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To cite this article: Chenjerai Muwaniki, Volker Wedekind & Simon McGrath (2024) Agricultural vocational education and training for sustainable futures: responsiveness to the climate and economic crisis in Zimbabwe, *Journal of Vocational Education & Training*, 76:2, 430-446, DOI: [10.1080/13636820.2024.2317163](https://doi.org/10.1080/13636820.2024.2317163)

To link to this article: <https://doi.org/10.1080/13636820.2024.2317163>



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Published online: 28 Mar 2024.



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Agricultural vocational education and training for sustainable futures: responsiveness to the climate and economic crisis in Zimbabwe

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ABSTRACT

With ever-increasing focus from policymakers on the potential of vocational education to provide skills for livelihoods and sustainability in the rural economy, this study set out to investigate attempts at curriculum reform by agricultural technical and vocational education and training providers in the context of the dual crisis – ‘climate and economic’ – in Zimbabwe. The question addressed is: How should the agricultural vocational education and training curriculum respond to the climate and economic crisis to ensure sustainability? The paper highlights enablers and barriers to curriculum responsiveness. Moll’s model of curriculum responsiveness provided analytical lenses for the study. Data collection was through semi-structured interviews, focus group interviews, document analysis and observations, and analysed thematically. The study revealed that the climate crisis in Zimbabwe has affected both government and non-government vocational training centres in several ways. However, the curriculum was ‘one-size fits all’, focused on the needs of a formal labour market. Such a labour market has been decimated by the economic crisis and climate break down. Hence, providers of agricultural vocational education in rural areas ought to consider re-engineering the curriculum to be more responsive to a range of drivers, including climate change, especially within the rural context.

ARTICLE HISTORY

Received 14 February 2023
Accepted 5 February 2024

KEYWORDS

Agricultural vocational education and training; sustainable futures; responsiveness

Introduction

The voices on the important role of agricultural vocational education and training (AVET) for sustainability are getting louder especially against the backdrop of global climate change (McGrath et al. 2006; Holfelder 2019; Lotz-Sisitka et al. 2017; Muwaniki et al. 2022). This is part of a broader trend in which international agencies and funders as well as national governments are increasingly turning to VET as a key strategy for addressing a range of social and

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political concerns, including but not limited to growing youth unemployment, stagnating economic growth, addressing gender inequality, climate change and food insecurity (UNESCO 2016).

VET is increasingly viewed as a solution for a range of national problems in Zimbabwe, notwithstanding continuing priorities in basic and higher education. Here it includes an important focus on agricultural skills, reflecting Zimbabwe's deindustrialisation, the centrality of the politics of land, and the urgency of the climate emergency. This has seen a growing focus both on agricultural curriculum reform and the changing roles of extension officers (Muwaniki et al. 2022). The larger study this paper draws from sought to investigate curriculum responsiveness of vocational training centres (VTCs) to the needs of the rural communities and specifically land reform recipients in the localities surrounding the centres (Muwaniki 2019). Here we consider experiences at two such centres, located in a region where climate change is threatening agricultural yields alongside significant change in land ownership patterns as a result of land reform (Muwaniki 2019).

The paper seeks to investigate the responsiveness of two agricultural vocational education and training centres in Zimbabwe (one public and the other privately run) to the climate and economic crisis to enhance sustainability. The paper also furthermore highlights enablers and barriers to curriculum responsiveness at the two institutions. It focuses on how the VET curriculum at two rural colleges sought to respond to the climate and economic crisis in Zimbabwe. The paper seeks to address the following questions:

- How might the AVET curriculum respond to the climate and economic crises to ensure sustainability?
- What are the enablers and barriers to AVET curriculum responsiveness in light of the climate and economic crises?
- What does this case study reveal about the relationship between agricultural vocational education and sustainable development?

In the first section of what follows we present the international context of the provision of Agricultural Vocational Education and Training. We adumbrate developments and shifts at the policy level that inform curriculum reform in Zimbabwean AVET. The concept of curriculum responsiveness is also discussed (cf. Wedekind and Mutereko 2016). In the final section we discuss the barriers and enablers of curriculum responsiveness at the two colleges and what it might offer to a wider international debate on VET and sustainability.

AVET provision in the context of the economic and climate crisis in Zimbabwe

The policy discourse on VET broadly has recently seen significant shifts, and this also applies to AVET. The direction which VET has to pursue if it is to contribute to sustainability is enshrined in the SDGs and other key policy documents. The ratification of SDGs by the United Nations in 2015 signals a recognition that previous attempts at development were unsustainable. Unlike the Millennium Development Goals, the SDGs, particularly SDG4, make an explicit commitment to equal access to affordable and quality VET for all, and specifically seeks to 'substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship' (UNDP, 2016). SDG4 also seeks to ensure inclusive and equitable education and promote lifelong opportunities for all. Apart from the SDGs, at the global level there have been attempts at policy formulation emphasising the urgency for VET to adapt and be transformed to be more relevant and aligned to development strategies such as the UNESCO TVET strategy (UNESCO 2016) and the Continental Education Strategy for Africa (African Union 2016).

