

Chapter 15. Research Networks and Capacity Building¹

This chapter explores findings regarding TVET-related research networks in SSA. It includes a synthesis of the literature from the systematic literature review and internet searches, as well as what participants in our interviews and focus groups reported. The chapter covers information about research networks; further, it explores opportunities to form such networks. Firstly, we discuss the literature found through our systematic literature review. This builds on the presentation of our results about key actors and stakeholders in TVET who were discussed in Chapter 5. This is followed by an exploration of the research networks and opportunities for networking, that our community of participants mentioned as existing within SSA. Networking collaborations between SSA and relevant European countries are also considered. The final section of this chapter is a continuation of the Chapter 14 discussion of the challenges associated with capacity building; while Chapter 14 covered capacity building in the context of institutional frameworks, this chapter focuses on capacity building in relation to networks.

Research questions considered in this chapter

The research questions considered in this chapter are listed in the box below.

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Research questions considered in this chapter

RQ14. Analysis of TVET networks.

[RQ14.a] What **research networks** on TVET in SSA already exist, and what is the extent of African research institutions' and professionals' contribution / involvement?

[RQ14.b] What **international networks** exist between German and African countries, African and other European countries, or networks involving outstanding international research institutions?

[RQ14.c] Which potentials for **network formation** can be identified?

[RQ13.e] Given institutional framework conditions (institutional connection, degree of organisation, specialist specialisation, personnel and financial resources, research/university policy framework, etc.) and their influence on research capacity and performance: How can those framework conditions be influenced to increase research capacity and performance?

[RQ13.f] What potential exists for the **development of institutional TVET research capacities** or what possibilities exist for the expansion of already existing cooperations?

Conclusion regarding networks

Overall, identifying TVET research networks formed among African institutions (Sections 15.1., 5.3.) or their partnerships with international organisations (Section 15.1.2.) was not a straightforward process. Very little information was discovered through the literature review and the internet search. The literature review and online search did, however, highlight other networking opportunities that were available to TVET researchers and practitioners across SSA, such as networking at conferences and within general TVET organisations (Sections 15.1., 5.6.), including organisations that are not necessarily research-focused. However, the fact that only limited information on TVET networks was available online did not necessarily mean that only a few networks were active, since there are other means of storing and accessing such information. We, therefore, suspected that it might instead have been the case that such information was held either in offline collections or in the minds of experts in the field across SSA. Consequently, we expected that the second phase of our research, which involved focus groups and interviews, would offer better insights regarding networks, as it involved extended personal engagement with African TVET stakeholders (Section 15.1.7.).

Overall, it appears that the main active TVET networks are UNEVOC, VET-Net (†[Haseloff, 2017](#)) and RAIFFET (†[Ginestié, 2015](#); Section 15.1.2.). Within these, UNEVOC is a broader multi-purpose network within which some research takes place; VET-Net is focused on TVET research and TVET teacher development; and RAIFFET is focused on TVET teacher development, with a strong focus on academic conferences (and we would, therefore, consider it a research network).

Most other TVET networks and partnerships focus on TVET more generally, rather than on TVET research specifically. Among such networks, besides UNEVOC, are Edukans–Learn4Work, VET Toolbox (a relatively new multilateral project that supports national TVET projects),² and the TVET-Authority Kenya network, which was initiated by the TVET-Authority Kenya and connects several African states. The focus groups and interviews drew attention to such non-research networks, as well as to wider networking opportunities that can include aspects of TVET in SSA. This includes events, such as conferences, through which networking occurs.

15.1. TVET-research networks, TVET networks and TVET cooperations

The section covers TVET-research networks, TVET networks and TVET cooperations, such as TVET-research specific networks (e.g. the Réseau Africain des Institutions de Formation de Formateurs de l'Enseignement Technique and VET-Net), followed by TVET-specific networks and TVET-specific cooperations. We also discuss TVET conferences, research funding and wider networks in SSA.

15.1.1. Working definitions: Cooperation and network

As there are different interpretations of the term 'networks', it is worth defining this term. Specifically, we distinguish between bilateral or multilateral cooperation on the one hand and networks on the other.

Figure 15.1. Working definition of a bilateral/multilateral cooperation and of a network

Working definitions: Cooperation and network

A **bilateral or multilateral cooperation** is a programme or intervention that has a given timeframe and budget. In particular, such a cooperation is fixed with regard to the members for the duration of the cooperation. Often, such cooperations are initiated through specific funding programmes.

A **network** is an association of several researchers, organisations or states that share common interests through this network. A network has the characteristic that new organisations can join it, and that organisations can leave it. Furthermore, a network is usually financially supported by the network members. Networks can be coordinated in a centralised or decentralised fashion.

We do not specify the use of the word 'partnership', as it often occurs in names of both networks and cooperations.

² †VET Toolbox, Home, available at <https://www.vettoolbox.eu>

15.1.2. Overview of TVET research networks

In this subsection, we discuss the only two TVET research-specific networks we discovered: RAIFFET and VET-Net. While it would be desirable to also have a network like the European Research Network on Vocational Education and Training (VETnet) that is focused entirely on, and based within, SSA, a similar network does not exist for African institutions.³ However, these two discovered networks still offer useful starting points.

