Patterns of and Factors Undermining Female Participation in Hard Trades under Tanzania's Vocational Education and Training System

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Abstract

This study reports the findings on female participation in hard trades under Tanzania's Vocational Education and Training (VET). This qualitative research involved 72 participants including females' trainees, instructors, employers and principals. It used semi-structured interview and Focus Group Discussion to collect data, which was subjected to content analysis. Participation patterns indicated far lower female participation in hard than soft trades. The study established the main contributory factors to this lopsided female gender representation in hard trades in Tanzania as gender role stereotyping, employers' reluctance, lack of role models, absence of formal career guidance and counselling services, as well as gender-based curriculum materials. The study, therefore, recommends for the change in mindset among female aspirants in attitude towards hard trades to increase their participation while society should embrace positive perceptions of the abilities of females to pursue hard trades. VET centres should also employ female instructors in hard trades to serve as role models to

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encourage other females to opt for hard trades. Finally, VET instructors should encourage female trainees to participate in hard trades.

Keywords: *Female, Gender, Vocational Education, Hard Trades, Tanzania*

Introduction

Vocational Education enhances economic development and employment opportunities in a country (Atchoarena & Delluc, 2002). It offers skills and competencies that prepare human resources for enhanced productivity that helps to reduce poverty (Ngualimali & Temu, 2012). VET graduates acquire skills which enable them to engage in productive activities, get employed or be self-employed, hence making training in VET a solution to the seeming intractable unemployment problem (Moletsen & Reddy, 2011). The advantage of vocational education is also profound when educating females because the impact of their learning extends to those they nurture (Ngugi & Muthima, 2017).

VET centres offer both hard and soft trades. Soft trades include dressmaking, domestic science, tailoring, printing, secretarial activities, hotel management as well as catering, which usually tend to lean towards female participation. On the other hand, hard trades include electrical and mechanical engineering, motor vehicles mechanics, fitter mechanics, welding and metal fabrication,

auto body repair, auto electric, masonry, brick making as well as electrical installation (VETA, 2010), which under Tanzania's patriarchal norms tend to lean towards male participants. Literature indicates that access to vocational education, particularly hard trades, provides opportunity for both genders females and males to enter the labour market in a liberalised economy and to participate in the fast-growing informal sector (Hunt & Samman, 2016). After all, hard trade courses offer high-level skills which enable recipients to compete successfully for skilled jobs. The acquisition of hard-trades also translates into improved quality of life because people become employable and are more informed (Anaela, Isiorhovoja, Dela, & Asoluka, 2014).

Global Participation Pattern of Female in Vocational Education Hard Trades

Worldwide, vocational education particularly hard trades are a sector that suffers from gender stereotyping because the level of female participation is still low despite the advancement in science and technology (UNESCO, 2004). For example, Adelakwa, Oviane, & Garfa (2015) report that female participation in science subjects such as technology, engineering and mathematics remained largely low in the United Kingdom. A study conducted by Women Education Equity Act (2002) in England revealed that vocational education had been characterised by high degree of segregation, which legally and effectively denied female aspirants access to non-traditional courses. In addition, UNECSO (2008) reports that in Nordic countries, boys engage in education and training for hard trades whereas girls participate in soft trades. Spearman and Watt (2013) study reported that despite numerous government

initiatives aimed to strike a balance in gender participation, gender disparity has persisted over many years in Australia. In Asia, hard trades such as carpentry, electronics and mechanics are also dominated by males; meanwhile, females concentrate on soft courses such as secretarial, beautician and hairdressing services (UNESCO, 2008). This situation is likely to result in women lagging because the courses they opt for are lowly paid and some are like continuation or extensions of their household or domestic chores. The low enrolment of females in hard trades indicates that entrenched occupational segregation of the trades would remain resistant to change for sometimes to come.

