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Enhancing the Inclusion of Small and Medium Enterprises into the Global Value Chain through Upgrading Support in the Mining Sector in Zambia

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Abstract

The use of the global value chain approach is becoming the vogue as a poverty reduction strategy in the word today. This approach requires participants to upgrade and meet international requirements. Unfortunately, Zambia has not been active in its development plans to use this approach which links small and medium enterprises (SMEs) to the value chain activities. The main objective was to determine the effect of upgrading support from NGOs, Government and Private Mining companies on SME inclusion in the mining global value chain. The relevant global value chain literature was reviewed to give insight on how upgrading support enhances SME inclusion. A random sampling was conducted among the SMEs from the mining area to determine whether government policy support, NGO support and private mining support help SMEs upgrade to meet international requirements. The findings show that SMEs do not receive enough support from government and mining companies to upgrade despite the presence of government agencies and mining supplier development programme but from NGOs. The study recommends that government must form a mining commission of Zambia to implement SME policy support programmes, mining companies must create the Supplier Development Working Group to implement SME support programmes and NGOs must partner with the government and the mines to improve SME competitiveness and enable them to be included in the mining global value chain to supply and earn sustainable income.

Keywords: *Inclusion in the mining global value chain, Mining Global Value chain, Upgrading support of SMEs.*

Background information

The inclusion of Small and Medium Enterprises (SMEs) in the mining global value chain in Zambia has been restrictive over the years due to competitive barriers (CMZ & ICMM, 2014), and yet a study by Gereffi (2013) show that it is one method of increasing SMEs' productivity and poverty reduction. The global value chain (GVC) covers the full range of activities performed by various firms to bring a product from its inception to the end user and beyond (OECD, 2013a). The various activities that are performed in the value chain that offer opportunities for SMEs' inclusion are exploration, extraction of minerals from earth, processing them, and disposing them as final products (BRGM, 2001; Sigam & Garcia, 2012). The SMEs who have upgraded themselves in process and functional technology, capacity to supply, skills and competencies and meet international requirement provide goods and services as input to the value chain activities (Kaplinsky, 2013), but unfortunately, this is not the case for most of the Zambian SMEs in the mines (World Bank & UKaid, 2011). The term "inclusion of SMEs," as applied to value chains refers to increasing opportunities for SMEs to access new market from various investment and be able to supply and earn sustainable income (Dunn, 2014;). Once SMEs are included in the global value chain, they access higher grade markets for their income generation (OECD, 2013b), they create remunerated jobs leading to poverty reduction (Kowalski *et al.*, 2015). Dunn (2014) stresses that inclusiveness promotes economic growth with poverty reduction by facilitating the integration of large numbers of SMEs into competitive value chains. A survey carried out in the mines (Chibwe, 2008:10-11) reveals that the mines have put in place a supplier development programme to help upgrade SMEs to meet the mining requirement; Government policy as espoused in the Mines and Minerals development Act No.11 of 2015 demands that the mines provide support to SMEs to participate in the

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chain (Fessehaie, 2011), and there has been a presence of a strong voice from various Non-government organization (NGO) in the support of SMEs in upgrading possibilities to enhance SME inclusion (Barrick, 2013:27; Barrick, 2015a). However, these efforts from public and private organizations are at the centre of this study to determine the extent to which they enhance upgrading capacity of SMEs to participate in the mining global value chain

Problem definition

Poverty continue to strike the local communities in the mining sector in Zambia despite commercial activities (Chibwe, 2008:10-11). SMEs in the area are marginalized and unable to supply to the mines due to competitive problems. Recent studies in the Zambian mines such as World Bank & UKaid, 2011:5; and CMZ & ICMM, 2014:4&68 have shown that SMEs in the mining areas in Zambia are unable to meet the strict requirements of modern supply chain management practices. in addition, SMEs experience difficulties to access public and private support to enable them upgrade and meet the buyers' requirements. The study therefore aims at enhancing the inclusion of SMEs through upgrading support from government, NGOs and mining companies.