Réseau Africain des Institutions de Formation de Formateurs de l'Enseignement Technique (RAIFFET)

RAIFFET ([↑RAIFFET](#)) is a network, established in 2002, that supports TVET teacher education in Africa ([↑Ginestié, et al., 2012](#); [↑Ginestié, 2015](#)). It focuses on the connection between technology education and vocational training, promoting an integrated and comprehensive approach. It covers mainly francophone countries and has run five conferences since 2005 ([↑RAIFFETmonde on Twitter](#); [↑RAIFFET on Facebook](#); website: [↑RAIFFET](#)). Although this is not explicitly stated, since conferences are one of its main activities, it is likely that this network focuses on research. Conferences (which welcome between 50-100 participants, across 10-20 countries, with most participants also delivering a paper) have been held as follows:

- 2005 in Libreville (Gabon) on the theme, 'Technology Education, Vocational Training and Sustainable Development' ([↑Colloque de Libreville au Gabon Éducation technologique, formation professionnelle et développement durable, 2005](#));
- 2008 in Hammamet (Tunisia) on the theme, 'Technology Education, Vocational Training and the fight against poverty' ([↑Actes du colloque international RAIFFET de Hammamet en Tunisie, 2008](#));
- 2011 in Saly Portudal (Senegal) on the theme, 'Technology Education, Vocational Training and equal opportunities' ([↑Actes du colloque international RAIFFET de Saly Portudal – Mbour au Sénégal, 2011](#));
- 2014 in Marrakech (Morocco) on the theme, 'Technology Education, Vocational Training and teacher training';
- 2019 in Douala (Cameroon) on the theme, 'Training of Trainers for Technical Education and Technology in Africa: Achievements, Constraints And Perspectives'.

The next conference, the 6th RAIFFET conference, had been planned for 2020 in Koudougou (Burkina Faso). It considers 'new relationships with knowledge' at the primary education level, at the level of TVET and at the level of education professionals:

"This sixth symposium will be an opportunity to compare points of view on the question of new relationships with knowledge, be it by looking at this issue with regard to basic education in the framework of Education For All (EFA), in relation to Technological and Vocational Education and Training (TVET) or with regard to the training of teaching professionals" ([↑Sixième](#)

³ We note that despite similar acronyms, VET-Net is different from VETnet (the European Research Network on Vocational Education and Training).

[Colloque du RAIFFET à KOUDOUGOU au BURKINA FASO – Sciencesconf.org](#)).

The conference aims to encourage exchange and networking, as an opportunity to develop cooperation, promote innovative practices and contribute to professionalisation. It is an opportunity to disseminate the results of research carried out in the field of TVET, and to build joint research programmes.

“This symposium should encourage exchanges between partners and most importantly between participants. It is not the only institutional meeting, but it is an opportunity to develop scientific cooperation, promote innovative practices, and contribute to the professionalisation of participants. This training in and through educational research is part of the professionalisation of all the partners of the network. It provides an opportunity to disseminate the results of research carried out in the field of scientific and technological education, as well as in vocational training, to exchange on innovations which drive the development of societies, to encourage the construction of future joint programmes, and to support scientific publication in order to enhance the value of research carried out beyond our local networks” ([†Sixième Colloque du RAIFFET à KOUDOUGOU au BURKINA FASO](#)).⁴

In addition, the conference aims to support doctoral and post-doctoral students in the process of scientific communications and publications.

VET-Net

The only other network dedicated explicitly to TVET research (including research on TVET educators) is the research and training network for TVET teachers in SSA (VET-Net, [†Haseloff, 2017](#)). VET-Net originated through a programme of the German Academic Exchange Service (DAAD, 2012 - 2015), and brings together German, South African, Ethiopian and Mozambican researchers from universities in those countries. The network was and initially founded by Germany and Mozambique in 2012 and extended to South Africa and Ethiopia. The network partners are mainly located at universities (TU Dresden in Germany, University of Siegen in Germany, Universita Pedagogica Mozambique, University of Jimma in Ethiopia, University of the Witwatersrand in South Africa - TVET departments). After the end of the DAAD project, the network continues to exist informally. The researchers work together on scientific issues as needed. Its expandability has been clearly demonstrated, and it continues to grow, involving other interested

4 “Ce colloque doit favoriser les échanges entre partenaires et surtout entre les participants. Il n’est pas le seul rendez-vous institutionnel mais il est l’occasion de développer des coopérations scientifiques, de promouvoir les pratiques innovantes et de contribuer à la professionnalisation des acteurs. Cette formation à et par la recherche en éducation participe de la professionnalisation de l’ensemble des partenaires du réseau. Il est l’occasion de diffuser des résultats des recherches conduites dans le domaine de l’éducation scientifique et technologique et de la formation professionnelle, d’échanger sur les innovations, vecteur du développement des sociétés, de favoriser la construction de futurs programmes communs et de soutenir la publication scientifique afin de valoriser les recherches conduites au-delà de nos réseaux locaux.”

researchers from Burkina Faso, Nigeria, Kenya and Namibia, as well as from the broader regions of Europe, Asia and North America (↑*ibid.*). Researchers at the TU Dresden and the University of Siegen manage the network from the German side. VET-Net is active and seeking funding (as of February 2020).

