



RURAL YOUTH EMPLOYMENT

July, 2017

This paper was commissioned by the German Federal Ministry for Economic Cooperation and Development as an Input Document for the G20 - Development Working Group.

This paper was prepared jointly by the World Bank and IFAD at the request of the German Federal Ministry for Economic Cooperation and Development. The core team that prepared the paper was comprised of Robert Townsend, Rui Benfica, Ashesh Prasann, and Maria Lee with inputs from Parmesh Shah, Luc Christiaensen, Steven Jaffee, Chris Delgado, Madhur Gautam, Sergiy Zorya, Iftikhar Mostafa, Adarsh Kumar, Loraine Ronchi, Gene Moses, Paul Winters, Bettina Prato, and David Suttie.

The paper benefited from G20 country feedback at the G20 Development Working Group meeting on December 15, 2016, and from subsequent written comments from representatives of Argentina, Australia, Brazil, Canada, France, Germany, Japan, Italy, India, Netherlands, United States, United Kingdom, the Food and Agriculture Organization, the International Labor Organization, the United National Industrial Development Organization, and the Organization for Economic Corporation and Development.

This work is a product of the staff of The World Bank and the International Fund for Agricultural Development (IFAD) with external contributions. The findings, interpretations, and conclusions expressed in this work do not necessarily reflect the views of The World Bank, its Board of Executive Directors, or the governments they represent, or the Member State of IFAD or their representatives to its Executive Board.

The World Bank or IFAD does not guarantee the accuracy of the data included in this work. The designations employed and the presentation of material in this paper do not imply the expression of any opinion on the part of The World Bank or IFAD concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Contents

OVERVIEW.....	1
WHY FOCUS ON RURAL YOUTH EMPLOYMENT?.....	5
Youth account for the largest share of the population in many countries	5
Youth are more likely than adults to be unemployed.....	6
A large share of youth in developing countries live in rural areas	7
OPPORTUNITIES FOR YOUTH EMPLOYMENT IN RURAL AREAS	8
Farming	9
Broader food system in rural areas.....	9
Rural non-food related activities	10
WHAT CAN BE DONE TO INCREASE RURAL YOUTH EMPLOYMENT?	12
Facilitate inclusion of rural youth in policy dialogue and program design.....	13
General demand-side actions	14
Invest in complementary infrastructure	14
Raise agricultural productivity growth to raise demand for non-farm goods and services.....	16
Promote high value agriculture and value addition.....	18
Improve the rural investment climate and trade.....	19
Promote competition and private sector participation and investment	21
Promote secondary towns	22
Role of mechanization	23
Specific targeted supply-side actions	25
Skills development and matching rural youth to jobs.....	25
Facilitate access to land.....	28
Improve access to affordable finance.....	30
Promote MSME development.....	32
Support social protection and safety net programs, and access to social services	34
IMPELEMENTATION CONSIDERATIONS.....	36

OVERVIEW

1. *Purpose:* The paper was prepared at the request of Germany as an input to discussions on Rural Youth Employment in the G20 Development Working Group.
2. *The G20 Food Security and Nutrition Framework highlights the importance of jobs in the food system.* One of the three priority areas in the framework is to ‘increase incomes and quality employment in food systems’.¹ The implementation plan of the G20 Food Security and Nutrition Framework (FSN) calls for support for the economic empowerment of rural women and rural youth through knowledge sharing forums, enhancing vocational training and promoting food security and nutritional safety nets.² This document on *Rural Youth Employment* contributes to the G20 FSN implementation plan through providing more detail on the broader spectrum of action areas for consideration by G20 countries to promote the level and quality of jobs in rural areas in developing countries. It also complements the broader G20 focus on youth employment.
3. *The G20 has had a broader focus on youth employment.* Promoting better employment outcomes for youth was highlighted in the G20 Brisbane Action Plan³ and the 2014 G20 Labor and Employment Ministerial Declaration⁴. Employment measures targeted at youth also feature prominently in many of the national Employment Plans developed by each G20 economy⁵. Under the Turkish Presidency of the G20, the Employment Working Group⁶ put forward possible options for monitoring; developments in youth labor markets; and country progress in implementing policy commitments for improving the labor market situation of young people. Endorsed under the Chinese G20 Presidency in 2016, the G20 Entrepreneurship Action Plan outlines a set of recommendations to support entrepreneurship as a source of jobs and growth, including for youth.⁷ In addition, one of the principles of the Committee on World Food Security (CFS) Principles for Responsible Investment in Agriculture and Food Systems is to engage and empower youth.⁸ Other relevant initiatives include the Compact with Africa, and the ongoing work within the Global Partnership for Financial Inclusion to promote youth entrepreneurship.
4. *Rural youth employment matters.* Today’s generation of youth is the largest the world has ever known: 1.2 billion young people are between the age of 15 and 24.⁹ The population below the age of 24 accounts for the largest share of the population in almost all countries in Sub-Saharan Africa, but also in many countries in South Asia, East Asia, Latin America, and the Middle East and North Africa often referred to as the ‘youth bulge’. Yet, youth are two or three times more likely than adults to be unemployed. The majority of working youth are poor and employed in vulnerable, low quality jobs, in the informal sector. A large share of youth in developing countries live in rural areas, and overall rural populations in low and middle income countries will continue to expand over the next several decades, even with urbanization. An estimated 440 million young people will enter the rural labor market by 2030 in Africa alone. Demand for rural labor services will be essential for absorbing these new entrants into the workforce and to help manage the speed of rural to urban transitions.
5. *Opportunities for rural youth employment.* The need to feed growing rural and urban populations and shifting consumption patterns to higher value and more processed products offers prospects for income gains and jobs in both farming and the broader food system in rural areas as economies transform. Intra-rural migration from lagging to prospering areas offers broader rural job opportunities, and as farmers are aging globally, more young people are needed in agriculture. Agriculture generates 68 percent of rural household income in African countries, with 23 percent from rural non-farm activities. In Asia about half of rural incomes are from agricultural activities, 37 percent from non-farm activities, and 13 percent from transfers, while in Latin America, agriculture and non-farm activities account for the same share of household incomes, 43 percent each. This is broadly consistent with the general pattern of structural transformation that as per capita incomes

increase the share of incomes from rural non-farm activities tends to increase, but not always, relative to farming. Much of the rural non-farm activities, however, are agriculture related, and part of the broader food system, and countries and regions within countries that have been most successful in diversifying into rural non-farm incomes have been the ones where agriculture was growing strongly.

6. *The 'youth bulge' is an opportunity for countries to reap a demographic dividend.* If the increased number of youth reaching working age can be fully employed in productive and sufficiently rewarding activities in response to market demand, then overall growth and per capita incomes can increase. An appropriate mix of public sector actions will be needed to realize the demographic dividend. If however, a large share of youth cannot find jobs and earn satisfactory incomes, then the youth bulge can be a potential source of social tension, with migration pressures to other countries resulting in a loss of energetic workers with innovative ideas and entrepreneurial potential.

7. *Actions on both the demand and supply side are needed to increase jobs for youth in rural areas.* Each has somewhat varying effects on stimulating self and wage employment on farms and in rural non-farm activities (table 1). Women/girls are often more greatly disadvantaged and actions should be targeted to their particular circumstance. For example, adequate vocational training is often not available in rural areas. This poses a particular challenge to young women, who may not be able to travel far from home. In addition, a cross-cutting action on greater inclusion of rural youth in policy dialogue and program design is also needed.

- (i) *General demand side actions:* these include actions to invest in complementary infrastructure; raise agricultural productivity growth and climate resilience to stimulate demand for non-farm goods and services; promote high value agriculture and value addition while protecting healthy diets; improve the rural business climate (regulatory quality, barriers to entry, local fees/taxes) and trade (burdensome procedures, taxes); promote competition and private sector participation in agricultural value chains; promote secondary towns; and use prudent policies for mechanization. These actions can help stimulate rural enterprise and the associated demand for labor services.
- (ii) *Specific supply side actions targeted to rural youth:* include actions to facilitate youth skills development and matching rural youth to jobs, facilitate rural youth access to land; improve access to affordable finance by rural youth; promote MSME development; and support social protection and safety net programs, and access to social services.

8. *Priorities vary by country context* reflecting the variance in binding constraints across countries. Prioritization should be guided by consideration of the number of young people reached, urgency in particular areas, and potential effects on livelihoods of young people. In addition, other consideration include the following examples. In agriculturally dependent countries, it is hard to create non-farm jobs without first growing the profitability of agricultural tradables, the income from which stimulates growth in rural and urban areas. Past efforts that didn't give consideration to this demand side, but focused solely on supply-side interventions to stimulate the rural non-farm economy often stumbled. Investments to promote youth inclusion in rural non-farm jobs in dynamic agricultural areas will likely be more effective than similar levels of investment with a similar objective in a stagnant agricultural area. In land abundant countries, improving land rental markets can provide an avenue for greater rural youth engagement in agricultural production. The investment climate and market organization also differs across countries. While the need for skills development for youth cuts across all countries, the nature of skills deficits varies. In some countries basic education (to read and write) is more of a priority, while in others it may be entrepreneurial skills development. These differences call for programs that intend to target youth employment to clearly identify the binding constraints that they are trying to address.

Table 1: Spectrum of action areas to increase the number of jobs for youth in rural areas

	Farm		Rural non-farm	
	Self-employment	Wage employment	Wage employment	Self-employment
Facilitate inclusion of rural youth in policy dialogue and program design	x	x	x	x
General demand side actions				
Invest in complementary infrastructure	x	x	x	x
Raise agricultural productivity growth to raise demand for non-farm goods & services			x	x
Promote high value agriculture and value addition		x	x	x
Improve the rural business climate and trade	x	x	x	x
Promote competition and private sector participation and investment	x	x	x	x
Promote secondary towns	x	x	x	x
Role of farm mechanization		x	x	x
Specific targeted supply side actions				
Skills development and matching rural youth to jobs	x	x	x	x
Facilitate access to land	x	x		
Improve access to affordable finance	x	x	x	x
Promote MSME development			x	x
Support social protection & safety net programs, & access to social services	x	x	x	x

x = relevance of the listed action area to self and wage employment of rural youth in farm and rural non-farm activities

9. *Potential elements for G20 discussion:* This is not intended to be an exhaustive list.

- (i) *Alignment around the SDGs and Malabo Declaration:* One of the Sustainable Development Goals (SDGs) is to substantially reduce the proportion of youth aged 15-24 not in employment, education or training. Available measures for this indicator in the SDG Indicators Global Database shows large ranges across countries. These measures could potentially be used to prioritize development partner country efforts on rural youth employment, as well as learn lessons from countries that have already progressed. In addition, the Malabo declaration has a target for African countries to create job opportunities for at least 30 percent of the youth in agricultural value chains that can help focus efforts in the region.
- (ii) *Country level development co-operation:* Coordination of development partner support for rural youth employment at both country level and across international initiatives can potentially improve the efficiency and effectiveness of support. Country-led and owned programs for rural youth employment can provide a useful coordination mechanism, guided by a common diagnosis of binding constraints in that particular country or area. Development partner support can help governments to develop or strengthen these programs, including the associated diagnostics, and link with initiatives such as the Global Initiative for Decent Jobs for Youth.
- (iii) *Fill data gaps:* A challenge in assessing the regional and temporal variation of rural youth employment is the paucity of disaggregated cohort size and labor market data within the youth category. Information on rural labor markets, particularly in the informal sector is sparse. Efforts to reduce this data gap could help improve design of policies targeted at improving labor market outcomes of rural youth.
- (iv) *Mutual learning and knowledge exchange on development of skills and entrepreneurship, for scaled-up investment:* Recent global analysis of youth targeted interventions found that only about a third of them

showed a significant positive impact on employment or earnings. Encouragingly these programs have been more successful in low and middle income countries, and skills training and entrepreneurship programs seem to have had a higher impact. Programs that integrate multiple interventions also seem to have performed better than those focusing on only one intervention. Drawing on lessons learned and knowledge exchange on what rural youth programs work and do not work could usefully inform design of future programs.

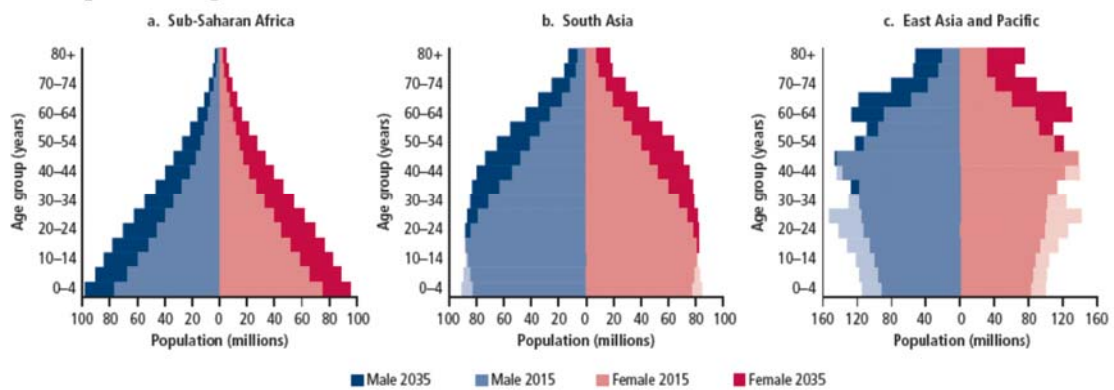
- (v) *Land*: In some countries land is a binding constraint to rural youth engagement in farming, with decisions to pursue non-agricultural livelihoods or migration to urban areas sometimes determined mainly by lack of access to land. Efforts to help facilitate the functioning of land markets, particularly rental markets, can ease this constraint.
- (vi) *Promote gender equality*: Embed gender equality in all the G20 members' support programs related to rural youth employment and provide the necessary support to governments to design gender-responsive youth initiatives.
- (vii) *Financing to support rural youth employment*: In addition to attention to policies and knowledge, additional investments will be needed to achieve the SDG and Malabo declaration target on youth employment, , including through country public budgets, global programs, multilateral development banks, and the private sector.

WHY FOCUS ON RURAL YOUTH EMPLOYMENT?

Youth account for the largest share of the population in many countries

1. *Countries and regions are at different stages of demographic transition.* A general pattern of development is an initial lag between the decline in infant mortality rates and the subsequent decline in women fertility rates. The gap creates a demographic ‘youth bulge’ resulting in a large share of the population comprised of youth.¹⁰ The ‘youth bulge’ only shrinks when the gap between infant mortality and women fertility rates decline. Throughout this paper youth refers to 15-24 year olds. At varying times, developing countries and regions have been undergoing this demographic transition and are currently at different stages (figure 1). Sub-Saharan Africa (SSA) is in the early stage, with the youth share of the population projected to further increase. South Asia (SA) is in the midst of the transition with its large youth share projected to decline slightly by 2035. East Asia and the Pacific (EAP) is nearing the end of the transition with a smaller youth share that is projected to decline further.

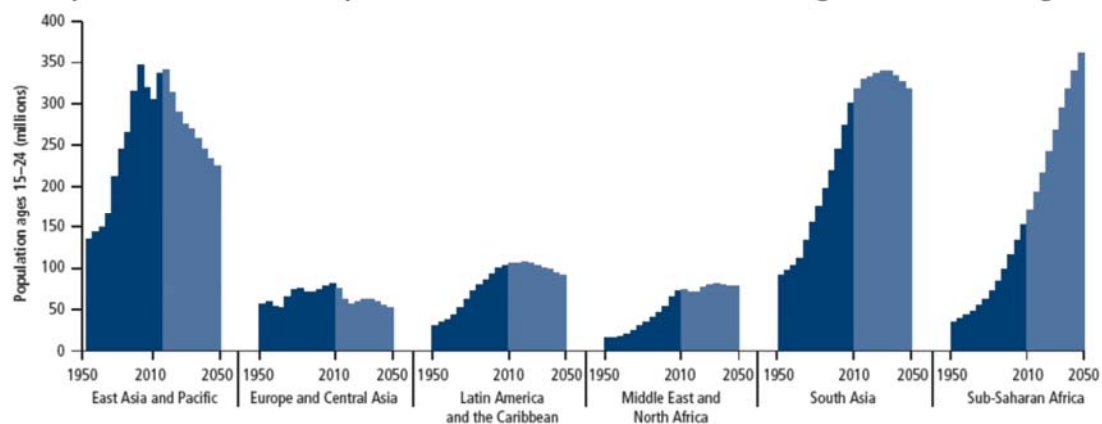
Figure 1: Population age structure in Sub-Saharan Africa, South Asia, and East Asia and Pacific



Source: Filmer and Fox (2014) based on United Nations (2011)

2. *In the developing world, most youth reside in South and East Asia, both of which are projected to be surpassed by Sub-Saharan Africa* (figure 2). In 2010, about 300 million and 350 million people were aged between 15-24 in SA and EAP respectively, while in SSA this cohort comprised about 150 million people. For EAP, the numbers are projected to decline by 2050 to 230 million people, in SA they are projected to remain above 300 million people, and in SSA they are projected to more than double to over 350 million people.

Figure 2: By 2045, the number of youth in Sub-Saharan Africa will be higher than other regions



Source: Filmer and Fox (2014) based on United Nations (2011)

Note: Each bar shows an estimate or a projection of the number of 15- to 24-year-olds for one year at five-year intervals.

3. *Sub-Saharan Africa has the youngest and fastest growing population.* The median age of the population in SSA is 18.3 years old, in Asia its 30 years old (37.0 in China, 26.6 in India).¹¹ The youngest country in the world, Niger has a median age of 14.8 years old. Over the last decade, the population in SSA has grown at 2.8 percent per year, double the rate of SA, four times the rate of EAP, and about 50 percent higher than the Middle East and North Africa, the region with the second fastest population growth rate. A large share of the labor force in SSA are below 24 years old, and over the next two decades, 440 million young Africans will be entering the job market looking for work.

4. *Policy makers face the challenge of effectively absorbing the maturing youth bulge into productive and sustainable employment.* If the increased number of youth reaching working age can be fully employed in productive and sufficiently rewarding activities in response to market demand, then overall per capita incomes can increase and the youth bulge can become a demographic dividend for these economies. If however, a large share of youth cannot find jobs and earn satisfactory incomes, then the youth bulge can be a potential source of social tension. With appropriate policies, the youth bulge and the prospects for a demographic dividend is an important opportunity for countries.

Youth are more likely than adults to be unemployed

5. *The majority of youth are jobless or don't participate in labor markets.* The UN estimates that four in ten youths in EAP, about half of youths in SA, and 70 percent of youths in the Middle East do not participate in the labor force (e.g. are in school or training, or not actively seeking work) (table 2). Of those youths that do participate in labor markets, unemployment ranges from 1 in 10 youths in South Asia to 3 in 10 youths in the Middle East. High youth unemployment rates seem to act as a disincentive for youth to participate in the labor force. Contrary to popular perceptions, youth unemployment rates in Sub-Saharan Africa don't stand out globally (Table 2), but there is considerable heterogeneity across countries in the region. In Southern African, countries like South Africa, Namibia, Zambia and Lesotho have similar youth unemployment rates to North Africa, but the youth share of unemployed is much lower¹². Across all developing regions, except East Asia, youth unemployment rates are higher for females than males. The largest relative difference is in the Middle East where youth unemployment rates are twice as higher for females than males (36.4 vs. 18.7 percent).¹³

Table 2: Youth employment, unemployment, and labor market participation across developing regions, 2015

	Youth employment-to-total youth population (%)	Youth unemployment rate (%)	Youth not participating in labor force (%)	Youth-to-adult unemployment (%)
East Asia	52.7	10.2	41.3	2.7
Sub-Saharan Africa	47.3	11.7	46.4	2.0
Latin America & Caribbean	45.3	13.4	47.7	2.6
South-East Asia & Pacific	44.8	13.7	48.1	5.4
Developed economies (incl. EU)	39.6	17.0	52.3	2.2
South Asia	46.9	9.6	48.1	3.9
Central & South Eastern Europe (non-EU) & CIS	33.6	17.2	59.4	2.6
North Africa	25.2	23.9	66.9	3.3
Middle East	21.0	29.9	70.0	3.8

Source: Authors' calculations using ILO (2013).

Column (1) represents the percentage of youth (ages 15 – 24) working in each region. Column (2) shows the percentage of youth who are participating in the labor force but are unable to find employment. Column (3) is the percentage of youth who are in education or are inactive in the labor market for other reasons. Youth unemployment-to-total youth population = $\{[100-(2)]/100\} * [100-(3)]$. Labor force participation rate = $100 - (3)$. Youth-to-adult unemployment rate is a ratio of youth unemployment rate to adult unemployment rate. A person is considered to be unemployed if they: (a) did not work in the reference period; (b) were available to take up a job had one been offered in the week prior to the reference period; and (c) actively sought work within the past 30 days. This strict definition understates labor force participation and unemployment in labor markets with high shares of informal and self-employed workers.

6. *Youth are two or three times more likely than adults to be unemployed.* The youth unemployment rate is double the adult unemployment rates in Sub-Saharan Africa and over five times higher in South-East Asia and the Pacific (Table 2).¹⁴ In only two of the seven regions (Central and South-Eastern Europe (non-EU) and CIS, and Latin America and the Caribbean) reflected in table 2 was the youth-to-employment rate higher for females than males.

7. *The majority of working youth are poor and employed in vulnerable, low-quality jobs, often in the informal sector.* In 2013, almost two-thirds of working youth were in poverty, compared to only half of working adults. In SSA, the overall rate of working poverty was 40.1 per cent in 2012, the highest in the world.¹⁵ Further, around 80 percent of SSA youth are in vulnerable employment¹⁶. Most Africans of working-age have no access to social protection schemes such as unemployment compensations and hence cannot afford not to work even if the returns to labor are very low.¹⁷ This may explain the relatively low youth unemployment rates in SSA (table 2).

A large share of youth in developing countries live in rural areas

8. *Rural populations in low and lower-middle income countries will expand over the next several decades, even with urbanization.* Sixty two percent of people in SSA live in rural areas and most people will continue to do so over the next two and a half decades.¹⁸ The rural population in the SSA is projected to increase by about 60 percent by 2050. In South Asia, the rural population is projected to increase by about 4 percent by 2030, declining by about 6 percent by 2050. East Asia’s rural population is projected to decline more significantly over the next several decades.

9. *While youth have a higher likelihood of migrating to urban areas, a large share of youth will remain in rural areas.* Estimates for 29 developing countries indicate that youth are 40 percent more likely than older people to move from rural to urban areas.¹⁹ Even with this increased likelihood of youth migration, the majority of young workers in SSA and SA work in agriculture in rural areas²⁰. There is mixed evidence in SSA that youth are leaving agriculture *en masse*. While cross-section data show that youth are less likely than older cohorts to be engaged in agriculture in Nigeria, this effect is smaller in Uganda and Tanzania, minimal in Ethiopia and Malawi, and the opposite seems true in Niger.²¹ While the share of rural youth in SSA may decline, the number of rural youth in the region is projected to continue to increase. In South Asia the number of rural youth is projected to decline.²²

10. *Youth unemployment rates are generally lower in rural than urban areas, particularly in Sub-Saharan Africa.* The gap between rural and urban youth unemployment is largest in the SSA countries, even as it persists across other regions (table 3). Youth unemployment is higher among women in *both* rural and urban areas worldwide, with the gender gap being largest in Middle East and North Africa²³.

Table 3: Youth unemployment by region and area of residence

Region	Youth Unemployment rate (%)	
	Urban	Rural
Asia	10.9	8.1
Eastern Europe and Central Asia	19.5	19.7
Latin America and the Caribbean	24.9	21.0
Middle East and North Africa	29.2	22.8
Sub-Saharan Africa	17.5	7.5

Source: Elder and others (2015).

Note: Rates are averages of available country results in each region (Asia: three countries; Eastern Europe and Central Asia: six countries; Latin America and the Caribbean: three countries; Middle East and North Africa: four countries; and sub-Saharan Africa: eight countries).

Action area on data: One of the main challenges in assessing the regional and temporal variation of rural youth employment is the paucity of disaggregated cohort size and labor market data within the youth category²⁴. Information on rural labor markets, particularly in the informal sector is sparse. Given the rapidly changing rural economy and demographic transition underway in many developing countries, this is a serious data gap. Efforts to reduce this data gap could help improve design of policies targeted at improving the labor market outcomes of rural youth.

OPPORTUNITIES FOR YOUTH EMPLOYMENT IN RURAL AREAS

11. *Income from self-employment and wage employment in agriculture and in rural non-farm activities varies significantly across regions.* Earlier analysis shows that agriculture generates about 68 percent of household income in African countries, while 23 percent is from rural non-farm activities, and 8 percent from transfers (table 4). Countries with higher per capita incomes tend to have larger income shares coming from non-farm activities, consistent with the general pattern of structural transformation. For example, in Asia about half of rural incomes are from agricultural activities, 37 percent from non-farm activities, and 13 percent from transfers, while in Latin America, agriculture and non-farm activities each comprise 43 percent of household incomes. The share of incomes from wage employment also increases across these three regions from about 14 percent in Africa to 39 percent in Latin America. Estimating the wage employment shares is challenging, with some analysis showing it to be much higher in Sub-Saharan Africa than official statistics suggest²⁵. In order to generate these rural incomes most households participate in both agriculture and non-farm related activities (table 4).

Table 4: Rural income generating activities and household participation varies across regions

	Agriculture				Non-Farm			Transfers	Other
	Total	Crops	Livestock	Wage employment	Total	Wage employment	Self-employment		
Share of rural income generating activities in total incomes									
Africa (9 countries)	68	52	10	6	23	8	15	8	1
Asia (6 countries)	46	27	9	11	37	25	12	13	4
Latin America (5 countries)	43	22	6	16	43	23	20	11	3
Eastern Europe (2 countries)	32	11	18	4	22	17	4	44	2
Share of households participating in rural income generating activities									
Africa (9 countries)	93	90	65	18	44	15	33	41	10
Asia (6 countries)	86	75	63	24	56	39	25	55	24
Latin America (5 countries)	89	79	60	30	66	35	50	45	15
Eastern Europe (2 countries)	87	82	75	7	34	28	7	82	16

Derived from Davis and others (2017). Participation is defined as the receipt of any household income by any household member from that income generating activity.

12. *Demand for rural labor services is essential for absorbing new entrants into the workforce.* Rural jobs will be driven by demand for crop and livestock, and goods and services produced in rural areas from farming, the broader food system, and rural non-food related activities. Some of this demand will come from higher incomes in rural areas, from rural towns and cities, and in some cases from export markets.

Farming

13. *Agriculture is still the biggest employer of rural youth in most low and middle-income countries.*²⁶ In SSA, agriculture employs a higher proportion of youth than adults²⁷, and a recent review of nine major countries in SSA shows that farming is the largest employer of youth overall.²⁸ Over the last decade, while farming's share of youth employment has generally declined (with the exception of Nigeria)²⁹, the absolute number of youth farmers are increasing at different rates. Raising the returns to labor in farming will be a key step to improving youth livelihoods, especially women.³⁰

14. *The importance of agricultural wage employment is often underestimated.* Wage employment is a key source of income for the poorest people in rural areas, as their assets, including land, are sometimes insufficient for their survival. Wage employment can also be a pathway to improved livelihoods. A recent synthesis of key features of agricultural wage employment, drawing on country case studies, indicates substantial underestimates of rural wage employment in official statistics; and shows agricultural wage employment to be significant, heterogeneous and diverse, and to be dominated by casual and informal jobs. It also shows the importance of migrant (and seasonal) labor, varying gender participation across crops, and the influence of household gender relations.³¹

15. *The need to feed growing rural and urban populations and shifting consumption patterns to higher value products offers prospects for income gains and jobs in farming and the broader food system.* Urbanization, income growth, and other factors are contributing to a 'dietary transition' in many low and middle income countries that is affecting the composition of jobs in the food system. This change often features a shift in diet composition (with a reduced caloric share of staple cereals, and increased consumption of animal products, vegetable oils, and fruits and vegetables), increased consumption of processed foods, and increased out-of-home consumption. By 2030, food demand is projected to increase by 55 percent in Sub-Saharan Africa, and by 25 percent in South Asia.³² While shifts in domestic demand remain vitally important, in many countries high value agricultural exports can also provide a source of employment.

16. *Improving agricultural performance remains central to rural transformations in low income countries.* Experience from Asia shows that sustainable intensification of smallholder/family farming systems facilitates rural and structural transformation of the economy. Macro-economic and political stability; an enabling environment (economic freedom to operate) for smallholders and entrepreneurs; and pro-poor, pro-rural public spending helped spur growth and rural transformation. Ensuring these aspects are in-place in low income economic can help expand opportunities for youth in rural areas.