Studies from Africa also indicate gender disparities in female participation in VET. Atchoarena and Delluc's (2002) study found that female enrolment in VET in countries such as Nigeria, Eritrea and Namibia were below 15 percent. Similarly, Barthes, Nair and Malpede, (2001) contend that in Malawi, subjects offered in VET institutions were gendered with female predominantly in office practices and decoration. In Ghana, boys received training in hard trades which attracted considerable income opportunities whereas females concentrated in home economics, hair dressing, knitting and tailoring (UNESCO, 2008). Also, Ngugi and Muthima (2019) reported that in Kenya very few women enrolled in science, technology, engineering and mathematics courses, a situation resulted in their low participation in hard courses. In consequence, for five consecutive years (2010-2014) VET centres in Kenya were dominated by males. Additionally, Adelakun et al. (2015) report that most females in Kenya are mainly found in lowly paid job,

an offshoot of gender bias in the provision of education from lower levels. In Nigeria, Udeani and Efikemi (2011) revealed that female participation in VET was still relatively low as females were largely underrepresented in different sectors, thus ending up occupying the lower socio-economic status in the society.

Participation in Vocational Education in Tanzania

Vocational education provision in Tanzania is traceable to the pre-colonial period largely occurring through informal set-ups. As in other countries, vocational education in Tanzania provides training opportunities for churning out skilled workers, technicians and professionals to work in different sectors essential in spurring socio-economic development. In this regards, Vocational Education and Training Authority (VETA) was established in 1994 to create an efficient demand-driven national training system capable of responding to the labour market and improve gender balance in training centres. The thrust was to increase the enrolment of both male and female trainees in both hard and soft trade programmes (Department for International Development, 1999). Like in other countries, in Tanzania VET is regarded as training leading to skilled occupations. Hence, Vocational education providers in Tanzania offer soft skills, for example, in secretarial and tailoring courses, and hard skills such as lumbering, plumbing, carpentry, mechanics, electrical and masonry vocations. These courses are offered to those who want to upgrade their skills and pre-service youth vying to acquire new skills (MoEVT, 2013). Learners are conferred with certificates and diplomas depending on their level of

attainment (Machumu et al., 2016). Table 1 shows the total VET enrolments for both public and private-run VET centres by gender from 2016/17 to 2018/19 in Tanzania.

Table 1: Enrolment Trend in Vocational Education by Gender, 2016/17–2018/19

YEAR	2016/2017	2017/2018	2018/2019
Male	80,135	80,050	129,249
Female	49,944	39,134	102,434
Total	**130,079**	**119,184**	**231,683**

Source: United Republic of Tanzania (2019).

Table 1 indicates that far more males than females enrolled in VET in all the three intakes from 2016/2017 to 2018/2019. For example, in the 2016/2017 academic year 80,135 were male and only 49,944 were female. Similarly, in the 2017/2018 intake, 80,050 male and only 39,134 were female. Across board, there was a significant increase in the 2018/2019 intake for both genders but still the females were outmatched by the males. Indeed, for this intake males were 129,249 and females were 102,434, a difference of 28,815. This data indicates that the government's efforts to advocate equitable access to VET and liberalisation of education notwithstanding, participation of female in VET paled before that of males. Moreover, like in other parts of the world, studies show that, fewer females participate in hard trades generally. MoEVT, (2013) indicate severe gender imbalance in science and technology related programmes, where by female learners in such programmes which leads to hard trades constituted 11-19% only in 2011/12.

In addition, a study by Nguliamali and Temu (2012) report female were unpopular in hard trades, which demanded effort and those which learners get dirty during their undertaking, hence trades such as mining had only limited female representation (6.3%), mechanical (14%) construction (14%), automatic (16%) and electrical (19.5%).