15.1.3. Related networks: VETnet and ERNWACA

We briefly highlight two networks that are not TVET research networks as such, but may be extended to fit. The European Research Network on Vocational Education and Training (VETnet) focuses on Europe. However, it may offer a useful paradigm for such network operations in SSA or within sub-regions. If such a network existed, cooperation between an equivalent African network and VETnet could take place.

A similar case could be made for the Educational Research Network for West and Central Africa (↑*ERNWACA*), which involves a number of countries (Benin, Cameroon, Congo, Gambia, Ghana, Guinée, Ivory Coast, Mali, Nigeria, Senegal, Sierra Leone and Togo). The network focuses on education, and while there may not be a specific focus on TVET research at the moment, it may be possible to create such a focus in the future.

SASSCAL⁵ and WASCAL⁶ are two other networks that do not belong to the TVET area but are exemplary for successful networking between Germany and Africa in science. Both networks deal with issues of sustainability in relation to the environment and climate, so they focus on the Sustainable Development Goals (UNO).⁷

15.1.4. TVET-specific networks

There are a number of networks that are TVET-specific. In these networks, there is usually a partial focus on research — to a greater or lesser extent. However, this focus is not exclusive. Nevertheless, it may well be possible to increase the focus on research within these existing networks (Section 15.1.3.). Among such networks, the UNEVOC network appears to be the largest and most active. It is therefore discussed separately in Section 15.4.

The network by the Technical and Vocational Education and Training Authority (TVETA, Kenya) is noteworthy as the only network that is run by a government agency, primarily to network with TVET-related government agencies across the continent.

The Edukans – Learn4Work programme has its headquarters in the Netherlands and focuses on Ethiopia, Ghana, Kenya, Rwanda and Uganda.

5 ↑SASSCAL – Southern African Science Service Centre for Climate Change and Adaptive Land Management, Home, available at <http://www.sasscal.org/>

6 ↑Bundesministerium für Bildung und Forschung, West African Science Service Centre on Climate Change and Adapted Land Use, available at <https://www.fona.de/de/wascal-ii-west-african-science-service-centre-on-climate-change>

7 ↑United Nations, Sustainable Development, available at <https://sustainabledevelopment.un.org/?menu=1300>

“[The programme] uses the combined knowledge, expertise, networks and funding opportunities of partners in both Africa and in the Netherlands to improve vocational education in Ethiopia, Ghana, Kenya, Rwanda and Uganda. The programme brings parties from various sectors together: schools and the public sector, but also NGOs and the private sector” (†Edukans).

Finally, there is VETToolbox, which is a relatively new multilateral project that supports national TVET projects.⁸

15.1.5. TVET-specific cooperations

This subsection considers TVET-specific multilateral cooperations, i.e., programmes or interventions that have a given timeframe and budget (possibly through a specific source of funding) and which are usually fixed regarding membership. Notably, Maintz and Krönner emphasise that

“Only in few cases do development agencies earmark particular budgets for TVET and Skills Development. Instead, they often cover broader fields such as education, enterprise development, gender, informal sector, HIV/AIDS (e.g. concerning persons teaching in TVET). TVET and skills development initiatives can be conceived in these contexts” (†Maintz & Krönner, 2008:4).

This discussion on TVET-specific networks is therefore fairly brief, as there are few TVET-specific cooperations in existence across SSA.

We must also note that this discussion focuses heavily on the responses from the SCR participants, rather than solely on the literature review. The participants were able to offer insights into TVET-specific cooperations that expanded on the information we were able to find in the literature review.⁹ Amongst those named were training institution associations such as the Kenya Association of Technical Training Institutions (KATTI)¹⁰; programme implementers such as the German GIZ; and the Ghana Skills Development Initiative (GSDI)¹¹, implemented by GIZ, in cooperation with COTVET: a bilateral cooperation between Ghana and Germany.¹²

Another example of cooperation is a review of TVET policy that is taking place in Namibia by a consultancy firm in conjunction with the Leibniz University (Hanover, Germany)¹³. In addition, the Namibian government has a partnership with the government of South Korea supporting innovation under the policy. This partnership was established through UNESCO’s network and contacts. Furthermore, South Korea has been assisting Namibia in becoming a member of †WorldSkills International (WSI) and establishing

8 †VET Toolbox, Home, available at <https://www.vettoolbox.eu>

9 Notably, we asked the SCR participants for information about what TVET research networks there are across SSA, rather than specifically about TVET cooperations. However, their responses frequently focused on cooperations rather than on research networks.

10 † KATTI, Home, available at <https://katti.co.ke/>

11 †GSDI – Ghana Skills Development Initiative, Home, available at <http://www.ghanaskills.org/>

12 †Govet / BMBF cooperation with Ghana, join declaration of intent

13 †Leibniz University Hannover, Home, available at <https://www.uni-hannover.de/en/>

WorldSkills Namibia which held its first National Skills Competition (NSC) in 2016. Namibia has been a registered member of WSI since 2010 (Amon Haufiku, Namibian Training Authority).

In another example of recent cooperation, the South African merSETA¹⁴ and the I:BB (Institute for TVET, 'Institut für Berufsbildungsforschung', University of Bremen in Germany) collaborated in the COMET project (†Hauschildt, 2016). The project participants developed a model for competence assessment. This project analysed the costs, benefits and quality of in-company training provided in a total of 142 South African companies.¹⁵ We also identified other cooperative links between South African and British universities (the University of Western Cape, Nelson Mandela University, Wits University and the University of Nottingham were mentioned in the SCR).

