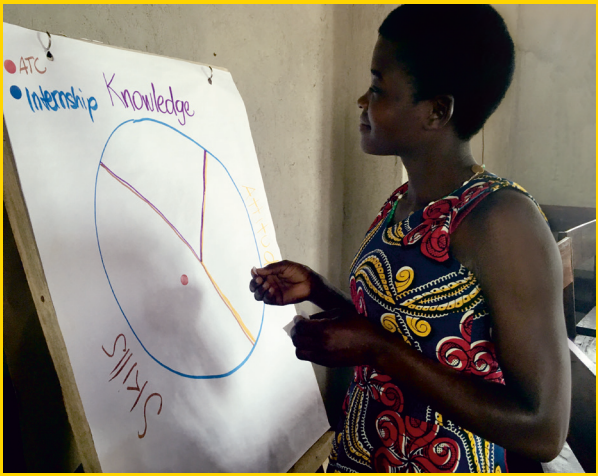
Centre for Rural Development (SLE) Berlin
SLE PUBLICATION SERIES - S280

What is in it for me?

Perspectives on integrating the private sector into ATVET (Agricultural Technical Vocational Education and Training) in Rwanda and Uganda

Klaus Droppelmann, Amelie Bohlen, Eva Graf, Zachary Kansiime, Christian Kramer, Didier Munezero, Melany Riquetti, Franziska Ulrich



2020

What's in it for me?

Perspectives on integrating PS enterprises in training delivery under ATVET (Agricultural Technical and Vocational Education and Training) in Rwanda and Uganda

Seminar für Ländliche Entwicklung | Centre for Rural Development

SLE has been offering practice-oriented vocational education and training for future experts and managers in the field of international development cooperation since 1962. The courses range from Postgraduate Studies to Training Courses for international experts in Berlin to practice-oriented research and Consultancy for Organizations and Universities active in the field of development cooperation.

Klaus Droppelmann

Teamleader, Ph.D. Agricultural Engineering

E-Mail: klaus.droppelmann@picoteam.org

Amélie Bohlen

M.A. Intercultural Human Resource Management

E-Mail: amelie.bohlen@posteo.de

Eva-Maria Graf

M.A. Latin American Studies

E-Mail: eva.graf@posteo.de

Christian Kramer

M.A. Globalisation and Development Studies

E-Mail: christian.michael.kramer@gmail.com

Melany Riquetti

M.A. Humanitarian Law and Practice

E-Mail: melanyriquetti@gmail.com

Franziska Ulrich

M.A. International Economics and Public Policy

E-Mail: fjulrich@gmail.com

SLE Postgraduate Studies on International Cooperation for Sustainable Development

PUBLICATION SERIES S280

Study in cooperation with
Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH

What's in it for me?

Perspectives on integrating PS enterprises in training delivery under ATVET (Agricultural Technical and Vocational Education and Training) in Rwanda and Uganda

Dr. rer. nat. Klaus Droppelmann

Amelie Bohlen

Eva-Maria Graf

Zachary Kansiime *

Christian Kramer

Didier Munezero

Melany Riquetti

Franziska Ulrich

*During the field work for this study Mr. Zachary Kansiime was an employee of the GIZ ATVET project. His contributions reflect his personal opinion not that of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

Berlin, July 2020

Supported by

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Federal Ministry for Economic Cooperation and Development

be Berlin
Senate Department for Economics, Energy and Public Enterprises

SLE PUBLICATION SERIES S280

Editor

Humboldt-Universität zu Berlin
SLE Postgraduate Studies on International Cooperation for Sustainable Development

Hessische Str. 1-2
10115 Berlin
Germany

Phone: +49 30 2093-46890
FAX: +49 30 2093-46891

E-Mail: sle@agrar.hu-berlin.de
Website: www.sle-berlin.de

Backstopper

Miriam Holländer

Print

Zerbe Druck & Werbung
Planckstr. 11
16537 Grünheide
Germany

Distribution

SLE
Hessische Str. 1-2
10115 Berlin
Germany

Cover photos

Eva-Maria Graf

1st Edition 2020 (1-100)

ISSN 1433-4585

ISBN 978-3-947621-15-6

Preface

For 58 years, the Centre for Rural Development (SLE – Seminar für Ländliche Entwicklung), Humboldt-Universität zu Berlin, has trained young professionals in the field of German and international development cooperation.

Three-month empirical and application-oriented research projects conducted on behalf of German or international development agencies form an integrated part of the one-year postgraduate course. In interdisciplinary teams and with the guidance of experienced team leaders, young professionals carry out assignments on innovative topics, providing consultancy support to the commissioning organisations while involving a diverse range of actors from household to national levels in the process. The outputs of this applied research directly contribute to solving specific development problems.

The studies are mostly linked to rural development themes and have a socio-economic focus, such as improvement of agricultural livelihoods or regimes for sustainable management of natural resources. The host countries are mainly developing or transforming countries, but also fragile states. In the latter, themes such as disaster prevention, peace building, and relief are examined. Some studies develop new methodologies, published in handbooks or guidelines. Further priorities are evaluations, impact analysis and participatory planning. In the future, however, studies may also take place in the Global North, since the Sustainable Development Goals (SDGs) are a global concern.

SLE has carried out more than two hundred consulting projects in more than ninety countries and regularly publishes project results in this series. In 2019, SLE teams completed studies in Mongolia, Togo, Benin, SADC as well as Rwanda and Uganda.

The present study "What's in it for me?" looks at integrating PS enterprises in training delivery in Rwanda and Uganda, and was conducted in cooperation with the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH. The report is also downloadable from www.sle-berlin.de.

We wish you a stimulating read.

Prof. Dr. Bernhard Grimm
Dean
Faculty of Life Sciences
Humboldt-Universität zu Berlin

Prof. Dr. Markus Hanisch
Director
Centre for Rural Development (SLE)
Humboldt-Universität zu Berlin

Acknowledgements

First of all, we would like to express our gratitude to GIZ, especially Miriam Heidtmann and Sara Jabril, for enabling and sponsoring this study and for their confidence.

We would also like to thank the Technical Working Groups in Rwanda in Uganda and the respective Ministries, Ministry of Agriculture and Animal Resources (MINAGRI) and Ministry of Agriculture, Animal Industry and Fisheries (MAAIF), for validating and informing our research. Without their support, it would not have been possible to embed our findings on the national level.

Special thanks go to the principals of the ATCs who provided indispensable support in the identification of stakeholders. In Uganda, these are Gertrude Abalo from Fisheries Training Institute Entebbe and Gelvan Kisolo Lule from Bukalasa Agricultural College. From Rwanda, we would like to thank Principal Emile Abayisenga as well as Deputy Principal Joseph Mfinanga from Integrated Polytechnic Regional College in Musanze. We would also like to thank Francois Sekarigenge for his support in carrying out the Stakeholder Dialogue Workshop in Musanze. From Sina Gerard College Foundation (SGCF), we would like to express our gratitude to Dr. Gaspard for his support and insightful information.

Additionally, we wish to express our gratitude to the trainees who participated in our focus groups for their critical and interesting perspectives.

We cordially thank the company representatives who participated in our research for their openness and interest. In particular, we would like to thank Kazimoto Cansilde, Chairperson of the Rwanda Horticulture Interprofessional Organisation (RHIO), for her support in identifying important stakeholders along the value chain.

Likewise, our sincerest thanks go to the participants of the Stakeholder Dialogue Workshop (SDW), whose positive energy and creativity contributed greatly to the success of the event.

Many thanks go to Carmen Aspinall for her dedicated work on the English editing of this report.

Last, but not least, we would like to thank the SLE staff, particularly Miriam Holländer, who provided valuable support and guidance during the research.

Executive summary

Africa's population is growing fast; about 41 % of its population or close to 500 million people are under 15 years of age. Every year, more and more young people seek jobs in the labour market to earn a decent living. They aspire to find well-paid jobs and to do this they must be sufficiently educated and skilled. Even though the majority of the agricultural workforce is female, women still face greater obstacles in accessing education and training opportunities than man.

In most African countries, agriculture remains the most important economic sector. In Sub-Saharan Africa, agriculture contributes an average of 25 % of the gross domestic product (GDP) and employs nearly two-thirds of the labour force. In this context, the German Corporation for International Cooperation (GIZ) and the African Union Development Agency (AUDA-NEPAD) in partnership with national agricultural technical and vocational educational and training (ATVET) systems is preparing young people for careers in the agricultural sector. In order to adequately respond to labour needs, training institutions must engage in dialogue with Private Sector (PS) entities. So far, this has proven to be challenging.

The aim of our study is to examine the benefits and challenges of greater integration of PS enterprises in the ATVET system in Rwanda and Uganda. To ensure the practical relevance of vocational training and education in any sector, cooperation between training institutions and PS companies is essential. The focus of such cooperation lies in the provision of internships and the implementation of training curricula. Until now, the information exchange between actors on these issues was haphazard, poorly facilitated, and resulted in only sporadic collaborations that have been viewed as unsatisfactory by all parties involved. Our study examines the underlying causes (for example lack of motivation to collaborate and lack of process knowledge of how to engage in constructive dialogue) in more detail and, at the same time, aims to intensify dialogue between PS enterprises and ATVET training institutions by applying an action-oriented research approach. Additionally, the study team aimed to identify possible entry points for a gender-transformative change (GTC) process, since the empowerment of women through education is viewed as critical to the economic development of the agricultural sector (see chapter 4.4).

Methodology

Action-oriented research approaches not only produce knowledge and problem-oriented solutions, they provide target groups with agency to become

creative and active participants in research processes. The research process followed in this study is subdivided into five steps. In the first step, research units and other relevant stakeholders were identified. The research units include technical and management staff of agricultural training centres (ATCs) as well as their male and female trainees and the PS companies with whom they (potentially) cooperate. Among other relevant stakeholders, Technical Working Groups (TWG) took a very prominent role, along with government departments, PS, and farmer associations from pre-selected value chains. In the second step, the research team engaged with the TWGs, which coordinate ATVET implementation at the national level, to anchor the study within other support initiatives. Data collection took place by means of expert interviews, gender-differentiated focus group discussions, and small qualitative surveys (third step) followed by stakeholder dialogue workshops (SDWs) as a fourth step. These workshops were designed to reveal stakeholders' perceptions of each other and their expectations around cooperation with each other. Upon this foundation, the workshop participants jointly developed a shared vision for cooperation, including an action plan for immediate next steps. In the fifth step, the TWGs helped validate preliminary research findings from the level of the training institutions. The sixth and last step in the research process was results analysis and formulation of recommendations for our project partners.

Results

The key results from the expert interviews and focus groups are summarised in the form of a Strength, Weaknesses, Opportunities, and Threats (SWOT) analysis. SWOT analyses were conducted from the perspectives of training institutions (ATC staff) and representatives of PS companies. The results show a great appreciation of the role and involvement of PS companies in training by the training intuitions, which is complemented by the PS's high motivation to collaborate. Both parties view cooperation as an opportunity to develop the entire value chain. Both parties also view the lack of formalisation of their cooperation as a weakness, while the blame for the unsatisfactory outcomes of internships is put on their partner. With regards to threats, training institutions fear interference in their management through closer cooperation, whereas companies have doubts about the reliability of, especially public training institutions, as partners.

While the SWOT analysis revealed stakeholder's perceptions of pros and cons of a cooperation with each other, the qualitative cost–benefit analysis of internship provision by PS companies showed that food and accommodation were the most burdensome cost factors. Surprisingly, companies considered potential

damage to machinery and high repair costs as major factors in their decision to host interns. Several companies interested in hosting interns pointed out that these costs are prohibitive. On the other hand, some companies admitted they view interns as a source of cheap labour. Companies appear to carefully weigh up the considerable short-term direct costs of hosting interns against the mostly medium- to long-term indirect benefits, unless additional incentives are provided.

Results from the gender-differentiated focus and working group discussions suggested a range of challenges for young women's entry in formal vocational training programmes. Cultural barriers to women's perusal of professional careers in the agriculture sector still exist; for example, discouragement at home and in schools and reluctance to spend limited financial resources on girls' education as girls usually leave the household after being married. In Uganda, female participants reported incidences of sexual harassment and other gender-based violence during training programmes at ATCs and internships at PS companies. Despite general awareness and existing legal frameworks, mechanisms and processes to address these issues are still lacking. Also, the specific needs of women, especially young mothers, are not adequately addressed in terms appropriate accommodation and sanitary facilities during training programmes and internships.

Regarding intensifying dialogue between the three main stakeholder groups (PS companies, ATC staff, and trainees), the participatory action-oriented approach proved successful. All participants accepted the format and freely interacted with each other. The workshops provided the participants with a platform to exchange their opinions and build the mutual understanding and trust necessary for developing a shared vision. Evaluations of the workshop revealed that the participants gained new and valuable perceptions about their cooperation partners and were more motivated to engage in further cooperation.

Recommendations

The following interventions are recommended to improve the quality of education and skills development through intensified cooperation between ATVET training institutions and PS enterprises. The first set of recommendations is directed to ATCs and their private-sector partners. The second set is directed to actors operating at the national level.

Pivotal to the improvement of the linkages between ATCs and PS actors is the establishment of liaison offices. Their responsibilities should include

- establishing and monitoring cooperation agreements (e.g. Memorandums of Understanding (MoUs));
- establishing databases of PS partners as well as ATC alumni; and
- establishing and organising regular dialogue platforms supported and complemented by other communication channels.

Cooperation agreements between ATCs and PS companies should define and govern internship opportunities, including information on the number of interns that can be hosted each year, the elements of the curriculum on which the company can instruct interns, and logistical and reporting arrangements. This information should be entered and regularly updated in a database maintained by the liaison office. A corresponding database of ATC alumni will facilitate experience exchange through mentoring programmes for, especially female, trainees. To establish and maintain such alumni databases, ATCs should conduct regular tracer studies.

Regular stakeholder dialogue with clearly defined and implementable mandates could offer opportunities for monitoring and reviewing MoU implementation and joint briefings on sectoral technical developments impacting curricula delivery and design. Resolutions from these events must be adopted into the workplans of training institutions and companies alike. Additionally, these events may be complemented by continuous communication and outreach channels, like WhatsApp groups, interactive websites, etc where cooperation partners have easy and immediate access to information as well as a support network.

Actors at the national level may support and contribute to the integration of PS actors into the ATVET systems in the following ways.

- Agencies supporting the ATVET system (like GIZ and AUDA-NEPAD) should support liaison offices at ATCs until their capacity for effective

stakeholder engagement is developed and sufficient resources for their operations can be provided through national budgets. They should make use of their capacity as a neutral broker while enabling ATC liaison offices to gain process knowledge on the following issues:

  - stakeholder dialogue facilitation and participatory approaches;
  - development and maintenance of communication channels;
  - database management and monitoring tools with specific focus on GTC indicators; and
  - establishment and monitoring of MoUs.

- Technical Working Groups should co-opt PS umbrella organisations that are active in the ATVET value chains and possess the demonstrated capacity to represent their constituencies effectively.
- Government should offer incentives (e.g. in form of tax breaks for new machinery and/or loans to build accommodation infrastructure for interns) to PS companies that are prepared to commit to hosting a specified number of interns for a fixed period.
- Government should set up an ATVET fund for ATCs to establish new accommodation and infrastructure for practical instruction.
- Government should set up an internship grant facility to enable, especially female, trainees to conduct internships on the condition of participating in mentorship programmes or becoming an ATVET ambassador after their graduation.
- Government should consider interventions to promote the ATVET system among
  - girls in rural areas, especially during their last year of basic education, through outreach programmes using ATVET ambassadors;
  - PS companies by making ATVET benefits visible through success stories on existing websites; and
  - potential investors by linking the Rwanda Development Board and Uganda Investment Authority with corresponding ATVET structures.

Zusammenfassung

Die Bevölkerung Afrikas wächst schnell, etwa 41 % der Bevölkerung ist unter 15 Jahren, das sind fast 500 Millionen junge Menschen. Das bedeutet, dass jedes Jahr mehr junge Menschen auf dem Arbeitsmarkt nach einer Arbeit suchen, um einen angemessenen Lebensunterhalt zu verdienen. Ihr Bestreben ist es, gut bezahlte Arbeitsplätze zu finden, für die sie ausreichend ausgebildet und qualifiziert sein müssen. In den meisten afrikanischen Ländern ist die Landwirtschaft nach wie vor der wichtigste Sektor für wirtschaftliches Wachstum. In Subsahara-Afrika trägt die Landwirtschaft durchschnittlich 25 % zum Bruttoinlandsprodukt (BIP) bei und beschäftigt fast zwei Drittel der Arbeitskräfte. In diesem Zusammenhang unterstützen die Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH und die African Union Development Agency (AUDA-NEPAD) in Partnerschaft die nationalen Agricultural Technical Vocational and Educational Training (ATVET) Systeme bei der Vorbereitung junger Menschen auf eine Karriere im Agrarsektor. Um angemessen auf den Bedarf an Arbeitskräften reagieren zu können, müssen die Ausbildungseinrichtungen einen Dialog mit Einrichtungen des privaten Sektors führen. Bisher hat sich dieser Prozess als eine große Herausforderung erwiesen.

Ziel unserer Studie ist es, die Vorteile und Herausforderungen einer stärkeren Integration von Unternehmen des Privatsektors in das Berufsbildungssystem, genannt ATVET, in Ruanda und Uganda zu analysieren. Um eine größtmögliche praktische Relevanz der Ausbildung zu erreichen, ist die Zusammenarbeit zwischen Ausbildungseinrichtungen und Unternehmen des privaten Sektors unerlässlich. Der Schwerpunkt solcher Kooperationen liegt auf der Bereitstellung von Praktika und der Umsetzung von Ausbildungscurricula. Der Informationsfluss zwischen den Akteuren und die daraus resultierenden sporadischen Kooperationen werden derzeit als unbefriedigend angesehen. Unsere Studie geht den Ursachen näher auf den Grund und will gleichzeitig durch einen handlungsorientierten Forschungsansatz einen verstärkten Dialog zwischen Unternehmen der Privatwirtschaft und Ausbildungseinrichtungen der beruflichen Bildung anstoßen. Darüber hinaus wollte das Studienteam mögliche Ansatzpunkte für einen Gender-Transformative Change (GTC) Ansatz identifizieren, da die Bemächtigung von Frauen durch Bildung als entscheidend für die wirtschaftliche Entwicklung des Agrarsektors angesehen wird (siehe Kapitel 4.4).

Methodik

Handlungsorientierte Forschungsansätze bringen nicht nur Wissen und problemorientierte Lösungen hervor, sondern geben der Zielgruppe auch die Möglichkeit, sich kreativ und aktiv am Forschungsprozess zu beteiligen. Der in dieser Studie verfolgte Forschungsprozess gliedert sich in sechs Schritte. In einem ersten Schritt wurden die Untersuchungseinheiten und weitere relevante Akteure identifiziert. Zu den Untersuchungseinheiten gehören die Fach- und Führungskräfte der landwirtschaftlichen Ausbildungszentren (ATCs) sowie deren männliche und weibliche Auszubildende und die Unternehmen des Privatsektors, mit denen sie (potenziell) zusammenarbeiten. Unter den anderen relevanten Akteuren nahmen die Technical Working Groups (TWG) eine sehr prominente Rolle ein, zusammen mit Regierungsstellen, Privatsektor- und Bauernverbänden aus vorausgewählten Wertschöpfungsketten. In der zweiten Stufe arbeitete das Forschungsteam mit den TWGs zusammen, die die ATVET-Implementierung auf nationaler Ebene koordinieren, um die Studie mit anderen Unterstützungsinitiativen zu verzahnen. Des Weiteren trugen die TWGs in der fünften Stufe dazu bei, vorläufige Forschungsergebnisse auf der Ebene der Ausbildungseinrichtungen zu validieren. In den Zwischenschritten drei und vier erfolgte die Datenerhebung mittels Experteninterviews, geschlechterdifferenzierten Fokusgruppendiskussionen und kleinen qualitativen Erhebungen (dritter Schritt). Als vierter Schritt folgten in beiden Ländern *Stakeholder-Dialogue-Workshops*. Diese *Dialogue-Workshops* sollten die Wahrnehmungen der Stakeholder übereinander und ihre Erwartungen an die Zusammenarbeit miteinander offenlegen. Auf dieser Grundlage entwickelten die Workshop-Teilnehmer eine gemeinsame Vision für Kooperationen, einschließlich eines Aktionsplans für die unmittelbar folgenden Schritte. Der sechste und letzte Schritt im Forschungsprozess bestand in der Analyse der Ergebnisse und der Formulierung von Empfehlungen für unsere Projektpartner.

Ergebnisse

Die wichtigsten Ergebnisse aus den Experteninterviews und Fokusgruppen werden in Form einer Stärken-Schwächen-Chancen-Risiken-Analyse (SWOT) zusammengefasst. Die SWOT-Analysen wurden aus der Perspektive von Ausbildungseinrichtungen (ATC-Personal) sowie Vertretern von Unternehmen des Privatsektors durchgeführt. Hier werden sie in derselben Tabelle dargestellt, weil ähnliche Themen von beiden Interessengruppen in beiden Ländern hervorgehoben wurden. Die Firmen der Privatwirtschaft zeigen eine große

Wertschätzung für das Engagement der Ausbildungsintuitionen und deren führende Rolle in der Ausbildung. Dies kommt durch die hohe Motivation der Unternehmen zur Zusammenarbeit zum Ausdruck. Beide Parteien betrachten die Zusammenarbeit als eine Chance, die gesamte Wertschöpfungskette zu entwickeln. Beide Parteien sehen auch die mangelnde Formalisierung ihrer Zusammenarbeit als Schwäche an, während die Schuld für die unbefriedigenden Ergebnisse der Praktika jeweils ihrem Partner zugeschoben werden. Im Hinblick auf mögliche Risiken befürchten die Ausbildungseinrichtungen eine Einmischung der Privatfirmen in ihr Management durch eine engere Zusammenarbeit, während die Unternehmen Zweifel an der Verlässlichkeit der, insbesondere öffentlichen, Ausbildungseinrichtungen als Partner haben.

Eine qualitative Kosten-Nutzen-Analyse über die Bereitstellung von Praktika durch Unternehmen des privaten Sektors zeigte, dass Verpflegung und Unterkunft die größten Kostenfaktoren darstellen. Eine Reihe von Unternehmen, die daran interessiert sind Praktikanten aufzunehmen, wiesen darauf hin, dass die damit verbundenen Kosten für sie jedoch zu hoch wären. Andererseits gaben einige Unternehmen zu, dass sie Praktikanten als eine Quelle billiger Handarbeit betrachten. Ein überraschendes Ergebnis ist die Bedeutung der Schäden an Maschinen, die Unternehmen, die Praktikanten aufnehmen, erfahren und die damit verbundenen hohen Kosten. Im Allgemeinen scheinen Unternehmen die beträchtlichen kurzfristigen direkten Kosten sorgfältig gegen die meist mittel- bis langfristigen indirekten Vorteile abzuwägen, es sei denn, es werden zusätzliche Anreize für die Aufnahme von Praktikanten geboten.

Die Ergebnisse der geschlechtsdifferenzierten Fokusgruppen und der Diskussionen in den Arbeitsgruppen wiesen auf eine Reihe von Herausforderungen für junge Frauen hin, um überhaupt in formale Berufsausbildungsprogramme einzusteigen. Kulturelle Barrieren bestehen nach wie vor, wie z.B. die Entmutigung zu Hause und in der Schule eine berufliche Karriere im landwirtschaftlichen Bereich zu verfolgen, oder die Zurückhaltung einer Familie, begrenzte finanzielle Mittel für die Ausbildung von Mädchen aufzuwenden, weil diese nach der Heirat in der Regel den Haushalt verlassen. In Uganda berichteten Teilnehmerinnen über Fälle von sexueller Belästigung und sogar geschlechtsspezifischer Gewalt während Schulungsprogrammen an ATCs und Praktika in Unternehmen der Privatwirtschaft. Trotz des allgemeinen Bewusstseins und der bestehenden rechtlichen Rahmenbedingungen scheint es noch immer an Mechanismen und Prozessen zu fehlen, um mit diesen Themen umzugehen. Auch scheinen die spezifischen Bedürfnisse von Frauen,

insbesondere von jungen Müttern, nicht die Berücksichtigung zu finden, die sie in Bezug auf sanitäre Einrichtungen und angemessene Unterbringung während der Ausbildungsprogramme und Praktika benötigen.

Im Hinblick auf die Initiierung eines verstärkten Dialogs zwischen den drei Hauptinteressengruppen, d.h. Unternehmen des privaten Sektors, ATC Mitarbeiter*innen und Auszubildende, erwies sich der partizipative handlungs-orientierte Ansatz als erfolgreich. Alle Teilnehmende akzeptierten das Format und interagierten frei miteinander. Die Workshops boten den Teilnehmenden eine Plattform, um ihre Meinungen auszutauschen, gegenseitiges Verständnis und Vertrauen aufzubauen, die die Grundlage für die gemeinsame Entwicklung einer Vision bildeten. So wie die Auswertung der Workshop-Evaluierungen zeigt, gewannen die Teilnehmenden neue und wertvolle Erkenntnisse über ihre Kooperationspartner und steigerten ihre Motivation weitere Kooperationen einzugehen.

Empfehlungen

Auf der Grundlage der Ergebnisse werden die folgenden Maßnahmen empfohlen, um die Qualität der Ausbildung durch eine verstärkte Zusammenarbeit zwischen ATVET-Einrichtungen und Unternehmen des Privatsektors zu verbessern. Der erste Satz von Empfehlungen richtet sich auf die Verbindungen zwischen den ATCs und ihren Partnern aus dem privaten Sektor. Der Zweite richtet sich an Akteure, die auf nationaler Ebene tätig sind.

Von zentraler Bedeutung für die Verbesserung der Verbindungen zwischen den ATCs und den Akteuren aus dem Privatsektor ist die Einrichtung von Verbindungsbüros. Zu ihren Aufgaben sollten diese gehören:

- die Einrichtung und Monitoring von Kooperationsabkommen (z.B. MoUs),
- die Einrichtung von Datenbanken für Partner in der Privatwirtschaft und für Alumni der ATCs und
- die Ausrichtung regelmäßiger Dialogplattformen, sowie Einrichtung anderer Kommunikationskanäle.

Kooperationsvereinbarungen zwischen ATCs und privaten Unternehmen sollten die Bereitstellung von Praktikumsmöglichkeiten definieren und regeln, einschließlich Informationen über die Anzahl der Praktikanten, die jedes Jahr aufgenommen werden können, die Elemente der Lehrpläne, zu denen das

Unternehmen Praktikanten ausbilden kann, logistische und Berichterstattungsvereinbarungen. Die in solchen Vereinbarungen erfassten Informationen sollten in eine vom Verbindungsbüro geführte Datenbank eingegeben und regelmäßig aktualisiert werden. Darüber hinaus sollte eine entsprechende Datenbank über die Ehemaligen des ATC geführt werden, um den Erfahrungsaustausch durch Mentorenprogramme für (insbesondere weibliche) Praktikanten zu erleichtern. Zur Einrichtung und Pflege solcher Alumni-Datenbanken sollten die ATCs regelmäßig Tracer-Studien durchführen.

Um den Akteuren Handlungsmöglichkeiten zu bieten, sollten regelmäßige Veranstaltungen zum Dialog durchgeführt werden. Solche Dialogveranstaltungen müssen ein klar definiertes und umsetzbares Mandat haben, einschließlich Überwachung und Überprüfung der Umsetzung von Kooperationsabkommen (MoUs) und Überprüfung technischer Entwicklungen im Sektor, die sich auf die Durchführung und Gestaltung von Lehrplänen auswirken können. Es ist wichtig, dass die auf diesen Veranstaltungen gefassten Beschlüsse in die Arbeitspläne von Ausbildungseinrichtungen und Unternehmen gleichermaßen Eingang finden. Darüber hinaus können solche Veranstaltungen durch kontinuierlichere Kommunikationskanäle wie WhatsApp-Gruppen, interaktive Websites usw. ergänzt werden, bei denen die Kooperationspartner einfachen und unmittelbaren Zugang zu Informationen haben und so ein Unterstützungsnetzwerk bereitstellen.

Akteure auf nationaler Ebene können die Integration von Akteuren des Privatsektors in die ATVET-Systeme auf folgende Weise unterstützen:

- Agenturen, die das ATVET-System unterstützen (z.B. GIZ und AUDA-NEPAD) sollten die Verbindungsbüros an den ATCs so lange unterstützen, bis ihre Fähigkeit zur effektiven Einbindung der Akteure entwickelt ist und ausreichende Mittel für ihre Tätigkeit aus den nationalen Haushalten bereitgestellt werden können. Sie sollten ihre Kapazität als neutraler Vermittler nutzen und den Verbindungsbüros der ATCs die Möglichkeit geben, Prozesswissen zu den folgenden Aspekten zu erwerben:
    - Dialogbegleitung zwischen den Interessengruppen durch Anwendung partizipatorische Ansätze,
    - Entwicklung und Wartung von Kommunikationskanälen,
    - Datenbankmanagement- und Monitoringinstrumente mit besonderem Schwerpunkt auf GTC-Indikatoren und
    - Erstellung und Monitoring von MoUs.

- Dachorganisationen des privaten Sektors, die in den ATVET-Wertschöpfungsketten aktiv sind und über die nachgewiesene Fähigkeit verfügen, ihre Mitglieder wirksam zu vertreten, sollten in die TWGs aufgenommen werden.
- Die Regierung sollte Anreize schaffe (z.B. in Form von Steuererleichterungen für neue Maschinen und/oder Darlehen für den Bau von Unterkünften für Praktikanten) für Unternehmen, die bereit sind eine bestimmte Anzahl von Praktikanten für einen bestimmten Zeitraum aufzunehmen.
- Die Regierung sollte einen ATVET-Fonds für ATCs einrichten, um neue Unterkünfte und Infrastrukturen für den praktischen Unterricht zu schaffen.
- Die Regierung sollte eine Praktikumsbeihilfe einrichten, um insbesondere weiblichen Auszubildenden die Möglichkeit zu geben, Praktika zu absolvieren, unter der Bedingung, dass sie nach ihrem Abschluss an Mentorenprogrammen teilnehmen oder Botschafter für ATVET Einrichtungen werden.
- Die Regierung sollte Interventionen zur Förderung des Bekanntheitsgrades von ATVET in ländlichen Gebieten in Betracht ziehen:
    - Aufklärungskampagnen für Mädchen in ländlichen Gebieten, insbesondere während des neunten Jahres ihrer Grundausbildung unter Einsatz von ATVET-Botschafterinnen.
    - Aufklärungskampagnen für Unternehmen, indem die Vorteile von ATVET durch Erfolgsgeschichten auf bestehenden Websites sichtbar gemacht werden.
    - Potenzielle Investoren durch das *Rwanda Development Board* bzw. die *Uganda Investment Authority* mit den entsprechenden ATVET-Strukturen in Verbindung setzen.

