural employment across different regions in Africa for the period 2005-2019, using annually interpolated, survey-based estimates from ILO. Data are for rural areas but definitions of what constitutes a rural area may vary substantially in national statistics. It is furthermore important to note that these regional estimates may hide intra-regional variation across countries, may be influenced by large countries (such as Nigeria in Western Africa or Ethiopia in Eastern Africa) and may lack detail in employment trends. Nevertheless, they are useful to help set the stage.

The regional trends show that the transition out of agricultural employment and to wage employment and the aging of the rural labor force are most pronounced in Northern and Southern Africa. These two regions also include mainly upper and lower middle-income countries. Rural transformation is least noticeable in Eastern and Central Africa, regions that include a mix of low- and lower middle- income countries. Agriculture still accounts for 80% or more of rural employment in these regions. In Eastern Africa the absolute number of workers in agriculture is even still increasing substantially. Western Africa displays a particularly interesting pattern. It combines a mix of low- and lower middle- income countries, but it is also experiencing a more visible transformation out of agricultural employment (from 72% in 2005 to 58% in 2019), albeit not into wage employment. Broadly speaking, these regional employment trends correspond to the patterns of (early stages in) agricultural, rural, and structural transformation.

The figures do not support the idea of a general feminization of the rural or agricultural labor force, however. Though there are pertinent regional differences. Female rural workers are leaving agriculture much more rapidly than male workers in Western Africa, but primarily remain in self-employment. Only in Northern and Southern Africa are female workers moving into wage employment. Finally, the figures point to a youth outflow from the rural labor force, and to youth and general unemployment problems in Northern and Southern Africa, but not in other regions.

4 Full and productive employment

4.1 Sectoral productivity gaps

As shown in Figure 1, many rural African workers continue to earn much of their income in agriculture, self-employed on the farm.[6] Yet, agricultural labor productivity remains low (Fuglie et al. 2020) – and quite a bit lower (two to three times) than average labor productivity elsewhere in the economy (Gollin et al., 2014).[7] Recent studies, using more detailed micro data show however that when expressed per hour

[6] Rural households in Africa spend on average 38 percent of their labor time self-employed on the farm and only 3 percent as agricultural wage laborers (IFAD, 2021).

[7] Based on a detailed cross-country analysis, these authors report the ratio of nonagricultural output per person to agricultural output per person to be 3.5 on average across 151 countries, with a median gap of 2.6. This implies that value added per worker is about three times higher outside agriculture than within agriculture. Among the poorest quartile of these countries, many in SSA, the mean gap raises to 5.6. The gap drops on average by about a

worked, instead of per worker, and controlling for worker heterogeneity across sectors, the average agricultural labor productivity gap largely disappears (Fuglie et al., 2020; Hicks et al., 2020; McCullough, 2017). This suggests that differences in work opportunities between agricultural and nonagricultural workers, not intrinsic differences in productivity across sectors or places, explain much of the average agricultural labor productivity gap (consistent with the Lewis assumption of surplus labor). Micro analysis of workers' time use confirms that rural workers in agriculture work fewer hours than those outside agriculture (McCullough, 2017; Yeboah and Jayne, 2018), with the difference more pronounced in low and lower middle-income countries such as in Eastern Africa than for example in Western Africa (Figure 2). Given the seasonal nature of (rainfed) agriculture, most farmers do not work full-time year-round (De Janvry and Sadoulet, 2020). They are underemployed.

Seasonality in agriculture, with peak labor demands during planting and harvesting time, also implies that agricultural labor in rainfed agriculture is not necessarily easily available or "in surplus" for non-farm activities year-round (which is contrary to the Lewis assumption). Consistently, many rural households in Africa only engage in off-farm activities for part of the year (to fill their agricultural labor calendars). (Nagler and Naude, 2017). The scope for drawing labor out of agriculture without commensurate investment in agriculture is less than it seems at first sight when looking at sectoral labor productivity differences. To generate full and more productive employment, agricultural investments that reduce peak labor demands (e.g., herbicides, mechanization) or help fill the agricultural calendars (e.g., irrigation, multiple cropping) are equally important. The insight that agriculture is not intrinsically less productive and the wide range in labor productivity observed across farms further suggest that raising labor productivity within the sector is feasible and that farming can be profitable, also in Africa. Accordingly, countries with the highest rates of agricultural productivity growth have been observed to experience the most rapid transition of the labor force out of agriculture (Yeboah and Jayne, 2018; Busse et al., 2019).

4.2 Livelihood diversification

While across countries, the majority of rural African households still specialize in on-farm activities (ranging from one third in Kenya to 83 percent in Ethiopia), about a third also have a diversified income portfolio, and about 9 percent are specialized in nonagricultural self-employment or "household enterprises" (Davis et al., 2017).[8] Agricultural and rural transformation happens through sectoral specialization across households as well as sectoral income diversification within households, resulting in a diverse set of livelihoods and households (IFAD, 2021). As in agriculture, labor productivity across off-farm activities also differs widely. Rural and female-headed enterprises, those located further away from population centers, and businesses that operate intermittently have lower levels of labor productivity compared to urban and male-owned enterprises, or enterprises that operate throughout the year (Nagler and Naudé, 2017). High return activities often require higher starting costs, such as transport services, or educational investment, such as professional services.

third when accounting for sectoral differences in hours worked and educational attainment, and among the poorest countries by about half 50 percent to between 2.3 (median) and 3 (average).