Research objective

The objective of the study was to determine the effect of upgrading support on SME inclusion in the mining value chain. SME upgrading support is emanates from government, Non-governmental organizations (NGOs) and Private mining support (Mines). The various support trajectory enhances the upgrading capacity for SMEs to enable their competitiveness and inclusion in the mining global value chain where they earn sustainable income and poverty reduction

Theoretical proposition

Government, NGOs and Private upgrading support enhances SME competitiveness to meet international requirements for inclusion in the mining global value chain.

Arising from the theoretical proposition, three specific hypotheses were developed.

- Government upgrading support may negate SME competitiveness to meet international requirement for inclusion in the mining global value chain
- NGO upgrading support may negate SME competiveness to meet international requirement for inclusion in the mining global value chain
- Private Mining companies' upgrading support may negate SME competiveness to meet international requirement for inclusion in the mining global value chain

Literature review

In this study, global value chain (GVC) theory is being used to gain insight in the relationship between private sector production and trade on the one hand and poverty reduction on the other. The theory specifically focuses on the role of GVC in linking various players for a win-win situation as well how upgrading support may enhance the inclusion of SMEs in the mining global value for them to supply and earn sustainable income and poverty reduction

The theory of global value chain centers on upgrading of all players wishing to participate in the chains as well as the governance of the value chains. The mining sector is buyer driven and therefore the mines set the rules regarding who should participate (Gereffi, 2013). Some of the rules the mines set are based on upgrading of SME technology, speed of delivery, quality of products and capacity to supply and failures to meet these requirements lead to exclusion (OECD, 2013a).

UNCTAD (2013) stresses that GVCs act as a route to market for export products and services which in turn directly spawns value added contributing to GDP, job creation, income generation, and tax income. However, governments, development practitioners, and non-profit firms promote inclusion by building SME's capabilities, facilitating improved market opportunities, and improving the quality of information available for them to make correct decisions.

NGO-support: Non-Governmental organizations (Helmsing & Vellema, 2011; Cooper, 2013) have become important in enhancing inclusiveness of the global value chains through the support of SMEs to upgrade and become competitive to meet international requirements. They provide financial support

to improve SME capacity, technology upgrade for SME competitiveness and skills training for SMEs competencies to participate which are requirements for SME inclusion in the mining global value chain (Muller *et al.,* 2006). NGOs play a significant role in making GVC inclusive by providing market information, train SMEs in negotiation skills, act as intermediaries, and collaborate with lead firms to enable small and medium primary producers to benefit from large producers (Nelen *et al.,* 2012). NGOs also enhance collaborations among various actors and facilitate stakeholder meetings in the global value chains (Helmsing & Knorringa, 2009; UNIDO, 2009) and typically they offer technical support and credit facilities to chain actors (van Wijk & Kwakkenbos, 2011). They provide expert knowledge on certification systems, they have good contacts with certifiers, and are well positioned to create consumer demand for certified products. They are seen to have power in the value chains emanating from their capacity to finance chain building, upgrading, standard setting and facilitation of access to markets (Altenburg, 2006:47; Cooper, 2013).

Government support: The government through its various agencies may be helpful in upgrading possibilities of SMEs through the provision and facilitation of standards acquisition such as ISO, 9000 &14,000 (Cattaneo *et al.*, 2013), tax concessions (OECD, 2013b), economic empowerment and micro-credits (SELA, 2012). Some governments such as in Zambia have provided Mines and Minerals development Act No.11 of 2015, Section 31&32 to foster investors to empower SMEs and the communities around the mines. In Malaysia, the government policy towards SMEs aims at helping them to upgrade to meet international standards. Governments also influence chains by providing public goods, services, and infrastructure and its sound legal systems support export for all actors in the chains. In addition, the government through different agencies enhances linkages of local SMEs with international firms, fostering their supply and innovativeness (Albu & Griffith, 2005). The availability of policies may promote good relations between SMEs, local and Multinational companies in the value chains. Policies improve connectivity with global markets and address traditional barriers, customers, transport and telecommunication and logistics in the global value chain and they are conducive for upgrading opportunities (Fortwengel, 2011). A stable macroeconomic policy and well-designed structural policies associated with competition, international trade and investment, financial markets, labour markets and education, including human resources capacity building for internationalisation is suited to growth and development of SMEs. In addition, the licensing and permit system, tax system, property rights law, standard compliance certification procedures, efficient dispute settlement procedures and bankruptcy law are cardinal in GVC (OECD, 2007a:1). The government may also set up business incubators to support local SMEs to access financial support, upgrading possibilities, business linkages and technical support (Buys & Mbewana, 2007).