Table of contents

List of tables

List of figures

List of infoboxes

Abbreviations

9YBE	Nine Years Basic Education
AESIF	Agricultural Education and Skills Improvement Framework
ATC	Agricultural Training Centre
ATVET	Agricultural Technical and Vocational Education and Training
ATVET4W	Agricultural Technical Vocational Education and Training for Women
AU	African Union
AUDA-NEPAD	African Union Development Agency – New Partnership for Africa´s Development
BAC	Bukalasa Agricultural College
CAADP	Comprehensive Africa Agriculture Development Programme
FTI	Fisheries Training Institute
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)
GTC	Gender-Transformative Change
IPRC	Integrated Polytechnic Regional College
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MINAGRI	Ministry of Agriculture and Animal Resources
MoES	Ministry of Education and Sports
MoU	Memorandum of Understanding
PS	PS
PSF	PS Federation Rwanda
PSFU	PS Foundation Uganda
RDB	Rwandan Development Board
RPD	Rwandan Polytechnic Board
RHIO	Rwandan Horticulture Interprofessional Organisation
SDW	Stakeholder Dialogue Workshop

SGCF	Sina Gerard College Foundation
SLE	Seminar für Ländliche Entwicklung/ Centre for Rural Development
ToTs	Training of Trainers
TWG	Technical Working Group
UMA	Uganda Manufacturers Association

1 Study context

In 2003, the African Union (AU) established the Comprehensive Africa Agriculture Development Programme (CAADP) as a framework to foster agricultural transformation to achieve agriculture-based economic growth and food security on the continent. As the first development agency of the AU, the AUDA-NEPAD coordinates the implementation of CAADP. GIZ supports AUDA-NEPAD via financial and technical assistance to improve agricultural training, determined in the Malabo Declaration 2014 and the integrated Agricultural Education and Skills Improvement Framework[1] (AESIF) of 2015. In this context, GIZ promotes Agricultural Technical and Vocational Education and Training (ATVET) and ATVET for Women to foster sustainable agricultural skills development and strengthen a professional and productive agricultural sector.

In the initial phase starting 2012, ATVET was implemented in six pilot countries (Benin, Burkina Faso, Ghana, Kenya, Malawi, and Togo). ATVET for Women was initiated in the same pilot countries in 2016. The approach of ATVET was extended to twelve partner countries in 2017 (adding Tunisia, Sierra Leone, Rwanda, Uganda, Namibia, and South Africa).

1.1 Study background

The aim of this study collaboration was to carry out a joint assessment of PS (PS) enterprise involvement in training delivery under ATVET systems in Rwanda and Uganda. The cooperation between ATVET institutions and (PS) stakeholders is viewed by GIZ as key to better aligning the education provided at ATCs to actual labour market needs. In the long term, (PS) engagement can help secure the financial sustainability of up-to-date, market-oriented education in the agricultural sector in Rwanda and Uganda — both of which still face challenges in this regard (see chapter 1.2).

To ensure the study adds value to existing assessments and embraces a bottom-up approach, it was conducted at the level of local ATCs (a novel approach not used before). The focus of the study is partnerships between ATCs and (PS) stakeholders along agricultural value chains. The ATCs and value chains

[1] AESIF addresses the need to transform and embrace various forms of agricultural education and training methods.

were selected by Rwanda´s and Uganda's national agricultural ministries as part of a consultative CAADP process on high-potential value chains (Munezero, 2019). These were defined as bearing great potential for high employment numbers and a large added value. Dairy and aquaculture were selected in Uganda and the horticultural sector[2] was selected in Rwanda.

Several sources of information were used to prepare the research concept: stocktaking reports by local GIZ consultants (Acquaye, 2018; Munezero, 2019,) on the ATVET sectors in Rwanda and Uganda, the report on a two-week field trip to both countries by the team leader in May 2019, and conclusions drawn from a write shop titled "PS Engagement and Collaboration in ATVET" organised by the AUDA-NEPAD in Johannesburg in April/May 2019 (see also NEPAD, 2020). To ground the research concept in the ATVET support and national contexts, the SLE research team was joined by partners from the GIZ ATVET head office in South Africa, Uganda, and Rwanda in Berlin in June and July, 2019. Field work was completed by the SLE team in Entebbe, Uganda in August and in Kigali, Rwanda in September. Data analysis and report drafting was carried out from Jinja, Uganda in October.

1.2 Socio-economic context

Food security and formal employment, especially for women and youth, will be a major challenge for Africa in the upcoming years; the continent will import 110 billion USD of food by 2025 (Acquaye, 2018). Climate change and high birth rates contribute to the urgency of addressing these problems in Rwanda and in Uganda. Agriculture is by far the most important occupation in both countries. In Rwanda, 75 % of the labour force works in the agricultural sector, which accounts for 29 % of the country's GDP (World Bank, 2019). In Uganda, 72 % of the labour force works in agriculture and contributes 24 % to the national GDP (World Bank, 2019).

Despite these similarities, the countries differ in other aspects. Rwanda is relatively small, but has 12 million inhabitants, which makes it the most densely populated country on the African mainland. It is famous for being one of Africa's cleanest, safest, and fastest developing countries with a business-friendly

[2] While horticulture was identified as a value chain of interest, specific sub-sectors (vegetables, fruit, or flowers) were not specified.

environment and strong government. Its capital, Kigali, is viewed as a highly digitalised capital. In contrast, Uganda is ten times larger than Rwanda and has a population of 43 million. The most economically important areas of the country are Kampala and the southwest of the country. Lake Victoria is an important tourist attraction and a fishery and aquaculture site. Uganda is the world's youngest country with 77 % of its inhabitants aged under 30 years (Daumerie and Madsen, 2010); a relatively large proportion of the youth are refugees who recently entered the country as a result of conflicts in neighbouring countries. Unemployment rates are high in both countries, especially among youth, with national unemployment rates of 17 % in Rwanda (23 % of youth) and 20 % in Uganda (38 % of youth).

1.3 ATVET and national education systems

Despite high unemployment rates in both countries, the demand for a qualified workforce in the agricultural sector is not sufficiently met. This is due to a mismatch between the education provided by the primary, secondary, and tertiary education systems and the needs of the labour market which requires practical skills and work experience (Munezero, 2019). ATVET aims to equip young people with practical skills and experience to professionalise agricultural production and boost processing for value addition. Integral to effective ATVET delivery are practice-oriented curricula, training equipment and facilities, and a strong focus on practical instruction at ATCs and in the workplace.

After graduating from an ATVET programme, trainees should be equipped with knowledge and skills to join companies or become agricultural entrepreneurs, thus moving beyond smallholder subsistence farming. In this way, ATVET equips trainees with appropriate skills for the labour market and constitutes an important add-on or alternative to university education. Through specialisation and professionalisation of the agricultural sector, ATVET elevates agriculture's image among African youth who typically regard agriculture as backward and prioritise seeking white collar jobs over blue collar jobs or farming. ATVET showcases opportunities for professional careers in agricultural value chains.

AUDA-GIZ's ATVET interventions intend to bridge the gap between unemployment and skills shortage by improving the agricultural technical and vocational education and training systems in the programme countries. In both

countries, the quality of education and training at ATCs is hampered by their lack of finance, experienced trainers, and basic resources such as facilities, machinery, books, and research equipment. Additionally, curricula offered by ATCs need to become congruent with the skills demanded by the labour market. Furthermore, national ATVET funding in both countries is unsustainable as it depends heavily on the international donor community (Acquaye, 2018; Munezero, 2019).

1.3.1 ATVET In Rwanda

The most important actors in agricultural education in Rwanda are the Ministry of Education (MINEDUC) and the Ministry of Agriculture and Animal Resources (MINAGRI). The Rwandan Education Board (REB) serves as a facilitating agency and is responsible for curricula design for general education. The Rwandan Polytechnic Board (RPB) is the umbrella association for all eleven polytechnics in the country. The Rwandan Development Board (RDB) coordinates and facilitates all investments in the country.

Collaboration between actors in agricultural education has steadily improved since 1994. In Rwanda's development plan Vision 2020, which will be replaced by Vision 2050, education is a key component of improving social and economic well-being and the reduction of poverty. The government spends 18 % of its budget on improving educational quality.

The Rwandese education system has four levels: pre-primary, primary, secondary, and higher education. Primary and lower secondary education are compulsory according to the Nine Years Basic Education (9YBE) policy. Several recent institutional reforms have aimed to increase the vertical and horizontal mobility within the system. Throughout higher secondary education, a specialisation in ATVET can be pursued at three levels. Within tertiary education, ATVET offers a two-year diploma or a three-year advanced diploma programme at polytechnics, in full Integrated Polytechnic Regional Colleges (IPRC), and universities (Munezero, 2019). There are 17 ATCs in the country (seven public and four private) and eight higher learning institutions (three IPRCs and five universities). ATCs and IPRCs are under the authority of the RPB while universities are under the Higher Education Council (Munezero, 2019). As part of their training programme, trainees carry out industrial attachments to facilitate their entrance into the labour market at the end of their study programmes.

1.3.2 ATVET in Uganda

In Uganda, the main government actors coordinating ATVET are the Ministry of Education and Sports (MoES) and the Ministry of Agriculture, Animal Industry, and Fisheries (MAAIF). Colleges, farm schools, and technical schools participating in ATVET are all public and under the authority of the MoES; however, ATCs and extension services fall under MAAIF's control. The National Curriculum Development Centre (NCDC) serves as a facilitating agency.

For decades, public and private institutions in Uganda conducted independent examinations for technical careers, which created a non-uniform array of certificates without quality assurance. The establishment of the Uganda Business Technical Education Board (UBTEB) in 2008 created a common ground for streamlining, regulating, and coordinating examinations and awards among vocational training professions. With the 2012-2022 Skilling Uganda Plan, the government set the goal of closing the gap between youth unemployment and need for skilled labour. This served as a basis for the introduction of ATVET in 2017.

The Ugandan education system is comprised of seven years of primary education followed by four years lower and two years higher secondary education and three to five years of tertiary education. ATVET programmes can be started as a stream within secondary education or through specialised programmes at the post-secondary or tertiary level. Business Technical Vocational and Education Training (BTVET) is another very important vocation path in Uganda complementing technical with business and entrepreneurial skills. At present, there are four technical colleges and eleven ATCs in the country (Acquaye, 2018). In Uganda, ATVET offers two-year certificates and two-year diploma programmes. Internships form an integral part of both programmes and normally last two months.

1.4 ATVET for Women (ATVET$_4$W)

Women are key players in agricultural production, processing, and trade. Providing the major agricultural labour force, they are considered the backbone of Africa's economy; however, women rarely have access to training and opportunities to develop essential skills. As a result, their potential to increase

agricultural productivity and profitability is not fully realised (GIZ, 2019). This is why ATVET has a special programme for the empowerment of women.

In Rwanda, 76 % of the female and 55 % of the male population work in agriculture (International Labour Organisation, 2019). Rwanda is a special case as women took political power after the civil war when many positions could not be filled by men. It is rated the fifth best place to be a woman globally and best in Africa (World Economic Forum, 2017). This can be observed within ATCs: women's participation in TVET courses is 52 % and above satisfactory level (50 %). However, in the agricultural TVET structures their numbers are still low and need to be supported. The National Women Council can serve as an important institution for the latter.

In Uganda, 76 % of the female and 65 % of the male population work in agriculture (International Labour Organisation, 2019). The Uganda stocktaking report states that a women-friendly environment in ATCs exists, though specific incentives for women to participate in ATVET programmes were not mentioned.

1.5 Private Sector engagement

An option for financing ATVET proposed by AUDA-NEPAD and GIZ is PS engagement in the form of collaborations. This could improve long-term sustainability of the ATVET system while enhancing its orientation to labour market needs. The 2019 ATVET stocktaking reports of both countries noted low PS cooperation within ATVET structures. In both countries, several PS actors developed their own in-house training initiatives ranging from informal on-the-job training to formalised training modules (see Table 1).

Munezero (2019) asserted PS partners were well recognised by ATCs; however, their commitment for future collaboration was less well ranked. As Munezero did not articulate reasons for this, understanding the PS´s reluctance to collaborate was seized as an entry point for the SLE study.

The PS Federation (PSF) is a professional organisation that promotes and represents the interests of the Rwandan business community. It served as an entry point for the SLE team's access to industry players, cooperatives, associations, and forums.

The Rwandan Horticulture Interprofessional Organisation (RHIO) is a private independent organisation and is in exchange with the National Agricultural Export Development Board (NAEB) and the PSF. It mobilises all public and private efforts in the horticulture sector.

Table 1: Principal attributes of apprenticeship compared to informal apprenticeship and other workplace-based arrangements

	Wage	Legislative Framework	Workplace based	Programme of learning	On the job training	Off the job training	Formal assessment	Recognised certification	Duration
Traineeship	Maybe	No	Yes	No	Maybe	No	No	No	Variable
Internship	No	No	Yes	No	Maybe	No	No	No	Variable
Informal Apprenticeship	Pocket money or in kind	No	Yes	No	Maybe	No	No	No	Variable
Workplace learning	Yes	No	Yes	No	Maybe	No	No	No	Variable
Apprenticeship	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Fixed

Source: International Labour Organisation (2014)

In Uganda, the ATCs indicated in the stocktaking report that developing engagement frameworks and providing incentives to attract the PS were their most challenging tasks (Acquaye, 2019). The PS Foundation of Uganda (PSFU) is an important apex association because it implements the World Bank-supported Skills Development Fund. Others are the Uganda National Farmers Federation (UNFFE), the National Farmers` Leadership Centre (NFLC), and the Uganda Manufacturers Association (UMA). Against this background and study context, research questions were derived and are described in the sub-chapter below.

1.6 Research questions

The current study aims to provide recommendations on how to better integrate PS enterprises in training delivery under ATVET systems in Rwanda and Uganda. Hence, the challenges and benefits of cooperation were identified. The research team analysed the PS collaboration at the ATC level and gave attention to the GTC approach and the financial sustainability of the ATVET programme. These four research questions guided the research:

1. What incentives could encourage the PS to participate in the ATVET system?
2. What capacities does the PS have to improve the quality of education in ATVET programmes?
3. What are the opportunities for the PS to contribute to GTC through ATVET?
4. What factors hinder mutually beneficial cooperation between stakeholders in ATVET?

1.7 Objectives and impact analysis

The study aimed to contribute to improved understanding of current perspectives, benefits, and challenges to fostering cooperation between the PS and ATCs in Rwanda and Uganda. The SLE research team developed the following impact analysis (see Figure 1) to provide an overview of the study outcomes, outputs, and impact.

The study aims to contribute to enabling cooperation among stakeholders, so that the quality of education of the ATVET system is improved and, thus, a foundation for its financial sustainability is built. To achieve this, the study sought to achieve the following outcomes.

1. Awareness on opportunities for the PS engagement in ATVET is raised.

The SLE research team aimed to provide evidence of stakeholders' direct benefits and challenges to close cooperation in improving the ATVET system. The team conducted participatory stakeholder mapping along selected value chains in Rwanda and in Uganda, which served to identify key actors for inclusion in the study. The SLE research team then collected and analysed data from expert interviews and focus groups discussions and summarised the findings in the form of a SWOT analysis.

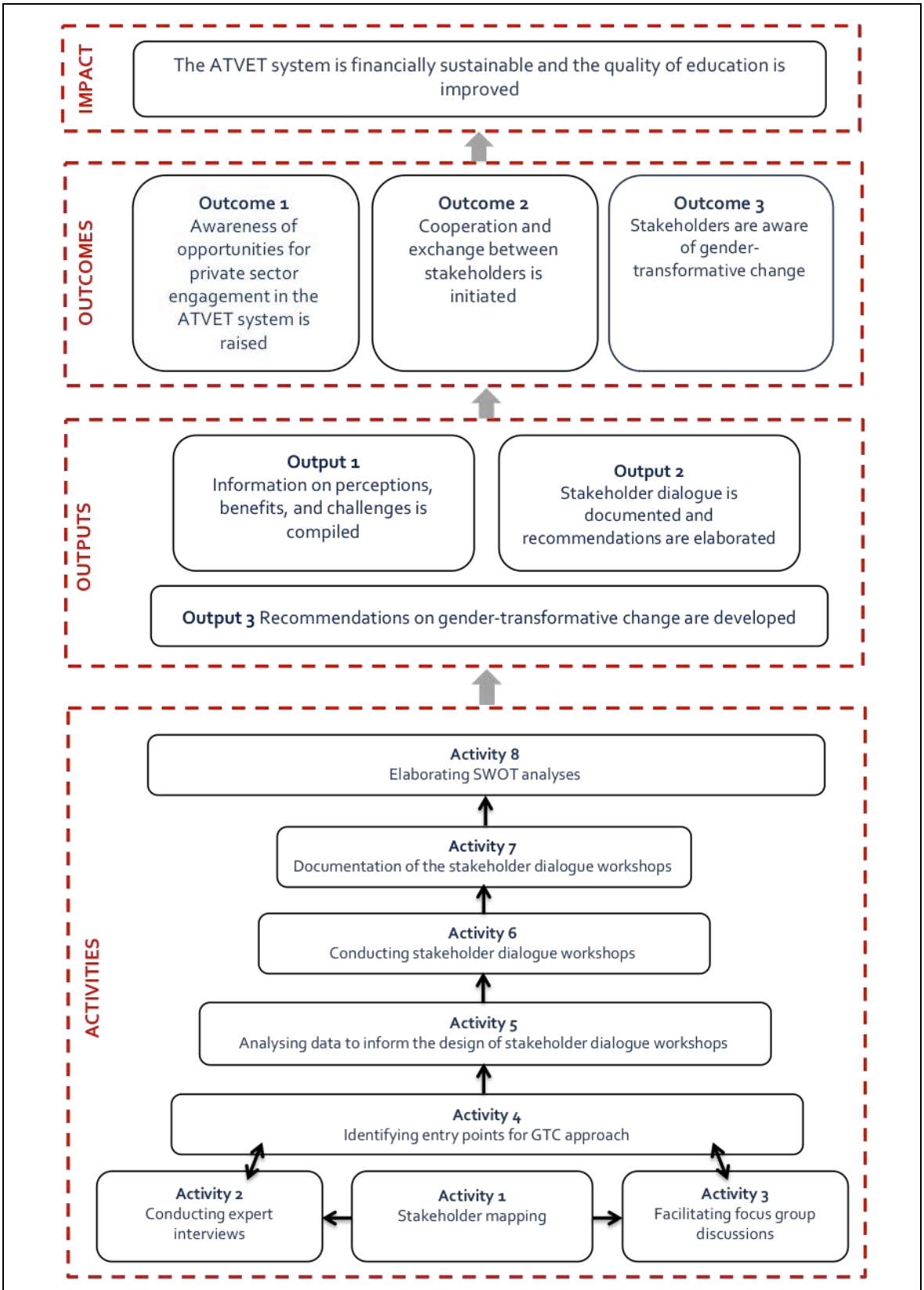


Figure 1: Representation of outputs, outcomes, and impact of the current study

Source: Own illustration

2. A cooperation and exchange between stakeholders is initiated.

The next desired outcome was to initiate an exchange and promote cooperation among stakeholders. The SLE research team designed a participatory methodology, facilitated stakeholder dialogue workshops (SDW), and documented the process in Rwanda and Uganda. The SDW served three main purposes: 1) to initiate dialogue between stakeholders, 2) to jointly develop a vision and action plan, and 3) to test the methodology on how best to create an open space for cooperation and dialogue among key actors.

3. Stakeholders within the ATVET system are aware of and apply the GTC approach.

The third outcome is increased awareness of the GTC approach among stakeholders. This approach crosscut all activities and methodologies in this study and was used to find specific information about challenges and potential opportunities for women's empowerment of in the ATVET system.

2 Research framework

This chapter deals with the research framework. The problem analysis led to the following research hypothesis: "intensified cooperation is enabled through effective dialogue between stakeholders" (see chapter 2.1). In subchapter 2.2, the underlying theoretical foundation is discussed and essential arguments on theories of cooperation, communication, and perception and their interdependence are introduced. The reason why it is important to look at those three domains is because cooperation, communication, and perception are closely linked and are indispensable foundations in any form of cooperation (Kammhuber et al., 2009). In chapter 2.3, the theory behind the GTC approach will be introduced since it was a crosscutting issue in the research process.

Figure 2 provides a visual representation of the study's research framework.

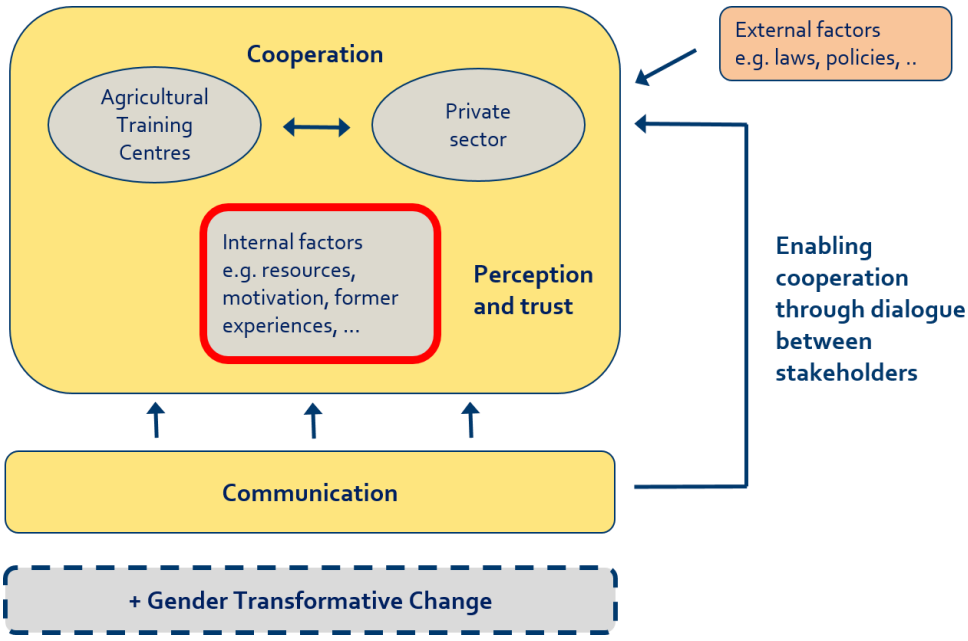


Figure 2: Visual representation of the research framework

Source: Own illustration

2.1 Conceptual approach and research hypothesis

ATVET is an important strategy to equip students with practical skills and theoretical knowledge. The cooperation between the public and PSs plays a key role in quality improvements of ATVET and is anchored in the AESIF (NEPAD, 2015). In order to achieve high-quality education responsive to the labour market's

ever-changing demands, investments need to be made (Lee, 2014). This positive correlation between the amount of required investment flowing into (or costs arising from) the ATVET system and its educational quality is depicted in a simplified manner in Figure 3 (i.e. by an upward sloping line). Logically, it follows that increasing investments into ATVET will improve its quality[3].

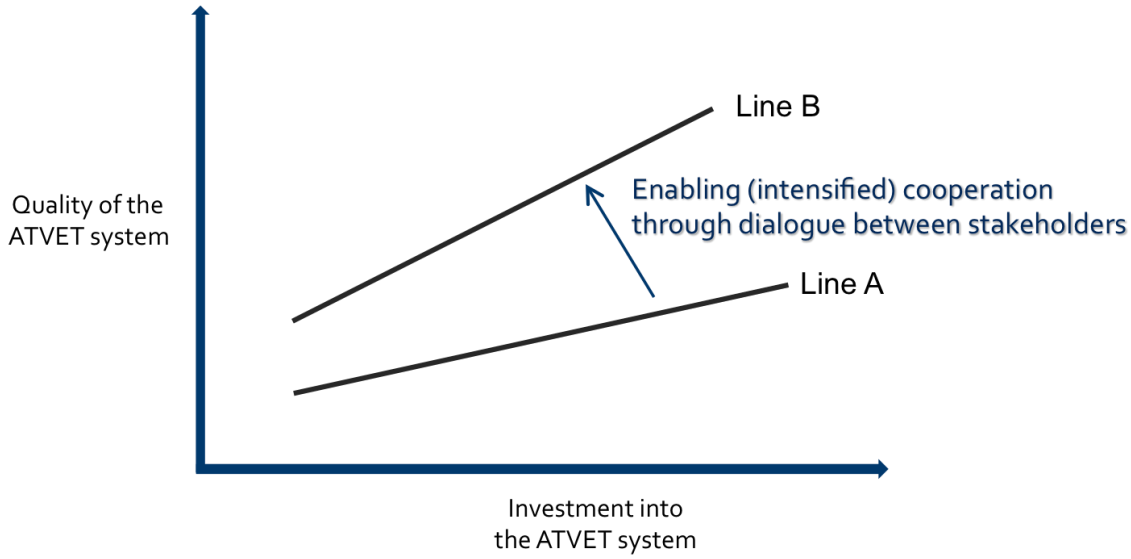


Figure 3: Improving the ATVET system through cooperation

Source: Own illustration

However, money spent on education does not necessarily and directly produce high quality human capital. Instead the quality depends much on the efficacy of the investment (Kaffenberger, 2018). This means, that if investments into the ATVET system do not take into account stakeholders' needs, they cannot be effective in terms of quality. Figure 3 shows that investments into the current system (which lacks intensive cooperation between the public and PS companies) is likely to bear only marginal improvements (Line A). Thus, the quality of the ATVET system is not only a function of investment, but also of (the level of) cooperation between stakeholders.

[3] In the context of the study, investments into the education system can be monetary (e.g. cash transfers), tangible (e.g. new machinery), or intangible/non-material investments (e.g. time for training of staff, provision of internships).

Hence, the following assumption is implied: the impact of investments into ATVET quality is higher when ATCs intensify cooperation with the PS (Line B, Figure 3). Close cooperation between the PS and ATCs is a desirable starting point for quality improvements to the ATVET system and increasing efficacy of investments.

In the long run, quality improvements are likely to attract further investments from the PS (i.e. an upward movement along line b, Figure 3). For an investment to be economically justified, the rate of return should be positive and higher than the alternative rate of return (for example, for in-house training). A high quality ATVET system makes investments into this system more attractive and can leverage PS investment.

Therefore, systematic cooperation will benefit all parties. On one hand, PS involvement allows for mutual knowledge exchange, allows ATVET systems to continuously grow and evolve to meet market needs, and may ultimately lead to PS gains through increased productivity through a future skilled workforce (see chapter 4.3.4). On the other hand, ATCs benefit in the long run from investment in the ATVET system and cost-sharing with cooperation partners for training, equipment, etc. Thus, the ATVET system will increase their students' employability through practical and labour-market oriented training (see chapters 4.2.1 and 4.3.1).

But how can cooperation between PS actors and ATVET institutions be intensified to improve the quality of the ATVET system? This study considers dialogue between cooperation partners as the basis for collaboration. This means that without effective communication, successful cooperation is not possible. The thrust toward (more intense) cooperation (i.e. the shift toward a steeper line in Figure 3) can be initiated through enhanced dialogue between stakeholders (see chapter 2.2.2).

2.2 Theoretical foundation

In the following subchapters, the theories behind cooperation, communication, and perception are explained briefly. For cooperation, internal and external factors that influence cooperation are described. Further, a short overview of cooperation between public and private actors is given followed by a more detailed description of the characteristics of the PS entering a cooperation partnership. Thereafter, the theory of communication and perception is described and the importance of these two aspects for cooperation is elaborated.

2.2.1 Theoretical background on cooperation

There is a broad range of literature defining cooperation in very different ways. When actors or groups try to gain joint benefits through collective action, Ostrom (2009) speaks of cooperation. Others define cooperation as any coordinated way of working together (Nechansky, 2018). Axelrod (2006) postulates cooperation is attractive when the actors see a benefit for themselves in the cooperation. They are willing to invest in a cooperation when they assume that they are getting something back, often referred to as *payoff*. This means their incentive to coordinate their actions to mutual benefit will be stronger the more they view a positive correlation between the expected rewards and necessary inputs (Schaeffer and Loveridge, 2002).

Factors influencing cooperation

Besides evaluating the *payoff* of a cooperation, the realisation of a cooperation is dependent on internal as well as external factors (Bressers, 2007). External factors concern mostly structural components, such as government decisions, rules and regulations, etc and can influence the cooperation. Internal factors evolve around capacities (of power/influence), resources that actors have and are able and willing to invest into the cooperation (ibid.), and reciprocity (meaning that both actors have to contribute in order to make the cooperation work) (Axelrod, 2006). Constraints and incentives influencing the cooperating actors are of internal nature: their motivation, their experiences of former cooperations, their awareness and acceptance of potential partners as well as their perceptions and trust (see chapter 2.2.3) (Bressers, 2007; GIZ, 2015; Ostrom, 2009). The following Table 2 describes the most important enabling factors for cooperation.

Table 2: Enabling factors for cooperation	
Compatibility of goals	Cooperation leads the cooperating parties toward a preferred state via attainment of goals (Nechansky, 2018). Although the motivation and values behind these goals could differ, they should be compatible. GIZ refers to these goals as "agreed objectives that create the framework for binding contributions by the cooperation partners" (GIZ, 2015, 58).
Actors' relevancy and relationships	Successful cooperation relies on the identification of relevant stakeholders. GIZ (2015) refutes the assumption that involving more actors allows for better cooperation, but emphasises the integration of these actors. Analysis of actors' familiarity, previous cooperation history, and other linkages with each other can identify factors that could hinder cooperation, for example, bias as a result of a previous unsuccessful cooperation (Ostrom, 2009).
Roles and responsibilities	Because structuring cooperation is a prerequisite for the execution of work tasks (Badke-Schaub et al., 2008), the function actors fulfil (that is, the role and responsibility each individual/organisation fulfils in the cooperation) needs to be established. These roles are sometimes predetermined by the position the actors/organisations occupy and, while their role is clear, the responsibilities that come with it are not. Explicitly communicated roles and responsibilities foster the cooperation process (ibid.).
Face-to-face communication	Communication is the basis for all cooperation processes and GIZ asserts "Cooperation systems need the actors to meet face-to-face" (GIZ, 2015, 146).[4]

Cooperation partners (public and private)

In addition to the above factors that influence and enable cooperation, a closer look has to be taken at the cooperation partners themselves. In the study context, the key cooperation partners are organisations from the public and PS. These are two very different groups. "Public and private organisations have such different powers and capabilities that in most situations, it is difficult to perceive them as equals" (Schaeffer and Loveridge, 2002, 185). In most cases, they have different interests, follow different missions, and are differently structured (ibid.). Their differences are expressed in the way they function, in their organisational structure, in the compliance of hierarchies, and in the way decisions are made. For

[4] Because communication plays such a crucial role, the following section (2.2.2) will expound upon important aspects of communication.

example, the decision-making structure of private companies is much flatter than in public organisations, because the accountability for one's action is not as high. Therefore, in public–private cooperation it could be possible that the private actor lacks patience for the decision-making process of the public institution (Schaeffer and Loveridge, 2002). Another distinction can be found in the actor's transparency. Whereas public institutions are generally obliged to make information public, PS companies often show reluctance to share their business information, because it could be used by competitors (Schaeffer and Loveridge, 2002). Additionally, PS is dependent on market development and profit-oriented, whereas public organisations are supported by governments (ibid.). With regard to skills development, the public sector educates the entire work force to achieve overall economic growth, while the PS acquires and maintains skilled workers to increase their profit. Thus, there is overlap, but not a perfect match in their objectives.

Motivation to cooperate

In the following section, focus is put on the PS's motives to cooperate in skills development in agriculture. Schönfeld et al. (2016) summarise possible motivating factors:

- Productive motive: Interns contribute to businesses' success by increasing productive capacity during their internships.
- Investment motive: Businesses view training as an investment in future skilled workers who meet their requirements. This offers effective returns to the businesses in the medium and long term.
- Screening motive: Internships are used as a probationary period to observe and test students prior to hiring those who best fit the company's requirements, profile, and identity.
- Reputation motive: Training interns betters companies' reputations and expands their network of customers, suppliers, and other business partners, thereby bettering their market situation. This will, in the long term, offset their training investments.
- Social responsibility motive: Some companies may train interns out of a sense of social responsibility to youth and to their industry and region. Internships increase the employability of young people. At the same time, they develop their region by supplying the industry with skilled workers and, as a result, contribute to the development of a value chain.