The interview participants also mentioned two projects funded by the German Ministry of Education (BMBF): the Internationalisation of VET (WB-IBB, 2017 and 2018)¹⁶, and the Meta project on Research into the Internationalisation of Vocational Education and Training (MP-INVET, 2019–2022). Both of these initiatives are monitoring and evaluating research and development projects of German research institutions in Africa (and internationally) – but without African project partners.

The SCR mentioned two other projects conducted by the Institut für Berufs- und Betriebspädagogik (IBBP) of the University of Magdeburg and by the department Technical Education department (TB) of the University of Rostock, together with the Universidade Pedagógica in Maputo, Mozambique. These projects (2011–2013 and 2010–2013) aimed at advising Mozambique's Escola Superior Técnica da Universidade Pedagógica (ESTEC, the Technical Higher Education School of the University of Pedagogy) on the establishment of initial and further education centres for TVET.

There are other large funding organisations such as the German Academic Exchange Service (DAAD)¹⁷, which maintains networks such as the DAAD Alumni Association (and related support projects). However, there is little information about their work. Within Africa, only their Ethiopian branch has a website that publishes details on projects, partners, news, annual meetings and other events (†AEEGS — Association of Ethiopians Educated in Germany).

15.1.6. TVET conferences

Conferences were also discussed by the SCR, and at the moment, these appear to be the main way in which researcher-to-researcher networking occurs; within the TVET domain, they are key to sharing experience and making contacts. Specific conferences mentioned by the participants were the International Vocational Education and Training

14 The manufacturing, engineering and related services Sector Education and Training Authority.

15 This comes under our definition of cooperation or partnership, but not network, as it is *a programme or intervention that has a given timeframe and budget*.

16 †Wissenschaftliche Begleitung der Programmlinie: Internationalisierung der Berufsbildung (WB-IBB), available at <https://wb-ibb.info/>

17 †German Academic Exchange Service – DAAD, available at <https://www.daad.de/en/>

Association (IVETA) conference, the Rift Valley conference, and the International Conference for the Training of French-speaking Engineers and Technicians (Conférence Internationale des Formations d'Ingénieurs et de Techniciens d'Expression Française, CITEF)¹⁸. The Agence Universitaire de la Francophonie (AUF) was also mentioned, which hosts the CITEF conference. AUF's network includes francophone countries, including and beyond France, and has a big research programme on TVET.

Figure 15.2. A selection of TVET conferences

TVET conferences
<ul style="list-style-type: none"> • Conférence Internationale des Formations d'Ingénieurs et de Techniciens d'Expression Française (CITEF) • Department of Vocational Teacher Education conference (University of Nigeria) • International Vocational Education and Training Association (IVETA) conference • The Rift Valley conference • RAIFFET • Southern African Society For Cooperative Education (SASCE) conference¹⁹.

The International Vocational Education and Training Association (IVETA) conference provides international networking for researchers:

“It is a network for researchers. It happens every year. Scholars present the findings of their research and how to improve TVET in their countries. Unfortunately, there are not enough resources at the moment to send people to this conference. At their institution, they are trying to create a TVET research centre. They have a proposal to obtain financial support and are looking for someone to fund it. This is a goal they want to achieve” (Doris Mtemang'ombe, Malawi Polytechnic, Malawi).

We also note that it appears that CITEF and RAIFFET are aware of each other (†[Renouvellement de la Chaire UNESCO « Education scientifique et technologique et formation des enseignants » de 2017 à 2021](#)). As noted above, RAIFFET also undertakes conferences, though the predominantly anglophone participants in the discussions were unaware of RAIFFET.

Despite the relatively frequent references to conferences by the SCR participants, funding to participate in these events is limited, and personally financing travel expenses is not viable due to the low salaries of many researchers. They are therefore often not able to attend conferences in other countries across the continent.

¹⁸ Conférence Internationale des Formations d'Ingénieurs et de Techniciens d'Expression Française (CITEF), réseau institutionnel « Sciences de l'Ingénieur » de l'Agence Universitaire de la Francophonie (AUF), see (†[Séminaire sur l'employabilité des diplômés organisé par la CITEF en mai 2018](#)).

¹⁹ This is also known as WIL (Work Integrated Learning)–Africa.

15.1.7. Other relevant international organisations

The following is a list of other research networks, conferences and organisations that facilitate networking, mentioned by our participants.

Figure 15.3. International non-TVET-specific organisations that facilitate networking

International non-TVET-specific organisations that facilitate networking

- Commonwealth Association of Polytechnics in Africa (CAPA)
- German Academic Exchange Service (DAAD)
- Gesellschaft für Internationale Zusammenarbeit (GIZ), Germany
- Porticus Foundation (Netherlands)
- Southern African Development Community (SADC) of the African Union

15.1.8. Research funding

As proposals written for funding applications generally require the involvement of more than one institution in order to fulfil the terms of reference requirements, many institutions that provide funding for research were also cited as promoting network formation. The African Development Bank (AFDB), the British Council, the UK Department for International Development (DFID) and the German Academic Exchange Service (DAAD) were the named institutions that invite proposals relating to TVET. For example, according to Emmanuel Osinem (University of Nigeria, Nigeria), some institutions in Nigeria partnered with Makerere University in Uganda and the University of Zimbabwe to prepare and submit a project to DFID called *Strengthening TVET Educator Programme in Africa (STEP-A Project)*.