Broader food system in rural areas

17. *Off-farm value addition in rural areas, offers significant opportunities.* In general, increased agricultural productivity (even with traditional crops) is associated with non-farm job creation, with the agro-processing sector being an important channel.^{33 34} Movement to high value agriculture or commodities has even greater potential for downstream value addition and processing and will be an important avenue for non-farm job creation in rural and urban areas. This is an important and probably fastest growing opportunity in many countries related to changing dietary composition. In many places, agricultural processing is an important entry point into the missing or poorly developed manufacturing and rural service sectors, and data from India shows that a greater share of youth than adults are employed in these types of off-farm activities, although farming still currently accounts for the bulk of overall rural employment.

18. *While a general pattern of structural transformation is a decline in the share of employment in farming over time and an increase in the share in manufacturing and services, the latter is initially food related manufacturing and services, with a large share in rural areas.* For many low income countries, while the share of employment in farming may decline as part of broader structural transformation, the number of jobs in

agriculture may still go up, and many of the new services and manufacturing jobs will depend on agriculture. For example, while projected employment shares in farming (own and wage labor) in an analysis of six Africa countries (Ethiopia, Uganda, Tanzania, Mozambique, Malawi and Zambia) is projected to decrease from 75 percent to 61 percent between 2010 and 2025, the share of jobs in the broader food system (food manufacturing, food marketing, transportation, and food preparation), most of which will be in rural areas, is projected to increase from 8 percent to 12 percent over the same time period.³⁵ In aggregate, the food system across these countries is projected to add the most jobs between 2010 and 2025. As per capita incomes rise, the share of food manufacturing and services jobs tend to increase relative to farming (box 1).

Rural non-food related activities

19. *Rural non-food related activities—such as home construction brick-making, hairdressers/ barbers—are a smaller but important share of rural jobs, and offer opportunities for rural youth.* Specific data on the exact share of these jobs is typically not collected or not separated from the broader set of rural non-farm activities. There are some exceptions such as India which show that in 2011-12, 14 percent of rural youth were employed in construction compared to 10 percent for adults. These types of activities can be an important source of rural incomes, however, as they are mostly non-tradables, they are by definition demand constrained. Bringing in new income from outside the local area, and having it widely distributed to poor consumers, will be needed to make them grow. Such rural non-farm employment in non-tradables grew rapidly in South Africa when pension trucks first made it out to poor rural areas, but this is not an option for all and would not be sustainable if the income transfers stopped. Growth in crops exported from the local area (to cities and cross-borders) can stimulate additional demand for non-tradables in small rural towns on a sustained basis.

20. *While farming and rural non-farm linkages are strong, it is important to understand push and pull factors.* Employment opportunities in dynamic agricultural value chains with downstream processing can “pull” workers off the farm into these often higher paying jobs – consistent with structural transformation. In other cases, shortfalls in farm production to meet subsistence needs can “push” household members into off-farm employment out of desperation. The policy and investment response to increase youth employment would likely differ across these scenarios. Targeting non-farm job development interventions to areas where “pull” factors prevail can have high returns.

21. *New innovations offer new opportunities:* Technical innovations, such as new information and communication technologies (ICT) can promote greater inclusion of youth, foster innovation by significantly reducing transactions costs, and raise efficiencies in the food system, while at the same time creating more ICT jobs in both urban and rural areas provided associated incomes for rural youth are higher than other related activities. These innovations offer new opportunities, especially since rural youth are more likely than adults to own mobile phones as well as adopt financial, training and extension services which utilize these digital platforms. Remote sensing technologies offer opportunities for the ‘uberization of agriculture’. Institutional innovations through self-help groups, empowering organizations, and youth networks can open opportunities, together with alternative channels to access services (such as finance).

Box 1: As per capita incomes increase, more food system jobs will be in services and manufacturing, of which many will be in rural areas

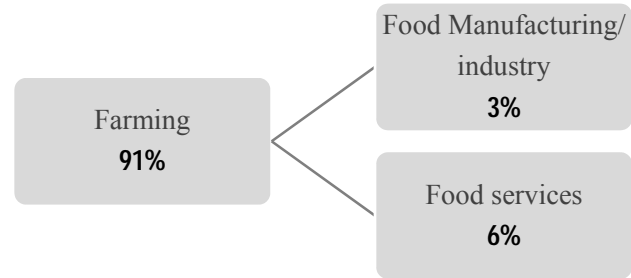
Low income countries: The food system tends to dominate employment in low income countries in both rural and urban areas. For example, the findings of a recent review of 6 Eastern and Southern African countries shows that the food system accounts for over 80 percent of all jobs. Within the food system over 90 percent are in farming (including self and wage labor), and most non-farm jobs in the food system are in food services (transportation and marketing), accounting for 6 percent of food system jobs, which is double those in food manufacturing/industry. These shares are a reflection of dominance of staple grains in production and consumption in these countries. In addition, about 75 percent of food manufacturing jobs, and 60 percent food services jobs are in rural areas.

Middle income countries: In middle income countries, within the food system, farming accounts for closer to half the jobs, with off-farm jobs in food manufacturing and services accounting for the other half. There is also a more even share of jobs in each food manufacturing and food services (about 25 percent each, in the case of Brazil). There is large variation across countries. For example, in countries where primary agricultural commodity exports is large (such as Argentina), food services (inclusive of logistics [transportation and ports]) is likely a larger share.

High income countries: Within the food system, farming accounts for a smaller share of jobs, while food services accounts for most jobs. For example in the US, farming accounts for about 20 percent over overall food system jobs, food manufacturing accounts for 13 percent of jobs, while food services accounts for two thirds of jobs in the food system. Part of the contribution is restaurant services, as half of household income is spent on food consumption away from the home.

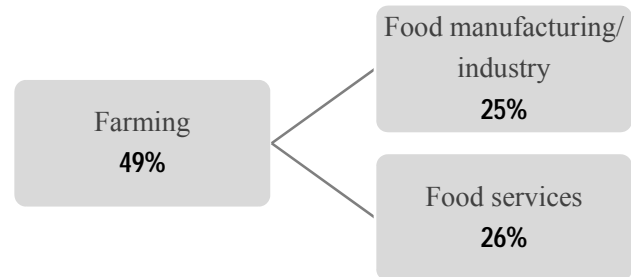
Composition of jobs within the food system

Low Income: e.g. Eastern and Southern African countries



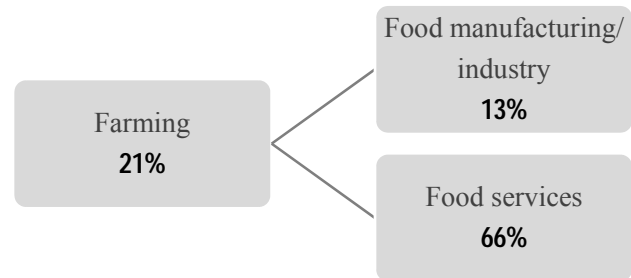
Food system ≈ 80% of all jobs

Middle Income: e.g. Brazil



Food system ≈ 30% of all jobs

High income: e.g. US



Food system ≈ 10% of all job

Source: Derived from Tschirley et al (2015); Moreira et al (2016); and USDA

WHAT CAN BE DONE TO INCREASE RURAL YOUTH EMPLOYMENT?

22. In regions where the youth comprise a large share of the workforce (as in Sub-Saharan Africa), employment trends in youth are similar to that of the overall working population.³⁶ In this respect, overall enabling policies for employment generation of the general workforce in rural areas matters for youth employment. The spectrum of potential actions to deliver more and better jobs for youth in rural areas include: (i) increasing the **demand** for rural labor services, including general actions to invest in complementary infrastructure, raise agricultural productivity growth and climate resilience to raise demand for non-farm goods and services, promote high value agriculture and value addition while protecting healthy diets, improve the rural business climate and trade ((regulatory quality, barriers to entry, local fees/taxes) and trade (burdensome procedures, taxes), promote competition and private sector participation and investment, promote secondary towns as a source of higher local labor demand, and ensure mechanization policies don't inadvertently crowd out labor-intensive activities, and (ii) investing in specific **supply**-side actions targeted to rural youth, including skills development and matching rural youth to jobs, facilitate access to land, improve access to affordable finance, promote MSME development, and support social protection and safety net programs, and social services (Table 5).

Table 5: Spectrum of actions to deliver more and better jobs for youth in rural areas

<ul style="list-style-type: none"> Facilitate inclusion of rural youth in policy dialogue and program design
<i>General demand side actions</i>
<ul style="list-style-type: none"> Invest in complementary infrastructure Raise agricultural productivity growth to stimulate demand for non-farm goods and services Promote high value agriculture and value addition Improve the rural business climate and trade Promote competition and private sector participation and investment Promote secondary town Role of mechanization
<i>Specific targeted supply side actions</i>
<ul style="list-style-type: none"> Skills development and matching rural youth to jobs Facilitate access to land Improve access to affordable finance Promote MSME development Support social protection and safety net programs, and access to social services

23. This section of the paper expands on each of the elements in table 5 focusing on: why these aspects are important for rural youth employment; examples of where these have been addressed, particularly through innovate solutions; and outlines associated public action areas. The section also builds on the “Good Practices on Farming and Smallholder Agriculture”³⁷, the G20 Entrepreneurship Action Plan³⁸, and the CFS Principles of Responsible Investment in Agriculture and Food Systems.

24. As youth comprise a large share of the rural workforce, particularly in Sub-Saharan Africa, demand-side actions that help improve overall rural employment will also help improve youth employment. In this respect, the actions highlighted in this section can help stimulate overall rural employment, inclusive of youth employment. Within the action areas, more specific youth employments opportunities are also referenced. The supply-side section focuses more on action areas targeted more explicitly to youth.

Facilitate inclusion of rural youth in policy dialogue and program design

25. ***Young people, in particular rural youth, are often excluded from policy-making processes.*** While there is wide recognition of the importance of youth participation in policy dialogue, particularly smallholders, a survey in 2012 by the United Nations Inter-Agency Network on Youth Development covering 186 countries found that young people have limited opportunities for effective participation in decision-making processes³⁹. In particular, rural youth are generally excluded from the formulation of policies concerning them⁴⁰. In many developing countries, young women and men may be perceived to have little capacity to shape their own destinies⁴¹, and it is even more challenging for women who face traditional norms excluding them from any decision making process and position⁴².

26. ***Participation of a wider and more diverse audience of young women and men in the design and implementation of policies and programs is an important part of ensuring that their needs and aspirations are taken into account.*** Policies often fail to reflect the diversity of youth because formulation processes are not inclusive and not representative enough of the variety of interests and challenges they face⁴³. Considerations need to be given to who represents youth, how they participate and in which processes they participate⁴⁴. Giving young women and men a voice in policy dialogue and design of programs in rural areas can also add to the attraction of youth to stay in rural areas. The results of an online consultation undertaken by FAO's Global Forum on Food Security and Nutrition in 2016 indicated that youth aged 15-17 deserve special attention and suggest that they need to be involved in policy-making. A potential avenue for involvement is through the organization of group discussions at the community level, allowing this age cohort to identify their problems and come forward with possible project-supported activities as solutions. The involvement of families and communities is particularly important when it comes to engaging with this age group⁴⁵.

27. ***Rural youth need skills, resources and space to actively participate, contribute and influence policy dialogue and program design, implementation, and monitoring and evaluation.*** Participation ranges from provision of information and consultation to shared decision-making or co-management⁴⁶. A first step for youth is to acquire communication, advocacy and leadership skills in order to participate actively in policy dialogue. Strengthening youth advocacy groups, developing interactive trainings on public speaking, and using TV, radio broadcasts, and ICTs to access information and develop skills can help⁴⁷. Establishing systematic consultation with youth on policies that concern them⁴⁸, can give them space to review existing policies, evaluate alternatives and hold governments accountable. Depending on the context, special measures may need to be taken to facilitate young women's participation such as to reduce women's workloads, setting young women quotas in membership and leadership of organizations⁴⁹.

28. ***By organizing themselves in youth organizations or joining mixed organizations, cooperatives, and networks, rural youth can enhance their participation and have a stronger voice in policy processes.*** Organizations can play an important role to voice the concerns of rural youth. There are a small number of exclusively young farmers' organizations, however they often lack financial and human resources, operate at the local level and have little bargaining power⁵⁰. Cooperatives, rural workers organizations and labour market institutions can play an important role in raising the living and working conditions of rural farmers and workers, including youth. Becoming part of organizations, cooperatives or networks led by elder farmers can facilitate access to policy-making processes, although it could be challenging to ensure rural youth are heard within these organizations. There are some good examples, including the network of young producers and agricultural professionals of Togo, which was created as a youth college within a national producers' organization. The youth college participated in drafting national policy on access to land for youth and women⁵¹. In the same manner, in Nepal, the All Peasants Federation integrated in 2007 a youth wing (the Youth Peasants Federation) and includes young leaders in policy-making processes⁵². In Cambodia, the Farmer and Nature Net established a youth committee represented on its board⁵³.

Action areas on facilitating rural youth participation in policy dialogue and program design. (i) Build individual and organizational skills and capacity of young women and men making use of ICTs and interactive tools⁵⁴, and support their participation in decision making processes of producer organizations (as in Togo and Nepal); (ii) facilitate systematic engagement of rural youth in policy dialogue and program design;^{55 56} with particular attention to young women’s participation e.g. through quotas, women-only preparatory meetings, engaging men in building young women’s leadership acceptance⁵⁷ and; (iii) support government efforts to design and implement national youth policies⁵⁸, in consultation with rural youth (e.g. the National Rural Youth Employment Policy in Senegal⁵⁹, the Rural Youth Employment Strategy in Guatemala⁶⁰, and the Magna Carta of Young Farmers in the Philippines⁶¹), including efforts to coordinate between ministries to ensure policy coherence; and (iv) encourage G20 members to engage rural youth in their policy processes making use of existing fora such as the Y20 Youth Summit and the Global Forum on Food Security and Nutrition, and to offer advice and technical assistance to partner countries through bilateral cooperation.

General demand-side actions

Invest in complementary infrastructure

29. ***The current lack of infrastructure in rural areas constrains farm and rural non-farm employment growth.*** Rural roads and communications infrastructure helps to better link consumer demand with rural producers, electrification can help facilitate rural based food processing and value addition, on-farm storage and warehousing infrastructure can help smoothen seasonality in producer prices and food consumption, cold storage can reduce the perishability of higher value crops for market, while port infrastructure can facilitate exports. Each can help support jobs, including for youth, in farm and non-farm activities. For example in Vietnam, road rehabilitation increased the variety of goods that households sold to market—primarily fruits, vegetables, and meat—and encouraged greater participation in trade and services. In Georgia, the construction and rehabilitation of roads increased the opportunities for off-farm and female employment.⁶² Given the significant scope of infrastructure needs, prioritization should consider the jobs impacts. For example earlier work in Tanzania simulated the rural enterprise employment effects for various types of rural infrastructure.⁶³

30. ***Types of rural infrastructure benefit women and men in different ways.*** Due to the time burden linked to the tasks traditionally assigned to women and girls, such as collecting water and fuelwood, infrastructure and services related to access to water and energy are particularly important to increase time savings, which in turn can increase women’s productivity and economic opportunities. In a similar way, women can potentially benefit more from ICT services than men. Understanding these differences and engaging women, men, and youth in the design of rural infrastructure programs could improve their effectiveness. Examples include the forum organized in Malawi to help address gender imbalances in rural travel and transportation⁶⁴, and the Peru Rural Roads Program that included women in design and implementation.

31. ***Quality infrastructure investment is needed to promote sustainable growth in rural areas.*** Maximizing the impacts of infrastructure investment, requires consideration to quality. Promoting quality infrastructure investment means: ensuring economic efficiency in view of its life-cycle cost, safety, resilience against natural disaster; and capacity building and transfer of expertise and know-how on mutually agreed terms and conditions, while addressing social and environmental impacts and aligning with economic and development strategies.

32. ***The construction, upgrading and maintenance of rural infrastructure through public works programs can provide temporary jobs for youths.*** An example is the Rehabilitation and Community-Based Poverty Reduction Project in Sierra Leone that employed young people to rehabilitate rural infrastructure to improve production conditions, access to markets, and living conditions⁶⁵.

33. ***Renewable energy in rural areas is offering job opportunities that can be attractive for rural youth.*** Increasingly, the supply of alternative and affordable rural energy e.g. solar and biogas, can help spur rural enterprises that are constrained by lack of electrification, diversify rural activities, and increase value addition. It can also help foster businesses in the supply these alternative energy systems, including their manufacture, sales, installation, operations, maintenance and training. Together, these can be potential sources of jobs in all regions, especially in SSA as a large portion of the population does not have access to electricity. Improving incentives can increase investments in renewable energy. Some projects in Rwanda and Tanzania specifically target young people and build their skills to become solar energy dealers, selling solar lamp kits within their communities⁶⁶. Similar initiatives in Kenya and Uganda are providing women with training and support to create solar micro-businesses⁶⁷. In Bangladesh, solar home systems (SHS) and entrepreneur skills training activities implemented between 2008 and 2010 trained young women and men in the installation and maintenance of SHS⁶⁸.

34. ***Increasing rural connectivity through ICTs offers better opportunities to young people in farming, agri-businesses, and service-related enterprises.*** The rapid expansion of mobile phones in rural areas has allowed farmers to increase their access to knowledge and market information and has facilitated linkages with suppliers and buyers. More recently, research is showing that an increasing number of more educated young agro-entrepreneurs are bringing innovative solutions, in particular, through mobiles phones and social media, to support agriculture and respond to farmers' needs⁶⁹. These innovations can contribute to provide young people with a different perception of the types of rural job opportunities in agriculture and the broader food system.

35. ***Building up the internet infrastructure can bring benefits to rural youth.*** Today, more people have access to a mobile phone than to secondary schooling, clean water, or sanitation⁷⁰. However, while mobile phone penetration is converging globally, a rural-urban digital divide persists and internet access remains low in SSA and South Asia⁷¹, where the youth share of the population is highest. Since rural youth are more likely than adults to own mobile phones as well as adopt financial, training and extension services which utilize digital platforms, the rapid scalability of these services requires the building up of internet infrastructure in the rural areas of many countries. Connecting everyone to the internet—one of the Sustainable Development Goals—requires policymakers to tailor market competition, public-private partnerships, and effective regulation of the internet and telecom sector, to each country's context. Ensuring widespread digital literacy in rural areas is also critical to ensure broad based benefits of rural connectivity.

Action areas on investing in complementary infrastructure: (i) Promote quality infrastructure investment; (ii) increasingly include a jobs lens in prioritizing rural infrastructure investments⁷²; (iii) integrate youth and women into the decision making processes for local prioritization, planning and design of rural infrastructure investments (e.g. as in the Malawi Forum and the Peru Rural Infrastructure Program); (iv) integrate youths into public works programs that develop rural infrastructure which can offer temporary gender-informed employment opportunities (as in the Rehabilitation and Community-Based Poverty Reduction Project in Sierra Leone, and the Peru Rural Roads Project), skills development and support to microenterprises; (v) support the expansion of alternative energy (e.g. solar and biogas) in areas with no electricity connectivity (as in Rwanda, Kenya, and Uganda); (vi) encourage entrepreneurship in ICT related activities (including considerations for start-up, or roll-out grants); and (vii) invest in infrastructures that can reduce women's burden and time constraints e.g. piping water, so they can engage in learning and productive activities.

Raise agricultural productivity growth to raise demand for non-farm goods and services

36. ***The fortunes of much rural economic activity depends on the performance of agriculture.*** Improved agricultural performance helps raise farm incomes and boosts the demand for non-farm goods and services. This increases the prospects for output growth and employment generation in the associated rural enterprises providing these goods and services. These effects can be large. For example, in Ethiopia each \$1 of output generated in agriculture, stimulates a further \$1.23 in economic activity in other parts of the economy. Forty percent of this comes from higher demand for inputs in agriculture, and the use of agricultural outputs in other industries such as food processing; and 60 percent is from increased demand for goods and services resulting from higher agricultural incomes and the associated spending effects⁷³. In Bangladesh a 10 percent increase in farm incomes generated a 6 percent increase in non-farm incomes through strong forward and backward linkages.⁷⁴ Even gains in staple crop productivity can have large impacts, as evidenced by their poverty reducing effects in Ethiopia, Rwanda, and Cambodia.

37. ***A more sustainable agriculture will be needed.*** Droughts, floods and rising temperatures are already cutting crop yields, threatening food, fish and meat supply and pushing people deeper into poverty.⁷⁵ Climate change and the effects of climate shocks are dampening the prospects for future productivity growth. Without adaptation, many developing countries; regions and areas in Asia, Africa and Latin America and the Caribbean will suffer particularly severe yield declines by 2030 in important food growing areas—such as wheat in South Asia, rice in Southeast Asia, and maize in southern Africa.⁷⁶ Raising productivity, enhancing resilience, and reducing GHG emissions are all needed. In Vietnam, adoption of alternative wetting and drying in rice production has raised yields, lowered input costs and water use, and reduced methane emissions. In Uruguay, close to 3 million hectares of land is now under sustainable land management practices that are also reducing GHG emissions.

38. ***Land and water resources will need to be managed more sustainably.*** About 30 percent of the world's soils are degraded⁷⁷, and the annual cost of land degradation is estimated at \$230 billion per year⁷⁸, inclusive of the loss of eco-system services. There is also projected to be a global shortfall of fresh water availability of about 40 percent by 2030⁷⁹ with agriculture accounting for about 70 percent of current global freshwater withdrawals. Land and water resource will need to be managed more sustainably to ensure continued agricultural productivity growth.

39. ***Agricultural productivity growth and the associated density of rural non-farm activities differs across regions.*** Historically agricultural productivity growth has been significantly higher in Asia than Africa, and correspondingly so has the resulting opportunities for non-farm activities as reflected in the higher share of rural non-farm activities in household incomes in Asia (table 4). Agricultural productivity growth, as reflected by cereals yields, in SSA has recently improved. In the 1990s SSA annual cereal yield growth was 0.9 percent, which more than doubled to 2.2 percent per year from 2000 to 2014. Agricultural GDP growth in SSA was the highest of all regions over this period, which provides optimism for rural enterprise development in this region.

40. ***On a per-hours-worked basis, agricultural labor productivity is similar to other sectors, but seasonality can lead to underemployment in agriculture.*** The premise of economy wide productivity gains from structural transformation is based on the reallocation of labor from low productivity and low wage sectors to higher productivity and higher wage sectors. Agriculture is often viewed as an intrinsically low productivity–low wage sector, while manufacturing and services are viewed as higher productivity–higher wage sectors, and that a movement of people out of agriculture into manufacturing and services can raise overall productivity and incomes. Indeed, historical patterns of structural transformation have reflected this inter-sectoral labor shift. However, recent survey evidence suggest that on a per-hours-worked basis, rather than simply using national account data on number of people employed in agriculture, and adjusting for difference in human capital, agricultural labor productivity is not intrinsically lower than other sectors—in

fact, it is similar.⁸⁰ The difference in annual and per-hours-worked productivity estimates suggests underemployment in agriculture, likely due to seasonality i.e. people primarily employed in agriculture work less hours on an annual basis than those primarily engaged in non-agricultural activities. Reducing seasonality effects in agriculture through irrigation use, and diversification of farming activities could help reduce underemployment and raise annual productivity.

41. ***Irrigation investments and diversification can reduce seasonality effects and underemployment.***

Irrigation investments can increase the number of crops grown in a year (such as an early or late crop). In environments with favorable temperature, water availability, and product demand, shifting to multiple crops a year with differing temporal labor demands can reduce ‘underemployment’ throughout the year. This is not only relevant for tropical climates, but also temperate environments.⁸¹ There is potential to expand irrigated areas in Sub-Saharan Africa fourfold. Farm diversification into products with labor demand at different times of the year, or more constant labor demands throughout the year can help reduce underemployment and raise overall productivity. Examples include diversification into livestock products such as poultry for egg production or livestock for milk production, which are less seasonal than crops. Diversification potential depends on market demand. There is already significant diversification into rural non-farm activities in developing countries (table 4).

42. ***Many other factors contribute to raising agricultural productivity growth*** including increasing the development and adoption of improved crop and livestock technology and access to inputs; improving animal health; reducing gender inequality; improving water management and its sustainable use; strengthening land governance; reducing land degradation; strengthening farmer skills and knowledge; and improving links to markets. An example is rice and cassava in West Africa, where drivers of productivity gains include investment in agricultural research, adoption of new technologies and practices by farmers, sustainable intensification approaches, improved processing, and institutional innovations such as multi stakeholders’ platforms, and farmer-to-farmer extension^{82 83}.

43. ***Investments in agricultural research have proven to yield high returns.*** Across all regions investments in agricultural research have demonstrated high pay-offs. Continued and scaled-up investment in agricultural research will be needed to ensure sustained yield gains in the face of climate change. SSA, where needs are highest only accounts for 5 percent of global public spending on agricultural research and development.

44. ***Institutional and farmer-led innovations can improve scale economies.*** Producer organizations can play an important role in accessing improved inputs and information, and reducing costs through economies of scale. Some cooperatives in Benin have been successful in facilitating young farmers’ access to machinery for farming and primary transformation. Productive alliance programs in Latin America have been successfully linking farmer groups with markets.

Action areas on raising agricultural productivity: (i) continue to implement the recommendations of the 2012 interagency report prepared for the G20 on *Sustainable Agricultural Productivity Growth and Bridging the Gap for Small-Family Farms*; (ii) scale-up climate smart-agriculture, (iii) sustainable management of land and water resources; (iv) promote irrigation investments, particularly in areas where its subsequently possible to produce two crops per year; (v) facilitate farm diversification into products that have different inter-temporal labor demand profiles; (vi) accelerate adaptation to climate change, including significant investments in agricultural research and technology adoption pathways, and skills development for youth to engage in green jobs; and (vii) ensure that young women and men have equal access to productive resources and services to boost productivity⁸⁴ e.g. by working with governments to reflect gender equality in laws and regulations, educating community leaders, promoting gender-inclusive research and extension services.

Promote high value agriculture and value addition

45. ***While staple crops continue to account for the largest share of consumption in developing countries, diets tend to shift to higher value and processed products as per capita incomes increase.*** The continued predominance of staple crops in consumption patterns across low-income countries, and its dominance in the crop production structure in smallholder agriculture has made its contributions to poverty reduction significant.^{85 86} While staple crops will continue to be important, as incomes increase diets tend to shift to higher value and processed products. Corresponding production diversification from cereals to vegetables, horticulture, livestock, fisheries, together with a deepening of value chains with more food distribution, processing, value addition, and food preparation and services will enable newer employment opportunities for youth.

46. ***The labor use per hectare of higher value crops in larger scale farm production is multiple times that of staple foods, implying potential employment generation for rural youth.*** Opportunities in high value agricultural production are often taken by larger scale producers, some of whom rely on local agricultural farm workers or outgrowers. Research shows that for larger scale producers, staple foods such as grains, soybeans, and sorghum, employ in the range of 10 to 50 people per 1000 hectares, while horticulture crops such as apples and oranges employ in the range of 300 to 500 people per 1000 hectares, and greenhouse tomatoes employ over 2000 people per 1000 hectares.⁸⁷ These are dramatic differences in labor intensity with horticulture crops having over 10 to 100 times higher labor use per hectare than staple foods (table 6). In countries where labor is relatively abundant, and where land and capital resources allow, larger scale producers in those more labor demanding crops can play an important role in the generation of rural youth employment, via direct employment or outgrower arrangements.

Table 6: Labor intensity of horticulture crops on larger scale farms is multiple time higher than staple foods

Crops		Full-time employees for 1,000 hectares
Staple foods	Grains	10-20
	Soybeans	~20
	Sorghum	~50
Horticulture	Apples	~500
	Oranges	~800
	Tomatoes	2000+

Note: These labor intensity parameters refer to large-scale farms. It is still a useful reference on an employment standpoint as large-scale investors venturing into those labor-intensive crops, are an important source of employment for rural youth.