Private Support: Private sector involvement is important in value chains and play a pivotal role on the fringe of public services and downstream market networks. The private mining companies themselves are the buyers of goods and services from SMEs (Cooper, 2013), and therefore provide upgrading support to SMEs through supplier development programme (Drost *et al.,* 2012). In using value chain approach, key downstream private sector chain actors can be involved in the identification of key bottlenecks within the value chain that are mutual constraints for both upstream and downstream player and ultimately there is facilitation of ownership and agreement on subsequent key interventions and reforms (Van Wijk *et al.,* 2009). Private sector is crucial in the delivery of business development services in many remote and underprivileged areas and in cases where the public sector can only play a minor role due to lack of outreach resources, the private sector in the form of public-private partnership (PPPs) is encouraged to take initiative alone (Hoermann *et al.,* 2010:29). Multi-stakeholder partnerships are increasingly recognized in order to include smallholder producers in developing countries. These are voluntary, collaborative arrangements between actors from two or more domains of society. These multi-stakeholders strive to include smallholders into the value chains, and enhance their sustainability through overcoming government failures, and increasing efficiency in the value chains (Trienekens, 2011). Value chain partnership improve production and delivery of products and services of SMEs, and they construct new institutional arrangement in order to address important technological and institutional gaps that hinder smallholder producers from producing and transacting into global value chains and supply chains (Gomez, 2010). Collaborations among various partners in the value chain imply sharing of risk, resources and rewards. It also entails a formalization of

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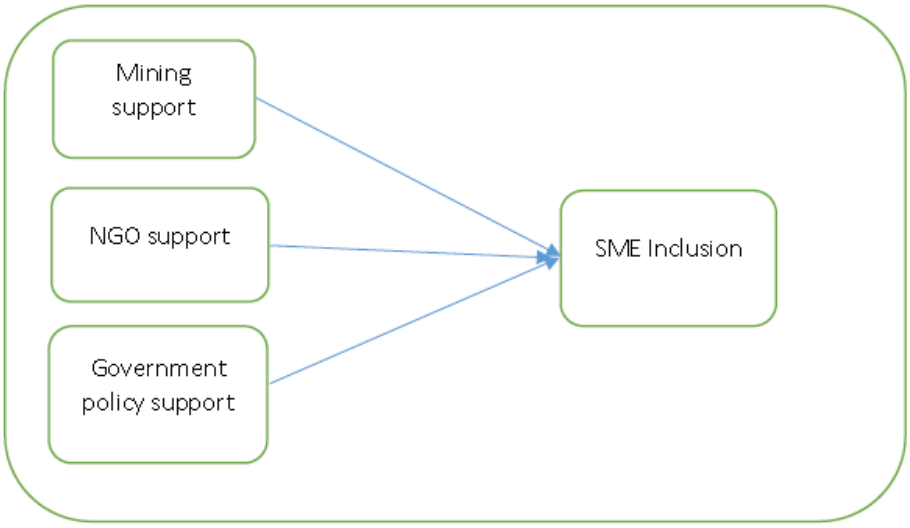
governance structures, and contracture arrangements to specify objectives, activities, roles, and responsibilities. Trust building among partners is very important, and improves relationships. Transparency, prosperity, and control are breeders of trust, and these decrease risk in the value chain (Gereffi, 2013). Value chain partnerships meet key conditions for successful collaborations, and mitigate institutional barriers to upgrading for SMEs. Therefore, critical success factors include; win-win situation, formalized goal alignment, stakeholder embeddedness, stakeholder involvement, risk and resource sharing, shared processes, formalised governance structures, clear roles and contributions, trust building and transparency (Drost, van Wijk & Mandefro, 2012: 2-5).