Another international organisation that was mentioned as facilitating networking and idea sharing, was UNESCO and its International Centre for Technical and Vocational Education Training (UNEVOC) network. Many respondents noted being members of the UNEVOC network (cf., Section 15.4.).

15.1.9. Wider networks in SSA

We were also able to locate evidence for the following additional networks currently active in SSA. However, the focus on TVET, and particularly TVET research within these networks, varies. Likewise, some of these are specific cooperations, while others are more open networks. Nevertheless, this may offer good starting points for intensifying work on TVET.

1. **Africa–EU Partnership.** According to its website, *“the Africa-EU Partnership, with its continental approach, is an instrument of political dialogue and cooperation, overarching and complementing existing*

development relationship frameworks between EU and African countries.”
(†Africa-EU Partnership)

2. **New Partnership for Africa’s Development (NEPAD)** / African Union Development Agency (AUDA). NEPAD also partners with international financial institutions, UN agencies and Africa’s development partners. According to the African Union,

“During the June/July 2018 AU Summit held in Nouakchott, Mauritania, the Assembly approved the establishment of the African Union Development Agency (AUDA) as the technical body of the AU. [...] Transition from NEPAD to AUDA will be undertaken as part of the establishment of the latter.”

(†African Union)

3. **African Union** (†AU). The AU has formal agreements with several organisations. These partnerships are, by region: the Africa–Arab Partnership; Africa–European Union Partnership; Africa–South America Summit (ASA); Africa–India Partnership; Africa–Turkey Partnership; China–Africa Cooperation Forum (FOCAC); Africa–United States Partnership; Tokyo International Conference on African Development (TICAD); Africa–Korea Partnership; and Africa–Australia Partnership.
4. **European Centre for Development Policy Management** (†ECDPM), which has partnerships with KAM, the African Union Development Agency (AUDA), African Development Bank (AfDB), GIZ and OECD.
5. **Further Education and Training Institute** (South Africa) (†FETI). FETI has the following research and development partners: DG Murray Trust; City & Guilds (UK); INSETA; Access Trust; JET Educational Services; Ford Foundation; Financial Planning Institute; Western Cape Department of Economic Development and Tourism; Human Sciences Research Council; General Motors SA; Student Enrolment Management Unit (University of the Western Cape)UWC; National Business Initiative; British Council; South African Development Community (SADC) – UNESCO; Highline Community College USA; Kresge Foundation; Western Cape Education Department; Department of Higher Education and Training; Cape Peninsula University of Technology; South African Qualifications Authority; Danish International Development Agency (DANIDA); and MOT South Africa.

Other research networks

The African Journal of Education, Science and Technology²⁰organises conferences:

“In Kenya, there are means of sharing knowledge. At the African Journal of Ed, Science and Tech, they have collaboration, forums, with Nigeria, Uganda”
(John W. Simiyu, University of Eldoret, Kenya).

20 †African Journal of Education, Science and Technology, available at <http://www.ajest.info/index.php/ajest>

15.2. Network formation and the development of research capacities

We now turn to the potentials for network formation (RQ14.c), and the role networks can place in increasing research capacity and performance (RQ13.e) and in the expansion of already existing cooperations (RQ13.f). Having discussed what research networks exist across SSA, as well as platforms through which networking occurs (such as conferences), this section explores what the interview and focus group participants said about increasing research capacity in SSA, especially through network formation.

Participants generally agreed that it would be useful to have more developed networks across SSA. Kunwufine Deodonne and Miki Gilbert Ngwaneh (Vocational Centre for International Development), both from Cameroon, noted that more could be achieved in terms of research capacity if there was better access to research networks. These sentiments were echoed by Peter Changilwa Kigwilu from Kenya, Christopher Serwaniko from Uganda and James Keevy from South Africa.

Among the reasons given for why networks are useful are that they can increase research capacity, and that networking enables the exchange and generation of ideas, for instance, how to support TVET teacher development for new competencies. Ewnetu Hailu Tamene (Ethiopia) suggested that it would be a good idea to develop a platform for capacity building through networking; one that increases exposure to other cultures, different ideas, methods and ways of doing things. The participants also emphasised the capacity of networks for fostering personal growth through peer-learning and mentorship, the sharing of ideas, improved visibility of one's institution, and collaborating in order to share skills. Notably, some participants emphasised that while networking through any communicative platform, virtual or otherwise, is desirable, meeting in person is important and should not be neglected. Vusi Maseko, for example, explained that:

“Virtual conferences are cost-effective but they deny you the human effect”
(Vusi Maseko, South West Gauteng TVET College, South Africa).

Further information about participants' thoughts on virtual networks is presented in the following section.

As well as articulating a positive desire to form and participate in networks, the participants also offered ideas about why there are not more networks in existence, and stronger ones. Miki Gilbert Ngwaneh, Cameroon, pointed out that finding the means to form networks was difficult. The subject of a lack of resources to fund networks was one that Gabriel Konayuma (Zambia) also raised. Further, it was a concern that TVET is not given sufficient attention as a field of research; therefore, there is limited support for existing scholars and a lack of development of a diverse pool of researchers from which a network might be built. Miki Gilbert Ngwaneh also spoke about the limited information on potential individual and institutional network members and partnerships; such factors inhibit the forging of networks across the continent.