Conservation and the sustainable use of environmental and natural resources are necessary to tackle key SDG themes such as multidimensional poverty, inequality and exclusion, and promote resilience and effective governance for sustainable development (UNDP, 2016). Climate change is a huge risk globally. Brazier (2015) notes that globally, with temperatures rising, rainfall patterns will have variations with some regions experiencing above normal rainfall while others will have below normal rainfall. These changes will have devastating effects on livelihoods across regions, and Southern Africa is no exception (Engelbrecht and Monteiro 2021).

One important aspect of this is that global food security is likely to be severely threatened. Production of all of the major food staples (maize, rice and wheat) will be disrupted by rising temperatures, water shortages and increases in pest and disease attacks (Brazier 2015). Thus, an agricultural climate mitigation strategy requires a revisiting of the range of crops under cultivation.

As one response, the United Nations General Assembly declared 2023 'The Year of the Millets', in order to encourage farmers to grow small grains to ensure food security (Theuri and Burkhart 2023). Millets are small edible seeds with high nutritional value, resistant to pests and drought which have underutilised potential to address food and nutritional insecurity. Adoption of millets will be significant especially in areas with poor soils, climate change and adverse weather. Historically, small grains were grown extensively in Zimbabwe but they were increasingly replaced by hybrid maize strains after colonialism as these crops offered greater yields and profits for commercial farmers. However, much of Zimbabwe is already drought-prone and the increasing climate crisis

necessitates a review of farming practices, including revisiting historic patterns of small grain production.

Apart from small grain production, the keeping of small ruminants such as goats and sheep has also been acknowledged as a climate change adaptation move for farmers in heat-stressed environments. These ruminants are a critical source of livelihood for rural people and have a potential to contribute to more sustainable food production systems (Berihulay et al. 2019).

The agricultural challenges of climate change in Zimbabwe need to be understood within the wider context of the national political economy and the centrality to that of land and, hence, agriculture (Chipato et al. 2020). The legacy of the colonial land grab and the establishment of a massive settler-based large-scale commercial agricultural system on the most productive land continues to cast its shadow on Zimbabwean politics and society. After an initial policy of rapprochement with white agriculture alongside modest land redistribution from 1980, the government moved radically in 2000 through its Fast Track Land Reform Programme (FTLRP).

Under the FTLRP, Zimbabwe's Ministry of Lands categorised models of resettlement into two main categories which are the 'A1' and 'A2' models. The A1 model promoted smallholder farmers who are referred to as 'A1 farmers', while the A2 model was meant for more middle to large scale farmers referred to as 'A2 farmers' (Chavhunduka 2016). The A1 farmers engage in smallholder production on either small-scale independent farms of, on average, twenty hectares, or in villagised arrangements with shared grazing and clustered homes (Shonhe and Mtapuri 2020). Villagised arrangements have land sizes of, on average, five hectares, and have communal grazing of about twelve hectares. The majority of A1 farmers were former peasants from the overcrowded communal areas and who were mostly of low socio-economic status and often excluded from education. Meanwhile, the A2 farmers were mostly high ranking civil servants, army personnel (both retired and in service) as well as the politically-connected business elite (Muwaniki 2019; Shonhe, Scoones et al 2020).

The shift to a more radical land reform agenda reflected a wider legitimacy crisis of the government. In the first 10 years of independence (the 1980s), the country experienced significant growth in most sectors of the economy including agriculture, education, mining and industry (Masunungure 2020; Kanyenze 2022). However, the growth trajectory could not be sustained. This led to the adoption of the Economic Structural Adjustment Programme (ESAP) in 1991. The subsequent years of austerity significantly weakened support for the government and led to an increasingly tense political climate (the Government of National Unity from 2009 to 2013 marking a temporary reduction of tensions). The land reforms were an attempt to rebuild both popular (through land for the poor and veterans of the liberation struggle) and elite support (through farms for military officers in particular). However, the contestations of the reform led to a continued crisis, including sanctions, economic collapse and mass emigration.

All of this made the population even more dependent on agriculture for livelihoods at a point when climate change threatened yields.

Curriculum responsiveness

Globally, public VET has been criticised for its limited ‘responsiveness’ to the needs of industry. Such analysis applies equally to the agricultural sector. Within Southern Africa there has been an increased interest in vocational curriculum responsiveness (Gamble 2003; Moll 2004 Wedekind and Mutereko 2016; Muwaniki 2019).