Rationale for study

Studies in Tanzania on vocational education include those by Kahindi (1996), Mbenna (2006), and Mbelle (2008) focused on vocational education and poverty reduction. On the other hand, Kahyarara and Teal (2008), Olomi and Sinyamule (2009), and Ngogo (2014) addressed different issues on vocational education including entrepreneurship and innovation. In fact, the few studies that have addressed female participation in hard trades originated from outside Tanzania and had treated hard trades as one of the objectives but not necessarily the focus of the entire study (Women Education Equity Act, 2002; UNECSO, 2008; Lakes & Carter, 2005; Barthes et al., 2001; Ngugi & Muthima, 2019. On the other hand, only Sigisbert's (2017) study and Nguliamali and Temu's (2012) study indicated low involvement of female in hard trades in Tanzania with no information on factors influencing such participation. This situation raises several questions. The central question was: What factors undermine females' participation in hard trades in VET despite their obvious advantages? As such, the present study investigated the patterns of and factors undermining female participation in hard trades under Tanzania's vocational education and training system.

Specifically, the study set out to; (i) establish female enrolment patterns in the courses offered under VET; (ii) explore the factors affecting the participation of female learners in hard trades in VET in Tanzania.

Methodology

Research design and approach

This qualitative study employed a case study design to achieve its objectives. The case study design allowed the researchers to collect in-depth information on the factors influencing female participation in hard trades under VET in Tanzania (Yin, 2014). In this regard, the study employed semi-structured interviews, focus group discussions, and documentary review to collect detailed information related to VET courses, trends in female participation in VET courses, and factors influencing their participation in hard trades.

Research site

The study was conducted in Mbeya region in Tanzania, which was selected purposively because of its sizeable number of VET centres then standing at 52 (VETA, 2019). Availability of these centres facilitated the generating of relevant information for the study on the type of VET trades on offer, female participation patterns in VET centres, and factors influencing their participation. Other factors that guided the choice of Mbeya included the availability of both public and private-run VET centres. Moreover, there are no similar studies which have been conducted in this region. The study was conducted in six purposively sampled VET centres. The criteria for their

selection included their offering both soft and hard trades and having been operating for not less than 10 years.

The sample of the study comprised 72 purposively selected participants. The composition of these respondents was 45 female trainees, 6 principals, 3 employers, and 18 instructors. The study sampled instructors who had been working consecutively in VET centres for more than five years. These instructors possessed relevant information relating to the problem under study. Quota sampling was also employed to select female trainees. In this regard, the study drafted in females from different trades offered by VET centres and from different years of study. These were expected to help the researchers understand the problem and the research questions.

Data Collection and Analysis

The study employed three methods to collect data; semi-structured interviews, focus group discussions, and documentary review. Principals, employers and instructors took part in structured interviews to provide relevant information for the study. Focused group discussions (FGDs) were employed to female trainees to collect data on the VET trades and factors affecting their participation in hard trades. FGDs facilitated interaction among people with similar backgrounds talking about their attitudes to and experiences with a phenomenon in ways that would not easily be achieved in a one-to-one interview (Bryman, 2016). Finally, documentary review provided supplementary and complementary information. The data were subjected to content analysis. Content analysis facilitates the analysis of verbalised and

textualized information from written documents, focus group discussions, and personal interviews (Mayring, 2014). In this undertaking, the researchers adhered to ethical issues guiding education research, for example, by ensuring anonymity and confidentiality for the participants involved in this study the study assigned letters A, B, C, D, E and F instead of actual names of the VET centres under review.

Findings

Female Trainees Enrolment Patterns in VET

The first research objective aimed to establish the enrolment pattern of trainees in both hard and soft trades to determine females' enrolment trends in hard trades in VET. Data were collected through documentary review. The results show that 312 out of 343 trainees enrolled in hard trades in the six sampled VET centres were male. In other words, only 31 females out of 343 were enrolled in hard trades. Electrical installation accounted for 14 females, which represents 45 percent of all females enrolled in hard trades. It was followed by masonry and brick-making with five (16.1%) female learners, motor-vehicle mechanics (13%) and plumbing and pipe-fitting (13%), which had four female trainees apiece, respectively. Welding and metal fabrication only had two females, representing 6.5 percent representation apiece. Fitter mechanics and auto-electric works had each attracted one female trainee. There was no female trainee in carpentry and auto-body repair. One the other hand, 272 females had enrolled for soft trades, with tailoring having 125 (46%) female trainees emerging as the most preferred soft trade; secretarial followed with 89 (33%) female trainees; computer with 31 (11.4%) female

trainees. Catering and hotel management ranked last with 27 (10%) female trainees.