One solution suggested for addressing the challenges facing network development was to create a UNEVOC database that detailed different institutions' research foci.²¹ That database could then be consulted by researchers so that they could connect with institutions that shared their interests. Christina Boateng explained emphasised the importance of having:

"opportunities for people to come together and plan projects together. This would help." (Christina Boateng, University of Cape Coast, Ghana).

15.3. Supporting the virtual research community

As well as articulating a desire to form and participate in networks, the participants also offered ideas about why more — and stronger — networks do not exist. This section explores their views on virtual networks more broadly, as well as their experiences of participating in our Structured Community Review (SCR): in itself an informal virtual research and working community. The initial key purpose of this SCR virtual network was to review Chapters 1–13 of this report. However, participants requested that the community should be kept and be further developed as a virtual network relating to TVET research in SSA beyond the scope of this report. Throughout the remainder of this chapter, the virtual network that was born out of the SCR will be called the virtual research community²².

It is worth noting that the interaction of this virtual research community is intrinsically motivated; it is not based on the availability of research funding, but simply on an interest in TVET research²³. Instead of intensifying commitment to research in a small selection of countries, this virtual research community (which is made up of participants from various African countries or regions) might in the future be supported through connection to a coordination office (at a university). Furthermore, communication in the virtual research community is mainly done online via a WhatsApp group. While individual messages and longer contributions are also exchanged by email, WhatsApp proved more successful as a medium of communication.

The virtual research community itself considered it important that it should include 'minorities' and disadvantaged people. By this, we mean not only groups that are minorities in a particular society, but especially minorities in TVET research such as women, young researchers and people with disabilities. Furthermore, the spectrum of *linguae francae* used in SSA should be covered (English, French, Portuguese, Arabic).

21 We note that such a feature for the UNEVOC database has now been implemented. At the time of the discussion (mid-2019) this feature was not yet available.

22 For details on the outcome of the Structured Community Review itself, see Appendix 4.

23 The group has been active for almost a year and remains so (July 2020).

15.3.1. Virtual research community experiences

As noted in the previous section on network formation and capacity building, some participants in the virtual research community emphasised the need for personal participation in conferences. This is because the personal exchange and establishment of contacts is considered important and sustainable for future collaboration. However, this is often not possible due to a lack of financial support (e.g., trips to conferences cannot be financed). The participants in the virtual research community agreed that a hybrid model could be an acceptable solution to this problem.

The aim of such a hybrid model would be to undertake capacity building through exchange and joint research. The model that was proposed could work as shown in Figure 15.4.

Figure 15.4. A model for virtual conferences

A model for virtual conferences
<ul style="list-style-type: none"> • One or more researchers at location A (a TVET facility in SSA) prepare a scientific contribution with a short presentation. The presentation will be shared one week before the meeting with researchers at locations B, C, D (also TVET institutions in SSA). • At the time of the presentation, the researchers meet at an office of their own facility (location A). Researchers at location B meet in an office at location B, etc. • Researchers from location A provide the presentation (e.g., via audio, possibly recorded in advance). • This is followed by a question/answer session and discussion via audio and WhatsApp.

Aspects of this model might vary depending on the internet connectivity available at the locations. For example, the presentation could be videoconferenced (which may not always be possible), or could be delivered in advance by audio or video recording. Ideally, such meetings would take place regularly (e.g., every month). Speaking on this topic in June 2019, Vusi Maseko considered the issue in the following extract from focus group 2 on WhatsApp:

Facilitator. *I was just wondering what size of event [e.g., a seminar] you had in mind? Just wondering in terms of length. Were you thinking one hour? One day? One week?*

Vusi Maseko. *I would say over a number of days, like from Thursday to Sunday; to accommodate those that may not be able to participate during working hours.*

It is noteworthy that Vusi proposes that the conference should extend into the weekend to enable better participation. In other sectors — that are perhaps better resourced — conducting activities on the weekend is out of the question. However, here a researcher voices the opinion that it is not just possible, but necessary.

The virtual research community considered that if meetings only take place sporadically, there will be no building of momentum and no sustained networking. Regular meetings may make the exchange more informal after a few months, and this might bring up new ideas from researchers who are otherwise excluded from the research dialogue. An example of such new ideas can be found in a recent conference presentation that resulted from the collaboration of members of the virtual research community.

15.3.2. AfriTVET International Conference (June 2019)

The virtual research community made a scientific conference contribution that was presented at the AfriTVET International Conference by Peter Kigwilu at the Rift Valley Technical Training Institute (RVTTI, Kenya, June 2019). This conference focused on implementing the sustainable development goals for green economies and societies. It was sponsored by the Africa Journal of TVET. Alongside European researchers, SSA members of the virtual research community presented, as shown in Figure 15.5, a paper entitled, 'Technical and Vocational Education and Training in Sub-Saharan Africa: A Comprehensive Review of the Current State of the Research'²⁴.

Figure 15.5. Presentation slide used during the AfriTVET International Conference



²⁴ The conference presentation was a direct outcome of the present review, i.e. supported by the German Ministry for Education and Research (Bundesministerium für Bildung und Forschung, BMBF).

