

AGRIFOOD YOUTH EMPLOYMENT AND ENGAGEMENT STUDY **POLICY BRIEF**



This Policy Brief summarizes the findings of the Agrifood Youth Employment and Engagement Study (AgYees). The full report may be downloaded at isp.msu.edu/agyees.

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AGRIFOOD YOUTH EMPLOYMENT AND ENGAGEMENT STUDY (AGYEES) POLICY BRIEF

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The Agrifood Youth Employment and Engagement Study (AgYees) examines the potential of sub-Saharan Africa's agrifood systems to provide new jobs for unemployed, underemployed and disadvantaged youth, and identifies constraints affecting the capacity of youth to take up these economic opportunities.

Africa has the youngest population in the world, with almost 200 million people between the ages of 15 and 24—a number that is expected to double by 2045 (African Economic Outlook 2015). Although many jobs have been created by Africa's growing economies, job creation has not been enough to accommodate the expanding youth population.

The International Labor Organization estimates that only 16 million of 73 million jobs created in Africa between 2000 and 2008 were filled by youth. Sixty percent of Africa's unemployed are youth, even more are underemployed, and youth unemployment rates are double those of adult unemployment in most countries (African Economic Outlook 2015). Across 34 African countries, citizens regard unemployment as the top problem facing their nations (Dome 2015). The rising youth population is increasingly better educated, and there is an unprecedented opportunity for economic and social development if the talents of this generation can be tapped. Alternatively, the youth could also present a significant threat to social cohesion and political stability if insufficient economic and employment opportunities are available. Unemployment of youth is of particularly critical concern in fragile states, with one in two youths joining rebel movements citing unemployment as the primary motivation (World Bank 2011, cited in African Economic Outlook 2015).





OBJECTIVES

This Policy Brief summarizes findings from the Agrifood Youth Employment and Engagement Study (AgYeEs). AgYeEs examined the potential of Sub-Saharan Africa's agrifood¹ systems to provide new jobs for unemployed, underemployed and disadvantaged youth and identified constraints affecting the capacity of youth to take up these economic opportunities. Two analytical tracks generated insights and guidance on cost-effective strategies and programmatic entry points most likely to improve employment options and livelihoods for disadvantaged African men and women.

The Strategic Policy and Foresighting Analysis reviewed economic mega-trends for Rwanda, Tanzania and Nigeria and projected how economic changes, specifically farm structure and dietary transformations, will affect future job prospects for rural and urban African youth. The Agrifood Landscape Analysis, focusing on Rwanda and Tanzania, examined the economic and policy environment affecting youth engagement with the agrifood system, assessed the supply and demand for related workforce training and perceived gaps, and distilled best practices and lessons learned related to youth economic programming.

¹ We define the agrifood system as the set of activities, processes, people, and institutions involved in supplying a population with food and agricultural products. The agrifood system encompasses the provision of farming inputs and services, production at farm level, post-farm marketing, processing, packaging, distribution, and retail, and the policy, regulatory, environmental, and broader economic environment in which these activities take place.

Specific activities and actors within the agrifood system include: *Farming*: those involved directly in producing crops, raising animals, and managing fisheries. *Downstream agrifood system*: those engaged in post-farm value addition, e.g., assembly trading, wholesaling, storage, processing, retailing, preparation of food for sale outside the home, beverage manufacturing, etc. *Upstream agrifood system*: those engaged in pre-farm value addition activities, e.g., farm input distribution, irrigation equipment, farmer extension services. *Off-farm within the agrifood system*: both the upstream and downstream portions of the agrifood system. *Off-farm outside the agrifood system*: all other types of employment outside the agrifood system. Agriculture is defined in the traditional sense to include crop and livestock production, hunting and related services, forestry and logging and fishery and aquaculture.

DATA AND METHODS

Within the Strategic Policy and Foresighting Analysis, the Land/Farm Report offered a detailed description of employment trends in the region, with a particular focus on men and women between 15 and 34 years of age, disaggregated into two age brackets, 15-24 and 25-34². The Land/Farm Report also examined the role of agricultural productivity growth in promoting job growth in the overall economies of Rwanda, Tanzania, and Nigeria. The analysis utilized nationally representative and multi-year survey data from the Living Standards Measurement Study with its Integrated Surveys of Agriculture (LSMS-ISA), Labor Force Surveys, and the Integrated Public Use Microdata Series. Each dataset provided labor market information on individual household members by age, gender, and rural/urban location.