Some of these motives may be similar to those of the public sector, but they can also differ. It is exactly because of the differences between the public and the PS that opportunities for mutually beneficial cooperation can arise (Schaeffer and Loveridge, 2002), because both cooperation partners can bring different benefits, views, and expertise into the cooperation. The next chapter expands upon this by explaining the crucial role of communication in successful cooperation.

2.2.2 Theoretical background on communication

To facilitate cooperation, one must consider the extent and ways stakeholders communicate with each other. Who is sharing which information with whom? Have suitable communication patterns and platforms been developed? Do these patterns and platforms help building strong, mutually beneficial relationships between actors?

"Good communication is the cornerstone of effective collaboration" (Hemmati et al., 2016). This might sound banal, but communication is a pre-condition for social interaction and, therefore, it is the starting point and a vital ingredient for any cooperation process. Not every kind of communication is effective, what matters is the quality and purposefulness of communication.

Communication is the mechanism people use to transfer knowledge, provide information, set direction, understand each other as individuals, ask questions, make joint decisions, agree on appropriate action, and simply relate to one another (Griffin, 2008). Communication consists of two dimensions, a technical and a social one. The first entails the transmission of information and the reception of it. The second dimension refers to social interactions, "Whenever people communicate, they enter into relationships with one another" (Badke-Schaubet al., 2008, 149). Successful communication contains both levels and essentially means transmitting information without loss of meaning, while interacting respectfully, trustfully, and openly with each other (ibid.).

Special emphasis, when it comes to cooperation, is put on face-to-face communication. Ostrom (2009) postulates that face-to-face communication enhances the likelihood that individuals will act on their intention to cooperate. When communication is done effectively, trust and commitment seem to be high (Griffin, 2008). However, failure in communication or power imbalances can hinder the cooperation (Hemmati et al., 2016).

Communication and engagement of stakeholders

Communication can be enhanced via multi-stakeholder processes. "The term multi-stakeholder processes describes processes which aim to bring together all major stakeholders in a new form of communication, decision-finding (and possibly decision-making) on a particular issue" (Hemmati, 2002, 2). Multi-stakeholder processes are based on certain principles, such as transparency, democracy, and participation and aim to develop and strengthen networks between stakeholders (ibid.).

In this study, SDWs were employed as a multi-stakeholder process. The main objective of an SDW is to facilitate a participatory approach to reach all relevant stakeholders, ensure people are actively involved at all stages, and ensure their concerns are understood and considered (Acland, 2012). By doing so, people actively shape the workshop process and gain agency over their own affairs. Thus, it is the cornerstone of initiating transformation and joint action among stakeholder groups (Nielsen et al. 2017).

Another key objective of SDWs is to promote trust between actors in order to share information and institutional knowledge and create a basis for an exchange and better understanding of different perspectives (Dodds and Benson, 2013; Hemmati, 2002). Room should be given to each stakeholder group to share their opinions and perspectives and develop awareness and understanding of other positions (Nielsen et al., 2017).

An important aspect of SDWs is the creation of ownership (Hemmati, 2002; Nielsen et al., 2017). By engaging participants in the communication process and in the decision-making process itself, the likelihood of participants taking ownership of the decision increases (Hemmati, 2002).

The present study focuses on communication in the form of dialogue to provide the basis for cooperation between stakeholders within the ATVET system. Subchapter 3.7 discusses the design of the SDW in detail and subchapter 5.2 analyses communication processes during the SDW.

2.2.3 Theoretical background on perceptions

Social psychology draws a distinction between person-to-person perceptions and person-to-group perceptions. The latter looks at how a group of people is perceived, referred to *people perception* in Phillips et al. (2014). Applied to the study context, people perception examines how individuals of one stakeholder group (ATCs) perceive the other stakeholder group (PS) and vice versa. The interest of this approach lies in understanding consequences of group on

organising and interaction and, hence, entering a cooperation and communication.

Importance of perceptions for cooperation

The basis of fruitful cooperation is shared understanding of the position, needs, and responsibilities of cooperation partners. Depending on the perception of each partner, expectations, attributions, and evaluations that ultimately determine the behaviour towards other partners arise (GIZ, 2015). Misunderstandings may derive from incorrect perceptions. On the other hand, if partners' perceptions tally with their own views of themselves, good foundations for lasting cooperation can be formed.

In the context of ATVET, this means ATCs' and companies' willingness to cooperate depends on their perceptions of and trust for each other. Insecurity about interests, motivation, or strategies of the other interest group can influence the behaviour of partners. Although there might be real opportunities for a partner in a cooperation, a negative perception of cooperation partners may negate the opportunities provided by the cooperation and the cooperation will be avoided or unsuccessful.

As explained above, misunderstandings arise from differing perceptions and these perceptions (individual or group) are often framed in the absence of physical encounters between actors. This is why face-to-face communication plays such a crucial role (see chapter 2.2.2). It becomes apparent how important it is to see things from the other's perspective in order to understand others' perception of oneself. Through exchange on perceptions, misunderstandings can be prevented, clarification on roles and responsibilities can be provided, and understanding of other perspectives can be enhanced — all necessary precursors for stakeholders' cooperation. It is therefore vital to facilitate direct communication, transparent rules, and joint understanding of objectives and procedures (GIZ, 2015).

2.3 GTC approach

Women represent a significant proportion of the agricultural labour force, especially in Africa, where they account for 40 % of the continent's agricultural productivity (FAO, 2018). Yet, women face more challenges than men accessing land, labour, training opportunities, inputs, and income. In order to address this issue, the ATVET for Women programme has developed the GTC approach (see Infobox 1).

Infobox 1: Definition of GTC approach and empowerment

GTC approach

A gender-transformative approach means that promoting gender equality – i.e. equal rights, responsibilities and opportunities like the shared control of resources and decision-making and women's empowerment are central to an intervention (GIZ, 2019).

Empowerment

The empowerment of women and girls concerns their gaining power and control over their own lives. It involves awareness-raising, building self-confidence, expansion of choices, increased access to and control over resources, and actions to transform the structures and institutions which reinforce and perpetuate gender discrimination and inequality.

This implies that to be empowered they must not only have equal capabilities (such as education and health) and equal access to resources and opportunities (such as land and employment), but they must also have the agency to use these rights, capabilities, resources, and opportunities to make strategic choices and decisions (Meinzen-Dick et al., 2017).

In this study, opportunities to introduce GTC in the ATVET system are analysed. For this, key actors within the ATVET system must become aware that through the empowerment of women, economic potential in the agricultural sector can be unlocked. Thus, the specific needs of women should be considered to improve their participation in skills development and women's potential should be acknowledged, which in turn contributes to their empowerment. Cooperation among stakeholders, especially with the PS, could help women access and be better qualified in the ATVET system, have better access to job opportunities, have more resources, and thus bolster agricultural sector productivity.

Applying the GTC approach means that targeted actions move beyond individual self-improvement among women and/or men, toward understanding and transforming unequal gender relations. The integration of this approach serves to sensitise stakeholders and provides the opportunity to propose specific actions for gender-transformative approaches in the ATVET system. These are translated into recommendations for the implementation of future-envisaged actions within the ATVET for Women programme.

3 Methodology

The results of this study are based on qualitative data gathered from semi-structured interviews, focus group discussions as well as documentations of participatory workshops and data gathered from surveys. The research was conducted in an open, explorative way, applying inductive and deductive techniques.

3.1 Action-oriented research approach

To capture all relevant perspectives satisfactorily, it is sensible to integrate key actors in the research process and bring their experiences and ideas, i.e. their perspectives, to the centre of attention when developing recommendations. In order to bring together these aims, action-oriented research was chosen as the methodological approach. Following Stöber (2010), it bears these characteristics:

- produces problem-oriented and applicable solutions,
- establishes sustainable structures for further activities,
- produces knowledge on practical resources and networks, and
- provides the target group with agency to become creative, active subjects within a given framework.

This approach changes the relationship between researcher and research participant fundamentally. Both actors engage toward the same goal. It is thus a fundamentally participatory approach, in which the researched are not constrained to being solely providers of information, but become engaged with the results of the study. This is necessary as the aim of the study is two-fold:

- To conduct research and collect data on the potential for and constraints of cooperation. A situation analysis was produced using the gathered data and is elaborated on in the results section. The data also provides valuable input to the stakeholders for developing strategies for improving the status quo.
- To initiate dialogue on PS engagement between ATVET stakeholders at the ATC level. Along with the findings of the research, this step was geared to provide a starting point for enhancing cooperation in a sustainable way.

3.2 Applying action-oriented research

The research plan was developed over two months in Berlin and implemented over three months in the field. The approach chosen was identical in both countries, except when explicitly mentioned. The research process is summarised in five steps in Figure 4 below. A detailed chronological overview of all activities is given in Annex 1.

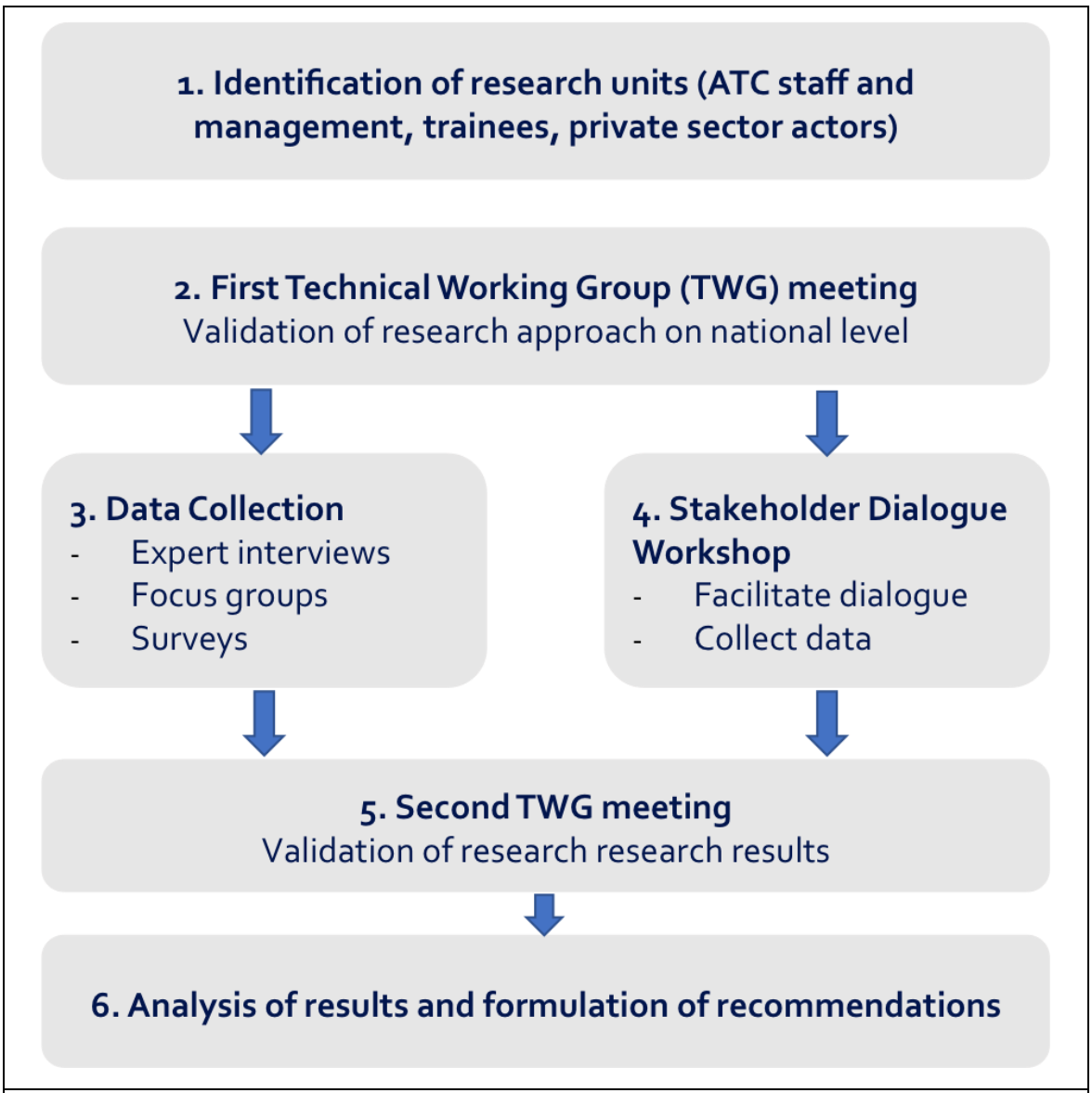


Figure 4: Research methodology in Rwanda and Uganda

Source: Own illustration

3.3 Role of the Technical Working Groups

The function of the Technical Working Groups (TWG) is to monitor and inform the ATVET programme on the ground. They consist of representatives from PS apex organisations, principals of collaborating ATCs, civil servants, and expert consultants from the national level. The TWGs are key stakeholders in the research process and hold a three-fold role in the study: TWG members validated the research approach and study results, supported the identification of PS actors, and anchored the research process in the national policy debate, thus creating national ownership and ensuring support for coordination and implementation of recommendations.

In each country, two meetings were held at the lead ministries to present the research approach and the preliminary findings of the study. In Uganda, this was the MAAIF. In Rwanda, it was the MINAGRI. The first meeting was held before starting the research in the country and the second after completion.[5]

3.4 Participatory stakeholder identification and sampling

The identification of research units (i.e. stakeholder groups) and research participants (i.e. individual representatives of the stakeholder groups) followed a two-step process.

In the first step, relevant research units were identified by the research team. Three groups were identified: PS companies along preselected value chains, staff of ATCs servicing those value chains, and trainees of these ATCs. Though trainees are the main beneficiaries of a cooperation, they normally do not have a direct influence on it, thus, their experiences are particularly valuable for defining the needs to improve the status quo.

In the second step, the snowball sampling method (Atkinson and Flint, 2001) was applied in collaboration with the TWGs to identify individual representatives from the PS to participate in the study. TWG members were asked to conduct stakeholder mapping according to the snowball sampling method. This approach is a purposive sampling strategy that allows participants to actively contribute to the study design. The results of the stakeholder mapping can be viewed sub-

[5] In Uganda, the TWG meeting was conducted with the whole research team in August 2019. In Rwanda, it took place in May 2019 and was conducted by the team leader and the team's national partner.

chapter 4.1. Participating trainees were identified with the help of ATC staff, while the ATCs were identified beforehand as described in the stocktaking reports.

3.5 Methods for data collection

As the aim of the study was to capture multifaceted and manifold perspectives on the cooperation, data was collected using different methods. In this section, these methods are elaborated.

3.5.1 Expert interviews

Expert interviews were conducted with actors from the TWGs, ATCs as well as the PS. The latter group included cooperating and non-cooperating actors. The aim was to find out about perspectives on cooperation, compare them to each other, determine the (material) needs of the stakeholders, and explore gender-related topics.

Semi-structured expert interviews were the most appropriate way to collect data, as this allowed participants to develop their answers and thoughts freely. Semi-structured interviews also bore the opportunity to discover new information, rather than confirming predetermined assumptions (Whiting, 2008). This is also reflected in the inductive coding process (see chapter 3.6) that leaves space for content beyond what is covered in the question catalogue (Arthur and Nazroo, 2003).

3.5.2 Focus groups

Trainees are the main beneficiaries of cooperations between training institutions and PS companies, despite not having direct influence on them. Thus, their experiences are valuable for defining the needs to improve the status quo. Trainees were interviewed in focus groups about their perspectives on internships as forms of cooperation, as well as their general perspectives on their training. Additionally, focus groups were conducted with female trainees only to capture relevant information on women's current situation within the ATVET system.

Focus groups allow for gathering data from a collective, rather than individuals. It encourages people who may otherwise have difficulties to express their thoughts easily to discuss and develop thoughts and ideas within a more comfortable setting (Liamputtong, 2011). Trainees in Uganda were visited during their internship; whereas, trainees in Rwanda were visited at their training centres. The focus groups consisted of five to ten participants.

3.5.3 Additional data

In addition to the interviews and focus groups, which constitute the largest part of the data gathered, surveys were sent to companies and ATCs to collect general information on the organisations.

Data was also collected during the SDWs. Protocols were generated to capture observations on group dynamics and communication styles between working group members.

3.6 Data analysis

The primary data collected were the results from interviews, focus groups, surveys, and the SDW. Data was analysed in different ways.

The records and notes from semi-structured interviews, SDW working groups, and focus groups were transcribed and coded using Excel. The Excel sheet, including explanatory memos, can be found in chapter 9.3. All scripts were coded in a two-step process.

1. Categories were derived from the situation analysis and the conceptual framework.
2. Codes for these categories were then derived from statements made during the data collection process.

From this, a thematic content analysis following Zhang and Wildemuth (2009) was conducted. It proved to be the most suitable approach as it allowed for data to be coded in a "…subjective, but scientific manner" (ibid., 1) and helped to explore the meaning of what was said, rather than focusing on numeric results, i.e. counting how many times a specific term was mentioned.

3.7 Workshop methodology

In alignment with SDW theory, the research team chose a participatory workshop design that allowed participants many opportunities to engage and communicate with each other (interactive activities, sitting arrangements, social events, etc.). The aim was to foster exchange within stakeholder groups and, more importantly, between stakeholder groups by employing a wide range of participatory, interactive, and creativity-enhancing methods.

The workshop was held over two half-days in both countries. The first day aimed to discuss, reveal, and share stakeholders' views, perceptions, needs, and

challenges regarding collaboration. On the second day, stakeholders created joint visions and self-organised for future cooperation. Splitting the workshop over two days served another aim: to provide an informal dinner setting for participants to engage with one another and deepen their relationships and trust informally.

In addition to the interactive methods described below in detail, a few other methods were used in the workshop. To create a safe space and a respectful working atmosphere, a code of conduct was agreed. At the beginning of the first day, personal statement sheets were administered to the participants ("I feel … toward the cooperation partner, because…") in order to identify participants' perceptions of other stakeholder groups. In the end-of-workshop evaluation, participants were asked whether and in what way the statement changed as a result of the workshop.

3.7.1 Interactive method 1: scaling questions

After introducing participants and formal opening of the workshop, the first dynamic activity was called *scaling questions*. This activity aimed to find out who is in the room (e.g. the composition of the participants) and to invite all participants to freely share information on personal expectations, professional background, and opinions on topic-related statements. For a dialogue to be created, there is a need to activate the workshop participants (Nielsen et al. 2008). This is best to be done by proposing questions, because good questions initiate dialogue best (ibid.).

3.7.2 Interactive method 2: empathy building

Participants were grouped in homogeneous teams according to the stakeholder groups they represented. Each group (ATC representatives, trainees, female trainees, PS representatives) was assigned questions on their perception of the cooperation partner, their needs, their willingness to cooperate, their incentives to cooperate, and their expectations of the cooperation partner. After the homogenous group work, the results were presented in the plenary and discussed. This activity was conducted to help stakeholder groups share their views and develop understanding of others' positions.

3.7.3 Interactive method 3: future lab

Day two was mainly allocated to the future lab. This method is a form of visioning, a "…technique that is used to assist a group of stakeholders in developing a shared vision of the future" (DFID, 2003, 4.1) and is usually done before the detailed planning and decision-making process. It generates creative

thinking and passion to solve problems (Brouwer and Brouwers, 2017) and provides a creative platform to think outside of the box. The objective of using this methodology was to bring stakeholders from different backgrounds together to jointly develop a vision for ATVET cooperation.

Participants were divided into five working groups comprised of different stakeholders (ATC staff and management, trainees, and PS actors). Each of these mixed working groups elaborated on an assigned topic of key importance for a fruitful future cooperation. These topics were: curricula, gender, internships, communication, and skilled workforce. By engaging participants in the formulation of a common goal, they gained a sense of control and motivation, paving the possibility for fundamental change. They then discussed their vision in more detail, visualised their ideas on a poster, and gave their cooperation a name. Afterward, their posters and summaries of results were presented to the plenary and all the posters/results were given awards to acknowledge effort.

3.7.4 Interactive method 4: development of an action plan

The last session of the workshop focused on detailed planning of the next steps and the development of an action plan for presentation to the TWG as a recommendation for future collaboration. Participants gave their ideas on how to strengthen cooperation and further engage the PS. Key responsible actors, timeframes, and resources were identified, assuring sustainability of the process.

4 Situation analysis of the cooperation

To examine the status quo of the cooperation between the ATCs and their PS partners, internal and external factors influencing the cooperation were studied. External factors are defined at the national policy level, i.e. regulatory frameworks and responsibilities of government bodies. Internal factors arise from the cooperation itself and, thus, are shaped by the involved stakeholders. These internal and external factors are further broken down into material and structural components, i.e. financial aspects of the cooperation in contrast to aspects that result from the way the cooperation is organised.

The basis of the situation analysis is the stakeholder maps. Here, relevant actors within the cooperation are shown. Various methods were then applied to examine the status quo from the perspectives of the cooperating ATCs and PS partners. In order to capture the internal factors of the cooperation, strengths, weaknesses, opportunities, and threats were analysed (SWOT analysis) from both actors' perspective. This tool provides an overview of stakeholders' experiences and expectations of the cooperation. The SWOT analysis was slightly adjusted to fit the aims of the study: strengths are positive experiences had by the participants; whereas opportunities describe potentially positive aspects of cooperating. The same goes for weaknesses, as negative experiences and threats as potentially harming factors or risks deriving from or influencing a cooperation. Table 3 summarises the approach used.

Table 3: Generic model of the adjusted SWOT analysis

Strengths Status quo of cooperation (+) Positive experiences within cooperation Benefits	**Weaknesses** Status quo of cooperation (-) Negative experiences within cooperation Challenges
Opportunities Future perspectives/potentials deriving from a cooperation	**Threats** Uncertainties and risks that could negatively influence a cooperation or derive from a cooperation

Source: Own illustration

Additionally, the trainees' experiences and aspirations were taken into account to complement the ATCs' perspectives. In order to examine external factors,

needs of ATCs and private companies (i.e. needs that go beyond the scope of their direct partnerships[6]) were identified, as well as the perspectives of non-cooperating companies. A qualitative cost–benefit analysis for the PS provides additional information. A specific analysis of gender issues has been conducted as well.

4.1 Stakeholder mapping

The key actors analysed in this study are public sector training institutions and PS companies, complemented by supporting agencies. Since this study makes its analysis from the level of the training institutions, the stakeholder mapping was done from the ATCs' points of view. In the following, their programme and institutional characteristics are presented in more detail, followed by their relationships with PS actors.

The study defines the public sector as the state bodies involved in agricultural training and education of young people. Several ATCs form the operational part of the ATVET system. They implement the curricula and are coordinated by Technical Working Groups at the national level. In both countries, the ministries of education and the ministries of agriculture are lead governmental actors (see chapter 1.3).

The study analysed three ATCs: Bukalasa Agricultural College (BAC) and Fisheries Training Institute (FTI) in Uganda and the IPRC Musanze in Rwanda. The Sina Gerard College Foundation (SGCF) in the northwest of Rwanda is a private institution, but also an accredited ATVET school and was treated by the SLE Team as a special case in the study (see chapter 4.2).

The PS in the context of the study encompasses small emerging to medium-sized national companies and enterprises in the agriculture sector. Within the selected value chains, they participate in roles from (pre)production to processing to retailing. While individual smallholder farmers are not considered potential active partners for ATCs, cooperatives are of interest provided they have capacity to receive and guide interns in skills development.

A total of nine cooperating PS actors were interviewed in Uganda: Aquafarm Buloba, Source of the Nile, Garuga Interfish, Ferdsult Engineering Services Ltd., Lira Integrated School, SibCo, Bulamu Mixed Farm, Zirobwe, and Brookside.

---

6 Referred to as needs at national level in the following text.

Yalelo fish farm was interviewed even though they were not in contact/cooperation with an ATC (see chapter 4.3.2).

In Rwanda, four cooperating PS actors were interviewed: Holland Greentech, Horizon Sopyrwa, CARL Group, and Rwanda Best Training Centre. The SLE research team also conducted interviews with five non-cooperating PS actors: Covafga Ltd., Ctaga Ltd., Kazihorti Ltd., KUC Ltd., and Global Farmers Ltd. (see chapter 4.3.2).

In order to identify important stakeholders along the value chain, all ATC principals were asked to populate a stakeholder matrix. At the centre of map are the ATCs (see Figures 5, 6, and 7). Placed around them are their cooperation partners, which are categorised into key champions, champions in the value chain, champions of integration, and potential partners. Non-cooperating PS actors (see chapter 4.3.2) were placed in the next layer. In the outmost ring, stakeholder that are not direct party to partnerships between ATCs and individual companies but play an important role to facilitate these partnerships were placed. These included state actors (ministries), coordinating bodies (TWGs), development agencies (e.g. GIZ and AUDA-NEPAD), and apex organizations (e.g. the RHIO and the UMA).

In the following, overviews of individual ATCs are presented and their stakeholder maps are provided.

4.1.1 Bukalasa Agricultural College

BAC is based in Luweero, north of Kampala, Uganda. It was established in 1920 by the British colonial government as a cotton breeding centre. Today, it is one of the leading training institutions in the region for agricultural production and food processing. Two-year certificate programmes are offered in Agriculture, Animal Husbandry, Agribusiness, Horticulture, Home Economics and Community Nutrition, and Agricultural Mechanization. Diploma programmes also run for two years and are usually self-sponsored with possible government support (scholarship rate is 1 %).

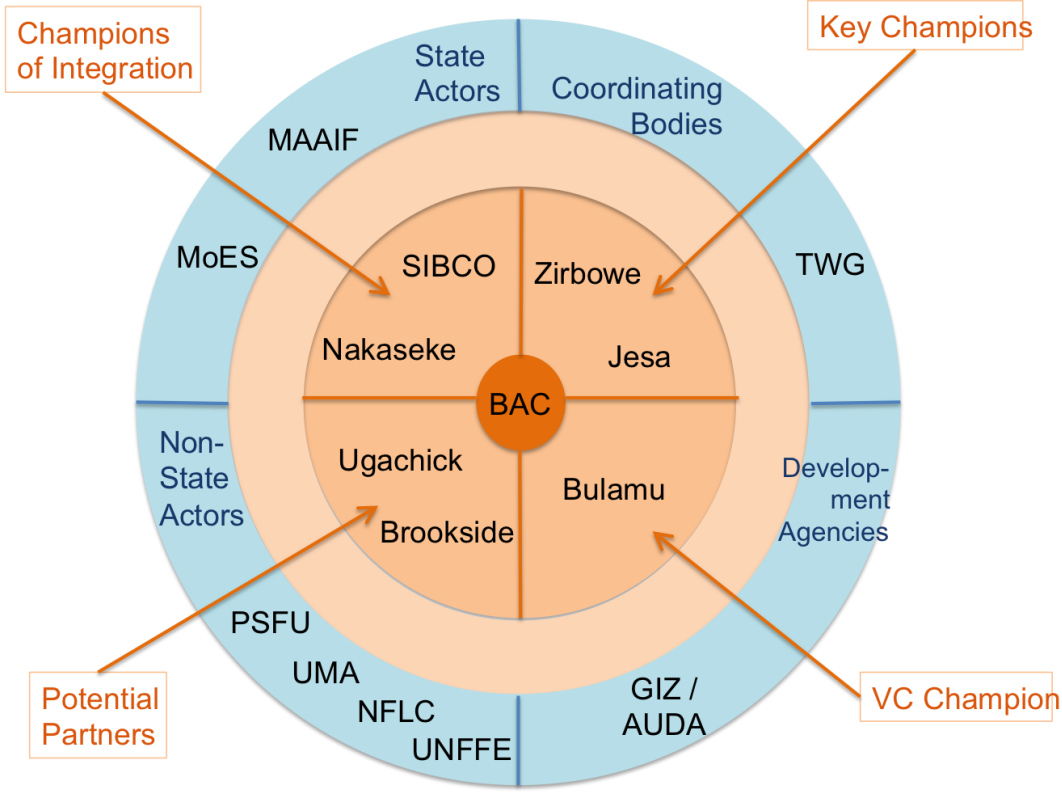


Figure 5: Bukalasa stakeholder matrix[7]

Source: Own data

Diplomas are offered in Agriculture, Animal Husbandry, Agribusiness, Horticulture, and Human Nutrition and Dietetics. Both streams include a two-

[7] Key champions are influential actors in their VC and dedicated to training; VC champions are strong innovators or dominate several steps of a VC or both; Champions of integration are dedicated to training but small and specialised; Potential partners may be any of the former but do not yet have a strong relationship or cooperation with an ATC.

month internship. Two-thirds of the training are theory and one-third is practise. There is currently no follow up of graduates leaving the institution.

Bukalasa is famous in its field and receives students from all over Uganda and neighboring countries. It currently has 1500 students enrolled with an annual growth rate of 10 %. An act of parliament ensures government funding and ownership of the college and it receives additional support through the World Bank to transform it into a Centre of Excellence in agricultural training. BAC cooperates with companies and farming enterprises in the Bukalasa valley, which is famous for cattle and milk production.

Among these are key champions (see Figure 5) that are influential across the value chain and willing to put time and effort in a mutually beneficial cooperation. BAC identified two key champions: Zirobwe Demonstration Farm and Jesa Dairy Farm. Zirobwe collaborates with BAC by offering biannual internship opportunities to up to 35 BAC students at a time and have hosted five cohorts to date. Some former interns have been employed by the company.

Champions within the value chain are actors that are well known; respected in the value chain as innovators; and are able to provide knowledge, equipment, and infrastructure. However, these actors might not be the most motivated to enter a cooperation with an ATC. For example, Bukalasa identified Bulamu Mixed Farm as a champion within the value chain since they hold influence and assets (pigs, cattle, fishponds, and 1000 ha of land). Now in their fifth year of operation, Bulamu has hosted up to 100 interns annually for two years, normally in June and July. However, these did not come from Bukalasa. Interns are charged a fee by Bulamu and some of them are offered jobs at Bulamu following their successful internship.

Champions of Integration are actors that are very willing to cooperate, but do not wield significant power within the value chain. BAC is in exchange with SibCo Skills Centre and Nakaseke, who are willing to cooperate but are not yet sizeable or influential. SibCo Skills Center works in aquaculture, dairy, and crop production and has been operating since 2003. Bukalasa identified them as a champion of integration. Bukalasa has sent 40 trainees in animal production and processing to SibCo since 2019 with the PSF supporting 50 % of the cost of internships.

Potential partners are actors that have not yet cooperated with an ATC and are not champions in the value chain. Bukalasa placed Ugachick Dairy farm in this category as it is neither a major player in the VC nor extraordinarily willing to cooperate. Brookside and BAC are in a loose cooperation, too. They communicate once a year to select and integrate interns in the company. Some graduates have

been employed in the company on proposal by BACs trainers. Brookside is known for chicken and dairy products, especially for butter. They are part of UMA and are active in Kenya, too.

4.1.2 Fisheries Training Institute

Based in Entebbe, the FTI provides aquaculture training (cages and ponds) via a blended curriculum of two-thirds theoretical and one-third practical training. In the practical, they spend two months in June and July with fish farmers in the vicinity of FTI where they are taught to use simple equipment and techniques, thus enabling them to take on self-employment in fish farming, if desired.