Factors Influencing Participation of Female Trainees in Hard Trades in VET

The second research objective explored the factors affecting female trainees' participation in hard trades at VET centres. Data on this research objective were gathered using interviews with principals, instructors and employers, and focus group discussions with female trainees taking hard and soft trades, and documentary review. The main contributory factors to such severely limited female participation in hard trades included among the following;

Gender role stereotype: Findings revealed gender role stereotyping as one of the factors restricting female participation in hard trades at VET centres. Females were generally treated by society as physically weaker than males, which is consistent with the mechanism perpetuated under patriarchy, a belief system that privileges men over women. This in return influenced the way females perceived their own participation in hard trades at VET centres, and principally amounted to going against the norm. It was also established that, due to gender role stereotyping, females were resigned to accepting themselves as unfit to take on hard trades, largely seen as men's domains, as a result, they enrolled in the soft trades.

Findings revealed that due to societal traditional cultural and norms, which invariably define male and female roles in society, parents tended to

discourage their daughters from going for hard trades on the pretext that they were a male domain, thus limiting the females' choice of training programmes. During FGD, a female trainee from VET centre A, who was against odds, was enrolled in a hard trade said:

> I was interested in pursuing fitter mechanics and that is what I pursue despite my parents' advice to opt for a secretarial course. Fitter mechanics was viewed unfit for females. Following my refusal to their advice, my parents stopped paying my school fees. I continued pursuing my dream and my parents did not support me anymore (Female trainee).

With parents discouraging females from opting hard trades; it was not surprising that only a few enlisted for such trades. However, some trainees were courageous enough to go against the trend and gender stereotyping to pursue their dreams. In other words, poor female involvement in hard trades could be attributable to African customs and traditions that limit women's involvement in activities prescribed as 'masculine'-oriented. Indeed, cultural values and gender role stereotyping have great implications for VET course selection among females. The attitude of parents to female participation in hitherto male-dominated trades mainly due to patriarchal norms and vales thwarted the females' interest in enrolling in hard trades.

Absence of female instructors as role model at VET centres

A role model can serve as one of the factors which affect female trainees' participation in hard trades. Interviewees from six VET centres revealed that there were only one female instructor teaching hard trades. The few other female instructors available at these VET training centres taught soft trades such as home economics, tailoring, and computers. During the focus group discussions with female trainees, it was observed that the failure of female trainees to enrol in hard trades also partly resulted from lack of hard trades female instructors. Data from employees' inventories for VET centres confirmed such a paucity of female instructors in hard trades. Even on the employment front, it emerged the three companies involved in the study had 40 employees in hard trades, but only four (a paltry 10%) were VET female graduates. Furthermore, the researchers investigated the effects of role models on female trainees' participation in hard trades. Some interviewees indicated that, lack of female instructors as role models affected the females' choice of course in vocational fields, as hard trades ended up being treated as no-go areas for females. Through interview, the only female hard trade instructor from VET centre E had explained:

> I was very much attracted by a woman who worked at Mbeya Urban Water Supply Company as water engineer. She worked hard and she was successful in life. This forced me to enrol in hard trade, specifically as a fitter mechanic with a belief to become as

> successful as that [female] water engineer in Mbeya (Instructor, VET centre E).

Implicitly, the presence of female role models could serve as a catalyst for bring about positive results by attracting more female aspirants to pursue a range of possibilities, including enrolling in the thus far elusive hard trades. In this regard, female trainees need to see other women engaging actively in hard trades-related careers to strengthen their belief that they can also do it.