Much of the literature on curricular responsiveness narrowly and unreflexively treats responsiveness simply as being about servicing the needs of employers. This fails to recognise that there are wider external forces at play, and fails to recognise the particular dynamics of educational institutions which need to respond to the broader needs of their learners and work within the constraints of their human and material resources. Following Moll (2004) and Wedekind and Mutereko (2016), we suggest curriculum responsiveness needs to be seen as including interaction with five drivers:

- (1) employers (as drivers of both demand and supply with regard to labour and education and training)
- (2) students/workers/job-seekers and their individual psych-social needs
- (3) policies and regulations governing educational access, progression and funding
- (4) societal and environmental issues beyond the labour market; and
- (5) the internal dynamics and resources of education and training organisations.

Here we put particular emphasis on the environmental aspect of the fourth dimension.

Methodology

The study was carried out at two vocational training centres: College A is government owned and run, although by the Ministry of Youth rather than the Ministry of Higher Education Science and Technology Development (see later), whilst College B is a non-governmental run training centre. A multi case study design was used because this provides a unique insight into institutions and people in real situations (Rini 2019). A total of 26 participants took part in the study as follows: two senior Ministry Officials: one each from the Ministry of Youth, Indigenisation and Empowerment and the Ministry of Higher Education, Science and Technology Development; two principals, one from each centre; eight lecturers (four from each centre) and 16 students (eight from each centre).

The selection of principals was in order to get the overall picture of how the centres operated as well as get the context under which they operate. The selection of lecturers was purposive (only agriculture lecturers) while random sampling was done for students (since they formed a bigger pool). Data was collected from the rest using semi-structured interviews except for the eight students who participated in a focus group interview.

Data was analysed using thematic analysis. Major themes emanating from the data were identified through coding of participants' responses which were then thematically categorised (Braun and Clarke 2021). The major themes that emerged were supported by rich quotations of what the respondents actually said in the interviews. Ethical protocols were observed including informed consent, confidentiality and honesty in reporting findings, and avoidance of harm (Bussu et al. 2021). Participants' identities have been kept confidential.

Introducing the centres

Both are in areas characterised by poor and unreliable rainfall patterns, high temperatures and poor soils (Chikodzi 2016; Muwaniki 2019). This classification makes sustainable rain-fed crop production difficult around these centres and often results in food insecurity.

In terms of mandate, both centres share commonalities in their mission and vision. They are tasked with supporting self-reliance, poverty alleviation and food security. College A focuses strongly on skills for self-employment in several trades, whilst College B has a wider community development mandate. Agriculture is an important feature of both. At College A salaries are met by the Treasury but only 50% of operational costs are covered, a move made due to the economic crisis. By contrast, College B is owned by a membership-based organisation operating as a Private Voluntary Organisation. All income has to be raised by the organisation. It has been successful in attracting international donor support from such partners as HIVOS International, Norwegian Agency for Development Cooperation (NORAD), Africa 2000, Plan International, Tools for Self-Reliance, and United Nations Development Programme (UNDP). Although some donors withdrew in the era of sanctions, the centre has been able to maintain funding.

Programmes at College A are offered in four main departments: Building, Agriculture, Tourism and Hospitality, and Engineering. National Certificate programmes are offered in Agriculture, Building, Hotel and Tourism, Cosmetology, Motor Mechanics, and Carpentry. All the programmes offered at the institution are at the National Foundation Certificate as well as the National Certificate levels. The National Foundation Certificate is equivalent to Ordinary Level [the former English 'O' level], whereas the National Certificate is equivalent to Advanced Level [again mirroring English practice] under the Zimbabwe National Qualifications Framework. After the completion of the certificate

courses the participants register for trade tests under the Higher Education Examinations Council (HEXCO) for Journeyman classes. Zimbabwe has since adopted a ten band National Qualifications Framework similar to the South African National Qualifications Framework (Chisholm 2007).

The centre offers the three-year Certificate in Agriculture. The learners who successfully complete this programme typically enter the agricultural extension services or go into further studies. The Certificate course is divided into three main subject areas: Animal Husbandry, Crop Production and Agriculture Engineering. The entry requirements are 3 Ordinary level passes, and the use of English means that these programmes are not accessible to much of the local populace. College B offers both formal and non-formal programmes. Alongside the National Certificate in Agriculture described above, there are a series of non-accredited courses in crop production and animal husbandry.

Findings

Curriculum responsiveness to the economic and climate crisis

Findings from the study revealed that there has been some movement of the VET curriculum in response to the climate and economic crisis in Zimbabwe. The programmes offered at both centres indicate curriculum responsiveness to both the climate and economic crisis. Apart from the usual programmes offered in agriculture colleges elsewhere, the two cases have introduced more specific subjects such as small grain production, small animal production, entrepreneurship as well as community development projects (but more prominently at College B).