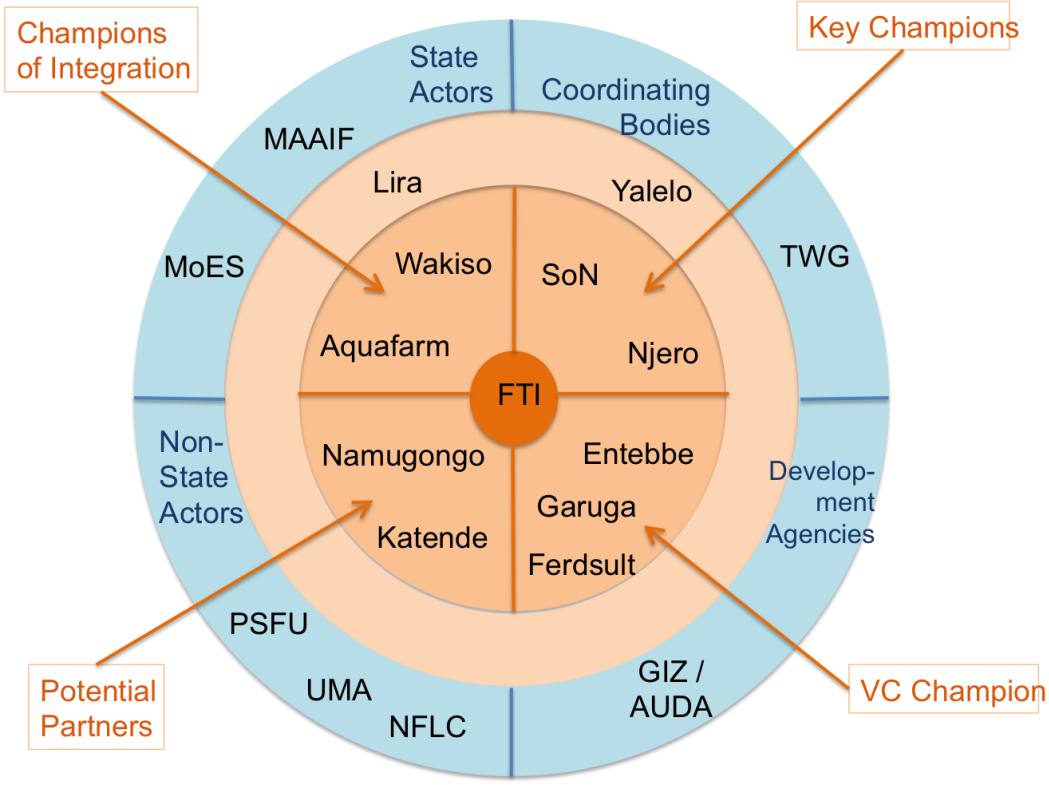


Figure 6: Fisheries Training Institute stakeholder matrix[8]

Source: Own data

[8] Key champions are influential actors in their VC and dedicated to training; VC champions are strong innovators or dominate several steps of a VC or both; Champions of integration are dedicated to training but small and specialised; Potential partners may be any of the former but do not yet have a strong relationship or cooperation with an ATC.

FTI offers a two-year certificate programme; a two-year diploma; and short, flexible courses for people not enrolled in formal courses of the institute. With regards to funding, apart from running costs of the ATC, government pays a grant to provide food for students and 50 % of the scholarships. PS sources of funding are negligible. In 2004, FTI implemented a system to track alumni.

FTI has initiated a range of cooperations with small and large fish farmers and fish processing companies around the country and is in exchange with research and education institutions in the field. However, the level and extent of interaction is below satisfactory according to the FTI's principal.

FTI identified Source of the Nile and Njero Buikwe as key collaboration partners. Source of the Nile has been cooperating with FTI since 2005, has received many FTI interns, and many of their staff are FTI graduates.

Aquafarm Buloba and Wakiso are very keen to collaborate with FTI, but are not influential players within the value chain; therefore, FTI placed them in the category "champions of integration". Aquafarm is expanding their facilities and is interested in improving techniques and the development of fish feeds. They rely on the partnership with FTI for knowledge exchange and innovation.

Garuga Interfish and Entebbe Wakiso are important industry players, but have not yet collaborated with FTI and are therefore considered champions within the value chain. Garuga Interfish is a Belgian-owned model fish farm. This social enterprise produces fish for the market and runs externally funded in-house training programmes for people from the region, including Congo and Tanzania.

FTI defined Katende Harambe and Namugongo Wakise as potential partners, as they are neither influential actors in the value chain nor keen to collaborate at this point in time. However, they show potential for FTI's expansion of collaborations.

Some actors were not mentioned by FTI during the stakeholder mapping, but claimed to cooperate with them to some extent. The following organisations were identified by the SLE research team through snowball sampling.

Ferdsult Engineering Services Ltd is a large enterprise founded in 2012 working in various industries, namely energy distribution, engineering, and construction. Their fish farm, situated close to Jinja, is considered a side business. Their loose cooperation with FTI has been active for more than five years.

Lira Integrated School is a small agricultural company with a strong focus on social responsibility and has provided education and training to 15,000 students in Northern Uganda. Lira has been cooperating with FTI for five years and has

received seven interns. As this company is relatively small and remote to Entebbe, it was not identified by FTI as a potential actor for cooperation, but it was suggested to invite them to the SDW. The company is very keen on strengthening their cooperation with FTI and is willing to enlarge the fish production and be a key role player in promoting gender equality within the sector in Uganda.

4.1.3 Integrated Polytechnical Regional College Musanze

The IPRC Musanze is based near the town of Musanze, in the northwest of Rwanda. Funding for covering salaries and operations comes mainly from government, complemented by donor assistance for infrastructure development. The IPRC offers diplomas and advanced diplomas of two years in Agriculture and Food Processing, Civil Engineering, Electrical Engineering, Hospitality Management, and Irrigation and Water Management. Additionally, it offers a range of short, flexible courses such as Carpentry, Culinary Arts, Plumbing, Welding, and Housekeeping, among others, for community members. An in-house tracking system of graduates is in place, but is not formalised.

The IPRC cooperates with many PS actors in the north of Rwanda mainly on research ranging from input supply via production to food processing. However, with regard to internship provision, the IPRC is only in contact with a small number of companies. Students have short internships within the study cycle and a longer industrial attachment at the end of the programme. This is intended as an opportunity for students to promote themselves and, ideally, to be hired by the company.

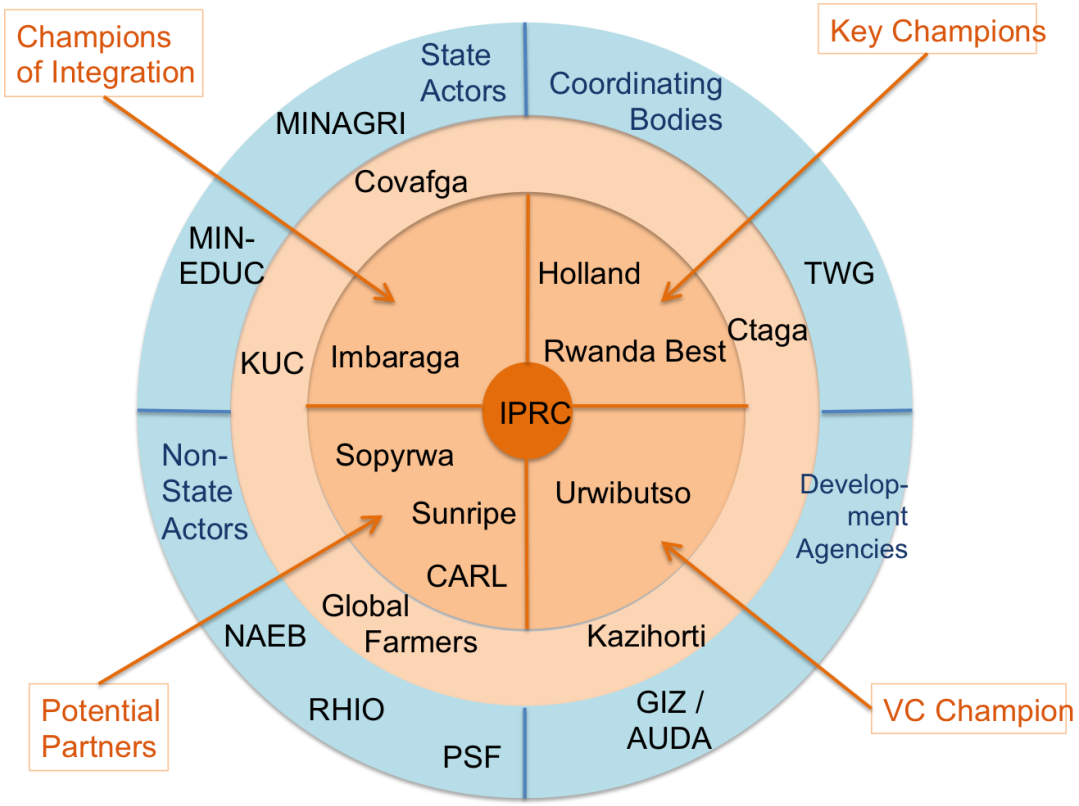


Figure 7: IPRC Musanze stakeholder matrix[9]

Source: Own data

Holland Greentech as well as Rwanda Best Training Centre are rated as key champions by IPRC staff as these companies are very influential within their value chain, are interested in training, and show interest in innovation and the development of knowledge in the field.

Imbaraga Farmers Organization is an independent, non-governmental farmers organisation. It works with farmers to improve the socio-economic conditions of an estimated 27,400 members throughout Rwanda. IPRC Musanze labeled Imbaraga as a champion of integration because it has a great network and there have been many exchanges with IPRC; however, it is not a company with possibilities for internships.

[9] Key champions are influential actors in their VC and dedicated to training; VC champions are strong innovators or dominate several steps of a VC or both; Champions of integration are dedicated to training but small and specialised; Potential partners may be any of the former but do not yet have a strong relationship or cooperation with an ATC.

Ese Urwibutso is defined as a champion within the value chain and is a very special case. They receive trainees from their own training facility (see chapter 4.2.1) and are very well connected within their value chain even beyond the borders of the country and, as such, their interest in receiving interns from outside is low. Additionally, interns at Ese Urwibutso need to pay for internships which makes collaboration difficult for IPRC.

Horizon Sopyrwa and Sunripe are potential partners and are in loose cooperation with IPRC Musanze. Horizon Group is a large enterprise that has three main branches: construction, logistics, and production of organic pesticides. They have experience with students from university and limited experience with students from ATCs. CARL Group is a small company with eight permanent employees based in Kigali that specialises in processing of sweet potatoes (bakery) they receive from up to 200 smallholder farmers around Kigali. CARL Group is member of the PSF and won a young entrepreneurship award by the Ministry of Youth in 2015. They have received interns occasionally, but seldom from IPRC as the distance between the institutions is far and CARL Group does not have accommodation for interns.

4.1.4 Observations of the stakeholder landscape

In general, only a few formal MoUs between ATCs and PS companies exist in the surveyed ATCs in Uganda and they are not very active. BAC noted that, while they have had 15 agreements with companies, it was hard to get real long-term commitment from PS actors. FTI had several formal and many informal agreements with smaller fish farmers. Several interviewed PS actors were not mentioned in the stakeholder matrix by ATCs, for example Brookside (BAC) was not mentioned despite being an important actor in the value chain and employer of some BAC graduates. Ferdsult and Lira Integrated School were not mentioned, though both actors are in exchange with ATCs and received interns from them for five years. This might be due to their size or their location – Lira Integrated School is based in the far north.

It is noteworthy that companies categorised as key champions either received international support (PS9[10]) or charge a fee for internships (PS12). The high number of interns at companies in collaboration with Bukalasa (PS4, PS5) might be explained by funding support from the PSF which lifted the number of interns

[10] Codes for interviewed stakeholders are indicated in brackets, where appropriate. A full list of stakeholder codes is provided in Annex 2.

from zero to fifty within one year. Such an increase is only possible with massive external support or huge incentives. For FTI, champions of integration could finance internships for a few trainees at the most. One VC champion (PS8) in the aquaculture sector already had in-house training, which might be the reason they were unwilling to cooperate more intensely with the FTI. At some companies, trainees had to pay for an internship, consequently, only short-term stays or field visits were possible.

By and large it appears that, although there is interest from ATCs in cooperating with PS actors, neither side puts in a lot of effort to improve or expand their existing cooperation. Also, the ATCs do not seem to actively reach out to PS actors in order to recruit new partners.

4.2 Status quo of ATCs

While the stakeholder mapping provided an overview on the relationships of relevant stakeholders, this section provides a situation analysis from the perspective of the ATCs. It includes a SWOT analysis of the ATCs, the perspective of the trainees, and external factors influencing cooperation.

4.2.1 SWOT from the ATC perspective

The SWOT analysis conducted with Bukalasa Agricultural Training College and FTI Entebbe in Uganda and IPRC Musanze in Rwanda showed that despite focusing on different value chains, the ATCs have common perceptions of the pros and cons of cooperations with PS companies. Therefore, the SWOT analyses from all three actors are presented together (see Table 4). Minor differences are pointed out if found relevant.

Table 4: SWOT analysis of cooperations from the perspective of ATCs

Strengths	Weaknesses
• Positive impact of internship on attitude, knowledge, and skills of trainees • Improved job opportunities for trainees • Mutually beneficial exchange • Liaison office established (only in Rwanda) • PS actors and ATCs highly motivated to cooperate	• Insufficient skills of trainees • Lack of formal structures to support cooperation (in Uganda) • Lack of incentives for the PS to participate • Public sector is slower than PS • Low attendance at meetings • Past internships did not meet the ATCs' expectations
Opportunities	**Threats**
• Starting point for knowledge exchange and innovation transfer • Developing the industry along the value chain • Potential cost saving and productivity increases for the PS	• Interference of PS in ATC management

Source: Own data based on expert interviews

Strengths

According to the ATCs, internships are crucial in developing students' skill sets and motivation to work in the agricultural sector through hands-on training in a real-life situation, which cannot be provided by ATCs themselves. Trainees see how their skills and knowledge add value to businesses, which has a positive impact on their self-confidence and attitudes toward the field of work; indeed, all three ATCs said cooperations have contributed to a massive improvement in their students' attitude, knowledge, and skills. In addition to internships, guest lectures by entrepreneurs were seen by the IPRC Musanze staff as an important addition to their regular courses. Telling their story inspires "…students to go on the market and start their own small business and grow" (ATC4).

Multi-faceted, mutually beneficial exchange resulted from cooperation. Bukalasa commented on positive exchange around equipment because they are able to assist smaller companies in their vicinity with specialised machinery. Musanze noted mutually beneficial exchange in providing small entrepreneurs with additional labour and expertise, while FTI saw strength in the exchange of issues around curricula development and delivery. Unlike other ATCs, FTI is the

only ATC that focuses purely on aquaculture. Consequenlty, in the absence of a national curriculum on this specific topic, FTI develops their own curriculum, which in turn functions as the national curriculum. Cooperation with the PS provides this ATC with first-hand knowledge on industry developments and allows them to adjust their curriculum to better suit the needs of the industry. As a result, FTI's students are better prepared for their internships within the PS.

All ATCs viewed cooperations as having a positive impact on the employability of their graduates. Lecturers at Bukalasa confirmed that some trainees are offered jobs at their internship host organisations, while others have gained skills, knowledge, and attitudes that make them more appealing job candidates and have built networks that can be accessed in their job hunts. This is especially true in Rwanda, as their industrial attachment falls at the end of the programme, thereby making it possible for companies to employ interns immediately afterward or prolong the internship phase before employing them formally. However, it must be noted that the ATCs do not yet have mechanisms for tracking alumni, so it is not possible to gain reliable quantitative data on this topic.

The IPRC Musanze established a liaison office in April 2019. The liaison officer liaises between the IPRC and companies and formalises existing cooperations. As this is a new position, little practical experience has been collected. Bukalasa is committed to establishing such an office soon to strengthen and formalise their interaction with PS partners.

Overall, the ATCs have a positive attitude toward cooperation, which translates to highly motivated participants driven to further engage and build upon existing forms of cooperation.

Weaknesses

The SWOT analysis distinguishes between needs at the national level, which are addressed in chapter 4.2.3, and structural weaknesses, which stem from the way the cooperation is organised and are addressed below.

The Ugandan ATCs talked about challenges in cooperation from the perspective of the PS, particularly noting that trainees do not bring the necessary knowledge and skills into the internship because of the lack of practical training at the ATCs. This makes companies less willing to cooperate, as they avoid the risks of having unskilled trainees break machinery and spending too much of their own capacity to train interns on basic practical aspects.

The PS adapts quickly to new technologies and ever-increasing skill requirements in response to a dynamic economic environment; however, the

national curricula development process is frequently not fast enough to respond to the needs of the PS. Consequently, ATCs view their own capacity to adapt to the needs of the PS as limited and companies are reluctant to enter long-term agreements with companies since they perceive ATCs as not responsive enough. Nevertheless, ATCs perceive the cooperation with PS partners as critical in the adaptation and delivery of these curricula.

Ugandan ATCs have few formalised structures for cooperation: there are no liaison officers and MoUs for cooperation are entered only sporadically. Most cooperation agreements are made through informal relationships, especially via alumni. Formalisation could improve security for the PS and provide clarity on mutual expectations.

All actors unanimously agreed a weakness in their cooperation is that stakeholders from both the public and PS do not prioritise or make full use of meetings. Stakeholders have the impression that resolutions from meetings are rarely implemented. In response, the PS tends to "send someone who is available at that time" (ATC2_SDW) or junior officers without decision-making power or experience rather than the person most qualified to contribute to the topic at hand. This, according to the IPRC, was especially true for meetings about internships and, to a lesser extent, curriculum development. In Uganda, ATCs mentioned low PS attendance of curriculum development meetings.

IPRC Musanze reported some internships did not live up to their expectations, particularly those in processing where new technologies are used. As one participant put it, "My impression is students wanted to learn more, but they were limited in processing. They were only put into producing" (ATC2_SDW). The reasons behind this were the lack of trust in the trainees' skills as well as their integrity not to steal information from the company.

These weaknesses could prevent companies from realising adequate incentives to take on interns and engage in other fields of cooperation. A detailed overview of the PS's needs in cooperation is outlined in chapter 4.3.3. ATCs are aware of this problem and like to find ways to better reach out to the PS with regard to curricula implementation and internship design; however, this process is not yet sufficiently facilitated, structured, or formalised.

Opportunities

The existing strengths were viewed as a good foundation for future opportunities to engage in enhanced exchange and cooperation that may help to

overcome structural weaknesses of cooperations between ATCs and their PS partners.

The goal of ATC training is to produce trainees who are ready to be employed in all steps along the value chain. This holistic approach makes ATCs a key link between value chain stakeholders and is viewed by stakeholders as a great opportunity to impact economic development positively at the national and company level in the long term. When this vision of a win-win situation is shared by all stakeholders, existing cooperations are regarded as good starting points for enhancing knowledge exchange and transferring innovations. For example, existing relationships could be used to enhance information exchange via guest lectures provided by entrepreneurs. As one participant summed it up, "One cannot work in isolation" (PS1_SDW).

Partnerships between ATCs and companies may also lead to cost savings and productivity increases as the example of the IPRC Musanze demonstrates. The IPRC owns a range of production facilities and processing machinery, including a juice plant. The opportunity deriving from this is that private companies could use it when their own processing capacities are overstretched.

Threats

When asked about threats and risks of cooperating with the PS, participants from Bukalasa and IPRC Musanze noted conflicts of interest might arise. The main fear was that strong PS partners may want to use their power to influence curriculum delivery, for example play down the importance of compliance with ecological and social standards if they stand in the way of profitability or interfere in management decisions in exchange for grants or in-kind donations to the training institution.

Infobox 2: Sina Gerard College Foundation (SGCF) – a special case of PS engagement in ATVET

The SGCF was founded by the serial social entrepreneur and philanthropist, Sina Gerard, owner of Ese Urwibutso, close to his home and business in Rulindo district. The Ese Urwibutso Enterprise focuses on food processing with downstream and upstream linkages by producing, retailing, and marketing its own products. The school teaches students from the nursery school up to secondary school. Following nine years of basic education, students engage in three years of specialised ATVET training in the fields of production that Ese Urwibutso Enterprise is engaged in. Originally, the school was built to foster development in the district. Currently, it attracts students from all over the country due to the close connection between the business and the school, which allows for comparably large workplace learning opportunities within the training. According to the school management, the workplace learning and theory are balanced equally, which is a comparative advantage to other TVET schools.

Aim: The aims of the training are to satisfy the need for skilled labour at Ese Urwibutso and to contribute to local development by employing graduates at Ese Urwibutso as well as encouraging and training them to open their own businesses.

Embeddedness in national curricula: Despite being a private school, SGCF follows the national curriculum. It participates in national curriculum development and the government controls quality standards through school audits and inspections.

Special case: The partnership with Ese Urwibutso allows SGCF students to learn practical elements of the curriculum directly at the workplace through both practical work within the modules and a three-month internship at the end of each programme. According to the school management, there is a close collaboration between teaching and company staff.

Sina Gerard is often portrayed as an example of best practice and the government would like to use it as a model. The staff, however, noted that other schools have limited capacities to adapt to their approach as they do not have businesses closely linked to the school.

Source: Interview conducted with management of SGCF

4.2.2 Trainee perspective on cooperation

The trainee perspective is an important addition to the SWOT analysis conducted with the ATC management and staff. Being the main target group of ATVET, their first-hand experiences with training and internships are crucial in gaining a comprehensive picture of the status quo.

Trainee perspective on cooperation in Uganda

In addition to interviewing staff and management from the PS, the SLE team conducted focus group interviews with trainees during their internships at the Aquafarm Company and Source of the Nile with trainees from FTI and at SibCo with trainees from Bukalasa. Their opinions on internships were largely similar, however their motivation and satisfaction with their training at the ATCs differed.

Internship quality

The trainees from both training institutions were generally satisfied with their internships. They saw their internships as crucial additions to the theoretical knowledge they gained at their ATCs. A large majority of the trainees stated they were very well integrated in all work processes and were supervised in a way, which allowed for fruitful workplace learning experiences. All of them stated that their internships had improved their attitude towards working in agriculture and that the practical skills learned will help them find jobs. Some interns reported the internship duration was insufficient to develop all the practical skills needed for working in the industry.

Attitude of trainees toward ATVET education

During the focus groups, it became evident that the trainees from Bukalasa and FTI had different perspectives of and aspirations for their training. The trainees from Bukalasa enthusiastically registered at Bukalasa, because they had a high opinion of the training institution as the oldest in the country with several alumni having pursued impressive careers. This is reflected in the plans of the trainees: all of them wanted to be employed in agriculture and saw that the training supports them in this endeavor (FGD2_M).

Trainees from the FTI had a less positive attitude toward their training. Some respondents joined FTI as a makeshift solution. One participant put it, "Most of us were targeting being doctors and the like. But you don't have that chance of going through" (FGD1_M). This reflects a widely held opinion that agricultural training is below "white collar jobs" (FGD1_M). The secondary school friends of one trainee respondent did not choose to pursue ATVET because "they don't

want to get their hands dirty" (FGD2_M). However, others mentioned that during their time at the ATC their attitude had changed, as they learned fish farming is a broad field with a large variety of skills and tasks. Internships made an important contribution to this positive change as reflected by an intern's statement, "In our courses, we have economics. Our course here is rich. We have been given the chance to see accounting by going into the office" (FGD1_M).

All trainees reported that their education is too theoretical. Although ATVET is more hands-on than university education, materials needed to improve the practical programme components are currently lacking.

Future perspectives of trainees

Trainees held the opinion that their training will help them secure future livelihoods and follow targeted career paths to a limited extent. Whereas many observed that they learned important skills during their training, they also emphasised that they could not find many permanent job opportunities in their desired sectors. The trainees listed a broad range of desired jobs, from farmers, extension officers, and teachers to civil servants in agricultural administration. Becoming employed in the companies they interned at was seen as an option, but was not often explicitly mentioned by participants.

As formal job opportunities seem scarce, many trainees plan to use their skills in self-employment in mainly farming or fish-farming activities.

Trainee perspective on cooperation in Rwanda

In Rwanda, one focus group interview took place with trainees from SGCF at the school. SGCF presents a special case as the school collaborates closely with the Ese Urwibutso Enterprise and provides training, which is equally divided between theory and workplace learning (see Infobox 2). Contrary to the ATVET system in Uganda, Rwandan students undergo an industrial attachment at the end of the programme, in line with the national curricula. Therefore, the SGCF trainees had not yet completed a comparable internship (i.e. industrial attachment) experience. However, they had already conducted practicals, in which they gained valuable experiences. It is interesting to note that their opinions were often similar to those of the trainees in Uganda. SGCF has a comparably higher likelihood of fulfilling the 50/50 split between theoretical and practical instruction required by the national curriculum than other ATVET schools due to the interlinkage with Ese Urwibutso.

Quality of the practical work

At the time of the interview, the trainees had not yet conducted their internships for this programme. They were therefore questioned on their experiences with *practicals* (see chapter 1.3) and previous internships.

The trainees saw the practical elements of the trainings as crucial, stating they add to their attitude, knowledge, and skills and significantly improve workplace opportunities. As one participant put it, "Here we use our hands in the internships. There are machines. So, I learn how to use them. This makes me more confident and (gives) me more knowledge in the industry" (FGD5_M). At the same time, it supports participants in developing networks with companies. The practical skills learned were seen as helpful in self-employment.

Some respondents stated they were not able to learn as much as they had expected to do during the practicals; however, they expected that the internship at the end of the programme would change that.

Attitude of trainees toward ATVET education

It became evident during the discussion that most trainees chose SGCF for its good reputation. The students came from all over the country and actively chose to develop their skills in agriculture and food processing with the view that SGCF is the best option to gain relevant training in this field. One participant said, "Sina Gerard is famous in Rwanda. The products they make are motivating to produce my own products" (FGD4_M).

However, some saw SGCF as not being well equipped, despite having a comparative advantage over other training schools. This illustrates students' high expectations.

Future perspectives of trainees

As participants were in secondary school, most viewed the training as a good starting point for tertiary education. Despite the good reputation of the school, all students agreed that further education is needed to become economically active. Most trainees aspired to open their own businesses after completing their studies, rather than finding employment in the PS.

Self-evaluation of trainees

At the end of each focus group, the trainees conducted a self-evaluation (see Figure 8). They were asked about the attitude, knowledge, and skills they gained

from the training and before and after conducting an internship. The graphs below are a summary of focus groups' self-evaluations[11] in Uganda and Rwanda. They show that trainees regard the impact of the internships as highly positive. The graphs show clear tendencies toward trainees' growing positive perceptions of themselves.

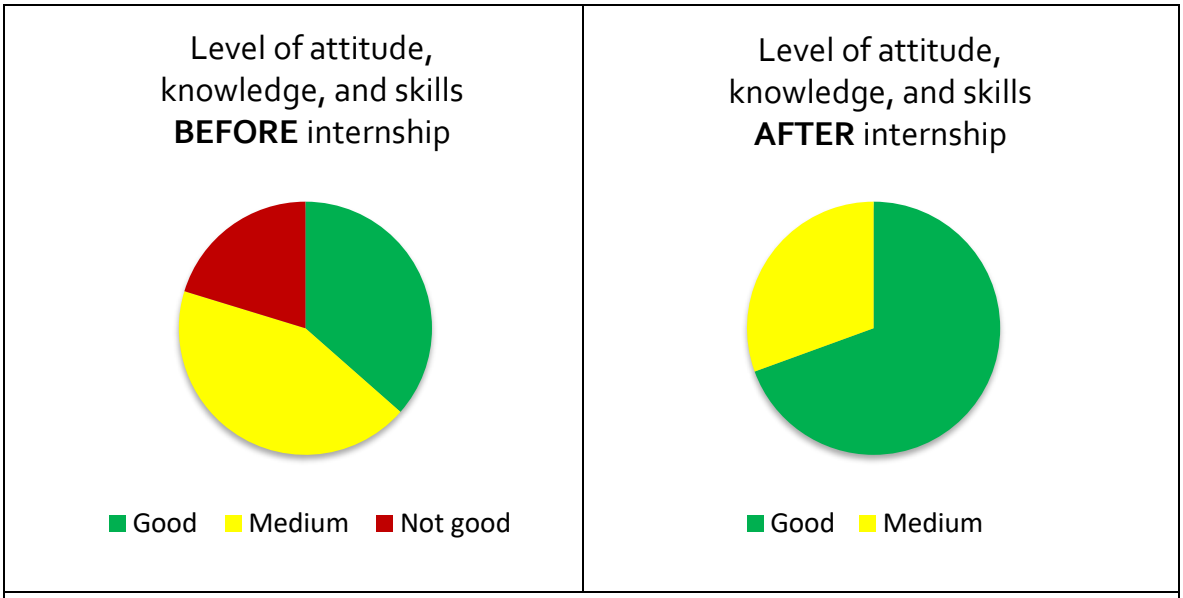


Figure 8: Overall results of self-evaluation by trainees

Source: Own data from focus groups

4.2.3 External needs of ATCs

The SWOT analysis looked at the relationship between cooperation partners and at how to improve their cooperations. This subchapter addresses ATC's external needs that fall outside the realm of cooperations with PS companies. Because they lie outside the responsibility and influence of individual training institutions and PS companies, they must be addressed at the national level. External needs are specifically directed at state actors and coordinating bodies like TWG. They can be material or structural in nature: material needs relate to financial shortcomings for improved equipment and infrastructure, while structural needs refer to regulatory frameworks, policies, incentive schemes, and issues of curriculum development.

[11] This question was asked in three of five focus group discussions.

Uganda

FTI and Bukalasa identified six major needs in the following order of priority: infrastructure, improved equipment, improved curricula, improved training of trainers (ToTs), longer duration of internships, and a regulatory framework including incentives.

1. Infrastructure: Infrastructure, especially accommodation, is a high priority need for Bukalasa. As annual enrolment rate growth is 10 %, BAC students often have to find housing outside of the Bukalasa campus. FTI, on the other hand, has enough space, but mentioned high costs of accommodation and food are a challenge.
2. Improved equipment: Both FTI and Bukalasa stated lack of tools for practical training and outdated instruction books are key external material needs. The SDW confirmed the need for training materials and facilities for workplace learning and practical instruction.
3. Improved curricula: Curricula should be updated and more focused on business training to allow students to learn entrepreneurial skills. Within SDW discussions on curricula, ATCs outlined the importance of setting training quality standards.
4. Improved ToTs: To stay current with the dynamic technology development, especially in aquaculture, both ATCs see the need for ToTs.
5. Longer duration of internships: Because ATCs consider the current two-month internship too short to equip trainees with real work experience over the entire production and processing cycles, they wish to extend internships to four months.
6. Regulatory framework with incentives: ATCs proposed a regulatory framework which, whenever possible, incentivises rather than obliges companies to take trainees annually and provides guidance on co-funding arrangements.

Rwanda

IPRC Musanze identified the same six major external needs: improved curricula, improved equipment, infrastructure, improved ToTs, regulatory framework with incentives, and a longer duration of internships but weighted them differently than FTI and Bukalasa.

1. Improved curricula: For both management and staff of IPRC Musanze, improved curricula are of utmost priority. This is especially true for

advanced diploma courses as the government has developed curricula for only levels two through five. Although a meeting involving stakeholders for curricula review is held every three years, there is still "room for improvement" (ATC4). This is because collaborating PS partners frequently send representatives of insufficient number or insufficient experience and knowledge to effectively contribute to curriculum development.

2. Improved equipment: IPRC management ranked improved food processing equipment, such as drying plants and juicing machines, as a second priority.
3. Improved infrastructure: Though IPRC Musanze's campus is very new and seems well equipped, plans for expansion and growth will necessitate construction of new classrooms and accommodation. The IPRC grew from 115 students in 2015 to a current population of over 1000. Only 20 to 25 percent of students can be accommodated on campus, allowing little privacy, especially for women.
4. ToTs: The current staffing rate is one lecturer to 50 students. Since the IPRC struggles to find qualified trainers who are trained for the TVET system, they have had to recruit from the regular education system. While PS representatives may complement teaching of extra-curricular topics, they are considered unsuitable for modules within the national curriculum. Their salary expectations may also be too high.
5. Regulatory framework including incentive schemes: The IPRC wholeheartedly supports the move to involve the PS in education and vocational training, specifically through internships and knowledge exchange. To achieve that, they feel the government has to put a regulatory framework in place to guide that process and incentive schemes to spur it on.
6. Internship duration: IPRC staff concurred with the PS actors' suggestion to extend the duration of internships up to six months. But in view of the academic schedule, which covers 36 modules, this doesn't appear feasible.

