

# Engaging Young Agripreneurs: Options to Include Youth in Private Sector Extension and Advisory Services in Rwanda and Uganda

## Executive Summary

Developing Local Extension Capacity (DLEC) Project

October 2020

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## ACRONYMS

CBO	Community-based organization
DLEC	Developing Local Extension Capacity
EAS	Extension and advisory services
FAO	Food and Agriculture Organization
GoR	Government of Rwanda
ICT	Information and communication technology
NGO	Nongovernmental organization
YEAN	Youth Engagement in Agriculture Network

## EXECUTIVE SUMMARY

### Introduction, Objectives and Methods

Engaging young agripreneurs in private sector extension and advisory services (EAS) is critical for livelihoods in rural areas where millions of youth are unemployed and face many barriers to entry into agriculture. A study in Rwanda and Uganda examined this and found seven models to engage youth in EAS as providers or recipients of the services: (1) training youth to become agripreneurs; (2) village agents; (3) youth-led and other fee-based EAS providers; (4) paraprofessional EAS workers; (5) EAS internships; (6) credit and financial services; and (7) youth agripreneurship awards (Table 1). The models served different purposes, and all seven provided important benefits to youth. Achieving sustainability and scale were key measures of success that *fee-based EAS* and *village agents* models achieved while having high benefits to youth through earnings. *Internships* had high participation rates for women, although the potential for scaling may be limited. *Training youth to become agripreneurs*, though potentially of high value to many poor youth, relied on government and donor assistance. *Paraprofessional EAS workers* had modest benefits in terms of earnings and some potential for being sustainable and scalable. *Credit* also had high potential but appeared to be difficult to make sustainable and scalable. *Youth agripreneurship awards* were important and low-cost but relied on the generosity of donors.

The major constraints to entry into productive work that rural youth face are limited education, lack of assets such as land or cash and negative perceptions of agriculture. However, there are a number of initiatives where youth are engaging in private, demand-driven EAS, overcoming these constraints, addressing the employment challenge and contributing to economic development. These initiatives involve youth as either private, for-profit EAS providers (such as when private companies hire more young extension agents) or as recipients of private or public sector EAS that guide youth toward self-employment (such as when EAS providers train youth in entrepreneurship). In fact, private sector extension is usually part of a “pluralistic” EAS system involving multiple providers—government, private, nongovernmental (NGO) and farmer organizations—offering various types of services. There is an important and much needed role for governments and the donor community in facilitating innovation in EAS for broadening private sector engagements and increasing youth employment, particularly among poor rural youth with low levels of education.

Whereas the term “extension” is traditionally associated with government advisory services for increasing agricultural productivity, EAS’s scope and functions have broadened considerably in recent years as pluralistic EAS systems offer various services, such as information, financial services and marketing to meet multiple objectives. For-profit private sector EAS is emphasized in this study because of the rapid growth of commercial agriculture, greater public policy emphasis on private market mechanisms and the sector’s potential for providing effective EAS on a sustainable basis at scale. Besides, public extension systems are unable to provide the needed coverage and private EAS, while not a substitute for public EAS, often complement public services effectively as when they provide expertise on niche enterprises that public EAS do not have.

While engaging youth in private sector EAS seems valuable, knowledge is still emerging about *how* to engage them. This report shares results of a study in Rwanda and Uganda examining how youth engaged in private sector EAS.

**Table 1: Overview of youth in private sector extension and advisory systems (EAS) models**

Model	Description	Main youth segment(s) targeted	Type of direct beneficiary (EAS provider or recipient)
Training youth to become agripreneurs	Implementers offer youth training to become entrepreneurs	Youth with little education (e.g. high school or lower)	Recipients
Village agents	Implementers recruit agents and pay them commissions for selling inputs, buying produce or selling services (e.g., insurance)	Secondary school graduates or less commonly, primary school leavers	Providers
Youth-led and other fee-based extension providers	Youths start companies, recruit young extension staff and offer services such as information and training	University graduates	Providers
Internships in extension and advisory services	Programs offer youth positions to gain experience in EAS for 6-12 months	University graduates	Providers and recipients
Paraprofessional extension workers	Programs train youth to work as independent paraprofessionals who earn fees for providing advice	Youth with primary or secondary school education	Providers
Credit and financial services	Programs offer loans and training to youth for starting or improving their businesses	Youth with high school education or less	Recipients
Youth agripreneurship awards	Implementers offer awards to youth in EAS that raise their status and enhance their networks	Any youth may apply	Providers and recipients

Source: Authors

The objective was to assess how private sector EAS engages youth and what the potential is for greater engagement. Specifically, the study aimed to:

- describe models of youth engagement in EAS, involving youth as providers and recipients, in Uganda and Rwanda;
- assess model performance and the factors affecting performance; and
- make recommendations for how various stakeholders can facilitate promising youth engagement models.