[8] The authors categorize a household as specialized if it earns more than 75 percent of its income from one of the following activities: on farm (52%), agricultural wage labor (2%), nonagricultural wage labor (5%), nonagricultural self-employment (9%), transfers (3%); otherwise, it is categorized as diversified (29%). The numbers in brackets indicate the share in each category averaged across countries. Results are based on a sample of 9 countries from across Africa mostly surveyed during the 2000s (Davis et al., 2017).

Consequently, most rural households engage in low productive, but easy-to-enter-(and exit) activities such as sales and trade. This low productive segment of the off-farm sector often complements people's agricultural calendars providing additional residual income. It also serves as a refuge for the landless and poor or in case of income shocks (Davis et al. 2010; Lanjouw and Lanjouw, 2001). Rural household enterprises exit the market primarily due to a lack of profitability or finance, and due to idiosyncratic shocks (Nagler and Naude, 2017). Supply side constraints to accessing more productive off-farm activities such as lack of appropriate skills and access to credit undoubtedly matter. However, limited demand for the goods and services that rural households could produce is quite often the more binding constraint (Beegle and Bundervoet, 2019).

4.3 The agri-food sector

One area where the demand for off-farm goods and services is already present, is the agri-food sector. With Africa's incomes and urbanization rising over the past couple of decades, diets and eating habits have been diversifying. This has boosted the demand for more nutrient dense (dairy, fruits, and vegetables, meat), and more convenient foods, in urban, but increasingly also in rural areas (Reardon et al., 2021; Sauer et al., 2021). A substantial share of off-farm rural employment is in the expanding agricultural value chains. For example, in Ethiopia, Malawi, Niger, Nigeria, Tanzania, and Uganda, food processing, food trading and food services are estimated to provide 24 percent of total rural employment on average (in full time equivalents) and 41 percent of all rural off-farm employment (Dolislager et al., 2021). Similar orders of magnitude are observed in Western Africa (Allen et al., 2018). Off-farm jobs in the agri-food system can help absorb some of the labor exiting the farms and their employment share in the agri-food system increases as countries develop, part of the rural transformation.

Accordingly, the midstream of the agri-food sector, in Africa dominated by micro, small, and medium-sized enterprises (MSMEs), has grown rapidly (Reardon et al., 2020). But fragmentation and poor-quality standards mean that its full employment generating potential is not being realized (IFAD 2021). Its jobs generating capability has been tested further by the COVID pandemic, which especially affected MSMEs (Nordhagen et al. 2021). Consolidation towards more capital-intensive firms may accelerate, further hampering the agri-food sector midstream's employment generating potential. Yet, countries which manage to raise on farm productivity and simultaneously develop their off-farm agri-food sector reduce poverty more rapidly (IFAD, 2019).

4.4 Labor mobility and towns

In situ rural employment generation alone will not suffice to absorb all new labor market entrants and generate good jobs for all. Labor mobility to find new jobs in urban areas, as well as other rural areas, is equally necessary, especially for rural youth who have less immediate access to land and a longer time horizon to gain from moving. Gains from migration include earnings as well as nonmonetary amenities (e.g., social services) and typically increase along the rural-urban spectrum: smaller for intra-rural migrants, larger for those migrating to secondary towns and cities, and largest for those moving to the city (Beegle et al., 2011; Henderson and Kriticos, 2018; Gollin et al., 2021). Despite these differential expected income gains, many more migrants move to rural areas and towns than to cities. In the remote region of Kagera, Tanzania, for example, intra-rural and rural-town migration with a lower gain per migrant contributes more to overall income growth and poverty reduction than migration to cities with a higher gain per migrant because more people move to rural area and towns (Christiaensen et al., 2019).

The younger, better educated, and richer are more likely to move and move further (Young, 2013). They have more to benefit from skilled employment opportunities in cities and are better able to overcome migration costs. Their cohorts are also fewer in numbers, which partially explains the smaller number of migrants to cities compared to the number of migrants to towns (or other rural areas). Recent evidence suggests, however, that in migrants' destination choice the deterring effects of distance far outweigh the attraction of higher wages and incomes at destination even though less so for the more educated and richer (De Weerdt et al. 2021).[9] Given their proximity and the type of economic activities, secondary urban centers are more accessible and provide more employment opportunities for the lower skilled and those with liquidity constraints. Return to the home village is also easier when things go awry, safeguarding the village network as safety net (Ingelaere et al. 2018). With most of the rural population in Africa living much closer to a town than to a city,[10] many of them unskilled and liquidity constrained (Beegle and Christiaensen, 2019), towns and town development thus emerge as important conduits for generating off-farm employment and brokering the rural transformation (Rodriguez-Pose and Griffiths, 2021), including through agricultural value chain development.

The role of rural-rural migration in agricultural and rural transformation remains poorly understood – as the focus in migration studies is traditionally on rural-urban migration. Intra-rural migration is highly prevalent in Africa, however. It might offer youth an opportunity to obtain land or diversify to nonagricultural employment (Mueller and Lee, 2019; Wineman and Jayne ,2017). If intra-rural migrants are more innovative, more capitalized and/or more educated, it can also positively affect agricultural productivity in receiving rural communities, as observed for example in Zambia (Chamberlin et al., 2020).