Conceptual model



Source: Author, 2018

Operationalization of variables arising from literature review

Variables	Operationalization
Mining support	ISO standards, Statutory compliance, Bidding process
NGO support	support in Skills, Technology, Financial
Government policy support	Tax concession, Micro-credit, ISO standards
SME inclusion	Income, Job creation, poverty reduction

Explanation of variables

i) **Mining support and SME inclusion:** It is assumed that once mining companies support suppliers to upgrade through development programmes in quality assurance, statutory compliance, and bidding process, the suppliers (SMEs) will meet international requirements and therefore included in the mining GVC and earn sustainable income, job creation and poverty reduction

ii) **NGO support and SME inclusion:** It is assumed that NGOs help in terms of financial and technical support to upgrade SMEs to meet international requirements and enhances inclusion in the mining GVC for SMEs to earn sustainable income, job creation and poverty reduction

iii) **Government policy support and SME inclusion:** Government through different agencies help local SMEs to upgrade and meet international requirement. Policy support from Zambia Bureau of standards, ministry of mines and citizens economic empowerment provide incentives to local SMEs to upgrade and meet international requirements thereby enhancing the inclusion into the mining GVC for SMEs to earn sustainable income, job creation and poverty reduction

Methodology

Type of data

A survey was conducted to obtain quantitative data which gave an opportunity to the researcher to identify the various interventions from government support, NGO support and Private support and how the support was attributed to the upgrading of local SMEs and inclusion into the mining global value chain.

Sampling

A random sampling was conducted among the SMEs from the mining suppliers and contractor's association of Zambia. 150 SMEs participated as respondents to provide data to ascertain the contribution of the intervention towards SMEs and subsequent poverty reduction. The 150 respondents sampled met the requirements of EQS (structural equation modeling software) as less than 150 gives errors (Maxwell, Kelly, & Rausch, 2008).

The table below show the various intervention from Government (Ministry of mines – (MoM), Zambia bureau of standards (ZABS), Citizens Economic Empowerment Commission (CEEC); Non-governmental organization (Catholic relief services (CRS), International Financial Corporation (IFC), Oxfam; and mining companies which has been coded as private support towards SMEs.

Variables	Type of support
Mining support	Support in ISO standards, Statutory compliance, Bidding process
NGO support	Support in Skills, Technology, Financial
Government policy support	Support in Tax concession, Micro-credit, ISO standards
SME inclusion	Income, Job creation, poverty reduction

Data analysis

A structural equation modeling was performed using EQS to carry out the RMSEA Test, FIT indices test, and multiple regression analysis test

A RMSEA: A RMSEA test was performed to measure how the global value chain model fits the proposed relationships between independent and dependent variables as this tells us how well the model with optimally chosen parameter estimates fits the populations' covariance matrix. (Diamantopoulos and Siguaw, 2000: 85). Recommendations for RMSEA in the range of 0.05 to 0.10 was considered an indication of fair fit and values above 0.10 indicated poor fit (Steiger, 2007; (Diamantopoulos and Siguaw, 2000; Hu and Bentler, 1999; MacCallum *et al*., 1996).

FIT Indices: A good-fitting measurement model is required before interpreting the causal paths of the structural mode. A good-fitting model is one that is reasonably consistent with the data and so does not necessarily require respecification and therefore a Fit Indices test was done to determine how perfectness of the model before estimating causal relations (O'Boyle, & Williams, 2011; Kenny, Kaniskan, & McCoach, 2014).

MULTIPLE REGRESSION: A multiple regression analysis was carried out to predict the SME inclusion. The upgrading support from government, NGO, and private companies are predictors and predicting SME inclusion. Whereas regression analysis is used to understand which among the independent variables are related to the dependent variable (Saunders *et al.,* 2009), and to explore the forms of these relationships (O'Boyle, & Williams, 2011), regression analysis has been done to enable the researcher to infer causal relationship between the independent and dependent variables although this may this may lead to illusions or false relationships.