The authors used a case study approach, gathering primary data through key informant interviews with “implementers,” that is, representatives of private sector, government agencies, universities, producer organizations, NGO and community-based organizations (CBOs) implementing initiatives engaging youth

in private sector EAS. Interviews were conducted with representatives of 37 of these initiatives in Rwanda and Uganda. In about one-third of the cases, field staff and youth participating in the initiatives were also interviewed. Interviews were also conducted with policymakers because of the critical role they play in creating an enabling environment for pluralistic EAS.

## Findings

### *Youth Engagement Models in Private Sector EAS*

Seven models that involve youth in EAS as both providers and recipients of extension were identified and are listed below. All models were pluralistic, involving government, private sector and NGOs. The private sector led and was the main funder in the village agent model. In the other models the leaders and sources of funding varied and included government, private sector, NGOs, CBOs, educational institutions and donor agencies.



**Video 1: Key findings**

**1. Training youths to become agripreneurs.** Programs to train youth to become agripreneurs were common and included training in such topics as developing a business plan, enterprise budgeting, record keeping and marketing. A weakness of some training programs was that they were not integrated into a broader strategy of increasing employment and offering or linking youth to other support services needed to start a business, such as coaching or credit.

**2. Village agents.** Village agents link farmers to input suppliers, produce buyers and other service providers. Often paid through sales commissions, they may work directly for these service providers or for NGOs, projects or private companies that link farmers to inputs and services. Five companies interviewed in Uganda employed on average 106 agents and served about 130,000 farmers in total. The mean proportion of youth agents was about three-quarters, but proportions of youths who were female were low, ranging from 16 to 33 percent.

**3. Youth-led and other fee-based extension services.** Youths have started successful fee-based extension companies in Rwanda and Uganda by focusing on niche enterprises and services such as horticulture and irrigation. In Rwanda, HoReCo contracted with government and donors and employed 104 extension staff (85 percent youth, of which 40 percent were female). Agriwin in Rwanda contracted with private, large-scale farmers and employed 20 extension staff (all youth and 45 percent female).

**4. Paraprofessional extension workers.** In Uganda, the Uganda National Apiculture Development Organization trained 150 “drones” (the name they give to paraprofessionals), all youths, who provide fee-based advisory services to beekeepers. Young community animal health workers backstopped by the Rwanda Agricultural Board provide fee-based services to dairy farmers in Rwanda.

**5. Internships in EAS.** Internships offer an effective way for youth to strengthen skills, gain experience, enhance their marketability, develop professional networks and realize that there are fulfilling careers in agriculture. In Rwanda, a government agency, donor project and a youth network developed an internship program for university graduates, placing them in private companies and agricultural cooperatives.

**6. Credit and financial services.** Two contrasting initiatives provided credit to young agriculturalists in Uganda. One government initiative gave loans to youth groups but repayment rates were low, less than half, and thus not sustainable. There was no link to extension services. In the other initiative, a private bank partnered with a development project to give loans to individual youths. EAS staff supported the youths, repayment rates were 95 percent and youths were able to start long-term relationships with the banks.

**7. Youth agripreneurship awards.** Prizes to motivate agriculturalists are a common EAS tool in many countries. Awards programs can be implemented at low cost while generating important benefits, such as recognizing and raising the status of winners, enhancing their networks and learning. The awards also help change attitudes among youth that they can benefit from careers in agriculture.