Overall, the results suggest that African countries are in many ways still at the beginning of their agricultural and rural transformation, especially in Eastern and Central Africa. Many of the observed moves out of agriculture, as in Western Africa, have been mainly into low-productive self-employment services, mostly in urban areas (Amadou and Aronda, 2020; Busse et al., 2019). This has been driven in part by natural resource fueled urbanization into consumption cities (Gollin et al., 2016). Natural resource rich countries also invest less in agriculture, particularly in agricultural research and development (Ndiaye and Christiaensen, 2021). As a result, rural economies and rural off-farm employment have been left underdeveloped, further reinforced by historical urban primacy and relative neglect of secondary cities, as observed in Côte d'Ivoire (Christiaensen and Premand, 2017). But the rural-urban moves have only imparted a one-off static gain. They did not induce a virtuous cycle of growth and good job generation, with Africa's economic growth per capita largely grinding to a halt in the second half of the 2010s.

[9] In their (remote) sample region of Kagera, the balance of these opposing forces tilted in favor of the city only for those with higher secondary education, and even then, only slightly.

[10] In low-income countries, the share of the rural population living within one hour of a town is 43%, with another 20% living within 2 hours; only 13% live within one hour from an intermediate city and 7% within one hour from a large city (>1 million) (Cattaneo, Nelson, and McMenomy, 2021).

5 Decent work and inclusion

5.1 Governance of decent work

The state of employment or labor working conditions is often captured by the concept of "decent work", launched by ILO in 1999. [11] It usually refers to wage employees (and is not applied to self-employed workers) and relates to wages, working conditions, workers' rights, and discrimination but there is no universal agreement on what constitutes a good-quality job and how to quantify this. The early literature on job quality conceptualizes decent work through a focus on workers' own evaluation of their job and their job satisfaction (Burchell et al., 2014). More recent studies use composite, multidimensional indices to quantify job quality, such as Yu (2020),[12] who documents that employment quality in South Africa is higher in urban than in rural areas, lower in agriculture than in other sectors, higher in formal than in informal sector employment, and increasing with age and education. Yet, overall, the literature on decent work in Africa is rather thin, especially for rural areas and for employment on smallholder farms (Ayenew et al., 2017; Jäckering et al., 2021; Meemken et al., 2019).

As indicated in the conceptual discussion above, when the rural economy has dualistic Lewis-type features with surplus labor in a traditional, low-productivity sector and a rapidly expanding modern high-productivity sector that absorbs this surplus labor, wages and job quality might not improve when the rural economy as a whole transforms to higher labor productivity (even though they improve somewhat for those moving as they take on the wages of the more productive sector). Only when surplus labor is exhausted (the Lewis turning point), will wages and job quality in both the low and high productivity sector improve. This is consistent with the sluggish increase in real wages in labor-intensive sectors that have expanded for decades, such as the horticultural export sector in Senegal (Maertens and Fabry, 2019) and the large-scale farm sector in Kenya (Fibaek, 2021).

In the early stages of agricultural and rural transformation, when dualism is present, decent work is not governed through market forces. It is usually pursued through non-market channels. First, decent work can be fostered through government regulations such as minimum wages and maximum working hours. Most SSA countries have some form of a minimum wage regulation. But these only apply to wage employees, are often only enforced in the formal sector or even in specific sectors and industries and may be lower in rural and agricultural sectors than in urban and industry sectors (Bhorat et al., 2017). The ILO (2020) estimates that 28 million workers (21% of wage employees) in Africa are paid below the minimum wage. Evidence on the implications of minimum wage policies for decent employment in Africa is very limited. Bhorat et al. (2014) document that the introduction of a minimum wage in the agricultural sector in South Africa increased farm workers' wages with 30 percent and increased the incidence of fulltime work and written employment contracts. Andalón and Pagés (2008) find that increases in the minimum wage in Kenya are associated with increased wages for unskilled workers in nonagricultural sectors but not in agriculture.

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[11] According to ILO (2008), decent work involves *opportunities for work that is productive and delivers a fair income, security in the workplace and social protection for families, prospects for personal development and social integration, freedom for people to express their concerns, organize and participate in the decisions that affect their lives and equality of opportunity and treatment for all women and men*.

[12] Yu (2020) defines a composite, multidimensional employment quality index based on 18 indicators and 7 dimensions, including wage, work hours and flexibility, employment security, income security, social benefits, skills, and participation.

Second, civil society can play a role, especially through labor or trade unions. In rural Africa, workers are poorly organized and their freedom of association and right to collective bargaining hardly practiced (Pahle, 2015). Estimates for selected African countries indicate that between 5 and 43 percent of employees are member of a trade union, with the highest incidence in Northern and Southern Africa, which are also more developed (ILO, 2019). The evidence on the implications of labor unions for decent employment largely concentrates on South Africa, where unionization is relatively high (28 percent), but low in agriculture (6 percent), thereby contributing to increased wages of members but also to increased wage inequality (Kerr and Wittenberg, 2021).

Third, decent work can be transmitted from high-income to low- and middle-income countries through global value chains and governed through private standards or corporate codes-of-conduct. Decent work in rural Africa has been most intensively studied in this context and appears to hold most promise. Various studies across several countries and subsectors show, with worker survey data, that either wages, employment conditions or job satisfaction (or a combination thereof) are better in export-oriented agro-industries than in other sectors, and better in companies that are certified to private standards or use stringent codes of conduct than in non-certified companies (e.g. Colen et al., 2012; Ehlert et al., 2014; Fabry and Maertens, 2021b; Krumbiegel et al., 2018; Suzuki et al., 2018;).