The role played by peers

During interviews, some participants reported that the selection of programmes by female trainees was also affected by the information they received from peers regarding the different hard trade programmes offered by VET centres vis-à-vis female participation. When their peers convinced them that hard trades were too difficult for females, they opted for soft trade programmes even when their initial interest was in the hard trades. Similarly, during the focus group discussions, it emerged that the enrolment of females in hard trades tended to slump when friends or classmates and male peers discouraged females from enrolling in these courses. One female enrolled in motor-vehicle mechanics from VET centre B highlighted this dilemma thusly:

> In our programme, there were more males than females. Our fellow female students used to discourage us saying that we will fail because we had opted for a course

> meant for males. We were disappointed but we could not change decamp because we liked it (Female trainee, VET centre B).

This statement signals the role of peer pressure on female students' decision-making pertaining to hard trades. Indeed, the power of peer pressure affects not only decision-making on social matters but also academic matters such as the selection of subjects and career choice as it affected females' decision to join hard trades.

Absence of formal career guidance and counselling service

The analysis of interview findings further suggests that in all the six centres under review, there were no formal career guidance and counselling services to help trainees receive valuable prior information that could otherwise lead to appropriate selection of study courses based on their interest and their community needs. It was reported that trainees filling out application forms without due consultation with career masters or mistresses. Findings further revealed that trainees who needed career guidance and counselling services made informal arrangements with instructors, peers and friends. During an interview, the principal for VET centre B admitted:

> We do not have formal procedures to help trainees select programmes according to their interests, ability and societal needs. This situation has affected many trainees since many of them come to the

> centre without clear understanding of the proper programmes to pursue (Principal, VET centre B).

Impliedly, that VET centres operate without guidance and counselling service to trainees. This situation has led to inappropriate selection of programmes among many trainees of both genders, with female suffering even more since they need extra guidance and information on hard trades.

Employers' reluctance towards employing VET graduate females

Analysis of interview findings revealed that some employers were reluctant to employ female graduates in hard trades-related activities. This reluctance negatively affected female trainees' participation in hard trades at VET centres. During interviews, participants indicated that many employers hardly trusted the ability and work performance of female graduates in hard trades. It also emerged that the employers who took part in the study were inclined to treat females as inferior and incapable of doing technical work like their male counterparts. Thus, females refrained from enrolling in hard trades due to the uncertainty shrouding their future regarding their employability. In this regard, the principal of VET centre A said:

> One company advertised for a job vacancy and I made a follow-up for my trainees who graduated in fitter mechanics. Then, I presented the name and qualifications of the applicants. When the human resource manager realised that the applicants were

female, he claimed that they did need females (Principal, VET centre A).

This dismissal of VET female graduates reduced their chances for employment in hard trade related fields, which in turn negatively affected their participation in such trades. Similar findings emerged during FGDs, whereby most of the females reported that they enrolled in soft trades because it was easier for them to be self-employed than in hard trades, which required graduates to seek employment from companies which disfavour females in those male-dominated vocations.

Findings from interviews were supplemented by review of inventories from three sampled employers. The results indicated more males were employed in these centres. Findings are summarised in Table 3.

Table 3: Number of Employees by Gender in Companies Dealing with Hard Trades

Name of company	**VET graduates**					**Non- VET graduates**					**Grand Total**
	M	%	F	%	T	M	%	F	%	T	
Company A	7	70	3	30	10	7	88	1	12	8	18
Company B	5	83	1	17	6	8	100	0	0	8	14
Company C	4	100	0	4	4	5	100	0	0	5	9

Source: Field Data, 2020

Key: M= Male; F= Female; T=Total

Data in Table 3 shows that, few employees in VET were female VET graduates. In some cases, there were no female employees as observed in Company C. Indeed, there were only four female VET graduates pitted against 36 males employed in Company A specialising in motor vehicle repairing, welding and metal fabrication, auto-body repair and carpentry and joinery hard factories. Moreover, employers reported to prefer males to work in their companies because they perceived them to be stronger and more persistent than female hard trade employees. Employer from Company A said:

> Both males and females perform equally if they are given the same work. However, there are some jobs which females cannot perform well such as lifting engines. Again, when a female is pregnant, she cannot do heavy duties. They also require long maternity leave and have a lot of excuses, which can make a business company such as mine to incur losses. Therefore, I need more males than females (Interview with employer from Company A).