### **Model Performance**

Limited data were available on the performance of different models as few impact assessments had been conducted. The research team compared performance on five criteria:

- **Numbers of youth directly benefiting per year.** Beneficiaries refer to EAS providers or recipients depending on the model (Table 1, column 4). The models training youth to become agripreneurs involved the most youths, numbering in the thousands per year. Most of the other models directly benefited hundreds of youth per year.
- **Benefits (income earned) per direct beneficiary.** The programs employing university graduates ranked highest, that is, fee-based extension providers and interns. Interns did not actually earn income from their internships, but being an intern significantly increased one's chances of getting a high-paying position.
- **Mean percentage of females among young beneficiaries.** This averaged 40 percent across all seven models and the proportion was highest for internships (66 percent). In only one model, paraprofessional extension workers, was the proportion less than one-third.
- **Financial sustainability.** Private sector models such as fee-based extension providers and village agents were rated by the research team as more financially sustainable than other models, as they were generally not dependent on subsidies.
- **Scalability.** Village agents and fee-based extension both had high potential as the demand for their services will rise as farmers increasingly adopt innovations and become better integrated into markets.

### **Key Elements of Successful Youth Engagements in Private Sector EAS**

Study findings suggest that there are five key elements of successful youth engagement in private sector EAS:

**1. Supportive policy environment.** Supportive government policy involves much more than funding and managing public sector EAS. It also involves promoting pluralistic EAS and facilitating multi-stakeholder regulation, coordination, monitoring, evaluation and implementing reforms to adapt to changing priorities



and circumstances. Because of strong policy support in Rwanda and Uganda, governments, donor agencies, the private sector and youths are actively partnering and implementing initiatives promoting youth in agriculture.

**2. Market-based solutions.** Market-based solutions help ensure sustainability. Appropriate incentives are needed to ensure that the private sector and youth engage. Governments and donor agencies can play useful facilitation roles such as reducing risks of investing in innovations like digital tools.

**3. Proactive measures to engage youth, particularly young women.** Programs that proactively engage youth and, in particular, young women, have higher inclusivity than ones that do not. The high female participation rates in the fee-based extension model testify to women's abilities to perform well in these activities.

**4. Partnerships.** Nearly all initiatives involve collaboration among different types of development partners with complementary strengths. Pluralistic systems are most effective when EAS providers partner to achieve desired outcomes.

**5. Integrated services.** Initiatives helping youth develop businesses must help them access complementary services, such as business training, coaching or credit. They can do this by offering the service or linking youth to others who do so.

## **Recommendations**

**Recognize the richness, diversity of and high potential of EAS.** This study highlights the importance of EAS as a means for integrating efforts of diverse partners for improving youth employment and livelihoods. This bridging role that EAS serves should be given more emphasis in development discussions.

**Develop effective policies.** Rwanda and Uganda have strong policies promoting youth in private sector EAS but each can learn from the other. Rwandan policies included streamlining regulations to make it easier to start and operate businesses, tax exemption for small enterprises, reduced airtime rates for rural businesses and inclusion of private sector extension staff in public sector EAS planning and trainings. Ugandan policies included a national strategy for youth employment in agriculture, a department in the national university that trains students in EAS and provides EAS research and policy expertise and registration of all EAS providers to improve coordination.

**Dedicate resources for youth assessments.** Dedicated resources for conducting youth assessments should be required in project planning and should include youths' views on their aspirations, needs and constraints. Targets should be set and monitored for achieving specified levels of youth inclusion. These targets may involve numbers of youths recruited as extension providers or numbers of youths receiving extension advice and training.

**Understand heterogeneity.** More consideration is needed on understanding youth heterogeneity. More programs should target particularly vulnerable youth segments, such as poor rural youth who lack high school degrees.

**Provide incentives.** Incentives are needed for private agribusiness companies to hire youth. These could include offering corporate social responsibility awards or recognizing high achievers.

**Help young women.** Implementers need to focus on gender at the same time as youth; otherwise, the benefits accruing to youth may help only young males, particularly if the unique constraints that young women face are not addressed. Data on youth should be broken down by gender to show the number and percentage of young women targeted or benefitting.

**Monitor gender targets.** It is imperative that incentives are created for implementers to set, monitor and meet gender targets, as for youth targets. EAS stakeholders have learned a great deal in recent years concerning how to increase the proportion of women providing EAS and benefiting from EAS. For example, proactively encouraging women to apply for positions or participate in training can help increase their participation.

**Integrate services to help youth develop businesses.** Programs offering training to agripreneurs should ensure that they offer or link beneficiaries to services needed to help their businesses develop. Such services may include foundational training (e.g., financial literacy), coaching and access to financial services.