Three main employment categories were studied (farming, off-farm sector within the agrifood system, and off-farm sectors outside the agrifood system), in addition to unemployment and economic inactivity. Employment shares and employment changes over time were computed within these categories, reported both in terms of counts as stated by survey respondents and by computing "full-time equivalents" (FTE).³ Multinomial logit models were estimated to identify the socio-economic, demographic and geographic factors shaping the employment structure over time, building on the work of McMillan and Harttgen (2014).

² The United Nations classifies individuals between the ages of 15-24 years as youth. However, the African Union and most African countries consider youth to be those within the 15-35 year age bracket. Disaggregating the youth population into the two age brackets allowed us to account for the two definitions.

³ The FTE approach computes the share of an individual's work time over the year that can be allocated to a range of work activities, allowing us to estimate how dependent people are on particular jobs for their livelihood. A full time equivalent of 40 hours a week, 4 weeks per month for a 12-month year period was assumed as one FTE.

Controlled for gender and age categories, the analysis also disaggregated by geographic region to identify potential differences in the factors associated with sectoral employment patterns. Lastly, the Land/Farm Report explored the links between sectoral employment shifts, labor productivity and total factor productivity growth in agriculture.

The Downstream Report of the Strategic Policy and Foresighting Analysis examined the structure of consumer demand for food, projected likely changes over the next five years, and linked these consumption changes to changes in future employment. The analysis of the Downstream Report relied on data from household-level LSMS surveys that capture household expenditure on detailed lists of food- and non-food items and employment over the past year of all household members. These data were used to examine current patterns of consumer expenditure and employment, to project the evolution of consumer expenditure over a five-year period and to tie these to employment projections over the same period. LSMS data were complemented by data from Comtrade for imports and exports.

For the Downstream Report, a common categorization scheme was applied to all food expenditure items, with categories defined by (1) the commodities in the food item and (2) the level of processing, perishability, and source of the item (purchased or own consumption, and whether purchased in prepared form). Once categorized, the food item quantity was allocated across commodities based on content. The Downstream Report conveyed five-year projections on consumption and employment, using methods adapted from Tschirley et al. (2015). Demand projections were based on estimates of mid-point arc elasticities of expenditure for each specific commodity categorized by processing/perishability/source, and real annual GDP growth rates for each country. For each food category, the projected total percentage growth over the five year period and its contribution to growth in

total demand over all foods were examined, with four categories of food types defined based on their growth profiles. Finally, the Downstream Report analysis tied the projections of growth in demand to growth in employment through a categorization scheme for jobs that allowed direct linking of job categories with the categorization of consumer expenditure explained above.

The Agrifood Landscape Analysis for Rwanda and Tanzania was based on a comprehensive desktop review of secondary data and reports from the World Bank, the United Nations, government and donor agencies, and non-governmental organizations. For each country, the Landscape Analysis reviewed population, labor force, and educational characteristics; economic growth and poverty trends; characteristics of the agrifood system, and key policies and programs affecting agrifood system development; and policies and programs related to workforce education and development, and specifically youth training, business development and financial services.

To validate and expand on the findings of the desktop review, AgYees researchers made site visits to Rwanda and Tanzania to conduct focus group and individual semi-structured interviews with major agrifood stakeholders. In each country, the AgYees team interviewed representatives of the ministries of agriculture, education and other agencies responsible for developing and implementing policies and programs for youth employment in agriculture. The team also met with polytechnic and university providers of formal and informal training for youth and with international and donor agencies engaged in youth and agriculture programs, as well as NGO, private sector, and state-supported providers of training, business development and financial services for youth. The team also held extensive discussions with agrifood industry representatives in each country.

AGRIFOOD SYSTEM:

The set of activities, processes, people, and institutions involved in supplying a population with food and agricultural products.



KEY FINDINGS

Strategic Policy and Foresighting Analysis

Overall, the Land/Farm and Downstream Reports convey a consistent story about the major dynamics underway in African employment: labor is moving sharply out of farming as the economies transform, yet farming remains extremely important for livelihoods and economic growth. Moreover, the off-farm agrifood system is growing very rapidly in percentage terms and will offer important opportunities for new businesses, but it will not match farming in the absolute level of new job creation for at least ten years. Specific points and insights arising from the Strategic Policy and Foresighting Analysis follow.