Employer from Company C pointed out that *"...*leaving politics aside one should agree that there are female duties and male duties as males are stronger than females. According to the nature of work in my company, I need more males than females." These statements imply that the employers'

reluctance to employ female in hard trade-related activities constituted some of the factors contributing to low participation of females in hard trades.

Curriculum materials

The study also revealed teaching and learning materials also affected the female trainees' participation in hard trades. Some revealed materials indicated textbooks were gender-biased and insensitive. For example, textbooks on carpentry entitled *Carpentry, tools, materials and practices* and *Fundamentals of carpentry* by Durban in 1947 and 1969, respectively, had illustrations of males. Again, Emmitt and Gorse (2005) textbook for masonry entitled *Introduction to construction of buildings* had illustrations of males doing construction work. From the information displayed in these key documents, it is apparent that textbooks also perpetuated gender bias and stereotyping in course selections. If trainees seeking enrolments in VET centre came across these gender-biased textbooks, they could develop a mental picture of maleness associated with the hard trades.

Discussion of study findings

The findings indicated few females were enrolled in hard trades in most VET centres with more of them concentrating on soft trades like tailoring with expectations that they could apply the skills even at home. Thus, few females were enrolled in truck driving; in carpentry and in shoe-making. However, auto-body repair and pattern-making did not enrol any female learner. This trend denies female aspirants an opportunity to enjoy the benefit engendered by hard trades including better pay after securing a better employment. The

findings further indicated that cultural values and gender role stereotyping constitute a key factor behind low female participation in VET. As a result, many people including parents doubt the ability of females to pursue hard trades, which in turn affected females' future careers. These findings are consistent with Mwinsomba (2004) who established that parents' view of hard trades had not changed much since the colonial times. Similarly, Kaino (2000) observed that the low enrolments of females in hard trades and technical fields resulted from societal and cultural expectations, which seem to influence females towards certain field of study and possible career.

The lack of female instructors as role model in hard trades in all the six VET centres under review further negatively affected the participation of females in hard trades. Females viewed hard trades as males' career due to the dominance of male instructors in these trades. These findings are consistent with the Women Education Equity Act (2002) that observed in America that there were no women who acted as examples in the field of vocational subjects particularly hard trades. The reality was that female instructors concentrated on traditional female courses such as home economics, with male teachers teaching hard trade courses such as mechanical engineering. This trend discouraged female from opting for hard trades as they generally had no role model to imitate. Similar findings were reported by Khani *et al.* (2017) who found that lack of female VET instructors deterred females from enrolling in VETA in many Gulf council countries. The role played by role models cannot be ignored when it comes to encouraging female trainees to join hard trades.

Similarly, Mbuhuni, Meena, and Kambainei, (1991) noted that, the low enrolment of female trainees in hard trades stemmed from lack of confidence in their ability to pursue male-dominated careers. Similarly, UNESCO (2008) observed that, because females have significantly been known to do light jobs; as such, they tend to shy away from those vocational courses which are tough-looking and require physical exertions.

Lack of guidance and counselling resulted in female trainees relying on the wrong information regarding the nature of hard trades, which led to low female participation in such trades. This finding is inconsistent with UNESCO's (2006) study which reported that career guidance and counselling help learners to continue successfully to adapt to future labour market challenges. Similarly on materials Nyanjiga (2006) observed that curriculum materials were gender-biased, because science and mathematics textbooks had illustrations showing males engaged in scientific activities such as engineering or woodworks, or male chemists in a teaching session. Findings revealed that most of the females could not enrol in hard trades for fear that after graduation, they might face employment problems. Thus, they enrolled in soft trades which assured them of especially self-employment.