While employment conditions are often mentioned to be most precarious in the smallholder farm sector, decent work is most intensively studied for large farms and agro-industry sectors and there are even fewer studies that focus on decent employment in smallholder farming and informal wage sectors in Africa. Ayenew et al. (2017) indicate that precarious employment conditions and child labor are important sources of technical inefficiency in agricultural production on family farms in Ethiopia and Tanzania. A study by Meemken and co-authors (2019) analyzes the implications of Fairtrade certification for the wages, working time and contracts of hired workers on smallholder cocoa farms and in cocoa cooperatives. Their findings point out that hired workers on smallholder farms face worse employment conditions than cooperative workers, and that Fairtrade does not improve their employment conditions. Using and experimental methods, Jäckering et al. (2021) find that awareness campaigns can increase smallholder farmers' willingness to sign written employment contracts with hired farm workers and provide social benefits.

5.2 Gender and youth

Certain groups, such as female and young rural workers are widely reported to be disadvantaged in labor markets and employment in Africa, but some assertions have been refuted – others not. There is for example little evidence of a female dominance of the rural and agricultural labor force in Africa. Using individual plot-level data from six countries, Palacios-Lopez et al. (2017) document that women provide on average only 40% of the total labor (including self- and wage employment) in agriculture. Yet, Baffour and Quartey (2016) point out that rural women in Ghana have a higher likelihood than men to be in time-related as well as income-related underemployment, implying that employed women work less hours in productive income-generating jobs and generate lower incomes than employed men. There is also ample evidence for gender gaps in agricultural labor productivity, and lower productivity on female- versus male-managed plots, from various (mostly Eastern African) countries (e.g., Ali et al., 2016; Campos et al., 2016; Croppenstedt et al, 2013; Gebre et al., 2021; Kilic et al., 2015; Mugisha et al., 2019; Nchanji et al., 2021; Oseni et al., 2015; Slavchesvska, 2015; Smale et al., 2019). These gender gaps in productivity are usually attributed to factors such as education, crop choice, land rights and quality, access to inputs, credit, family

labor, technology, and extension services – and not to an intrinsic lower productivity of female labor. Studies point to similar gender gaps in rural non-farm sectors, with evidence on a lower labor productivity in female-managed non-farm enterprises (Nagler and Naudé, 2017; Rijkers and Costa, 2012). In almost all African countries there is also a gender wage gap, averaging 16% across countries and rural and urban areas (ILO, 2019). This is confirmed by various country and sector-specific studies (e.g., Schidrowski et al., 2021; Bigler et al, 2017; Fabry et al., 2021a,b; Odoul et al., 2017).

The assertions on a huge youth *un*employment problem are also largely refuted in the literature. While there is a high share of youth[13] in the total population in Africa (Mabiso and Benfica, 2019; Maiga et al. 2015; IFAD, 2019), the estimated youth employment rate is 61%, which is higher than in Asia (39%) and Latin-America (48%) (Dolislager et al., 2020). Some countries in Southern and Northern Africa, including South Africa and Namibia, have particularly high youth unemployment rates but in most countries youth unemployment is low (Fox et al., 2016; Sumberg et al., 2021). Yet, there is substantial *under*employment among Africa's rural youth (Bezu and Holden, 2014; Carreras et al., 2020; Fox et al., 2016). Elder and co-authors (2015) estimate, with data from eight African countries, that on average 7.5% of the youth labor force is unemployed and that more than one third of young rural workers works less than 20 hours per week. Contrary to the gender productivity gap, young workers are often ascribed a higher labor productivity because they innovate more rapidly and are better informed and digitally connected – but there is little evidence for this (Mabiso and Benfica, 2019; Mueller and Thurlow, 2019; Sumberg and Hunt, 2019).

Farming remains the dominant employment sector for rural youth, refuting the idea of a large outflow of youth labor from agriculture[14] (ILO, 2019; Heckert et al., 2021; Mabiso and Benfica, 2019; Maiga et al. 2015). Most rural youth workers are farming in informal self-employment but estimates of this share vary between 40 to 80 percent across countries and studies (Abay et al., 2021; Elder et al., 2015; Fox et al., 2016; Yeboah and Jayne, 2018). The engagement in off-farm wage employment and non-farm self-employment increases with the age of young workers, and peaks around the age of 30 (Abay et al., 2021). Related to this, there is ample evidence from various countries (but again mostly from Eastern Africa) that rural women and youth have a lower likelihood to engage in nonagricultural employment, off-farm wage employment and non-farm self-employment than rural men and elderly workers respectively (e.g., Nix et al., 2016; McCullough, 2017; Van den Broeck and Kilic, 2019). Yet, in some countries women are observed to be more likely to engage in off-farm employment, e.g., in Ghana (Acquah, 2013) and Nigeria ((Van den Broeck and Kilic, 2019). Some specific export-oriented agro-industry sectors in Senegal, Ghana and Kenya are reported to be particularly inclusive towards women, young workers and/or migrants (Krumbiegel et al., 2020; Maertens and Swinnen, 2012; Odoul et al., 2017). A substantial share of rural youth (in some countries up to 20% in FTE) works in the off-farm segment of the agri-food system (Dolislager et al., 2020; Yeboah and Jayne, 2018).

Some studies on decent work and job satisfaction include a gender and/or youth perspective. Female wage workers in commodity value chains in Kenya have poorer working conditions and more job insecurity

[13] Youth is usually defined as the age category 15 to 24. Some studies use a broader age range of 15 to 28 or even 34 – or distinguish between youth (15 to 24) and young adults (25 to 34). Varying definitions of youth complicate a comparison across studies.