**Evaluate digital tools.** The considerable emphasis being given to digital tools in EAS needs to be sustained and enhanced. Particular emphasis should be given to evaluating and improving the effectiveness of two tools being used in village agent programs in Uganda: call centers and videos.. Subsidies are justified for helping to develop, adopt and evaluate such tools as long as there is a clear business plan and timeline for phasing them out.

**Conduct impact assessments.** No rigorous impact assessments have been conducted on the reviewed models. Such assessments are urgently needed to assess performance and learn how to use the models more effectively. Two high priority topics are:

- Are programs training rural youth to become agripreneurs effective? What types of training, for how long and what supplementary services (foundational training, coaching, and financial services) are required?
- Will the costs of making the young village agent a qualified extension agent pay for itself in increased sales, or is a village agent with limited qualifications more cost-effective?

Research to rigorously assess the advantages, disadvantages and cost-effectiveness of different models and how best to improve them could go a long way toward improving the viability of the models and the potential for young people and the companies and markets they work in to benefit.

## LINKS TO ADDITIONAL RESOURCES

Full report: [https://www.digitalgreen.org/wp-content/uploads/2017/09/DLEC-Study-on-Engaging-Young-Agripreneurs\\_Lessons-from-Rwanda-and-Uganda.pdf](https://www.digitalgreen.org/wp-content/uploads/2017/09/DLEC-Study-on-Engaging-Young-Agripreneurs_Lessons-from-Rwanda-and-Uganda.pdf)

Fact Sheet: <https://www.digitalgreen.org/wp-content/uploads/2017/09/DLEC-Youth-Rwanda-and-Uganda-Fact-Sheet.pdf>

Blogs on Agrilinks as part of Inclusive Development Month (July 2020):

Including Youth in Agriculture through Extension and Advisory Services  
<https://www.agrilinks.org/post/including-youth-agriculture-through-extension-and-advisory-services>

Rwandan Youth Engagement in Private Extension and Advisory Services  
<https://www.agrilinks.org/post/rwandan-youth-engagement-private-extension-and-advisory-services>

Private Sector Youth Engagement in Uganda: Is this Sustainable?  
<https://www.agrilinks.org/post/private-sector-youth-engagement-uganda-sustainable>

Article on Rural 21:

Demand-driven extension and advisory services – catalysing opportunities for youth in agriculture  
<https://www.rural21.com/english/news/detail/article/demand-driven-extension-and-advisory-services-catalysing-opportunities-for-youth-in-agriculture.html>

Webinar:

Gainful youth participation in extension and advisory services (part of the East Africa Community of Practice Event organized in August/September 2020 by Feed the Future Developing Local Extension Capacity, the African Forum for Agricultural Advisory Services, Forum for Agricultural Advisory Services – Kenya, and the Eastern Africa Field Schools Support Hub):  
<https://www.youtube.com/watch?v=JL5SIL9Nr1c>

Videos:

DLEC Study on Engaging Young Agripreneurs: Options to Include Youth in Private Sector Extension and Advisory Services in Rwanda and Uganda: Key Findings  
<https://www.youtube.com/watch?v=o-DnFtEZnG0&feature=youtu.be>

DLEC Study on Engaging Young Agripreneurs: Options to Include Youth in Private Sector Extension and Advisory Services in Rwanda and Uganda: Youth-led, Fee-based Extension Services  
[https://www.youtube.com/watch?v=GZIJ7jz\\_alk&feature=youtu.be](https://www.youtube.com/watch?v=GZIJ7jz_alk&feature=youtu.be)

DLEC Study on Engaging Young Agripreneurs: Options to Include Youth in Private Sector Extension and Advisory Services in Rwanda and Uganda: Youth Extension Internships  
<https://www.youtube.com/watch?v=kWDBmwreYWs&feature=youtu.be>

DLEC Study on Engaging Young Agripreneurs: Options to Include Youth in Private Sector Extension and Advisory Services in Rwanda and Uganda: Young Extension Paraprofessionals  
<https://www.youtube.com/watch?v=P5pbtvJMHE&feature=youtu.be>

DLEC Study on Engaging Young Agripreneurs: Options to Include Youth in Private Sector Extension and Advisory Services in Rwanda and Uganda: Recommendations  
<https://www.youtube.com/watch?v=ie4BIeGTi5E&feature=youtu.be>