Source: Fine and others (2012)

47. ***As per capita incomes rise, demand for higher value products, including horticulture, livestock, fisheries, and processed foods, relative to staple foods is projected to increase thereby providing significant job opportunities for rural youth in production, distribution, processing and services.*** As per capita incomes increase there is a general shift in food consumption patterns away from staple grains to include a greater share of higher value products (meat, fish, dairy, fruits, vegetables, and fats) and processed foods⁸⁸. Five-year projections for Eastern and Southern African countries show an increase in the demand of horticultural products⁸⁹. Meat, poultry, and dairy products are also expected to grow between 3.5 percent and 5 percent per year.⁹⁰ Food demand in other regions is also projected to shift from staple grains to higher value products.⁹¹ Shifting to higher value crops in response to their increasing demand creates job opportunities in rural areas and intermediary towns—in farming and in related food manufacturing and services. Projections show the percentage of people employed in downstream stages of African food systems (retailing, processing, and food preparation away from home) will rise from 8 percent of total employment in 2010 to over 12 percent or more by 2025.⁹² Analysis in Vietnam shows higher gross margins

and benefit-cost ratios for horticulture and floriculture than rice production, and value added in primary processing to be twice as high for fruits and vegetables than rice.⁹³

48. ***Governments do not invest enough in improving access to markets, education and technology needed to strengthen production, processing and marketing patterns to meet new emerging market demands in non-grain agricultural sub-sectors.*** Domestic price policy and public spending is often biased to the production of staple grains.⁹⁴ While grain crops continue to play an important role in food security and poverty reduction, markets for non-staple crops are often poorly developed having received little investment in transport systems, cold storage, and information systems that allow for better functioning of markets for perishable products such as fruits and vegetables, and livestock products.⁹⁵ The lack of such efforts makes it difficult to ensure sustaining a growth pattern grounded on a diversified economy.

Action areas on high value agriculture and value addition: (i) Align farmer incentives to respond to changing market demands that includes: (a) removing price policies that are biased against production of high-value non-cereal crops. Such policies provide a disincentive for farmers to produce non-cereal crops and thereby can hamper rural job growth in agriculture; and (b) remove or reduce restrictions on land use tied to specific staple crops, opening the possibility for greater crop diversification towards higher value crops that expand rural youth employment prospects, while protecting healthy diets; (ii) promote infrastructure and investments in technologies that respond to the needs of high value crops e.g. higher yield varieties, cold storage for horticultural products, and upgrading of agricultural marketing information systems (e.g. Specialty Fruits in the Mekong Delta, Vietnam⁹⁶); and (iii) adopt market based approaches to integrate smallholders in value chains e.g. out-grower schemes or other forms of vertical coordination capable of addressing market failures and generating relatively better quality jobs that are profitable for rural young women and men.

Improve the rural investment climate and trade

49. ***The investment climate affects job creation.*** Nine out of 10 jobs are created by the private sector, and a vibrant private sector creates more jobs.⁹⁷ Evidence shows that the investment climate impacts private enterprises and associated job creation.⁹⁸ In this context, a predictable and business-friendly investment climate is a key component of a policy framework to create rural jobs, inclusive of employment for rural youth.

50. ***Macroeconomic conditions, political stability, and peace matter.*** At a general level, macroeconomic stability and peace are important conditions for private enterprise development. In Sub-Saharan Africa, agricultural growth increased as macroeconomic conditions (fiscal, monetary, and exchange rates) improved in the 1990s⁹⁹. Reductions in both high direct taxation of agriculture and indirect taxation through overvalued exchange rates improved farmer incentives to produce and invest.¹⁰⁰ Political changes and instability can disrupt local enterprises, as they did for about 90 percent of firms in Nepal.¹⁰¹ Conflict reduces human mobility, curbs access to agricultural inputs and market, increases theft of assets, and increases prices.¹⁰² In Mozambique, in the decade following the civil war, per capital incomes increased 70 percent, compared with 4 percent in the previous decade, and agricultural value added increased 60 percent.¹⁰³

51. ***Policies that facilitate agricultural trade can stimulate rural job creation.*** Increased cash inflows to local areas stimulates demand for local goods and services and spurs rural enterprise development and jobs in the rural economy. Agricultural trade to cities, neighboring countries, and overseas can provide these cash inflows. While infrastructure investments can help link agricultural producers to markets, policies also impact the incentive to trade, such as local taxes on tradable products, payments to pass roadblocks, and burdensome procedures for cross-border trade. The result is a lower share of the consumer

price received by farmers leading to a lower share of cash inflows into rural areas to stimulate local economic activity.

52. ***There remains significant scope to improve the regulatory quality of agribusinesses.*** Burdensome regulations that don't effectively address market failures and protect safety, health and the environment, raise costs and reduce competitiveness of agribusinesses. The *Enabling Business of Agriculture* (EBA) report cites that improving the regulatory environment has improved supply and lowered prices in the seed and mechanization markets in Bangladesh and Turkey¹⁰⁴, in the fertilizer sector in Bangladesh¹⁰⁵, Kenya¹⁰⁶, and Ethiopia¹⁰⁷, and in the maize industry in Eastern and Southern Africa¹⁰⁸. The EBA assessments shows a wide range of regulatory quality across 40 countries, and 6 areas (seeds, fertilizer, machinery, finance, markets, and transport), suggesting scope for further gains.¹⁰⁹ Regulatory quality is relatively high in OECD high-income countries, followed by Latin America & Caribbean and Europe & Central Asia. East Asia and the Pacific, South Asia, and Sub-Saharan Africa show levels of regulatory quality lower than or equal to the global average across measured areas indicating greater scope for improvements in these regions.

53. ***Reducing barriers to entry, improving the operating environment, improving the efficiency of business exit, and ensuring consistent application of regulations can, in general, help increase formal sector enterprise development and jobs.*** Much attention has been given to improving the investment climate for formal enterprises, most of which are micro, small and medium scale enterprises. Investment climate reforms have included reducing barriers to entry (e.g. business and tax registration, permits, licenses), improving the operating environment of formal enterprises (e.g. promoting an accountable, transparent, and predictable regulatory regime), and making the business exit process more efficient and less costly. There is evidence of positive impacts of some of these actions, although with significant methodological challenges for evaluations. In Mexico, making business registration easier for firms increased the number of registered business by 5 percent and employment by 2.2 percent.¹¹⁰ These types of reforms have generally done more to spur the emergence of new enterprises in developing countries than they have done to induce informal enterprises to become formal enterprises.¹¹¹ The investment climate challenge is that most enterprises in developing countries are informal.

54. ***As the informal sector provides the most jobs, the investment climate for these enterprises should be given high consideration:*** About 60 percent of the developing country labor force is informal, up to 80 percent in low income countries.¹¹² Most new jobs, particularly in Sub-Saharan Africa, are created in the informal economy.¹¹³ While some of these informal enterprise may become formal in the near term, most will not. Earlier work showed that the bulk of informal rural enterprise are small, with only one or a few workers using largely unpaid family workers; most buy and sell locally, but those that trade outside the locality have higher productivity; and higher entrepreneurial experience was associated with better enterprise performance.¹¹⁴ Enterprise density and size tend to increase as per capita incomes rise. Informal entrepreneurs are often self-taught and may lack business skills, and linkages to other firms (formal and informal) are limited. Nevertheless there is wide heterogeneity among the informal sector.¹¹⁵ Other perceived constraints include lack of access to finance; access, cost and reliability of water and electricity; and road quality and access – issues addressed in other sections of the paper. In the context of local policies – local fees, licenses, and taxes can be burdensome and undermine local enterprise development.

55. ***Local fees, licenses, and taxes can be a significant disincentive for local enterprise development and trade.*** Administrative decentralization brings greater responsibility to local governments to deliver local services. Fiscal decentralization shifts responsibility of raising revenues to pay for these services to local governments. Where there is a large gap in budget needs for local service delivery and budget transfers from national government, fiscal decentralization has often resulted in a burdensome array of local taxes. For example, earlier evidence in Uganda shows a complex mix of local taxes faced in rural areas, where in effect, all monetized activity was taxed. This created a disincentive for local enterprises to participate in markets and to invest.¹¹⁶ A similar array of local government taxation had emerged in Tanzania, where

subsequent reform efforts focused on removing the flat rate development levy, ‘nuisance taxes’ and business license fees for enterprises below a certain size. These reforms were broadly progressive in that poorer and smaller business owners paid lower taxes.¹¹⁷

Action areas on improving the rural business climate and trade: (i) work to ensure political and macroeconomic stability and reduced conflict; (ii) promote local, cross-border and international trade (reduce local taxes, including payments at road blocks; reduce burdensome procedures for cross-border trade), in compliance with WTO rules; (iii) shift the regulatory quality of agribusiness towards best practice (greatest scope for gains in SSA, SA, and EAP); (iv) reduce entry barriers to the formalization of local enterprises; (v) recognize the significant scale of the informal sector and work to improve connectivity with markets, improve access the services, and strengthen skills; and (vi) ensure a matching of budget needs for administrative decentralization with adequate national budget transfers and fiscal decentralization policies that don’t lead to a local taxation system that undermines incentives of rural enterprise to invest and participate in markets.

Promote competition and private sector participation and investment

56. **Increasing competition and private sector participation can help create jobs.** Competition can open new job opportunities and help shift labor to more productive employment, which in turn can increase wages.¹¹⁸ Economy-wide evidence shows that competition laws enhance overall economic growth, an effect that seems particularly pronounced in low income countries, induced through higher levels of investment (and lower levels of perceived corruption).¹¹⁹ In agricultural markets there is a long history of efforts to get the right level and mix of public sector support to spur private sector investment along agricultural value chains, and to reach poor smallholder producers.

57. **Reducing high transaction costs and risks in agricultural markets can help facilitate private investment.** The spatial dispersion of producers and consumers, lags between input application and harvest, sensitivity to weather extremes, variable perishability and storability of agricultural products, and political sensitivity of basic food staples makes agricultural markets prone to high transaction costs, significant risks, and frequent government intervention.¹²⁰ Infrastructure investment, including ICT, can better link producers and consumers; producer organizations can help aggregate input demand and product supply; drought and flood tolerant crops and weather index insurance can reduce sensitivity to weather extremes; investment in post-harvest infrastructure can improve storability; and more predictable government policies can reduce political risks.

58. **Government intervention has often extended beyond providing public goods and services necessary to underpin and facilitate private transactions, to direct participation in agricultural input and output markets.** In early efforts to ensure food security, government entities—primarily marketing boards, at times controlled every stage of the marketing chain including input and credit provision, pricing, processing, and internal and external trade, with little scope for private sector participation. As these operations expanded they often became fiscally unsustainable, which together with management concerns and perverse private sector incentives led to reductions in government intervention in these markets. Given the extent of private underinvestment in transport and storage, inadequate commercial skills training, and limited access to finance, the private sector was often slow to fill the void following withdrawal of marketing boards.¹²¹ And where the private sector did enter markets, they often did not reach poor smallholder farmers. In addition, co-ordination efforts for market development were largely absent.¹²² There has been a recent re-emergence of government interventions in agricultural input markets to spur agricultural productivity and improve food security, with recent expansion in Sub-Saharan Africa.¹²³

59. ***Design of government programs should consider opportunities for private sector inclusion and service provision.*** Government input programs are increasingly promoting private sector development with varying forms of private sector engagement as part of ‘market-smart’ subsidy programs.¹²⁴ In the Malawi government program, there has been some participation by private agents in input procurement to develop mutual trust between government and the private sector, but with the bulk of input distribution and retailing being done by parastatal agencies.¹²⁵ In the Zambia and Ghana programs, input delivery was limited to a few large contracted input suppliers that reduced competition.^{126 127} In Tanzania and Nigeria, there was broader participation of the private sector.¹²⁸ A challenge with targeting some of these programs is that often wealthier farmers tend to benefit, and as they would likely have purchased inputs in the absence of government support, these programs tend to displace some commercial input purchase.¹²⁹ The less developed the private sector, the less the displacement effect.¹³⁰ E-vouchers help improve targeting, reduce costs, and create end user demand for private provision of inputs. For example the Nigerian and Rwandan governments have partnered with mobile operators to digitize voucher distribution of subsidized seeds and fertilizers in remote areas, as part of their large-scale e-wallet initiatives. Nigeria’s program has reduced corruption and reached twice as many farmers—including 2.5 million women farmers—as the previous distribution system at one-sixth of the cost¹³¹. In addition to input programs, there have also been efforts to include private sector provision in agricultural advisory and extension programs.¹³²

Action areas on promoting competition and private sector participation and investments: Due consideration should be given to the impact of government programs on private sector development, competition, and jobs. More specifically, consideration should be given to trade-offs and the balance needed between investments in public goods and services to reduce transaction cost and risks as a way of crowding in the private sector into agricultural value chains; and direct government participation in these markets based on concerns about the absence of private sector activity. ‘Market-smart’ program design, and use of e-voucher programs can help improve targeting of input programs, reduce costs, and promote private sector development.

Promote secondary towns

60. ***In developing regions, growing numbers of people are living in, or have connections with, intermediary/secondary towns, which act as a key interface between rural and urban areas and helps foster diversification of rural economies.*** While in some countries the process of structural transformation is mostly accompanied by rapid agglomeration in large cities, in others, particularly in developing regions, it is characterized by diversification out of agriculture into the rural non-farm economy and secondary towns¹³³ and in more recent years in several countries in Latin America and Sub-Saharan Africa. Intermediate or secondary towns play an important role as: (i) centers of demand for agricultural produce, and for production and distribution of goods and services to rural areas; (ii) centers for growth and consolidation of rural non-farm activities; and (iii) point of attraction for rural migrants and an important source of employment for rural people, including youth, that can combine farm and non-farm activities within and across locations.¹³⁴

61. ***Rural towns are an effective generator of non-farm employment for the poor, including young men and women.*** While those who migrate to the city tend to earn more on average than those who move to nearby villages or secondary towns, only a few poor manage to do so. Many more find readily available off-farm activities that are compatible with their skills set in nearby small towns. As a result, rural towns are an effective generator of non-farm employment for the poor, including youth. In Tanzania, for example, the probability of the poor being employed is higher in secondary towns than in mega cities – in 2008, unemployment rates ranged from a 31 percent in the capita (Dar-Es-Salaam), to 16 percent in other urban centers and only 7 percent in rural towns.^{135,136}

62. ***Evidence shows that movements out of agriculture to the rural non-farm economy in secondary towns are more poverty and inequality reducing than exits out of agriculture into the mega cities.*** An analysis of 51 countries, covering all regions, shows that controlling for the rate of economic growth, diversification into rural non-farm employment and secondary towns is associated with significant poverty reduction, while agglomeration in mega cities is not.¹³⁷ Also, countries that based their development on more labor-intensive small and medium enterprises located in rural and peri-urban areas experienced more inclusive outcomes (less inequality) than those adopting more capital intensive and urban-based development.¹³⁸

63. ***Secondary towns can help connect segments of agricultural value chains which can bring local employment benefits.*** Secondary towns can strengthen connections between different segments of agricultural value chains—production, storage, processing and packaging, transport, and marketing. Locating some of these segments in secondary towns can provide significant employment opportunities for rural people, including youth. Value chain approaches that prioritize strategic and complementary inclusive investments through better access to technology, resources, and finance, for rural young women and men can help integrate them into value chains.¹³⁹

64. ***Territorial approaches can help address more specific geographic constraints and strengthen links between surrounding rural areas and secondary towns.*** There are many spatial differences in resources and economic circumstances (challenges and opportunities) across small towns, urban and rural areas in individual countries. Territorial approaches that account for these spatial differences, connectivity gaps, and potential linkages can help design geographically targeted interventions to increase rural youth employment¹⁴⁰. This includes careful planning that accounts for local competitive advantages, inter-sectoral and spatial linkages, and strengthening of local institutions.¹⁴¹

Action areas on promoting secondary towns: (i) create an environment attractive for firms to locate in secondary towns, inclusive of policy incentive considerations and provision of necessary infrastructure (access roads, energy, and communication); (ii) create conditions that also make secondary towns attractive to young men and women to live and work, including education, health and recreation; (iii) consider territorial approaches to development to strengthen rural-urban linkages and maximize the use of secondary towns as key conduits to connect rural and urban business activities, focusing on jobs intensive activities in agricultural value chains, and in other processing, trade and services sectors^{142 143}, and (iv) identify patterns of labor movements and remittance flows between rural areas, intermediary towns and urban centers to best influence the set of opportunities for young people integrated in a multi-local household livelihood system.

Role of mechanization

65. ***Low levels of mechanization often create negative perceptions among youth for a career in the agri-food system:*** Youth often understand agriculture to be the traditional forms of hand-hoe farming that their parents and grandparents undertook.¹⁴⁴ They often express reluctance to pursue a career in agriculture given concerns about the associated ability to earn a decent living. In contrast, mechanization is often correlated with positive youth perceptions about a career in agriculture¹⁴⁵, and can significantly increase labor productivity and incomes. There has been ongoing debate about the merits of agricultural mechanization, recognizing that it could improve the attractiveness of youth to jobs in the food system, but raises concerns that higher levels of mechanization could displace jobs and lead to a lower overall net effect on youth employment. This section addresses these issues.

66. ***Machinery use in the food system varies significantly across countries and regions, and extends beyond just tractors:*** In Africa, even with a relative abundance of land, over 60 percent of farm power is human power, about 25 percent animal power, and about 10 percent is from machinery power¹⁴⁶. This level of farm mechanization has not changed much over the last four decades. In contrast, the number of farm tractors in Asia has increased multiple times over the same time period. In addition, use of power tillers has expanded rapidly in East and South East Asia, particularly for wetland rice production systems. While tractors bring the ability to power other machinery such as ploughs, planters, and reapers; stand-alone machine use such as pumps, threshers, grinders, and mills have also expanded. Analysis across six African countries (Ethiopia, Malawi, Niger, Nigeria, Tanzania, and Uganda) indicate that only about 2 percent of households own or rent tractors, while 32 percent own and 12 percent rent other mechanized farm equipment.¹⁴⁷ In contrast, in Bangladesh the vast majority of household use some form of mechanization, with the dominant implement being power tillers.¹⁴⁸

67. ***Differences in mechanization across countries can be largely explained by differences in the returns to mechanization and the relative price of machinery and labor.*** Earlier literature suggests a particular evolution of farming systems and an associated sequence of power use linked to population density and market access. Areas with low population density and no market access, resulting in low-yield subsistence farming systems, rely on human power. Improved market access and higher population density lead to growing demand for agricultural products and increasing returns to animal power and machinery use that induces an increase in their use. Efforts to bring tractors into low-yield subsistence production systems, where they are not cost effective, have consistently failed¹⁴⁹. Relative prices of machinery and labor also matter. In labor-scarce environments (with a high cost of labor), there is substitution towards labor-saving technology (such as machinery), while in land-scarce environments there is substitution towards land-saving technology (such as biological or 'yield' enhancing technology). Indeed, there is significant past¹⁵⁰ and recent¹⁵¹ evidence that substitution between machinery and labor is in part driven by their relative prices. As real wages rise as part of overall economic development and structural transformation, machinery use in agriculture tends to increase.

68. ***Policy biases to mechanization can prematurely reduce agricultural employment:*** Policies that significantly lower the price of machinery relative to labor can artificially displace labor. A significant example of this is South Africa pre-1980 where Pass Laws restricting labor mobility, subsidized farm credit (with negative real interest rates), tax concessions for machinery ownership, and appreciation of the exchange rate led to a significant decline in machinery prices relative to labor with a corresponding displacement of labor for machines. Removal of these favorable credit and tax policies, together with a devaluation of the Rand in the 1980s, made labor cheap relative to capital, and led to dramatic reversal with substitution away from the more expensive capital to higher labor use.¹⁵²

69. ***Some mechanization does not reduce labor use:*** Irrigation infrastructure, facilitated by mechanized pumps, often allows two or more crops to be grown on the same plot of land per year. The first crop is often harvested during the rainy season, where mechanical threshing can help reduce spoilage by getting this task completed shortly after harvest. Power-tillers help prepare land for the second season crops.¹⁵³ In these situation, mechanization does not necessarily reduce farm labor use per hectare, and may even increase its use. In addition, the vast majority of farmers are smallholders and predominantly use family, rather than hired, labor. Labor displacement would be larger issue if the majority of farm workers were hired wage workers.

70. ***While demand constraints to mechanization remain important, there are rising supply side constraints in some contexts:*** Growing demand for agricultural products, together with rising real wages lead to higher demand for mechanization. Higher demand does not always lead to adequate supply response, particularly for smallholder farmers. For example in Ghana, expressed demand for tractor services for land preparation is relatively high with a supply side challenge to meet this demand¹⁵⁴. Assessments of supply

side constraints should consider the full supply chain from machinery importers, manufacturers, providers of machinery hire services to farmers, and services provided for machinery maintenance and parts.

71. ***Sustainable supply side approaches to mechanization.*** Early public sector-led efforts at addressing supply side constraints largely failed.¹⁵⁵ They were often introduced in contexts where mechanization was not cost-effective, and service charges in these programs were set to only cover operating costs undercutting private providers and resulting in weak capacity in the supply chain. In Bangladesh removal of import restriction on small-scale power tillers, and opening imports by the private sector significantly reduced the cost of imported machinery. A vibrant machinery hire market has developed with the bulk of machinery use being through this mechanism. Most farmers in Bangladesh, even with very small plots of land now use some form of mechanization. In India most tractor hire services are provided by medium to larger scale farmers which was key to expanding mechanization. In China, there has been an emergence of non-farmer entrepreneurs who provide professional machinery services to farmers for harvesting. China's vast farmland across agro-ecological zones results in the same crop needing to be harvested at different times of the year and allows mobile service providers to operate for about 8 months of the year.¹⁵⁶ In Nigeria, ICT is being used to better match supply of tractor services by tractor owners with demand from farmers who need to hire tractor services, in a similar way Uber does for taxi services. This is being expanded to other countries in Africa.

72. ***Youth considerations.*** Mechanization will affect all rural workers, including rural youth. In land abundant countries with growing and accessible markets, improving youth access to land coupled with functioning machinery hire markets can allow youth to farm larger land areas. In land constrained areas, access to mechanization (such as water pumps) can help increase the number of crops produced per year. Coupling this with mechanized threshers and planters can ensure the needed timeliness of these operations in the shift to multi-crop per year production systems without a net reduction in labor use per hectare. Youth training, and finance can help them participate as providers of machinery hire services through innovative programs such as 'Hello Tractor' in Africa.

Action areas on mechanization : (i) Open trade to different types of machinery imports (as in Bangladesh); (ii) crowd in (rather than crowd out) private sector provision of mechanized services; (iii) don't promote machinery in environments with no/limited access to markets and low returns to machinery use; (iv) avoid policies that artificially make machinery cheap relative to labor (such as credit/tax policies, and labor movement restrictions); (v) ensure the types of machinery provided are demand, not supply, driven; (iv) facilitate innovation and participation of youth (e.g. expansion of services such as 'Hello Tractor' including training, and finance for youth – see later sections).

Specific targeted supply-side actions

Skills development and matching rural youth to jobs

73. ***Human capacity development is a significant determinant of agricultural performance, and overall economic success.*** Evidence suggests that more educated and skilled individuals are more likely to adopt and effectively use modern technologies, respond to market opportunities and increase their earnings. Since skill development builds on the existing stock of human capital, policies intended to prepare rural youth for jobs in a transforming economy need to design age-differentiated interventions that sequentially address constraints from primary school completion to job search frictions. In an age of transformative developments in information and communication technologies (ICT), investments in high quality basic education are critical for the success of school leaving youth as farmers¹⁵⁷, employees, and entrepreneurs. Well-educated rural youth trained in business development and vocational skills are likely to benefit from the increasing knowledge intensity of agriculture and household-enterprise sectors.

74. ***School completion is more difficult for rural youth and children.*** Rural youth face multiple constraints preventing them from regularly attending school. For younger children, poor health and malnutrition can lead to poor cognition and school dropout¹⁵⁸. High opportunity costs for adolescents (especially girls), who contribute household and farm labor in rural areas often lower school attendance¹⁵⁹. Rural education curricula which incorporate agricultural skills could increase the attractiveness of school for parents of adolescents in general, and girls in particular. When rural youth do complete school, they are often ill-equipped¹⁶⁰ to pursue higher education or take advantage of the new job opportunities in the agri-food system, manufacturing or services, reflecting the poor quality of education received.

75. ***Early childhood nutrition interventions raise the quantity and quality of youth educational attainment.*** Early health investments improve cognitive function and sizably increase the rate of return on schooling investments¹⁶¹. Evidence from rural Zimbabwe, Philippines, India and Tanzania shows that malnutrition's effects on stunting and reduced cognitive function directly translates to worse performance while in school¹⁶² and lower school completion rates¹⁶³. Nutritious food and protein-rich food supplements, have been found to improve cognition among youth, and educational attainment among women in rural Guatemala, *twenty-five years* after the intervention¹⁶⁴. School feeding programs¹⁶⁵ can serve as an efficient delivery mechanism for fortified food, identified as one of the cheapest and most cost-effective development interventions¹⁶⁶.

76. ***Gains to secondary and tertiary education are unrealized in rural SSA.*** Evidence from multiple studies from SSA show that the marginal return to education is higher for those who complete secondary or higher education, relative to those who complete only primary school and tend to be concentrated in the informal sector¹⁶⁷. Since participation in the non-farm sector is highly correlated with higher educational attainment¹⁶⁸, the development of a robust rural non-farm sector is being hindered by the low secondary school completion rates in the region. The success of Mexico's *PROGRESA/Oportunidades* in raising educational attainment, replicated through conditional cash transfer programs in more than 50 countries, suggests that it is a nationally scalable model for countries with low secondary school completion rates¹⁶⁹.

77. ***Innovative education programs have the potential to retain and bring back youth to school.*** Accelerated learning, non-formal and educational equivalency programs are suited to countries and rural regions where the dropout rate is high¹⁷⁰. While accelerated learning programs have been introduced in countries which experienced armed conflict (South Sudan and Sierra Leone), non-formal and educational equivalency programs have been implemented for orphans, vulnerable youth, young girls and adults worldwide¹⁷¹. After-school programs like FAO's Junior Farmer Field and Life School (JFFLS) approach are particularly promising because of their blend of both agricultural and life skills delivered through a unique participatory learning methodology and curriculum¹⁷². First piloted in Mozambique in 2004, the program has been replicated across many countries in SSA, Middle-East and South Asia¹⁷³. When combined with career guidance, these programs have the potential to provide a clear pathway for rural youth interested in agribusiness and entrepreneurship.

78. ***Integrated skill development programs work for post-school rural youth subpopulations.*** In contrast with developed countries, youth workforce development programs¹⁷⁴—technical, vocational education and training (TVET), job search assistance, apprenticeship, and life skills—are more likely to have a positive impact on employability and earnings in developing countries¹⁷⁵. Studies focused on rural youth also follow this pattern, particularly when programs package technical training with complementary life skills and job-matching components.¹⁷⁶ TVET programs intended to build one skill at a time have had limited impacts¹⁷⁷. Since most evaluations do not calculate cost-effectiveness¹⁷⁸, publicly financed TVET programs should target rural youth segments which show higher returns to skill development due to greater exclusion from the formal labor market—at-risk men¹⁷⁹, disadvantaged youth, and young women¹⁸⁰. Given the risk of displacing adult labor, apprenticeship and mentoring programs undertaken by the private sector

should be prioritized to align training with demand for youth labor, whether in the agribusiness value chain¹⁸¹ or in non-farm sectors¹⁸². Ongoing evaluations of Ghana and India's national apprenticeship programs, undertaken as public-private partnerships, are assessing the effectiveness of these programs.¹⁸³

79. ***Transport subsidies can be combined with skills training to better match rural youth to jobs.*** Search frictions, the costs associated with job search and travel to job sites, are often a binding constraint for rural youth. In the absence of rural non-farm jobs, distance from metropolises and secondary cities increase transportation costs and reservation wages of rural youth, causing them to forego employment even when it is available. Evidence from young migrants living on the periphery of Addis Ababa demonstrates that a travel subsidy was as effective as a skills certification program, in increasing the intensity of job search and likelihood of finding a job¹⁸⁴. In Bangladesh, a cash subsidy equivalent to round-trip travel cost increased seasonal migration and remittances sent home by rural migrants, thus increasing household consumption at origin¹⁸⁵. TVET programs packaged with geographically targeted transport subsidies should be promoted to accelerate the mobility of rural youth and broaden their business networks, thus enhancing their ability to take up seasonal and long-term formal jobs in industrializing secondary towns.