Small grain production

The first theme identified as constituting the learning needs of A1 farmers was crop production. The participants in the focus groups identified a number of specific content areas: small grains production, sugar cane production and greenhouse farming. The majority of the participants in the focus group discussion at both centres (seven of the eight at College A and all at College B) indicated small grains production as an important area they needed to learn about as new farmers. All the participants from the drier parts of the country preferred small grains because they performed better than hybrid seeds in regions with short farming seasons due to water shortages. What was observed is that a farmer's place of origin has an influence on the types of crops they needed to learn to grow. The majority of students noted that in order to attain food security in light of climate change, farmers in the drier regions should be trained in growing small grains. Their feelings are illustrated in the following quotation from one of them.

Even though it's now common knowledge that we need to grow small grains, the fact is that we cannot do it successfully until we learn how to produce our own seed varieties as farmers so that we do not depend on buying seed. (Student B7)

The growing of small grains is an important area new farmers need to learn, especially those coming from the drier regions of the country. This is because small grains are quick to mature; hence they are not affected by long dry spells commonly experienced in these areas, especially in the southern parts of the country. It was therefore necessary that the centres respond both to climate change and to the needs of the farmers they train.

Responsiveness to the need for small grains production was much greater at College B as compared to College A. It was much easier because College B initiated a small grain farming initiative in gardens in the community. The training of farmers within the community in small grain production was done through short courses that resulted in farmers getting certificates of attendance but had an advantage of immediate application of knowledge on their plots since the farmers were given inputs by the centre. This enabled teachers at the centre to develop their own applied knowledge and integrate it into the curriculum. As for the public centre, responsiveness to the need for small grains was slower because their curriculum was entirely centrally controlled and dependent on changes at the Ministry level with little room for locally based responsiveness. This, of course, is a well-attested global challenge for public college responsiveness (Wedekind 2014).

Small livestock production

Learning how to raise small livestock was identified as a learning need by the majority of participants in the focus group interview at both centres. They indicated that they were interested in learning how to raise goats, sheep and rabbits. One of the learners said:

Small livestock production is the way to go these days. It is because they are not expensive to maintain and the decisions to sell can be made much quicker as compared to cattle. (Student A3)

Another learner said:

In Beit Bridge, where I come from, the dry conditions and availability of small bushes makes goat production quite viable. Goats have an advantage in that they multiply faster than cattle. (Student A5)

The need for programmes on small livestock production was supported by students in both focus group discussions. The benefit of small livestock production is early maturity of the animals. This means that there is faster income and returns when they are sold. Another advantage is that decisions to sell and slaughter for meat are easier to make with regard to small livestock, compared to cattle.

Responsiveness to the need for small livestock was evident at both centres in what was taught in the classrooms. Programmes at both centres teach the raising of small ruminants such as goats and sheep since these are more drought tolerant. However, responsiveness by College B had more practical support from the centre in that they had deliberate programmes where farmers were given goats which they would raise in small groups and pass on the kids to other villagers to ensure the sustainability of the initiative.

Community development focus

Responding to the need for community development inevitably overlaps with questions of supporting sustainable livelihoods. Climate change is layered upon existing challenges of environmental degradation that are particularly prevalent in Zimbabwe's communal lands, reflecting the colonial land policy of forced concentration of African populations on marginal lands and in numbers far beyond the land's carrying capacity. Particularly in the district where College B is located, there is a major soil erosion problem, with large gulleys threatening farming activities. Hence, it was argued that their management should be an important feature of the agricultural curriculum. A number of small dams in the area, built to counter the challenge of low rainfall, are in need of rehabilitation, and more are required. Again, building skills here was seen as necessary.

In response, College B had facilitated the establishment of nutritional gardens in most wards in their district. The lecturer responsible for the nutritional gardens had qualifications and experience in agriculture as well as nutrition and HIV and AIDS. The lecturer noted that:

traditionally we offered the module on nutritional gardens focusing on the food security aspect only. However, with the increased incidences of HIV and AIDS in the district as well as after conducting training needs analysis, the herbal component was added. The focus was on responding to the needs not only of A1 farmers, but the entire population since HIV and AIDS does not discriminate. (Lecturer B4)

The herbal gardens programme was an expansion of the scope of nutritional gardens introducing herbs to enhance health outcomes. This expansion was necessitated by the realisation that a high percentage of the populations are people living with HIV and AIDS (Manyangadze, Chimbari, and Mavhura 2021).

Enablers of and barriers to AVET curriculum responsiveness

Ministry Officials interviewed reflected on policy responsiveness in the main. It was revealed that there is often confusion and apparent duplication of tasks between the Ministry of Youth which runs College A and the Ministry of Higher Education Science and Technology Development (MHEST) which has responsibility for certifying examinations under the Higher Education Examination

Council (HEXCO). The MHESTD could not freely play its oversight role as it should over a college run by a sister Ministry. This resulted in the public training centre at times operating without qualified personnel and facilities constraining curriculum responsiveness.