To conclude, Ugandan ATC's needs priorities of infrastructure and equipment arise from financial shortcomings. These shortcomings can be addressed on different levels: on the level of international donors, state actors, and non-state actors or on the level of cooperations with PS actors. In Rwanda, both structural and material needs were highlighted by the IPRC Musanze. On the structural side, guidelines for advanced diploma government curricula are urgently needed. The IPRC expressed its material needs for food processing equipment and

technologies and additionally suggested partnerships with well-supplied companies like Holland Greentech and sharing machinery with other ATVET schools.

4.3 Status quo of the PS

The status quo of cooperations between training institutions and the PS is presented as a SWOT analysis from the perspective of cooperating companies (see Table 5). To provide a comparison, the perspectives of non-cooperating actors are presented in the next section (see chapter 4.3.2). External factors relevant to PS actors and influencing their cooperation with ATCs are examined in a needs assessment (see chapter 4.3.3). The last part of the PS situation analysis is a qualitative cost–benefit analysis (see chapter 4.3.4).

4.3.1 SWOT from the PS perspective

This section provides a SWOT analysis of the PS's cooperation with training institutions, as perceived by PS actors (see Table 5). This analysis serves to identify areas that are relevant to the interviewed companies, while stressing areas for better cooperation with ATCs.

Table 5: SWOT analysis of cooperations from the perspective of cooperating PS companies

Strengths	Weaknesses
• PS actors and ATCs highly motivated to cooperate • Cooperation based on mutually beneficial exchange • Trainees have a comparative advantage due to their practical skills set • Improved job opportunities for trainees	• Lack of formalised cooperation agreements • Poor communication between ATCs and PS partners • Insufficient supervision by ATC staff during internships • Lack of motivation among trainees • PS needs change faster than curricula adapt
Opportunities	**Threats**
• Enhanced knowledge and technology exchange • Cooperation can support developing the industry along the value chain • Contributing to development and delivery of ever-evolving curricula	• Uncertainty of reliability of the public sector as a partner • Exposure of valuable company knowledge to others

Source: Own data from expert interviews

Strengths

In both Rwanda and Uganda, the PS is highly willing to cooperate in the ATVET system. In Uganda, interviewed PS members of the aquaculture and dairy value chains are willing to host trainees; of the nine interviewed companies, all are currently hosting trainees from ATCs and indicated their willingness to continue to provide placements in the future. Their motivation arises from their drive to foster their value chains. In fact, six of the nine companies in Uganda highlighted this as a key incentive in their cooperation with ATCs. The majority of respondents emphasising this issue were bigger/medium companies; smaller companies didn't identify this as their major motivation, but confirmed there is a need to learn and integrate new theoretical knowledge in their operations to expand and penetrate markets.

Likewise, in Rwanda, PS horticultural companies highlighted the significant need for recruiting skilled labour to support their business ventures, especially in food processing as this subsector is in its incipient stage in Rwanda. All companies cooperating with the IPRC Musanze indicated that the PS is keen to expand

collaboration on industrial attachments given their demand for workers with the skills to operate machinery safely.

Another strength of cooperation with ATCs identified by the PS in both countries is their recognition that ATC trainees are better qualified than other interns they host, especially when compared with university students. More than half of the PS respondents indicated that ATC students are more familiar with practical skills and are able to learn new skills faster. Nevertheless, company representatives complained that the weighting of theoretical knowledge is still too high among ATC trainees.

PS actors in Rwanda and Uganda saw cooperation with ATCs provides employment opportunities for trainees and helps them establish networks. In Uganda, seven of the nine interviewed cooperating companies stated that they have or are willing to provide employment to their trainees if a vacancy is available. The companies indicated that even if there are no job placements open, the trainees could find job opportunities through the company's network and based on their recommendation.

Similarly, most Rwandan companies cooperating with IPRC Musanze recruited trainees who completed industrial attachments with them. The companies stressed that when former trainees are recruited, they are better apt to rapidly respond to the demands on the job.

Weaknesses

All the PS companies interviewed in Uganda and Rwanda identified that, even when there is willingness to collaborate, the lack of MoUs or any kind of formalisation with the ATCs represents a major challenge for further cooperation. This stems from a lack of official structures (liaison offices) and mechanisms (regular dialogue) to interact and consolidate cooperation. Many PS representatives indicated the lack of formalisation hinders the quality of the internships, as there is no clarity on responsibilities, expectations, framework, and scope of the cooperation. The PS suggested MoUs should include official guidelines on internship processes. In Rwanda, all respondents affirmed that companies engaging with ATVET schools do not know how to manage students' needs and require formalised partnerships that can be audited and monitored by the companies' boards. Additionally, Ugandan companies argued MoUs should clarify resources available for the internships.

Related to this, the PS criticised the current cooperation structure as lacking communication, feedback, and follow up mechanisms. PS actors cooperating with

ATCs in Uganda stressed the necessity of meeting and exchanging information at commencement and conclusion of internships. This exchange of information would help the trainees to prepare themselves for their internships and provide input to improve upon or overcome the difficulties encountered. In Rwanda, all PS actors explained that communication with IPRC Musanze is insufficient. To remedy this situation the IPRC recently (April 2019) established a liaison office in charge of partnerships.

A weakness unique to the Ugandan context and repetitively mentioned by cooperating companies is interns' insufficient skills, lack of motivation, and poor attitudes. Cooperating partners felt the ATCs need to deal with this issue internally, starting with refining the recruitment process to ensure successful applicants are genuinely interested in and motivated to work in agriculture. Private companies in Rwanda did not have similar observations, but claimed trainees were sufficiently motivated to enter the ATVET system by government scholarships for highly qualified students and grants for entrepreneurial projects.

Lack of supervision by ATC staff was emphasised by PS actors as a weakness of cooperation. Regular supervision of trainees during their internships not only improves the quality of internships but also affords the opportunity to enhance the communication flow between ATCs and PS partners. Thus, feedback on the appropriateness of the curricula could be gathered and options explored how to jointly improve their delivery. Private companies currently cooperating in ATVET in Rwanda and Uganda raised the issue of lack of personal accident insurance for trainees and lack of insurance for properties damaged by interns during industrial placements. The absence of appropriate insurance schemes proved to be a deterrent to cooperation, especially for smaller companies. PS partners in Rwanda believe the educational needs of their employees change faster than the ATC curricula and they see this as a weakness in their cooperation with ATCs. Some of the companies interviewed specified that their methods, processes, and access to new forms of technology is dynamic and ATVET schools are not flexible enough to keep astride these constant changes. They said ATVET schools would need to improve and adapt curricula to respond to these dynamic processes.

Opportunities

The PS in Uganda and Rwanda confirmed key areas for enhancing cooperation with ATCs. First, the respondents agreed that further collaboration could improve the quality of training by capitalising on the PS's willingness to support ATCs in the development and delivery of curricula. In fact, more than three-quarters of the interviewed companies in both countries expressed their willingness to actively

complement the training curricula (for example, through providing specific extra-curricular courses or conducting value chain development research) to allow the training programme to better meet sectoral needs.

Ugandan PS players indicated ATCs are open to feedback whenever they offer it, with FTI being a special case since it has the mandate to develop its own curricula, thus making it easier for them to seek direct input from companies. However, Rwandan companies lamented their limited input to the curriculum development process which they blamed on the lack of communication channels and feedback mechanisms within the ATVET system.

For PS actors in both countries, cooperation was seen as an opportunity to exchange information and technology. The PS in Uganda indicated they are willing to offer ATCs insights into changes in technology and innovation while participating in ATCs' research and development projects. In Rwanda, some companies claimed collaboration with the ATCs, especially IPRC Musanze, would allow them to gain new knowledge on agricultural techniques and food processing methods. Respondents from bigger companies such as Source of the Nile in Uganda and Horizon in Rwanda envisioned sending experts to the ATCs to support training courses, while the ATCs could provide support to train unskilled staff from companies.

Four small Ugandan companies indicated that they would like to be able to use ATCs' machinery and facilities.

Threats

The PS identified two key threats to cooperation. First, there is uncertainty about the public sector as a reliable partner. This statement arises from the lack of formalised cooperation agreements and lack of process knowledge on how to establish them. Unless this issue is addressed, the PS's motivation to collaborate could be eroded.

Secondly, PS companies fear sharing information and valuable know-how which trainees could utilise in the future when they become entrepreneurs and, therefore, competitors. Even if the risk of losing intellectual property is relatively small, this perception dampens companies' enthusiasm to fully involve interns in their operations or host interns altogether.

4.3.2 Non-cooperating PS actors

Interviews with PS actors that have not yet cooperated with ATCs were conducted to provide a picture of non-affiliated PS actors' perceptions of ATCs

and cooperations with them. Gathering these views and opinions help answer the question "What's in it for me?".

As strengths and weaknesses in a SWOT analysis only refer to existing cooperations, the analysis of data in this chapter is not a full SWOT analysis. However, a lot can be said about opportunities and challenges non-cooperating actors see in potential cooperations. Non-cooperating actors' motivation as well as their process knowledge on how to become involved in ATVET were of interest.

In Rwanda, five non-cooperating PS actors from small- to medium-sized companies and cooperatives were interviewed, namely: Covafga Ltd., Ctaga Ltd., Kazihorti Ltd., KUC Ltd., and Global Farmers Ltd.

In Uganda, Yalelo (U) Ltd., a recently registered company specialising in cage fish farming, was interviewed. Yalelo has very ambitious growth targets and aims to reach 1000 tons of fresh fish in 2020 and employ about 150 staff, which, according to their own assessment, would set them far apart from all other players in Uganda.

In general, all six actors showed high motivation to cooperate. They were very interested in the ATVET programme, although some of them were not yet familiar with it. They agreed upon the necessity of private–public partnership in education and named the need for practical internships, which they would like to provide. Four actors referred to even broader objectives when talking about their willingness to cooperate. One actor stated they wanted to help the country in the domain of education. Three others referred to value chain development and said they need cooperations and close exchange with training institutions to raise national production, to ensure quality and safety standards, and, thus, be able to gain access to export markets.

They saw opportunities for themselves as well as for potential trainees. Companies expected to benefit from knowledge exchange in general and, in particular, on innovation and new techniques in horticulture. They also hoped for product quality improvement (PS1_NC) and production increases. Like cooperating actors, they saw opportunities in equipment-sharing arrangements (drying machine, PS4_NC).

When asked what non-cooperating actors could contribute to ATVET, they named exchange on curricula and employment after the internship. In Rwanda, actors saw their role in imparting practical knowledge on the use of fertilizer, irrigation systems, and nursery beds (PS4_NC). Some (PS2_NC, PS4_NC) have a special in-house training programme, which they could provide for students.

Yalelo said they could offer lectures or put ponds on ATC grounds for demonstrations.

Despite having high motivation and opportunities, there were challenges that they could not overcome. These challenges were similar to those mentioned by cooperating actors, but accommodation was the first priority for all six non-cooperating actors and the deciding point for not hosting interns. In Rwanda, interviewees said money for transport, accommodation, and living cost must be provided – ideally by the government – to enable them to accept interns. In Uganda, Yalelo mentioned they would be happy to bear such costs in the future but at the moment their business would not allow it. Other challenges mentioned encompass risks involved in offering internships. One actor was worried about errors that interns would make during processing and feared products could not be used as a result (PS1_NC). Additionally, the location of some companies proved to be a challenge as some were located too far away from the ATC (PS3_NC), which made transport over long distances (PS3_NC) necessary. This constituted a risk for the company as arrival on time at the workplace could not be guaranteed.

Communication between ATCs and existing cooperation actors is poor, but exchange and dialogue with non-cooperating actors is nearly non-existent. One actor (PS1_NC) had not heard about the ATVET system. PS actors seemed insecure about their potential role in the ATVET system and wondered why they hadn't been approached through, for example, RHIO's 83-member database. Non-cooperating actors also hoped for networking possibilities with the government through cooperation with ATCs.

An illustrative example of a non-cooperating partner that is highly motivated and resourced, but has not yet engaged with the ATVET system is Yalelo. A key challenge in Yalelo's ambitious expansion plans in Uganda is demand for skilled labour. The Yalelo management was unaware of the ATVET system and the government's commitment to improve vocational training and education in the aquaculture sector. Presumably, negative previous experiences with graduates from the Zambian public tertiary education and vocational training systems whilst operating in Zambia disillusioned them and prompted them to set up in-company training facilities in Uganda. Upon hearing about the ATVET system during the interview and FTI's dedication to improving the quality of training in their sector, they wondered if collaboration would be more cost effective in the short-term and contribute to their long-term ambition of developing the value chain and grow the sector. When the SLE team facilitated contact between them and the FTI principal, both parties immediately responded, continued the discussion

bilaterally, and pledged to meet physically to discuss cooperation opportunities. In this case, all that was needed was the introduction through a neutral, trustworthy facilitator.

In order to engage non-cooperating actors in ATVET the following can be stated: non-cooperating actors interviewed in Rwanda fall into the category *indirect potential actor*, but could become *champions of integration* (see Stakeholder Mapping in 4.1) if hindering factors were removed. The non-cooperating company Yalelo in Uganda is a key actor in the value chain and could become a key champion if existing opportunities are realised.

4.3.3 External needs of PS actors

When comparing the external needs of PS actors in Rwanda and Uganda, it becomes apparent that their needs are very similar to ATCs' needs. In Uganda, lack of materials (infrastructure, equipment) and structural needs (improved curricula) are important, with the need for material outweighing structural needs. In Rwanda, the two highest priorities fall into the category of structural needs (longer internship duration, improved curricula).

Uganda

In Uganda, nine cooperating actors from the PS ranked their external needs in order of priority as follows:

1. Infrastructure: Infrastructure was ranked highest by smaller companies mainly. Accommodation for trainees proved to be the biggest challenge for PS actors: either there was too little space, too few rooms, or nearby accommodation was expensive or unavailable. One actor mentioned that company facilities were very remote, which caused problems for female trainees, especially those with children. When students were housed far from their worksite, all parties were worried about the risk of robberies.
2. Improved equipment: Four of nine actors mentioned improved equipment (machinery, training materials, farm clothing, safety equipment) as a major need to encourage the active participation of trainees. In the SDW, guiding manuals and guidelines for training were mentioned as well.
3. Improved curricula: Similarly, four of nine actors said curricula improvements are necessary and stressed the importance of making training practical and mandatory. PS actors would like to contribute their expertise to the development of curricula.

4. Improved ToTs: PS actors prioritised improved ToTs because they considered the quality of current training to be poor. Companies lack in-house trainers and have problems supervising students during internships.
5. Improved framework and incentives: A saw regulatory frameworks and government incentives for internships as necessary, especially for equipment.
6. Internship duration: As a final priority, longer internship duration and better timing of internships was mentioned. Actors said the internship length was insufficient to allow students to internalise skills. Companies asked for more flexibility in placement timing as they sometimes receive 100 students in two months and none during the rest of the year.

Rwanda

In Rwanda, four PS cooperating actors were asked about their external needs.

1. Internship duration: All four cooperating actors wished internships were longer. They considered two-month internships too short to allow students to develop confidence in practical skills and write a report. Complicating this, lodging was sometimes locally unavailable (PS12) so trainees could not stay for the planned time period. Although three months was considered the absolute minimum for meaningful internships (PS10), students were sometimes sent for only two weeks. One actor (PS9) argued that at least six months were needed as students to be able to see the whole processes of planting and harvesting. Graduates at that company complete six months in-house training before working in the company.
2. Improved curricula and infrastructure: PS respondents agreed ATVET curricula are too theoretical. Reflecting on their own education (PS13), they stated that they did not have the right skills when they started working and that the government should make curricula more practice oriented. Infrastructure development was mentioned as an equally important issue with intern accommodation being the chief barrier to hosting interns.
3. Improved ToTs: An actor who receives up to five requests for internships daily felt ToTs needed to be improved to meet the high demand for good trainers in internships.
4. Improved framework and incentives: PS actors in Rwanda found the incentives available to young entrepreneurs at start up to be insufficient. The PSF and RDB were requested to facilitate support. PS actors also

suggested setting up a regulatory framework to guide agreements on internship-related issues, specifically costs and how these can be shared between public and PS entities.

Summarising the priorities, Uganda's material needs are predominantly of financial nature and especially affect small companies; while, in Rwanda, structural adjustments are a pressing concern. All actors expressed interest in longer internships to cover the entire production and processing cycle. However, this may require value chain specific adaptions within the ATVET system. A first practical step in this direction may be to organise company visits throughout the year to facilitate season-specific learning experiences, which would also help to intensify the exchange of information of curriculum-related issues between partners.

4.3.4 Cost-benefit analysis

To answer the question "What's in it for me?" for the PS, it is important to look at the economics of cooperation for skills development. The provision of training, like all company decisions, is subject to economic considerations. Companies should thus only be willing to offer internship placements if the (expected) benefits of training exceed the (expected) costs (Schönfeld et. al., 2016). In other words, the incentive to take interns is high for a company when a so-called positive net *payoff* is expected (see chapter 2.2.1).

To collect sufficiently detailed data for a quantitative cost–benefit analysis is notoriously difficult. In Uganda, only very few companies systematically record the costs and benefits of an internship placement and only three of the companies sampled were able or willing to provide actual numbers. In contrast, the awareness of the actual costs was higher among the surveyed firms in Rwanda. Consequently, the numbers provided by respondents differ very much in detail and can therefore not be compared and analysed in a meaningful manner. Another difficulty for a meaningful comparison arises from the fact that companies bear the costs for internships to different extents with some commanding fees or receiving financial support (see chapter 4.1). Additionally, measuring the (expected) benefits of cooperation in skills development in monetary values is very complex. However, a lot of valuable information has been gathered to provide a qualitative cost-benefit analysis[12]. Thus, in the following, a

[12] A qualitative cost-benefit analysis involves a partial cost-benefit analysis. Information on the costs and benefits are identified, categorised, and discussed. This helps to seek information on a certain project (rather than comparing alternatives as a quantitative analysis).

qualitative cost-benefit analysis from the PS's point of view (including cooperating and non-cooperating firms) regarding cooperation with ATCs is elaborated. Hereby, the focus is set on the provision of internships. Later on, the issue of funding human capital development, which is a great concern to all stakeholders, is discussed briefly.

Cost categories

Table 6 lists a summary of all the cost factors that have been mentioned by companies regarding cooperations with ATCs focusing on internship programmes. This does not necessarily mean that those costs are all covered by the companies. Rather, the list depicts the main cost factors on the part of the provider of the internship. Those costs are summarised and classified into three categories:

1. costs of upkeep of trainees,
2. personnel costs of training staff, and
3. material costs (adapted from Schönfeld et al., 2016).

Costs of upkeep of trainees

For both countries, the trainees' upkeep cost is the greatest barrier to cooperation in internships for companies. Under this category, the cost factor of food supply was mentioned most frequently. Looking at the few firms which provided actual numbers, food expenses for interns are the largest cost factor. For example, one Ugandan firm (PS4) spent 899,000 UGX (220 Euro) per month per intern, of which nearly 27 % was used for food supply (243,000 UGX, i.e. 59 Euro). Another Rwandan company (PS4_NC) stated that 45 % of its total monthly costs per intern (100,000 RWF, i.e. 100 Euro) went to food supply (45,000 RWF, i.e. 45 Euro). As food supply is a variable cost, it can quickly become a hindering factor when companies would like to take on a good number of trainees. A second, highly important cost factor is the provision of accommodation during the internship period (see also chapter 4.3.3). Providing accommodation is so expensive that it even influences the decision whether to offer internships at all, as mentioned by various non-cooperating companies in Rwanda. Covafga stated that "there are students who want to do an internship and we are interested. But it's difficult for us because we don't have the money for accommodation and food. If we had the money, we could receive them" (PS5_NC). Additionally, lacking accommodation for interns can be a hindering factor when companies are in remote areas. In such cases, trainees, especially women with children, might be unable or unwilling to travel the long distances every day. If there is no possibility

of providing accommodation to trainees, transport costs need to be considered. Consequently, transport was also named as a large cost factor by many companies. Other, less-prominent costs for upkeep of trainees include medical expenses (mentioned only in Uganda by four companies, as healthcare is free in Rwanda) and airtime for cell phones (mentioned by two companies in Rwanda).

Table 6: Cost factors for internship provision for PS companies[13]

		Uganda		Rwanda	
		Cooperating (9 in total)	**Non-cooperating (1 in total)**	**Cooperating (4 in total)**	**Non-cooperating (5 in total)**
Costs of trainees' upkeep	Food	6	1	2	5
	Accommodation	8	1	1	4
	Transport	2	0	2	5
	Medical costs	4	0	0	0
	Communication/ airtime	0	0	1	1
Costs of training staff	Internal costs (supervision, training, management)	3	1	1	0
	External costs (training fees, visiting lecturers)	1	0	0	0
Material costs	Equipment (tools, safety gear)	3	0	1	2
	Training materials (stationary, booklets)	1	0	1	1
	Training facilities (utilities, electricity, maintenance)	2	0	1	0
	Damage (broken machinery, substandard products)	3	1	1	1

Source: Own data based on expert interviews and surveys.

Costs of training staff

The second cost category considers the costs of training staff. Costs of training personnel occur for internal and external training staff. Internal training costs

[13] Numbers depict the absolute number of companies that mentioned the specific cost factor.

constitute opportunity costs for time spent by employees on supervising and training interns, instead of engaging in their usual (productive) work. When offering internships, some (otherwise productive) time needs to be allocated to the acquisition and selection of interns and administrative management tasks. External training costs occur through fees, travel allowances, and accommodation costs for trainers coming from outside the company. However, this kind of training for interns does not seem to be very common, as only one Ugandan company listed it as a cost factor. Overall, the costs of training staff were only mentioned by a few companies in Rwanda as well as Uganda.

Material costs

The third cost category of material costs includes costs for tools and "basic gear to enable active participation in farm activities" (PS7). Although it is not a major cost factor, equipment was mentioned comparably often, as special clothing and masks are required for safe and sound operations for some activities (see also chapter 4.3.3). Further minor material costs mentioned by a few cooperating companies include training materials (booklets), stationary, and other consumables for training purposes as well as costs for facility arrangements (e.g. electricity). In this category, depreciation costs seem to be another important cost factor to bear in mind.

Costs to maintain and/or replace equipment and machinery accidently damaged by interns can be considerably high as pointed out by Yalelo. They gave an example from their aquaculture operations in Zambia, where they incurred high, unexpected costs for broken boat engines caused by inexperienced boat drivers (PS6_NC).

Benefit categories

The view of the PS on strengths and opportunities of a cooperation — and thus benefits deriving for the PS — have already been discussed in detail (see chapters 4.3.1 and 4.3.2). In the following, the benefits will be discussed from an economic, cost-related point of view. Statements on benefits made by the PS actors have been summarised and classified into three categories:

1. benefits during an internship,
2. benefits following an internship, and
3. benefits from other aspects of cooperation (see Figure 9, adapted from Schönfeld et al., 2016).

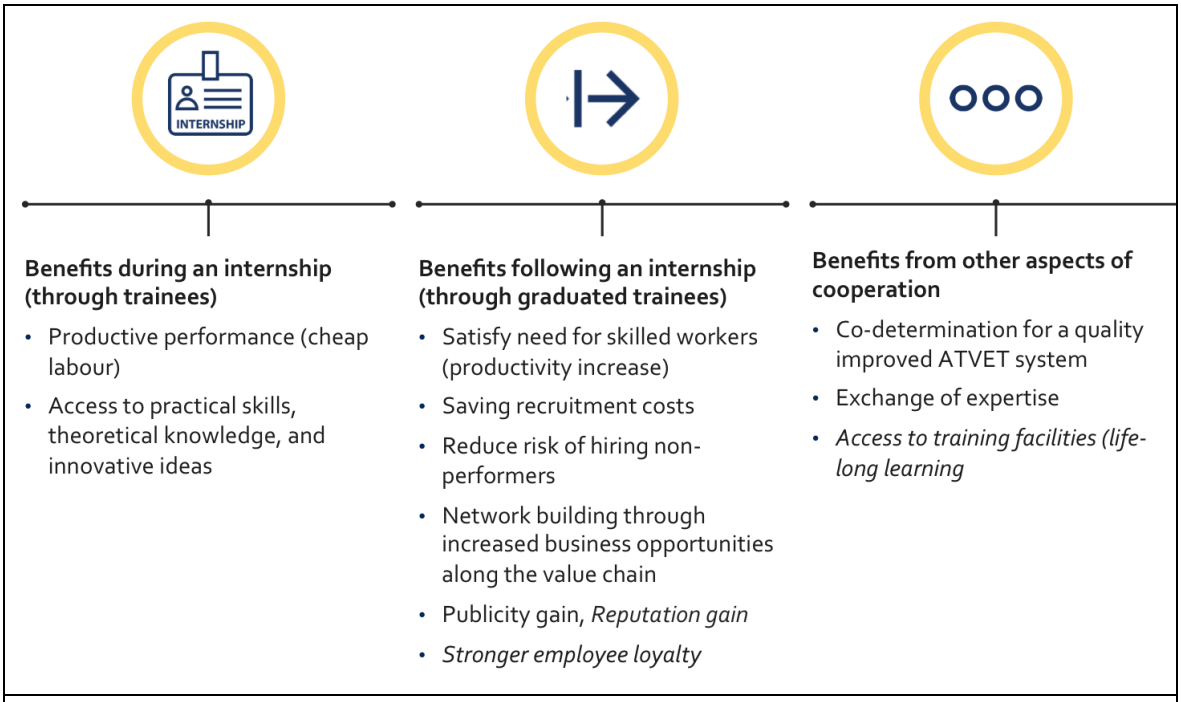


Figure 9: Types of benefits derived from the provision of internships[14]

Source: Own data based on expert interviews, supplemented with Schönfeld et al. (2016).

Benefits during an internship (through trainees)

The concept of internships is learning by doing, i.e. learning at the workplace. Trainees learn practical skills by performing the same activities as professional employees. Thus, they contribute to the production of goods and services that are economically viable for the company, which "profit from the work they do" (PS9). Holland Greentech stated of the interns that "Sometimes they really work hard. Sometimes I say: You are still an intern and you are doing all these things; it is too much" (PS9). As trainees in both countries do not earn wages during internships, they could be seen as cheap labour for companies. As trainees come right from the training institutions, they are equipped with theoretical knowledge and basic practical skills. They use their knowledge during the internship and bring "new ideas and efficiency in the production" (PS3). If these can be adapted in the production process, productivity could be increased in the long term. However, more often, the trainees' practical skills are seen as insufficient (see chapters 4.2.1 and 4.3.1). If interns are, as sometimes portrayed, unmotivated and unprepared to work in the field, the described economic benefits may not be realised.

[14] The table lists benefits of cooperation that have been mentioned by interviewed companies. Additional theoretical benefits which were not mentioned explicitly appear in italics.

Benefits following an internship (through graduated trainees)

The ultimate (long-term) benefit companies gain from participating in skills development of trainees is to have access to a well-qualified workforce on the labour market. The provision of internships offers the opportunity to directly hire good performers. Thus, the need to recruit and train staff from the unskilled labour market and the corresponding costs can be reduced[15] and the risk of hiring nonperformers can largely be avoided (Schönfeld et al., 2016). Many companies stated their preference for employing former interns, as they have already been "screened", meaning their attitude, knowledge, and skills were already assessed during the internship. For Source of the Nile, for example, "an important element when recruiting is personality" (PS6). They "identify those individuals during the internship to find the best employees for the firm" (PS6). Due to the company-specific knowledge transferred during the internship, recruiting former interns also saves additional in-house training costs, "…because if someone is already trained, he or she doesn't need to be trained again" (PS10). The new recruits can immediately contribute to the company's profit.

Long-term benefits drawn from an enlarged business network along the corresponding value chain are also of considerable importance to companies. Networks established with former interns based on personal knowledge and trust strengthen the integration of companies along the value chain and can increase their business/sales opportunities. Aquafarm, for instance, explained, that "…if we don't build a network of skilled farmers who can breed a lot of fish, we run out of fish to process… If we train the students, we have less misinformation within the fish sector. Later, this network helps. We benefit because we have partnerships along the value chain of fish farming" (PS2).

Moreover, several companies stated that former interns can serve as advocates for their products and can increase publicity and thus sales. Such reputational gains are confirmed in the scientific literature and likely to strengthen the company's position on the labour market (Schönfeld et al., 2016). Furthermore, stronger employee loyalty of former trainees (ibid.) and thus decreasing staff turnover costs, can also play a benefiting role.

---

[15] Saved recruitment costs include the costs of and time expenditure on the application procedure, costs of further training on company-specific issues and induction of new employees, and the difference in performance between a new employee and a former intern, whose performance has been assessed and approved during the internship.

Benefits from other aspects of cooperation

Moreover, benefits result when companies cooperate with educational institutions, even without providing internships or hiring graduates. For example, participating in curriculum development and adaptation increases the level of educational quality and, in the end, will profit all stakeholders. As this is a long-term process, benefits to the PS mostly occur in the long run as a result of a well-qualified workforce. Furthermore, curriculum delivery benefits arise in the medium term as delivery is best done (or only feasible) when hosting interns, thus again picking up the benefits occurring during internship periods. Exchange on curricula content can also have a short-term benefit as it builds a bridge between the world of learning and the world of work. Exchanging expertise can be of benefit in terms of knowledge gain on current research and (technical) innovation. A company needs to stay up to date to stay profitable. Source of the Nile stated that the cooperation "helps us to understand the factors of what is happening around. It helps ourselves to become a better business" (PS6). Cooperating on internships could thus open the way to further exchange and eventually support the culture of important life-long learning by motivating staff to undertake further training at the cooperating ATC. This is another major benefit, as it not only keeps employees motivated, but can increase productivity in the long run.

Costs, benefits, and funding of human capital development

The qualitative cost–benefit analysis shows that, on the one hand, various costs need to be covered to provide internships. Those costs are investments into human capital and are mostly short-term, variable costs occurring during internships. On the other hand, companies can benefit in different ways from a cooperation with an ATC. The majority of benefits, however, are anticipated to occur in the medium to long term. Those long-term and risky investments in human capital are rather unattractive for firms. It became clear through the research process that funding is a critically important issue in a company's decisions to cooperate. The heterogeneity of companies in terms of size and the consequential differences in their economic capacity to invest need to be taken into consideration. Source of the Nile, for example, stated, that "we only have little resources, which are used for investments in the firm…Our training investments and budget is only for our staff" (PS6). It appears that there is a dilemma in that (cooperating as well as non-cooperating) companies are highly motivated to engage in skills development (see chapters 4.3.1. and 4.3.2) but are often unable to make the necessary investments because they are too small in size and financial capacity.

However, all in all, the continued motivation and commitment to invest in education despite all the caveats suggests that many companies perceive the benefits of cooperating to exceed the costs. It also suggests that not unwillingness to pay, but alleged economic constraints are the reason that many companies bear only part of the costs for internships, take fees, or seek financial support. It is therefore important not only to convince, but also to enable companies to make long-term investments while accepting short-term costs. In the long run, once the quality of ATVET is improved and secured, investments into skills development become less risky and thus more attractive for the PS (see chapter 2.1). Yet, it appears that there is still a long way to go until the financial stability of the ATVET system can be secured through PS investments.