80. ***Business incubation grants and entrepreneurship programs are promising, but are rarely designed for rural youth.*** Youth entrepreneurship interventions in developing countries have rapidly grown in the last few years. However, nearly all such interventions have targeted urban businesses which have access to a large, proximate market. Consequently, impact evaluation based evidence is heavily skewed towards urban programs which are also heterogeneous in duration, content and firm type,¹⁸⁶ making extrapolation of impacts¹⁸⁷ to rural youth unreliable. World Bank supported entrepreneurship training for rural youth increased participants' employment in Colombia and raised both employment and earnings in Uganda, where it was combined with business incubation grants¹⁸⁸. The Youth to Youth Fund in Africa takes a similar approach and provides grants to fund small-scale youth entrepreneurship projects, and receives 70 percent of its proposals from rural areas.¹⁸⁹ While not rigorously evaluated, the Strengthening Rural Youth Development through Enterprise (STRYDE) program reported a seven-fold increase in income among participants after its first phase. Combining business training and soft skills with mentorship, counseling, firm linkages, as well as business plan competitions, the program reached more than 15,000 youth in Kenya, Rwanda, Uganda, and Tanzania by 2015 and aims to reach 48,000 by 2019¹⁹⁰.

81. ***Public funding of agricultural research, development and innovative extension should be increased.*** Despite high returns to investment globally, spending on agricultural R&D in SSA is 0.4 percent of agricultural GDP, the lowest among all regions. Extension and advisory services, which are more efficient than input subsidies, and more progressive than several kinds of social sector spending, continue to be underfunded¹⁹¹. In addition to a higher quantum of spending, the agricultural R&D and extension models need appeal to rural youth. Interactive, inclusive and dynamic agricultural innovation systems that promote experimentation, innovation and direct knowledge sharing between universities and highly networked young farmers could accelerate the pace of diffusion and adoption of new technologies and practices among other young farmers as well¹⁹².

82. ***Localized and interactive ICTs can increase the scale and effectiveness of agricultural extension.*** In principle, ICTs can quickly and efficiently disseminate information related to agricultural technology adoption and management practices to young farmers, who are more likely to use mobile phones and less risk-averse than older farmers. In practice, rigorous evaluations of crop and weather advisories delivered through SMS and voice messages in India have found mixed impacts on cultivation practices¹⁹³, albeit these programs were not exclusively targeted to youth¹⁹⁴. Locally produced video messages and targeted two-way communication has proven to be more successful¹⁹⁵, an insight that Digital Green has used to scale up an innovative and cost-effective—relative to traditional extension services—program¹⁹⁶ to more than 1 million farmers in India, Ethiopia, Afghanistan, Ghana, Niger and Tanzania¹⁹⁷. A similar program targeting young farmers in Ghana utilizes audio conferencing technology¹⁹⁸.

Action areas on skills development and matching rural youth to jobs: (i) Pre-existing school feeding programs should be leveraged to provide nutritious and fortified food to improve cognition among young children, reduce school dropout and raise educational attainment; (ii) innovative after-school programs designed to provide adolescents the skills needed for agricultural entrepreneurship should be scaled up; (iii) integrated skills training for out-of-school rural youth should be targeted carefully, with strong linkages between employers and training providers, in order to match the demand for skills with the supply of youth labor; and (iv) promote TVET programs packaged with geographically targeted transport subsidies to enhance the ability of rural youth to take up jobs in secondary towns and urban centers, and (v) scalability of ICT technologies should be utilized to link young farmers with agricultural extension specialists, with an emphasis on two-way communication and community participation to encourage adoption of modern inputs and management practices. A comprehensive approach to skills for rural youth is needed to enable transitions from school to work.

Facilitate access to land

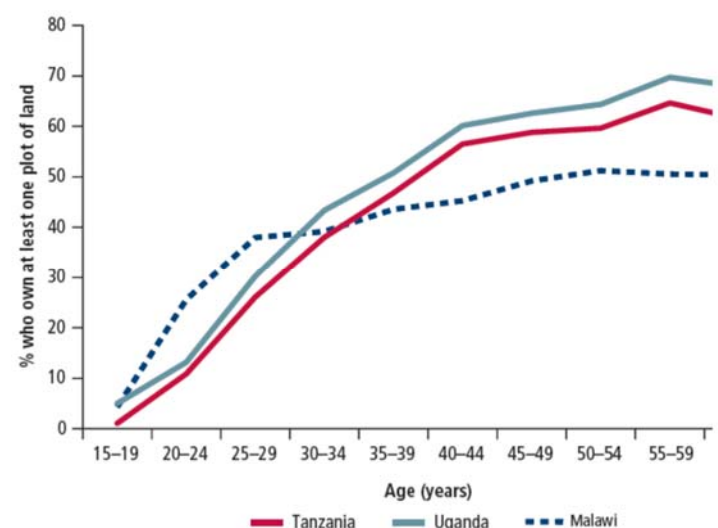
83. African countries have the youngest population in the world and the largest share of the world’s available arable land¹⁹⁹—paradoxically, youth rarely own land and average plot size is declining. Rural landlessness was more common in parts of Asia than Africa²⁰⁰. However, rural population growth in SSA, the continued dominance of community tenure systems²⁰¹, and inactive land markets have led to a situation where the ability of rural youth to access land is severely constrained, thus contributing to their exit from agriculture²⁰².

84. **Access to land is one of the key determinants of youth involvement in agriculture.** In six SSA countries accounting for 40 percent of its population, land size was found to be positively related to time spent by youth in agriculture²⁰³. In Ethiopia where land purchases and sales are prohibited, only nine percent of youth in rural areas plan to pursue farming. Their decision to pursue non-agricultural livelihoods or migrate to urban areas is mainly determined by the lack of access to land²⁰⁴.

85. **Youth do not typically own land, whether land is scarce or abundant.** (box 2). In land abundant countries, land is often difficult to acquire because of ambiguities and costs associated with land transactions through purchase, sale, leasing, and assignment under traditional rules. When constraints on the operation of land markets raise the cost of accessing new land, a young person (usually male) reaching adulthood may simply farm a portion of the family’s original holding rather than secure a new allotment²⁰⁵.

86. **Land is even more difficult to acquire for young women.** In every developing region, women own substantially less land than men²⁰⁶. In SSA, many customary tenure systems – patrilineal and matrilineal²⁰⁷ – deny land rights to women because women

Box 2: Youth do not typically own land



Source: Filmer and Fox (2014), based on data from the Living Standards Measurement Study–Integrated Survey on Agriculture.

gain user rights through their relationship with a male relative²⁰⁸. Although men inherit land in the more common patrilineal systems, young men have to wait until marriage or when fathers die to access and manage plots. Early inter-generational land transfers often don't occur because land serves as a substitute for social protection for elderly landowners²⁰⁹ whose life expectancy has increased. Where land obtained from parents through inheritance or gift is the only system of intergenerational land transfer, youth are often left with smaller and less viable plots with each generation²¹⁰.

87. ***Missing or incomplete land markets disproportionately hurt youth.*** Where land sale and rental markets are inactive, the prevalence of customary land tenure systems leads to not just smaller holdings²¹¹, but also an inability for young farmers to expand the scale of farming and lower production costs. In land abundant settings, coupling land and agricultural machinery rental markets could reduce the high up-front costs associated with agricultural investments, helping address the liquidity constraints faced by young farmers. In a recent study of five SSA countries, the share of households renting in land was found to range between 8 percent (Tanzania) and 22 percent (Ethiopia), suggesting that while not missing, these markets are not functioning well²¹². Land sales markets are even less active in SSA²¹³.

88. ***Restrictions on land rentals harm smallholders.*** Land rental markets are particularly suited to rural youth who are more credit constrained, and less willing to make a long-term commitment to farming. Smallholders' interests, often invoked to justify restrictions on land rentals,²¹⁴ are the segment most likely to gain from participating in land rental markets. Land rental market activity has been found to improve access for land-poor householders²¹⁵, increase allocative efficiency,²¹⁶ and serve as insurance against shocks²¹⁷. Since there is an increasing overlap between the land-poor and rural youth, land rentals also help the latter. Lastly, rental markets can provide income to elderly landowners where land is individually owned, in the absence of pensions and other forms of social protection.²¹⁸

89. ***Systematic land registration can facilitate the functioning of land markets.*** Tenure security can increase land investment, credit access, and agricultural productivity²¹⁹. In SSA, only about 10 percent of occupied land is formally registered²²⁰. In some settings, indigenous or customary land tenure systems provide secure tenure rights, while in other settings with real and perceived tenure insecurity²²¹ systematic titling and registration can strengthen tenure security. In these latter settings, failure to physically identify, delimit, and publicly record plot ownership makes it difficult for owners to use it as collateral or transfer their land for long periods²²², thus reducing supply in the rental market. For rural youth to benefit from land rentals in these settings, titling and registration needs to be backed by state and local government at low cost against competing claims.²²³ Since formal administration could be more costly in land abundant and low capacity settings²²⁴, other legal statuses like land certificates and common family property could be mobilized in these environments.

90. ***Information and Communication Technologies have revolutionized land registration.*** The key elements of documenting land tenure – mapping, recording, and verifying landholdings – have been disrupted by the rise of ICTs, lowering the logistic cost associated with land registration²²⁵. A pilot land regularization project in Rwanda used high-resolution aerial photography and registration in conjunction with the establishment of an elaborate land tenure system. Cumulatively, this project increased legal access for married women and doubled investment and maintenance of soil conservation structures, with gains concentrated in women-headed households²²⁶. In Kosovo and Tanzania, the World Bank has supported participatory mapping projects where local communities used unmanned drones, further reducing the cost of certification and rapid provision of titles.^{227 228} The establishment of digital registries to record land transactions could also serve to increase the legitimacy of diverse local contracts, reduce appropriation risk and increase credit access. However, a simple digitization of *existing* land registries, without any change in the underlying quality of information, may have little effect on rural credit supply or land transactions²²⁹.

91. ***Redistribution of unused and underutilized land can benefit rural youth.*** Market-based land reform programs in Brazil, Malawi, South Africa and Zambia have met with varying degrees of success in transferring land to the land-constrained poor, a significant share of whom are the rural youth²³⁰. There are at least three determinants of success across these programs: i) voluntary land acquisition from owners, government or private donors, ii) resettlement assistance, farm inputs and advisory services for youth, and iii) enforcement of land tax to induce large landholders to sell, combined with measures to improve the bargaining power of buyers relative to sellers²³¹. In post-conflict Liberia, an intervention targeted at high-risk young men provided a combination of unutilized farmland, agricultural training, and inputs, and was found to increase farm employment and profits, as well as shift work hours away from illicit activities²³².

Action areas on land: (i) Take advantage of low cost ICTs to establish digital land registries and build on experience from other countries²³³; (ii) remove remaining constraints on land rental markets; (iii) design market-based land reform with incentives that increase the bargaining power of land-poor buyers relative to land-rich owners; (iv) strengthen tenure rights for women through land inheritance rights²³⁴, individual titling for women farmers and joint titling for married couples²³⁵. In countries where agriculture is feminizing, this agenda is even more important; and (v) facilitate intergenerational *in-vivo* land transfers coupled with social protection for elderly landowners controlling community land.

Improve access to affordable finance

92. ***Rural youth are financially excluded, particularly in SSA.*** As of 2014, 62 percent of adults had an account at a financial institution²³⁶ or with a mobile money provider worldwide. Across forty-two African countries in 2014, the corresponding figure is 29 percent among *rural adults*²³⁷, despite the widespread use of mobile money in East Africa. Since youth are less likely than older adults to have an account²³⁸, particularly in rural areas, it is highly likely that less than 1 in 5 rural African youth had access to formal *or* informal finance²³⁹. While the number of banked SSA youth and the number who were able to borrow are increasing rapidly²⁴⁰, these increases are from a low base and it is not clear if these gains are shared by rural African youth. Even as the agenda of financial inclusion—the sustained access to financial services and products like savings, loans, insurance, and payment systems at an affordable cost²⁴¹—has made large gains globally²⁴², it is far from being achieved among rural Africans in general, and youth in particular.

93. ***Young women have even lower access to formal finance.*** Gender dynamics constrain women's access to finance. Women are often time constrained due to multiple household activities and are less likely than men to have a formal land title, often needed to open a bank account. These constraints manifest themselves in the gender gap in account ownership, access to savings and credit globally, and in SSA²⁴³. While the share of young African women with a bank account has increased at the same rate as young men recently²⁴⁴, a significant gender disparity persists in ownership and access to savings and credit. In India, the Self Help Group model, reaching more than 33 million members, has been largely successful in linking groups of 10 – 20 poor women to bank accounts and obtaining micro-loans²⁴⁵.

94. ***Reaching rural areas is not profitable for brick and mortar financial institutions.*** Given that incomes and population densities tend to be lower in rural areas, commercial banks worldwide have traditionally found it financially unviable to operate rural offices²⁴⁶. State-led social banking programs, once widespread, have largely ended or been modified²⁴⁷. On the demand side, the travel and opportunity costs of going to a bank using poor roads, absence of identification cards and land titles required to open an account, misalignment of bank repayment cycles with seasonal cash flows, as well as low financial knowledge, are often binding constraints for rural residents. For rural youth, often engaged in their family's

farming activities after school hours or through the day if not in school, a bank's operating hours can also represent a physical limitation²⁴⁸.

95. ***Where commercial banks are present, lending to agriculture only comprises a small share of their overall loans.*** Transaction costs of reaching remote rural populations are high. Sector specific and covariant risks lead to perceptions of higher non-repayment risk. Lack of knowledge within banks on how to manage transaction costs, sector risks, and to market financial services effectively to an agricultural and rural clientele can limit lending. The AgriFin program has been providing technical assistance to a set of financial institutions in Africa and Asia to address these issues, with some success.

96. ***Informal financial activity dominates in rural areas.*** Institutional innovations like self-help groups, microfinance institutions (MFI), and savings and credit associations have emerged to fill the financing gap in developing economies around the world²⁴⁹. In rural SSA, the informality of financial activity is amplified, often addressing both credit and covariant risk in agriculture. More than half of all rural households saved and borrowed money over the past year, but only a small percentage used the formal sector—defined as a bank or MFI—for either purpose. More than three-fourths of savers preferred to save in community savings groups, cash at home, or in livestock while 42 percent of borrowers turned to family or friends.²⁵⁰

97. ***Informal credit is costly and does not translate into long-term investment.*** Microcredit is a very popular intervention²⁵¹ intended to provide the poor with the capital required to start informal self-employment and business. However, evidence from the randomized evaluations of microcredit programs from India, South Africa and Morocco has generally found modest to no impacts on entrepreneurial activity.²⁵² Further, given the high overhead costs of administering many small group loans, the interest rates and fees associated with microcredit are steep, often reaching 100 percent annually.²⁵³ In general, the interest rates paid by borrowers in informal channels is between two to ten times higher than commercial rates²⁵⁴. However, allowing alternative forms of collateral can reduce the cost of credit – innovations like chattel mortgages, warehouse receipts, future harvests, and leasing of equipment have the potential to substantially increase access to credit for young farmers.

98. ***Youth-targeted savings mechanisms are growing.*** Most countries do not allow youth under the age of 18 to open bank accounts on their own or obtain a loan.²⁵⁵ Recognizing that youth do not currently have the ability to securely save and access their savings²⁵⁶, Uruguay and the Philippines have lowered the age requirement to enable the opening of youth savings accounts²⁵⁷. Global consortiums like YouthSave²⁵⁸ and UN Capital Development Fund²⁵⁹ are also engaged in opening individual and joint youth accounts in multiple countries. Commitment devices like savings accounts which only allow deposits to be accessible in the future, have been found to be effective in increasing savings among individuals with lower self-control²⁶⁰, and by lowering the pressure to share money with friends and family²⁶¹, making them well-suited to youth²⁶². Applying this principle along the lines of rotating savings associations and India's SHGs, the MasterCard Foundation is increasingly organizing youth savings groups in SSA, as a springboard to formal financial inclusion.²⁶³ Other groups include Plan Canada and Freedom from Hunger, operating in Niger, Senegal, Sierra Leone, and Mali respectively.²⁶⁴ Child and Youth Finance International has developed general Child and Youth-Friendly Banking Principles to guide financial institutions in a youth-centered product design.

99. ***Mobile money platforms are transforming rural finance.*** Mobile money based financial innovation has proven to be better at delivering last mile services (payments, remittances, credit, insurance) to the unbanked (rural youth) than commercial banks. In fact, this is an area where East Africa is a global leader, with digital finance leapfrogging the analog banking stage of economic development²⁶⁵. The nearly ubiquitous M-PESA platform²⁶⁶ allows rural clients in Kenya, Tanzania and Uganda, mostly smallholders,

²⁶⁷ to send money, borrow, make savings deposits, access accounts, pay fees or meet minimum balance requirements without incurring transaction costs, rendering physical cash transfers anachronistic, bank branches unnecessary, and microcredit lenders less relevant²⁶⁸. There is early evidence to suggest that use of mobile money is associated with higher input use, agricultural commercialization and farm incomes²⁶⁹. Kenya's e-warehouse system addresses the long-standing smallholder issue of liquidity constraints at harvest by enabling farmers to certify their crops and use them as collateral to borrow, thus allowing them wait and sell when market prices are high²⁷⁰. Since youth are more likely to own a phone and adopt phone based innovation in rural areas, mobile money based rural banking is a promising avenue for bringing them into the financial system.

100. ***Risk-management tools are also utilizing mobile money platforms.*** Linking agricultural credit to weather-indexed insurance and extension services can address the needs of young farmers for simultaneous finance and information²⁷¹. ILO estimates that micro-insurance in Africa almost doubled between 2006 and 2009, albeit from a very small base²⁷². In Kenya, Rwanda and Tanzania, the Agriculture and Climate Risk Enterprise (ACRE) uses the M-PESA platform to bundle index insurance with agricultural credit and farm inputs, and has recently scaled to reach nearly 200,000 farmers²⁷³. In Zimbabwe, EcoFarmer provides weather-indexed insurance²⁷⁴ and advisory services using its EcoCash platform, which has 5 million customers—over 70 percent of the country's adult population—and processes \$6 billion in transactions annually, nearly 40 percent of Zimbabwe's GDP²⁷⁵.

101. ***Translating high mobile penetration to financial inclusion requires public and private collaboration.*** Financial inclusion for rural communities, in particular rural youth, is not preordained by high mobile penetration. Despite mobile signals now covering 90 percent of the world's poor²⁷⁶ and East Africa's mobile money based innovations, only 8 percent of farming households receive payments for agricultural sales via a mobile phone in SSA. The majority still receive payments in cash. Further, only about 6 percent of farmers report purchasing crop or livestock insurance²⁷⁷. The success of mobile money in rural areas requires collaboration between central banks, telecom operators, financial technology companies, and most crucially—adoption by a vast distribution network of agents, especially shopkeepers—who convert it to goods, services, and cash. Agriculture focused products like weather-indexed insurance and e-warehouse receipts can only leverage this platforms when localized and reliable meteorological information—a public good—is coupled with knowledge about crop choices and relevant farm inputs²⁷⁸.

Action areas on improving access to affordable finance: (i) encourage collaborations between governments, central banks and telecom partners to enable the creation of mobile money platforms to deliver last-mile financial products and services; (ii) consider removing legal restrictions on using alternative forms of collateral²⁷⁹ to lower the cost of credit in rural areas; (iii) implement and utilize biometric identification instead of land titles for opening bank accounts for rural youth to increase access to the formal banking system. This would also enable credit history to be reliably linked to individuals; (iv) replicate and scale programs that combine access to financial services with advice or mentoring targeted at rural youth; and (v) transitioning youth savings groups to offer credit may be a promising avenue.

Promote MSME development

102. ***Fostering entrepreneurship is a key pathway to creating sustainable employment, more productive businesses and earning opportunities for rural youth.*** As reflected in the first section of the paper, the majority of workers in developing countries are either self-employed (family-farming, temporary or full-time off-farm activities) or wage earners, and many are in informal, low paid, and low productivity jobs^{280 281}. This type of vulnerability, assessed as 'vulnerable employment', comprises over 75 percent of

jobs in South Asia and sub-Saharan Africa²⁸². Rural youth are more likely to be in ‘vulnerable employment, working mainly in agriculture related activities²⁸³. Almost two-thirds of working youth live in poverty, compared to half of working adults²⁸⁴. Fostering youth entrepreneurship and MSME development is a potential pathway out of more vulnerable employment, and SMEs can play a significant role in job creation. While there is some overlap with previous sections, MSME development is given its own section in this paper combining some of the previous supply-side interventions.

103. ***Young women face a triple challenge in entrepreneurship—gender, age and informal sectors constraints—that limit their potential and need to be addressed²⁸⁵***. On average, women make up 40 percent of the agricultural labor force in developing countries, but face particular gender-based challenges to become entrepreneurs and access decent wage employment²⁸⁶. Women’s heavy burden of unpaid work is one of the most important factors constraining their access to paid work in rural settings, together with their limited access to and control over assets, and social norms (such as early marriage and inheritance norms)²⁸⁷. Programs need to be better tailored to address these specific constraints. The introduction of new technology that can reduce girls and women’s burden from water and fuelwood collection will increase the chance for them to be involved in income generating activities. Benefits such as child-care, literacy training, and flexible schedules also make programs much more attractive for young women in rural settings²⁸⁸. Women organizations such as cooperatives can be an effective mechanism to empower women and facilitate their engagement in agricultural value chains²⁸⁹. India’s Amul Dairy Cooperative is an example of a highly successful milk cooperative which integrated the social and financial empowerment of women, who traditionally tended to cattle.

104. ***Entrepreneurship programs that combine interventions (training, finance, access to market) are more effective in helping small-scale entrepreneurs²⁹⁰***. Successful entrepreneurship programs typically propose a package of services to youth associated with their needs and the multiple constraints they face. These services generally include trainings, access to inputs, finance and markets, and some type of mentoring or coaching^{291 292 293}. Some have been successful in generating youth employment, such as FAO’s program combining the JFFLS methodology with a public-private partnership model, for example in Tanzania, and Malawi²⁹⁴. The use of the JFFLS methodology provides knowledge that is adapted to rural contexts. The private (producer organizations) and the public sector (Ministries of Agriculture, Labor and Vocational Training, Youth) both have a role in facilitating young women and men’s access to land, inputs, finance and markets. Combined approaches have proven to be more effective than the provision of either service alone among youth²⁹⁵. Other design and implementation features that contribute to positive impacts on labor outcomes include strong monitoring systems that can signal the need for potential adjustments and incentives for private sector providers. Additional features that usually attract youth include the provision of starter kits, engaging in activities that generate high return on investment and have short gestation periods, the opportunity to “earn while learning” through apprenticeships and incubators²⁹⁶, and linkages with market actors. Empowering youths by facilitating their access to land, markets, and finance helps them become entrepreneurs, and improved their belief that they can make a living in rural areas, as demonstrated by the *Youth Employment in Agriculture Programme (YEAP)*²⁹⁷ implemented in Nigeria, and which focuses on priority value chains.

105. ***Programs that integrate support services based on youth priorities***. Initial consultations with youth and other stakeholders to identify the needs and specificities of the local context (e.g. availability of natural resources, infrastructure, service providers, market opportunities and skills in need in the local economy) are crucial to design appropriate support services and identify where economic opportunities lie²⁹⁸. A major component is to build the skills of youth including technical/agricultural, vocational, negotiation, business and financial skills. Business training in particular seems to be important to help small-scale entrepreneurs set up their businesses and improve their performance²⁹⁹. The Young Micro Entrepreneurs’ Qualification Program in Peru had positive results with young people increasing their entrepreneurial skills and the capacity of beneficiaries to hire more workers³⁰⁰. However research indicates

that improved business knowledge does not necessarily translates into business growth or higher profits³⁰¹. Some programs include leadership and life skills, and support to self-organize³⁰² and a few propose basic literacy and numeracy, mainly when targeting younger groups³⁰³. Embedding entrepreneurship curricula in schools and TVET institutions has also proven an effective way of fostering an entrepreneurial culture³⁰⁴. ILO has implemented skills-focused programs, including Training for Rural Economic Empowerment (TREE) that target agricultural communities, and engage technical services the private sector and specific supply chains to support high-potential but small-scale production³⁰⁵.

106. ***A portion of well-educated youth is engaging in agri-businesses and establishing productive ventures.*** While most interventions target rural youth with low levels of formal education and the out-of-school, an increasing number of young people with higher education are viewing the agrifood sector as a business to engage in (e.g. young entrepreneurs providing services to agriculture through ICTs³⁰⁶). They can serve as models for other young people, and play an important role in creating and investing in small industries in rural areas, building networks, and generating employment³⁰⁷.

107. ***Involving the private sector in program delivery is associated with improved impacts, in the context of well-designed partnerships.*** An analysis of youth-focused interventions finds that programs implemented by the private sector seem to perform better than joint public-private implementation³⁰⁸. Producer organizations, non-governmental organizations and social enterprises, are increasingly playing a major role in designing and delivering entrepreneurship programs. They engage in different ways, providing capacity building and mentorship services, access to land, finance and markets^{309 310}. Well-designed public-private partnership models have been implemented by FAO in Tanzania and Malawi³¹¹, and in Uganda and Kenya by ILO (The Youth Entrepreneurship Facility program³¹²). As a result of these interventions, some cooperatives have been expanding their membership to include young people, establishing youth structures within the organization, and promoting youth leadership³¹³.

Action areas on promoting MSME development: Beyond the action areas in previous sections (e.g. on the investment climate, infrastructure, skills, and finance): (i) reflect the diversity of youth (gender, age, knowledge, education, capacities and cultural settings) in the design of entrepreneurship programs and develop rigorous monitoring and evaluation systems so that the impacts can be properly assessed; (ii) use a combination of interventions (training, mentoring, access to finance and markets); (iii) include youth in the design of entrepreneurship programs; (iv) encourage approaches such as incubators, which create a “safe” space where young people can learn and practice essential technical and business skills as they are mentored; and (v) ensure that young women and men have equal access to information, trainings and resources to start and expand their business in profitable value chains, for example through gender sensitive TVET and grants (e.g. YEAP in Nigeria), support to the formation of women’s cooperatives and business associations.

Support social protection and safety net programs, and access to social services

108. ***Social protection plays a key role in building resilience, increasing incomes and food security and can enhance employment generation for rural people including youth.*** Despite progress in reducing levels of extreme poverty globally, high levels of poverty and vulnerability persist especially in rural areas of developing countries. Social protection interventions not only provide direct income support but also opportunities for rural people, including youth, to engage in more profitable livelihoods. Improvements in rural employment have been observed from social protection, either directly creating direct jobs³¹⁴ and/or prompting indirect knock-on effects on rural labor markets³¹⁵. However, about 73 percent of the world population still have no access to social protection measures, most of which live in rural areas³¹⁶.

109. ***Few social protection and safety net programs address the needs and constraints of rural youth.***

A global review of social protection programs around the world reveals that despite the gradual emergence of new models, few programs are explicitly targeted or tailored towards rural realities³¹⁷, and very few specifically address the risks and constraints being faced by rural youth e.g. school-to-work transition programs³¹⁸. The diversity of rural youth (age, gender, education) and the different challenges they face has not fully been taken into account. For example youth aged 15-17 tends to face additional challenges in accessing decent rural employment³¹⁹ and face a greater risk of hazardous work and child labor. Young women face greater challenges than men to engage in public works due to gender-biased norms, higher chances of being married and pregnant at an early age, limited physical mobility and more household responsibilities³²⁰. Social protection systems have a significant role to play for accelerating women's economic empowerment. For example in order to tackle women's mobility constraints, cash transfers can be delivered automatically through mobile phones or bank accounts³²¹. Design of social protection programs need to reflect the challenge ahead, such as the estimated 440 million young people projected to enter the labor market in SSA by 2030, the majority in rural areas³²².

110. ***Well-targeted and multifaceted social protection programs can ease access to employment opportunities and resources including for young people.***

Some innovative and more promotional approaches are combining interventions, aimed at creating income-generating opportunities and employment. "Graduation" models have been successful in increasing incomes and self-employment for the poorest of the poor. They integrate measures such as cash or asset transfers, access to saving services, and productive training³²³. Other programs have been based on generating employment mainly through large public work initiatives, such as in India³²⁴. They have proven to be an effective way to improve rural infrastructure while providing learning and business opportunities for women and men, including youth (e.g. for the maintenance of infrastructure). Public works programs have great potential benefits for rural women's economic empowerment if they include measures such as equal wages for women and men, child-care facilities, equal opportunities to build skills and access employment, and improve infrastructures that can reduce women's burden³²⁵.