First, African economies have been transforming rapidly over the past 15 years, with generally rapid but highly variable rates of exit of labor from farming into off-farm segments of the economy. Second, the rate of exit from farming has been most rapid in Rwanda, followed by Tanzania, and Nigeria has shown slow or no exit. The findings on the shift of labor out of farming and differential rates of exit is consistent with the broader literature, including on the negative effects of natural resource booms in Africa on economic transformation.

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Third, when computed as full-time equivalents (FTE), the analysis finds that farming (of own farms plus hired farm labor) accounts for 43% to 48% of the labor force in Tanzania, 53% in Rwanda, and 34% in Nigeria. The proportion of the labor force in the off-farm segments of the agrifood system is about 8% in Rwanda, 17% in Tanzania, and 23% in Nigeria in FTE terms. The off-farm sector outside the agrifood system, mainly commerce and transport, construction and the public sector, employs more: roughly 37% in Rwanda, 35% in Tanzania, and 43% in Nigeria in FTE terms.

Fourth, in terms of new job creation, the Land/Farm and Downstream reports both show that employment in the off-farm portion of the agrifood system is growing much more rapidly in percentage terms than employment in farming, but the growth is from a lower base, and thus the contribution to new jobs in off-farm employment is smaller than that of farming.

Fifth, both reports find that the potential role of the off-farm agrifood system in new employment varies greatly across countries. The off-farm agrifood system will contribute between 18% and 22% of all new FTE jobs in Tanzania over the next five years. This figure is not much lower than farming's 31% to 34% contribution. The off-farm agrifood system currently accounts for 22% to 24% of jobs in Nigeria but only 18% of FTE job growth (half that of farming) due to the lack of exit from farming in that country. On the other hand, the off-farm agrifood system accounts for only 8% of jobs and 11% of job growth (about one-third that of farming) in Rwanda.

The analysis in the two reports differs on the relative importance of farming in new job creation. The Land/Farm report finds that farming has accounted for the largest number of new jobs (compared to the off-farm agrifood system and the rest of the economy outside the agrifood system) in the time period between the two most recent nationally representative surveys in each country. Specifically, the Land/Farm report shows that farming contributed 59%, 52%, and 33% of all new jobs created in the economies of Nigeria, Tanzania and Rwanda, respectively. The off-farm agrifood system contributed 40%, 16%, and 11% of all new jobs in the three countries, respectively. The off-farm sector outside the agrifood system accounted for 1%, 32% and 57% of all new jobs in Nigeria, Tanzania and Rwanda, respectively. Both analyses show farming's share of new jobs to be highest in Nigeria and lowest in Rwanda. The Downstream Report, however, suggests farming will provide only about one-quarter to one-third of new jobs in the countries, while the Land/Farm analysis suggests a range of one-third to nearly 60%.

A specific and important finding from the Land/Farm analysis is the demonstration that the pace of economic transformation from farming to off-farm employment is directly related to agricultural productivity growth, consistent with historical patterns of growth in Asia. Rwanda, having experienced the highest agricultural productivity growth among the three focus countries, also has experienced the most rapid decline in the share of the labor force engaged in farming. In contrast, slow agricultural productivity growth in Nigeria has been associated with very little change in farming's share of the labor force. The literature suggests that agricultural productivity growth, especially if broadly based, will generate strong multiplier effects that expand job opportunities in the downstream stages of the agrifood system as well as in the broader off-farm economy.

The Land/Farm analysis also found that a key constraint to promoting labor productivity growth in farming is access to land, especially in land-scarce regions like Rwanda. Population pressures, increases in world food prices, and associated rising interest in Africa's arable land are driving up land prices in the region, limiting the ability of youth, in particular, to access land.

Key results from the Downstream analysis include, first, that food away from home (FAFH) should generate high quality jobs for youth in all three countries, even if the absolute number of jobs they will support will not be as large as in other sectors. Because the FAFH sectors are much larger in Nigeria and Tanzania than in Rwanda, the former two may present opportunities to focus activities and programming in this sector. This rationale is further supported by the fact that FAFH in these two countries not only offers the most rapid and largest growth in demand of any type of food, but also offers the most rapid growth in output per worker in each country; wages in these sectors (or returns to labor in own employment) are thus likely to be attractive and rapidly improving.