RMSEA

A RMSEA test show a RAMSEA values of **0.04.** Saunders *et al.,* (2016) have suggested that a RMSEA value of about .05 or less reflects a model of close fit, whereas values between .05 and .08 indicate reasonable fit (Steiger, 2007). This means that the model used to discuss the relationship

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between government, NGO, and Private Mine support is good and fits well to be used to explain the relationship

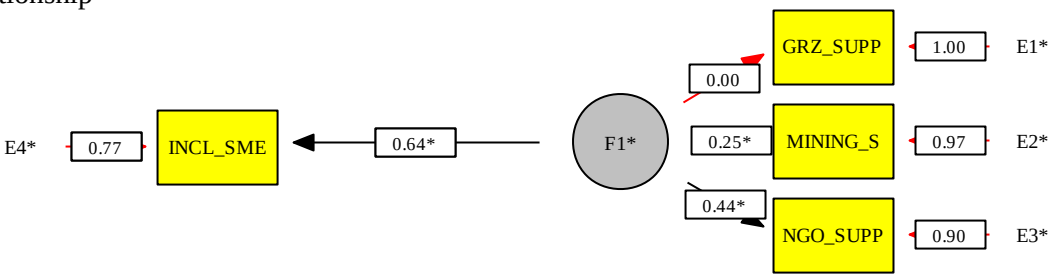

Figure X: EQS 6 final third data set 2018.eds Chi Sq.=2.49 P=0.29 CFI=0.96 RMSEA=0.04

FIT Indices

An extract from EQS show the following fit indices below. Fit indices reading of 0.9 indicating a good-fitting model that is reasonably consistent with the data and so does not necessarily require re-specification. Fit Indices test values showing 0.9 show the perfectness of the model before estimating causal relations (O'Boyle, & Williams, 2011)

FIT INDICES

BENTLER-BONETT NORMED FIT INDEX = 0.873
BENTLER-BONETT NON-NORMED FIT INDEX = 0.892
COMPARATIVE FIT INDEX (CFI) = 0.964
BOLLEN'S (IFI) FIT INDEX = 0.972
MCDONALD'S (MFI) FIT INDEX = 0.998
JORESKOG-SORBOM'S GFI FIT INDEX = 0.992
JORESKOG-SORBOM'S AGFI FIT INDEX = 0.959
ROOT MEAN-SQUARE RESIDUAL (RMR) = 0.047
STANDARDIZED RMR = 0.038
ROOT MEAN-SQUARE ERROR OF APPROXIMATION (RMSEA) = 0.041
90% CONFIDENCE INTERVAL OF RMSEA (0.000, 0.172)

Multiple Regression
ANALYSIS OF VARIANCE
==========
Source SUM OF SQUARES DF MEAN SQUARES F p

REGRESSION 22.067 3 7.356 5.814 0.001
RESIDUAL 184.707 146 1.265
TOTAL 206.773 149

An extract from the EQS output from structural equation modeling on ANOVA test show that overall, government support, NGO support and Mining support are predictors of Inclusion of SME in the mining global value chain. The p-value is equal to 0.01. This means that government, NGO and Mining support sit statistically Significant to determining inclusion of SMEs and therefore is a significant predictor of inclusion of SMEs in the Mining global value chain

=======R and R squared=======
Dependent Variable = INCL_SME
Number of obs. = 150
Multiple R = 0.3267
R-square = 0.1067
Adjusted R-square = 0.0884
F (3, 146) = 5.8141

Prob > F = 0.0009
Std. Error of Est. = 1.1248
Durbin-Watson Stat.= 1.4356

An extract from output of EQS for structural equation modeling above show Multiple R-value of 0.3267 and R-Square of 0.1067. This means that in terms multiple R, the correlation between government, NGO and Mining support is 0.33 while R-Square of 10.67% indicate that government, NGO and mining support account for 10.67% of the variance in Inclusion of SMEs. This means that we cannot account for 89.33% of the inclusion of SMEs.