111. ***Synergies between social protection and wider policies can increase agricultural productivity and build resilience of small-scale producers.***

In rural settings, social protection needs to link with agricultural and rural development efforts that help build resilience, and improve productivity and sustainable management of resources³²⁶. Some countries (e.g. Brazil, Ethiopia^{327 328}) have started to implement comprehensive food security programs that link social protection policies and productive support to small-scale producers, using cash and in-kind transfer, linking farmers with school meal program, and providing resilience financing. Available evidence suggests there can be strong positive impacts if programs are well designed and aligned with agricultural policies that support smallholders farmers³²⁹. Supporting universal access to primary and secondary schooling and access to health care benefits can also be linked to social protection strategies. Evaluation of seven cash transfer program in sub-Saharan Africa found that these generate a broad range of social, economic and productive impacts among poor small family farmers³³⁰. Finally, supporting the adoption of occupational health and safety standards and codes of practice is particularly important for those working in the agricultural sector (e.g. related to pesticide use, logging, and safety at sea, etc.)³³¹.

112. ***Match public works programs with seasonal patterns of labor demand.*** Matching the timing of rural public works programs to operate in periods with low agriculture seasonal labor demand can help smoothen the effect of seasonality on labor demand in rural areas.

Action areas on support social protection and safety net programs, and access to social services: (i) design social protection programs that are responsive to rural settings and are gender sensitive ((e.g. Zambia Social Cash Transfer, Bangladesh’s Asset Transfer Program³³²), giving particular consideration to the employment challenges of rural youth, with tailored interventions for rural youth aged 15-17; (ii) design social protection programs that combine protective, preventive and promotional interventions, taking into account context-related opportunities³³³; (iii) integrate social protection programs with broader growth, investment plans and employment policies, in particular with agricultural programs (e.g. Ethiopia’s Productive Safety Nets Program and Brazil’s Zero Hunger Program); and (iv) integrate a gender and youth employment lens in the monitoring and evaluation systems of social protection programs in order to better understand impacts and what works for whom; and (v) support governments to review and expand social protection systems in rural areas.

IMPELEMENTATION CONSIDERATIONS

113. **Institutional arrangements:** While the Ministries of Agriculture need to play a prominent role in promoting rural youth employment, many action areas highlighted in this paper extend beyond their mandate and need to be addressed by other ministries including, education, health, social protection and labor, economic development, local government, trade and commerce, and finance. Multi-stakeholder approaches are needed. Examples include the integrated country approach for promoting decent rural youth employment developed by FAO that engages with and creates synergies between different Ministries: Agriculture, Livestock and Fisheries, Labor, Social Development, Youth, Gender, depending on the country context. Co-ordinated development partner support is also important. For example the UN Joint Program on Youth Employment (UNJPYE) for Tanzania involves multiple agencies. ILO implements a joint program on youth employment in collaboration with other UN sister agencies namely, FAO, UN Women and UNIDO to address youth employment challenges.

114. **Priorities vary by country context** reflecting variance in binding constraints across countries and across regions within countries. General considerations guiding prioritization could be: (i) outreach: the number of young people that would benefit from the initiative should be fairly large to have a meaningful impact; (ii) urgency: addressing areas or constraints that are most pressing for rural youth employment, including in areas with large youth outmigration from the region or country; and (iii) results: aiming at concrete effects on material living conditions of young people.

115. Other examples of prioritization:

- In agriculturally dependent countries, it is hard to create non-farm jobs without first growing the profitability of agricultural tradables, the income from which stimulates growth in rural and urban areas. Past efforts that didn’t give consideration to this demand side, but focused solely on supply-side interventions to stimulate the rural non-farm economy often stumbled.
- Targeting non-farm jobs development interventions to areas where “pull factors” (opportunities in dynamic value chains that are pulling worker out of farming into better paid jobs) prevail can have high returns. Ensuring social protection coverage in areas where there is persistent shortfalls in production to meet subsistence needs resulting in household members being “push” of the farm in desperation to find off-farm sources of income.
- Lagging regions within countries have lower rates of economic growth and poverty reduction than leading regions in the same countries. In addition to policies that spur growth in lagging regions, interventions that increase access of rural youth in lagging regions to jobs in leading regions – such

as lowering costs of transport and migration to leading regions - can lead to improved employment and income outcomes for them.

- In land abundant countries, improving land rental markets can provide an avenue for greater rural youth engagement in agricultural production. The investment climate and market organization also differs across countries.
- While the need for skills development for youth cuts across all countries, the nature of skills deficits varies. In some countries basic education (to read and write) is more of a priority, while in others it may be entrepreneurial skills development.

116. The variance in context, with differing policy and investment response implications, calls for programs that intend to target youth employment to clearly identify the binding constraints that they are trying to address.

117. ***Potential elements for G20 discussion:*** This is not intended to be an exhaustive list.

- (i) *Alignment around the SDGs and Malabo Declaration:* One of the Sustainable Development Goals (SDGs) is to substantially reduce the proportion of youth aged 15-24 not in employment, education or training. Available measures for this indicator in the SDG Indicators Global Database shows a large range across countries from 53 percent to 1 percent. These measures could potentially be used to prioritize development partner country efforts on rural youth employment, as well as learn lessons from countries that have already progressed. In addition, the Malabo declaration has a target for African countries to create job opportunities for at least 30 percent of the youth in agricultural value chains that can help focus efforts in the region. Youth specific objectives, actions and targets should be integrated in country investment plans (NAIPs).
- (ii) *Country level development co-operation:* Coordination of development partner support for rural youth employment at both country level and across international initiatives (annex 1) can potentially improve the efficiency and effectiveness of support. Country-led and owned programs for rural youth employment can provide a useful coordination mechanism, guided by a common diagnosis of binding constraints in that particular country or area. Development partner support can help governments to develop or strengthen these programs, including the associated diagnostics, and link with initiatives such as the Global Initiative for Decent Jobs for Youth. Principles such as those established by the Committee on Food Security (CFS) pertaining to the engagement and empowerment of youth as part of responsible investments in agriculture and food systems need to be considered in this context.³³⁴ In addition, actions on decent rural youth employment should be a part of national and regional economic and social development strategies.
- (iii) *Fill data gaps:* A challenge in assessing the regional and temporal variation of rural youth employment is the paucity of disaggregated cohort size and labor market data within the youth category. Information on rural labor markets, particularly in the informal sector is sparse and when it exists is often not disaggregated by sub-sectors of activities, age and gender. Efforts to reduce this data gap could help improve design of policies targeted at improving the labor market outcomes of rural youth.
- (iv) *Mutual learning and knowledge exchange on development of skills and entrepreneurship for scaled-up investment:* Recent global analysis of youth targeted interventions found that only about a third of them showed a significant positive impact on employment or earnings³³⁵. Encouragingly these programs have been more successful in low and middle income countries, and skills training

and entrepreneurship programs seem to have had a higher impact. Programs that integrate multiple interventions also seem to have performed better than those focusing on only one intervention. Drawing on lessons learned and knowledge exchange on what rural youth programs work and do not work and making use of existing knowledge products (e.g. Academy on Youth Employment³³⁶ developed by ILO and FAO) could usefully inform design of future programs, including sharing experiences and good practices of south-south cooperation to enhance rural youth employment.

- (v) *Land*: In some countries land is a binding constraint to rural youth engagement in farming, with decisions to pursue non-agricultural livelihoods or migration to urban areas sometimes determined mainly by lack of access to land. Efforts to help facilitate the functioning of land markets, particularly rental markets, can ease this constraint.
- (vi) *Promote gender equality*: Embed gender equality in all the G20 members' support programs related to rural youth employment and provide the necessary support to governments to design gender-responsive youth initiatives.
- (vii) *Financing to support rural youth employment*: In addition to attention to policies and knowledge, additional investments will be needed to achieve the SDG and Malabo declaration target on youth employment, including through country public budgets, global programs, multilateral development banks, and the private sector.

Annex 1: Overview of relevant international initiatives on youth empowerment and youth employment

[Prepared by GIZ]

Title, Function	Partner, Goals, Strategy
<p><u>UN / ILO</u> Global Initiative on Decent Jobs for Youth</p> <p>UN multi stakeholder forum for exchange and coordination (“Umbrella Forum for Global Advocacy“)</p>	<p>The <i>Global Initiative on Decent Jobs for Youth</i> is a joint cooperation of 20 UN organizations (FAO, UNDP, UNEP, UNFPA, UNICEF, UNIDO, UN-WOMEN et al.) under ILO leadership, officially launched in November 2015. The UN’s Chief Executives Board for Coordination, comprised of the 29 Heads of all UN entities, have endorsed this initiative as a key priority for achieving SDG 4 (4.4) and SDG 8 (8.5, 8.6).</p> <p><u>Strategy / Areas of action:</u></p> <ul style="list-style-type: none"> – Engage key stakeholders and world leaders in high-level political action on youth employment; – Expand and Intensify national and regional actions to implement systematic and coherent policies regarding youth employment responding to national development priorities; – Pool experiences, enhance knowledge on what works and does not work regarding youth employment and disseminate them through the development of tools and by encouraging skills; – Obtain resources from the existing institutions and mobilize additional resources via high-level commitment of local, national, regional and international stakeholders.
<p><u>UN</u> UN Inter-Agency Network on Youth Development (IANYD)</p> <p>Network for exchange of information and coordination</p>	<p>The United Nations Inter-Agency Network on Youth Development (IANYD) is a network consisting of UN entities, represented at the headquarters level, whose work is relevant to youth. The network has thematic working groups and has regular monthly meeting at UNHQ. The aim of the network is to increase the effectiveness of UN work in youth development by strengthening collaboration and exchange among all relevant UN entities, within the scope of UN System-wide Action Plan for Youth, where youth employment is one of the five priorities.</p>
<p><u>Weltbank</u> Solutions for Youth Employment (S4YE) S4YE Baseline Report incl. a chapter dealing with „Rural and Urban Dynamics in Youth Employment“ (10/2015)</p>	<p>S4YE is a long-term multi-stakeholder coalition of public, private and civil society stakeholders to achieve employment for 150 million young people aged between 15 and 29 worldwide by 2030.</p> <p><u>Founding Partners:</u> Plan International, International Youth Foundation (IYF), Youth Business International (YBI), RAND Corporation, Accenture and ILO under World Bank leadership. S4YE has a growing number of strategic partners: Rockefeller Foundation, MasterCard Foundation, Microsoft, Norwegian Ministry of Foreign Affairs; German Federal Ministry of Labor and Social Affairs</p> <p>The 2015-2020 Strategic Plan outlines the following priorities:</p> <ol style="list-style-type: none"> (1) <i>Build Partnerships</i> (2) <i>Expand Robust Evidence Base</i> (3) <i>Increase Resources for Programs</i> (4) <i>Accelerate Innovation</i> (“one-stop shops for support, knowledge, network and engagement“).

<p>Youth Employment Inventory (YEI)</p>	<p>YEI is an internet-based database designed to improve the knowledge base on the effects of youth employment projects. It was initiated by the World Bank in 2010 and is managed by a consortium under the leadership of BMZ, ILO and IDB. The YEI collects data on employment-related measures of youth employment promotion from more than 100 countries and thus represents an important tool for the evaluation and analysis of youth employment promotion approaches.</p>
<p>AU / NEPAD Skills and Employment for Youth</p> <p>African-owned policy dialogue</p>	<p>Human Capital Development (Skills, Youth, Employment, Women Empowerment) is one of the four thematic pillars of NEPAD. It addresses the economic and social exclusion of young people in Africa by promoting employment opportunities in order to actively and sustainably involve the generation of young people in the processes of economic development on the continent.</p> <p>Under CAADPs thematic pillar Skills and Employment for Youth: “Agriculture Technical Vocational Education and Training“(Implementation in 6 pilot countries: Benin, Burkina Faso, Ghana, Kenya, Malawi, Togo); “Skills Initiative for Africa”: (“<i>Financing Facility for Skills Development</i>“. Implementation in five countries + capacity development for NEPAD Planning and Coordinating Agency NPCA)</p> <p>In this context: Rural Futures Program</p> <ul style="list-style-type: none"> – FAO: NEPAD project for the promotion of rural youth employment in Cameroon, Benin, Niger, Malawi (4 Mio USD from the Africa Solidarity Trust Fund) – 2016 African Rural Development Forum with explicit focus on youth employment and "<i>Rural Transformation</i>"
<p>EU Youth Employment Initiative (YEI)</p> <p>Supporting national framework conditions</p>	<p>In 02/2013, the European Council agreed on the employment initiative for young people in order to increase EU financial support to the regions most vulnerable to youth unemployment within the EU.</p> <p>In addition, the European Commission is pursuing the concept of "youth guarantee", which stipulates that young people should be given a concrete and high-quality offer for the workplace, apprentice position, internship, advanced training within four months of completing their training or after they have become unemployed . The EU-COM has supported each EU member state in developing its own national plan for the implementation of the youth guarantee and has given "start-up aid" in the implementation phase. In 2015, a test was run in four Member States (Latvia, Finland, Portugal and Romania). The concept, products and evidence of this test as well as a presentation of the findings/lessons-learned, were made available to national, regional and local authorities in the form of an electronic toolkit for further use. In 2016/17 the EU-COM supports implementation in Bulgaria, Greece, Lithuania and Slovenia.</p> <p>The YEI is financed under the European Social Fund with a total budget of EUR 6.4 billion for 2014-2020. In order to speed up activities on the ground, EU funds have been made available to EU Member States in the form of pre-financing.</p>

References

- AfDB, OECD, UNDP, UNECA. 2012. *African Economic Outlook 2012*.
- Afram, G., and A.S. Del Pero. 2012. *Nepal's Investment Climate: Leveraging the Private Sector for Job Creation and Growth. Directions in Development*. World Bank, Washington D.C.
- African Development Bank, ed. 2012. *Promoting Youth Employment*. African Economic Outlook, 11.2012. Paris: OECD.
- Afridi, F. 2010. "Child Welfare Programs and Child Nutrition: Evidence from a Mandated School Meal Program in India." *Journal of development Economics*, 92(2), 152-165.
- Akter, S., and Fu, X. 2012. "Impact of Mobile Telephone on the Quality and Speed of Agricultural Extension Services Delivery: Evidence from the Rural India." In *2012 Conference, August 18-24, 2012, Foz do Iguacu, Brazil* (No. 126798). International Association of Agricultural Economists.
- Aldebot-green, S., and A. Sprague. 2014. *Regulatory Environments for Youth Savings in the Developing World*. New America Foundation. Washington DC. Available on http://www.newamerica.org/downloads/Regulatory_Environments_for_Youth_Savings_Developing_World_Youths_ave.pdf.
- Alderman, H., Hoddinott, J., and B. Kinsey. 2006. "Long Term Consequences of Early Childhood Malnutrition." *Oxford Economic Papers*, 58(3), 450-474.
- Alexandratos, N, and J. Bruinsma. 2012. *World Agriculture Towards 2030/2050. The 2012 Revision*. FAO. Rome.
- Ali, D. A., Deininger, K. and M. Goldstein. 2014. "Environmental and Gender Impacts of Land Tenure Regularization in Africa: Pilot Evidence from Rwanda." *Journal of Development Economics* 110: 262–75.
- Allen, A., Howard, J., Kondo, M., Jamison, A., Jayne, T., Snyder, J., Tschirley, D., and F. Yeboah. 2016. "Agrifood Youth Employment and Engagement Study." Michigan State University.
- Alliance for a Green Revolution in Africa (AGRA). 2015. *Africa Agriculture Status Report: Youth in Agriculture in Sub-Saharan Africa*. Nairobi, Kenya. Issue No. 3.
- Alston, L. J., and G.D. Libecap. 1996. "The Determinants and Impact of Property Rights: Land Titles on the Brazilian Frontier." *Journal of Law, Economics, and Organization*, 12(1), 25-61.
- Anderson, K. 2009. *Distortions to Agricultural Incentives: A Global Perspective: 1955-2007*. World Bank. Washington, D.C.
- Andersson Djurfeldt, A., and M. Jirstrom. 2013. "Urbanization and Changes in Farm Size in Sub-Saharan Africa and Asia from a Geographical Perspective, a Review of the Literature. A Foresight Study of the." In *ISPC Foresight Study Workshop*. Independent Science and Partnership Council of the CGIAR. <http://lup.lub.lu.se/record/4694048/file/4862245.pdf>.
- Angelucci, M., Karlan, D., and J. Zinman. 2013. *Win some lose some? Evidence from a randomized microcredit program placement experiment by Compartamos Banco* (No. w19119). National Bureau of Economic Research.

- Ashraf, N., Karlan, D., and W. Yin. 2010. "Female Empowerment: Impact of a Commitment Savings Product in the Philippines." *World development*, 38(3), 333-344.
- Attanasio, O., Kugler, A. and C. Meghir. 2008. "Training Disadvantaged Youth in Latin America: Evidence from a Randomized Trial." National Bureau of Economic Research. <http://www.nber.org/papers/w13931>.
- Banerjee, A., Karlan, D., and J. Zinman. 2015. "Six Randomized Evaluations of Microcredit: Introduction and Further Steps." *American Economic Journal: Applied Economics*, 7(1), 1-21.
- Banerjee, A. V., and E. Duflo. 2010. "Giving Credit Where It Is Due." *The Journal of Economic Perspectives*, 24(3), 61-79.
- Barrett, B., and Mutambatsere, E. 2008a. "Agricultural Markets in Developing Countries" in Lawrence E. Blume and Steven N. Durlauf, editors, *The New Palgrave Dictionary of Economics, 2nd Edition* (London: Palgrave Macmillan).
- . 2008b. "Marketing Boards" in Lawrence E. Blume and Steven N. Durlauf, editors, *The New Palgrave Dictionary of Economics, 2nd Edition* (London: Palgrave Macmillan).
- Bassett, T.J., and D.E. Crummey. 1993. *Land in African Agrarian Systems*. University of Wisconsin Press.
- Bauchet, J., Marshall, C., Starita, L., Thomas, J. and A. Yalouris. 2011. "Latest Findings from Randomized Evaluations of Microfinance." In *Access to Finance Forum*. Vol. 2. CGAP Washington, DC. <http://www.microempowering.org/resources/FORUM2.pdf>.
- Benin, S., Johnson, M., Abokyi, E., Ahorbo, G., Jimah, K., Nasser, G., Owusu, V., Taabazuing, J. and Tenga, A. 2013. *Revisiting Agricultural Input and Farm Support Subsidies in Africa – The Case of Ghana's Mechanization, Fertilizer, Block Farms, and Marketing Programs*, Washington DC: International Food Policy Research Institute (IFPRI).
- Benin, S., Nkonya, E., Okecho, G., Randriamamonjy, J., Kato, E., Lubade, G., and M. Kyotalimye. 2011. "Returns to spending on agricultural extension: the case of the National Agricultural Advisory Services (NAADS) program in Uganda." *Agricultural Economics* 42:249-267.
- Benjamin, N. 2014. "Informal Economy and the World Bank." *Policy Research Working Paper* 6888. World Bank. Washington, DC.
- Besley, T. 1995. "Property Rights and Investment Incentives: Theory and Evidence from Ghana." *Journal of Political Economy*, 903-937.
- Betcherman, G., Godfrey, M., Puerto, S., Rother, F., Stavreska, A. 2007. *Global Inventory of Interventions to Support Young Workers: Synthesis Report*. World Bank.
- Bezu, S., and S. Holden. 2014. "Are Rural Youth in Ethiopia Abandoning Agriculture?" *World Development* 64 (December): 259–72. doi:10.1016/j.worlddev.2014.06.013.
- Bigsten, A., Isaksson, A., Söderbom, M., Collier, P., Zeufack, A., Dercon, S., Fafchamps, M., Gunning, J.W., Teal, F., Appleton, S., and B. Gauthier. 2000. "Rates of Return on Physical and Human Capital in Africa's Manufacturing Sector." *Economic Development and Cultural Change*, 48(4), pp.801-827.
- Binswanger-Mkhize, H. P. 2012. "India 1960-2010: Structural Change, the Rural Non-Farm Sector, and the Prospects for Agriculture." In *Center on Food Security and the Environment Stanford Symposium Series on Global Food Policy and Food Security in the 21st Century*, Stanford

University. Citeseer.

<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.406.2420&rep=rep1&type=pdf>.

- Blattman, C., and J. Annan. 2015. "Can Employment Reduce Lawlessness and Rebellion? A Field Experiment with High-Risk Men in a Fragile State." National Bureau of Economic Research. <http://www.nber.org/papers/w21289>.
- Blattman, C., Fiala, N. and S. Martinez. 2011. "Can Employment Programs Reduce Poverty and Social Instability? Experimental Evidence from a Ugandan Aid Program." *Social Protection and Labor Discussion Paper*, no. 1120. <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.269.6562&rep=rep1&type=pdf>.
- Bloom, D. E., Canning, D. and J. Sevilla. 2003. *The Demographic Dividend: A New Perspective on the Economic Consequences of Population Change*. Santa Monica, Calif: Rand.
- Brasselle, A. S., Gaspart, F., and J.P. Platteau. 2002. "Land Tenure Security and Investment Incentives: Puzzling Evidence from Burkina Faso." *Journal of Development Economics*, 67(2), 373-418.
- Brooks, K., Zorya, S., and A. Gautam. 2013. Jobs for Africa's Youth. *International Food Policy Research Institute (IFPRI). 2012 Global Food Policy Report*, 49–57.
- Brooks, K., Zorya, S., Gautam, A., and A. Goyal. 2013. "Agriculture as a Sector of Opportunity for Young People in Africa." *Policy Research Working Paper* 6473. World Bank. Washington, DC.
- Bruhn, M. 2011. License to Sell: The Effect of Business Registration Reform on Entrepreneurial Activity in Mexico. *The Review of Economics and Statistics* 93(1):382-386.
- Brune, L., Giné, X., Goldberg, J., and D. Yang. 2011. "Commitments to Save: A Field Experiment in Rural Malawi." *Policy Research Working Paper Series* 5748. World Bank. Washington, DC.
- Bryan, G., Chowdhury, S., Mobarak, A. 2014. Underinvestment in a Profitable Technology: The Case of Migration in Bangladesh. *Econometrica* 82(5):1671-1748.
- Burgess, R., Pande, R., and G. Wong. 2005. "Banking for the Poor: Evidence from India." *Journal of the European Economic Association*, 3(2-3), 268-278.
- Byamugisha, F. 2013. *Securing Africa's Land for Shared Prosperity: A Program to Scale-up Reforms and Investments*. World Bank. Washington, DC.
- Card, D., Kluve, J. and A. Weber. 2010. "Active Labour Market Policy Evaluations: A Meta-Analysis." *The Economic Journal* 120, no. 548: F452-F477.
- Castañeda, C., González, J. and N. Rojas. 2010. "Evaluación de Impacto del Programa Jóvenes Rurales Emprendedores del SENA." *Fedesarrollo Working Paper* No. 53 de 2012–2, Bogotá, Colombia.
- Catholic Relief Services (CRS). 2011. *My Skills, My Money, My Brighter Future in Rwanda*. Baltimore, MD.
- Cho, Y., and M. Honorati. 2014. "Entrepreneurship Programs in Developing Countries: A Meta Regression Analysis." *Labour Economics* 28: 110–130.
- Chirwa, E. and A. Dorward. 2013. *Agricultural Input Subsidies: The Recent Malawi Experience*, Oxford: Oxford University Press.
- Christiaensen, L., and Y. Todo. 2013. "Poverty Reduction during the Rural-Urban Transformation: The Role of the Missing Middle." *Policy Research Working Paper* 6445. World Bank Washington, DC.

- Christiaensen, L. 2007. "Agriculture for Development in East Asia: Lessons from the World Development Report 2008", *Special Focus in East Asia and Pacific Update*, November 2007. World Bank.
- Cole, S. A., and A.N. Fernando. 2012. "The Value of Advice: Evidence from Mobile Phone-Based Agricultural Extension." *Harvard Business School Finance Working Paper*, (13-047).
- Collier, P., and D. Lal. 1986. *Labour and Poverty in Kenya, 1900-1980*. Clarendon Press, Oxford.
- Cramer, C., Oya, C., and J. Sender. 2008. "Lifting the blinkers: A New View of Power Diversity and Poverty in Mozambican Rural Labor Markets." *Journal of Modern African Studies*, 46(3):361-392.
- Crépon, B., Devoto, F., Duflo, E. and W. Pariente. *Impact of Microcredit in Rural Areas of Morocco: Evidence from a Randomized Evaluation*. MIT Working Paper, 2011.
- Croppenstedt A., Goldstein M., and N. Rosas. 2013. "Gender and Agriculture: Inefficiencies, Segregation, and Low Productivity Traps." *The World Bank Research Observer*, lks024.
- Das, N. C., and F.A. Misha. 2010. "Addressing Extreme Poverty in a Sustainable Manner: Evidence from CFPR Programme." *BRAC CFPR Work. Pap*, 19.
- Davis, B., Di Giuseppe, S., and Zezza, A. 2017. "Are African Households (not) Leaving Agriculture? Patterns of Households' Income Source in Rural Sub-Saharan Africa." *Food Policy* 67:153-174.
- de la O Campos, A.P. 2015. "Do Cash Transfers Empower Women? Impacts on Economic Advancement, Decision-Making and Agency." *PtoP (From Protection to Production) policy brief*. Rome: FAO.
- Deere, C. D., Oduro, A. D., Swaminathan, H., and C. Doss. 2013. "Property rights and the gender distribution of wealth in Ecuador, Ghana and India." *The Journal of Economic Inequality*, 11(2), 249-265.
- Deere, C. D. and C.R. Doss. 2006. "Gender and the Distribution of Wealth in Developing Countries." Research Paper No. 2006/115, UNU-WIDER.
- Deininger, K., Hilhorst, T., and V. Songwe. 2014. "Identifying and Addressing Land Governance Constraints to Support Intensification and Land Market Operation: Evidence from 10 African Countries." *Food Policy*, Boserup and Beyond: Mounting Land Pressures and Development Strategies in Africa, 48 (October): 76–87. doi:10.1016/j.foodpol.2014.03.003.
- Deininger, K., Jin, S., Nagarajan, H., Xia, F. and others. 2013. "How Far Does the Amendment to the Hindu Succession Act Reach? Evidence from Two-Generation Females in Urban India." In *2013 Annual Meeting, August 4-6, 2013, Washington, DC*. Agricultural and Applied Economics Association. [http://ageconsearch.umn.edu/bitstream/151432/2/UPOR_AAEA%20\(1\).pdf](http://ageconsearch.umn.edu/bitstream/151432/2/UPOR_AAEA%20(1).pdf).
- Deininger, K., and A. Goyal. 2012. "Going Digital: Credit Effects of Land Registry Computerization in India." *Journal of Development Economics* 99 (2): 236–43. doi:10.1016/j.jdeveco.2012.02.007.
- Deininger, K. 2011. "Challenges Posed by the New Wave of Farmland Investment." *Journal of Peasant Studies* 38 (2): 217–47. doi:10.1080/03066150.2011.559007.
- Deininger, K., Ali, D. A., and T. Alemu. 2011. "Impacts of Land Certification on Tenure Security, Investment, and Land Market Participation: Evidence from Ethiopia." *Land Economics*, 87(2), 312-334.