Second, food manufacturing in Tanzania offers the highest output per worker, the second-highest rate of growth in output per worker, and fairly large employment

absorption, at 5% of all new jobs. In all three countries, results suggest that food manufacturing should offer high quality jobs, but with a much larger number of jobs in Tanzania than in Rwanda and Nigeria.

Third, fresh produce (fruit and vegetables) and dairy offer strong growth prospects for young farmers in Rwanda, from a double perspective: for each, local demand is growing rapidly and export possibilities are strong. Fresh produce could be exported regionally and, if proper investments are made and sustained, internationally to high-income markets. The dairy market in East Africa is already strongly regional and growing rapidly, and Rwanda could be poised to benefit greatly from satisfying some of the growing demand among its much larger neighbors.

Fourth, FAFH stands to benefit women in Nigeria and Tanzania especially, where 90% and 71%, respectively, of all FTE employment in the sector is female. Finally, the 25-34 year age group is significantly less likely to be engaged in farming than is the 15-24 year group in each country. This pattern suggests that youth may start in farming due to lack of other alternatives, but then look to leave it when they find better options.



Agrifood Landscape Analysis

Both Rwanda and Tanzania have experienced impressive economic growth during the 2000s. Rwanda's GDP growth averaged eight percent between 2001 and 2014, accompanied by a twenty-point reduction in poverty. Consistent with the Land/Farm analysis, Rwanda's economic growth and poverty reduction were in large part due to agricultural policies and investments that resulted in significant improvements in on-farm agricultural productivity which lifted the incomes of rural families.



Now, Rwanda's severe land constraint limits further agricultural area expansion and especially youth access to land. A new strategy is required to foster continued economic growth that effectively engages young people and creates not only more jobs, but more productive, poverty-reducing jobs for youth, both on and off the farm.

Unlike Rwanda, Tanzania's economic growth has concentrated mainly in urban areas, driven by capital-intensive sectors, including mining, telecommunications, construction and banking. Except for construction, these capital-intensive sectors create few jobs directly. Also different from Rwanda, the Tanzanian agrifood system's rate of growth has been consistently lower than other sectors, leading to a slower decline in poverty in rural areas, rising inequality between urban and rural populations, and accelerating rural-to-urban migration. Tanzania faces the dual challenge of achieving faster growth while accelerating the shift of its labor force, especially youth, to more productive work. In contrast to Rwanda, Tanzania is well-endowed with natural resources and has significant potential to expand agricultural land. With the recent discovery of large natural gas reserves, together with the expanding mining industry, there will also be opportunities to create agrifood-related jobs and businesses to service the needs of these growing sectors.

Rwanda is attempting to address its youth and productive employment challenge by setting a target of 200,000 new off-farm jobs annually and taking steps to improve the coordination of related employment, skills and finance programs, many with an explicit focus on youth employment. In Tanzania there has been relatively little focused attention on youth employment up to now in national policies and programs. The Government of Tanzania currently does not have a comprehensive coordinated policy on youth skills and employment or an overall employment or youth goal. Where national policies exist, they lack strong implementation and monitoring plans, so impact is uncertain. In both Rwanda and Tanzania, access to land and finance are major constraints for youth opportunities in the agrifood system.

The landscape analysis revealed issues and gaps that must be addressed to elevate youth engagement in the evolving agrifood system as an urgent policy priority in Tanzania and to expand the scale and effectiveness of youth employment and skills training programs in both Rwanda and Tanzania.

Key issues include:

- Agriculture is widely perceived by youth as an unappealing, traditional, labor intensive farm activity which generates little if any profit, not as a potentially high-profit business activity that involves a spectrum of new opportunities on and off the farm connected to marketing, processing, packaging, and food service, in addition to on-farm production. In Rwanda, the policy goal of 200,000 off-farm jobs annually is often interpreted as “non-agricultural jobs” by government representatives and program implementers, even in rural areas, potentially neglecting opportunities to create productive employment for youth with strong growth and poverty implications. Rwanda is an African leader in the application of ICT and other advanced technologies, which are appealing to youth. However, ICT applications which could increase productivity or provide access to finance or market information for the agrifood system are not being strongly promoted.
- There is a significant gap between the skills demanded by the private sector and those supplied by formal programs and informal education and training programs, including specialized technical skills, entrepreneurial/business skills, and soft skills. In general, there is need for a much higher skill level and more systematic, private sector engagement in developing appropriate curriculum for formal and informal courses and providing opportunities for youth to get meaningful practical experience and training.
- Challenges remain in reaching out-of-school, rural youth via informal training, especially expanding the availability of informal training courses that are linked to institutionalized TVET and tertiary systems and are potentially more sustainable. To reach out of work and underemployed youth, non-traditional recruitment strategies are essential. Given the weakness of the agricultural extension service in both countries, the ongoing provision of technical content through informal channels, including associations, agribusiness dealers, and social media is important to keep youth engaged and updated on agricultural innovations and opportunities.
- SME development is a critical lever for connecting skills development and access to financial resources with real economic opportunities that lead to expanded youth employment, in line with agrifood sector comparative and competitive advantage in both countries. Two innovative programs introduced by Rwanda’s MINICOM—the Hanga Umurimo Program (HUP) and Community Processing Centers (CPCs) and sector cluster development—are promising in their efforts to better coordinate training programs provided through different ministries and levels of government, and to link training with access to finance, equipment and other resources. The Southern Agricultural Growth Corridor of Tanzania (SAGCOT) is also facilitating demand-driven cluster development, but without an explicit focus on out of work or underemployed youth.
- The experiences of SME and cluster programs in both countries also illustrate the steep learning curve youth entrepreneurs face in starting businesses and responding to market demands on an ongoing basis. The reluctance of financial institutions to lend to young agricultural entrepreneurs and high rates of startup failure suggest the importance of providing a longer-term “safe” incubator environment where young people can learn and practice essential technical and business skills as they are mentored, without the risk of catastrophic failure.
- Youth entrepreneurs engaged in small and medium enterprises (SMEs) and clusters of agrifood system-related businesses and services require assistance to analyze market potential for their products, and to identify and address priority policy and regulatory issues that affect value chain development. Youth also need to be able to access specialized training and assistance to address emerging downstream agrifood business challenges, including meeting local and international food safety standards and developing appropriate, low-cost packaging.
- Although youth and women constitute the rural majority in both countries, few existing analyses examine factors affecting the development of specific value chains using youth as well as gender lenses.

In general, there is need for a much higher skill level and more systematic, private sector engagement in developing appropriate curriculum for formal and informal courses and providing opportunities for youth to get meaningful practical experience and training.

RECOMMENDATIONS

Based on the results of this study, the AgYees team offers the following recommendations for youth-related programming in Rwanda, Tanzania and Nigeria.

- 1. Support action-oriented research and knowledge on strategies and policies that will raise agricultural productivity growth and economic returns to labor in farming, including land tenure and land allocation policies:** Increasing agricultural productivity has the potential to yield broad-based and inclusive growth with significant multiplier effects on off-farm job creation, given historical experience from Asia and the large absolute numbers of jobs that will be created by farming in Nigeria, Tanzania and Rwanda for at least the next decade.
- 2. Pursue a mixed program strategy to increase youth economic opportunities both on and off-farm:** These programs should (a) increase the knowledge, productivity, and market engagement of youth who have the desire and ability to be good farmers, and (b) provide training and other assistance to increase the profitability of non-farming activities for the many youth who will end up leaving the sector.
- 3. Focus programming especially on value chains that service the expanding food away from home, food manufacturing, and horticulture sectors:** In Nigeria and Tanzania, farm service provision, on farm production, supply, marketing, processing, wholesaling and retailing of fruits and vegetables, poultry, fish, dairy and high-demand cereals and oilseeds are expected to generate high quality jobs for youth and women. In Rwanda, fresh produce and dairy offer strong growth prospects for young farmers to serve both domestic and regional markets.
- 4. Develop and implement comprehensive youth employment strategies:** Provide technical assistance and financial resources to enable government to develop (in the case of Tanzania) and fully implement (in both countries) a comprehensive youth employment strategy and implementation plan, with programs coordinated across ministries and levels of government. The programs should include appropriate metrics and monitoring systems. Work with other donors to ensure coordinated funding to implement the strategy.
- 5. Work to change youth mindsets about agrifood system-related opportunities:** Raise youth awareness about profitable agrifood sector opportunities through multi-media campaigns showcasing agri-entrepreneur role models, new technologies, and exploring business opportunities for youth.
- 6. Accelerate the application of ICT and other advanced technologies to agrifood system problems:** Ensure that curriculum and informal training courses, including those focused on out-of-school youth, reflect up-to-date technologies. Do this through programs that facilitate collaboration between top universities and polytechnics with private sector associations and other partners to develop, adapt, and disseminate problem-solving innovations. Expand out-of-school rural youth access to technology and engagement through rural Technology Innovation Labs and Service Centers similar to KLab (Kigali).
- 7. Expand agrifood system training programs and improve curricula:** A persistent low educational and skill level will adversely impact future labor productivity growth and the economic transformation process. In Tanzania, prioritize the expansion of agrifood system training programs in the TVET system and MATIs, targeted especially to out-of-work, underemployed youth. In Rwanda, draw on Rwanda Development Board recommendations on agricultural sector skills needs, accelerate the adoption of competency-based curriculum revisions in support of five agrifood system-related trades with certifications, and expand curriculum revisions to additional agrifood trades.
- 8. Increase private sector engagement in training programs:** Provide guidelines and resources to educational institutions and non-formal training providers to facilitate regular private sector input to their programs, to review and shape curricula, assist with internship, apprentice and incubator programs, and provide private sector professionals to teach classes and provide content for multi-media programs, focusing especially on out-of-school youth.