4.4 Gender in ATVET

Information about women's situations has been collected in order to analyse how a GTC approach could be introduced in ATVET systems in Rwanda and Uganda and to identify the key roles the PS could play in its implementation. Information from the interviews, focus group discussions, and SDW reveals that gender equality and the empowerment of women are still difficult to achieve within these countries' ATVET systems. Female trainees, the PS, and ATC actors described challenges, opportunities, and the changes required to empower girls in the ATVET system.

4.4.1 The PS's perspective on women in ATVET

The PS´s views on gender in the ATVET system are explored in this section, especially women's access to and performance during internships.

Access to internships and funding

According to the interviewees, female Ugandan students face specific constraints while accessing internships. Respondents repeatedly disclosed that finding accommodation represents a challenge for female trainees as companies do not have suitable dormitories for them. Thus, the trainees find accommodation in the nearby towns, which presents financial and security concerns, particularly as girls' education is often not a top priority of Ugandan families. As one interviewee stated, "girls find also difficult to find accommodation to live alone" (PS2_SDW).

Though the PS noted the underrepresentation of women in agricultural training, a remarkable increase in Rwandan women's participation in internships has occurred as a result of the government's strong commitment to the

promotion of gender equality in its constitution and other key guiding documents, such as Vision 2020, Economic Development and Poverty Reduction Strategy (EDPRS), and Education Sector Policy. However, adequate accommodation remains a constraint for female students in Rwanda.

Gender-based violence

Some of the interviewed companies in Uganda explained that many female interns, especially those who live off-site during their internship, reported being molested or harassed at their temporary residences or on their way to work. This issue was particularly raised by companies with limited accommodation and those located in remote, rural areas such as Zirobwe or Aquafarm. Lack of safety and security hinders the students' motivation to continue their internships, as affirmed by a respondent who said, "some girls don't want to walk home alone and they ask for someone to come with them" (PS3).

Employment and career paths

Another challenge for gender empowerment and women's equality is the need for equal employment opportunities. According to PS companies in Uganda, there are few female job applicants and those who are hired are mostly placed in nontechnical (sales, accountancy, cleaning, etc.) or physically undemanding jobs (fish hatchery). There are very few female staff in technical, operations, and management positions. As a manager of one company stated, "women are good for accounting and clean and cook" (PS5). Such perceptions demotivate female interns. From the companies interviewed, only two were female headed in Uganda (Source of the Nile and Lira Integrated School). Because women are underrepresented in management positions with decision-making powers, the specific needs of female employees, especially trainees, are frequently ignored or go unnoticed according to the respondents.

Of all the companies interviewed in Uganda, only Source of the Nile and Lira Integrated School took concrete action to include more women in their staff. Source of the Nile cooperates with a grassroots association giving job opportunities to women in net making and repairing, while Lira Integrated School has a majority-female staff and provides training and employment to vulnerable women doing subsistence agriculture.

According to interviews and literature review, the female Rwandan workforce is largely restricted to the smallholder agriculture, services, and sales sectors, with few women working in technical areas with the exception of university graduates engaging in laboratory work. This constitutes an occupational segregation. All

four of the interviewed companies headed by women engaged in production only, while the ones focusing on other areas of the value chain were exclusively managed by men. These findings are confirmed by a recent report from FAO (2018), which states Rwandan women have a predominant role in horticultural production, but are underrepresented in downstream steps of horticultural value chains. Thus, women may be demotivated to seek career paths in horticultural companies.

Lack of support for pregnant students and students with children

A challenge to interns is lack of support for pregnant students and students with children. None of the interviewed companies in Uganda or Rwanda reported having concrete and formalised measures to support pregnant staff/interns and parents, for example maternity/paternity policies or childcare spaces. Such circumstances seem to be addressed through ad-hoc decisions within each company; for example, one Ugandan aquaculture company stated, "while in pregnancy, we employ them, but don't give them hard work. So, she can for example do net-knitting, but not the normal work she usually does. We give them a job that is comfortable to do at their state" (PS6).

Gender-biased perceptions

Decision-making positions, in both the public and PS, are predominately occupied by men. Six companies in Uganda and three in Rwanda claimed that the aquaculture, food processing, and dairy sectors are either male dominated or face difficulty finding female staff, even though many activities in these fields are conducted by women. This shows there is a misunderstanding of women's perceived roles and their actual contributions to the sector.

Two companies argued that women are not able to carry out the same physical work as men. As indicated by one respondent, "When it comes to physical work, men perform better" (PS7). One company argued women might not be able to work for long hours or at night. A company manager in Rwanda explained, "we don't want to put women to work in certain areas or with men at night in order to avoid possible problems, as many men are married" (PS11). This practice of not placing women in certain areas of the company perpetrates generalisations and misconceptions of the role of women in the PS.

Satisfaction with female trainees' performance

PS companies in both countries strongly claimed that there is a need to enrol more female students in the ATVET system. All the companies interviewed

asserted that female trainees exceed the performance of their male colleagues and show more motivation, willingly accept the same responsibilities, and have better attitudes than their male counterparts. For this reason, most of the companies indicated that if women are skilled and apply for a job, the position would be assigned to them because they are perceived as motivated, trustworthy, and reliable.

Moreover, with the exception of two companies, managers claimed that there are no differences between the assignment of tasks or access to skills learning opportunities for male and female trainees. In this sense, there is a positive perception of female ATVET trainees' capacities and skills, despite relatively low representation of women in their current workforce.

4.4.2 ATC perspective on gender in ATVET

In this section, the results of interviews with ATC staff about gender issues is presented. Many of the ATC staff's views on women's participation and opportunities in ATVET were consistent with those of the PS actors.

Enrolment and retention

Female enrolment at ATCs varied in both countries according to the selected value chain. Despite the gradual increase in women's enrolment in the ATVET system, only 30 % of the FTI (aquaculture) trainees are female, 40 % of the Bukalasa (dairy production) trainees are female, and 35 % of the IPRC Muzanse (horticulture) trainees are female. While the ATCs did not have precise figures on female dropouts, they confirmed it is high. The lack of information and understanding of the magnitude and causes of low enrolment and high dropout rates constitute a challenge to the promotion of gender equality and empowerment in the system.

Limited scholarships and outreach for female students

Trainers and managers at ATCs attested that women's participation in the training programmes is constrained by the lack of scholarships for female students and lack of promotion of agriculture as a viable alternative to "traditional" jobs such as teaching, hair dressing, sales, and early childhood education. This lack of scholarship funding restricts some students' chances of engaging in private-sector internships. Students that are unable to secure an internship with a PS company may have the opportunity to intern at the ATC, but this deprives them of real-world work experiences and additional benefits like building networks for future employment.

It was also stressed by ATC staff that the absence of a concrete outreach strategy to attract female candidates, especially in rural areas, is a direct cause of underrepresentation of women in the ATVET system. The principal of IPRC Musanze in Rwanda suggested that career guidance should be conducted to target girls in their ninth year of basic education (9YBE), especially in the rural areas where agriculture is a particularly important sector (ATC4).

Norms and culture

ATCs highlighted cultural norms around gender as constraints to women's participation in ATVET: parents are reluctant to invest in the education of female children because they perform a significantly larger share of domestic work than their male counterparts (CEDAW, 2017a) and when they go to study, their labour is missed at home. Additionally, expectations of marriage and childbearing for girls make them a less worthy 'investment' for secondary or tertiary education compared to boys, who are perceived to be more likely to contribute to the household's financial needs (OECD, 2019).

Measures for the promotion of affirmative action and support for women

Principals and trainers highlighted the need to put mechanisms in place to promote gender equality: Bukalasa suggested the establishment of a gender office, FTI suggested a modular programme structure to allow pregnant students to leave the ATC for a year and return without losing credit points, and IPRC Musanze suggested gender clubs. However, all interviewees stressed that these efforts are insufficient and more should be done in terms of affirmative action.

Women´s positive attitude and motivation

When asked about the perception of women in the system, respondents from ATCs affirmed that female students' performance and attitude are good, their ambition at school and in the labour market is extraordinary, and they are more reliable than boys (ATC1, ATC2, ATC4).

4.4.3 Female trainees' perspective of women in ATVET

Four focus groups were conducted with female trainees from Rwandan and Ugandan ATCs to discuss the challenges and opportunities for gender equality and empowerment and to understand how GTC could be integrated in the ATVET system. Their responses were collected in order to compare them with those of the PS and ATC staff. In most cases, their responses were consistent with those of

ATC and PS actors; however, in some crucial aspects, their assessment contradicts the arguments put forward by their trainers or companies´ managers.

Constraints within the education system

During the female focus group discussions, it was revealed that gender-related constraints to accessing the ATVET system exist, despite claims of efforts to increase female participation. The participants explained that motivated female students who apply to ATCs may not qualify because the application process requires the completion of science courses that they were discouraged from enroling in during secondary school (FGD1_F; FGD2_F, FGD4_M). In both Rwanda and Uganda, there are strong societal perceptions of girls' and women's lack of ability to excel in science and technology courses and the incompatibility of scientific and technical careers with women's/mothers' roles (USAID/Rwanda, 2015).

Accommodation and hygiene

Female interviewees affirmed that there are limited funding opportunities available specifically to women and, therefore, most of them lacked the financial means to support themselves during their internships. This affects the retention of female students in the ATVET system.

Similarly, female interviewees noted the need for accommodation facilities for women that are safe and have suitable sanitary facilities. As pointed out by some of the trainees during the focus group discussions, "one has to share a room with ten other girls" (FGD1_F). Moreover, the gender focal point within the MINAGRI of Rwanda mentioned that they see female dropouts at secondary and TVET schools because of the lack of resources to purchase sanitary pads.

Gender-based violence

During focus groups discussions and at the SDW, female trainees in Uganda reported facing sexual harassment at the ATCs as well as when conducting their internships. They spoke of being molested when commuting to their workplaces and being asked by teachers to exchange sexual favours for passing grades on their ATC exams. This situation was confirmed by other actors as a widely-known issue in Ugandan education institutions and it was stressed during the SDW that there are currently no reporting mechanisms for gender harassment and violence within the ATVET system (TR1_SDW, ATC1_SDW). As reported in Rao (2018), "Uganda's president released an investigative report on sexual violence in higher education institutions in the country. The report stated that 40 % of males and

50 % of females felt sexually threatened on their campuses". Thus, sexual harassment could be a major contributing factor to high dropout rates.

In Rwanda, the issue of sexual harassment was not raised during focus groups discussions. Nonetheless, despite policies and laws developed by the government, studies still show that GBV, including sexual harassment, remains prevalent as it is widely accepted by the society as a result of entrenched traditional patriarchal norms (CEDAW, 2017b). Although rates for GBV cases in Rwanda have decreased as a result of the government's prevention and protection efforts, it remains under-reported due to victims' fear of stigma, retaliation, and women's economic dependence on the perpetrator (OECD, 2019). One of the most prevalent forms of GBV in the education system that impacts women's access to and retention in education is the coercion to perform sexual favours in lieu of school fees or in order to pass exams (USAID/Rwanda, 2015).

Positive self-perception of capacities and self-confidence

Despite the challenges they face, female students showed high motivation and commitment to ATVET training. In both countries, they explained that through the acquisition of new knowledge, skills, and experience, they feel empowered to make their own decisions and motivated to pursue a career in agriculture. The majority displayed agency and decision-making capacity by sharing their plans to continue working in the sector and opening their own businesses.

In Uganda, female interviewees hoped that women who have not accessed or been informed of ATVET education will be encouraged to enter the system. Whilst in Rwanda, female students were motivated and empowered by their education and wished to support outreach activities to encourage other girls and women into the system. They also claimed that participating in gender clubs at IPRC Musanze and SGCF had positively impacted their aspirations and motivations to follow a professional career.

Meeting female role models and businesspeople inspired female trainees and motivated them to undertake entrepreneurship projects, especially in Rwanda. They claimed that this approach also helped change gender stereotypes among their male counterparts.

In Rwanda and Uganda, female students noted that learning entrepreneurial skills raised their self-confidence. This was reflected in their responses about what they want to do in future. Many of the respondents agreed that they would like to create their own business. One stated, "if I have my own business, I could be my own boss. So here we learn to be a girl boss" (FGD4_F).

4.4.4 Discussion and analysis of results

Data from the interviews, focus groups, and SDW discussions show that there are still formidable challenges to achieving women's empowerment and equality. To better formulate action plans for the PS's contribution to GTC, 'quadrants of change' is used for the discussion of results. This tool helps identify the level and dimension of interventions that can impact the process. Figure 10 shows the results placed at the different dimensions of change.

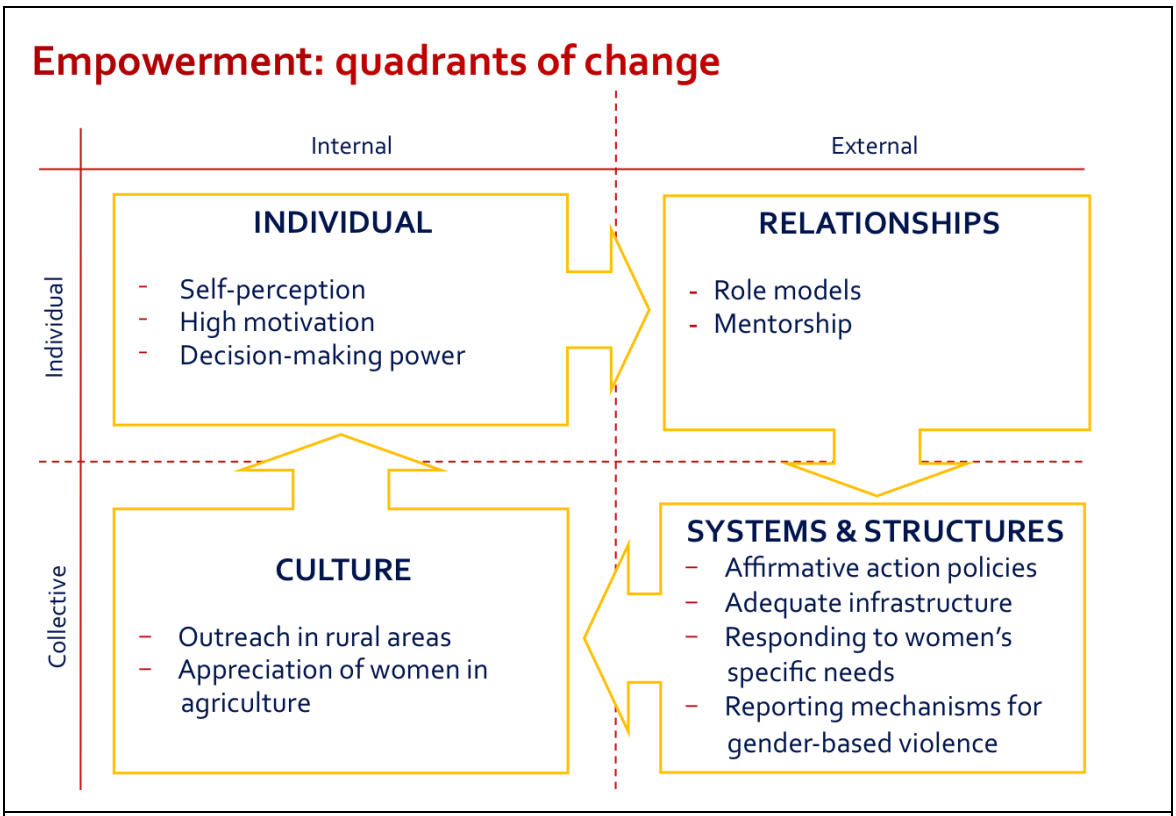


Figure 10: Empowerment: quadrants of change

Source: Adapted from GTC in ATVET (GIZ, ATVET4Women, 2019)

Women's motivation and attitude offer opportunities for GTC to positively impact on the individual dimension of the quadrants of change. Women participating in the ATVET system reflected that conducting the same activities as their male counterparts, learning new skills, and being able to practise what they have learned in internships has positively influenced their perceptions of capacities and confidence. Their trainers and PS internship hosts had the same observation. These empowered women could encourage other women who want to work in the sector to enrol in the system.

At the relationships dimension, mentorship, ambassador schemes, or networks at various levels within the ATVET system among female alumni, trainers, staff at cooperating companies, and trainees would affect change for women's empowerment. In fact, female interns expressed that female role models in the agricultural sector bolstered their own confidence and motivation and they were willing to serve as role models for the next cohort of female trainees. However, in both countries, these relationships are not yet well established.

At the structural dimension, there are many challenges that need to be addressed by national-level actors. For example, results show that improvement and expansion of accommodation capacities with adequate sanitary facilities would represent a significant change in girls wellbeing within the ATVET system at the ATCs and in internships.

Strengthening affirmative action for women and girls is necessary. More funding is required to support female trainees' ATC fees, transportation, meals, and hygiene costs (sanitary pads), especially for those who face financial constraints and are coming from rural areas and farming households.

Results showed that sexual harassment at the ATCs and internship placements, especially in Uganda, is a problem and detrimental for student retention and critically risks the establishment of GTC in the ATVET system. Thus, identifying the extent of the situation and holistically addressing it at all levels with the main stakeholders must be part of the short-term actions within the ATVET system. For instance, structural changes need to allow safe spaces for women to report abuse at the ATCs and in companies through, for example, a counselling and reporting office that has authority to pursue cases while ensuring confidentiality. During internships, constant supervision from ATC trainers to evaluate the wellbeing of female trainees would be beneficial.

At the cultural dimension, the achievement of women's empowerment and gender equality requires behavioural changes at the household level, especially in rural areas. For example, influencing parents' perceptions of women´s abilities to follow a career or their decisions around investments in girls´ education, could be key to attracting women into the ATVET system. Efforts to promote education and empower women deliver changes in the long term and, hence, outreach campaigns in rural areas which bring new concepts about women´s roles and capacities in the agricultural sector is required for GTC.

4.5 Discussion of the status quo

The situation analysis provides insights into the similarities and differences between the stakeholders' perspectives on the cooperation. Additionally, their needs as well as the costs involved in hosting internships inform the status quo of cooperation. In this section, the most striking results are discussed.

The internal factors influencing cooperation show that both private and public sector actors have a clearly positive attitude toward cooperation as evidenced by their high motivation to engage and their shared goals, such as developing the national industry along the value chain through a skilled workforce. However, both parties felt each could better contribute to the cooperation as shown by their complaints around infrequency and poor attendance at meetings and inadequacy of ATC support to internships. Thus, poor communication is seen as a major barrier to improved cooperation. Additionally, little formalisation of the cooperation in terms of written agreements leads to a situation in which both actors have unclear expectations of the cooperation. It seems that process knowledge and facilitation skills are lacking to sustain result-oriented dialogue and broker cooperation agreements.

When it comes to external factors, participants pointed out cost factors as the greatest barrier to cooperation. The basic costs of providing food and accommodation for interns prevent non-cooperating actors from engaging in cooperation and a notable number of cooperating companies struggle with these costs as well. Indeed, the benefits of cooperation to the PS are realised in the long term, yet the costs are borne in the short term. At the same time, ATCs voiced needs for national-level support for improving basic school infrastructure and improving policies and regulations, especially gender policies. All stakeholders mentioned their high regard for women in the sector, yet women remain underrepresented due to multiple challenges even before entering the ATVET system. These must be addressed at the national level.

5 Interaction among stakeholder groups

Coming from the situation analysis of public–private cooperation, the following chapter looks at stakeholders' perceptions, stakeholders' interactions, and building the foundation for future cooperations. In the first section (5.1), the stakeholder groups' perceptions are analysed (trainees' perspectives were provided in chapter 4.2.2). The second section (5.2), looks deeper into the interactions observed during the SDW.

5.1 Stakeholders' perceptions of each other

The perception analysis was carried out by interpreting the meaning and frequency of statements referring to the cooperation partner made during expert interviews and SDWs. They are clustered here as positive and negative perceptions.

5.1.1 Positive perceptions

An education scaling question revealed that in Uganda most participants (about 70 %) think that both public and PS parties equally know how to best develop skills. In Rwanda, all participants agreed that both groups know how to best promote skills development. This shows that in both countries, training institutions and PS companies perceive each other as vital players and valuable partners contributing to education and skills development.

Looking at individual perception statements (see chapter 3.7), positive perceptions were confirmed by very appreciative attitudes on partner's role and value. In Uganda, all 13 personal statements by ATC staff painted a positive picture of the PS. Most of these statements commented on the importance of the PS in providing hands-on skills development and acknowledged their expertise and engagement. For example, one ATC actor wrote, "I feel enthusiastic toward the PS actors, because they need us and we need them. We give them skilled labour to keep them make money and we need them too to absorb our trainees (employment)" (ATC1_SDW).

Conversely in Rwanda, only two of five anonymous individual perception statements from ATC actors about the PS were formulated positively. Those two ATC actors referred to the PS as helpful and recognised the need for long-term collaboration for the social and economic development of the country, "I feel PS helpful, because they are helping to improve the social life by not only

employment but also income generation and knowledge development" (ATC2_SDW).

Looking at the PS's perceptions of the ATCs in Uganda, a similar positive picture can be depicted. From a total of seven individual perception statements, five were formulated in a positive manner. These focused on benefits that can be achieved though collaboration and acknowledged the effort and competence of ATC actors. A PS actor, for instance, wrote, "I feel great about Fisheries Training, because 1) professional competence delivery, 2) part of decision management in private skills development (playing the rhythm of the song), 3) produce employees and guarantee support to the growing industry of farming" (PS1_SDW).

Compared to Uganda, Rwandan PS actors' individual perception statements were phrased more neutrally, yet revealed that companies recognise the important role of ATCs, which "are the ones who transfer the knowledge, skills, and attitude needed on the labour market" (PS2_SDW). PS actors are aware of the interlinkage of partners and appreciate the educational reform efforts, as one PS stakeholder commented, "The ATVET come as a solution to (…) the market requirements, but there is still plenty of problems because so less collaboration between public schools and PS to engage those graduates in jobs and use the skills acquired" (PS2_SDW).

On the first day of the SDWs, each stakeholder group was asked to jointly describe the other group. The ATC actors found the following positive words about the PS, "Partners, Advisors, Key for Development, NGOs and Entrepreneurs" (ATC2_SDW) and "Co-Trainers, Supervisors, Partners, Employers, Sector Change Agents, Service Providers, Result-Oriented, Efficient, Effective, Accountable" (ATC1_SDW). In return, the ATCs provided the following positive descriptions of their PS partners, "Knowledgeable and experienced in training, Mature, Contribute to the quality of our work force" (PS1_SDW) and "Partners, Role model to the surrounding community, Linkage between ATVET and other stakeholders" (PS2_SDW). By acknowledging each other's relevance in education cooperation, the stakeholder groups recognise their mutual interests and interdependence in reaching a common goal, which is the foundation for a successful cooperation (see chapter 2.2.1). One participant from the IPRC Musanze summed this up eloquently, "Everyone has to play their part, the government has to sponsor/give money, the institute has to teach/train, and the PS has to provide internships" (ATC4).

These findings demonstrate that the two stakeholder groups realise the following important underlying features of a successful cooperation (adopted from GIZ, 2015):

- the significance of cooperating, as the relationship is important to all actors;
- their individuality, meaning that all cooperation partners contribute something that is of value to the others, but remain autonomous; and
- their interdependence, meaning that the cooperation partners complement and need each other; none can achieve alone what all can achieve together.

5.1.2 Negative perceptions

Even though cooperation partners may have common interests, they may mistrust each other (GIZ, 2015). Indeed, statements made by stakeholders in Rwanda and Uganda suggest entrenched negative perceptions of and scepticism for each other.

A case in point is the stakeholders' views on who is responsible for initiating cooperation. ATCs blamed the PS for not taking invitations to cooperation meetings seriously, while the PS actors expect ATCs to reach out to them. A non-cooperating actor stated of the ATCs, "They should really go out and equip the workers we need right now. They should ask us, what do you want?" (PS2_NC). In contrast, several ATC actors criticised the PS for not involving appropriate contact people and does "not attend or value meetings about curriculum development" (ATC2_SDW).

Secondly, several PS actors had the impression that educational institutions do not fulfil their responsibilities. PS actors from both countries repeatedly mentioned that they are unsatisfied with ATCs' theory-dominated education and poor performance. "Sometimes we are like professors. We teach them what they don´t know… A closer supervision would be better, so we don´t have to do everything" (PS8). Conversely, ATC actors (as well as trainees themselves) complained that interns do not gain sufficient skills during their internships due to insufficient exposure. ATCs have the impression that the PS actors "don't have the feeling of having to make a contribution to education" (ATC2). Other ATC actors stated the PS is not committed and does not understand its long-term role and responsibility in skills development, for instance, an actor at ATC Bukalasa said, "PSs' interest changes very fast! … It is difficult to plan on a longer term" (ATC2). The same attitude toward the PS actors can be seen in Rwanda, where some

companies are perceived as uncooperative and "not offering what the students are supposed to get" during internships (ATC4).

Unfavourable perceptions were also noted when looking at how the partners describe and judge each other's characteristics and motivations. There is a general perception among ATC actors in both countries that PS actors "prioritise the profit (money) over skills development" (ATC2_SDW), because "what they want is money" (ATC4). They believe that PS actors do not have the long-term benefits of skills development at heart and that "some don't want to cooperate as they don't directly benefit… There are some who are looking at it as an opportunity for making money out of internship offers to our trainees" (ATC1). These individually expressed perceptions were confirmed by responses to scaling questions during the SDWs. On the other hand, PS actors feel misunderstood. Companies feel that their need to create revenue to stay in business is viewed as their sole motivation, ignoring their honestly held social responsibility to contribute to their country's development. This causes the PS to feel "left alone by the ATC actors" (PS8) with some stating that ATCs should be "more thankful to what we do, to keep us motivated" (PS8) and that ATC's perceptions of them hinders cooperation. "Sometimes they [training institutions] are not so open, because they see you as a person who wants to make profit from them. People have those mind-sets. There is nothing you can do. Then go somewhere else" (PS13).

Consequently, stakeholders perceive each other as unreliable partners in potential cooperations. For example, a PS actor in Rwanda stated that, "We have talked to them but there was no person responsible for the implementation of the MoUs. For the PS, a contract is a really serious thing. We sign MoUs expecting performance. But there is no guarantee we will have this" (PS10). In Uganda, one actor expressed a more sympathetic position toward their ATC partner, while also demonstrating how communication is impeded, "But FTI doesn't have the resources. So, it doesn't matter whether we talk about it [MoU] or not" (PS6).

Finally, a noteworthy observation is that while cooperating firms described their ATC partner in Rwanda with only positive words, non-cooperating firms used negative words[16]. This shows that even though non-cooperating firms are highly motivated to cooperate and are aware of common interests (see chapter 4.3.2),

[16] Words that non-cooperating partners used to describe ATCs included: less innovative, more theory, less practice, plagiarism (copy and go), not hard workers, not stable, money talk. Only one positive word was mentioned, but was emphasised as the most important word: partners (PS2_SDW).

they have negative perceptions of the potential cooperation partner probably as a result of low exposure and interaction.

Obviously, negative perceptions exist alongside positive ones. These apparent contradictions can be explained by the partners' realisation of their interdependence in achieving mutual objectives and by their old stereotypes and stigmas grounded in lack of interaction and personal exchange. Misconceptions and lack of clarification on various issues were apparent, most prominently relating to stakeholders' responsibilities, roles, incentives, expectations, and capabilities regarding a cooperation. This may hinder effective communication and negatively impact the cooperation process. Mediation and facilitation via a neutral broker may reveal reservations, bring about clarity on capacities and responsibilities, and pave the way to mutually beneficial and sustainable cooperations between ATCs and their PS partners.

5.2 Analysis of communication process

The analysis of the communication process compares observations made during workshops and the results of the workshops with theory (see chapter 2.2). First, the participants' engagement during the interactive workshop sessions is analysed. Special emphasis is put on the method "future lab" because, here, the participants from different stakeholder groups (ATC, PS, trainees) worked together in mixed groups. Following the analysis of the communication process, criteria supporting the hypothesis that intensified communication via dialogue enables successful cooperation are discussed. Lastly, the participants' evaluation of the two workshops are considered.

5.2.1 Analysis of communication and interaction during the SDWs

Some participants that knew of each other for quite a while had their first opportunity to directly interact at the workshops. One PS actor in Uganda stated that it was the first time she met FTI stakeholders face to face despite working together for five years.

In the beginning of the workshops, the atmosphere was reserved. As expected, people that knew each other grouped together. However, during the future lab when heterogeneous groups were formed, participants quickly overcame hesitations and the atmosphere became very energetic. Participants moved around tables, put their ideas together in poster format, cut pictures from newspapers, and vividly discussed their visions for future cooperation.

Analysis of interactive method 1: scaling questions

Initially, participants from both countries were hesitant to engage since this was the first interactive activity. After getting used to the task, participants were more open-minded and shared their experiences and opinions. When it came to critical statements where participants were asked to agree or disagree, interactions became more vivid. Participants discussed their views and commented; participants made use of the opportunity to engage and discuss with each other freely.

Analysis of interactive method 2: empathy raising and needs assessment

The presentations by ATC and PS groups were given and received in a respectful and honest way. In Uganda, views, needs, and perceptions were presented openly and feedback was shared via content-related questions. But, when it came to trainees' presentations, some PS representatives made derogatory remarks and made fun of the trainees' views, particularly trainees' complaints about their internships and the monotonous tasks they were frequently assigned. The participants were reminded of the code of conduct the next day and this prompted a change in behaviour. For example, when a female trainee stated that it was difficult for her to find a job without work experience, a PS actor offered her a job interview.

Participants vividly discussed their perspectives and shared opinions. Some comments were fruitful und results-oriented, while the majority remained problem-oriented, especially in Rwanda. Ultimately, every stakeholder group appreciated the platform to express their views.

In Rwanda, discussions were curtailed by the late hour and lack of additional lighting as evening approached.

Analysis of interactive method 3: future lab

Having participants from different stakeholder categories work together in mixed groups was more important than the outputs of the group work that they created during the future lab. The process of discussing, finding a common ground to formulate an objective, and developing a joint vision was of ultimate importance.

Uganda

The future lab method was adopted very well by Ugandan participants. Small working groups fostered interaction between stakeholders and enriched their

discussions. The participants identified with their results, gave their vision a name, and shared their results enthusiastically in a fun and creative atmosphere.

Some group discussions were well balanced with all participants equally engaging in the discussion. For example, among the gender group participants (all female), ATC staff openly discussed challenges faced by women, which created space for the trainees to express their concerns and experiences within the ATVET system. At other tables, contributions to the discussion were not as balanced. At one table ("skilled workforce"), discussion was dominated by representatives from the PS and the ATC, leaving trainees' perspectives unconsidered. Also, at the "internship" table, the only female participant was initially very quiet and ignored by the male group members; only after encouragement by the facilitator did she speak up, actively participate, and have her contributions appreciated by male participants.

Rwanda

In Rwanda, the quality of interaction at the tables varied. While some tables were very active, at others, the participants were reserved. Whereas in Uganda the participants discussed specific aspects of future cooperations in great depth and detail, the majority of the Rwandan participants were eager to produce results and immediately started working on their flipcharts without much debate, suggesting they were more focused on results than on the exchange of opinions.

A big difference in Rwandan versus Ugandan group work, was that group discussions took place mainly in the local vernacular. Since a few participants were not fluent in English, the groups switched quickly to French and finally settled on Kinyarwanda.

While many of the groups were able to interact freely with all participants' opinions integrated equally, interestingly, the discussions of one group (*Curricula*) took place mainly between staff members of IPRC Musanze and the representative from Holland Greentech. The not-yet cooperating actor contributed to the discussion and was listened to, but his arguments did not carry as much weight as contributions from other participants. As IPRC Musanze and Holland Greentech cooperate closely, they dominated the discussion and were able to further their own collaboration agenda.