- Deininger, K. and G. Feder. 2009 “Land Registration, Governance, and Development: Evidence and Implications for Policy.” *World Bank Research Observer*, 24 (2): 233-266. doi: 10.1093/wbro/lkp007
- Deininger, K., and P. Mpuga. 2009. “Land Markets in Uganda: What Is Their Impact and Who Benefits?” In *The Emergence of Land Markets in Africa: Impacts on Poverty, Equity and Efficiency*, ed. Stein T. Holden, Keijiro Otsuka, and Frank M. Place, 131–55. Washington, DC: Resources for the Future.
- Deininger, K., Ali, D. A., and T. Alemu. 2008. “Land Rental Markets: Transaction Costs and Tenure Insecurity in Rural Ethiopia.” *The Emergence of Land Markets in Africa: Impacts on Poverty, Equity, and Efficiency*, 57-73.
- Deininger, K., and R. Castagnini. 2006. “Incidence and Impact of Land Conflict in Uganda.” *Journal of Economic Behavior & Organization*, 60(3), 321-345.
- Deininger, K. W. 2003. *Land policies for growth and poverty reduction*. World Bank Publications.
- Delisle, H., Chandra-Mouli, V., and B. de Benoist. 2000. “Should Adolescents Be Specifically Targeted for Nutrition in Developing Countries: To Address Which Problems, and How?” *World Health Organization/International Nutrition Foundation for Developing Countries*. Available at http://www.who.int/childdo adolescent-health/New_Publications/NUTRITION/Adolescent_nutrition_paper.pdf.
- Demirgüç-Kunt, A., Klapper, L. F., Singer, D. and P. Van Oudheusden. 2015. “The Global Findex Database 2014: Measuring Financial Inclusion around the World.” *Policy Research Working Paper 7255*. World Bank, Washington, DC.
- Demirgüç-Kunt, A., and L.F. Klapper. 2012. “Measuring Financial Inclusion: The Global Findex Database.” *Policy Research Working Paper 6025*. World Bank. Washington, DC.
- Diao, X., Dorosh, P., and J. Thurlow. 2016. “*Structural Transformation in Sub-Saharan Africa*.” Presentation at Technical Workshop on “Rural transformation, agricultural and food system transition”, September 19-20. FAO, Rome.
- Diao, X., Cossar, F., Houssou, N., and S. Kolavalli. 2014. “Mechanization in Ghana: Emerging Demand, and the Search for Alternative Supply Models.” *Food Policy*, 48: 168-181.
- Diao, X., James Thurlow, Samuel Benin, and Shenggen Fan. 2012. *Strategies and Opportunities for African Agriculture: Economy-wide perspectives from Country Studies*. IFPRI Issue Brief # 73.
- Dillon, B. and Barrett, C. 2017. *Agricultural Factor Markets in Sub-Saharan Africa: An Updated View with Formal Tests of Market Failure*. *Food Policy*, 67:64-77.
- Do, Q. T., and L. Iyer. 2008. “Land Titling and Rural Transition in Vietnam.” *Economic Development and Cultural Change*, 56(3), 531-579.
- Dorosh, P., and J. Thurlow. 2014. “Can Cities or Towns Drive African Development? Economy-Wide Analysis for Ethiopia and Uganda.” *World Development* 63: 113-123.
- Djurfeldt, A., and Jirström, M. 2013. *Urbanization and Changes in Farm Size in Sub-Saharan Africa and Asia from a Geographical Perspective: A Review of the Literature*. A Foresight Study of the Independent Science and Partnership Council. CGIAR.
- Elder, S., de Haas, H., Principi, M., and K. Schewel. “Global Employment Trends for Youth 2013” *Youth4Work Publication 29*. ILO. Geneva.

- Elder, S., de Haas, H., Principi, M., and K. Schewel. 2015. *Youth and Rural Development: Evidence from 25 School-to-Work Transition Surveys*. ILO.
- Ellis, F., and H.A. Freeman. 2004. "Rural Livelihoods and Poverty Reduction Strategies in Four African Countries." *Journal of Development Studies* 40(4).
- Emerick, K. 2015. "Agricultural Productivity and the Sectoral Reallocation of Labor in Rural India."
- FAO. 2016. "Cash transfers: their economic and productive impacts. Evidence from Programmes in Sub-Saharan Africa." Policy Brief.
- . 2015. *The State of Food and Agriculture. Social Protection and Agriculture: Breaking the Cycle of Rural Poverty*. Rome: FAO.
- . 2015a. *Status of the World's Soil Resources*. Rome. FAO.
- . 2014. "Rural Employment and Decent Work at FAO." Information material. <http://www.fao.org/docrep/019/h0005e/h0005e.pdf>
- . 2012. "Agricultural Cooperatives and Gender Equality." International Year of Cooperatives Issue Brief Series.
- . 2011. *The State of Food and Agriculture. Women in Agriculture: Closing the Gender Gap for Development*. Rome: FAO.
- FAO, CTA, IFAD. 2014. *Youth and Agriculture: Key Challenges and Concrete Solutions*. Rome: FAO.
- FAO, IFAD. MIJARC. 2012. "In Facilitating Access of Rural Youth to Agricultural Activities." *The Farmers' Forum Youth Session*. 2012.
- Fafchamps, M., and B. Minten. 2012. "Impact of SMS-based Agricultural Information on Indian Farmers." *The World Bank Economic Review*, 26(3), 383-414.
- Feder, G., and D. Feeny. 1991. "Land Tenure and Property Rights: Theory and Implications for Development Policy." *The World Bank Economic Review*, 5(1), 135-153.
- Field, E., Robles, O., and M. Torero. 2009. "Iodine deficiency and Schooling Attainment in Tanzania." *American Economic Journal: Applied Economics*, 1(4), 140-169.
- Filmer, D., and L. Fox. 2014. *Youth Employment in Sub-Saharan Africa*. The World Bank. Retrieved from <http://elibrary.worldbank.org/doi/book/10.1596/978-1-4648-0107-5>
- Fine, D., van Wamelen, A., Lund, S., Cabral, A., Taoufiki, M., Dorr, N., Leke, A., Roxburgh, C. 2012. "Africa at Work: Job Creation and Inclusive Growth | McKinsey & Company." Accessed November 15, 2016. <http://www.mckinsey.com/global-themes/middle-east-and-africa/africa-at-work>.
- Forster, T., Hussein, K., and E. Mattheisen. 2015. City Region Food Systems: An Inclusive and Integrated Approach to Improving Food Systems and Urban-Rural Linkages. *Urban Agriculture Magazine*, 29: 8-11.
- Franklin, S. 2015. Location, Search Costs and Youth Unemployment: A Randomized Trial of Transport Subsidies in Ethiopia. *CSAE Working Paper 11*.
- Freeman, H. A., and W. Kaguongo. 2003. "Fertilizer Market Liberalization and Private Retail Trade in Kenya." *Food Policy* 28(5-6): 505-18.

- G20. 2014a. *G20 Food Security and Nutrition Framework*.
- G20. 2014b. *Brisbane Action Plan*. http://www.g20.utoronto.ca/2014/brisbane_action_plan.pdf
- G20. 2014c. *G20 Labor and Employment Ministerial Declaration: Preventing Structural Unemployment, Creating Better Jobs, and Boosting Participation*.
http://www.g20australia.org/sites/default/files/g20_resources/library/2014%20LEMM%20Declaration.pdf
- G20 Development Working Group Food Security and Nutrition. 2015. *Implementation Plan of the G20 Food Security and Nutrition Framework*.
<http://www.g20.org/English/Documents/PastPresidency/201512/P020151228360398481070.pdf>
- Galiani, S., and E. Schargrodsky. "Property Rights for the Poor: Effects of Land Titling." *Journal of Public Economics* 94, no. 9 (2010): 700-729.
- Gandhi, R., Veeraraghavan, R., Toyama, K., and V. Ram Prasad. 2009. "Digital Green: Participatory Video for Agricultural Extension", Information Technologies for International Development, MIT Press. [http://itidjournal.org/itid/article/view/322\(link is external\)](http://itidjournal.org/itid/article/view/322(link%20is%20external))
- Gardeva, A., and E. Rhyne. 2011. *Opportunities and obstacles to financial inclusion: Survey report*. Center for Financial Inclusion, July.
- Garikipati, S. 2009. "Landless but Not Assetless: Female Agricultural Labour on the Road to Better Status, Evidence from India." *The Journal of Peasant Studies*, 36(3), 517-545.
- Gebregziabher, G., and S.T. Holden. 2011. "Distress Rentals and the Land Rental Market as a Safety Net: Contract Choice Evidence from Tigray, Ethiopia." *Agricultural Economics*, 42(s1), 45-60.
- Geest, K. 2010. "Rural Youth Employment in Developing Countries: A Global View." Retrieved from <http://dare.uva.nl/record/390491>
- Ghebru, H., and S. T. Holden. 2008. "Factor Market Imperfections and Rural Land Rental Markets in Northern Ethiopian Highlands." *The Emergence of Land Markets in Africa: Assessing the Impacts on Poverty, Equity and Efficiency*, 74-92.
- Gisselquist, D., and J. Grether. 2000. "An Argument for Deregulating the Transfer of Agricultural Technologies to Developing Countries." *World Bank Economic Review* 14 (1):111-27.
- Glasser, M., and U.Raich. 2008. *The Urban Transition in Tanzania*. World Bank: Washington, DC.
- Glewwe, P., Jacoby, H. G., and E.M. King. 2001. "Early Childhood Nutrition and Academic Achievement: a Longitudinal Analysis." *Journal of Public Economics*, 81(3), 345-368.
- Goyal, A., and J.D. Nash. 2016. *Reaping Richer Returns: Public Spending Priorities for African Agriculture Productivity Growth*. Washington, D.C.: World Bank Group.
<http://documents.worldbank.org/curated/en/657671476866050422/Reaping-richer-returns-public-spending-priorities-for-African-agriculture-productivity-growth>
- Greatrex, H., Hansen, J.W., Garvin, S., Diro, R., Blakeley, S., Le Guen M, Rao, K.N., and D.E. Osgood. 2015. *Scaling Up Index Insurance for Smallholder Farmers: Recent Evidence and Insights*. CCAFS Report No. 14 Copenhagen: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). Available online at: www.ccafs.cgiar.org
- Grossman, J., and M. Tarazi. 2014. "Serving Smallholder Farmers: Recent Developments in Digital Finance," *Focus Note* 94. Washington, D.C.: CGAP, June <http://www->

wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2014/09/25/000333037_20140925123644/Rendered/PDF/909570BRI0Box30der0Farmers0Jun02014.pdf

- Guhan, S. 1994. "Social Security Options for Developing Countries." *International Labour Review*, 133(1): 35-53.
- Gutmann, J., and S. Voigt. 2014. "Lending a Hand to the Invisible Hand? Assessing the Effects of Newly Enacted Competition Laws." *Assessing the Effects of Newly Enacted Competition Laws* (February 8, 2014).
- Hayami, Y., and V. Ruttan. 1985. *Agricultural development: An International Perspective*. Johns Hopkins University Press.
- Heady, C. 2003. "The Effect of Child Labor on Learning Achievement." *World Development*, 31(2), 385-398.
- Heinert, S., and T.G. Roberts. 2016. *Engaging Rural Youth in Entrepreneurship through Extracurricular and Co-curricular Systems*. Retrieved from <http://www.oired.vt.edu/innovate/wp-content/uploads/2015/09/HeinertRobertsFINAL.pdf>
- Hoddinott, J., Rosegrant, M., and M. Torero. 2012. "Hunger and Malnutrition."
- Hoddinott, J., Berhane, G. Gilligan, D.O., Kumar, N. and A. Taffesse. 2012. "The Impact of Ethiopia's Productive Safety Net Programme and Related Transfers on Agricultural Productivity." *Journal of African Economies*, 21(5): 761-786. World Food Programme. 2012. Ethiopia productive safety net programme. Rome, World Food Programme (available at <http://www.wfp.org/sites/default/files/PSNP%20Factsheet.pdf>).
- Holden, S. T., and K. Otsuka. 2014. "The Roles of Land Tenure Reforms and Land Markets in the Context of Population Growth and Land Use Intensification in Africa." *Boserup and Beyond: Mounting Land Pressures and Development Strategies in Africa* 48 (October): 88-97. doi:10.1016/j.foodpol.2014.03.005.
- Holden, S. T., Deininger, K., and H. Ghebru. 2011. "Tenure Insecurity, Gender, Low-Cost Land Certification and Land Rental Market Participation in Ethiopia." *The Journal of Development Studies*, 47(1), 31-47.
- Holden, S. T., Otsuka, K. and F. M. Place. 2009. "Land markets and Development in Africa." *The Emergence of Land Markets in Africa: Assessing the Impacts on Poverty, Equity, and Efficiency*: 3-17.
- Holden, S. T., and M. Bezabih. 2008. "Gender and Land Productivity on Rented Land in Ethiopia." *The Emergence of Land Markets in Africa: Assessing the Impacts on Poverty, Equity and Efficiency*, 179-98.
- Hussein, K. and Suttie, David. 2016. *Rural-Urban Linkages and Food Systems in Sub-Saharan Africa*. Rome: IFAD.
- IFAD. 2016. *Rural Development Report: Fostering Inclusive Rural Transformation*. Rome.
- . 2014. Rural Women's Leadership Programme. Madagascar, Nepal, the Philippines and Senegal. Good Practices and Lessons Learned (2010-2013). Rome.
- . 2011. *Women and Rural Development*. Rome.
- Indiresean, J. 2010. *Ek Mouka: Developing employability through training*. India and Washington, D.C.: CAP Foundation and USAID.

- International Food Policy Research Institute (IFPRI). 2013. “2012 Global Food Policy Report.” Washington, DC: International Food Policy Research Institute.
<http://www.ifpri.org/publication/2012-global-food-policy-report>.
- IIED. 2015. *Fruitful Change: Rural-Urban Transformation in Vietnam’s Mekong Delta*. London: IIED. Available at <http://pubs.iied.org/pdfs/17332IIED.pdf>.
- International Labour Organisation. 2016. *Structural Transformation to Boost Youth Labour Demand in Sub-Saharan Africa: The Role of Agriculture, Rural Areas and Territorial Development*
- . 2015. *World Employment Social Outlook: Trends 2015*.
- . 2015. Greening the Rural Economy and Green Jobs. Decent work in the rural economy. Policy guidance notes.
- . 2014. *World Social Protection Report 2014/15. Building Economic Recovery, Inclusive Development and Social Justice*.
- . 2013. “Global Employment Trends for Youth 2013”. Geneva.
- . 2008. *Promotion of Rural Employment for Poverty Reduction*. International labor Conference, 97th Session. Geneva.
- Jacoby, H. G., Li, G., and S. Rozelle. 2002. “Hazards of Expropriation: Tenure Insecurity and Investment in Rural China.” *The American Economic Review*, 92(5), 1420-1447.
- Jayne, T.S., and L. N. Traub. 2016. “Megatrends Transforming Africa’s Food System.” *Foreign Affairs*.
- Jayne, T.S., Chamberlin, J. and D. D. Headey. 2014. “Land Pressures, the Evolution of Farming Systems, and Development Strategies in Africa: A Synthesis.” *Boserup and Beyond: Mounting Land Pressures and Development Strategies in Africa* 48 (October): 1–17.
doi:10.1016/j.foodpol.2014.05.014.
- Jayne, T.S., and S. Rashid. 2013. “Input Subsidy Programs in Sub-Saharan Africa: A Synthesis of Recent Evidence.” *Agricultural Economics* 44(6):1-16.
- Jin, S., and T.S. Jayne. 2013. “Land Rental Markets In Kenya: Implications for Efficiency, Equity, Household Income, and Poverty.” *Land Economics*, 89(2), 246-271.
- J-PAL. 2013. “J-PAL Youth Initiative Review Paper.” Cambridge, MA: Abdul Latif Jameel Poverty Action Lab.
- Karlan, D., McConnell, M., Mullainathan, S., and J. Zinman. 2016. “Getting To The Top Of Mind: How Reminders Increase Saving.” *Management Science*.
- Karlan, D., and J. Zinman. 2011. “Microcredit in Theory And Practice: Using Randomized Credit Scoring For Impact Evaluation.” *Science*, 332(6035), 1278-1284.
- Kassie, M., and S.T. Holden. 2008. “Kinship, Tenure Insecurity, Input Use, and Land Productivity: the Case of Sharecropping in Ethiopia.” *The Emergence of Land Markets in Africa: Impacts on Poverty and Efficiency*, 197-212.
- Kato, T., and M. Greeley. 2016. “Agricultural input subsidies in Sub-Saharan Africa.” *Development Studies – Past, Present, and Future* 47(2). Institute of Development Studies.
- Kendall, J., and R. Voorhies. “The Mobile-Finance Revolution.” *Foreign Affairs*, February 12, 2014.
<https://www.foreignaffairs.com/articles/africa/2014-02-12/mobile-finance-revolution>.

- Kienzle, J., Ashburner, J.E., and B.C. Sims. 2013. "Mechanization for Rural Development: A review of Patterns and Progress from around the World." *Integrated Crop Management*, Vol. 20. FAO. Rome.
- Kilara, T., and A. Latortue. 2012. *Emerging Perspectives on Youth Savings*. CGAP, Washington DC.
- Kimenyi, M., Adibe, J., Djire, M., Jirgi, A., Kergna, A., Deressa, T., Pugliese, J., and A. Westbury. 2014. "The Impact of Conflict and Political Instability on Agricultural Investments in Mali and Nigeria." *Africa Growth Initiative Working Paper 17*. Brookings Institute.
- Kirui, O. K., Okello, J.J., Nyikal, R. A. and G. W. Njiraini. 2013. "Impact of Mobile Phone-Based Money Transfer Services in Agriculture: Evidence from Kenya." *Quarterly Journal of International Agriculture* 52, no. 2: 141–162.
- Kluge, J., Puerto, S., Robalino, D., Romero, J.R., Rother, F., Stöterau, J., Weidenkaff, F., Witte, W. 2016. Do Youth Employment Programs Improve Labor Market Outcomes? A Systematic Review. IZA DP No. 10263.
- Kondylis, F., Mueller, V., and J.S. Zhu. 2014. "Seeing is Believing? Evidence from an Extension Network Experiment." *Impact Evaluation series; Policy Research Working Paper 7000*. World Bank. Washington, DC
- Kranton, R. E. and A.V. Swamy. 1999. "The Hazards of Piecemeal Reform: British Civil Courts and the Credit Market In Colonial India." *Journal of Development Economics*, 58(1), 1-24.
- Kuepie, M., Nordman, C.J. and F. Roubaud. 2009. "Education and Earnings in Urban West Africa." *Journal of Comparative Economics*, 37(3), pp.491-515.
- Kydd, J. and Dorward, A. 2004. "Implications of Market and Coordination Failures for Rural Development in Least Developed Countries." *Journal of International Development* 16(7):951-970.
- Langyinto, A.S., Mwangi, A., Dialo, J., MacRobert, J., Dixon, J., and Baziger, M. 2010. "Challenges of the Maize Seed Industry in Eastern and Southern Africa: A Compelling Case for Private-Public Interventions to Promote Growth." *Food Policy* 35 (4):323-31.
- Lio, M. and M.C. Liu. 2008. "Governance and Agricultural Productivity: A Cross-National Analysis." *Food Policy* 33(6):504-12.
- Liu, Y., Hu, W., Jette-Nantel, S., and Tian, Z. 2014. "The Influence of Labor Price Change on Agricultural Machinery Usage in Chinese Agriculture." *Canadian Journal of Agricultural Economics* 62: 219-243.
- Liverpool-Tasie, L.S.O., and H. Takeshima. 2013. "Input Promotion Within a Complex Subsector: Fertilizer in Nigeria", *Agricultural Economics* 44: 581–94
- Losch, B., Fréguin-Gresh, S., and E. T. White. 2012. *Structural Transformation and Rural Change Revisited: Challenges for Late Developing Countries in a Globalizing World*. Washington, DC: World Bank.
- Lunduka, R. W. 2009. *Land Rental Markets, Investment and Productivity under Customary Land Tenure Systems in Malawi* (Doctoral dissertation, Norwegian University of Life Sciences).
- Maïga, E., Christiaensen, L. and A. Palacios-Lopez. 2015. December. "Are Youth Exiting Agriculture en Masse." In *STAARS Conference in Addis Ababa*.

- Maluccio, J. A., Hoddinott, J., Behrman, J. R., Martorell, R., Quisumbing, A. R., and A.D. Stein. 2009. "The Impact of Improving Nutrition during Early Childhood on Education among Guatemalan Adults." *The Economic Journal*, 119(537), 734-763.
- Masiyiwa, S. 2016. "Mobile Revolution 2.0." *Foreign Affairs*, February 16, 2016. <https://www.foreignaffairs.com/sponsored/mobile-revolution-20>.
- Mason, N.M., Jayne, T.S. and R. Mofya-Muhuka. 2013. "Zambia's Input Subsidy Programs", *Agricultural Economics* 44.6: 613–28.
- Mattaleb, K. A., Krupnik, T., Erenstein, O. 2016. "Factors Associated with Small-Scale Agricultural Machinery Adoption in Bangladesh: Census Findings." *Journal of Rural Studies* 46:155-168.
- Mattero, M. 2010. "Second Chance Education for Out-of-School Youth: A Conceptual Framework and Review of Programs." *World Bank Working Paper*. Washington, DC: World Bank.
- McKenzie, D. and C. Woodruff. 2013. "What Are We Learning from Business Training and Entrepreneurship Evaluations around the Developing World," mimeo. Coventry, England: University of Warwick.
- McCullough, E. 2015. Labor Productivity and Employment Gaps in Sub-Saharan Africa. *Policy Research Working Paper* 7234. World Bank. Washington, D.C.
- Minde, I., et al. (2012), "Food system dynamics: anticipating and adapting to change", Working Paper No. 1, Modernizing African Food Systems (MAFS), Michigan State University CANR/MSUE/MAES, East Lansing, MI, available at: www.mafs-africa.org/uploads/files/mafs_working_paper_1_-_anticipating_and_adapting_to_change.pdf
- Moreira, V., Kureski, R., da Veiga, C. 2016. Assessment of the Economic Structure of Brazilian Agribusiness. *The Scientific World Journal*. <http://dx.doi.org/10.1155/2016/7517806>.
- Nakasone, E., Torero, M. and B. Minten. "The Power of Information: The ICT Revolution in Agricultural Development." *Annual Review of Resource Economics* 6, no. 1 (November 10, 2014): 533–50. doi:10.1146/annurev-resource-100913-012714.
- Nkonya, E., Anderson, W., Kato, E., Koo, J., Mirzabaev, A., von Braun, J., and Meyer, S. 2016. Global cost of land degradation. In *Economics of land degradation and improvement- A global assessment for sustainable development*, ed. Nkonya, E., Mirzabaev, A., and von Braun, J. Chapter 6, pp. 117 - 165.
- Okonjo-Iweala, N. and J. Madan "Shine a Light on the Gaps." *Foreign Affairs*, February 16, 2016. <https://www.foreignaffairs.com/sponsored/shine-light-gaps>.
- Ommani, A. 2011. "Social, Economic, and Farming Characteristics Affecting Perceptions of Rural Youths Regarding the Appropriateness of a Career in Production Agriculture." *Australian Journal of Basic and Applied Sciences* 5(9): 2269-2273.
- Ortiz, S. 2015. "Employment Instability and the Restructuring of Rural and Rural-Urban Labor Markets in Two Latin American Export Industries". In Oya, C. and Pontara, N. (eds). *Rural Wage Employment in Developing Countries: Theory, Evidence, and Policy*. Routledge.
- Otsuka, K. 2007. "The Rural Industrial Transition in East Asia: Influences and Implications", in Haggblade, S., P. Hazell, and T. Reardon, eds., *Transforming the Rural Non-Farm Economy – Opportunities and Treats in the Developing World*, John Hopkins University Press: Baltimore.

- Oya, C., and N. Pontara (eds). 2015. *Rural Wage Employment in Developing Countries: Theory, Evidence, and Policy*. Routledge ISS Studies in Rural Livelihoods. Routledge.
- Page, J. 2012. *Youth, Jobs, and Structural Change: Confronting Africa's "Employment Problem."* African Development Bank Tunis, Tunisia. Retrieved from http://adapt.it/adapt-indice-a-z/wp-content/uploads/2014/09/john_20121.pdf.
- Peters, P. E. 2013. "Land Appropriation, Surplus People and a Battle over Visions of Agrarian Futures in Africa." *Journal of Peasant Studies*, 40(3), 537-562.
- Pingali, P. 2015. "Agricultural Policy and Nutrition Outcomes: Getting Beyond the Pre-occupation with Staple Grains." *Food Security* 7:583-91.
- Pingali, P. 2007. "Agricultural Mechanization: Adoption Patters and Economic Impact." In Evenson, R., and Pingali P. (eds) *Handbook of Agricultural Economics*, Volume 3. Elsevier B.V.
- Pyburn, R., Audet-Bélanger, G., Dido, S., Quiroga, G., and I. Flink. "Unleashing potential: gender and youth inclusive agri-food chains." http://213ou636sh0ptphd141fgei1.wpengine.netdna-cdn.com/sed/wp-content/uploads/sites/2/2016/03/SNV-KIT_WPS_7-2015.pdf
- Rahmn, A. 2014. "Investment Climate Reforms and Job Creation in Developing Countries. What Do We Know and What Should We Do?" *Policy Research Working Paper*. 7025. World Bank. Washington, DC.
- Ramirez, R., and L. Fleischer-Proaña. 2013. "Saving Together: Group-Based Approaches to Promote Youth Savings." *Freedom from Hunger*.
- Ricker-Gilbert, J., Jumbe, C., and J. Chambelin. (2014). How Does Population Density Influence Agricultural Intensification and Productivity? *Food Policy* 48:114-128.
- S4YE (Goldin, N. and M. Hobson with P. Glick, M. Lundberg, S. Puerto). 2015. "Toward Solutions for Youth Employment: A Baseline for 2015." *Solutions for Youth Employment*, Washington D.C.
- Sadras, V.O., Cassman, K.G., Grassini, P., Hall, A.J., Bastiaanssen, W.M.G., Laborte, A.G., Milne, A.E., Sileshi, G., and P. Steduto, 2015. "Yield gap analysis of field crops: Methods and case studies." *FAO Water Reports* 41. Rome.
- Samson, M., Nyokangi, E., Yang, M. Estruch, E., and C. Rapone. 2015. *Social protection and agricultural development: transformational approaches to strengthening the decent work agenda*. Rome: FAO.
- Satterthwaite, D. and C. Tacoli. 2003. *The Urban Part of Rural Development: The Role of Small and Intermediate Urban Centers in their Regional and Local Economies, Including Rural Development and Poverty Reduction*. (No. 9). IIED. Montpellier, France.
- Schubert, J., and P. Cood. 2012. *Africa at Work: Job Creation and Inclusive Growth*, McKinsey Global Institute, Boston, MA, available at: www.mckinsey.com/mgi.
- Schultz, T. P. 2004. "Evidence of Returns to Schooling in Africa from Household Surveys: Monitoring and Restructuring the Market for Education." *Journal of African Economies*, 13(suppl 2), ii95-ii148.
- Seager, P.J., and R.S. Fieldson. 1984. *Public Sector Tractor Hire and Equipment Hire Schemes in Developing Countries*. Paper prepared by the Overseas Division of NIAE.

- Sheahan, M. and Barrett, C.B. 2014. "Understanding the agricultural input landscape in Sub-Saharan Africa: Recent plot, household, and community-level evidence." *Policy Research Working Paper* 7014. World Bank. Washington, DC.
- Sjaastad, E. "Trends in the Emergence of Agricultural Land Markets in Sub-Saharan Africa." In *Forum for Development Studies*, vol. 30, no. 1, pp. 5-28. Taylor & Francis Group, 2003.
- Söderbom, M., Teal, F. and A. Harding. 2006. "The Determinants of Survival among African Manufacturing Firms." *Economic Development and Cultural Change*, 54(3), pp.533-555.
- Sparreboom, T., and A. Staneva. 2014. "Is Education the Solution to Decent Work for Youth in Developing Economies?" *Work4Youth Publication Series*, 23. Retrieved from http://www.redetis.iipe.unesco.org/wp-content/uploads/2014/12/is_education_the_solution_to_decent_work.pdf.
- Spencer, D., Deen, S., Fornah, D., and P. Sesay. 2008. *Promoting Linkages for Livelihood Security and Economic Development (LINKS) Final Evaluation*.
- Spielman, D.J., Kelemwork, D., and D. Alemu. 2011. "Seed, Fertilizer and Agricultural Extension in Ethiopia." Ethiopia Strategy Support Program II Working Paper 020, IFPRI, Addis Ababa.
- Staatz, J. and N. Dembele. 2007. "Agriculture for Development in Sub-Saharan Africa." Background paper for the WDR 2008.
- Sumberg, J., Anyidoho, N. A., Chasukwa, M., Chinsinga, B., Leavy, J., Getnet Tadele, Whitfield, S. and J. Yaro. 2014. *Young People, Agriculture, and Employment in Rural Africa*. Helsinki: WIDER. Retrieved from http://www.wider.unu.edu/publications/working-papers/2014/en_GB/wp2014-080/.
- Suttie, D., and Karim Hussein. 2015. *Territorial approaches, rural-urban linkages and inclusive rural transformation*. <https://www.ifad.org/documents/10180/36a5e671-b321-4ba9-9d60-49b3cee1c0d2>.
- Swiss Agency for Development and Cooperation. 2011. *Evaluation of SDC's Vocational Skills Development Activities*. Retrieved from www.deza.admin.ch/ressources/resource_en_202341.pdf
- Teal, F., 2011. "Higher Education and Economic Development in Africa: A Review of Channels and Interactions." *Journal of African Economies*, 20(suppl 3), pp.iii50-iii79.
- The MasterCard Foundation and Boston Consulting Group. 2015. *Youth Financial Services: Prospects and Challenges: The MasterCard Foundation and Boston Consulting Group*.
- Thirtle, C., Townsend, R., and J. van Zyl. 1998. "Testing the Induced Innovation Hypothesis: An Error Correction Model of South African Agriculture." *Agricultural Economics* 19:145-157.
- Torkelsson, A. 2012. "Sex disaggregated data on agriculture, water and food security lessons from the Kenya." In *World Water Week Seminar on Global Practice in Promoting Gender Equality in the Water Sector, Stockholm*.
- Tschirely, D.J., Haggblade, S., and J.B. Kaneene. 2015a. "Special Issue Introduction: Sub Saharan Africa's Agri-Food System in Transition," *Journal of Agribusiness in Developing and Emerging Economies* 5 (2): 94-101.