- 9. Integrate more and higher quality experiential learning in a cost-effective way:** Develop, test, and monitor alternative methods of integrating experiential learning and extended mentoring into skills training and through SME incubators to learn what methods work best to help youth apply learned skills to real employment and entrepreneurship in the agrifood system. Expand the SME cluster incubator concept on farm in high-value agrifood systems, and monitor the outcomes. Work with government, local communities and the private sector to dedicate underutilized land for youth working in groups on intensive, high-potential agriculture enterprises. Work with private sector associations to provide young entrepreneurs and employees with ongoing mentoring and help with solving problems as they arise.
- 10. Institutionalize monitoring, learning and communication:** Invest in country monitoring and evaluation capacity to continuously learn from program elements that affect learning effectiveness, youth employment, and SME development success. In both countries it will be important to develop appropriate monitoring and evaluation strategies to discern which approaches are more successful than others in transferring experience from the classroom to the real world, which factors affect loan repayment and business success, and why. Develop a common platform for communication and information sharing among youth employment programs.
- 11. Ensure that SME clusters can access up-to-date training, technologies, and market information, and identify and implement options for addressing policy/regulatory issues:** Provide resources for SME clusters to commission analyses and implement recommendations related to markets and options for addressing policy and regulatory barriers. Ensure that youth can access specialized training and assistance on an on-demand basis to address new downstream business challenges and opportunities, including meeting food safety standards and developing appropriate, low-cost packaging. Ensure access by micro- and small firms in the post-farm segment of the agrifood system to finance, technology, and training.
- 12. Mainstream gender and youth in all programmatic interventions:** Use data from programs, census and other household and business establishment surveys to track the development of specific priority value chains, their contributions to workforce development and equity as well as economic goals, and determine what program interventions are most effective in improving the participation and success rate of target groups.



REFERENCES

- African Economic Outlook (2015). African Economic Outlook 2015. Retrieved April 29, 2016 from: http://www.africaneconomicoutlook.org/fileadmin/uploads/aeo/2015/PDF_Chapters/Overview_AEO2015_EN-web.pdf
- Dome M. Z. (2015) A Window of Policy Priorities: Evidence from citizens of 34 African countries. Afrobarometer Policy Paper No. 18. Retrieved April 29, 2016 from <http://afrobarometer.org/publications/pp18-window-policy-priorities-evidence-citizens-34-african-countries>
- McMillan, M. and Harttgen, K (2014) The changing structure of Africa's economies'. National Bureau of Economic Research working paper 2007. National Bureau of Economic Research, Cambridge, MA. Retrieved from: http://legacy.wlu.ca/documents/57803/McMillan_ChangingAfrica_140317.pdf
- Tschirley, D.; Snyder, M.; Dolislager, D.; Reardon, T.; Haggblade, S.; Goeb, J.; Traub, L.; Ejobi, F.; Meyer, F. (2015). "Africa's Unfolding Diet Transformation: Implications for Agrifood System Employment." Forthcoming, Journal Agribusiness in Developing and Emerging Economies.