[14] Perceptions of widespread disinterest by Africa's youth in agriculture are misleading as these are usually based on dichotomic preference scenarios (taking or leaving agriculture), leaving out the possibility of (often preferred) mixed livelihood strategies (LaRue, et al., 2021).

(Oduol et al., 2017). Fabry et al. (2021a,b) indicate that female wage employees in horticultural export companies in Senegal face worse conditions for multiple dimensions of decent work than male workers, and youth and migrant workers are found to be less likely to have a decent job in this sector. Despite lower wages and poorer working conditions, women are observed to have a higher job satisfaction (Fabry et al., 2021a) – a relation that is in the literature referred to as the gender job satisfaction paradox and ascribed to self-selection and differences in expectations.

5.3 Remoteness

Rural areas vary substantially in terms of connectivity and agro-ecological potential, with Africa's rural population spatially clustered in areas with high soil quality (Jayne et al., 2014). It is commonly assumed that employment opportunities and poverty are worse in remote settings with poor agro-ecological potential, the so-called lagging regions. Emerging evidence, however, suggests that poverty rates in Africa are higher in high than in low agro-ecological potential areas. Poverty rates in high potential areas increase the more remote they are, but in low potential areas, they remain similar, or even decline with remoteness (Christiaensen and Vandercasteelen 2019; Wantchekon and Stanig, 2016). Moreover, the number of poor people in poorly connected high agro-ecological potential areas far outstrips those in poorly connected low agro-ecological potential ones (Christiaensen and Vandercasteelen, 2019). This also holds for youth (IFAD, 2019).[15]

The mechanism behind these findings remains poorly understood. High agro-potential areas may have attracted more people, inducing higher population density. If not followed by commensurate agricultural intensification, stagnation and impoverishment ensue. Overall, the practice of fallow has virtually disappeared in Africa, but the adoption of soil fertility enhancing inputs (organic and inorganic) has lagged, with widespread soil and environmental degradation now commonly observed (Binswanger-Mkhize and Savastano, 2017; Jayne et al., 2014). Remoteness exacerbates this situation, making it even harder to intensify agricultural production, diversify outside agriculture or move (Davis et al., 2017). Historically, much of Africa's road infrastructure has been constructed to connect mining areas to cities and seaports, thereby bypassing some of the areas with the greatest agro-ecological potential. This legacy persists in the spatial distribution of Africa's current road network (Wantchekon and Stanig, 2016).

Limited employment opportunities in lower agro-ecological potential areas remains a challenge, among others to prevent rising interregional inequality and conflict. Yet, the findings in the literature draw attention to more remote high agricultural potential areas with high population density as key entry points for productive employment generation and poverty reduction, with an emphasis on rural infrastructure and transport services, agricultural services (including for smallholder livestock promotion) as well as schooling.

6 Research gaps and emerging issues

While the empirical literature on rural employment in Africa has been growing rapidly in the last decade, there seems to be a bias in this literature towards Southern and especially Eastern Africa. This bias likely relates to data limitations. In many cross-country studies using LSMS data, more than half (sometimes even all) of the included countries are Eastern African countries. There are important regional differences

[15] Nearly half of all rural youth worldwide live in poorly connected high potential areas, with the concentration even larger in Sub-Saharan Africa (IFAD, 2019).

in rural employment trends, however, with Western Africa showing quite different trends than Eastern Africa for example. Evidence from Western and Central Africa, except for a couple of countries such as Ghana and Senegal, is still thin. Generalizing from the currently available empirical evidence is therefore still difficult and calls for caution.

Second, a crucial question emerging from the literature is the potential trade-off between the quantity and the quality of rural employment. This question relates to identifying policy priorities in terms of fostering full employment versus fostering more productive and decent employment. While market forces might not increase wages and improve employment conditions during early stages of agricultural and rural development, the decent work agenda is brought along through global value chains and international pressure on governments for labor market regulations. While there are clear signs that private standards and corporate codes of conduct improve working conditions in general, there is very little evidence whether this comes at the expense of employment creation. Incipient evidence shows that in South Africa the introduction and increase of minimum wages has an adverse effect on employment in agriculture and nonagricultural sectors (Bhorat et al., 2013, 2014 & 2017; Habanabakize et al., 2019; Nattras and Seeking, 2014 & 2018). Studies are needed that examine and quantify the trade-off between the quantity and quality of employment in Africa, where large increases in the (rural) labor force are still expected.

Third, while conceptually powerful and practically convenient given the data available, the rural-urban dichotomic approach insufficiently acknowledges their interdependency. This is often strongest at their interface, making peri-urban areas particularly interesting and distinct. Migration to peri-urban areas contributes substantially to the transition from low to more productive jobs in Tanzania, for example (Mueller et al. 2019). Yet, standard rural-urban analysis masks this prominent phenomenon of rural to peri-urban (rather than rural to urban) migration. But this is just one example of rural-urban interaction and spatial contiguity. The newly developed global spatial data set by Cattaneo, et al. (2021a) opens new opportunities to examine employment and mobility patterns and cross-over patterns along the rural-urban continuum and urban hierarchy. The authors categorize the global population based on their travel time from urban centers of different sizes, yielding a series of urban-rural catchment areas by city size. This allows for example to explore the extent of urban-rural employment spill-overs in the hinterlands and how they vary by distance and city size. Are urban centers more likely to cause rural stagnation or "backwash" by draining (skilled) workers and financial capital from rural areas or are they more likely to create employment opportunities or "spread" by generating demand for rurally produced goods and services. How far does the urban influence stretch and how does it vary by city size? Cattaneo et al. (2021) provide a good initial discussion on how the data could be used to analyze such and other rural-urban interactions and how employment and other socio-economic outcomes evolve across the rural-urban continuum.