=======REGRESSION COEFFICIENTS=======

HETERO-					
ORDINARY		SCEDASTIC			
VARIABLE	B	STD. ERROR	STD. ERROR	BETA	t	p
Intercept	2.217	0.366	0.483	4.593	0.000
GRZ_SUPP	-0.122	0.096	0.106	-0.099	-1.146	0.254
MINING_S	0.114	0.064	0.064	0.141	1.786	0.076
NGO_SUPP	0.224	0.067	0.079	0.264	2.853	0.005

The regression analysis show that NGO support is statistically significant predictor of SME inclusion while government and Mining support are not statistically significant predictors of SME inclusion in the global mining value chain

Discussion

The study shows that there is a significant benefit that SMEs derive from NGO support with a p-value of 0.005. This means that the NGO help SMEs to upgrade to meet international requirement to supply to the mines and earn sustainable income. On the other hand, mining upgrading support show a p-value of 0.076 indicating that there is not enough support coming from the mining companies but as compared to government support whose p-value 0.254 gives an impression of some form of assistance towards SMEs from mining companies. Although the p-value is not significant (0.076), mining support renders some assistance through supplier development programme which is currently existing. The P-value of government support (0.254) show that there is very little government policy support towards SMEs to improve their position in the value chain.

Conclusion and recommendation

Conclusion

The study concludes that there is greater support towards SMEs coming from NGOs in terms of technology upgrade, financial support, and skills training while the mining companies have a supplier development programme which is non-functional. Although there is some form of support from the mining companies towards SMEs, the support is not enough to influence change towards improvement of SMEs and inclusion in the mining global value chain. The government support dimension seems absent. Government policy support is not helping SMEs to be included in the mining value chain.

Recommendations

i) The government through the Ministry of Mines must setup a Mining Commission of Zambia to implement the Mines and Minerals development Act No.11 of 2015 that requires mining companies to partner with local stakeholders in upgrading possibilities for inclusive growth in the mining global value chains.

ii) The Citizenship Economic Empowerment Commission must be transformed from merely offering micro-credits to selected sectors of the economy into a Business Incubator for SME development so that its local incubation facilities and innovation system are created for nurturing SMEs providing integrated technical and business development support to SMEs, mentoring and coaching

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SMEs, technology upgrading for competitiveness to SMEs participation in the mining global value chain

iii) Creation of the Supplier Development Working Group to implement the aspirations of the dormant supplier development programme such as upgrading support of SMEs, supplier and buyer partnerships, on-site technical support and business development and any economic program of the non-functional supplier development programme so that SMEs build capacity for competitiveness and inclusion in the mining global value chain. The group may comprise executives from the mines, mining suppliers and contractor's association of Zambia, NGOs, and the ministry of mines whose task will be upgrading of SMEs.

Recommendation for further research

The study recommends that another study be done to examine how cluster management approach may help in reducing poverty. The value chain approach links individual SMEs or various individual stakeholder to the global value chain. However, there are many limitations of capacity barriers, competency barriers, financial barriers and many more. Cluster management approach involves grouping SMEs in clusters making them more competitive and therefore the study recommends that a research be done to examine this may help in reducing poverty.

References

[1]. Albu, M., & Griffith, A. (2005). *Mapping the market: A framework for rural enterprise development policy and practice*. Practical Action, Rugby, Warwickshire.

[2]. Altenburg, T. (2006). *Donor approaches to supporting pro-poor value chains*. Bonn: German Development Institute.

[3]. Barrick. (2013). Responsibility report 2013. Retrieved from http://barrickresponsibility.com/media/1309/2013-full-report.pdf.

[4]. Barrick. (2015). Project profile. Barrick Lumwana Mining Company: Lumwana Contractor Development Programme (LCD). Website accessed on 16 January 2016. http://www.inclusivebusinesshub.org/page/project-profile-barrick-lumwana-mining-company-zambia.

[5]. BRGM. (2001): Management of mining, quarrying and ore-processing waste in the European Union, 79p.7 Figs., 7 Tables, 7 annexes, 1 CD-ROM (Collected data). Retrieved from http://ec.europa.eu/environment/waste/studies/mining/0204finalreportbrgm.pdf.