## REFERENCES

- AUC (African Union Commission). 2015. *Agenda 2063: The Africa We Want*. Addis Ababa: African Union Commission.
- Ameyaw, D. and E. Maiga. 2015. Current Status of Youth in Agriculture in Sub-Saharan Africa. In: *Alliance for a Green Revolution in Africa (AGRA) Africa Agriculture Status Report: Youth in Agriculture in Sub-Saharan Africa*. Nairobi, Kenya. <https://hdl.handle.net/10568/100862>
- Blum, M. L., F. Cofini, and V. R. Sulaiman. 2020. *Agricultural Extension in Transition Worldwide: Policies and Strategies for Reform*. Rome: Food and Agriculture Organization of the United Nations. Available: <https://doi.org/10.4060/ca8199en>.
- Centenary Bank. 2020. *About Centenary Bank*. Downloaded on June 20, 2020 from <https://www.centenarybank.co.ug/index.php/about-us>
- Davis, K. and V. R. Sulaiman. 2018. Overview of Extension Philosophies and Methods. In: Davis, K., A. Bohn., S. Franzel., M. Blum, U. Rieckmann, S. Raj, k. Hussein, and N. Ernst. *What Works in Rural Advisory Services? Global Good Practice Notes*. Lausanne, Switzerland: Global Forum for Rural Advisory Services. Pp. 3-6. Available: <https://g-fras.org/en/download.html>
- DLEC (Developing Local Extension Capacity). 2019. *Strengthening private sector extension and advisory services portfolio review*. Developing Local Extension Capacity Project. USAID, Washington D.C.
- EDC (Education Development Center). 2018. *Annual Report*. Kigali: Huguka Dukore Akazi Kanoze Project, Education Development Center, Kigali.
- FAO. (2014). *Food Security for Sustainable Development and Urbanization: Inputs for FAO's Contribution to the United Nations Economic and Social Council (ECOSOC) Integration Segment, 27-29 May, 2014*. Rome: Food and Agriculture Organization
- \_\_\_\_\_. 2017. *Analysis of Existing Approaches for Rural Youth Employment in Uganda*. Rome: FAO.
- \_\_\_\_\_. 2019. *Digital Technologies in Agriculture and Rural Areas: Status Report*. Food and Agriculture Organization, Rome.
- Faulkner L., J. Harrington D. Levy, and K. The. 2009. *Commercial Opportunities for Fruit in Malawi*. ICRAF Working Paper no. 86. Nairobi, Kenya: World Agroforestry Centre.
- Franzel S., E. Kiptot A. Degrande. 2019. Farmer-To-Farmer Extension: A Low-Cost Approach for Promoting Climate-Smart Agriculture. In: Rosenstock T., Nowak A., Girvetz E. (eds) *The Climate-Smart Agriculture Papers*. Springer, Cham, pp 277-288. Available: [https://link.springer.com/chapter/10.1007/978-3-319-92798-5\\_24](https://link.springer.com/chapter/10.1007/978-3-319-92798-5_24)
- Franzel, S., H. Kinyua, M. Rucibigango, K. Davis, and S. Makh, 2019. *Youth in Extension and Advisory Services: Rwanda*. Developing Local Extension Capacity Project. Washington DC: USAID.

GBC (Greater Baltimore Council). 2020. *Developing an Internship Program*. Baltimore MD, USA: Greater Baltimore Council.

GoR (Government of Rwanda). 2013. *Youth Sector Strategic Plan 2013-2018*. Kigali: Government of Rwanda.

\_\_\_\_\_. 2015. National Youth Policy. *Towards a HAPPi Generation*. Kigali: Government of Rwanda Ministry of Youth and Information and Communication Technology.

\_\_\_\_\_. 2018. National Agriculture Policy. Kigali: Government of Rwanda Ministry of Agriculture and Animal Resources.

Green, K., E. Bagaye, R. Blum, L. Woolf, L., and C. Jessee. 2019. *USAID/Rwanda Youth Assessment*. Washington, DC: YouthPower Learning.

Harrington, L. W and R. Tripp. 1984. "[Recommendation Domains: A Framework for On-Farm Research](#)." [Economics Working Papers](#) 232445. El Battan, Mexico: International Maize and Wheat Improvement Center.

HoReCo (Horticulture in Reality Corporation) 2020. *Welcome Message by the Representative*. HoReCo website, <http://horeco.rw/>

Huber, C. 2020. *Youth Development Project (YDP) Uganda: Lessons Learned*. Zurich, Switzerland: Jacobs Foundation.