Fourth, the globally ongoing digitization, reinforced by the COVID pandemic, can fundamentally transform the agri-food system. Unlike prior agricultural revolutions that began with on-farm innovations (British and Green Revolution), digital technologies are likely not labor-intensive and promote innovations at multiple points along the agri-food value chain. By reducing information asymmetry and transaction costs and facilitating the capture of economies of scale, they can bring agricultural advisory, credit, and insurance as well as machinery services within the reach of smallholders, while improving access to output markets and facilitating quality upgrading and value chain development. Digitization is most advanced in the provisions of advisory services (e-extension), in financial services (e-wallet) and in supply chain management (Tsan et al., 2019). The multitude of seemingly small changes in transaction costs (to get

credit, to sell one's good, to verify quality) could increase the profitability of smallholder farms and SMEs in the agri-food midstream. But digitization also entails risks, including the risk of market concentration and limited inclusion if not complemented with support measures such as the rural expansion of internet access, digital skill development and effective anti-trust regulation (Kim et al., 2020). Evidence on the impact of possible disruptive digital applications on rural employment outcomes has remained scarce, partly because of the nascent nature of these innovations. Given its transformational potential, it sets an important agenda for action learning and rigorous evidence building.

Fifth, there is increased attention for "Green, resilient and inclusive development" (GRID), which calls for strategies that promote economic growth and employment that goes hand in hand with environmental goals and social inclusion (World Bank 2021). The implications for employment generation in rural Africa are unclear. A transition to sustainable agriculture by 2030 through the adoption of conservation agriculture in developing countries and organic agriculture in developed countries is for example simulated to reduce employment in agriculture worldwide by about 2 percent, with losses concentrated in Africa (-3.5 per cent or over 20 million fewer jobs) and Asia and the Pacific (- 2.2 percent or 100 million fewer jobs) (ILO, 2018). These results follow largely from the hypothesis of lower labor requirements of conservation agriculture implemented in areas where agricultural labor shares are still high. Similarly, more sustainable use of natural resources (forests, parks, and oceans) may create better and more sustainable jobs, but likely also fewer of them. To accelerate the transition from jobs and production processes that are either low productive or bad for the environment to jobs that are high productive *and* environmentally sustainable, better articulation and quantification of the impacts of green policies on rural labor markets, mechanisms to overcome the time lags between green investments and returns, as well as effective ways to compensate the "losers" are needed.

Finally, much is expected from the African Continental Free Trade Area (AfCTA). Intra-African trade liberalization is calculated to increase employment opportunities and wages for unskilled workers and help close the gender wage gap (World Bank *2020*). The continent would see a net increase in the proportion of workers in energy-intensive manufacturing. Agricultural employment would increase in 60 percent of countries, and wages for unskilled labor would grow faster where there is an expansion in agricultural employment. By 2035, wages for unskilled labor would be 10.3 percent higher than the baseline; those for skilled workers 9.8 percent. Wages would also grow slightly faster for women than for men (10.5 vs 9.9 percent) as output expands in key female labor–intensive industries. These are promising trends, though the effects for rural employment deserve further attention. The evolution of job outcomes in border cities and towns and their hinterlands, where most of the effects of the trade liberalization in the East African Community were felt (Eberhard-Ruiz and Moradi, 2019), deserves attention.

7 Concluding remarks

The identification of policy areas for good job creation is often grounded in a comparison of (labor) productivity or earnings across sectors (agriculture versus non-agriculture), production modalities (small versus large firms), products (low versus high value added), and localities (towns versus cities). Large productivity gaps are then typically a motivation for a policy focus on fostering the sector, modality, product, or location with the largest productivity and on removing barriers to factor mobility from one activity to the other. While appealing at first sight, such a conclusion might be premature. First, raw

productivity gaps often hide confounding factors such as measurement error and unobserved heterogeneity, or largely disappear when changing the metric (e.g., per hour instead of per person).

Second, the focus on labor productivity, wages, and job quality, ignores the size or quantity effect. Small labor productivity or wage increases benefiting a large share of the population may generate more better jobs in the aggregate than large productivity increases. In addition, such small productivity increases may create jobs that are more accessible for the poor and less educated than jobs in high productive sectors. The larger contribution of town than city migrants to growth, productive employment and poverty reduction is telling (Christiaensen and Todo, 2014). Unless supported by export demand, good jobs can only expand when supported by broader based domestic income growth to support the demand for the goods and services produced by these jobs, which is likely to be rather income elastic. Good jobs are jobs that are productive, but not necessarily the most productive (Rodrik, 2021). And good job policies need to be consistent with skill endowments and promote appropriate technologies. Labor-intensive manufacturing export expansion is Africa limited, as robotization in the developed world rapidly reduces the cost of capital-intensive manufacturing, which implies that jobs need to be responsive to domestic demand patterns. Nayyar, Hallward-Driemeier and Davies (2021) review the scope and policy directions for a services-driven development model.

Third, more important than the static gains are often the dynamic or spillover effects. It is, for example, especially the larger spillover effects from agricultural growth, through expenditure linkages, that confine an advantage to agricultural over nonagricultural growth in stimulating broad based income growth and poverty reduction (Christiaensen, Demery and Kuhl, 2011; Ligon and Sadoulet, 2018; World Bank 2008). Similarly, if larger and more productive smallholder farms (5-10 ha) confer the most employment benefits on the immediate environment (Chamberlin and Jayne, 2020), it may be productivity growth in smallholder agriculture that is most beneficial for rural employment, rather than investment in large farms with fewer but potentially better jobs.