Conclusion and Recommendation

Based on the research findings presented in the preceding section, the following conclusions were made. VET centres offered both soft and hard trades but few females participated in the latter. The study also concludes that the paucity of females in hard trades is partly attributable to gender role stereotyping,

instructors' negative perceptions, employers' reluctance, lack female instructors' role models, absence of formal career guidance and counselling services, gender-based curriculum materials. These emerged as some of the main factors undermining female participation in hard trades in Tanzania. In this regard, it can also be concluded that achieving equity in VET courses, especially hard trades, is a challenge in many countries including Tanzania. However, the importance played by hard trades in improving national economic development cannot be ignored.

Thus, the following are recommended; first, since very few females enrol in hard trades, the government should increase female participation by establishing a strong technical support as well as providing assurance of employment upon graduation. Second, there should be awareness campaign starting from the household level where parents can help reduce gender-based work by assigning boys and girls to do the same work, so that girls could be encouraged to do largely male-dominated work and the vice-versa. Such trend can help resolve the long beliefs of gender-biased activities, which has long roots in the society. Similarly, alertness campaigns should be extended to VET centres to raise female trainees' awareness on participating in these trades to improve their wellbeing. Lastly, employers' reluctance to employ female trainees cannot be ignored, hence solution should be sought by the government to find better plan to employ females in hard trades without impeding companies' production.

AUTHORs BIOGRAPHIES

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References

Adelakwa, O.M., Oviane, J., & Garfa, B. (2015). Strategies for enhancing female participation in technical vocation education training in Nigeria. *Advances in Social Science Research Journal, 2*(4).110-120.

Anaela, E. O., Isiorhovoja, O., Dela, A., & Asoluka, C.O. (2014). Strategies for enhancing female participation in apprenticeship in technical occupations. *Indian Journal of Applied Research, 4*(2), 27-30.

Atchoarena, D., & Delluc, A. (2002). *Revisiting technical and vocational education in Sub Saharan Africa: An Update on Trends: Innovations and Challenges*. Paris: UNESCO.

Barthes, A. M, Nair. S., & Malpede, D. (2001). *Scientific, technical and vocation educational for girls in Africa: Summary of 21 National Reports*. Available on http://www.unesco.org/education/ste/pdffiles/girls/background.pdf.

Bryman, A. (2016). *Social research methods*. (5th Ed.). London: Oxford University Press.

Department for International Development, (1999). Vocational education and training in Tanzania and Zimbabwe in the context of economic reforms. *Educational Research in Paper, 28*, 122-140.

Durban, W.E. (1969). *Fundamentals of carpentry. Practical construction*. American Technical Society. 4th Edition. California, U.SA.

Durban, W.E. (1947), *Fundamentals of carpentry. Practical construction*. American Technical Society 5th Edition. California, USA.

Emmit, S. & Gorse, C.A (2005). *Introduction to construction of Building.* Blackwell. Oxford, UK

Hunt, A. & Samman, E. (2016). *Female economic empowerment: Navigating enables and constrains*. Overseas Development Institute. Blackfriars Road London SEL.odi.org/sites/odi.org.uk/files/resources-documalests/10683/pdf.

Kalyarara, G and Teal, F. (2008). *The returns of vocational training and academic education evidence from Tanzania World Development*: Elsevier, 36(1)2223-2242

Kahindi, E, N. (1996). *Vocational education and employment in Tanzania: A study of the role and contribution of vocational education in solving youth problems*. (Unpublished master of education dissertation). University of Dar es Salaam, Tanzania.

Kaino, L, M. (2000). Globalization and education, accessibility and participation in education by gender and Southern Africa. *Paper presented at the Sixth Congress for Social Research in Eastern and Southern Africa (OSSSREA) on 24-18th April in South Africa.*

Khani, F., Aradi, W., Schwaije; W., Buckner. E., & Fernandez-Carag, M. (2017). Female participation in technical and training in the Gulf States. *International Journal of Training Research*, *15*(3), 229-244.

Lakes, R.D. & Carter, P.A. (2005). *Globalizing education for work: Comparative perspectives on gender and the new economy*. Norway. Lawrence Erlbaum Associates, Inc.

Machumu, H; Zhu, C. & Sesabo, J, K. (2016). Blended learning in the vocational education and training system in Tanzania: Understanding vocational educators' perceptions. *International Journal of Multicultural and Multireligious Understanding* 3(2):30-45.