[6]. Buys, A.J., & Mbewana, P.N. (2007). Key success factors for business incubation in South Africa: the Godisa case study. *South African Journal of Science 103, September/October 2007.*

[7]. Cattaneo, O., Gereffi, G., Miroudot, S., & Taglioni, D. (2013). Joining, Upgrading and being competitive in Global Value Chains: A strategic framework. The World Bank: Poverty Reduction and Economic Management Network: International Trade Department. *Policy Research Working Paper 6406.*

[8]. Chibwe, C. (2008). Unlocking the Potential of Zambian Micro, Small and Medium Enterprises "Learning from the international best practices - the Southeast Asian Experience: *IDE Discussion Paper. No. 134. 2008.2.* Institute of developing economies.

[9]. CMZ & ICMM. (2014). Enhancing *mining's contribution to the Zambian economy and society: Mining,* Cooper, L. (2013). *The effects of non-firm actors' intervention in agro-commodity value chains on chains on chain governance: The case of NGOs and Development agencies.* JWI Working Paper 2013/01. Just World Institute, Edinburgh.

[10]. Diamantopoulos, A. and Siguaw, J.A. (2000), Introducing LISREL. London: Sage Publications.

[11]. Drost, S., Van Wijk, J., & Vellema, S. (2011). Development Value Chains Meet Business Supply Chains: The Concept of Global Value Chains unraveled. Maastricht School of Management, Working Paper Series 2011/08. The Partnerships Resource Centre, Rotterdam.

[12]. Dunn, E. (2014). *FIELD Report 18: Smallholders and Inclusive Growth in Agricultural Value Chains Washington* D.C: Impact LLC & FHI 360-managed FIELD-Support LWA. Retrieved from https://agrilinks.org/sites/default/files/resource/files/FIELD%20Report%20No%2018%20Smallholders%20in%20Value%20Chains.pdf.

[13]. Fortwengel, J. (2011). Upgrading through Integration? The Case of the Central Eastern Automotive Iindustry. *Transience Journal vol.2 (1), 2191-1150.*