Despite important differences across and within countries, staple crop productivity and rural-off farm activities are still predominantly low and many African countries still find themselves rather early on in the agricultural and rural transformation. Given smaller productivity gaps than commonly observed, greater size effects and larger spillovers, the evidence reviewed supports a complementary policy and investment focus on agriculture and the rural off-farm economy to broker the transition to more rural productive employment. The key policy questions then become how best to invest in the agri-food system (on the farm and increasingly also off the farm) and how best to generate demand for nonagricultural goods and services which rural households can competitively produce. Not all agricultural policies generate an equal number of good jobs; nor do all strategies to foster off-farm employment. To maximize more, good rural employment generation, these subsectoral policy choices should similarly be guided by the productivity gains they generate per worker as well as the number of workers gaining directly, together with the broader expected good job gains from spillover effects on the local economy. Barrett et al. (2021), Beegle and Christiaensen (2019) and IFAD (2019; 2021) make an important step in this direction, reviewing how different subsectoral policies perform in terms of gains per worker, the number of workers gaining and potential spillovers as well as their joint effect on rural income growth and poverty. Yet, informing these policy choices continues to present a major research agenda, with ongoing robotization and digitization, the rising imperative of greening and intra-African liberalization providing new opportunities and challenges.

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Tables

Table 1: Defining different types of rural employment

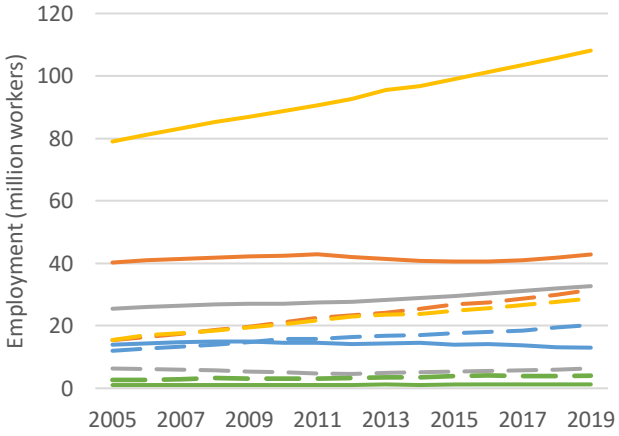
	Agricultural employment	Non-agricultural employment
Wage employment - Paid employment jobs (formal or informal) - Explicit or implicit employment contract (casual, temporary, or permanent) - Remuneration based on salary or wage (time or piece rate wage) - Workers = employees = hired workers	Hired workers on family farms: often informal or semi-formal agricultural wage employment. Hired workers in corporate farms, on plantations and in agro-industrial companies: formal agricultural wage employment	Hired domestic workers Hired workers in family-owned non-farm small or medium enterprises Employees in non-agricultural corporate enterprises
Self-employment - Jobs in own or family enterprises (formal or informal) - No employment contract - Remuneration based on profits derived from produced goods and services - Workers = employers, own-account workers or contributing family workers	Own-account workers: owners of a small or median farm enterprise Contributing family workers in a small or medium farm enterprise Employers: owners of a farm enterprise engaging workers as employees	Own-account workers: owners of a small or median non-farm enterprise Contributing family workers in a small or medium non-farm enterprise Employers: owners of a non-farm enterprise engaging workers as employees

On-farm employment = agricultural self-employment
Off-farm employment = agricultural wage employment + non-agricultural wage employment + non-agricultural self-employment
Non-farm employment = non-agricultural wage employment + non-agricultural self-employment

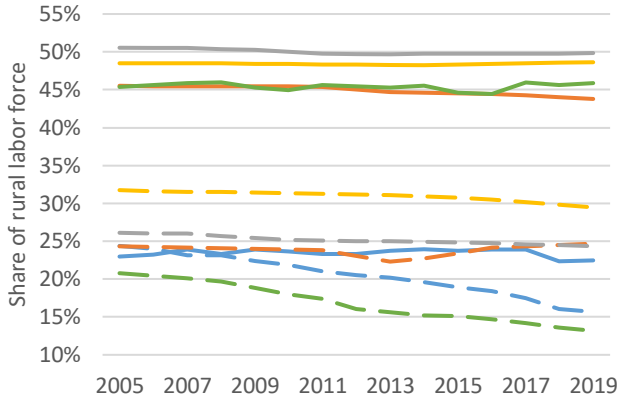
Source: based on ILO definitions (https://ilostat.ilo.org/resources/concepts-and-definitions - accessed June 2021)

Figure 1: Rural employment trends across African regions (2005 – 2019)

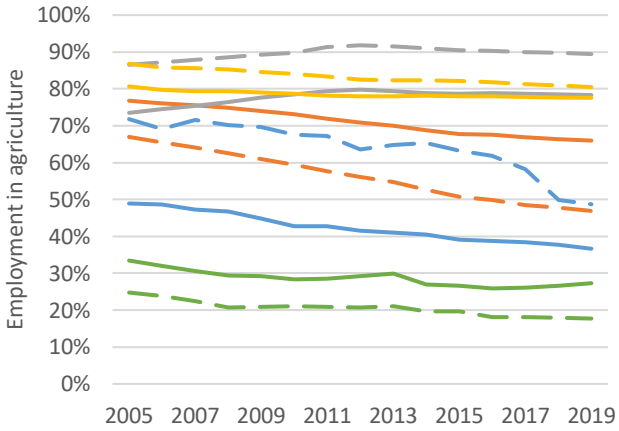
A. Agricultural (full line) and non-agricultural (dotted line) rural employment (million workers)