IFAD (International Fund for Agricultural Development). 2019. *Creating opportunities for rural youth: 2019 rural development report*. Rome: IFAD.

Jackel, D. 2011. *Evaluating the effectiveness of an internship program*. Paper no. 117. Service Learning Commons. Western Kentucky University. Bowling Green, KY, USA.

KEGRA (Keirere Green Africa Agency). 2020. *Youth and Farming*. Downloaded June 23, 2020 from Keirere Green Africa Agency website <http://www.kegra.org/our-profile/>

Kigali Farms 2017. *Oyster Mushrooms for Health and Wealth* (video). Kigali, Rwanda: Kigali Farms. Downloaded on May 17, 2020 from <https://www.youtube.com/watch?v=QCcjhVGnmhU>

Kiptot, E. and S. Franzel. 2011. *Gender and Agroforestry in Africa: Are Women Participating?* Occasional Paper No.13, Nairobi: World Agroforestry Centre. Available: <http://www.worldagroforestry.org/downloads/Publications/PDFS/OP16988.pdf>

Kotler, P. 1980. *Marketing Management*. Engelwood, NJ: Prentice Hall Inc.

Kwibuka, E. 2016. Parliament passes law cutting age cap. Kigali: New Times, February 4, 2016. Downloaded August 6, 2020 from <https://www.newtimes.co.rw/section/read/196766>

- Lohento, K. and O. D. Ajilore. 2015. Chapter 5: ICT and Youth in Agriculture. In: *Africa Agriculture Status Report: Youth in Agriculture in Sub-Saharan Africa*. Nairobi, Kenya: Alliance for a Green Revolution in Africa (AGRA).
- Mbabazi, J. 2018. *Meet 18-year-old Student who Makes a Living from Mushroom Farming*. Kigali: New Times, December 10, 2018. Downloaded on May 17, 2020 from <https://www.newtimes.co.rw/business/meet-18-year-old-student-who-makes-living-mushroom-farming>
- McGill, K. 2018. *Cultivating Youth Entrepreneurs in Rwanda's Agriculture Sector*. Research Triangle Park, North Carolina: RTI International.
- Rwanda, MINAGRI (Ministry of Agriculture and Animal Resources). 2016. The National Information and Communication Technologies for Rwanda Agriculture (ICT4Rag) Strategy (2016-2020). Kigali: Ministry of Agriculture and Animal Resources.
- \_\_\_\_\_. 2017a. *The Strategic Plan for Agricultural Transformation 2018-2014, Phase IV*. Kigali: Ministry of Agriculture and Animal Resources.
- \_\_\_\_\_. 2017b. *Determining the Range of Fees for Veterinarian Services*. Ministerial Order N° 017/11.30 OF 21/12/2017. Ministry of Agriculture and Animal Resources
- New Times. 2015. New Government Policy Lowers Youth Bracket. Kigali: New Times, November 15, 2015.
- Niyigaba, E. 2018. *Informed Farmers are Successful Farmers*. GFAR (Global Forum on Agricultural Research) Impactors Series. Rome: GFAR.
- PSDAG (Private-Sector Driven Agricultural Growth Project). 2018. Gender and Social Inclusion Learning Event. Kigali: USAID Feed the Future Project: PSDAG.
- RAB (Rwanda Agricultural Board). 2016 Twigire Muhinzi: Increase yield and foster solidarity. PowerPoint Presentation, Kigali: Rwanda Agricultural Board. October 2016.
- Ragasa, C., J. Ulimwengu, J. Randriamamonjy, and T. Badibanga. 2013. *Assessment of the Capacity, Incentives, and Performance of Agricultural Extension Agents in Western Democratic Republic of Congo*. IFPRI Discussion Paper 02183. Washington DC: International Food Policy Research Institute.
- RecyCoal. 2020. *Our First Site: Deyi, Ltd. Doncaster, UK: RecyCoal*. Downloaded on May 17, 2020 from <https://recycoal.org/our-first-site-deyi-ltd>.
- Scheer, J. and J. Ariko. 2019. *Village Agent Model Study: Likely Effect on the Ugandan Agricultural Sector*. USAID Feed the Future Developing Local Extension Capacity Project. 2019
- Silvia, S., N. Efa, R. Musebe, and M. Kimani. 2019. *Complimentary Feasibility Study of a Customized Agricultural Extension Project*. Kigali, Rwanda: Ministry of Agriculture and Animal Resources.