Mayring, P. (2014). *Qualitative content analysis: theoretical foundation, basic procedures and software solution.* Klagenfurt. http://nbn-resolving.de/urn:nbn:de:0168-ssoar-395173.

Mbelle, M.N. (2008). *The contribution of vocational education on poverty alleviation in Tanzania.* The case of Mbeya Region. (Unpublished masters' education dissertation). University of Dar es Salaam, Tanzania.

Mbena, D. (2006). *The contribution of vocational education and training to poverty alleviation to Tanzanian women.* A case of food preparation course to street vendors in Dar es Salaam. (Unpublished master's education dissertation). University of Dar es Salaam. Tanzania.

Mbilinyi, M., Mbuhuni, P., Meena, R., & Kambainei, O.P. (1991). *Education in Tanzania with gender perspectives.* Dar es Salaam. SIDA.

Ministry of Education and Vocational Training (2013). *Technical and vocational Education and Training development programme* 2013/2014-2017/2018.

Moletsen, R. & Reddy V. (2011). *Women's participation in industrial science, engineering and technology*. Human Science Research Council.

Mwinsomba, S.O. (2004). *Girls' response to provision of technical education in Tanzania: A case of post primary technical centres*.

(Unpublished Master of Education dissertation). University of Dar es Salaam, Tanzania.

Ngogo, J. (2014). Assessment of attitudes of Secondary school students towards vocational education and training in Tanzania case study of Mpwapwa district

Ngugi, M. & Muthima, P. (2017). Female participation in technical, vocation education and training institutions: The Kenyan experience. *Journal of Public Policy and Administrative Research*, *7*(4), 9-23.

Nguliamali, M, B & Temu, E, B (2012). Vocational education and skills Training mankind Tanzania for National development: A review of the literature from a Historical perspective.

Nyanjiga, R. D. (2006). *Girls' attitudes and performance in mathematics. A comparative study between rural and urban O level secondary schools in Mara region*. (Unpublished master of education dissertation). University of Dar es Salaam, Tanzania.

Olomi & Sinyamule (2009). *Entrepreneurial inclination of vocational education students: a comparative study of male and female trainees in Iringa region Tanzania*. Journal of enterprising culture 17 (10) 103-125.

Sigisbert, l. (2017). *Factors influencing female participation in vocational education in Masasi district, Tanzania*. (Unpublished Master of

Education, administration, planning and policy studies dissertation). The Open University of Tanzania.

Spearman, J. & Watt, H. M. G. (2013). Women's aspirations towards STEM careers: A motivational analysis (pp. 175-191). In W. Patton (Ed.). *Conceptualizing women's working lives: Moving the boundaries of discourse*. Rotterdam, the Netherlands: Sense Publishers.

Udeani, U. & Ejikeme, C. (2011). A decade into the 21st century: Nigerian female scientist and engineers highly under-represented in Academia. *The Africa symposium, 11*(2), 99-105.

UNESCO. (2004). *Promoting skills development.* Paris: UNESCO.

UNESCO. (2006). *Career and guidance and counselling.* Retrieved from *http*://portal//unesco.org/education/en/ev.php

UNESCO. (2008).. *Technical and vocational education*. Retrieved from http://www.unesco.org/education/educprog/ste/pdf

United Republic of Tanzania. (2019). *Education sector performance report* (2018/2019).

VETA, (2006). VET catalogue. Dar es Salaam. Chang'ombe Printing Press.

VETA, (2010). VET catalogue. Dar es Salaam. Chang'ombe Printing Press.

VETA, (2019). VET catalogue. Dar es Salaam. Chang'ombe Printing Press.

Women Education Equity Act (WEEA) (2002). *Gender equity in education* Newtown: WEEA Publishing Centre retrieved from http;//www.edc.org/./females.educational-equity-act-ween-equity-resource-centre.

Yin, R. K. (2014). Case study research: Design and methods. SAGE Publication.