15.3.3. Enabling participation in conferences

As just described, virtual networks do not just function to enable networking online, but can be used to facilitate collaboration and idea sharing in different arenas. This section explores factors that arose in the virtual research network discussions concerning what factors might enable greater participation in conferences. Bearing in mind that conferences were emphasised by participants as being particularly important for TVET researchers in SSA (Section 15.2.), the ability of a virtual research community to further enable such participation is encouraging.

Conferences, however, are at times too resource-intensive to allow for broad participation. Resources consumed include both financial resources and time needed. We also recall that in general, there is an aspiration for TVET to focus more on information and communication technologies. In the focus group discussions, we explored the use of technology by the researchers themselves to overcome some of the resource constraints. The following extract from the virtual research community WhatsApp discussion in June 2019 demonstrates how conference costs remain a barrier for some.

Facilitator. *Conference costs can be a problem — travel costs are a problem too. Or are those costs paid for by institutions?*

Vusi Maseko. *This depends per conferences but for most the presenter foots the bill for travel and accommodation. That can be a stumbling block.*

Joseph Okwaro. *The charges shown there are for presenters.*

Vusi Maseko. *So from South Africa I would have to pay about R2,100.*

Facilitator. *So the institution doesn't cover it?*

Joseph Okwaro. *Conference costs are in most cases met by the institutions. That happens to us when we attend the same outside Kenya. It can be costly for an individual.*

Facilitator. *Ok. Is that the same for others? Does your institution pay? Is there a quota, like you get a conference every year, or every few years?*

Vusi Maseko. *Not always. Sometimes you even have to take leave to attend and you pay from your own pocket.*

Despite the financial obstacles often blocking attendance, conferences do offer the opportunity for researchers to publish scientific articles. However, although the researchers in our virtual research community were able to take advantage of conferences to that end because they have the requisite skills to produce publishable research publications, that is not always the case. It was hinted at that for some, the lack of experience in research methods can be an obstacle to conference participation and to the submission of conference contributions. Joseph Okwaro noted, for example, that,

“We need to encourage TVET institutions to hold conferences so that their members will be involved in research work. They get used to the [research] techniques” (Joseph Okwaro, Eldoret National Polytechnic, Kenya).

However, contributing to conferences through presentations of research is not the only purpose of participation. Participation in conferences also permits networking among individuals, a purpose that is harder to serve with virtual models.

In summary, enabling greater conference participation might involve a combination of greater access to funds to attend conferences, the formation of more or larger virtual research networks, increased research methods skills development amongst researchers, and initiatives geared towards maximising networking once people are able to make it to a conference. During the WhatsApp discussions, the following model (Figure 15.6) was discussed; it could be utilised by conference organisers and participants to encourage more formal networking (both at and beyond conferences).

Figure 15.6. A proposed model for formal networking using conferences

Using conferences to sustain capacity building

1. Create a list of relevant TVET conferences.
2. Find researchers in SSA via the (gradually expanding) research community, and thus present research results of the virtual research community at conferences.
3. Provide funds to cover (local) travel and conference fees.
4. At the conference:
 - give a talk on the research results of the virtual research community;
 - conduct workshops on research and research methods.

It was suggested that travel costs could be kept low if researchers primarily attend national conferences. Even though the promotion of conference visits is hardly innovative in itself, the focus here is on building a targeted commitment that systematically strengthens research and knowledge, related to TVET associated with SSA, that can.²⁵

15.4. A closer examination of UNEVOC

In addition to this information about the breadth of the existing networking opportunities across SSA (Section 15.3.), the interviews and focus groups also provided insight into which of these networks were most significant. Perhaps the most easily identifiable one was the UNEVOC Network and its regional coordinating centres. UNEVOC activities aim primarily to promote international collaboration and partnerships (Sections 5.4., 5.5.). We therefore conclude this chapter with a description of the UNEVOC Network and its geographical reach.

²⁵ †Building State Capability, *The Doing Development Differently Manifesto*, available at <https://building-statecapability.com/the-ddd-manifesto/>.

The UNEVOC Network is composed of TVET experts from ministries, national bodies, research organisations and training providers from around the world. It is subdivided into five regions, of which Africa is one. The continent is then further subdivided into the following regions:

1. Central and Eastern Africa.

- a. Coordinating centres: Kenya’s Department of Technology Education, University of Eldoret (UoEld).
- b. Member countries: Burundi, Cameroon, Central African Republic, Chad, Democratic Republic of the Congo, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Kenya, Rwanda, Sao Tome and Principe, Somalia, South Sudan, Tanzania and Uganda.

2. Southern Africa.

- a. Coordinating centres: Botswana’s Human Resource Development Council (HRDC), Mozambique’s National Directorate for Professional Technical Education (DINET).
- b. Member countries: Angola, Botswana, Comoros, Eswatini, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Zambia and Zimbabwe.

3. West Africa.

- a. Coordinating centre: Nigeria’s National Board for Technical Education (NBTE).
- b. Member countries: Benin, Burkina Faso, Cape Verde, Côte d’Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo.

4. North Africa — Arab States.

- a. Coordinating centres: Egypt’s Ministry of Education (MoE), Morocco’s College of Technical Education, Mohammed V Souissi University (UM5S).
- b. Member countries: Algeria, Egypt, Libya, Mauritania, Morocco, Sudan, Tunisia.