This perspective contrasts with some of what we have written above, where it appears that being freed of the constraints of centralised policy may be advantageous, and the argument of the VET Africa 4.0 Collective (2023) in neighbouring South Africa who suggest that being under another ministry at times allowed more responsiveness to a forestry and agriculture college with which they were collaborating. This highlights the tensions between the different dimensions of responsiveness that AVET providers have to navigate.

Funding

The most obvious level at which the economic crisis has impacted the centres was at the level of funding, which in turn has affected infrastructure and equipment and human resources.

The case studies have revealed that adequate funding is essential for the effective operation of vocational training colleges. Both principals of the training centres indicated that the economic crisis in the country has affected the operations of their respective centres. The principal at College A noted that from 2008, the government has ceased to fund the centre in any way other than the payment of salaries of employees:

The student fees which we are expected to operate on are not enough and cannot be increased even if we may wish to do so in order to inject capital for new machinery and equipment. Even the encouragement that we start Public Private Partnerships is not sustainable in the current environment because even private companies are operating at a loss.

The principal of College B also raised a concern with the amount of financial support they are getting from donors as well. The principal said:

As you may be aware, the country is under economic sanctions from the same countries which used to be our biggest donors. What this means is that these days there are certain funds which we cannot unlock even if we have the best of proposals. The process of applying for funds has become cumbersome and frustrating because these days we may go for a year without getting external financial support.

Both principals were united in their frustration with the isolation of the country by some western governments and both felt that they have had a negative impact on education outcomes in vocational training centres. This, they argued, affects the operational efficiency of the training centres and also affects industrial growth and consequently curriculum responsiveness to the climate and economic crisis.

Facilities and training equipment

At the most obvious level perhaps, the lack of funding has a direct negative impact on the infrastructure available for teaching and learning at the VTCs. The majority of participants in the study concurred that the economic crisis in Zimbabwe has negatively affected the facilities and equipment found in vocational training centres. The principals of the two centres, lecturers and students all agreed that teaching and learning had been compromised since the facilities at the institutions were not suitable for training learners at either Certificate or Diploma levels. Furthermore, there was a concern that if nothing is done to improve the state of facilities and equipment, these institutions would eventually be rendered irrelevant and would have to close. The Principal of College A made the following comment:

We have not managed to buy tractors ever since we opened this centre in 1984. That is a very long time. What it means is that we have remained stuck in the past while changes in industry occur. Because of that our graduates lag behind the actual technology being applied in industry.

The majority of students in the focus group interview concurred that they lag behind in terms of technological advancement. One focus group participant noted that:

It is not surprising that one can go through a programme of Mechanised Agriculture at this institution without merely seeing basic technology tools, let alone using them. This compromises our approximation to the job we will do upon completion.

The lecturers noted that they were aware of the skills expected by employers from their graduates, however in most cases their hands were tied because of structural issues in their institutions. They raised issues related to governance of their centres, policy issues and those relating to the calibre of inputs (human and financial) which come into the vocational education system.

Shortage of qualified AVET teachers

There is fairly widespread consensus that the critical factor in quality education generally and quality vocational education in particular is the quality of its teachers (Wheelahan 2010; VET 2023). As has already been noted earlier, Zimbabwe suffered from a significant migration of skilled people out of the country, and thus many qualified personnel had left. Both the staff and students at the vocational training centres under study showed concern with the quality of lecturers they have. What was striking was the fact that even the lecturers currently in the system were not sure if they were the right people for the jobs they were doing. Some of the lecturers at College A did not have the relevant qualifications for teaching students at Certificate level. The recruitment of the lecturers was done mostly to fill in the gap left by lecturers who resigned at the

peak of the economic crises in 2008; hence the expectations were lowered to ensure that the post had takers locally.

At College A, there was only one lecturer for the Agriculture programme, whose qualification was at the same level which he teaches. He was expected to run the programme alone for quite some time because the posts were frozen. The Principal said,

With the current economic crisis, if a lecturer leaves employment for retirement or other reasons we cannot get a replacement. This is in line with the government position that posts in the public service are frozen.

A number of students at the centres were sceptical of the staff as well and indicated that the lack of qualified lecturers or the limited numbers in their institutions overburdened the few who are there and compromised quality of learning. Some students noted that it is not feasible to have a department staffed by one lecturer. One student at Mushagashe said,

Having one lecturer in a programme that has six modules is unrealistic because it makes it appear as though the lecturer is an expert in everything ... which is not usually the case.

From the interviews with lecturers, it was clear that those from College B were better qualified and more experienced than those from the government training centre. It was clear that the NGO centre was a preferred employer because of better salaries and benefits whereas in government the salary was low.