Analysis of interactive method 4: development of an action plan

In Uganda, the atmosphere in the room during and after the future lab was very lively and energetic. The participants intensively interacted with one another, but unfortunately, this energy was not sustained during action planning. Bringing

the group together and discussing in the plenary was tough: extracting a concrete and implementable action plan from several abstract visions formulated by different groups and assigning individual responsibilities was extremely difficult. The process required time-consuming step-by-step explanation and the facilitation team chose to modify this session in the next workshop to allow participants to continue working in small groups to come up with ideas for future cooperation. As a result, in the next workshop in Rwanda, energy was sustained while participants worked in groups to elaborate feasible and detailed action plans based on their visions.

5.2.2 Intensified dialogue as a means to further cooperation

In the following section, different criteria are presented that give information on the hypothesis that intensive communication via dialogue fosters further cooperation.

Participatory approach and workshop setting

Participants noted that workshops are usually heavily dominated by presentations while discussions and dynamic activities are unusual, especially in Rwanda where meetings are very formal. The research team aimed to break this routine by making use of a participatory approach. The participatory workshop approach allowed participants to actively engage with each other, thereby ensuring their views and opinions were shared and that awareness and understanding of each other's position was developed (see chapter 2.2.2).

Setting the scene of the workshop promoted an engaging working atmosphere. By agreeing upon a code of conduct and referring to it during the workshop, respectful interactions bridging hierarchical boundaries were achieved. Providing platforms for informal interaction (eating, socialising, and even dancing together) enabled relationship-building among the stakeholders (which is a crucial factor for communication, see chapter 2.2) and a positive working atmosphere.

Positive responses on workshop design and methodology were received in the form of personal comments and formal evaluation of the workshops.

Motivation to engage

Participants in the SDWs were highly motivated to engage and contribute to the workshops. The SLE team's national collaborators remarked on the positive response rate to invitations. This high turnout was complemented by low dropouts with participants seeming to have made great efforts to attend. Remarkably, one participant was informed of the meeting at 6am on the first day,

but because he saw the need for the SDW, he was on time at midday for the start of the workshop and prepared to contribute.

Time for discussions

An issue that frequently arose was the workshop's limited time allocation. Participants felt discussions could not be conducted in sufficient depth and exchange of opinions was sometimes limited by time constraints. More than one-third of the participants in Uganda stated there was too little time to discuss complex issues and wished for more time to deepen discussions. Participants wished for more one-on-one time to further share ideas and requested similar workshops every six months. In Rwanda, participants also wanted to increase the duration of the workshop because they found there was too little time for the sessions, sharing their opinions, and providing feedback. This demonstrates how eager they are to discuss with each other and reflects an increase in their willingness to listen to and engage with each other.

New perspectives

In the evaluation questionnaire, participants were asked to state whether the workshop provided valuable new perspectives. In Uganda, 50 % strongly agreed and 40 % agreed, meaning over 90 % (31 people) gained new and valuable perspectives (see Figure 11a).

In Rwanda, the feedback was slightly more moderate with 37 % (ten people) strongly agreeing, 41 % agreeing (eleven people), and 22 % (six people) neither agreeing nor disagreeing (see Figure 11b). Clearly, this type of workshop is essential for public and PS participants in ATVET to gain valuable and new perspectives on their collaborations.

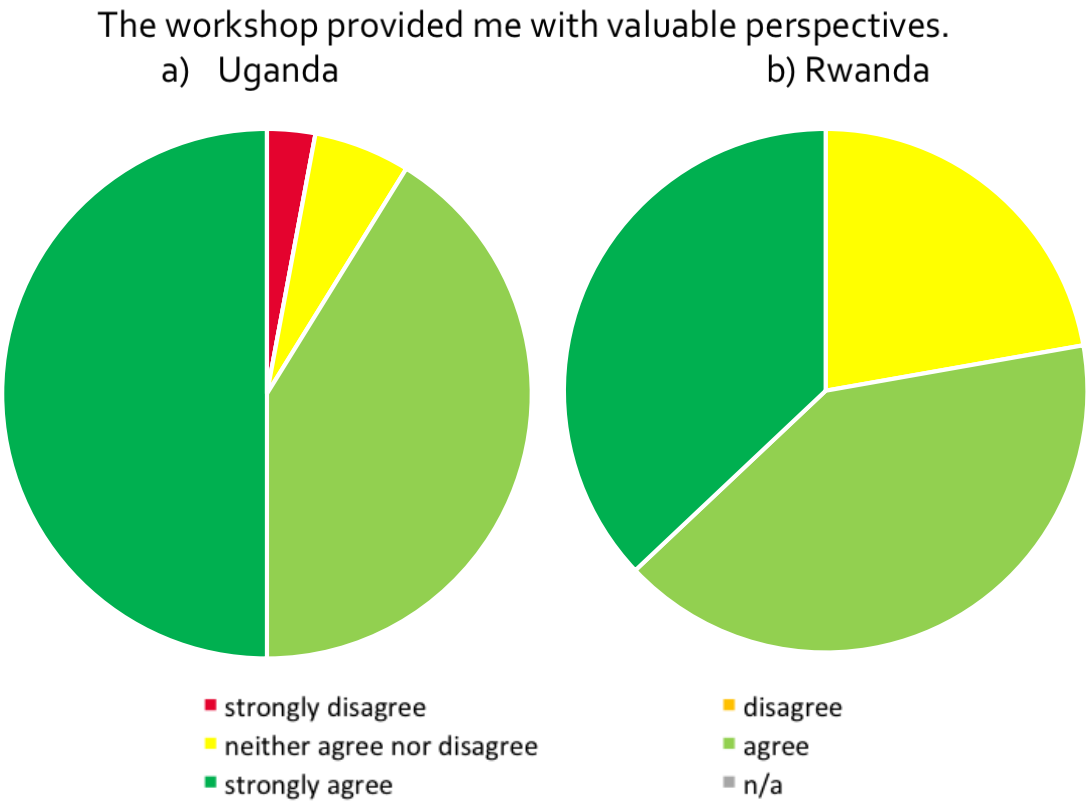


Figure 11: Results of workshop evaluation question E, Uganda and Rwanda

Source: Evaluation questionnaires, Uganda and Rwanda

Willingness to engage in further cooperation

One of the most striking results of the workshop evaluation was the answer to the statement, "The workshop motivated me to engage in further cooperation." In Uganda, over 90 % of the participants stated that they were motivated to engage in further cooperation with 56 % strongly agreeing (19 people) and 35 % agreeing (12 people) (see Figure 12a).

In Rwanda, the results were almost exactly the same: over 90 % of the participants confirmed their motivation to engage in further cooperation, with 45 % strongly agreeing (12 people), 48 % agreeing (13 people) and 7 % neither agreeing or disagreeing (two people) (see Figure 12b).

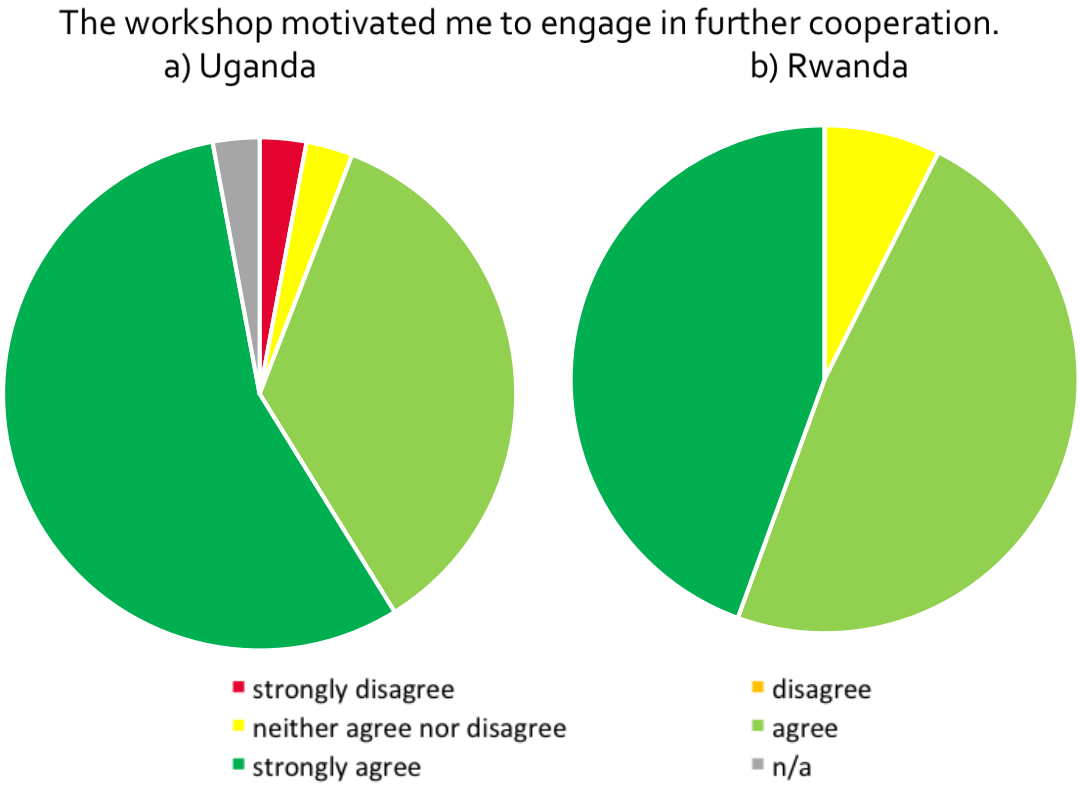


Figure 12: Results of workshop evaluation question F, Uganda and Rwanda

Source: Evaluation questionnaires, Uganda and Rwanda

The results in both countries confirm that the workshop content highly impacted participants' motivation to further engage with each other on future cooperation. It also shows that a platform where stakeholders interact face-to-face serves as a great tool for enhancing cooperation. Much has been speculated among development practitioners and in scientific literature about mistrust and antagonism between public and PS actors in Africa; however, our results point in a totally different direction: all stakeholders (with minimal exceptions) expressed high appreciation of their counterparts and are highly motivated to engage in further cooperation. This can also be interpreted as proof that SDW facilitates trust-building among participants.

Composition of stakeholder groups

As stated in chapter 2.2, for a cooperation to be successful, all the key stakeholders must be involved. For this reason, it was important to have three stakeholder groups in the room: the ATCs and PS companies (partners in cooperations) and trainees (as the pivotal beneficiaries of these cooperations). It

was also important to have an equal number of each stakeholder group to allow for small mixed groups and testing the collaboration on a small scale.

In both countries, there was a mismatch in hierarchy between trainees and other participants, between ATC management and staff, and between male and female participants. This was revealed when the stakeholders were working in mixed groups. Trainees in both countries and Ugandan female participants were very reserved and less actively engaged in group work. The code of conduct aimed to minimise the impact of existing hierarchies ("we don't want to focus on hierarchies"), share the responsibility of inclusivity, and encourage quiet participants to contribute.

Stakeholders from different groups were able to work together despite pre-existing hierarchies. For example, the Ugandan Assistant Commissioner, Human Resources of MAAIF shared her concerns on sensitive sexual harassment cases with trainees, which allowed the trainees to open up as well. For the trainees, interacting intimately with high-ranking officials is something they had never experienced before. Feedback that reached our counterpart in Uganda referred to this, "Empowering and giving room to the trainees to raise their issues on a given platform concerning training was well appreciated by some PS company members as it ensures openness and clear areas to be addressed tactfully" (TWG1).

Despite meticulous planning, the number of participants from each stakeholder group could not be perfectly matched. In Uganda, a quarter of the participants came from the PS, not a third, as aimed for. This was reflected in the remarks in the evaluation questionnaires: in both countries, participants wished for more PS representation in the workshops. Although in Rwanda the number of participants belonging to the different groups was well balanced, participants still wished to involve more PS representatives, especially those in decision-making positions. This feedback probably referred to preconceived notions, also expressed during expert interviews, that the PS is usually underrepresented in consultation meetings; hence, the research team diligently conducted follow up calls to the SDW invitations. Despite this, not all invited PS actors came to the SDWs; however, the meeting attracted CEOs and senior company managers, which was more important than merely filling quotas.

Additionally, in Rwanda, multiple actors suggested that (local) government should be more involved in the discussions to expedite potential cooperations. While the research study was well linked to the Technical Working Groups at initiation and commencement of the research, it is advisable to recognise local government authorities as stakeholders in the ATVET system.

Sustainability of communication process

Unfortunately, the sustainability of the communication process must be highlighted as a constraint that the workshop could not impact upon. Despite participants' high motivation during and shortly after the workshop, when returning to daily routine, motivation levels may decrease over time and the intended cooperation will requiring further nudging, echoing a concern from a participant in Uganda who stated that the workshop, "…was a great engagement platform for all key stakeholders, however there was need to see how this will keep happening annually at least to ensure what has been started becomes sustainable" (TWG1). Although it is too early to remark on stakeholders' intensification of cooperation, initial observations support that this project is taken seriously by decision makers at multiple levels.

1. The number of participants for the workshop was very high with almost all invitees attending and, in Uganda, more participants than invitees in attendance.
2. Rigorous support was demonstrated by national governments who sent high-level representatives to open and close the meetings[17].
3. The research team was requested to present recommendations from the SDW at extraordinary TWG meetings called specifically for this purpose. The chair of the TWG and the High Commissioner of Human Resources emphatically reiterated their government's commitment to implement the recommendations. These points illustrate the enthusiasm and conviction that Ugandan partners are exhibiting and may help to sustain communication processes in Uganda.

In Rwanda, linkage to the national level was provided through a TWG meeting which communicated the SDW results at the national level to ensure the TWG's support for direct engagement between ATCs and PS actors. The presentation was well received, but not treated with a high level of urgency and enthusiasm by ministry officials.

Further evidence that intensified communication in cooperation will continue into the future was received after the SDW: Fisheries Training Institute in Uganda expressed the wish to form a dialogue forum to keep a steady communication process going. Similarly, PS stakeholders in Rwanda expressed a need for a similar

[17] In Uganda, the High Commissioner Human Resources of the Ministry of Agriculture formally opened the workshop and the Assistant High Commissioner participated during the second day and formally closed the meeting.

forum. A Rwandan PS actor stated, "There is no coordinated platform to cooperate. I might come to you and then I see you don't want to discuss about challenges, so there is no encouragement to talk. Someone has to take this role" (PS10). This shows that an exchange platform for stakeholders is needed and will contribute to more successful cooperation.

6 Concluding discussion

The concluding discussion firstly recaps and analyses the discussed results in order to answer the study's four research questions on incentives for (see chapter 6.1), capacities of (see chapter 6.2), contribution toward GTC by (see chapter 6.3), and hindering factors for (see chapter 6.4) PS cooperation within the ATVET education system. Sub-chapter 6.5 then looks at the broader perspective and critically reflects upon the ATVET programme. Finally, the scope of the SLE study is stated (see chapter 6.6).

6.1 What incentives could encourage the PS to participate in the ATVET system?

Even though many companies seem to be aware that there are challenges in the cooperation and that most direct benefits do not materialise immediately, they are still highly motivated to collaborate. Overall, the incentives for the PS to participate within the ATVET system determined during the research process cover all five theoretical motives for companies to cooperate in skills development mentioned in the literature; that is, investment motive, social responsibility motive, reputation motive, productive motive, and screening motive (see chapter 2.2.1).

The main incentive to engage in ATVET observed is the generation of a highly skilled future workforce that satisfies sectoral demand (investment motive). However, cooperating and thus investing into skills development is not only done to satisfy companies' own need for skilled employees. The PS views cooperation with the ATVET system as a mechanism to foster the industry along the respective value chain in the long term. While few trainees are employed by cooperating companies, there is acceptance and common understanding that many trainees will enter the sector as new entrepreneurs, thereby expanding industries along the value chain, strengthening economies, and providing companies with opportunities to grow. This is especially evident in Rwanda where existing policies support new businesses, such as the provision of starting capital.

Companies in both countries demonstrated social responsibility motives and considered the positive social and economic effects on the industry, the region, and the whole nation in their decision to cooperate. Actors realised that common efforts across the nation to improve agricultural productivity will affect the prevailing unemployment situation.

Another incentive to engage in ATVET observed in both countries is a reputation motive: cooperation provided companies opportunities to strengthen networks with other value chain actors (customers, suppliers, and other business partners) as trainees act as *advocates* for a company and its products. Furthermore, former interns can become future clients/customers as they enter self-employment or start working in companies connected along the value chain.

PS partners enjoy a productive motive in cooperating. Exchanging expertise between cooperation partners is an incentive to cooperate, as companies can, for example, benefit from interns' theoretical knowledge and innovative ideas. They realise ATCs' important role in providing new sources of information and advancements in research while they are willing to share real-life experiences and hands-on knowledge (e.g. during guest lectures, field trips, or open days). Intensive dialogue with educational institutions helps companies stay up to date about sectoral developments and improve their competitiveness and thus profits.

Additionally, companies pursue a screening motive through internships which help identify the most suitable and high-performing employees for open positions. Companies can reduce recruitment and in-house training costs.

To summarise, long-term incentives of cooperation within ATVET systems for the PS are to establish economic growth through professionalisation and development of their value chain. Short- and medium-term incentives derive from benefits brought into the company during internships and from knowledge exchange with ATCs.

6.2 What capacities does the PS have to improve the quality of education in ATVET programmes?

ATCs as well as trainees regard the PS's contributions as highly beneficial to the training. The PS has a unique ability to inspire youth to become active in agriculture by providing positive future prospects in the sector.

This is partially due to the PS's capacities to expose trainees to real-life industry situations in terms of skills and machinery, which ATCs cannot offer. ATCs aim to provide a skills-oriented training, but they often lack certain technologies, which are too expensive when not used commercially. In general, the distinction between what the ATVET system can bring to the table (i.e. equip the trainees with a theoretical foundation and impart the practical principals needed in the industry) and what the PS can contribute (i.e. exposure to real life and application of theoretical knowledge and practical skills) is easy. However,

how these elements can be put to work in a concerted system requires a lot of coordination and planning on the parts of the ATC and PS company's management.

The positive effects of the internships become most evident when looking at the trainees' attitude, knowledge, and skills. For example, the AESIF 2015-2025, identifies the "apathy of youth and women toward AET [agriculture education and training] learning systems development of entrepreneurial skills" (NEPAD, 2015, 6) as a key constraining factor to be addressed, although the agricultural sector provides the largest source of employment and income in sub-Saharan Africa. The internship in companies makes a great contribution toward motivating trainees to become engaged in the sector.

Therefore, companies of all sizes can play an important role in motivating youth. Large companies may have more capacities to take in interns and are able to provide modern technology. Through their size, they often have a larger variety of tasks to do, which enables a comparably large knowledge exchange for trainees. In the long run, they are also more likely to provide employment, as many of them frequently search for skilled personnel. Smaller companies have less capacity to do so; however, they inspire youth to become entrepreneurs by telling their story and demonstrating ways to start a business without large investments. They are role models as they provide an image of agriculture as a market-oriented business in which young, skilled people can make great contributions. Thus, their main strength is exchange of experience.

This inspirational capacity is especially effective when promoting GTC. Female entrepreneurs and technical experts from the industry are role models for young women and allow female interns to see their futures as professionals in the agricultural sector. This valuable resource should not only be used during internships, but also through guest lectures and other forms of exposure, for example through open days in cooperating companies.

6.3 What are the opportunities for the PS to contribute to GTC through ATVET?

The analysis of gender issues crosscut the research process (interviews, focus groups, and the SDW) in order to identify entry points for change in women's situations, their challenges, and their opportunities within the ATVET system. The study's results suggest that the PS´s capacities to support gender equality and women's empowerment could primarily take the form of role modelling for male

and female students, specifically through the involvement of business women and other female professionals before, during, and after internships. This will help break stereotyped perceptions of women´s role in society at large. Mentorship programmes could give the opportunity for the PS to foster GTC in its cooperation with the ATCs.

In turn, by inviting women from the PS as guest lecturers to ATCs to give input about their expertise, reflect on how women add value to companies, and provide career guidance, cooperation between ATCs and the PS could be strengthened.

The PS could play a stronger role in enabling young women's participation in internships by addressing their specific needs, including providing adequate infrastructure for female students and their children and providing safe working conditions free of the threat of gender-based violence. This could enable women to perform better, give them confidence, and encourage them to further their aspirations in the agricultural sector. This will benefit them at the individual level, but, as we have seen in the quadrant of change, it will also feed into long-term changes to cultural norms and perceptions of women.

6.4 What factors hinder mutually beneficial cooperation between stakeholders in ATVET?

The integration of the PS is already happening and cooperations are producing initial results; however, barriers to realisation of their full potential exist: weak communication, insufficient process knowledge and formalisation, low awareness of ATVET systems, and lack of resources.

6.4.1 Insufficient communication

Insufficient communication is a major hindering factor of cooperation between ATCs and PS actors. During the interviews, it became evident that many companies that host interns are unsatisfied with the communication from the ATCs. Supervisors are often absent or unavailable. Personal encounters are rare and the most relevant stakeholders (decision-makers) do not usually attend joint meetings. Communication processes between actors who are engaged in cooperation are insufficient and contribute to misconceptions about the actors, their (unrealistic) expectations, and their (unclear) roles and responsibilities. Here, the need for a direct communication interface (e.g. in the form of liaison officers) and for more face-to-face interaction (e.g. in the form of regular workshops or meetings) is stressed.

It is not only the lack of communication that hinders cooperation, but also the way communication takes place. During the SDW, communication was classified as a "difficult topic" (ATC1), particularly the communication channels used (phone calls or emails). Through the SDW, it became clear that face-to-face communication needs to take place to build trust and relationships and allow for successful cooperation. The current situation points to under-utilised opportunities for trust building and insufficient expectation management. The positive SDW feedback showed there is potential for improving communication processes between ATCs and their PS partners, especially when it is well-facilitated and linked to national-level actors.

6.4.2 Underdeveloped formalisation

In a cooperation, the lack of communication and lack of formalisation can be compared to a chicken-and-egg situation. Poor communication leads to inadequate formalisation, yet without a formalised foundation, stakeholders feel communicating is pointless. Many enterprises mentioned that very few formal MoUs were in place and, as a result, enterprises are unclear about what they should offer during internships. At the same time, some PS actors hold unrealistic expectations of their contributions to curricula development and trainees' skills level. To remedy this situation, IPRC Musanze has recently installed a liaison office; neither of the Ugandan ATCs have made similar provisions yet.

6.4.3 Low awareness of ATVET among stakeholders

Another factor hindering cooperation is knowledge gaps or poor access to information about the ATVET programme and system. This is especially the case for non-cooperating companies that don't know of the existence of ATVET (Uganda) or that are aware of it, but don't yet know how to become involved in it (Rwanda). As the example of Yalelo in Uganda shows, new PS actors don't recognise ATCs as entry points for staff and intern recruitment, exemplifying that the visibility of ATVET in Uganda is still low. Non-cooperating actors in Rwanda are very willing to cooperate, but are ignorant of the requirements for entering a cooperation with ATCs and erroneously assume they do not qualify.

6.4.4 Lack of resources

Companies provide internships when the benefits exceed the costs of providing internships. Until now, there are no direct benefits to such long-term investments. Long-term investments are only considered if there are no or few

risks involved. Accommodation, food, and transport constituted key costs for internship provision. Looking at companies that received high numbers of interns, in several cases, this was possible due to support by donors or national bodies, like the PSF in Rwanda. Some companies offered internships and short-term training, but asked for fees, which trainees have difficulties paying. Although highly motivated, the high costs for infrastructure development (e.g. accommodation) can hinder the actor from committing to a cooperation. These costs and other material costs need to be addressed on the national level as companies, especially those non-cooperating, and ATCs do not have the financial means.

6.5 Scope of the study

The knowledge raised by the study is meant to be transferable to other situations. However, in doing so, the local cultural context needs to be taken into consideration. Moreover, this study aimed to be partially comparative to another SLE study conducted in Benin and Togo (see Kulla et al., 2020 in List of publications).

In regard to GTC, the study presents preliminary information on the situation of women in ATVET systems. A quantitative needs assessment on gender issues could not be provided by this study and is necessary to better comprehend the extent of the challenges pointed out by the interviewees in this study for improved implementation or rollout of the ATVET for Women Programme.

6.6 Broader perspective and critical reflection

Agriculture is Africa's most important economic sector, generating on average 25 % of the gross domestic product on the continent and employing nearly two-thirds of the labour force. Considering that 41 % of Africa's population (i.e. 500 million people) is under the age of 15 years, any investment into education and vocational training appears to be a good one. As such, ATVET can make an important contribution to poverty alleviation and attainment of food security. However, as the ATVET system interlinks with the overall education system at the secondary and tertiary levels, where entry barriers for children from resource-constrained smallholder farming families are prohibitively high, its directly pro-poor stimulus may be questioned. Even ignoring, for the moment, recent critical reviews (Krugman, 2008; Stiglitz, 2012) of programmes, like ATVET, that are based on the assumption of a trickle-down-effect, two main challenges remain in the view of the authors of this report.

First, a fledgling value chain with a poor production base will be unable to support employment for well-educated ATVET graduates who wish to enter the chain at or above the production level. As such, the jobs ATVET students are training for may never be created and, in desperation to find employment in the industry, they are likely to crowd out smallholder farmers as well-educated young agripreneurs, thereby undermining pro-poor growth. Thus, ATVET systems must actively interlink with and support agricultural extension systems, which are long due for an overhaul.

Secondly, the pressure on global food systems continues to steadily increase, attracting large-scale investments in the exploitation of Africa's alleged abundant potential for agricultural development. While this may be good news for ATVET graduates, it will up the stakes for ATCs as they may face much more powerful stakeholders than what they are used to. Some of these multinational giants may then have the muscle and the inclination to influence, or even dictate, curriculum development and delivery as social and ecological standards frequently negatively impact on profit margins. Entering cooperations with such partners may, indeed, undermine institutional independence and impinge upon the educational mandate of ATCs.

7 Recommendations

Based on the conclusions drawn from the study analysis, the following interventions are recommended to improve the quality of education and skills development in the ATVET system, so that labour markets needs are better met. The first set of recommendations is directed at the linkages between ATCs and their partners from the PS. The second set is directed at actors from the national level. Once these quality improvements are achieved and the ATVET system is appreciated by the PS, co-financing arrangements may be agreed on to work toward the financial sustainability of ATVET systems based on domestic resources.

7.1 ATC level

Central to the improvement of the linkages between ATCs and PS actors is the establishment of liaison offices. Their responsibilities should include

- the establishment and monitoring of cooperation agreements (i.e. MoUs),
- the establishment of databases for PS–ATC partners as well as ATC alumni, and
- the establishment and organisations of regular dialogue platforms and communication channels.

MoUs between ATCs and PS companies should define and govern the provision of internship opportunities including information on the company's main operations, the number of interns that can be hosted each year, the curricular elements on which the company can instruct interns, and logistical and reporting arrangements. Knowledge exchange arrangements with PS companies may also be agreed in these MoUs. These exchanges may include refresher courses for staff of companies in exchange for guest lectures by PS experts on specialised technical aspects at ATCs.

Information on all issues agreed upon in the MoUs should be entered and regularly updated in a database maintained by the liaison office.

A corresponding database should be maintained on alumni of the ATC to facilitate experience exchange through mentoring programmes for trainees, especially female trainees, and promotional activities by ATVET ambassadors. To establish and maintain such alumni databases, ATCs should conduct regular tracer studies.

Regular stakeholder dialogue events (similar to the SLE SDW) should be conducted to monitor and review the implementation of MoUs (i.e. internships), but also to review developments in the sector that may impact on curriculum delivery and development. Such participatory approaches are only successful if participants gain agency through them. Hence, dialogue events must have well-defined and implementable mandates and their resolutions need to be incorporated into workplans. Further, by bringing together PS stakeholders who operate in different steps of a value chain, the dialogue events may aid better coordination of actors along the chains and harmonisation of their training needs. Such events may be complemented by continuous communication and outreach channels, like WhatsApp groups, interactive websites etc., where cooperation partners have easy and immediate access to information and a support network.

7.2 National level

Actors at the national level may contribute to the integration of PS actors in the ATVET system in the following ways:

- The Technical Working Groups should co-opt PS umbrella organisations that are active in ATVET value chains and possess the demonstrated capacity to represent their constituencies effectively.
- The government should offer incentives (e.g. in the form of tax breaks for new machinery and/or loans to build accommodation infrastructure for interns) to PS companies that are prepared to commit to hosting a specified number of interns each year.
- The government should set up an ATVET fund for ATCs to establish new accommodation and infrastructure for practical instruction.
- The government should set up an internship grant facility to enable, especially female, trainees to conduct internships on the condition of participating in mentorship programmes or becoming ATVET ambassadors after their graduation.
- The government should consider interventions to promote the ATVET system among
    - girls in rural areas, especially during their ninth year of basic education, through outreach programmes using ATVET ambassadors,

  - PS companies by making ATVET benefits visible through success stories, for example on existing websites, and
  - potential investors by linking the Rwanda Development Board and Uganda Investment Authority with corresponding ATVET structures.

- Supporting agencies, specifically the GIZ, should render support to liaison offices at ATCs until their capacity for effective stakeholder engagement is developed and sufficient resources for their operations can be provided through regular ATC budget lines. Thus, GIZ may make use of their capacity as a neutral broker while enabling ATC liaison offices to gain process knowledge on
  - stakeholder dialogue facilitation and participatory approaches,
  - developing and maintain communication channels,
  - database management and monitoring tools with specific focus on GTC indicators, and
  - establishment and monitoring of MoUs.

8 References

Acland, A. (2012). Dialogue by design: a handbook of public and stakeholder engagement. Dialogue by Design (3 2008).

Acquaye, D. (2018). Stocktaking Studies of ATVET in Uganda. Consultant report by Agri-Impact Consult for GIZ/AUDA-NEPAD ATVET.

Arthur, S. and Nazroo, J. (2003). Designing fieldwork strategies and materials. In: Qualitative research practice: A guide for social science students and researchers. Ritchie, J., and Lewis, J. (Eds.). SAGE. 1, 109–137.

Atkinson, R., and Flint, J. (2001). Accessing hidden and hard-to-reach populations: Snowball research strategies. Social research update, 33(1), 1–4.

Axelrod, R. M. (2006). The evolution of cooperation (rev. ed.). Basic Books.

Badke-Schaub, P., Hofinger, G., and Lauche, K. (Eds). (2008). Human Factors. Springer.

Bressers, H. (2007). Contextual Interaction Theory and the issue of boundary definition: Governance and the motivation, cognitions and resources of actors. External report ISBP EU-project, ISSN 1381, 6357.

Brouwer, H. and Brouwers, J. (2017). The MSP Tool Guide: Sixty tools to facilitate multi-stakeholder partnerships. Companion to The MSP Guide. Wageningen University and Research, Centre for Development Innovation.

CEDAW (Convention on the Elimination of All Forms of Discrimination against Women). (2017a). Reports by specialized agencies on the implementation of the Convention in areas falling within the scope of their activities. CEDAW/C/66/3. United Nations.

CEDAW (Convention on the Elimination of All Forms of Discrimination against Women). (2017b). Concluding observations on the combined seventh to ninth periodic reports of Rwanda. CEDAW/C/RWA/CO/7-9. United Nations.

Daumerie, B. and Madsen, E. L. (2010). The effects of a very young age structure in Uganda. Country Case Study. The Shape of Things to Come Series. Population Action International.

DFID. (2003). Tools for Development. A handbook for those engaged in development activity. Version 15.1. Performance and Effectiveness Department. Department for International Development.

Dodds, F. and Benson, E. (Eds.) (2013). Multi-Stakeholder Forum for a Sustainable Future. Civicus.