- Tschirely, D.J., Snyder, J., Dolislager, M., Reardon, T., Haggblade, S., Goeb, J., Traud,, L., Ejobi, F, and Meyer, F. 2015b. “Africa’s Unfolding Diet Transformation: Implications for Agri-food System Employment,” *Journal of Agribusiness in Developing and Emerging Economies* 5 (2): 102-136.
- UNIDO 2008. “Creating an Enabling Environment for Private Sector Development in Sub-Saharan Africa”. Vienna.
- Uwezo 2010. *Are Our Children Learning?* Annual Learning Assessment Report Tanzania 2010.
- Vargas-Lundius, R., and D. Suttie. 2013. Investing in Young Rural People for Sustainable and Equitable Development. *IFAD, Rome, Italy*.
- Van der Geest, K. 2010. *Rural Youth Employment in Developing Countries: A Global View*. FAO. Rome.
- WWAP (United Nations World Water Assessment Program). *The United Nations Water for Development Report 2015: Water for a Sustainable World*. Paris, UNESCO.
- Whalen, M. 2010. *Report of prepara ami ba serbisu (PAS) project final evaluation*. Washington, DC: EDC.
- White, B. 2012. “Agriculture and the Generation Problem: Rural Youth, Employment and the Future of Farming.” *IDS Bulletin*, 43(6), 9–19.
- World Bank. 2016a. *Transforming Vietnamese Agriculture: Gaining More from Less*. World Bank, Washington, D.C.
- . 2016b. *World Development Report 2016: Digital Dividends*. World Bank. Washington, DC.
- . 2016c. *Enabling the Business of Agriculture 2016: Comparing Regulatory Good Practice*. World Bank. Washington, DC.
- . 2016d. *The Dynamics of Rural Growth in Bangladesh: Sustaining Poverty Reduction*. World Bank, Washington, DC.
- . 2015a. *Ending Poverty and Hunger by 2030: An Agenda for the Global Food System*. World Bank, Washington, DC.
- . 2015b. *Future of Food: Shaping a Climate-Smart Global Food System*. World Bank. Washington, DC.
- . 2015c. “*Republic of India: Agricultural Growth and Rural Non-Farm Economy*.” Report No: AUS9717. South Asia Region. World Bank. Washington, DC.
- . 2014. *Global Financial Development Report 2014. Financial Inclusion*. World Bank. Washington, DC.
- . 2013. *Africa Development Indicators 2012/2013*. The World Bank. Washington, DC.
- . 2012a. *World Development Report 2013: Jobs*. World Bank. Washington, D.C.
- . 2012b. *Youth Employment Programs: An Evaluation of World Bank and International Finance Corporation Support*. World Bank. Washington, DC.
- . 2012c. *Cambodian Agriculture in Transition: Opportunities and Risks*. World Bank. Washington, DC.
- . 2010a. *World Development Report 2010: Development and Climate Change*. World Bank. Washington, DC.

- . 2010b. “Active labor market programs for youth: A framework to guide youth employment interventions.” *Employment Policy Primer*, Issue number 16. World Bank. Washington, DC.
- . 2009. *Gender Sourcebook*. World Bank. Retrieved from <http://siteresources.worldbank.org/INTGENAGRLIVSOUBOOK/Resources/CompleteBook.pdf>
- . 2007a. *World Development Report 2008. Agriculture for Development*. World Bank, Washington, DC.
- . 2007b. Tanzania – Pilot Rural Investment Climate Assessment: Stimulating Non-farm Microenterprise Growth. Report No. 40108-TZ. World Bank. Washington D.C.
- . 2006. *World Development Report 2007. Development and the Next Generation*. World Bank, Washington, DC.
- . 2005. *Local Government Taxation Reform in Tanzania: A Poverty and Social Impact Analysis*. Report No. 34900-TZ. World Bank, Washington, DC.
- . 2004. *The Rural Investment Climate: Analysis and Findings*. World Bank. Washington D.C.
- Xu, Z., Burke, W.J., Jayne, T.S. and J. Govereh. 2009a. “Do Input Subsidy Programs Crowd In or Crowd Out Commercial Market Development? Modeling Fertilizer Use Decisions in a Two-Channel Marketing System”, *Agricultural Economics* 40.1: 79–94.
- Yamano, T., Place, F., Nyangena, W., Wanjiku, J. and K. Otsuka. “Efficiency and Equity Impacts Of Land Markets in Kenya” in *The Emergence of Land Markets in Africa: Impacts on Poverty, Equity and Efficiency* ed S.T. Holden, K. Otsuka, F. Place, Resources for the Future Press, Washington, DC (2008), pp. 93–111.
- Yang, J., Huang, Z., Zhang, X., and T. Reardon. 2013. The Rapid Rise of Cross Regional Agricultural Mechanization Services in China. *American Journal of Agricultural Economics* 95(5):1245-1251.
- Yeboah, F. K., Jayne, T. S. and Transition FAO Headquarters. 2016. “Africa’s Evolving Employment Structure: Causes and Consequences.” <http://www.fao.org/3/a-bp111e.pdf>.

-
- ¹ G20 2014a.
- ² G20 Development Working Group Food Security and Nutrition 2015.
<http://www.g20.org/English/Documents/PastPresidency/201512/P020151228360398481070.pdf>
- ³ G20 2014b. http://www.g20.utoronto.ca/2014/brisbane_action_plan.pdf
- ⁴ G20 2014c. http://www.g20australia.org/sites/default/files/g20_resources/library/2014%20LEMM%20Declaration.pdf
- ⁵ <http://www.g20ewg.org/index.php/2015-07-09-20-38-21/employment-plans>
- ⁶ <http://www.g20ewg.org/>
- ⁷ <http://www.g20.utoronto.ca/2016/160713-labour.html#annex1>
- ⁸ <http://www.fao.org/3/a-au866e.pdf>
- ⁹ The United Nations definition of youth - those persons between the ages of 15 and 24 years is used in this paper. While there are other definitions such as the African Youth Charter that defines youth as every person between the ages of 15 and 35 years, the UN definition is used as the youth metric in the indicators of the Sustainable Development Goals.
- ¹⁰ Bloom and others 2003.
- ¹¹ UN population data.
- ¹² S4YE 2015.
- ¹³ ILO 2013.
- ¹⁴ ILO 2013.
- ¹⁵ At the US\$1.25 per day level (ILO, 2013).
- ¹⁶ “Vulnerable employment measures individuals in work that is insecure and vulnerable to external shocks, where fluctuations in the economy or factors specific to the business can in turn affect workers with reduction of wages, termination of employment, more time doing unpaid work, and so on. Given data constraints, self-employment and unpaid family work are used as a proxy for vulnerable employment, with the recognition that not all self-employment among youth is necessarily vulnerable.” Definition and data extracted from: S4YE 2015.
- ¹⁷ Filmer and Fox 2014, Fields 2015.
- ¹⁸ UN Population Division data
- ¹⁹ World Bank 2006.
- ²⁰ Pieters 2013.
- ²¹ Maiga and others 2015.
- ²² van der Geest 2010.
- ²³ In the SWTS sample of 28 countries, “the extremely high urban and rural unemployment gaps in countries such as Bangladesh, Jordan, the Occupied Palestinian Territory and, notably, Egypt seem to indicate that socio-cultural factors play a significant role in women’s access to employment.” (Elder and others 2015).
- ²⁴ The School-to-Work Transition Surveys (SWTS) conducted by ILO is a youth-targeted data source which produces disaggregated (by residence, age and gender) estimates of this population but is limited because it provides a snapshot for a single point in time (2012-13) for 28 selected countries. The description of regional variations in rural youth employment in this section utilizes this dataset. For an in-depth focus on cross-country variations within Africa, we rely on the nationally representative Living Standards Measurement Surveys (LSMS) from 9 Sub-Saharan African countries.
- ²⁵ Oya and Ponatara 2015.
- ²⁶ It also contributes 10 per cent or more of urban youth employment in a number of low and lower-middle income countries like Benin, Uganda, Zambia and El Salvador (Elder and others 2015), perhaps reflecting emergence of smaller secondary towns which are blurring rural-urban boundaries.
- ²⁷ The average young worker in Africa lives in a rural area and works in farming attached to the family. This average changes dramatically with a country’s income level - in upper middle income countries it is significantly lower and not far from the OECD average (AfDB, OECD, UNDP, UNECA 2012).
- ²⁸ Yeboah and Jayne (2016) argue that farming will continue to be the single largest source of employment in most of the nine countries in their study - Ghana, Kenya, Malawi, Mali, Nigeria, Rwanda, Tanzania, Uganda and Zambia - at least for the next decade or more.
- ²⁹ Yeboah and Jayne (2016) show that in Nigeria, youth and young adults are entering farming at a faster rate than the rate of growth of their population as well as the rate of job creation in the off-farm sector. This led to an increase in farming’s share of total jobs from 50.5 percent to about 61.1 percent among the youth between 2010/11 and 2012/13.
- ³⁰ Yeboah and Jayne 2016.
- ³¹ Oya and Pontara 2015.
- ³² World Bank 2015a.
- ³³ Emerick 2015.
- ³⁴ World Bank 2015c.
- ³⁵ Tschirley and others 2015b.
- ³⁶ Yeboah and Jayne 2016.
- ³⁷ <http://www.g20.utoronto.ca/2016/good-practices-on-family-farming.html>
- ³⁸ <http://www.g20.utoronto.ca/2016/160713-labour.html#annex1>

-
- ³⁹ AGRA 2015.
- ⁴⁰ FAO, CTA, IFAD. 2014.
- ⁴¹ AGRA. 2015.
- ⁴² World Bank 2009.
- ⁴³ FAO, CTA, IFAD. 2014; UNDP, UNDESA. Fact Sheet. Youth political participation and decision making.
- ⁴⁴ An example is the consultation process organized in Brazil for the National Environmental Education Policy, which included students 11-15 from primary school, indigenous communities, rural settlements and groups of street boys and girls.
- ⁴⁵ Youth – feeding the future. Addressing the challenges faced by rural youth aged 15 to 17 in preparing for and accessing decent work. <http://www.fao.org/3/a-bl631e.pdf>
- ⁴⁶ FAO, IFAD, MIJARC. 2012.
- ⁴⁷ UNDP, UNDESA. Fact Sheet. Youth political participation and decision making.
- ⁴⁸ After the 2011 African Union Summit, various member States have started to systematically invite youth to their national policy dialogues. FAO, CTA, IFAD 2014.
- ⁴⁹ World Bank 2009.
- ⁵⁰ FAO, IFAD, MIJARC. 2012.
- ⁵¹ FAO, CTA, IFAD. 2014.
- ⁵² FAO, CTA, IFAD. 2014.
- ⁵³ Asian Farmers' Association, 2015. A viable future: attracting the youth to agriculture. Issue paper Vol.7, June 2015.
- ⁵⁴ Pacific Youth in Agriculture Network launched Facebook pages encouraging young people to discuss policies and strategies; other examples can be found in the UNDP, UNDESA Fact Sheet. Youth political participation and decision making.
- ⁵⁵ Brazil has institutionalized dialogues on international agreements related to agriculture with youth at different levels of society. FAO, CTA, IFAD. 2014.
- ⁵⁶ Rural youth representatives participated in a preparatory session of the 2012 Farmers' Forum organized by IFAD, which led to the adoption of a Youth Declaration and youth focal points with the mandate of supporting mainstreaming of youth concerns across country programs.
- ⁵⁷ IFAD 2014.
- ⁵⁸ Ghana National Youth Policy and Nigeria Youth Policy.
- ⁵⁹ FAO's supports the Ministère de la Jeunesse, de l'Emploi et de la Construction Citoyenne in Senegal, through its Integrated Country Approach (ICA), to develop a *Rural Youth Employment Policy*. This policy bases itself on four main pillars: (i) economic stimulus for job creation; (ii) investment in human capital; (iii) strengthen rural youth participation in policy and decision-making in the country; and, (iv) streamlining the governance framework for effective action towards rural youth employment creation. The final goal is to guide support to create 100,000 to 150,000 jobs per year.
- ⁶⁰ In Guatemala, the FAO Integrated Country Approach programme is accompanying the development of a *Rural Youth Employment Strategy* in the Department of San Marcos, under the lead of the Ministry of Labour. An assessment has been conducted with the national think tank ASIES with the aim of increasing knowledge on youth challenges and job prospects in the rural areas of the Department. As part of the Strategy, FAO will support the establishment of the first *Ventanilla de Empleo Rural* (one-stop shop for rural employment).
- ⁶¹ In the Philippines, the Asian Farmers' Association for Sustainable Rural Development is pushing for the crafting of a Magna Carta of Young Farmers that will recognize the aspirations of young women and men farmers and promote their roles and contributions to family farming. The proposed bill will protect the rights of young farmers aged 15-40 years; establish programs for young farmers, and institutionalize young farmers' representation in all agricultural policy-making bodies and other agencies with reserved seats for youth. AFA. 2015. A Magna Carta of Young Farmers. Promoting the Contributions of Young Women and Men Farmers to Family Farming. Policy Brief 5.
- ⁶² World Bank 2007a.
- ⁶³ World Bank 2007b.
- ⁶⁴ World Bank 2009.
- ⁶⁵ <https://operations.ifad.org/documents/654016/702fdcca-fab8-4738-82c1-6ddb1e569f>
- ⁶⁶ <http://www.snv.org/project/opportunities-youth-employment-oye>
- ⁶⁷ Kenya, M-KOPA SOLAR provides 'pay-as-you-go' energy for off-grid customers. <http://solar.m-kopa.com/about/our-impact/>; Uganda SOLAR SISTER provides women with training and support to create solar micro-businesses. Over 1200 entrepreneurs have been helped to date <https://www.solarsister.org>
- ⁶⁸ An Australian-funded Green Jobs in Asia Project implemented between 2010 and 2012 in five countries (Bangladesh, Indonesia, Nepal, Sri Lanka and the Philippines) aimed at scaling up and ensuring long-term sustainability of the previous interventions. ILO (2015). Decent Work in the rural economy. Policy guidance notes. Greening the rural economy and green jobs. http://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_policy/documents/publication/wcms_437196.pdf
- ⁶⁹ Innovate for agriculture: Young ICT entrepreneurs overcoming challenges and transforming agriculture <http://publications.cta.int/en/publications/publication/1924/>
- ⁷⁰ Low-end phones connect more than 60 percent of the world's people who did not have a landline phone as late as 2000 (World Development Report 2016).
- ⁷¹ World Bank 2016b.
- ⁷² World Bank 2007b.
- ⁷³ Diao and others 2016.

-
- ⁷⁴ World Bank 2016d.
- ⁷⁵ World Bank 2015b.
- ⁷⁶ World Bank 2010a.
- ⁷⁷ FAO 2015a.
- ⁷⁸ Nkonya and others 2016.
- ⁷⁹ WWAP 2015.
- ⁸⁰ McCullough 2015.
- ⁸¹ Sadras and others 2015.
- ⁸² CARI <http://cari-project.org/watch-cari-farmers-share-their-success-stories/>
- ⁸³ West Africa Agricultural Productivity Program
<http://www.worldbank.org/en/topic/agriculture/brief/the-west-africa-agricultural-productivity-program>
- ⁸⁴ FAO 2011.
- ⁸⁵ A study by IFPRI conducted in 10 countries south of the Sahara, finds that producing more staple crops, such as maize, pulses and roots, and more livestock products tends to reduce poverty further than producing more export crops such as coffee or cut flowers. While more public resources would be required to generate more agricultural growth, such public investment in staple sectors is probably cost effective - it is more likely to benefit the poor than growth in the agricultural export sector (Diao and others. 2012).
- ⁸⁶ There are examples of policies oriented towards grains that had a significant impact on reducing poverty. In Cambodia, rapid productivity growth in rice (in response to world price increases) and increased employment in the garment industry have contributed significantly to poverty reduction. <http://documents.worldbank.org/curated/en/805091467993504209/pdf/96308-ESW-KH-White-cover-P145838-PUBLIC-Cambodian-Agriculture-in-Transition.pdf>
- ⁸⁷ Fine and others 2012.
- ⁸⁸ Tschirley and others 2015a, and 2015b.
- ⁸⁹ Allen and others 2016.
- ⁹⁰ Minde and others 2012.
- ⁹¹ Alexandratos and Bruinsma 2012.
- ⁹² Tschirley and others 2015.
- ⁹³ World Bank 2016a.
- ⁹⁴ Anderson 2009.
- ⁹⁵ Pingali 2015.
- ⁹⁶ Fruitful change: rural-urban transformation in Vietnam's Mekong River (IIED 2015; see - <http://pubs.iied.org/pdfs/17332IIED.pdf>
Youth acting as intermediaries between urban traders and rural producers in the Niger Delta; see summary at <https://www.ifad.org/documents/10180/fa942a6d-d036-4b05-b2e9-08ecb637c940> (pp. 3-4); full project info at: <https://operations.ifad.org/documents/654016/def1adf4-0f3f-48b0-8d19-2201b36497d5>
- ⁹⁷ World Bank 2012a.
- ⁹⁸ Rahmn 2014.
- ⁹⁹ World Bank 2007a.
- ¹⁰⁰ Anderson 2009.
- ¹⁰¹ Afram and Del Pero 2012.
- ¹⁰² Kimenyi and others 2014.
- ¹⁰³ Staatz and Dembele 2007.
- ¹⁰⁴ Gisselquist and Grether 2000.
- ¹⁰⁵ Lio and Liu 2008.
- ¹⁰⁶ Freeman and Kaguongo 2003.
- ¹⁰⁷ Spielman and others 2011.
- ¹⁰⁸ Langyinto and others 2010.
- ¹⁰⁹ World Bank 2016c.
- ¹¹⁰ Bruhn 2011.
- ¹¹¹ Rahmn 2014.
- ¹¹² Rahmn 2014.
- ¹¹³ UNIDO 2008.
- ¹¹⁴ World Bank 2004.
- ¹¹⁵ Benjamin 2014.
- ¹¹⁶ Ellis and Freeman 2004.
- ¹¹⁷ World Bank 2005.
- ¹¹⁸ World Bank 2012a.
- ¹¹⁹ Gutmann and Voigt 2014.
- ¹²⁰ Barrett and Mutambatsere 2008a.
- ¹²¹ Barrett and Mutambatsere 2008b.
- ¹²² Kydd and Dorward 2004.
- ¹²³ Jayne and Rashid 2013.

-
- ¹²⁴ Kato and Greeley 2016.
- ¹²⁵ Chirwa and Dorward 2013.
- ¹²⁶ Mason and others 2013.
- ¹²⁷ Benin and others 2013.
- ¹²⁸ Liverpool-Tasie and Takeshima 2013.
- ¹²⁹ Jayne and Rashid 2013.
- ¹³⁰ Xu and others 2009.
- ¹³¹ Nigeria's mobile wallet program was established in 2012 by the Central Bank and Ministry of Agriculture. The platform's fourteen million subscribers can use electronic vouchers to buy subsidized fertilizer from local agro-dealers, thus connecting farmers to the formal banking system, and removing middlemen. Between 2013 and 2014, Nigeria's Ministry of Finance also provided additional budgetary incentives that enabled the Ministry of Agriculture to scale up the mobile wallet program's reach to an additional 2.5 million women farmers. Rwanda is in the process of implementing a similar mobile wallet based e-vouchers program. (Grossman and Tarazi 2014).
- ¹³² Benin and others 2011.
- ¹³³ Otsuka 2007; Christiaensen 2007.
- ¹³⁴ Satterthwaite and Tacoli 2003.
- ¹³⁵ Glasser and Raich 2008.
- ¹³⁶ Likewise, evidence from Ethiopia and Uganda (Dorosh and Thurlow, 2014) indicates that unskilled and semi-skilled workers make up the vast majority of the workforce in rural towns, while semi-skilled and skilled workers dominate in cities.
- ¹³⁷ Christiaensen and Todo, 2013.
- ¹³⁸ Otsuka, 2007; Christiaensen and Todo, 2013.
- ¹³⁹ Hussein and Suttie 2016.
- ¹⁴⁰ Suttie and Hussain, 2015.
- ¹⁴¹ Promotion of Rural Employment for Poverty Reduction. ILO, 2008.
- ¹⁴² Enhancing rural-urban linkages and the role of intermediate settlements in Viet Nam's Mekong Delta (IIED 2015; see - <http://pubs.iied.org/pdfs/17332IIED.pdf>).
- ¹⁴³ For CRFS, see Forster, Hussein and Mattheisen, 2015.
- ¹⁴⁴ Allen and others 2016.
- ¹⁴⁵ Ommani 2011.
- ¹⁴⁶ Kienzle and others 2013.
- ¹⁴⁷ Sheahan and Barrett 2014.
- ¹⁴⁸ Mattaleb and others 2016.
- ¹⁴⁹ Pingali 2007.
- ¹⁵⁰ Hayami and Ruttan 1985.
- ¹⁵¹ Liu and others 2014.
- ¹⁵² Thirtle and others 1998.
- ¹⁵³ Pingali 2007.
- ¹⁵⁴ Diao and others 2014.
- ¹⁵⁵ Seager and Fieldson 1984.
- ¹⁵⁶ Yang and others 2013.
- ¹⁵⁷ Filmer and Fox 2014.
- ¹⁵⁸ Nearly 60 percent of 15- to 24-year-olds have completed only primary school in Sub-Saharan Africa even as the share of children completing primary school has risen (Filmer and Fox 2014). Similar trends are seen in South Asia, which experienced the largest increase in primary school enrollments and completion.
- ¹⁵⁹ Vargas and Suttie 2013.
- ¹⁶⁰ Among the eighth-grade (Ghana) and ninth-grade (Botswana and South Africa) students tested in the globally benchmarked learning assessments, Trends in Math and Science Study (TIMSS 2011), 79 percent of Ghanaians and 76 percent of South Africans did not surpass the lowest benchmarked level of mathematics proficiency (Filmer and Fox 2014). Among seventh-grade students in Tanzania, about 20 percent could not read their own language Kiswahili at Grade 2 level, about 30 percent could not do a simple (Grade 2) multiplication problem, and 50 percent could not read English, the language of instruction in secondary school (Uwezo 2010).
- ¹⁶¹ <http://www.copenhagenconsensus.com/post-2015-consensus/nutrition>
- Using panel data on Filipino children, Glewwe, Jacoby, and King (2001) estimate that each dollar invested in early nutrition programs in a developing country could produce at least three dollars' worth of gains in academic achievement.
- ¹⁶² Iodine deficiency has been linked to lower cognitive function in multiple studies. In India, 9-15 year old boys from communities with severe iodine-deficiency rates were more likely to exhibit neural impairment and lower motivation to learn (Delisle and others 2000). In Tanzania, *in utero* iodine supplementation programs dramatically increased schooling outcomes in Tanzania, especially for girls (Field and others 2009).
- ¹⁶³ Alderman and others (2006) estimated that if the median child's height-for-age in rural Zimbabwe (affected by civil war and famine) matched that of a median child in a developed country, schooling completion would have increased by 0.85 years. Heady (2003), used panel data of Ghanaian households and finds that in addition to decreasing school attendance, child labor leaves children with less energy for class and pulls children's interests away from school.

¹⁶⁴ Maluccio and others 2009.

¹⁶⁵ Afridi 2010 finds similar results on short-term impacts of a school meals program in rural India, on schooling outcomes.

¹⁶⁶ Hoddinott and others 2012 estimate that the annual cost of eliminating vitamin A deficiency is \$391 million dollars. For eliminating iodine deficiency, it is \$100 million per year.

¹⁶⁷ The wage gains from an additional year of secondary or higher education are in the 10–15 percent range, while gains from an additional year of primary schooling are only 3–10 percent (Bigsten and others 2000; Schultz 2004). Similar differentials are documented across multiple countries and in urban areas (Teal 2011; Söderbom, Teal, and Harding 2006; Bigsten and others 2000; Kuepie and others 2009).

¹⁶⁸ Filmer and Fox 2014.

¹⁶⁹ <http://www.worldbank.org/en/news/feature/2014/11/19/un-modelo-de-mexico-para-el-mundo>

¹⁷⁰ Mattero 2010.

¹⁷¹ Community schools are common across Africa. In Zambia, community schools enroll individuals who are 14 and older and are vulnerable, orphaned, or unable to meet the costs associated with formal schooling. In Mali, community schools originally designed for adults have been extended to rural children, offering primary school education up to sixth grade. In Eritrea, to ensure basic education for all (especially girls), a UNICEF-supported Complementary Elementary Education Program provided nonformal education to children and young adults (ages 10–14 years old)

¹⁷² A multidisciplinary team of facilitators - specifically trained extension workers, teachers and social animators - use a participatory methodology to pass on agricultural knowledge and life skills to young boys and girls (ages 15 – 18). For one entire school year, these sessions are conducted two to three times a week in the field and classroom after regular school hours. A school timetable includes cultural activities such as singing, dancing, and theatre, allowing the youth to develop confidence and keeping local cultural traditions alive (adapted from AGRA 2015).

¹⁷³ Burundi, Cameroon, DRC, Ghana, Gaza & West Bank, Kenya, Malawi, Namibia, Nepal, Rwanda, Sudan, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe.

¹⁷⁴ Between 2001 and 2011, the World Bank loaned \$2.85 billion to youth employment programs in 57 countries (World Bank 2012b).

¹⁷⁵ Betcherman and others (2007) meta-regression sample consisted of 245 World Bank programs from the the Youth Employment Inventory. They found that success rates do not vary much by type of intervention and programs targeting poor youth have a higher probability of positive labor market impacts. Since outcomes were not gender-disaggregated, gender differences in impact could not be investigated. Card and others (2010) meta-regression included 199 program estimates from 97 studies conducted between 1995 and 2007 in developed countries. They found youth-targeted programs are less likely to yield positive impacts than untargeted programs, with no systematic differences by gender. Additionally, job search assistance programs have higher short-run impacts, whereas classroom and on-the-job training programs perform better in the medium-run.

¹⁷⁶ Blattman and Annan, 2011; Indiresean, 2010; Spencer and others 2008; Whalen, 2010.

¹⁷⁷ Filmer and Fox 2014.

¹⁷⁸ World Bank 2012b.

¹⁷⁹ Liberia - Blattman and Annan (2015); Uganda – Blattman and others (2011); Latin America’s Joven program, now replicated in other Latin American countries

¹⁸⁰ Attanasio and others 2008.

¹⁸¹ One of the examples of this is the Songhai Centre in Benin that trains vulnerable youth in agricultural production, agribusiness with accompanying technological services, renewable energy, housing and community infrastructure (AGRA 2015).

¹⁸² In the mid-1990s, Kenya’s Jua Kali Program offered training vouchers to operators of small fabrication or repair workshops. Eligible participants paid 10 percent of the training cost and received vouchers for the remainder. The vouchers produced a positive supply response, with NGOs and master craftsmen in the informal sector developing new programs tailored to voucher recipients at times that suited participants’ work schedules. The pilot reduced the cost of training for workers, had a positive effect on participants’ earnings and strengthened the capacity of the local associations responsible for distributing the vouchers (adapted from Filmer and Fox 2014). In Zimbabwe, the ILO’s Skills for Youth Employment and Rural Development project trains master crafts persons and linking them to apprentices, thus addressing shortcomings in systems of informal apprenticeship (AGRA 2015).

¹⁸³ Ghana’s National Apprenticeship Program (NAP) and India’s National Employment Through Apprenticeship Program (NETAP) are currently being evaluated. <https://www.povertyactionlab.org/YI/evaluations>

¹⁸⁴ Franklin 2015.

¹⁸⁵ Bryan and others 2014.

¹⁸⁶ McKenzie and Woodruff 2013.