It is clear that the quality of the staff, and consequently the quality of learning and teaching, is affected by the wider economic conditions in the society in which VET is being delivered. If staffing levels are not maintained and the posts are not filled with appropriately qualified teachers then there is bound to be a negative impact on the quality of AVET provision. Professional development of teachers is also impaired (2018).

Academic staff is a critical dimension, but in addition AVET colleges tend to attract students who are academically weaker. One lecturer said,

No matter how innovative and resourceful you may be as a lecturer, if you have students who have written their Ordinary Level examinations for an unlimited number of times... some have passed on the tenth attempt. It is difficult for such students to perform wonders and excel in vocational training. Yes they may do well in the practical aspects, but the theory part will always haunt them in future.

The fact that the system is not able to attract experienced and qualified teachers makes the educational challenge of supporting students who struggle with theory that much more difficult.

The economic crisis had clearly placed major constraints on what VTCs were able to offer. The lack of funding and the overall decline in the number of positions that students graduating from the centres could fill had made them unable to fulfil their primary mandate. The students themselves indicated

frustration with the vocational education and training system in which they are currently being trained. However, they indicated that they do not have other options, which is why they continue in the programmes. Some students doubted that the training they receive would give them the employability skills expected by industry.

Alternative directions

There are growing debates in the academic literature about the broader role of vocational education in sustainable development (McGrath et al. 2020; Ramsarup and Mohamed 2022; VET 2023). Our data supports this broad approach in so far as the study revealed that vocational training potentially has an important role to play in sustainable community development. This is possible through the capacity building that has been done by AVET colleges which respond to the needs of the locals in the communities in which they operate, especially in the context of the climate and economic crisis. The NGO training centre contributes more towards community development as compared to the government training centre. This is attributed to a number of factors including flexibility of the NGO centre, its collaboration with local stakeholders inclusive of local chiefs and villagers and its ability to be responsive to needs of locals, and the changes in the economy.

Both principals indicated that in view of the current challenges the AVET sector in Zimbabwe faces due to an underperforming economy and climate change, there is a need to shift the focus from exclusive labour market responsiveness to responding to the need for community development imperatives.

Already the NGO training centre (College B) has shown a commitment to responding towards community development. The principal noted that their centre is community-based not just by virtue of its physical location but in all other aspects, including governance, curriculum development, the implementation of programmes and recruitment of facilitators and participants.

The community development focus is further strengthened by the involvement of the community in the process of curriculum development from needs assessment, community based facilitation of training (which is flexible) and assessment of training. The principal also expressed satisfaction with the efforts of their centre in contributing meaningfully towards the reduction of poverty and community development. The majority of participants from the College B were united in their appreciation of the college for making significant contributions in poverty alleviation through skills development in their community. This has been highlighted in previous studies which brought to the fore poverty reduction in communities (King and McGrath 2002; McGrath 2002). In addition, while we reported on the frustration of many students, there were some that indicated that their source of comfort was that they could start their own small enterprises upon completion of the programmes (assuming they could access

capital). This points to another strand of development in VET, namely supporting entrepreneurship, which is often articulated as a goal but not clearly embedded in the curriculum (DeJaeghere and Baxter 2014).

Conclusions and implications

The study focused on VET curriculum responsiveness to the climate and economic crises and its implications for sustainable futures in one rural province of Zimbabwe. The findings of the study have shown that both colleges under study have tweaked their curriculum to focus on small grain production, small livestock production, and entrepreneurship as well as a deliberate inclination towards community development in the case of one college.

However, there are notable barriers as well as enablers to curriculum responsiveness some of which are unique to each case. The rural vocational training centres focused on in this study had poor facilities and equipment, a crucial element for teaching and learning. The shortage of qualified personnel in rural vocational colleges affects the actual knowledge and skills graduates will possess after training hence compromising their employability and self employment capabilities. This negatively impacts on the students' competency upon completion of training and their employment prospects. In most instances the graduates appear not to meet the expectations of employers, although increasingly this is not the focus of such programmes. Resultantly, there is a lack of optimism among rural vocational learners regarding their employment opportunities and lack of confidence in their ability to deliver as expected by employers. It is clear that the economic crisis in Zimbabwe has compromised VET provision in both public and private institutions by affecting their capacity to respond to the climate and economic crisis.

The findings from the study have a number of implications for the provision of VET in developing countries. At one level, one must argue for greater investment and improvement of the quality of what is on offer. Unless the Government opens posts for qualified lecturers in VET centres and also improves the working conditions for staff they will be unlikely to lure more qualified personnel to the rural training centres. There is a need for partnerships between vocational training centres and employers or their representatives in order for effective collaboration in terms of highlighting the labour demands of employers to the training centres in order to improve employability of graduates but this study also points to the need to focus strongly on sustainable livelihood needs and possibilities, given both the climate and economic crises.