15.4.1. UNEVOC Nigeria

As noted above, there are four UNEVOC coordinating centres across Africa, under which is a cluster of other relevant TVET centres in the sub-region. Three of those sub-regional coordinating centres are particularly relevant to the research conducted for this report which focuses on SSA: those based in Nigeria, Botswana and Kenya (see Section 5.3.). We therefore present more detail on the cluster of centres under the remit of those three relevant coordinating centres. As Ghana’s Council for Technical and Vocational Education and Training (Section 10.2.) has also established relevant TVET networks, it will also be detailed in this section.

The Nigerian National Board for Technical Education (NBTE) (see Section 10.4.) was recognised as the UNEVOC Coordinating Centre for the West African Sub-Cluster in 2012, a cluster composed of 23 centres. In 2010, it established a Centre of Excellence for TVET

“to facilitate the capacity development of TVET personnel, promote innovation and enhance partnership” ([↑NBTE](#)).

The Board’s website stated that the network of national and international partners established by the Centre of Excellence for TVET includes the following institutions ([↑Government of Nigeria](#)):

1. UNESCO-UNEVOC International Centre, Bonn, Germany
2. UNESCO (Regional) Bureau, Dakar, Senegal
3. Commonwealth of Learning, Vancouver, Canada
4. OIC-VET, SESRIC, Ankara, Turkey
5. Commonwealth Association of Polytechnics in Africa (CAPA), Nairobi, Kenya
6. Nigerian ICT Forum of Partnership Institutions, Abuja, Nigeria
7. Nigeria Network Operators Group (ng NOG), Abuja, Nigeria
8. ECOWAS Commission, Abuja, Nigeria
9. UNESCO Nigeria Country Office, Abuja, Nigeria
10. UNESCO-NATCOM, Abuja, Nigeria

15.4.2. UNEVOC Botswana

Botswana’s Human Resource Development Council (HRDC) (Section 10.1.), also a UNEVOC Coordinating Centre, has made partnerships with several organisations and education providers (Section 5.5., Section 11.1.). Dr Owen Nkosinathi Sotshangane from Walter Sisulu University, states that

“there is no doubt that sustaining success in innovation and entrepreneurship and establishing industry and academia partnerships are essential and can significantly assist in reducing unemployment, poverty and inequality in most countries. However, it can only be individuals who understand academia and business that can be the driving force behind successful partnerships.”
([↑HRDC Research and Innovation 2016/17 grants award, Government of Botswana](#))

To illustrate the wide-ranging connections of these networks at the national level, we list the members in Botswana here. The following institutions are listed on the HRDC website as having links with the Council.

Figure 15.7. Botswana Human Resource Development Council (HRDC): Links to other organisations

Botswana Human Resource Development Council (HRDC): Links to other organisations

AFDA, Arthur Portland, BA ISAGO, BOTHO University, Boitekanelo College, Botswana Accountancy College, Botswana College of Open and Distance Learning (BOCODOL), Botswana Educational Research Association (BERA), Botswana Examinations Council (BEC), Botswana Innovation Hub, Botswana Institute for Development and Policy Analysis (BIDPA), Botswana Institute for Technology Research and Innovation (BITRI), Botswana Investment Trade Centre (BITC), Botswana Qualifications Authority (BQA), Botswana Tourism Organisation (BTO), Botswana University of Agriculture and Natural Resources (BUAN), Botswana University of Science & Technology, Business Botswana, DDT College of Medicine, Flying Mission, Gaborone Universal College of Law, Government Data Portal, Human Resource Development Council of Mauritius, Human Resource Development Council of South Africa (HRDCSA), Imperial College of Business, Institute of Development Management, International Labour Organisation (ILO), Labour Market Observatory (LMO), Limkokwing University of Creative Technology, Management College of Southern Africa, Ministry of Basic Education, Ministry of Economic Development and Finance, Ministry of Employment Labour and Skills Development, National Strategy Office (Office of the President), Organisation for Economic Cooperation, Southern African Development Community (SADC), Statistics Botswana, UNESCO, University of Botswana

15.4.3. UNEVOC Kenya

We highlight a number of TVET efforts in Kenya (also see Sections 10.3., 5.5., 11.1.5.); the activities of the UNEVOC Centre in Kenya — some coordinated by the Kenya National Commission for UNESCO — include:

1. University of Eldoret
2. Technical University of Mombasa
3. Technical and Vocational Education Authority
4. Rift Valley Technical Training Institute.

15.4.4. Ghana: COTVET

In addition to the UNESCO-UNEVOC Centres and their regional coordinating bodies, of particular interest for our research were the cooperations established by Ghana's Council for Technical and Vocational Education and Training ([↑COTVET](#)) (see Sections 10.2., 5.5.). The COTVET aims to "*promote cooperation with international agencies and development partners*" ([↑Government of Ghana, 2006: 3](#)). The Council's website indicates partnerships with the following international organisations:

1. African Development Bank ([↑AfDB](#))
2. World Bank Group ([↑WB](#))
3. KfW Development Bank ([↑KfW](#))
4. Deutsche Gesellschaft für Internationale Zusammenarbeit ([↑GIZ](#))
5. Danida and Denmark's development cooperation ([↑Danida](#))
6. Japan International Cooperation Agency ([↑JICA](#))

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