FAO (2018). Leaving no one behind: Empowering Africa's rural women for Zero Hunger and shared prosperity. (http://www.fao.org/publications/card/en/c/CA1506EN, retrieved on 27.05.2020).

GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH) (2015). Cooperation management for practitioners: Managing social change with capacity WORKS. s.l.: Springer Gabler.

GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH) (2017). African Union: Transforming agriculture through skills development for women. Eschborn. (web pdf), https://www.giz.de/en/downloads/ATVET%20Women%20-%20FINAL.pdf.

GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH) (2019). Gender Transformative Change in ATVET. Agricultural Technical Vocational Education and Training for Women (ATVET for Women) Project.

Griffin, T. M. (2008). Effective Intercultural Communication. In C. B. Halverson and S. A. Tirmizi (Eds.), Advances in Group Decision and Negotiation: Vol. 3. Effective Multicultural Teams: Theory and Practice (Vol. 3, pp. 173–210). Springer. https://doi.org/10.1007/978-1-4020-6957-4_7.

Hemmati, M. (2002). Multi-stakeholder processes for governance and sustainability: Beyond deadlock and conflict. Earthscan Publications.

Hemmati, M., Verhoosel, K., and van Vugt, S. (Eds.). (2016). The MSP guide: How to design and facilitate multi-stakeholder partnerships. Rugby: Practical Action Publishing.

International Labour Organization (2014). Overview of apprenticeship systems and issues: ILO contribution to the G20 task force on employment Skills and Employability Department. Job Creation and Enterprise Development Department, Geneva. (web pdf), https://www.ilo.org/wcmsp5/groups/public/---europe/---ro-geneva/---sro-moscow/documents/publication/wcms_345485.pdf.

International Labour Organization (2019). Employment in agriculture, female and male. (https://data.worldbank.org/indicator/SL.AGR.EMPL.FE.ZS, retrieved on 27.05.2020).

Kaffenberger, M. (2018). We Need More Investment in Education – Not Just Spending on "More of the Same". RISE (Research on Improving Systems of Education). (https://www.riseprogramme.org/blog/more_investment_in_education, retrieved on 27.05.2020).

Kammhuber, S., Kinast, E.-U., Schroll-Machl, S. and Thomas, A. (Eds.) (2009). Handbuch Interkulturelle Kommunikation und Kooperation: Band 1 und 2 zusammen (2. Aufl.). Göttingen: Vandenhoeck and Ruprecht. http://dx.doi.org/10.13109/9783666461866.

Krugman, P. (2008). Die USA sind kein Vorbild. Interview with M. Kaufmann in: manager magazin on 26. May 2008. (https://www.manager-magazin.de/unternehmen/artikel/a-554651.html, retrieved on 27.05.2020).

Lee, J.-W. (2014). Why we must invest more in education. (https://www.weforum.org/agenda/2014/09/invest-in-education-income-inequality/, retrieved on 27.05.2020).

Liamputtong, P. (Ed.) (2011). Focus Group Methodology: Principles and Practice. SAGE Publications Ltd. https://doi.org/10.4135/9781473957657.

Meinzen-Dick, R. et al. (2017). Do agricultural development projects reach, benefit, or empower women? UN Women, IFAD, FAO, WFP Expert Group Meeting 'Challenges and opportunities in achieving gender equality and the empowerment of rural women and girls'. EGM/RWG/EP.14. Rome, Italy. (https://www.unwomen.org/-/media/headquarters/attachments/sections/csw/62/egm/ep14%20%20ruth%20meinzendick.pdf, retrieved on 27.05.2020).

Munezero, D. (2019). Assessment Report: National Stock-Taking Exercise on The ATVET Sector in Rwanda. GFA.

Nechansky, H. (2018). Forms of Cooperation. Systems Research and Behavioral Science, 35(6), 703–717. https://doi.org/10.1002/sres.2513.

NEPAD (2015). Agricultural Education and Skills Improvement Framework 2015-2025 (AESIF). NEPAD Planning and Coordinating Agency.

NEPAD (2020). PS Involvement. AUDA-NEPAD Agency. (https://www.nepad.org/good-practice/private-sector-involvement, retrieved on 27.05.2020).

Nielsen, M. V., Bryndum, N. and Bedsted, B. (2017). Organising stakeholder workshops in research and innovation – between theory and practice. Journal of Public Deliberation. 13(2), 9.

OECD (2019). SIGI 2019 Global Report: Transforming Challenges into Opportunities, Social Institutions and Gender Index. OECD Publishing. https://doi.org/10.1787/bc56d212-en.

Ostrom, E. (2009). Collective Action Theory. In: The Oxford Handbook of Comparative Politics. Oxford Handbooks Online. doi: 10.1093/oxfordhb/9780199566020.003.0008.

Phillips, L. T., Weisbuch, M. and Ambady, N. (2014). People perception: Social vision of groups and consequences for organizing and interacting. Research in Organizational Behavior, 34, 101–127. https://doi.org/10.1016/j.riob.2014.10.001.

Rao, P. (2018). Confronting sexual violence in schools. United Nations African Renewal website. (https://www.un.org/africarenewal/magazine/august-november-2018/confronting-sexual-violence-schools, retrieved on 27.05.2020).

Schaeffer, P. V. and Loveridge, S. (2002). Towards an understanding of types of Public-Private Cooperation. Public Performance and Management Review, 26(2), 169–189. https://doi.org/10.1177/1530957602238261.

Schönfeld, G., Jansen, A., Wenzelmann, F. and Pfeifer, H. (2016). Kosten und Nutzen der dualen Ausbildung aus Sicht der Betriebe: Ergebnisse der fünften BIBB-Kosten-Nutzen-Erhebung (1. Aufl.). Berichte zur beruflichen Bildung. Bielefeld: W. Bertelsmann Verlag GmbH and Co. KG. (http://www.content-select.com/index.php?id=bib_view&ean=9783763957316, retrieved on 27.05.2020).

Stiglitz, J. E. (2012). Der Preis der Ungleichheit. (https://www.blaetter.de/archiv/jahrgaenge/2012/august/der-preis-der-ungleichheit, retrieved on 27.05.2020).

Stöber, S. (2010). Zwischen Landflucht und Lebens(t)raum: Wege zu lebendigen Dörfern in Brandenburg. Weikersheim: Margraf Publishers.

USAID/Rwanda (2015). Gender Analysis in Rwanda for the Youth Workforce Development Project. (https://www.usaid.gov/sites/default/files/documents/1860/GA%20-%20YWD%20project%20-%20FINAL%20Jan%202015%20-%20Public%20Version.pdf, retrieved on 27.05.2020).

Whiting, L. S. (2008). Semi-structured interviews: Guidance for novice researchers. Nursing Standard. Royal College of Nursing 1987. 22(23), 35–40. https://doi.org/10.7748/ns2008.02.22.23.35.c6420.

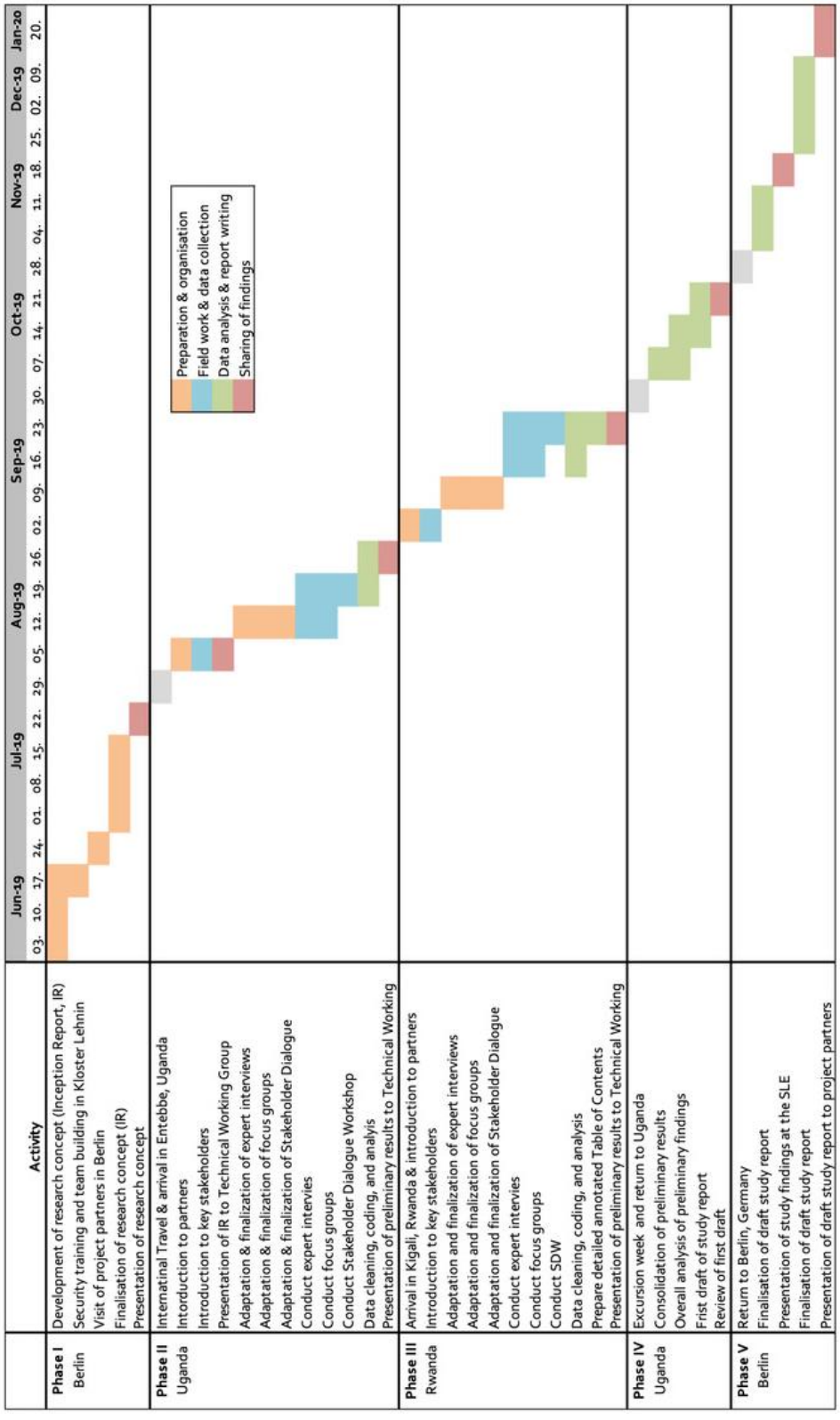
World Bank (2019). Agriculture, forestry, and fishing, value added (% of GDP). (https://data.worldbank.org/indicator/NV.AGR.TOTL.ZS, retrieved on 27.05.2020).

World Economic Forum (2017). The Global Gender Gap Report 2017. World Economic Forum.

Zhang, Y. and Wildemuth, B. M. (2009). Qualitative analysis of content. In: B. M. Wildemuth, Ed., Applications of Social Research Methods to Questions in Information and Library Science, Libraries Unlimited.

9 Annex

Annex 1: Gantt Chart – field phase



	Activity
Phase I Berlin	Development of research concept (Inception Report, IR)
	Security training and team building in Kloster Lehnin
	Visit of project partners in Berlin
	Finalisation of research concept (IR)
	Presentation of research concept
Phase II Uganda	Internatinal Travel & arrival in Entebbe, Uganda
	Intorduction to partners
	Introduction to key stakeholders
	Presentation of IR to Technical Working Group
	Adaptation & finalization of expert interviews
	Adaptation & finalization of focus groups
	Adaptation & finalization of Stakeholder Dialogue
	Conduct expert intervies
	Conduct focus groups
	Conduct Stakeholder Dialogue Workshop
	Data cleaning, coding, and analyis
	Presentation of preliminary results to Technical Working
Phase III Rwanda	Arrival in Kigali, Rwanda & introduction to partners
	Introduction to key stakeholders
	Adaptation and finalization of expert interviews
	Adaptation and finalization of focus groups
	Adaptation and finalization of Stakeholder Dialogue
	Conduct expert intervies
	Conduct focus groups
	Conduct SDW
	Data cleaning, coding, and analysis
	Prepare detailed annotated Table of Contents
	Presentation of preliminary results to Technical Working
Phase IV Uganda	Excursion week and return to Uganda
	Consolidation of preliminary results
	Overall analysis of preliminary findings
	Frist draft of study report
	Review of first draft
Phase V Berlin	Return to Berlin, Germany
	Finalisation of draft study report
	Presentation of study findings at the SLE
	Finalisation of draft study report
	Presentation of draft study report to project partners

Annex 2: Primary data collected

Citation Code	Method	Participant/ Stakeholder Group	Organisation	Country
PS1	Expert interview	PS	Brookside Dairy Ltd.	Uganda
PS2	Expert interview	PS	Aquafarm	Uganda
PS3	Expert interview	PS	Zirobwe	Uganda
PS4	Expert interview	PS	SibCo	Uganda
PS5	Expert interview	PS	Bulamu Mixed Farm Productions	Uganda
PS6	Expert interview	PS	Source of the Nile	Uganda
PS7	Expert interview	PS	Ferdsult	Uganda
PS8	Expert interview	PS	Garuga Interfish	Uganda
PS9	Expert interview	PS	Holland Greentech	Rwanda
PS10	Expert interview	PS	Horizon Sopyrwa	Rwanda
PS11	Expert interview	PS	Imbaraga Farmer Organisation	Rwanda
PS12	Expert interview	PS	Rwanda Best Training Center	Rwanda
PS13	Expert interview	PS	CARL Group	Rwanda
PS14	Expert interview	PS	Ese Urwibutso Enterprise	Rwanda
PS15	Expert Interview	PS	Lira Integrated School	Uganda
PS1_NC	Expert interview	PS non-collaborating	Ctaga Ltd.	Rwanda
PS2_NC	Expert interview	PS non-collaborating	Kazihorti Ltd.	Rwanda
PS3_NC	Expert interview	PS non-collaborating	KUC Ltd.	Rwanda
PS4_NC	Expert interview	PS non-collaborating	Global Farmers	Rwanda
PS5_NC	Expert interview	PS non-	Covafga	Rwanda

		collaborating		
PS6_NC	Expert interview	PS non-collaborating	Yalelo	Uganda
ATC1	Expert interview	Agricultural Training Centre	Fisheries Training Institute, Entebbe	Uganda
ATC2	Expert interview	Agricultural Training Centre	Bukalasa Agricultural College	Uganda
ATC3	Expert interview	Agricultural Training Centre	College Foundation Sina Gerard	Rwanda
ATC4	Expert interview	Agricultural Training Centre	Integrated Polytechnical Regional College Musanze	Rwanda
FGD1_F	Focus group discussion	Female trainees	Fisheries Training Institute	Uganda
FGD2_F	Focus group discussion	Female trainees	Bukalasa Agricultural College	Uganda
FGD3_F	Focus group discussion	Female trainees	Fisheries Training Institute	Uganda
FGD4_F	Focus group discussion	Female trainees	College Foundation Sina Gerard	Rwanda
FGD1_M	Focus group discussion	Mixed-gender trainees	Fisheries Training Institute	Uganda
FGD2_M	Focus group discussion	Mixed-gender trainees	Bukalasa Agricultural College	Uganda
FGD3_M	Focus group discussion	Mixed-gender trainees	Fisheries Training Institute	Uganda
FGD4_M	Focus group discussion	Mixed-gender trainees	Integrated Polytechnical Regional College Musanze	Rwanda
FGD5_M	Focus group discussion	Mixed-gender trainees	College Foundation Sina Gerard	Rwanda
PS1_ SDW	Stakeholder Dialogue Workshop	PS	Anonymous PS participant	Uganda
ATC1_SDW	Stakeholder Dialogue Workshop	Agricultural Training Centre	Anonymous ATC participant	Uganda

TR1_ SDW	Stakeholder Dialogue Workshop	Trainee	Anonymous trainee participant	Uganda
PS2_ SDW	Stakeholder Dialogue Workshop	PS	Anonymous PS participant 2	Rwanda
ATC2_SD W	Stakeholder Dialogue Workshop	Agricultural training centre	Anonymous ATC participant	Rwanda
TR2_ SDW	Stakeholder Dialogue Workshop	Trainee	Anonymous trainee participant	Rwanda
TWG1	Technical Working Group	National level	Participant of Technical Working Group	Uganda
TWG2	Technical Working Group	National level	Participant of Technical Working Group	Rwanda

Annex 3: Coding matrices

ATC coding matrix

	Topic	Code
1	Gender	Women underrepresented among staff
2		Women underrepresented among trainees
3		Increasing number of female trainees
4		Women are represented within the organisation
5		The government does not provide incentives for female students
6		Insufficient promotion of women
7		Positive perception of women´s attitude, knowledge and skills
8		Negative perception of women´s attitude, knowledge and skills
9		Women have more employment opportunities
10		Women have fewer employment opportunities
11		Women are promoted
12		Neutral perception on gender differences
13	Needs	Improved curricula
14		Improved equipment
15		Infrastructure (e.g. accommodation and food)
16		Improved ToTs
17		Regulatory framework and incentives (tax breaks, laws, etc.)
18		Improved timing of internships (when)
19		Longer duration of internships (how long)
20	Strengths	Impact of internship on attitude, knowledge and skills
21		Cooperation based on mutually beneficial exchange
22		Cooperation supports curricula development
23		Comparative advantage to university students
24		High motivation of actor (willingness to cooperate)

25		Improved job opportunities
26	Opportunities	Building, expanding, and strengthening networks
27		Knowledge exchange and innovation transfer
28		Continuous curricula adaption
29		Satisfy need for skilled workers
30		Strengthen / Develop the industry along the value chain
31		Potential cost savings and productivity increases
32	Weaknesses	Lack of motivation among trainees
33		Insufficient skills of trainees before internship
34		Lack of trust and understanding of PS
35		PS raises fee for internships
36		Insufficient exchange between ATC and PS
37		No formalised cooperation (e.g. MoU , liaison offices)
38		PS needs change faster than curriculum adaption
39		Lack of incentives for PS
40		No comparative advantage to university students
41		Insufficient monitoring and supervision
42		Lacking security for PS (as insurances for trainees)
43	Threats	Interference of PS in ATC management
44		Corrupt practices (e.g. tribalism)
45		Sexual harassment/exploitation of trainees during internship
46		Ecological threats of businesses-oriented agriculture
47		Exposure of valuable company knowledge to others

PS coding matrix

	Topic	Code
1	Gender	Women underrepresented among staff
2		Women underrepresented among trainees
3		Increasing number of female trainees
4		Women are represented within the organisation
5		The government does not provide incentives for female students
6		Insufficient promotion of women
7		Positive perception toward women´s attitude, knowledge and skills
8		Negative perception toward women´s attitude, knowledge and skills
9		Women have more employment opportunities
10		Women have fewer employment opportunities
11		Women are promoted
12		Neutral perception of gender differences
13	Needs	Improved curricula
14		Improved equipment
15		Infrastructure (e.g. accommodation and food)
16		Improved ToTs
17		Regulatory framework and incentives (e.g. tax breaks, laws, etc.)
18		Improved timing of internships
19		Longer duration of internships
20	Strengths	Impact of internship on attitude, knowledge and skills
21		Cooperation based on mutually beneficial exchange
22		Cooperation supports curriculum development
23		Comparative advantage to university students
24		High motivation of actor (willingness to cooperate)
25		Improved job opportunities

26	Opportunities	Building, expanding, and strengthening networks
27		Knowledge exchange and innovation transfer
28		Continuous curriculum adaption
29		Satisfy need for skilled workers
30		Strengthen/Develop industry along the value chain
31		Potential cost savings and productivity increases
32	Weaknesses	Lack of motivation among trainees
33		Insufficient skills of trainees before internship
34		Lack of trust and understanding of PS
35		PS raises fee for internships
36		Insufficient exchange between ATC and PS
37		No formalised cooperation (e.g. MoU, liaison offices)
38		PS needs change faster than curricula adaption
39		Lack of incentives for PS to cooperate
40		No comparative advantage to university students
41		Insufficient monitoring and supervision
42		Lacking security for PS (as insurance for trainees)
43	Threats	Interference of PS in ATC management
44		Corrupt practices (e.g. tribalism)
45		Sexual harassment/exploitation of trainees during internships
46		Ecological threats of businesses-oriented agriculture
47		Exposure of valuable company knowledge to others

Female trainees coding matrix

	Topic	Code
1	Opportunities	Motivation
2		New skills
3		Encouragement
4		Equality
5		Decision making
6		Guidance and mentorship
7		Empowerment
8		Role of women in ATVET (positive perspective)
9	Challenges	Access to ATVET
10		Retention in system
11		Lack of attention of women's specific needs
12		Gender-based violence
13		Funding
14		Roles of women in ATVET (negative perspectives)

Mixed trainees coding matrix

	Topic	Code
1	Good quality of internship	Acquisition of crucial skills
2		Access to all fields of work in company
3		Satisfied with supervision
4		Opportunities/Will to work at hosting company
5		Internship increases job opportunities
6	Bad quality of internship	Unsatisfied with skills acquisition
7		Only doing minor tasks
8		Unsatisfied with supervision
9		No opportunities/Will to work at hosting company
10		Internships does not increase job opportunities
11	Gender	Equal job opportunities
12		Worse job opportunities
13		Sufficient support from ATC
14		Insufficient support from ATC
15		Sufficient support from PS
16		Insufficient support from PS
17	Needs	More technological skills
18		Sufficient scientific/research equipment
19		Sufficient machinery
20		Accommodation
21		Funding
22		Improved skills of trainers
23	Strengths	Trainees are satisfied with their training (Attitude)
24		Trainees view training as sufficient preparation (Attitude)
25		Trainees want to be employed in agriculture (Attitude)

26		Good employment opportunities after training (Skills)
27	Weaknesses	Trainees are not satisfied with training (Attitude)
28		Trainees don´t view training as sufficient preparation (Attitude)
29		Trainees view agriculture as makeshift solution (Attitude)

List of SLE publications since 2010

All studies are available for download at www.sle-berlin.de.

Peter Weinert, Bartholomeow Ayinbila A-obe, Christopher Eichhorn, Nadja Frercksen, Juliane Kaufmann, Sarah Marie Müller, Sergio Rakotozafy Tercero: *Bridging the Gap between People and Nature. An Evaluation of GIZ/SADC Support Projects for Strengthening Transfrontier Conservation Area Management in Southern Africa.* Berlin, 2020 — S283

Camilo Vargas Koch, Wiebke Beushausen, Mengina Gilli, Simon Schoening, Lukas Schreiner, Jana Zotschew: *Adaptation of rural livelihoods to structural and climatic changes in Western Mongolia. An analysis of potentials of horticultural production and tourism activities as income sources in Khovd and Uvs Province.* Berlin, 2020 — S282

Dorothea Kulla, Karen Dall, Thomas Grupp, Ronald Kouago, Thomas Nice, Mariam Salloum, Laura Sophie Schnieders: *Et moi, j'y gagne quoi ? Perspectives d'intégration des entreprises privées dans le système d'Enseignement et de Formation Techniques Professionnels Agricoles (EFTPA) au Bénin et au Togo*. Berlin, 2020 — S281 F

Klaus Droppelmann, Amelie Bohlen, Eva-Maria Graf, Zachary Kansiime, Christian Kramer, Didier Munezero, Melany Riquetti, Franziska Ulrich: *What is in it for me? Perspectives on integrating the PS into ATVET (Agricultural Technical Vocational Education and Training) in Rwanda and Uganda.* Berlin, 2020 — S280

Cosmas Kombat Lambini, Julia Bayer, Tobias Beyer, Konstantin Engelbrecht, May Hokan, Yannic Kiewitt, Nicolas Mielich, Henrice Stöbesand: *Conflicts, participation and co-management in protected areas – A case study of Lobéké National Park, Cameroon.* Berlin, 2019 — S279

Alexander Kaminski, Mara Gellner, Dominik Giese, Sharif Jabborov, Mario Lootz, Mary Lundebe, Boniface Nyika, Nicolas Patt, Azin Sadeghi, Muzamba Siachinga: *Opportunities and challenges for small-scale aquaculture in Zambia.* Berlin, 2019 — S278

Martin Schlecht, Sascha Berndt, Josefine Greber, Jan Marinko, Ukeme Okon Archibong, Anja Schmidt, Carolin Speckhahn, Hanna Weinsheimer: *Scaling up diversity to scale up nutrition – Improving interventions addressing sustainable nutrition behavior in women of reproductive age and infants: Case studies from rural Zambia and Togo.* Berlin, 2019 S277

Heidi Feldt, Manuel Marx, Nora Nebelung, Lisa Kirtz, Verena Vad, Johannes von Stamm: *How to bridge the skills gap to promote decent rural (youth) employment – A practitioner's guide.* Berlin, 2018 S276-2

Severin Halder, Jessica Agüero, Patrick Dolle, Enrique Fernández, Celia Schmidt, Michelle Yang: *Perspectives of Urban Agriculture in Maputo and Cape Town – Dialog, networks and future scenarios.* Berlin, 2018 S275

Klaus Droppelmann, Peggy Günther, Franziska Kamm, Ulrike Rippke, Carolin Voigt, Bartosz Walenda: *Cassava, the 21st century crop for smallholders? Exploring innovations along the livelihood-value chain nexus in Malawi.* Berlin, 2018 S274

Emil Gevorgyan, Elena Ammel, Rebekka Goeke, Julia Legelli, Sönke Marahrens, Florian Neubauer, Colleen O'Connor: *Closing the Knowledge Gap between research, policy and practice – Circular knowledge exchange on African indigenous vegetables for improved food and nutrition security in Kenya and Tanzania.* Berlin, 2018 S273

Camilo Vargas Koch, Constantin Bittner, Moritz Fichtl, Annika Gottmann, Vanessa Dreier, Wiebke Thomas: *Entwicklungsalternativen in Bergbauregionen Perus – Umweltauswirkungen des Bergbaus und Einkommensalternativen in der Landwirtschaft in Junín und Cajamarca.* Berlin, 2017 S272, 1

Camilo Vargas Koch, Constantin Bittner, Moritz Fichtl, Annika Gottmann, Vanessa Dreier, Wiebke Thomas: *Alternativas de desarrollo en las regiones mineras de Perú. Impactos ambientales de la minería e ingresos alternativos en la agricultura en Junín y Cajamarca.* Berlin, 2018 S272, 2

Susanne Dollmann, Erik Burtchen, Diana Diekjürgen, Laura Kübke, Rebecca Younan and Sophia-Marie Zimmermann: *Keep the bee in Ethiopia's wheatbelt – Challenges for apiculture integration in the intensified agricultural landscape of Arsi-Zone*. Berlin, 2017 S271

Rainer Tump, Johanna Damböck, Patric Hehemann, Victor Kanyangi Ouna, Oscar Koome Mbabu, Lukas Nagel, Manuel Risch, Anne Wanjiru Mwangi, Fanni Zentai: *Land Corruption Risk Mapping – Developing a handbook on how to identify and tackle corruption risks in land governance*. Berlin, 2017 S270, 1

Rainer Tump, Johanna Damböck, Patric Hehemann, Victor Kanyangi Ouna, Oscar Koome Mbabu, Lukas Nagel, Manuel Risch, Anne Wanjiru Mwangi, Fanni Zentai: *Handbook on Land Corruption Risk Mapping – How to identify and tackle corruption risks in land governance.* Berlin, 2017 S270, 2

Michaela Schaller, Elena Ingrid Barth, Darinka Blies, Felicitas Röhrig, Malte Schümmelfeder: *Scaling out Climate Smart Agriculture. Strategies and guidelines for smallholder farming in Western Kenya*. Berlin, 2017 S269

Thomas Pfeiffer, Daniel Baumert, Erik Dolch (Coauthors: Artem Kichigin, Elnura Kochkunova): *Quality falls from Kyrgyz trees! Do consumers know? Research on supporting food safety compliance to facilitate market access for Kyrgyz SMEs and economic opportunities for Jalal-Abad / Kyrgyzstan.* Berlin, 2016 S268

Thomas Pfeiffer, David Bexte, Erik Dolch, Milica Sandalj, Edda Treiber, Nico Wilms-Posen: *Measuring gaps and weighing benefits: Analysis of Quality Infrastructure Services along the maize and pineapple value chains in Ghana with a focus on smallholder farmers*. Berlin, 2016 S266

Bettina Kieck, Diana Ayeh, Paul Beitzer, Nora Gerdes, Philip Günther, Britta Wiemers: *Inclusion Grows: Developing a manual on disability mainstreaming for the German Development Cooperation, Case study in Namibia*. Berlin, 2016 S265, 1

Bettina Kieck, Diana Ayeh, Paul Beitzer, Nora Gerdes, Philip Günther, Britta Wiemers: *Inclusion Grows: Toolkit on disability mainstreaming for the German Development Cooperation*. Berlin, 2016 S265, 2

Ekkehard Kürschner, Daniel Baumert, Christine Plastrotmann, Anna-Katharina Poppe, Kristina Riesinger, Sabrina Ziesemer: *Improving Market Access for Smallholder Rice Producers in the Philippines*. Berlin, 2016 S264

André Fabian, **Gabriele Janikowski**, Elisabeth Bollrich, Ariana Fürst, Katharina Hinze, Melanie Hernandez Sanchez, Jens Treffner: *Bridging the Gap – Participatory District Development Planning in the Water Supply and Sanitation Sector of the Republic of Moldova.* Berlin, 2011 S247

Steffen Weidner, Nele Bünner, Zara Lee Casillano, Jonas Erhardt, Patrick Frommberg, Franziska Peuser, Eva Ringhof, Renezita Sales-Come: *Towards sustainable land-use – A socio-economic and environmental appraisal of agroforestry systems in the Philippine uplands.* Berlin, 2011 S246

Christian Berg, **Mirco Gaul**, Benjamin Korff, Kathrin Raabe, Johannes Strittmatter, Katharine Tröger, Valeriya Tyumeneva: *Tracing the Impacts of Rural Electrification in West Nile, Uganda – A Framework and Manual for Monitoring and Evaluation.* Berlin, 2011 S245

Hildegard Schürings, Nicole Bendsen, Justin Bomda, Malte Landgraff, Peter Lappe, Eva Range, Catharina Weule: *Réduction de la Pauvreté par la Microfinance? Analyse Participative des Clubs d'Epargne et de Crédit au Cameroun.* Berlin, 2011 S244

Heidi Feldt, Jan Kleine Büning, Lea Große Vorholt, Sophie Grunze, Friederike Müller, Vanessa Völkel: *Capacity Development im Bereich Management natürlicher Ressourcen – Wirkungen und Nachhaltigkeit*. Berlin, 2010 S243

Markus Fiebiger, Sohal Behmanesh, Mareike Dreuße, Nils Huhn, Simone Schnabel, Anna K. Weber: *The Small-Scale Irrigation Farming Sector in the Communal Areas of Northern Namibia – An Assessment of Constraints and Potentials*. Berlin, 2010 S242

Ekkehard Kürschner, Christian Henschel, Tina Hildebrandt, Ema Nevenka Jülich, Martin Leineweber, Caroline Paul: *Water-Saving in Rice Production – Dissemination, Adoption and Short Term Impacts of Alternate Wetting and Drying (AWD) in Bangladesh.* Berlin, 2010 S241

Helge Roxin, Heidi Berkmüller, Phillip John Koller, Jennifer Lawonn, Nahide Pooya, Julia Schappert: *Economic Empowerment of Women through Microcredit – Case Study of the "Microfinance Investment and Technical Assistance Facility" (MITAF) in Sierra Leone*. Berlin, 2010 S240

SLE BERLIN 2020

ATVET RWANDA & UGANDA

ISSN: 1433-4585 ISBN: 978-3-947621-15-6

S280