However, a simplistic assumption, which underpins most policy, that increased focus on VET will improve employability and economic development, does not acknowledge the embedded nature of VET institutions within particular economies. Institutions such as VTCs cannot create work opportunities for their students regardless of how good the quality of the education system is.

Indeed, Zimbabwe is a striking example of a mismatch between learning and employment outcomes.

There is thus a critical need to rethink reforming the vocational training system to focus on a wider understanding of work, including domestic labour, the informal economy and community development, rather than the narrow focus on the formal labour market. The VTCs are part of the social system and constrained by it, but if a broader view of development and the economy are adopted, then they can play a wider and more transformative role than current policy ascribes to them. The environmental crisis means that such a transformation must have an ecological dimension. These cases, modestly, suggest that they are heading in the right direction, but far more must be done.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

This work was partially supported by an internal University of Nottingham allocation from the Global Challenges Research Fund (GCRF) [4967411].

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References

- African Union. 2016. *Continental Education Strategy for Africa*. Addis Ababa, Ethiopia: African Union.
- Berihulay, H, A. Abied, X. He, L. Jiang, and Y. Ma. 2019. "Adaptation Mechanisms of Small Ruminants to Environmental Heat Stress." *Animals* 9 (3): 75. <https://doi.org/10.3390/ani9030075>.
- Braun, V, and V. Clarke. 2021. "To Saturate or Not to Saturate? Questioning Data Saturation as a Useful Concept for Thematic Analysis and Sample-Size Rationales." *Qualitative Research in Sport, Exercise and Health* 13 (2): 201–216. <https://doi.org/10.1080/2159676X.2019.1704846>.
- Brazier, A. 2015. *Climate Change in Zimbabwe: Facts for Planners and Decision Makers*. Harare: Konrad-adenauer-stiftung.
- Bussu, S, M. Lalani, S. Pattison, and M. Marshall. 2021. "Engaging with Care: Ethical Issues in Participatory Research." *Qualitative Research* 21 (5): 667–685. <https://doi.org/10.1177/1468794120904883>.
- Chavhunduka, T. (2016). *Understanding the Diversity of Farming Systems and Assessing the Profitability of Farming Activities of Beneficiaries of the Zimbabwe Land Reform Programme: The Case of Chegutu District (Ward 12)*. (PhD), University of Pretoria, Pretoria, South Africa.

- Chikodzi, D. 2016. "Crop Yield Sensitivity to Climatic Variability as the Basis for Creating Climate Resilient Agriculture." *American Journal of Climate Change* 5 (1): 69–76. <https://doi.org/10.4236/ajcc.2016.51008>.
- Chipato, F, L. Wang, T. Zuo, and G. Mudimu. 2020. "The Politics of Youth Struggles for Land in Post-Land Reform Zimbabwe." *Review of African Political Economy* 47 (163): 59–77. <https://doi.org/10.1080/03056244.2020.1730781>.
- Chisholm, L. 2007. "Diffusion of the National Qualifications Framework and outcomes-based education in southern and eastern Africa." *Comparative Education* 43 (2): 295–309.
- DeJaeghere, J, and A. Baxter. 2014. "Entrepreneurship Education for Youth in Sub-Saharan Africa: A Capabilities Approach as an Alternative Framework to Neoliberalism's Individualizing Risks." *Progress in Development Studies* 14 (1): 61–76. <https://doi.org/10.1177/1464993413504353>.
- Engelbrecht, F, and P. Monteiro. 2021. "The IPCC Assessment Report Six Working Group 1 Report and Southern Africa: Reasons to Take Action." *South African Journal of Science* 117 (11–12): 1–7.
- Gamble, J. 2003. Curriculum Responsiveness in FET Colleges. Cape Town: HSRC Press.
- Holfelder, A-K. 2019. "Towards a Sustainable Future with Education?" *Sustainability Science* 14 (4): 943–952. <https://doi.org/10.1007/s11625-019-00682-z>.
- Kanyenze, G. 2022. *Leaving so Many Behind: The Link between Politics and the Economy in Zimbabwe*. African Books Collective. Harare, Zimbabwe: Weaver Press.
- King, K, and S. McGrath. 2002. *Globalisation, Enterprise and Knowledge*. Oxford: Symposium Books.
- Lotz-Sisitka, H, M. Mukute, C. Chikunda, A. Baloi, and T. Pesanayi. 2017. "Transgressing the Norm: Transformative Agency in Community-Based Learning for Sustainability in Southern African Contexts." *International Review of Education* 63 (6): 897–914. <https://doi.org/10.1007/s11159-017-9689-3>.
- Manyangadze, T, M. Chimbari, and E. Mavhura. 2021. "Spatial Heterogeneity Association of HIV Incidence with Socio-Economic Factors in Zimbabwe." *Journal of Geographical Research* 4 (3): 51–60. <https://doi.org/10.30564/jgr.v4i3.3466>.
- Masunungure, V. 2020. *Zimbabwe's Trajectory: Stepping Forward or Sliding Back*. Harare: African Books Collective. Harare: Weaver Press.
- McGrath, S. 2002. "Skills for Development: A New Approach to International Cooperation in Skills Development?" *Journal of Vocational Education and Training* 54 (3): 413–430. <https://doi.org/10.1080/13636820200200207>.
- McGrath, S, S. Akoojee, A. Gewer, J. Roberts, N. Mbele, and J. Roberts. 2006. "An Examination of the Vocational Education and Training Reform Debate in Southern Africa." *Compare* 36 (1): 85–103. <https://doi.org/10.1080/03057920500382655>.
- McGrath, S, P. Ramsarup, J. Zeelen, V. Wedekind, S. Allais, H. Lotz-Sisitka, Jo-A. Russon, G. Openjuru, and J-A. Russon. 2020. "Vocational Education and Training for African Development: A Literature Review." *Journal of Vocational Education & Training* 72 (4): 465–487. <https://doi.org/10.1080/13636820.2019.1679969>.
- Moll, I. 2004. "Curriculum Responsiveness: The Anatomy of a Concept." In *Curriculum Responsiveness: Case Studies in Higher Education*, edited by H. Griesel. Pretoria: South African Universities Vice Chancellors Association, 1–19.
- Muwaniki, C. (2019). *Vocational Education and Training Curriculum Responsiveness to the Learning Needs of A1 Farmers in Post-2000 Zimbabwe*. (PhD), University of KwaZulu-Natal, Pietermaritzburg, South Africa.
- Muwaniki, C, S. McGrath, M. Manzeke-Kangara, V. Wedekind, and T. Chamboko. 2022. "Curriculum Reform in Agricultural Vocational Education and Training in Zimbabwe:

- Implementation Challenges and Possibilities." *Journal of Vocational, Adult and Continuing Education and Training* 5 (1): 22. <https://doi.org/10.14426/jovacet.v5i1.248>.
- Muwaniki, C, and V. Wedekind. 2018. "Professional Development of Vocational Teachers in Zimbabwe: The Past, Present, and Future." In *Handbook of Vocational Education and Training*, edited by S. McGrath, M. Mulder, J. Papier, and R Suart. Cham: Springer, 1–17.
- Ramsarup, P, and N. Mohamed. 2022. "Reimagining Skills Planning for a low Carbon Future in South Africa. In Xaba, N, Fakir, S (Eds.), *A Just Transition to A Low Carbon Future in South Africa* (pp. 357- 381). Johannesburg, South Africa: Mapungubwe Institute for Strategic Reflection.
- Rini, J. 2019. *WP2 Conceptual Framework for Comparative Multiple Case Study Analysis*. Maastricht University, Maastricht University, Maastricht, Netherlands.
- Shonhe, T, and O Mtapuri. 2020. "Zimbabwe's Emerging Farmer Classification Model: A 'New' Countryside." *Review of African Political Economy* 47 (165): 363–381. <https://doi.org/10.1080/03056244.2020.1768838>.
- Shonhe, T, I. Scoones, and F. Murimbarimba. 2020. "Medium-Scale Commercial Agriculture in Zimbabwe: The Experience of A2 Resettlement Farms." *The Journal of Modern African Studies* 58 (4): 601–626. <https://doi.org/10.1017/S0022278X20000385>.
- Theuri, S, and S. Burkhart. 2023. "Calling on All SNEB Members to Engage in the "International Year of the Millets 2023"." *Journal of Nutrition Education and Behavior* 55 (1): 1. <https://doi.org/10.1016/j.jneb.2022.11.005>.
- UNDP. 2016. *UNDP Support to the Implementation of the 2030 Agenda for Sustainable Development*. New York: United Nations Development Programme.
- UNESCO. 2016. *UNESCO- TVET Strategy 2016 - 2021*. Bonn, Germany: UNES.
- VET Africa 4.0 Collective. 2023. *Transitioning Vocational Education and Training in Africa*. Bristol: Bristol University Press.
- Wedekind, V. 2014. Going Around in Circles: Employability, responsiveness, and the reform of the college sector. In Vally, S, Motala, E. (Eds.), *Education, Economy, Society* (pp. 57–80). Pretoria: UNISA Press.
- Wedekind, V, and S. Mutereko. 2016. "Higher Education Responsiveness through Partnerships with Industry: The Case of a University of Technology Programme." *Development Southern Africa* 33 (3): 376–389. <https://doi.org/10.1080/0376835X.2016.1156516>.
- Wheelahan, L. 2010. *Literature Review: The Quality of Teaching in VET*, 45. Melbourne, Australia: L.H. Martin Institute for Higher Education Leadership and Management.