¹⁸⁷ A meta-regression of entrepreneurship programs in developing countries shows that they have a positive and large impact for youth (undifferentiated) business knowledge and practice, but no immediate translation into business set-up and expansion or increased income. A package of training and financing is more effective for labor activities, financing support being more effective for women and business training for existing entrepreneurs (Cho and Honorati 2014).

¹⁸⁸ In Colombia, the Social Development Policy Loan supported the Young Rural Entrepreneurs training programs, which increased participants’ employment rate by 13–14 percent (Castañeda and others 2010). In Uganda, the Youth Opportunity Program pilot provided unconditional cash grants to youth groups for investment in training or self-employment. Groups of 20 to 30 youth were asked to submit a proposal for purchasing skills training, tools, and other materials required to start an enterprise.

This intervention doubled hours of employment and increased earnings and savings for youth by nearly 50 percent (Blattman and others 2011). The latter has been scaled-up as part of the Second Northern Uganda Social Action Fund (World Bank 2012b).

¹⁸⁹ ILO Youth Employment Network, <http://www.ilo.org/public/english/employment/yen/>

¹⁹⁰ AGRA (2015), <http://reports.weforum.org/disrupting-unemployment/strengthening-rural-youthdevelopment-through-enterprise-programme-stryde/>

¹⁹¹ Goyal and Nash 2016.

¹⁹² Kondylis and others (2014) show that direct training of contact farmers in Mozambique increased adoption and yield, over and above the traditional decentralized, extension agent-contact farmer model.

¹⁹³ In India, Fafchamps and Minten (2012) conducted a randomized control trial (RCT) evaluating the impact of Reuters Market Light's delivery of crop advisory tips and local weather forecasts, but found no effect on cultivation practices or harvest losses. Similarly, Cole and Fernando (2012) assessed the effects of the Avaaj Otalo program among cotton farmers in Gujarat, where a voice message based system delivered weekly information on weather and crop conditions as well as a hotline for specific advice. This treatment produced a shift away from pesticide use and towards the harvesting of cumin, a high-value cash crop.

¹⁹⁴ Nakasone and others 2014.

¹⁹⁵ Akter and Fu (2012) evaluated the "Knowledge Help Extension Technology Initiative" (KHETI) in Madhya Pradesh, India. As part of KHETI, agricultural specialists travel across villages with special mobile phones which recorded short videos depicting a specific farming problem. These videos are then sent back to scientists, who determine case-specific solutions and then present it via video to farmers. The program was found to increase the awareness and knowledge of extension services.

¹⁹⁶ Digital Green enables the production of low-cost videos by local participants in rural communities identifying and responding to agricultural challenges. Local intermediaries then screen the videos and lead group discussions with small groups of farmers. The excitement of appearing on video motivates community members to connect their social networks with experts. This approach leveraged to increase uptake of new practices and minimize cost of extension services. Adapted from <https://www.spring-nutrition.org/publications/case-studies/digital-green-amplifying-impact-innovative-agricultural-practices-india> and Gandhi and others 2009.

¹⁹⁷ <https://www.digitalgreen.org/>

¹⁹⁸ The Audio Conferencing for Extension project, currently running in selected communities in the Builsa District of northern Ghana, uses audio conferencing technology to involve young farmers in regular meetings with agricultural officers, agricultural extension experts, agronomists, ICT professionals and researchers from various institutions. Currently it covers more than 200 farmers. <http://ictupdate.cta.int/en/Feature-Articles/An-attractive-opportunity/>

¹⁹⁹ Africa has unutilized land, but it is concentrated within relatively few countries. Ninety percent of SSA's "potentially available cropland" is located in just 6–8 countries (Jayne and others, 2014; Deininger 2011).

²⁰⁰ Sumberg and others 2016.

²⁰¹ The majority of land farmed by African smallholders is under customary tenure systems, the purchase and sale of land is often prohibited (Bassett and Crummy 1993; Holden and others 2009).

²⁰² In a joint survey conducted by FAO, IFAD and MIJARC across Africa, Middle East and Latin America, 52% of young farmers mentioned access to land as the biggest challenge when they started farming. More than half of the respondents not engaged in farming mentioned it as one of the main factors preventing them from starting a farming activity.

²⁰³ Maiga and others 2015. They utilized the 2007–13 LSMS-ISA data from Ethiopia, Malawi, Niger, Nigeria (south and north separately), Tanzania, and Uganda to study the determinants of weekly youth (aged 16–35) time in agriculture. They concluded that farm size per capita (land operated) is positively related to hours worked per week by youth in agriculture in all countries except Malawi.

²⁰⁴ Bezu and Holden 2014. They find that rural-urban migration among youth is high in areas with severe agricultural land scarcity. Moreover, youth from families with larger land holding are less likely to choose non-agricultural livelihood as well as less likely to migrate to urban areas. In this context, a land rental market exists but has many restrictions, including on the number of years land can be rented out.

²⁰⁵ Filmer and Fox 2014.

²⁰⁶ Deere and Doss 2006. Women own less than 5 per cent of agricultural landholdings in North Africa and Western Asia and an average of 15 per cent in sub-Saharan Africa.

²⁰⁷ Even in matrilineal systems (such as in northern Mozambique, Ghana, and in parts of Zambia and Malawi) where land rights are allocated through the maternal line, the traditional authority, mostly older men, make all the decisions about land tenure. In effect, women in patrilineal and matrilineal communities access land through male relatives – their fathers, husbands or uncles (AGRA 2015).

²⁰⁸ Analysis of results from the Land Governance Assessment Framework (LGAF) from ten African countries, found that customary land systems were discriminatory against women, with only 20 per cent of registered land being in their names (Deininger and others 2014). Women also find it difficult to hold on to land in case of divorce or death of their husband (Deininger and Castagnini, 2006).

²⁰⁹ FAO, IFAD, and MIJARC 2012, Torkelsson 2012.

²¹⁰ It is not unusual for the continuous fragmentation of small holdings to persist alongside the acquisition of large tracts by outside investors, whether domestic or foreign (Filmer and Fox 2014). Peters (2013) suggests that the limitations on property rights associated with customary land tenure, and the complicity of national governments, enabled land grabbing by foreign companies.

-
- ²¹¹ The declining average farm size in Africa is seen by some to be a worrisome indicator that constraints on land markets are already damaging the prospects for young people and becoming stronger (Djurfeldt and Jirstrom 2013).
- ²¹² Dillion and Barrett 2017.
- ²¹³ Holden and others 2009. Land sales markets are also prohibited in some countries, as it is feared that such markets can lead to landlessness and concentration of land in fewer hands. Sjaastad 2003, and Holden and others 2009, found limited evidence to support this fear in Kenya, Malawi and Uganda. There is also some evidence from India which suggests that land sales increase distress sales by the poor (Binswanger Mkhize 2012, Kranton and Swamy 1999, and Collier and Lal 1986).
- ²¹⁴ Examples are ceilings on rental rates or prohibitions against absentee landownership. In Ethiopia, these restrictions in all regions except Amhara reduced opportunities to use land more productively and possibly inhibited the development of the nonfarm sector (Deininger and others 2003). Uganda's rental markets largely ceased to function in the 2000s due to severe ceilings on rent and controls on the eviction of tenants.
- ²¹⁵ Studies in Kenya (Yamano and others, 2008), Malawi (Lunduka and others, 2008) and Uganda (Deininger and Mpuga, 2008) indicate that informal land rental markets reallocate land from land-rich to land-poor households.
- ²¹⁶ Studies in Ethiopia (Deininger and others, 2008, Ghebru and Holden, 2008, Holden and Bezabih, 2008 and Kassie and Holden, 2008), Kenya (Yamano and others, 2008 and Jin and Jayne, 2013) and Malawi (Lunduka, 2009) demonstrate that land rental markets improve allocative efficiency by equalizing factor ratios among farm households.
- ²¹⁷ In Malawi (Lunduka 2009) and Uganda (Deininger and Mpuga 2008), land rental serve as safety nets for poor-tenant households, while in Ethiopia, they serve this purpose for poor landlord households (Deininger and others 2008, Ghebru and Holden 2008, Gebregziabher and Holden 2011 and Holden and others 2011).
- ²¹⁸ Where land is community owned and land sales are prohibited, a second best solution is to allow land sales if the land was kept within the community. This approach was adopted by Mexico, with World Bank support, as part of the 'Young Rural Entrepreneur and Land Fund Program'. This project provided credit to rural landless youth to acquire underutilised community land. They were also trained and received technical assistance in setting up farming activities. The project also incentivized older landholders who transferred their lands to young farmers by helping them access existing retirement schemes (FAO, IFAD, and MIJARC 2012).
- ²¹⁹ Feder and Feeny 1991; Besley 1995; Alston and others 1996; Brasselle and others 2002; Jacoby and others 2002; Galiani and Schargrodsky 2010; Do and Iyer 2008. Land tenure affects productivity through at least three channels, namely (i) increased likelihood of owners making land-attached investments because of reduced risk of land loss (ii) efficiency enhancing transfers of land to more productive users and take up non-agricultural employment; and (iii) the ability to use land as collateral for credit (Deininger and others 2014).
- ²²⁰ Brooks and others 2013
- ²²¹ PRIndex, a Global Property Rights Index, is an indicator of citizens' perception of the security of property rights. It is a new initiative which plans to collect survey data on tenure insecurity from 10 countries. <http://www.prindex.net/about>
- ²²² The risk of appropriation by tenants as well as the state has been associated with a reluctance to take non-farm jobs as well, thus inhibiting the development of the sector (Deininger 2003).
- ²²³ Deininger and others 2014.
- ²²⁴ Deininger and Feder (2009) discuss how formalized land tenure has weakened secondary use or grazing rights and social safety nets due to land grabs by powerful individuals who previously acted as trustees.
- ²²⁵ "First, mapping boundaries with GPS is much faster, less expensive, and less demanding of scarce skills than traditional surveying. Second, open and transparent digital registration of land titles reduces the cost of verifying ownership and inhibits fraud and corruption. Thus land registration is a platform for building a variety of valuable services." (World Bank 2016b).
- ²²⁶ Overall, the pilot was so successful that it is being expanded nationwide, to 10 million land parcels, at a cost of US\$5 a parcel (Ali, Deininger, and Goldstein 2014).
- ²²⁷ In Tanzania, 300,000 new titles have been issued, mostly in flood plain areas, thus enabling greater planning for flood control. <http://www.worldbank.org/en/news/video/2016/07/25/tanzania-using-drone-technology-to-secure-land-rights>. Kosovo - <http://www.worldbank.org/en/news/feature/2016/01/07/drones-offer-innovative-solution-for-local-mapping>
- ²²⁸ Cadasta is a new, low-cost initiatives to map and document rural people's individual or communal land rights. <http://cadasta.org/>
- ²²⁹ Deininger and Goyal 2012.
- ²³⁰ Filmer and Fox 2012.
- ²³¹ Brazil introduced a land tax before introducing their program and organized poor farmers into groups that negotiated and obtained land as a group. Malawi introduced a cap on the maximum amount of a grant that could be spent to acquire land to incentivize bargaining as a group. It also surveyed and registered redistributed land under a group title (Byamugisha 2013). France established Land Development and Rural Settlement Associations (SAFERs) as a land-market regulation mechanism to reorganize land parcels, enlarge certain farms that were below the threshold of profitability, and assist young farmers as they settle and begin farming.
- ²³² Blattman and Annan (2012).
- ²³³ The *Land Governance Assessment Framework (LGAF)* and the *Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries, and Forests in the Context of National Food Security* are diagnostic tools developed to assist policymakers and guide the formulation, sequencing, and monitoring of land tenure projects over time.

-
- ²³⁴ Amendments in the Hindu Succession Act that give equal rights to sons and daughters to inherit land significantly increased women's probability of inheriting land and higher levels of education attainment for daughters of women subject to the amended Act (Deining and others 2012)
- ²³⁵ Joint titling helps protect women's rights to land in the event of separation, divorce, or widowhood. In India, it has been shown to increase women's participation in household decision making, physical (Deere and others 2013) and occupational mobility (Garikipati 2009).
- ²³⁶ Banks, credit unions, MFIs, SACCOs and post banks
- ²³⁷ Compared to 34 percent at the national level. (Okonjo-Iweala and Madan 2015)
<https://www.foreignaffairs.com/sponsored/shine-light-gaps>
- ²³⁸ Globally, youth were between 10 - 20 percentage points less likely than older adults to have an account in 2014. In Africa, the corresponding gap was 12.6 percent (World Bank 2014).
- ²³⁹ Authors' calculations
- ²⁴⁰ The percentage of SSA youth who held a bank account increased by a fifth (to 20.5 percentage points), and that of youth able to obtain a formal financial sector loan by almost two-fifths between 2010 and 2014.
- ²⁴¹ Gardeva and Rhyne 2011.
- ²⁴² The majority of the 20 percent global increase in account penetration between 2011 and 2014 came from China (64 to 79 percent) and India (35 to 53 percent). Translated into absolute numbers, this growth means that 180 million adults in China and 175 million in India became account holders—the two countries together accounted for about half the 700 million new account holders globally (World Bank 2014).
- ²⁴³ In 2014, 25.1 percent of African women owned an account at a formal financial institution compared to 32.7 percent of men. 13.5 percent of women had access to savings, compared to 18.4 percent of men. Access to loans followed the same trend - 5.7 percent of women in SSA had procured a formal loan, compared to 6.9 percent of men. (World Bank 2014).
- ²⁴⁴ The share of young SSA women with a bank account increased by 18% between 2011 and 2014, while the share of youth overall increased by a fifth. (World Bank 2014).
- ²⁴⁵ CGAP 2007 <http://www.cgap.org/sites/default/files/CGAP-Occasional-Paper-Sustainability-of-Self-Help-Groups-in-India-Two-Analyses-Aug-2007.pdf>
- ²⁴⁶ Filmer and Fox 2014.
- ²⁴⁷ The Indian Central Bank mandated in 1977 that for a bank to open a branch in an already banked location, it must also open branches in four eligible unbanked locations. This policy - the world's largest state-led branch expansion program, helped reduce poverty, increased savings and credit provision in rural areas. (Burgess and others 2005). Ghana's rural and community banks were established in the 1970s to facilitate Cocoa Board payments. They now serve as microfinance institutions which provide various affordable savings products, daily deposits collected by agents who go door to door, credit, and money transfer and payment services (Filmer and Fox 2014).
- ²⁴⁸ IFAD 2014.
- ²⁴⁹ Globally, about half of all working-age adults are excluded from formal financial services. For the lowest income quintile, 77 percent are excluded (Demirgüç-Kunt and Klapper 2012). About 46 percent of savers in developing economies, and 27 percent in high-income OECD economies, reported saving outside of financial institutions or by using an informal savings club or a person outside the family. Forms include saving in cash at home ("under the mattress") or saving in the form of jewelry, livestock, or real estate. In high-income OECD economies it may also include using investment products offered by equity and other traded markets or purchasing government securities (World Bank 2014).
- ²⁵⁰ Among rural savers, only 13 percent saved at a bank or an MFI, and 25 percent saved with a community savings group. The majority saved money under the mattress or in tangible assets such as livestock. Among rural borrowers, only 6 percent borrowed from a formal institution while 42 percent turned to family and friends, and 5 percent borrowed from an informal lender, such as a trader or processor (Okonjo-Iweala and Madan 2015).
- ²⁵¹ Today, the microfinance industry provides loans to roughly 200 million borrowers, but it is estimated that the number of unbanked is more than 2 billion. (Kendall and Voorhees 2014) <https://www.foreignaffairs.com/articles/africa/2014-02-12/mobile-finance-revolution>
- ²⁵² RCTs have generally found no effect of microcredit on small businesses in India, South Africa and Mexico but mixed effects on welfare measures like consumption smoothing (Banerjee and Duflo 2010, Crépon and others 2011, Karlan and Zinman 2011, Angelucci and others 2013).
- ²⁵³ <https://www.foreignaffairs.com/articles/africa/2014-02-12/mobile-finance-revolution> (accessed on November 3, 2016); http://www.nytimes.com/2010/04/14/world/14microfinance.html?pagewanted=all&_r=0 (accessed on November 3, 2016)
- ²⁵⁴ Okonjo-Iweala and Madan 2015
- ²⁵⁵ Aldebot-Green and Sprague 2014; Kilara and Latortue, 2012.
- ²⁵⁶ In 2011, only 10 percent of African youth saved in a formal financial institution, with a slight increase to 11 percent in 2014 (World Bank 2014).
- ²⁵⁷ In 2010, Uruguay's state bank, began to allow girls and boys aged 12 and 14, respectively, to open savings accounts directly, without adult authorization for transactions. Similarly, the Central Bank of the Philippines launched the 'Kidi Account Programme' in 2011—the first initiative in a developing country spearheaded by a central bank that permits young children (older than 7 years) to open and manage savings accounts on their own in 12 of the top Filipino banks. (Kilara and Latortue, 2012).

-
- ²⁵⁸ A consortium of Save the Children, Consultative Group to Assist the Poor, New America Foundation, Center for Social Development helps open individual and joint youth savings accounts in Colombia, Ghana, Kenya and Nepal (IFAD 2015 – Lessons Learned Rural Finance).
- ²⁵⁹ UNCDF runs programs in Burkina Faso, Democratic Republic of the Congo, Ethiopia, Malawi, Rwanda, Senegal and Uganda (IFAD 2015 – Lessons Learned Rural Finance).
- ²⁶⁰ Ashraf and others 2010.
- ²⁶¹ Brune and others 2011.
- ²⁶² As youth have especially high rates of future discounting, possess greater problems with self-control, and may be more susceptible to pressure from peers and family to share their income, the use of commitment devices and savings reminders may considerably improve savings behavior among youth (J-PAL 2013). Sending inexpensive SMS reminders to save –reminding borrowers of the specific purchases they are saving up to make – might also help overcome problems that arise from having high future discount rates (Karlán and Zinaman. 2011).
- ²⁶³ Ramírez and Fleischer-Proaña, 2013; The MasterCard Foundation and Boston Consulting Group 2015.
- ²⁶⁴ Plan Canada – 88,000 youth; Freedom from Hunger – 24,070 youth (IFAD 2015 – Lessons Learned on Rural Finance).
- ²⁶⁵ Bill Gates has argued that not having a legacy analog banking system is good for many developing countries as this will spur bold innovation in financial services from upstart companies in poor places. <https://www.foreignaffairs.com/sponsored/secret-decoder-ring> (accessed on November 5, 2016)
- ²⁶⁶ M-Pesa allows clients to store and send money from their cell phones. 62 percent of adults in Kenya have active M-PESA accounts. In Tanzania, over 47 percent of households have a family member who has registered and in Uganda, 26 percent of adults are users (Kendall and Voorhees 2014).
- ²⁶⁷ Launched in November 2012 by the Commercial Bank of Africa and the telecommunications firm Safaricom, M-Shwari enables M-Pesa users to open interest-accruing savings accounts and apply for short-term loans through their cell phones in Kenya. The demand for the product was so high that M-Shwari added roughly one million accounts in its first three months. M-Pawa is its counterpart in Tanzania (Okonjo-Iweala and Madan 2015, Kendall and Voorhees 2014)
- ²⁶⁸ In contrast with the high adoption rates of M-PESA, microlenders rarely get more than ten percent participation in their program areas (Kendall and Voorhees 2014).
- ²⁶⁹ Kirui and others (2013)
- ²⁷⁰ Grossman and Tarazi 2014.
- ²⁷¹ BASIX, an organization initially established to provide micro-credit to the rural poor, now provides other financial services - savings, money transfer, and insurance - and advice in managing crop and livestock enterprises in more than 25,000 Indian villages. It uses more than 1000 service providers as part of the program (Brooks and others 2013).
- ²⁷² Brooks and others 2013.
- ²⁷³ Greatrex and others 2015.
- ²⁷⁴ EcoFarmer insures 10 kilogram bags of certified maize seed, produced by a local seed company. Registered EcoFarmers can purchase this insurance using an Econet-enabled mobile phone by entering a voucher number that comes in a plastic capsule within the seed pack. The farmer then pays a premium of 8 cents a day for the season of 125 days (roughly \$10) using EcoCash. In the event of excess rain or drought, monitored through weather stations covering the location of the farm, farmers receive a payout of 10 times the premium paid (\$100) through EcoCash (Masiyiwa 2016). <https://www.foreignaffairs.com/sponsored/mobile-revolution-20> (accessed on November 5, 2016).
- ²⁷⁵ EcoCash began in 2011, when all of the country’s commercial banks together had 900,000 customers. In four years since its launch, EcoCash has 5 million customers. (Masiyiwa 2016). <https://www.foreignaffairs.com/sponsored/mobile-revolution-20> (accessed on November 5, 2016).
- ²⁷⁶ World Bank 2016b.
- ²⁷⁷ Okonjo-Iweala and Madan 2015, World Bank 2014.
- ²⁷⁸ Strive Masiyiwa, EcoCash’s founder, emphasizes the role of shopkeepers, trusted members of their local communities. “These agents form the physical backbone of mobile money and the frontline of customer interaction across Africa. Investing in enlarging our distribution network, rather than prioritizing short-term profitability, was critical to the success of EcoCash. We have leveraged the same network of agents in rural areas to promote the EcoFarmer products. The suite of EcoFarmer services is underpinned by a farmer registration process, which is necessary to collect information on what a farmer is planting, where she’s located and what services she needs. Whilst early iterations of EcoFarmer only relied on knowing a farmer’s mobile phone number, we quickly realized that without this next level of detail we wouldn’t be able to target our services. By investing in farmer registration programs, we can anticipate and enable the next wave of digital solutions targeting smallholders.” (Masiyiwa 2016).
- ²⁷⁹ The OHADA Uniform Act on Secured Transactions, was amended in 2010 to allow borrowers in 17 SSA countries to use a range of assets as collateral, including warehouse receipts, machinery, equipment, and other receivables (Brooks and others 2013).
- ²⁸⁰ ILO 2016.
- ²⁸¹ AGRA 2015.
- ²⁸² ILO. 2015.
- ²⁸³ *Ibid.*
- ²⁸⁴ *Ibid.*
- ²⁸⁵ Plan International, 2015. Young, women and unemployed: the triple challenge.
- ²⁸⁶ FAO 2011.

-
- ²⁸⁷ Croppenstedt and others 2013.
- ²⁸⁸ Pyburn and others 2015.
- ²⁸⁹ FAO. 2012.
- ²⁹⁰ Allen and others 2016.
http://www.isp.msu.edu/files/6014/7248/3804/AgYees_Policy_Brief_FINAL.pdf
- ²⁹¹ An integrated public - private partnership model to youth employment in agriculture, Tanzania. <http://www.fao.org/3/a-i4118e.pdf>
- ²⁹² Youth in Action Program <http://youthinaction.savethechildren.ca>
- ²⁹³ Farm Africa's Youth Empowerment in Sustainable Agriculture (YESA) project . <http://www.farmafrica.org/kenya/farming-opportunities-for-young-people>
- ²⁹⁴ An integrated public - private partnership model to youth employment in agriculture, Tanzania. <http://www.fao.org/3/a-i4118e.pdf>
- ²⁹⁵ Cho and Honorati 2014.
<http://wol.iza.org/articles/entrepreneurship-for-poor-in-developing-countries.pdf>
- ²⁹⁶ Nigeria Community-Based Natural Resources Management Programme (CBNRMP).
- ²⁹⁷ <http://www.fao.org/rural-employment/detail/en/c/396482/>
- ²⁹⁸ The IFAD-supported Agricultural Value Chains Development Project (PAFA) in Senegal. An integrated public - private partnership model to youth employment in agriculture, Tanzania.
- ²⁹⁹ Adolescent Girls Initiative in Liberia.
<http://documents.worldbank.org/curated/en/465841467999715075/pdf/101061-AR-P133146-PUBLIC-Box393257B-WBG-GenderTrustFunds-Report-2015.pdf>
- ³⁰⁰ International Experience on Youth Employment Interventions: The Youth Employment Inventory. Background paper for the World Bank 20117 Economic and Sector Work on 'Sierra Leone Youth and Employment'.
- ³⁰¹ *Ibid.*
- ³⁰² *Ibid.*
- ³⁰³ *Ibid.*
- ³⁰⁴ ILO, 2016. Youth employment in Asia and the Pacific and the Arab States. http://www.ilo.org/wcmsp5/groups/public/---asia/--ro-bangkok/documents/publication/wcms_534363.pdf
- ³⁰⁵ ILO , Decent and Productive Work in Agriculture. Decent work in the rural economy. Policy guidance notes.
- ³⁰⁶ CTA, 2016. Innovate for agriculture. Young ICT entrepreneurs overcoming challenges and transforming agriculture.
- ³⁰⁷ Young Agripreneurs Program. <https://iitayouthagripreneurs.wordpress.com/about/>
- ³⁰⁸ G20 Note: Youth employment prepared by World Bank.
- ³⁰⁹ *Ibid.*
- ³¹⁰ The Balmed Blockfarming System is a land-use model that features a fair and long-term partnership between landowners, land users and Balmed Holding. <http://www.balmed.org/index.php/blockfarming>
- ³¹¹ An integrated public - private partnership model to youth employment in agriculture, Tanzania. <http://www.fao.org/3/a-i4118e.pdf>
- ³¹² The Youth Entrepreneurship Facility (YEF) was a regional project implemented by ILO in Kenya, Uganda and Tanzania (2010-2014). The main objective of the Facility was to contribute to the creation of decent work for young Africans both as means of self-employment as job creation for others. YEF results were been facilitated by great partnerships developed with ILO constituents and other stakeholders in the tree countries across public, private and non-governmental sectors.
- ³¹³ FAO.2012. Youth: the future of agricultural cooperatives.
- ³¹⁴ FAO 2015.
- ³¹⁵ Samson and others 2015.
- ³¹⁶ ILO 2014.
- ³¹⁷ IFAD. 2016.
- ³¹⁸ *Ibid.*
- ³¹⁹ FAO.2016. Global forum on food security and nutrition. Summary of online discussion n.127
<http://www.fao.org/3/a-bl631e.pdf>
- ³²⁰ de la O Campos 2015.
- ³²¹ FAO, 2015. Empowering rural women through social protection. Rural transformations- Technical papers series #2
- ³²² Losch and others 2012.
- ³²³ Banerjee and others 2015 and Das and Misha 2010 summarized in IFAD 2016 p.99. The five main components of BRAC programmes are targeting, consumption stipend, formal saving accounts, transfer of productive assets and productive training. These graduation programmes provide a holistic set of services, including the grant of a productive asset, to the poorest households in a village (which BRAC calls the "ultra-poor"). The beneficiaries are identified through a participatory process in a village meeting, followed by a verification visit by the organization's staff. Selected beneficiaries are then given a productive asset that they choose from a list, training and support for the asset they have chosen, general life-skills coaching, weekly consumption support for a fixed period, and typically access to savings accounts and health information or services
- ³²⁴ Mahatma Gandhi National Rural Employment Guarantee Act (FAO 2015, IFAD 2016).
- ³²⁵ *Ibid.*
- ³²⁶ FAO 2015.

³²⁷ Brazil's Zero Hunger Programme, which creates virtuous cycles by increasing the purchasing power of poor rural families through the Bolsa Família cash transfer programme, thus stimulating the production of local small-scale producers, who receive productive support and who in turn supply institutional markets such as the School Meal Programme through the Programa de Aquisição de Alimentos that purchase locally from family-farmers.

³²⁸ In Ethiopia, the Productive Safety Net Programme focuses on increasing productivity in agriculture, developing rural infrastructure, and reducing the need for rural people to sell assets to cope with shocks. The programme provides access to productive assets, technologies and credit services working in partnership with private micro-finance institutions that invest in local infrastructure, as well as providing transfers in cash and food. Hoddinott and others 2012.

³²⁹ From Protection to Production Project (PtoP) aimed at developing an innovative approach linking social protection to agricultural policies targeted at smallholder farmers in seven African countries: Ethiopia, Ghana, Kenya, Lesotho, Malawi, Zambia and Zimbabwe.

³³⁰ FAO. 2016.

³³¹ FAO, 2010. Guidance on how to address decent rural employment in FAO country activities

³³² FAO, 2015. Empowering rural women through social protection. Rural transformations- Technical papers series #2

³³³ Guhan, 1994.

³³⁴ Committee on World Food Security (CFS), 2014. Principles for Responsible Investment in Agriculture and Food Systems. <http://www.fao.org/3/a-au866e.pdf>

³³⁵ Kluge and others 2016.

³³⁶ Academy on Youth Employment: <http://www.itcilo.org/en/areas-of-expertise/youth-employment/academy-on-youth-employment>