[14]. Gereffi, G. (2013). *Global Value Chains in a Post-Washington Consensus World*: Review of International Political Economy: North Carolina, USA: Duke University.
[15]. Gomez, G.M. (2010). *From international charity to the value chain organisation: the case of the Nicaraguan NGO Pueblo Para la Accion Communitaria (PAC) (Peoples for Community action)*. International Institute of Social Studies of Erasmus University Rotterdam, The Hague & Woorden Daad, Gorinchem, Netherlands.
[16]. Helmsing, A.H.J., & Knorringa, P. (2009). Enterprise development interventions by Dutch development NGOs: Is there increased involvement of private sector actors and does that make a difference? In Hoebink, P. & Van Gorcum, eds., *Netherlands Yearbook on International Cooperation, Assen*, 105-128.
[17]. Hoermann, B., Choudhary, D., Choudhury, D., & Kollmair, M. (2010). *Integrated Value Development as a Tool for Poverty Alleviation in Rural Mountain Area: An analytical and Strategic framework.* Kathmandu, Nepal: International Centre for integrated Mountain Development.
[18]. Hu, L.T. and Bentler, P.M. (1999), "Cutoff Criteria for Fit Indexes in Covariance Structure Analysis: Conventional Criteria Versus New Alternatives," Structural Equation Modeling, 6 (1), 1-55. in Global Markets: *Final report CFE/SME (2012)6. Retrieved from http://search.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=FE/SME%282012%296/FINAL&docLanguage=En*
[19]. Kenny, D. A., Kaniskan, B., & McCoach, D. B. (2014). The performance of RMSEA in models with small degrees of freedom. *Sociological Methods & Resarch*, in press.
[20]. Kowalski, P., Gonzalez, L.J., Ragoussis, A & Ugarte, C. (2015), "Participation of Developing Countries in Global Value Chains: Implications for Trade and Trade-Related Policies", *OECD Trade Policy Papers*, No.179, OECD Publishing, Paris http://dx.doi.org/10.1787/5js33lfw0xxn-en.
[21]. MacCallum, R. C., Browne, M. W., & Sugawara, H. M. (1996). Power analysis and determination of sample size for covariance structure modeling. *Psychological Methods, 1*, 130-149.
[22]. Maxwell SE, Kelley K, Rausch JR. Sample size planning for statistical power and accuracy in parameter estimation. Annual Review of Psychology. 2008; 59:537–563.
[23]. Muller, A., Noor, M., de Boer, D, Timmer, D., Van Putten, Frans-Paul, Van Tulder, R., & Fortanier, F. (2006). *Partnership, power and equity in global commodity chains: A comparative analysis of commodity chains, partnerships and development in Ghana (Sorghum) Burkina-Faso and Mali (Mangos) and Uganda (Cotton).* Utrecht: ECSAD/ICCO.
[24]. Nelen, J., Meenink, H., & Traore, N. (2012). *From handling cotton to dealing with prices and services: Empowering farmers' organisation in the West African cotton sub-sectors.* Netherlands Development Organisation SNV, West-Africa.
[25]. O'Boyle, E. H., Jr., Williams, L. J. (2011). Decomposing model fit: Measurement vs. theory in organizational research using latent variables. *Journal of Applied Psychology, 96*, 1-12
[26]. OECD. (2013a). Interconnected Economies: Benefiting from Global Value Chains. Synthesis Report. Retrieved from http://www.oecd.org/sti/ind/interconnected-economies-GVCs-synthesis.pdf.
[27]. OECD. (2013b). Centre for Entrepreneurship, SMEs, and local Development fostering SMEs participation Partnerships for Development: International Council on Mining and Metals, London, UK. potential? Retrieved from http://siteresources.worldbank.org/INTZAMBIA/Resources/coppermining-summary-note%28online-copy%29.pdf
[28]. SELA. (2012). *Value chain, SMEs and public policies. International experiences, and lessons for Latin America, and the Caribbean. Intra-Region Relations: Forum on the design of public policies: SMEs insertion into global and regional value chains: SP/FDPP: IPYMESCVGR-DT N° 2-12*. Caracas: Sela. Retrieved from http://www.sela.org/attach/258/default/DT_2-12Value_chains_SMEs_Public_policies_International_Experiences_Lesson_LAC.pdf
[29]. Sigam, C., & Garcia L (2012). *Extractive industries: Optimizing value retention in host countries: UNCTAD/SUC/2012/1*. New York and Geneva: United Nations
[30]. Steiger, J. H. (1990). Structural model evaluation and modification: An interval estimation approach. *Multivariate Behavioral Research, 25,* 173-180.
[31]. Steiger, J.H. (2007), "Understanding the limitations of global fit assessment in structural equation modeling," Personality and Individual Differences, 42 (5), 893-98
[32]. Trienekens, J.H. (2011). Agriculture Value Chains in Developing Countries: A Framework for Analysis. *International Food and Agribusiness Management Review Vol. 14(2), 51-82*

DOI: 10.21522/TIJMG.2015.05.02.Art006
ISSN: 2520-310X

[33]. UNCTAD. (2013). *World Investment Report 2013: Global Value Chains: Investment and Trade.* New York and Geneva: United Nations (Helmsing & Vellema, 2011;
[34]. UNIDO. (2009). *Value chain diagnostics for industrial development: Building blocks for a holistic and rapid analytical tool*. UNIDO working paper. UNIDO, Vienna.
[35]. Wijk, van, J. & Kwakkenbos, H. (2011). Beer Multinational supporting Africa's development? How Partnerships include smallholders into sorghum-beer supply chains. In: Van Dijk, M.P. and Trienekens, J. *Promoting Sustainable Global Value Chains: The role of Governance*. Amsterdam: Amsterdam University Press, Forthcoming.
[36]. Wijk, van, J., van der Linden, V. & de Boer, D. (2009). *NGO-Private Partnership for Value Chain Development: The Sorghum-Beer Value Chain in Ghana.* Utrecht: ECSAD/ICCO.
[37]. World Bank & UKaid. (2011). *What would it take for Zambia's copper mining industry to achieve its potential?* Retrieved from http://siteresources.worldbank.org/INTZAMBIA/Resources/coppermining-summary-note%28online-copy%29.pdf.