Tambo, J., C. Aliamo, t. Davis, I Mugambi, D. Romney, D. O. Onyango, M. Kansime, C. Aloit, and S. T. Byantwale. 2019. The Impact of ICT-enabled Extension Campaign on Farmers' Knowledge and Management of Fall Armyworm in Uganda. *PLoS One* 14(8):e0220844.

Uganda, MAAIF (Ministry of Agriculture, Animal Industry and Fisheries). 2013. *The National Agriculture Policy*. Kampala: Ministry of Agriculture Animal Industry and Fisheries.

\_\_\_\_\_. 2016a. *National Agricultural Extension Policy*. Kampala: MAAIF.

\_\_\_\_\_. 2016b. *National Agricultural Extension Strategy 2016/17 - 2020/21*. Kampala: MAAIF.

\_\_\_\_\_. 2017a. *National Strategy for Youth Employment in Agriculture*. Kampala: MAAIF.

\_\_\_\_\_. 2017b. *Process of Registration and Accreditation of AEAS Providers*. Kampala: MAAIF.

\_\_\_\_\_. 2017c. *Guidelines and Standards of Agricultural Extension and Advisory Service Provision*. Kampala: MAAIF.

\_\_\_\_\_. 2017d. *Ethical Code of Conduct for Agricultural Extension and Advisory Service Providers*. Kampala: MAAIF.

\_\_\_\_\_. 2019. Ministry of Agriculture, Animal Industry and Fisheries. *Integrating the Village Agent Model into the Agricultural Extension System*. PowerPoint Presentation. Kampala: MAAIF.

Uganda, MAAIF (Ministry of Agriculture, Animal Industry and Fisheries and FAO (Food and Agriculture Organization of the United Nations). 2017. MAAIF-FAO Youth Champions Initiative 2017. Entebbe, Uganda: MAIFF and FAO. Available: <https://www.hiretheyouth.org/maaif-fao-youth-champions-initiative/>

Uganda, Ministry of Gender Labour and Social Development. 2011. *The National Employment Policy for Uganda*. Kampala: Ministry of Gender Labour and Social Development.

Uganda, MOFPED (Ministry of Finance, Planning and Economic Development). 2020. *The National Development Plan III*. Kampala: Ministry of Finance Planning and Economic Development.

UIS (UNESCO (United Nations Educational, Scientific and Cultural Organisation) Institute of Statistics). 2020 Education in Africa. The United Nations Educational, Scientific and Cultural Organisation Institute of Statistics. Downloaded on August 6, 2020 from <http://uis.unesco.org/en/topic/education-africa>

USAID (United States Agency for International Development). 2018. *Global Food Security Strategy Technical Guidance for Youth*. Washington DC: USAID Feed the Future. [www.feedthefuture.gov](http://www.feedthefuture.gov)

USAID (United States Agency for International Development) Youth Power Program. 2018. *What Works in Youth and Agriculture, Food Security, and Nutrition*. Retrieved from Youth Power: <http://www.youthpower.org/what-works-youth-and-agriculture-food-security-and-nutrition#YouthAssessmentTools>



USAID (United States Agency for International Development). 2019. *Rwanda Private Sector Driven Agriculture Growth Project. Final Report*. Washington, DC: USAID.

World Bank. 2008. *World Development Report: Agriculture for Development*. Washington, DC: World Bank.

World Bank. 2019. *Ease of Doing Business Rankings*. Downloaded on July 22, 2020 from [www.doingbusiness.org](http://www.doingbusiness.org). Washington, DC: World Bank.

Yami, M., F. Shiferaw, T. Abdoulaye, A. D. Alene, Z. Bamba, and V. Manyong. 2019. African Rural Youth Engagement in Agribusiness: Achievements, Limitations and Lessons. *Sustainability*, 11:185:1-15.

YEAN (Youth Engagement in Agriculture Network). 2020. *Agriculture Extension: Informed Farmers are Successful Farmers*. Kigali, Rwanda: YEAN.

YouthPower Learning. 2018. *Feed the Future Project Design Guide for Youth-inclusive Agriculture and Food Systems*. Washington DC: United States Agency for International Development Bureau for Food Security.