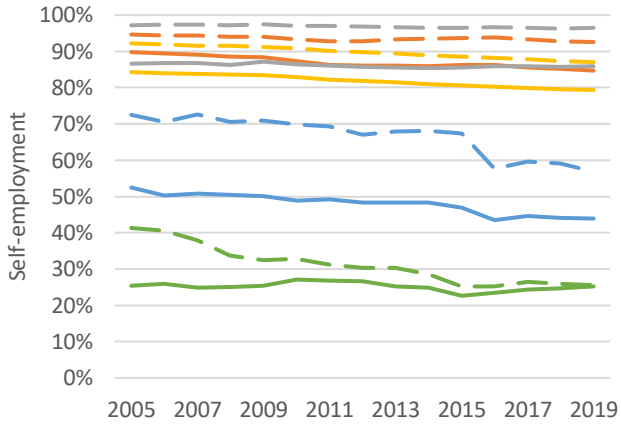
B. Share of women (full line) and youth (aged 15-24) (dotted line) in rural labor force



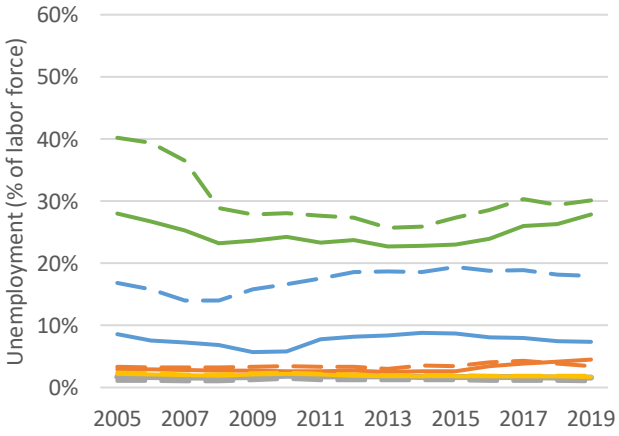
C. Share of male (full line) and female (dotted line) rural workers in agriculture



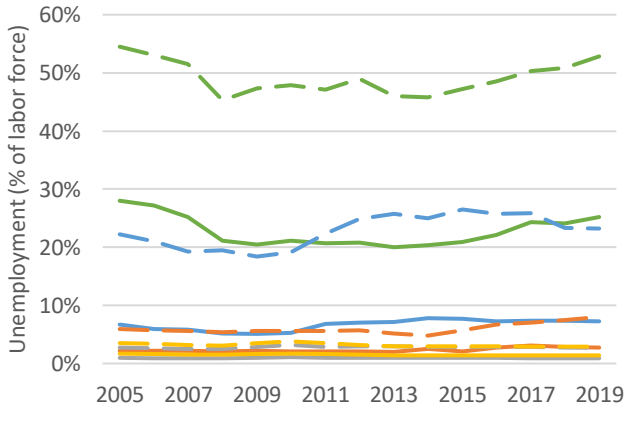
D. Share of male (full line) and female (dotted line) rural workers in self-employment



E. Rural unemployment among male (full line) and female (dotted line) rural labor force



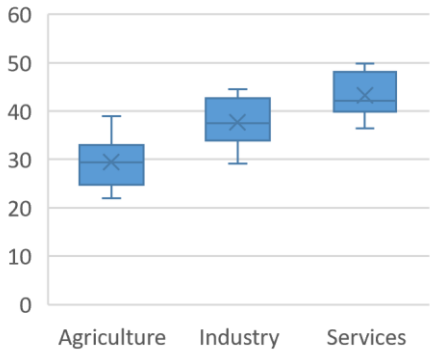
F. Rural unemployment among adult (full line) and youth (dotted line) rural labor force



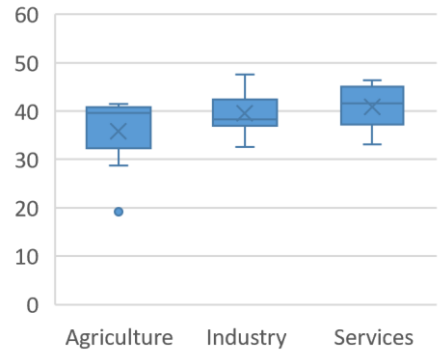
Source: Based on ILO- modelled estimates derived from ILOstat (2021)

Figure 2: Weekly working hours for rural workers in Eastern and Western Africa

A. Eastern Africa



B. Western Africa



Notes: Eastern Africa includes data from Burundi, Kenya, Madagascar, Mozambique, Malawi, Rwanda, Tanzania, Uganda, Zambia, and Zimbabwe. Western Africa includes data from Burkina Faso, Cote d'Ivoire, Ghana, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo. Data are from 2019 (Kenya, Rwanda, Zimbabwe), 2018 (Zambia, Mali), 2017 (Uganda, Cote d'Ivoire, Ghana, Niger), 2015 (Madagascar, Mozambique, Senegal), 2014 (Burundi, Tanzania, Burkina Faso, Liberia, Sierra Leone, Togo), 2013 (Malawi, Nigeria).

Source: Based on estimates from ILO compiled survey data derived from ILOstat (2021)

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